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By e-mail

We have reviewed the Draft Environmental Impact Report¹ (“DEIR”) prepared for the City of Oakley’s (“City”) proposed East Cypress Corridor Specific Plan (“Specific Plan” or “Project”). We submit this letter to express our concern that the DEIR does not comply with the requirements of the California Environmental Quality Act (“CEQA”), Public Resources Code Section 21000 et seq., and the CEQA Guidelines, California Code of Regulations, title 14, Section 15000 et seq. (“CEQA Guidelines”). Additionally, the Specific Plan does not comport with State Planning and Zoning Law. Gov’t Code § 65000 et seq.

We discuss the inadequacies of the DEIR including: (1) failure to analyze adequately the Project’s impacts on the environment, including biological, agricultural, hydrological, and hazard impacts; and (3) improper definition and description of the project. These defects in the DEIR and Specific Plan not only violate CEQA and State Planning and Zoning Law, but also undermine informed planning and decision-making on the Project.

CEQA requires that the EIR provide sufficient analysis and detail about the Project and environmental impacts of the Project to enable informed decision-making by the City and informed participation by the public. See CEQA Guidelines § 15151; *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d 692 (1990). Both the public and decision-makers need to fully understand the implications of the choices presented by the Project, mitigation measures and alternatives. See *Laurel Heights Improvement Ass’n v. Regents of University of California*, 6 Cal.4th 1112, 1123 (1993). In this case, as

¹ This document is dated August 29, 2005.

described in detail below, the DEIR does not provide the legally required information. Important information is omitted, inaccurate, or deferred until a later date in violation of CEQA.

CEQA has two basic purposes, neither of which the Draft EIR satisfies. First, CEQA is designed to inform decision makers and the public about the potential environmental consequences of a project before any decisions are made. (14 Cal. Code Regs. (“CEQA Guidelines”) Section 15002(a)(1).) The EIR is the “heart” of this requirement. (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84.) The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.” (*County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810 [108 Cal.Rptr. 377].) To achieve this goal, an EIR must contain facts and analysis, not merely bare conclusions. (*See Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.)

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. (CEQA Guidelines Sections 15002(a)(2) and (3). (*See also Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564; *Laurel Heights Improvement Ass’n v. Regents of the University of California* (1988) 47 Cal.3d 376, 400.)

The Draft EIR fails to satisfy these basic purposes of CEQA. The Draft EIR’s analysis of environmental impacts falls short of providing the necessary facts and analysis to allow the City and the public to make an informed decision. These comments demonstrate that the Project will result in significant impacts on air quality, public health and safety, and biological resources that were not analyzed and which have not been mitigated. Therefore, the Draft EIR should be revised and recirculated for public review.

1 The DEIR’s Project Description is Flawed

CEQA’s most fundamental requirement is that an EIR contain an accurate, complete project description. *See County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185 (1977); *see also* CEQA Guidelines § 15124. Without a complete project description, an agency and the public cannot be assured that all of a project’s environmental impacts have been revealed and mitigated. Likewise, reasonable and feasible alternatives cannot be identified and compared to the proposed project.

The DEIR is flawed because its analysis is based on an inadequate and incomplete description of the existing condition at the site, and because the project is improperly defined. The immediate Project is the annexation of the site into the City of Oakley, and the zoning and land use designation changes that accompany that change. This DEIR fails to identify, analyze, or provide mitigation measures for the impacts of the annexation project. These problems undermine every section of the DEIR that is based on the project’s description of proposed land uses under the specific plan (*e.g.*, land use, population/housing, traffic).

2 Implementation of the Specific Plan will Require Federal Actions Subject to the National Environmental Policy Act.

Providing sufficient water and flood protection services will require actions by the US Bureau of Reclamation. The specific plan and annexation is contingent on obtaining water from the Contra Costa Canal, a unit of the Bureau of Reclamation's Central Valley Project. Most of the specific plan area is not currently within the service area of the Central Valley Project. The right of way of the CCWD Canal is owned by the Bureau of Reclamation, and any activities associated with strengthening the northern berm of the canal to provide adequate flood protection or encasing the canal to protect water quality would first require the permission of the US Bureau of Reclamation.

Any decisions made by the Bureau to extend the service area of the Central Valley Project or authorize modifications on the Canal right of way would need to be consistent with the Central Valley Project Improvement Act of 1992 (CVPIA) and the National Environmental Policy Act (NEPA). The primary purposes of CVPIA are water supply, flood control, and protection of fish and wildlife. The proposed Project would cause a multitude of impacts to water quality, flood control, and fish and wildlife and therefore would probably not be consistent with the CVPIA. Additionally, the magnitude environmental impacts associated with the project would make any Finding of No Significant Impact (FONSI) under NEPA indefensible under legal scrutiny.

3 The Project Description Is Inadequate

As explained in the discussion following Section 15124 of the CEQA Guidelines, an EIR must describe the proposed project "in a way that will be meaningful to the public, to the other reviewing agencies, and to the decision-makers." An accurate and complete project description is therefore indispensable because "[a] curtailed or distorted project description may stultify the objectives of the reporting process. ... An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 192.) In contrast, "[a] curtailed, enigmatic or unstable project description draws a red herring across the path of public input." (*Id.* at 197-198.) Here, the Draft EIR fails to accurately and completely describe the Project and its environmental setting. As a result, potentially significant environmental impacts were not adequately analyzed or addressed by the Draft EIR and, for this reason, the Draft EIR is fatally deficient under CEQA.

3.1 The Draft EIR Fails To Describe And Analyze The Entire Project

The Draft EIR states that planning area PA6 "includes property that is developed or not proposed for development at this time, thus no development plans have been prepared and are proposed for any property in PA6" and claims that it evaluated PA6 at a program level. (Draft EIR, p. 1.0-2.). The 631-acre planning area PA6 currently includes existing single-family residences, apartments, mobile homes, commercial and vacant properties. The Draft EIR details that "[p]otential new development proposed for PA 6 includes

355,500 square feet of commercial/ commercial [sic] recreation, 20.6 acres of open space/easements, 9.3 acres of community park, 12.1 acres of community facilities, and 551 new residential units for a total of 1,095 permitted residences, as provided in the Oakley 2020 General Plan.” (Draft EIR, p. 2.0-4.) Consequently, the development of this area in the future is clearly foreseeable and its associated impacts should have been included in the Draft EIR’s Project-related and cumulative impacts analyses but were not. Contrary to the Draft EIR’s approach, the courts have clarified that an EIR must evaluate a project’s potential to impact the environment, even if the development may not materialize. (*See Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 279, 282.) Therefore, the Draft EIR should have included an analysis of all impacts associated with the full buildout of the Project.

3.2 The Draft EIR Fails To Include Project-level Information

The Draft EIR claims to serve as a project-level EIR pursuant to CEQA Guidelines 15161 for planning areas PA1, PA3, and PA4 within the East Cypress Corridor Specific Plan (“Specific Plan”). Yet, detailed project information, *e.g.*, square footage of the proposed homes, number of students at schools, area of impervious surfaces, depth of lakes, type of commercial or industrial developments, and so forth, is not contained in the Draft EIR. This information is relevant to a number of impact analyses including, but not limited to: traffic, air quality, public health and safety, biology, and noise. Without this detailed project information, impacts from the Project cannot be accurately characterized and properly mitigated. Although the Draft EIR claims that “[d]etailed project information is available for the parcels proposed for development from KB Homes, D.R. Horton, and Bethel Island LLC,” (Draft EIR, p. 1.0-65.) it does not provide this detailed information. This is not acceptable for a project-level EIR. The Draft EIR must contain all information necessary for review of the Project and may not refer reviewers to other entities for information necessary its review.

3.3 The Draft EIR Lacks A Complete Description Of All Proposed Uses

The Draft EIR fails to provide a detailed and complete description of all proposed uses at the Project site. The following are but a few examples of such a lack of description.

The description of open spaces, natural areas, parks, lakes, and amenities lacks a description of the number of visitors and car trips that would be generated by the recreational uses. The Draft EIR proposes to develop a series of pedestrian/bicycle/equestrian trail systems to connect the neighborhood parks, man-made lakes, the Village Center, and the residential areas, yet the impacts of these proposed trail systems are not disclosed in the Draft EIR. (Draft EIR, pp. 2.0-10/11.)

The Draft EIR states that “150 residential units may replace up to 20 acres of the 40 net acres of the Village Center site.” (Draft EIR, pp. 1.0-1 and 2.0-5.) The Draft EIR fails to provide any further information about the proposed residential development that would be built instead of the Village Center such as the type of residential units, *i.e.* single-family or multi-family, its proposed density, and so forth.

3.4 The Draft EIR Fails To Provide Sufficient Information To Evaluate Cumulative Impacts

The Draft EIR contains a long lists of projects located in the City of Oakley, Contra Costa County, and the City of Brentwood that are in various state of the planning process including projects that have been formally submitted for approval and projects that have been approved but not yet constructed. (Draft EIR, p. 4.0-4, Table 4-1.) Yet, the Draft EIR fails to provide a map showing the location of these projects. Without knowledge of the relative location of these projects to the Project site, it is impossible to assess cumulative impacts for a number of Project impacts, including, but not limited to, the areas of air quality, public health and safety, and biological resources.

In addition, development projects planned and underway in Antioch, Pittsburg, and Concord could also have significant bearing on cumulative impacts, particularly Public Utilities (water supply) and transportation and circulation.

3.4.1 Cumulative Impacts on Public Utilities

Los Vaqueros reservoir is used for mixing with Delta water for improved water quality, and as an additional water source. The current plans allow for the use of 10,000 acre-feet, representing 5% of the total storage. The CCWD has currently allocated 1%, or 2,000 acre-feet. (Usage can be estimated at about 2/3 acre-ft per house.) The additional 3,500 houses in the annexation area, plus the recent change from golf course to housing on Summer Lakes would require another 1-2%. The existing allocation, in addition to the allocation for the proposed project, would consume 40-60% of the reservoir's excess capacity. Cumulatively, the region is proposing to add 13,000-20,000 homes in the next 5-10 years. This far exceeds the excess capacity at Los Vaqueros. There are certain to be impacts on water quality and water quantity; neither is identified, analyzed, or mitigated by the DEIR.

Under the provisions of Senate Bill 610 (SB 610), the City is required to prepare or obtain a water supply assessment (WSA) for large projects and to include this assessment in the CEQA document prepared for the project. Pub. Resources Code § 21151.9; Water Code §§ 10911(b), 10912(a). Senate Bill 221 (SB 221) prohibits approval of a residential subdivision over 500 units unless there is written verification that a sufficient water supply is or will be available. Business and Profession Code § 11010(a); Gov. Code §§ 65867.5(c), 66473.7(b). SB 221 contemplates using the SB 610 water supply assessment as a means of meeting the requirement that a city have a written verification of a sufficient water supply before approving a project. Gov. Code § 66473.7(c).

The water supply assessment and any plans for additional supplies must be included in the EIR: "[t]he city . . . shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to [CEQA]." Water Code § 10911(b). This requirement is designed to ensure that the public can review the water supply assessment during the comment period and provide comments on the both. It is also designed to ensure that the public can verify that the water supply assessment and the EIR are consistent and that CEQA conclusions referencing the water supply

assessment are well-founded.

3.4.2 Cumulative Impact on Air Quality

The DEIR acknowledges that the project would result in unacceptable levels of air pollution, and adverse unmitigable impacts.

3.4.3 Cumulative Impacts on Agriculture

The DEIR refers to the City of Oakley's General Plan and defers to the 1990 Open Space and Agriculture Protection initiative. The DEIR asserts that the project will have the effect of realizing the county's intent to develop the entirety of the Hotchkiss tract, but provides no documentation to support that claim. The DEIR seems to rely on the 1990 initiative, despite the fact that the environmental conditions, particularly as concerns agriculture, have clearly changed since the EIR was performed for that initiative in 1990. The DEIR provides no analysis of impacts to agriculture on this site or any other. The cumulative loss of agriculture in the Oakley and Brentwood area is a potentially significant impact. There is no analysis in the Oakley general Plan EIR, nor in this DEIR, that can substantially address whether the loss of an addition 2500 acres of farmland, and 1783 acres of prime or important farmland, contributes significantly to a cumulative loss that will degrade the viability of agriculture in the region. The DEIR must conduct analysis of agricultural viability, including access to agricultural service providers.

3.4.4 Cumulative Impacts on the Delta Ecosystem and Water Supply System

The DEIR does not address the cumulative impacts of the urban development around the perimeter of the delta on the states water supply system and the Delta ecosystem. The Delta provides drinking water for 20 million people and is the most important aquatic ecosystem in the state of California. Tens of thousands of new units are planned for construction around the Delta and this DEIR does not acknowledge or analyze the cumulative impacts that this development could have on the state's water supply system.

3.5 The Draft EIR Fails To Include A Buildout Schedule

The Draft EIR lacks a description of the Project's proposed buildout schedule. Considering the scale of the Project and its segmentation into several planning areas (which will be developed by four different developers), it is likely that the proposed development will occur in several phases before the buildout of the entire Project area is achieved. The Draft EIR is silent on when buildout of the individual planning areas and the entire Project are anticipated.

In response to a request for information regarding the buildout schedule for the Project, the City referred to Sections 8.10.2.1 and 8.10.2.2 of the currently-proposed Specific Plan and stated that it anticipates that "buildout would likely occur within the timeline of the 2020 General Plan, as indicated in the Land Use Element of the General Plan." (City of

Oakley 10/06/05².) This is problematic for two reasons. First, to satisfy CEQA's project description requirements, information about the buildout schedule must be included in the environmental review document, *i.e.* the EIR itself, not just in the proposed Specific Plan or in the General Plan. Second, review of the referenced Specific Plan and General Plan sections reveals that the neither plan contains more information with respect to Project buildout other than "residential development within the Specific Plan Area is anticipated to occur over an approximately 15-20 year time frame." (Specific Plan³, p. 8.173.) This is not acceptable for a project-level EIR. Without a buildout schedule, impacts on air quality and public health and safety, among others, cannot be adequately evaluated.

3.6 The Draft EIR Fails To Include A Grading Plan

The Draft EIR fails to include any information regarding grading of the Project site beyond stating that its construction would require "substantial excavation and earthmoving to construct the flood control levee as well as provide building pads, roads, schools, man-made lakes, etc." (Draft EIR, p. 3.4-15.) A grading plan is essential to estimate fugitive dust and combustion exhaust emissions associated with these earthmoving activities. Therefore, the Project description is inadequate for purposes of CEQA air quality analyses. In response to a request for a copy of the grading plan, the City stated that "[g]rading plans would be submitted, reviewed and approved prior to the issuance of grading permits" and referred to Section 5.7 of the Specific Plan. (City of Oakley 10/06/05; *see also* Comment V.C.) The Specific Plan contains only the following information with respect to grading:

The existing ground within the Specific Plan Area slopes gently to the northeast at an approximately 0.2% grade. The grading operation for Planning Areas 1-4 will generally consist of removal of any manure and organics remaining from dairy operations, clearing and grubbing, demolition of existing structures, and moving of surface soils to construct building pads and streets. The excavation of a lake on each property will provide surplus soils to construct the proposed levee adjacent to the project. These lakes will also be used to provide soil for the site grading where necessary. Grading within the Specific Plan Area will provide for a balance of cut/fills for the site. The "[g]rading plans for each tract within the Specific Plan Area will be reviewed and approved by the City of Oakley Engineering Department prior to the issuance of grading permits. All grading plans and activities will conform to the City of Oakley grading ordinance and dust and erosion control requirements." (Specific Plan, p. 5.86.)

Clearly, Project construction would require substantial earthmoving activities to prepare the site for construction of the various components of the proposed development. This would include grading of more than 1,600 acres⁴ for planning areas PA1, PA2, PA3, and PA4. In addition, the Project requires substantial earthmoving to erect 112.5 acres or 46,100 linear feet of earthen flood-control levees as well as the excavation of several lakes. All these activities would result in substantial fugitive dust and diesel exhaust

² Joan Ryan, City of Oakley, E-mail to Suma Peesapati, Adams, Broadwell, Joseph & Cardozo, October 6, 2005.

³ City of Oakley, East Cypress Corridor Specific Plan, Draft, August 29, 2005.

⁴ PA1 (703.8 acres) + PA2 (409.0 acres) + PA3 (182.5 acres) + PA4 (351.0 acres) = 1,646.3 acres.

emissions. Because the document does not include any details on grading of the Project site, the significant air quality impacts associated with these earthmoving activities are improperly ignored by the Draft EIR.

3.7 The Draft EIR Fails To Provide Adequate Information To Estimate Construction Emissions

Construction emissions result from a number of emission sources including fugitive dust emissions from disturbed soil and entrained road dust, construction equipment and vehicle combustion exhaust emissions, and volatile organic compound emissions from architectural coatings, asphalt paving, and solvents, adhesives, spray paint, and other substances used during construction. The project description contained in the Draft EIR fails to provide even the most basic information necessary to quantify these construction emissions and evaluate their impact on air quality.

Construction emissions are typically estimated from a detailed construction schedule *i.e.* construction phasing and activities, the construction equipment inventory, and an estimate of the cubic yards of soil and other materials that would be disturbed on the Project site. In addition to the buildout schedule of the Project, *i.e.* construction phasing and activities, this information typically includes a grading plan, the volume of soil moved during grading and cut/fill activities; the amount and types of construction equipment for each phase; the number of construction workers; the number and length of construction trips, including equipment, hauling and employee trips; the location and number of staging areas and storage piles, and so forth. The Draft EIR contains none of this information. Therefore, the Draft EIR's project description is inadequate for purposes of CEQA air quality impact analyses.

3.8 The Draft EIR Fails To Include Modeling Results For Review

In its air quality section, the Draft EIR fails to include printouts for the CALINE-4 and URBEMIS2002 modeling results (Attachments 1 and 2 to Appendix G), thus effectively preventing a review of its air quality impact analysis for the operational phase of the Project. The flood hazard section provides no hydraulic modeling analysis of flood scour or erosion associated with levee failure. The EIR does not model transport of stormwater and associated pollutants discharged into the Delta making it difficult to evaluate the extent to which polluted run-off from the site could pollute drinking water diverted from the Delta. In its noise and vibration section, the Draft EIR fails to include the noise monitoring results thus preventing a review of its noise impact analysis. (Draft EIR, Appendix M.)

4 The DEIR Fails to Analyze and Adequately Mitigate the Project's Significant Impacts.

The primary purpose of an EIR is to "inform the public and its responsible officials of the environmental consequences of their decisions before they are made." *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Cal.*, 6 Cal.4th 1112, 1123 (1993).

Accordingly, an EIR must contain facts and analysis regarding a proposed project's environmental impacts, not just an agency's conclusions. *See Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 553, 568 (1990). Throughout the DEIR, conclusions regarding the Project's environmental impacts are not supported with adequate analysis. Also, the DEIR fails to identify adequate mitigation for the Project's significant impacts. Rather than identify specific mitigation measures and provide analysis to support a conclusion that the mitigation measures will actually succeed, the DEIR is replete with promises that additional studies will be done to identify how significant impacts will be mitigated. A description of how the significant impacts will be mitigated must be identified in the DEIR. A promise of future studies to identify potential mitigation is not legally sufficient under CEQA.

CEQA mandates that environmental impacts be identified and analyzed in the EIR, not at a later date. (*See Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, holding that a negative declaration was invalid when the County approved the project while postponing the resolution of uncertainties regarding environmental impacts to a later date). Here, the Draft EIR improperly defers a number of analyses and mitigation measures into the future including the following:

- Design-level geotechnical reports are required as mitigation to be completed for each project development prior to issuance of a grading permit or building permit and for the new master interior levee to address potential seismic ground failure, subsidence, and expansive soils. (Draft EIR, pp. 3.7-12/14, Mitigation Measures 3.7-2, 3.7-4, and 3.7-6.) As discussed in Comments I.F and V.C, without a design-level geotechnical report, it is impossible to estimate construction emissions and, thus, the analysis of impacts is improperly deferred into the future.
- Soil corrosion reports are required as mitigation to be completed for each project development prior to issuance of grading permits or building permits. (Draft EIR, p. 3.7-14, Mitigation Measure 3.7-7.)

Surveys for a number of special-status plant and animal species were still in progress at the time of publication of the Draft EIR, including surveys for the Antioch dune-dwelling insects and the giant garter snake. (Draft EIR, pp. 3.5-18 and 3.5-22.)

- The Draft EIR purports to be a project-level EIR for planning areas PA1, PA3, and PA4. Thus, detailed information concerning project-level impacts must be provided at this stage of the environmental review process so that the decision-making authorities and the public can fully understand the impacts of the proposed project and alternatives. Deferral of information concerning project-related and cumulative impacts, mitigation measures and alternatives is improper and unacceptable.

4.1 The DEIR Fails to Analyze or Adequately Mitigate the Project's Significant Impacts on Agricultural resources

The project site is in current active agricultural use, and is in an area of intensive historic agricultural cultivation. Fully half of the project's site is prime farmland or farmland of

statewide importance. The impacts to agriculture of this project are potentially significant due to loss of prime farmland and conflict with existing zoning for agricultural use. As this DEIR fails to recognize, the relevant zoning for the affected parcels is that of Contra Costa County, not of the City's General Plan, as the area has not been annexed to the City as of the date of this DEIR. Although the General Plan states that urbanization is advancing the intent of Contra Costa County, the County's General Plan identifies the area as zoned for agricultural use.

4.1.1 The DEIR fails to adequately identify Impact of Conversion of Prime Farmland and Farmland of Statewide importance to Urban use

The DEIR refers to the Open Space and Agricultural Protection initiative of 1990 in citing the area as part of the 35% of the county subject to development. However, the 1990 initiative in no substantive way mandates the development of all acres within that 35% of the county's area. Furthermore, the initiative does not "protect" 65% of the county from development as the DEIR asserts. It merely limits the density of residential development. In fact, there are areas of the county that are zoned for 2-acre lots, which is not consistent with agricultural uses. For these reasons, the DEIR's assertion that the Open Space and Agricultural Protection initiative reduces the significance of the loss of 1273 acres of prime farmland and farmland of statewide importance is unmerited. The significance of the impact is potentially significant, and mitigation measures must be identified for the specific impacts of this project.

4.1.2 The DEIR fails to identify that the project conflicts with existing zoning for agricultural use.

The DEIR refers to the City of Oakley's General Plan. However, as the project site has not been annexed to the City, it is currently in the jurisdiction of Contra Costa County. The Summer Lakes project area is zoned P-1 for planned unit development now underway. The remainder of the Hotchkiss tract is zoned A-2 (5-acre minimum) or A-3 (10-acre minimum) for agricultural uses. As this DEIR serves as the CEQA review document for both the proposed development and for the annexation of the area to the City of Oakley, the change in zoning and land use designation must be analyzed completely. The DEIR fails to identify potentially significant impacts associated with rezoning 1273 acres of farmland, and fails to propose mitigation measures adequate to reduce that impact.

4.2 The DEIR Fails to Analyze or Adequately Mitigate the Project's Significant Impacts on Biological Resources

The DEIR's analysis of the Project's impacts on biological resources is inadequate because it fails to provide an adequate description of the biological resources on the Project site, fails to consider the substantial evidence available regarding biological resources, fails to support its conclusions regarding the Project's biological impacts with adequate analysis, and fails to support its conclusion that proposed mitigation measures reduce the Project's impacts to a less than significant level.

There is a significant amount of new biological data available to the project. The two most significant of these are the Big Break Regional Shoreline management plan completed in 2001, reports prepared for the Dutch Slough Restoration Project immediately west of the proposed project site, and the East County Habitat Conservation Plan EIR/EIS now in circulation. These sources were not cited or used to complete the description of biological resources. The DEIR thereby missed an opportunity to more completely catalog the resources on site, and therefore fails to adequately identify and mitigate potentially significant impacts.

4.2.1 Inadequate Description of Biological Resources

The DEIR fails to cite many relevant surveys and sources in describing the biological resources on the site. Without adequate identification of resources, the impacts and appropriate mitigation measures are impossible to identify. The DEIR states that surveys are ongoing in some areas, and that the wetland delineation was pending. The analysis of the biological impacts is categorically premature given the incompleteness of the information, and the analysis fundamentally inhibited.

4.2.1.1 Swainson's Hawk

The EIR failed to adequately survey and identify Swainson's hawk location in the project area or within a 10 mile radius. In particular, the DEIR fails to mention or acknowledge a Swainson's Hawk nest in or directly adjacent to the site observed in 1999 and 2000. A November 2000 report by Ibis Environmental regarding sensitive species on nearby sites reports that "there are two recently reported nesting locations within 10 miles of the Lauritzen site: one was 4.5 miles northeast at Jackass Point in 2000(D. Gifford pers. Comm.) and the other, 4 miles southeast on Jersey Island Road in 1999-2000 (S. Glover pers. Comm.; D Gifford pers comm.)

In addition, the DEIR fails to evaluate the cumulative impacts of the Project along with the Dutch Slough restoration project and development underway along Cypress Road. Together all of these developments will convert or destroy nearly 4,000 acres of Swainson's hawk habitat. The DEIR must evaluate these cumulative impacts.

4.2.1.2 Black Rail

The DEIR misstates the record regarding previous occurrences of black rail, mischaracterizes the potential for black rail occurrence on or adjacent to the project site, and failed to conduct surveys on the basis of that mischaracterization. Black rail, a California threatened species, is a diminutive, shy bird that is difficult to observe without methodical surveys. Black rails have been observed at multiple locations along the Big Break shoreline less than 2 miles from the project site in habitats similar to those present in or immediately adjacent to the specific plan area.

Although black rails occur most commonly in tidal emergent wetlands dominated by pickleweed (*Salicornia virginica*) or sedges (*carex* spp.) but are also found in brackish or freshwater marsh that support bulrushes or cattails (Zeiner et al. 1990). Ibis Environmental observed a black rail on the Big Break shoreline in a non-tidal swale densely vegetated with willows and cattails, with some blackberry, sedges, tules, and

water plantain. Ibis also observed black rail in a non-tidal pond dominated by cattails immediately west of Marsh Creek and south of the Contra Costa canal. Ibis also reported that black rails are known to occur in the Big Break area. “There was a record of occurrence ¼ mile south east of the Lauritzen site in the 1980’s (CNDDDB), and they have been observed in the last few years along the southeast corner of Big Break at the mouth of Marsh Creek (S. Glover pers. Comm.).”

The DEIR falsely claims that black rail are not present nearby and therefore have low potential to occur. The DEIR states that “given the lack of documented occurrences in the immediate vicinity, California black rail is considered to have a low potential to occur within the site.” This is simply untrue. The DEIR acknowledges an occurrence of this shy, diminutive bird 5 miles to the southeast, which combined with multiple occurrences 2–5 miles to the west that are discussed above, place the specific plan area directly in middle of multiple known occurrences.

The DEIR must be revised to adequately document the presence or absence of black rail and develop plans to mitigate for loss of habitat. In particular, black rail surveys should occur in any densely vegetated wetlands areas on the site including willows, tules, sedges, cattails, and blackberry. Surveys should also be conducted in the extensive tidal wetlands on Sandmound and Dutch sloughs since wastewater with high levels of metals is likely to be discharged into Sandmound Slough. An evaluation of the impact of these metals on the growth and reproduction of blackrail in the poorly circulated SandMound slough is also necessary.

The nearby Dutch Slough project has identified black rail as a restoration target because of the occurrence on nearby lands. The DEIR fails to take this information into account in analyzing impacts to this sensitive species.

4.2.1.3 Analysis and Impact to other species not complete and mitigation measures are inadequate

The DEIR acknowledges that surveys have not been completed for numerous species that occur on the site. It is not possible to identify impacts of the project or potential mitigation measures until the resources on the site have been adequately and completely surveyed. In the case of many species such as the endangered giant garter snake as well as four beetle species, surveys are still underway even as the public is asked to comment on the DEIR. Additionally, surveys were not completed for the whole site for a variety of species likely to occur on the site including *Branchineta meso-vallensis* on PAs 2 and 6, western pond turtle despite known occurrences, California tiger salamander despite suitable habitat in the northern half of PA 1, for numerous bird species likely to occur on the site, or for sensitive plant species on PA 2 and 6. The DEIR must be revised and reissued after surveys are completed to allow the public to comment on the full range of environmental impact analysis associated with the project. It is not possible to adequately avoid or mitigate significant impacts without first identifying the resources present.

4.2.1.4 The DEIR fails to adequately identify, analyze and mitigate impacts to wetlands and wetland habitats

The DEIR dramatically underestimates the extent of wetland habitat, particularly the *Lolium* sp. The DEIR also fails to identify impacts and mitigation measures associated with discharge and increased human presence. These biological impacts would significantly disturb Sand Mound Slough tidal wetlands, one of the largest intact dendritic tidal marsh systems remaining in the entire Delta. The DEIR does not include Peizometer data for winter and spring, which would show that the groundwater surface elevations are largely at the surface, which would define much of the area as a wetland.

Impacts to freshwater wetlands appear to be largely concentrated on the D. Dal Porto parcel on the north end of planning area #1. Nearly 50 percent of that parcel is classified on figure 3.5-5 as wetlands. The most sensible method to avoid or mitigate loss of wetlands, as required by CEQA, would be to preclude development of the Dal Porto parcel. Project goals could still be achieved by increasing the density of housing on the remainder of the project.

The DEIR proposes only a single mitigation measure for the permanent loss of 10 acres of Alkaline Meadows and Grassland in planning areas 1, 3 and 4, which the DEIR acknowledges as a regionally rare and important habitat. There is no analysis to support that assertion that the acquisition of off-site habitat would be sufficient to mitigate this impact to less than significant. Furthermore, the DEIR does not consider minimizing the impact to this site to be a possible mitigation measure, despite the fact that it would be environmentally preferable and would not result in the inability of the proponent to complete the project.

Furthermore, the DEIR states that further surveys are needed to delineate the alkali meadow and grassland in planning areas 2 and 6. The level of analysis for this project is not sufficient.

4.2.1.5 The DEIR fails to adequately identify, analyze and mitigate impacts to special status plant species

Background Studies

Relative to botanical resources, background studies prepared in support of the East Cypress Corridor Specific Plan Draft EIR include botanical surveys of the Dal Porto North (Olberding Environmental, Inc. 2005) and Dal Porto South (Sycamore Associates LLC 2005) properties. Appendix H to the EIR includes a biological assessment of PAs 1, 3 and 4; the report includes references to botanical surveys of the Biggs and Leshar properties, but either the surveys have not yet been completed or the reports were not provided for review. Similarly, Appendix H references wetland delineations performed for the Dal Porto South, Dal Porto North, Leshar, and Biggs properties, but these reports were not available for review.

Botanical resources on the Shea properties (Summer Lake North and South, former Cypress Lakes and Country Club project) are described in the Cypress Lakes EIR, based on biological studies performed by Huffman & Associates, Inc. (1999); supporting

technical documents for the EIR were not available for review. A supplemental biological assessment of the Cypress Lakes project was prepared by Monk & Associates, Inc. (2004) I reviewed this document in preparation of these comments.

Planning Area 1 – Dal Porto North

The biological assessment (Appendix H of the EIR) references a wetland delineation report prepared for this parcel; this technical report was not available for review. According to the biological assessment, a jurisdictional determination by the U.S. Army Corps of Engineers (USACE) is pending.

The revised special-status plant species survey report (Olberding Environmental, Inc. 2005) of the Dal Porto North property states that botanical surveys were performed in March, April and May 2005. Based on the flowering times of the target special-status plant species, a botanical survey should also be conducted in late summer. It is not clear if a survey during this season has been or will be conducted. The report lists a total of 24 target special-status plant species that were considered during performance of the botanical surveys. However, in their botanical survey report for the Dal Porto South property, Sycamore Associates LLC (2005) evaluated the potential for occurrence of 41 target species; this latter number is correct and represents a more thorough analysis. The botanical survey for the Dal Porto North property should address all of the target species listed in the Sycamore (2005) report. Although Olberding Environmental, Inc. might have evaluated the potential for the additional special-status species to occur on site, if a special-status species was not listed as a target species, it could have been overlooked during the surveys.

On page 12 of the Olberding report, there is mention of surveys having been performed September 21 and October 22, 2004, and May 23, 2005; these surveys are not described in the methods section, so it is not clear who did the surveys or if the results are included in this report.

In Table 1, the Olberding report states that the potential for occurrence of some special-status plant species exists even though surveys were performed during the proper season to adequately assess their presence or absence. It is not clear what criteria the author was using to assess potential for occurrence. The results of properly performed botanical surveys should be a definitive statement as to the presence or absence of the target special-status species. The City is obligated to make such a definitive statement in its CEQA document. As presented, Table 1 indicates that there is some uncertainty regarding the presence of some of the target species. Absent concrete data on these on special-status species, the City's DEIR is deficient.

Just as troubling, the species inventory (Table 2) in the Olberding report includes typographical errors, and discusses particular plant species that are not documented or recorded as occurring in Contra Costa County (*i.e.*, *Hemizonia parryi* spp. *Rudis* most likely misidentified and probably *Centromadia pungens*) and species whose presence in this part of the county are surprising, to say the least (*i.e.*, snowberry). In addition, the species inventory is relatively sparse for this 334-acre property compared with that

recorded on the 180-acre Dal Porto South property. The species inventory includes an unidentified species of *Carex*; one of the target special-status species is bristly sedge (*Carex comosa* – CNPS List 2; Lake List *A1) and it is not clear if the target species was ruled out. Table 1 states that it has no potential for occurrence on site, although suitable habitat would seem to be present based on Figure 4 in Appendix H of the EIR. Hairy willow herb (*Epilobium ciliatum*) was not identified to subspecies; one subspecies that could occur here (*E. c. ssp. watsonii*) is considered to be of local interest. Common peppergrass (*Lepidium nitidum*) was not identified to variety; one variety that could occur here (*L. n. var. oreganum*) is of local interest. An unidentified species of *Phacelia* is listed in the inventory; suitable habitat for three species of local interest (*P. douglasii*, *P. ramosissima* var. *ramosissima*, and *P. tanacetifolia*) could be present on site. A species listed as alkali grass (*Puccinellia simplex*) might have been confused with Nuttall's alkali grass (*P. nuttalliana*), which was recorded on the Dal Porto South property. Combined, these errors indicate that the site might not have been adequately surveyed, and calls into question the accuracy of the inventory.

Finally, the species inventory prepared for the Dal Porto North property includes several species of local interest and included on *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties*, compiled by the East Bay Chapter of the California Native Plant Society (Lake 2004; available on line at www.ebcnps.org/Unusual_Plants.htm). Plant species of local interest and recorded on site include yerba mansa (*Anemopsis californica* – List B), California croton (*Croton californicus* – List A2), squirreltail barley (*Hordeum jubatum* – List A2), Mexican rush (*Juncus mexicanus* – List B), alkali grass (*Puccinellia simplex* – List A2; *P. nuttalliana* is a List A1 species). The significance of the presence of these species is discussed below.

Planning Area 1 – Leshner Property

The biological assessment (Appendix H of the EIR) references both a wetland delineation report and a botanical report for this parcel; these technical reports were not available for review. According to the biological assessment, a jurisdictional determination by the USACE is pending. In order for the City's CEQA analysis to be complete, it must include the USACE determination in the DEIR. As it currently stands, the DEIR is deficient and not ready for public review.

Planning Area 3 – Dal Porto South

The biological assessment (Appendix H of the EIR) references a wetland delineation report for this parcel. However, despite our efforts to obtain this technical report, the City did not make it available for review. And, according to the biological assessment, a jurisdictional determination by the USACE is still pending, further compromising full analysis. The biological assessment also cites a botanical assessment report as being in progress; the only botanical report available for review is a stand-alone report addressing Dal Porto South (Sycamore Associates LLC 2005). It is not clear if there is new information that has not yet been provided for review. Again, CEQA requires the City to complete and discuss important impact and mitigation analyses *before* it publishes a draft CEQA document, not after.

Regarding botanical resources, a botanical study is documented in a report by Sycamore Associates LLC (2005). The timing of floristic surveys was adequate to determine the presence or absence of the target species. The report documents the presence of one special-status species, crownscale (*Atriplex coronata* var. *coronata*; CNPS List 4; Lake List A2). The report also documents the presence of 16 species of local interest and listed in Lake (2004). These include Nuttall's alkali grass (*Puccinellia nuttalliana* - List A1), yellowbeak owl's-clover (*Triphysaria versicolor* ssp. *faucibarbata* - List A1), nitrophila (*Nitrophila occidentalis* - List A1), sticky lessingia (*Lessingia glandulifera* var. *glandulifera* - List A2), net peppergrass (*Lepidium dictyotum* var. *acutidens* - List A2), Mohave silverscale (*Atriplex argentea* var. *mohavensis* - List A2), bush seepweed (*Suaeda moquinii* - List A2), California croton (*Croton californicus* - List A2), meadow barley (*Hordeum depressum* - List A2), foxtail barley (*Hordeum jubatum* - List A2), small primrose (*Camissonia micrantha* - List B), slender buckwheat (*Eriogonum gracile* var. *gracile* - List B), willow dock (*Rumex salicifolius* ssp. *salicifolius* - List B), long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla* - List B), bugloss fiddleneck (*Amsinckia lycopsoides* - List B), and Kellogg's tarweed (*Deinandra kelloggii* - List B). The significance of these botanical resources is discussed below.

The report documents the presence of two natural communities that are particularly noteworthy; alkali meadow and interior dunes. The significance of these resources is discussed below.

Planning Area 4 – Bethel Island LLC (AKA Biggs)

The biological assessment (Appendix H of the EIR) references both a wetland delineation report and a botanical report for this parcel; the City did not make these technical reports available for review. According to the biological assessment, a jurisdictional determination by the USACE is pending. In order for the City's CEQA analysis to be complete, it must include the USACE determination in the DEIR. As it currently stands, the DEIR is deficient and not ready for public review.

The biological assessment states that focused seasonal botanical surveys have been completed. A single special-status plant species, Suisun Marsh aster (*Aster lentus* - CNPS List 1B; Lake List A2) was detected along Rock Slough. The report does not mention the presence of any species of local concern, as listed in Lake (2004). The presence of and potential impacts to species of local concern is unknown.

Planning Areas 2 & 5 – Shea Property (Summer Lake North & South, AKA Cypress Lakes and Country Club Project)

The draft EIR was prepared December 1992; the final EIR was prepared March 1993, and certified by the lead agency, Contra Costa County. The East County Planning Commission approved proposed changes to the vesting tentative map in 2001. The East Cypress Corridor Specific Plan EIR evaluates proposed changes to PA 2 at a program level analysis; no changes to PA 5 are proposed. Final development plans to PA 2 in the future may require additional environmental analysis pursuant to CEQA.

Although some of the following comments might be moot, since the Cypress Lakes EIR has been certified and PA 5 is under construction, they are included here in case they are relevant to the East Cypress Corridor Specific Plan EIR or to future project-level analysis.

The only impacts to biological resources identified in the Cypress Lakes EIR are to wetlands. The proposed mitigation for impacts to wetlands is habitat creation at a 3:1 replacement ratio, to comply with the Contra Costa County's 1990-1995 General Plan, which included a "no-net-loss" policy for wetlands. No other impacts to significant biological resources are identified.

The text of the EIR describes existing "wetland habitat" as occurring on site, but also describes such plant associations and habitats as willow scrub riparian, irrigation and drainage ditches, and salt-affected meadows and scalds, which may also qualify as wetlands or be otherwise regulated. The vegetation habitat map (Figure 3.4-1) mentions another habitat not described in the text, valley sacaton grassland. The wetland map (Figure 3.4-2) illustrates the location of wetlands, but does not distinguish between the types of wetland habitats described in the text.

The EIR variously describes impacts to 0.75 and 0.95 acre of wetlands; the correct impact area is not clear in the EIR. Impacted wetlands are described as seasonal, salt-affected meadows and scalds, willow scrub riparian, and irrigation ditch. However, the wetland habitat mitigation and monitoring plan (Appendix D) describes impacts as being to alkali meadows only. The impacts to these distinct wetland habitats are not separately quantified.

As mitigation, the EIR presents a wetland habitat mitigation and monitoring plan, which calls for the creation of 2.28 acre of seasonal wetlands by enlarging and enhancing the existing wetland located north of Cypress Road. At a 3:1 replacement ratio, using the 0.75 acre impact value, the correct mitigation acreage is 2.25; using the 0.95 acre impact value, the correct mitigation acreage is 2.85 acre. The EIR states that a final plan would be submitted to the USACE for review and approval; we do not know if a final plan was prepared and approved. The wetland habitat mitigation and monitoring plan describes mitigation as being "in-kind"; creation of new alkali meadow (which in itself is a very tenuous proposition), does not represent "in-kind" mitigation for impacts to willow scrub riparian or irrigation ditch wetland habitats. The EIR (p. 3-93) merely states that "seasonal wetlands" would be created as mitigation for impacts to all wetlands types. The term seasonal wetland is very broad. Alkali meadows and scalds are very unique in Contra Costa County, and their distribution is dependent on soil type and pH, and not just a matter of altering site hydrology. The adequacy of this mitigation measure is very doubtful.

The wetland habitat mitigation and monitoring plan calls for the excavation of lands adjacent to existing wetlands, and the importation of salvaged top soil from impacted wetland sites. This is a standard approach. However, the plan does not specify the application of a supplemental native seed mix, which is mentioned as a potential remedial measure. The plan also does not address hydrologic criteria for achieving the successful

creation of new wetlands, nor does it address concerns about the potential for dewatering the existing adjacent wetlands by excavation. The plan also fails to state in the success criteria that, at the end of the five-year monitoring period, the mitigation wetlands must meet the federal criteria for a wetland, namely, that the mitigation area be dominated by wetland indicator plant species and that wetland hydrology be present; the development of hydric soils is not generally achieved within five years, although some field indicators might be evident.

The Cypress Lakes EIR does not identify as significant impacts to interior stabilized dunes. The significance of this plant community is discussed below.

The EIR evaluated the potential for occurrence of 19 special-status plant species. As discussed above, a total of 41 target special-status species should be evaluated, based on current standards.

In the text of the EIR and the species inventories provided in the appendices, several species of local interest (as listed in Lake 2004) are recorded as occurring on site. Impacts to these species are not quantified, analyzed for significance, or mitigated. Specifically, species recorded on site include desert horsepurslane (*Trianthema portulacastrum* – List A1), red goosefoot (*Chenopodium rubrum* – List A1), California croton (*Croton californicus* – List A2), squirreltail barley (*Hordeum jubatum* – List A2), yerba mansa (*Anemopsis californica* – List B), willow weed (*Polygonum lapathifolium* – List B), black willow (*Salix gooddingii* – List B). In addition, certain taxa listed in the EIR were not identified to below the species level; subspecies and varieties that could occur on site and are of local interest include water smartweed (*Polygonum amphibium* var. *stipulaceum* – List A1), bur-reed (*Sparganium eurycarpum* ssp. *eurycarpum* – List A1), and gilia (*Gilia capitata* ssp. *staminea* – List B).

It is the conclusion of the EIR that the proposed project would have no impact on special-status plant species. However, the EIR fails to define “special-status species”. Under CEQA guidelines, special-status species include those taxa listed as endangered, threatened, or as candidates for listing by the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game (CDFG). In addition, impacts to species that are considered rare, declining or sensitive by regulating agencies and professional organizations should also be evaluated in CEQA documents. Agencies and organizations that maintain lists of special-status plants include the USFWS, CDFG, and the California Native Plant Society (CNPS), among others. In addition, impacts to species ranked as “A” species on the CNPS East Bay Chapter’s list must also be considered in local land planning and management efforts (Lake 2004; available on line at www.ebcnps.org/Unusual_Plants.htm). Based on this definition of special-status species, the Cypress Lakes EIR fails to adequately identify potentially significant adverse impacts to botanical resources; potential impacts to species of local interest (*i.e.*, List A species, Lake 2004) have not been quantified, analyzed, or mitigated.

A biological assessment of the Cypress Lakes project was prepared by Monk & Associates (2004). The stated purpose of the biological assessment was to assist the USFWS in determining if the proposed project would result in any take of federally listed

species. The report mentions that the potential for occurrence of 28 special-status species was evaluated. However, the referenced Table 1, which lists the target species evaluated, was not included with the report and therefore not reviewed. The biological assessment refers to botanical surveys performed by ECORP Consulting and states that no special-status species were detected; there is no report by ECORP listed in the literature cited section of the biological assessment and a copy has not been provided for review.

East Cypress Corridor Specific Plan – Draft EIR

Regarding botanical resources, the East Cypress Corridor Specific Plan Draft EIR identifies potentially significant impacts on waters of the U.S./waters of the State, riparian habitat, Great Valley riparian forest/willow scrub habitat, alkali meadow habitat, heritage and protected trees, and two special-status plant species.

Wetlands

Proposed development of Planning Areas 1, 3, and 4 would result in the placement of fill into approximately 68 acres of wetlands and waters falling under state and federal jurisdiction. This represents nearly 61 percent of the total wetlands on site. Although impacts to wetlands in Planning Areas 2 and 6 are not known, these lands support an additional 61 acres of wetlands. By any standard, the filling of 68 acres of wetlands represents a very significant impact, and if permitted, is likely to represent one of the largest impacts to wetlands in Contra Costa County.

The City's impact analysis is based on wetland delineations that will be approved by the USACE at a later date. A verified delineation can generally be regarded as having been effectively peer-reviewed by the USACE. The method of calculating impacts to wetlands will also be peer-reviewed by the USACE, CDFG and Regional Water Quality Control Board (RWQCB) as part of the permitting process pursuant to the federal Clean Water Act (§§ 404 and 401), State Fish and Game Code (§1600, *et seq.*), and the State Porter Cologne Act.

The appropriate mitigation measures for unavoidable impacts to jurisdictional wetlands will ultimately be determined during the permitting process for the specific projects. However, in evaluating program-level impacts under CEQA, typical mitigation measures as are likely to be required by the regulatory agencies should be outlined in the CEQA document.

The East Cypress Corridor Specific Plan Draft EIR states (MM 3.5-2) that compliance with the federal Clean Water Act (§ 404) and the federal Rivers and Harbors Act (§10) is needed. Although Impact 3.5.3.1 mentions impacts to waters of the State, the mitigation measure fails to include the need for compliance with state regulations and permits from the CDFG and RWQCB.

The DEIR's MM 3.5-3 states that "mitigation shall include creation of wetlands at a minimum 1:1 ratio" and that "if a greater mitigation ratio is necessary, preservation/enhancement would count towards mitigation." This measure is presumptuous and does not reflect the standard mitigation approach of state and

federal regulatory agencies. ~~contrary to well-established biological principles, for example:~~ Although MM 3.5-2 cites the USACE's policy of "no-net-loss" of wetlands, a policy also held by the CDFG and RWQCB, the offer of wetland mitigation at a 1:1 replacement ratio fails to meet the intent of that policy and is almost never accepted by the regulatory agencies. The standard minimum replacement ratio accepted by state and federal regulatory agencies is 2:1, or 2 acres of new wetlands created for each acre impacted. The rationale cited by the agencies for requiring a mitigation ratio greater than 1:1 is that efforts to convert uplands to fully functioning wetlands are subject to failure, that the ultimate area successfully converted to wetlands is almost always less than the target area, and the true functions and values of the created wetlands rarely matches those of the impacted wetlands.

As published on the USACE's (Sacramento District) web site:

"The Corps will determine the acreage ratio that will be required after receiving recommendations from the applicant and the appropriate resource agencies. The Corps will consider the functions and values of the wetlands that will be eliminated or degraded, the functions and values of the proposed mitigation site, and the likelihood of success of the proposed mitigation. Compensation for impacts to waters of the United States should be completed in advance but no later than concurrent with the impact, as near to the site of impacts as practicable, and protected from subsequent loss or degradation. In-lieu payments and purchase of property are usually not sufficient means of wetland compensation. Wetland mitigation may include habitat preservation, restoration and/or creation."

<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/mitigation.html>

The mitigation measures outlined in the DEIR for unavoidable impacts to Great Valley riparian forest/willow scrub habitat, and alkali meadow and grassland habitats similarly do not reflect the standard mitigation approach of state and federal regulatory agencies and should be revised as outlined above.

The City of Oakley's draft General Plan does not outline specific goals or policies regarding the mitigation of impacts to wetlands. However, Contra Costa County General Plan, Goal 8-1 states that the County "may require 3:1 compensatory mitigation of any project affecting a 'Significant Wetland'."

Special-status Plants

Appropriate botanical studies have been performed on the Dal Porto South property; although documentation has not been provided, it appears that appropriate botanical studies have been, or will be, completed for the Biggs and Leshner properties. The botanical studies performed on the Dal Porto North and Shea properties (Summer Lakes North and South) do not appear to meet current standards for the completion of floristic studies. Additional documentation regarding botanical resources is pending and was not available for review.

The East Cypress Corridor Specific Plan Draft EIR only addresses potential impacts to

two special-status species, crownscale (*Atriplex coronata* var. *coronata*; CNPS List 4; Lake List A2) and Suisun Marsh aster (*Aster lentus* – CNPS List 1B; Lake List A2). The mitigation measures outlined in the EIR conform essentially to CEQA standards (Section 15370), which are:

- (a) Avoid the impact altogether by not taking a certain action.
- (b) Minimize impacts by limiting the degree or magnitude of the action.
- (c) Rectify the impact by repairing, rehabilitating or restoring the impacted environment.
- (d) Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the project.
- (e) Compensate for the impact by replacing or providing substitute resources or environments.

As outlined in the CNPS' Policy on Mitigation Guidelines Regarding

Impacts to Rare, Threatened, and Endangered Plants:

“These mitigation measures can be applied to a variety of environmental impacts but are not always appropriate to mitigating rare plant impacts. Mitigation measures should be developed on a site-specific basis in consultation with appropriate resources agencies. Under existing laws, a project applicant or a local lead agency may have the responsibility of consulting with public regulatory agencies on matters relating to project impacts on rare species.

For rare plants, effective mitigation options that can avoid or reduce impacts may be limited. The use of more than one measure may be necessary depending upon the type of project and the factors that make plant species rare (e.g., unusual soils, microclimates, or water regimes). Each project must be individually evaluated to determine which mitigation method or methods will avoid or reduce impacts defined by CEQA or NEPA as significant to a less than significant level. Because the life history and ecological information needed to judge whether mitigation measures are adequate is often lacking, additional biological research may be necessary prior to mitigation design and/or implementation in order to determine which measures will be most appropriate. Of the five mitigation types in the California Environmental Quality Act, the California Native Plant Society fully supports those which avoid net reduction of population size or species viability. For most plant species this requires the protection of habitat essential to the survival of the species. In some instances, this also requires that impacts be fully avoided in order to prevent a significant impact (*i.e.*, a net loss of plant numbers, habitat, or genetic variability essential to the future existence and recovery of the species). Alternatives such as site restoration and off-site introduction are generally unproven, and usually unsuccessful.”

<http://www.cnps.org/archives/mitigation.pdf>

As a matter of policy, the CNPS is opposed to transplantation as mitigation for impacts to rare plants (<http://www.cnps.org/archives/transplanting2.pdf>). Although no state or federally listed plant species would be impacted by the project, impacts to Suisun Marsh aster would be considered significant under CEQA guidelines.

The EIR fails to address as many as 23 additional plant taxa of local interest that occur or might occur within the Specific Plan Area. An additional nine species of local interest could be present; taxa listed on the species inventories of the botanical reports were not identified to the subspecies or variety level. The published list of species of local interest (Lake 2004) can be found at http://www.ebcnps.org/Unusual_Plants.htm.

As stated in the online document,

“When several locally rare species occur on a property, even if there are no statewide rare plants there, it should be considered a significant impact under guidelines in the California Environmental Quality Act (CEQA) that refer to locally rare populations in sections 15380 and 15125a which address species of local concern and place special emphasis on environmental resources that are rare or unique to a region.”

As stated in the printed version of the document,

“...ranked A1, A2 or A1x (species) are protected by CEQA in sections 15380 and 15125(a) which address species of local concern and place special emphasis on environmental resources that are rare or unique to a region. Thus they must be considered in local land planning and management issues...”

The species of local concern recorded within the Specific Plan Area are:

Lake 2004 – List A1

- red goosefoot (*Chenopodium rubrum*)
- nitrophila (*Nitrophila occidentalis*)
- Nuttall's alkali grass (*Puccinellia nuttalliana*)
- desert horsepurshlane (*Trianthema portulacastrum*)
- yellowbeak owl's-clover (*Triphysaria versicolor* ssp. *faucibarbata*)

Lake 2004 – List A2

- Mohave silverscale (*Atriplex argentea* var. *mohavensis*)
- California croton (*Croton californicus*)
- meadow barley (*Hordeum depressum*)
- foxtail barley (*Hordeum jubatum*)
- sticky lessingia (*Lessingia glandulifera* var. *glandulifera*)
- net peppergrass (*Lepidium dictyotum* var. *acutidens*)
- alkali grass (*Puccinellia simplex*)
- bush seepweed (*Suaeda moquinii*)

Lake 2004 – List B

- bugloss fiddleneck (*Amsinckia lycopsoides*)
- yerba mansa (*Anemopsis californica*)

- small primrose (*Camissonia micrantha*)
- Kellogg's tarweed (*Deinandra kelloggii*)
- slender buckwheat (*Eriogonum gracile* var. *gracile*)
- Mexican rush (*Juncus mexicanus*)
- willow weed (*Polygonum lapathifolium*)
- willow dock (*Rumex salicifolius* ssp. *salicifolius*)
- black willow (*Salix gooddingii*)
- long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*)

In addition to the above, species inventories prepared in support of the environmental documentation for the East Cypress Corridor Specific Plan Draft EIR and the Cypress Lakes EIR failed to identify several taxa to the subspecies or variety level, leaving unresolved the presence of additional taxa of local interest. Based on the presence of suitable habitat within the Specific Plan Area, and their known distribution, the following taxa could be present on site:

- bristly sedge (*Carex comosa* – CNPS List 2; Lake List *A1)
- Watson's willowherb (*Epilobium ciliatum* ssp. *watsonii* - Lake List B)
- gilia (*Gilia capitata* ssp. *staminea* – List B)
- shining pepper-grass (*Lepidium nitidum* var. *oreganum* - Lake List A1)
- Douglas' phacelia (*Phacelia douglasii* - Lake List A1)
- branching phacelia (*Phacelia ramosissima* var. *ramosissima* – Lake List A1)
- lacy phacelia (*Phacelia tanacetifolia* – Lake List A2)
- water smartweed (*Polygonum amphibium* var. *stipulaceum* – List A1)
- bur-reed (*Sparganium eurycarpum* ssp. *eurycarpum* – List A1)

Special-status Natural Communities

Although not indicated as special-status natural communities by the CDFG (2003), alkali meadow and interior dune communities will be upgraded to being considered as having special-status (T. Keeler-Wolf, pers. comm.) In addition, the presence of these habitats within the Specific Plan Area constitutes a highly unique regional resources. In their report, Sycamore Associates LLC (2005) points out the noteworthiness of the alkali

meadow and interior dune habitats, both of which support numerous plant species “considered to be unusual and significant on a regional basis” (p. 12). These plant assemblages are very rare in Contra Costa County. As stated in the EIR (Impact 3.5.3.3),

“alkali meadow is a unique habitat...(and is) host to an uncommon suite of alkaline-tolerant, hydrophytic plants including many special-status species. Alkali meadow habitat has a limited distribution in the region”

The proposed development of Planning Areas 1, 3, and 4 would result in the loss of approximately ten acres of alkali meadow, another 12 acres are present in Planning Areas 2 and 6. The EIR does not quantify impacts to interior dune habitat, although a total of 24 acres are mapped on site. In addition, as much as 484 acres of sand mound habitat is recorded on site. Both interior dune and sand mound habitats provide suitable habitat for several endemic species of insects and silvery legless lizard.

As with wetlands, the EIR proposes mitigation for unavoidable impacts at a 1:1 ratio, possibly combined with habitat preservation/enhancement. The recreation of viable alkali habitat is unproven and, given the edaphic and hydrologic parameters that must be met to create such habitat, its successful recreation elsewhere is tenuous at best. The proposed mitigation is not likely to reduce the level of impacts to alkali meadow to a level that is less than significant.

The proposed development in the Specific Plan Area does not appear to conform to the City of Oakley’s Draft General Plan policies 6.3-1, 6.3-2, 6.3-3, 6.3-5 and 6.3-6.

Combined, the mosaic of unique and regulated natural habitats within the 2,546-acre Specific Plan Area (valley freshwater marsh and seasonal wetlands – 122 acres; alkali meadow and grassland – 22 acres; interior dune – 24 acres; sand mound habitat – 484 acres; Great Valley riparian forest/willow scrub riparian – 29 acres) makes the site regionally significant. The permanent loss of a majority of these habitats, along with the locally unique suite of plant species they support represents a highly significant impact that is not adequately mitigated in the EIR. Before impacts of this magnitude can be allowed, the lead agency should require much greater diligence on the part of the applicant to reduce the scope of the proposed developments to avoid and preserve in a meaningful manner these unique biological resources, including the natural functions and conditions that have permitted their persistence in this unique corner of the County.

Protected and Heritage Trees

The EIR (MM 3.5-13) calls for a replacement ratio of at least 3:1 for unavoidable impacts to heritage and protected trees. The measure does not specify a) what size containers shall be used for replacement trees, b) where plantings may or may not be installed, or c) which entity would have review and approval authority over mitigation plantings.

Although the basic mitigation measure outlined in the EIR is widely used and accepted by lead agencies in CEQA documents, there are concerns that such a replacement ratio is hardly adequate to offset impacts to large, mature oak trees. Planting three five-gallon valley oaks, for example, to compensate for the loss of a 36” diameter, 250-year old tree

is regarded by some as inadequate mitigation and certainly does not pose as a disincentive to developers to avoid cutting down large specimen trees.

As an alternative approach, I recommend that the applicant plant one 1½-gallon sized tree (Dee-pot) for every six inches of aggregate trunk diameter that is impacted. For example, removal of a 36-inch tree would require the installation of 6 replacement trees.

It should be stipulated that replacement trees shall be from East Bay or Central Valley stock. It should further be stipulated that replacement trees be installed on lands designated for preservation and enhancement, and as part of parks or landscaping associated with the development itself.

It is not stated expressly in the EIR, but the performance standard shall be 80% survival of the replacement plantings. Monitoring should be conducted yearly, with annual reports documenting the survivorship of the mitigation plantings submitted to the City of Oakley. Dead trees should be replaced through the third year after planting, at which time supplemental irrigation should be turned off. If at the end of the five-year monitoring period, after two years without supplemental irrigation, 80 percent of the installed plantings are alive and thriving, the mitigation effort shall be deemed successful and no further monitoring or remedial measures are warranted. If the survivorship is less than 80 percent of the installed plantings, additional trees shall be installed and irrigated for three years, and survivorship shall be monitored for an additional five years.

4.3 The DEIR Fails To Analyze Adequately or Mitigate the Geological and Public Safety Hazards.

4.3.1 The EIR does not adequately describe soil conditions and the potential for settling or subsidence of unstable soils.

The geology and soils section does not include an adequate map of soils on the site, which is necessary to properly site infrastructure such as levees, schools, and housing. Placement of structures on organic soils will lead to subsidence and settlement over time as the soil compacts or subsides. This could lead to loss of life if levees fail due to soil settlement or to loss of taxpayer and homeowner dollars to pay for the cost of continuous repair of infrastructure on unstable soils. Mitigation measures to compact soils prior to construction on organic soils would not suffice, because the soils would still be subject to oxidation. In our comments to the NOP, Greenbelt Alliance asked for an analysis of soils and the potential risks associated with settling or subsidence of peat soil as well as the expansion and shrinking of clay soils.

Numerous sources suggest that organic soils (peat and muck) are prevalent on the Project site. The DWR atlas indicates that surficial organic soils are up to 20 feet deep on the Project site. Despite being an unintelligible scribble, figure 3.7.2 indicates that peat and muck soils, where they exist, appear to be 5 to 15 feet deep. Text in the soils section states that “organic silt and clay was encountered at the surface, above the clay and sand, in about one-half of the exploration data reviewed.” Additionally the text states that organic soils were also present beneath surface clays and sand. Tables 3.9-2 and 3.9-3 in

the hydrology section indicate that 23% of surface soils are muck or mucky clay loam and that another 34% of the site is subject to high shrink/swell soils. The soils map in the agricultural section shows large patches of peat and muck soils on portions of the site where levees, schools, and house are planned under the Project description. The DEIR must be revised to address the risks associated with constructing infrastructure on organic soils and identify strategies to mitigate significant impacts. A 1-1 mitigation replacement of destroyed wetlands is not adequate. 3-1 mitigation or more is standard. Seismic Hazards

4.3.2 The DEIR mischaracterizes the seismic hazard on the project site and fails to analyze the risk to public safety if a levee fails in a seismic event.

The site is very possibly underlain by a fault, but the DEIR characterizes the site as being a few miles away from the Great Valley Fault. The destructive Vacaville/Winters earthquake of 1898 (M 6.5) was attributed to the Great Valley Fault, a blind thrust fault. Blind thrust faults are difficult to map definitively, particularly in areas with deep alluvial and estuarine sediments such as the project site. Additionally, as figure 3.7-1 and 3.7-3 indicate, the great valley fault is a fault zone, not a single fault. Therefore, it is entirely possible that the project site is directly underlain by a branch of the Great Valley fault system. the site is within the Hotchkiss Tract Island, which in April of 2000 had levees that were ranked at “medium” risk for levee failure in a high risk levee failure zone by the CALFED Seismic Vulnerability Sub-Team of the Levees and Channels Technical Team. This CALFED study concluded that there is a 25 percent of catastrophic levee failure, 10 or more simultaneous levee breaches on multiple islands, in the Delta in the next 50 years.

4.3.3 Combined risks of levee failure, rupture of gas lines and toppling of high voltage transmission lines not evaluated.

The area proposed for development is in a seismically active zone subject to high liquefaction potential and traversed by major gas line and regionally important high voltage transmission lines. The EIR does not adequately address any of these hazards, but completely ignores the combined or cumulative impact of failure of all of these systems (levees, gas lines, and power lines in the event of an earthquake).

4.3.4 The DEIR does not address the impacts of constructing levees, lakes, or houses near or over high pressure gas lines.

The four levee alternative identified in the hydrology section all show a western levee directly on top of two or three high pressure gas line, but there is no analysis in the document regarding the impact of constructing levees on or near high pressure gas line. Furthermore, figures 3.9-13 thru 3.9-16 all show a new linear lake system constructed extremely close to a 42 inch PG&E gas line, but the DEIR does not address how filling and draining of the lake will effect the structure integrity of the pipeline. The DEIR must be revised to address this issue

4.3.5 The DEIR fails to adequately analyze and mitigate impacts from

Oil and Gas Wells.

The area proposed for development has been subjected to intense gas exploration and production. Two fields, the “Dutch Slough Gas Field” and the “Sand Mound Gas Field -- Abandoned,” have been identified by the California Division of Oil and Gas beneath the area of the Specific Plan (<ftp://ftp.consrv.ca.gov/pub/oil/publications/tr46.pdf>).

Existing and operational oil and gas wells pose significant impacts to public safety. The Specific Plan makes no mention of wells that have been abandoned in the exploration of the gas fields. Abandoned and active gas wells pose risks to future residents and school children that have not been adequately assessed in the Specific Plan.

4.3.5.1 The Number of Active Wells is Inaccurately Described in the Specific Plan:

The Specific Plan states that the area proposed for development “contains seven active gas well sites” (p. 3.31). The number of active wells as stated in the Specific Plan is inconsistent with a hazardous waste report (attached as Appendix K to the Specific Plan) which concluded “at least four natural gas wells are located on the site” (p. 27).

To reconcile the inconsistent information in the two documents, we referenced a California Division of Geology and Geothermal Resources map that definitively identifies four active wells (<ftp://ftp.consrv.ca.gov/pub/oil/maps/dist6/608/Map608.pdf>). This map shows the inaccuracies in the Specific Plan.

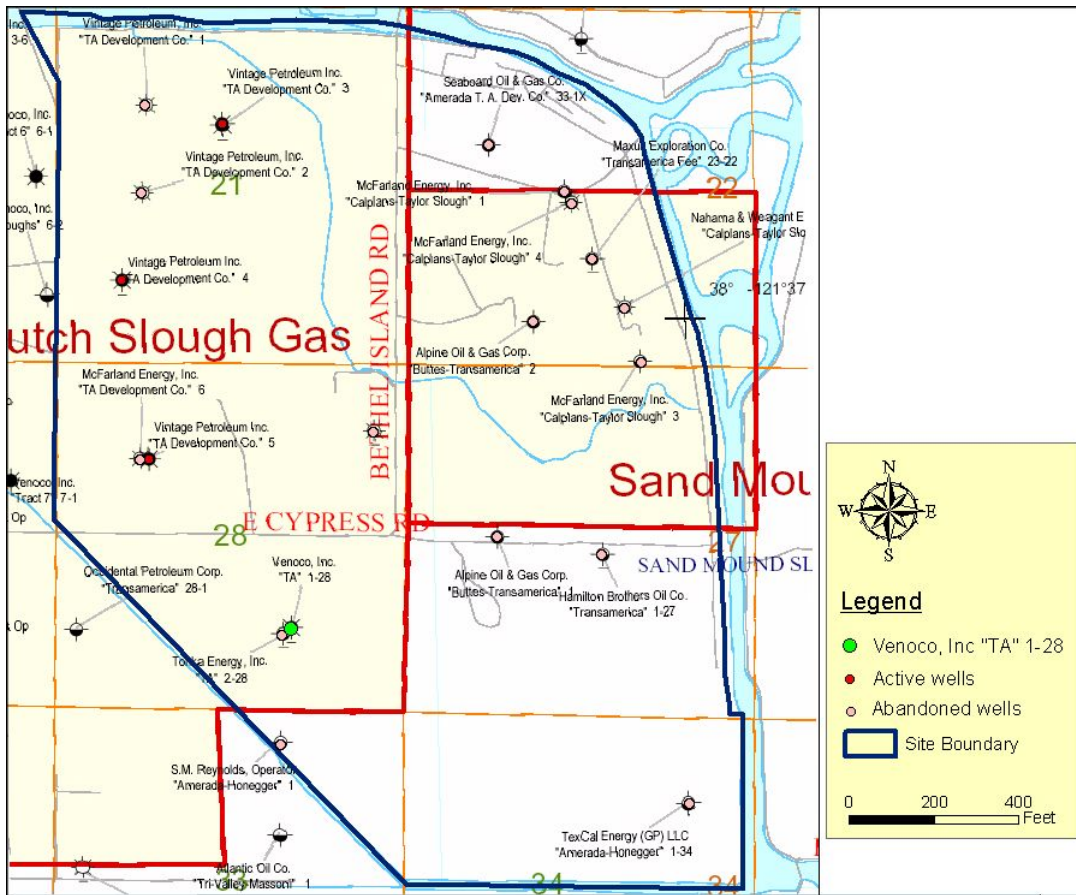
The Specific Plan provides for buffers from active wells and states:

“Recommended treatment for these facilities within the East Cypress Corridor Specific Plan include appropriate screening of these facilities from residential land uses and maintaining a minimum 150 foot setback from the well head of these facilities to habitable residential land uses” (p. 3.31).

A revised Specific Plan should positively identify and locate the number of active wells in the planning area. A revised Specific Plan should also be prepared to show the specific boundaries of the proposed buffers. Additionally, the Specific Plan should clarify what residential “screening” process will entail.

4.3.5.2 The Number and Location of Abandoned Wells are not Identified

The California Division of Geology and Geothermal Resources map identifies 15 abandoned wells in the area proposed for development in the Specific Plan.



The Specific Plan does not identify the presence of the abandoned wells. The hazardous waste report (Appendix K) also fails to adequately characterize abandoned wells and merely states: "Additional wells previously abandoned are also likely present on site" (p. 27). The hazardous waste report does recommend acquiring "additional information" from regulatory agencies on the wells and abandonment with regulations; however, because the consultant failed to obtain readily available information on the wells, the hazardous waste report should be considered incomplete. The DEIR that accompanies the Specific Plan states only that "there are abandoned wells throughout the site" (p. 3.8-12) but makes no attempt to quantify or locate the wells. Mitigation for the wells (Mitigation Measure 3.8-4) states only that "wells may be difficult to locate" and "if they can be located ... and discolored soil or unusual odors are noted ... the soil should be tested" (p. 3.8-12). Only removal of contaminated soil is proposed: no plans are provided for the mitigation of methane or toxic gasses which may be present as described below.

A revised Specific Plan should be prepared to include an accurate tally of the abandoned wells along with specific plans to locate the wells and abandon them in accordance with current California standards. The plans should include mitigation of methane and toxic gasses which may be present in association with the abandoned wells. Additionally, the

revised Specific Plan should identify the abandoned wells on a map along with buffer zones (with a minimum of 150 foot setback) equivalent to those proposed for the active wells.

4.3.5.3 New Wells are Being Approved While the Plan is Under Review

In the review of the Specific Plan, we came across the following note at the Contra Costa County website for the approval of gas wells in the project area in July 2005:

MARQUEZ ENERGY, LLC (Applicant) – ROBERT & KELLEY DALPORTO (Owner), County File # LP052002: The applicant is requesting a land use permit approval to allow the drilling of two exploratory natural gas wells that are to be located on a privately owned parcel. The project area is an existing gas well site known as TA 1-28 Natural Gas Well “Dutch Slough”. The subject site is approximately 179 acres and the proposed facilities would cover an area less than one acre in size. The proposed project site is located in a rural agricultural setting approximately 0.8 miles east of Oakley, Contra Costa County, California. The proposed project site is southwest of the intersection of Cypress and Bethel Island Roads. (A-3) (Parcel #032-050-003) (Continued from 7/11/05: RHD). RAH (<http://www.co.contra-costa.ca.us/depart/cd/current/agendas/07-25-05.ZA.AGENDA.%20ANNOTATED.htm>).

According to a margin note, the plans for the two wells were approved.

The application, as shown above, characterizes the land as “rural agricultural;” however, this fails to recognize the future residential development.

Well TA-128 is clearly within the area of the specific plan. A revised Specific Plan should be prepared to discuss why, a new permit for drilling was issued in the planning area. The Specific Plan should discuss any other pending drilling applications which may indicate increased activity for permit approval for drilling in advance of the Specific Plan adoption.

4.3.5.4 Hazards from Active and Abandoned Wells Have Not Been Recognized in the Specific Plan

Oil and gas wells are recognized as sources of explosive and toxic vapor contaminants. In addition to methane, hydrogen sulfide and volatile organic compounds (VOCs), such as benzene, pose potential hazards near active and former well sites.

Methane, hydrogen sulfide and the VOCs migrate upward to the ground via pressure driven flow and diffusion. These gasses will move from areas where it is present at higher pressures or concentrations to areas of lower pressures or concentrations and will dissipate in the atmosphere. However, where homes or other structures are constructed atop accumulations of these gasses, they may seep into buildings where they may pose a risk for explosion or inhalation risks. Additionally, the irrigation wells and private water wells that were identified in the hazardous waste report (Appendix K) may serve as conduits that may preferentially route vapor to the surface. The locations of these wells should be positively identified in a revised Specific Plan to ensure that they are not

beneath homes or other structures.

Because of these recognized conditions, Cal/EPA through the Department of Toxic Substances Control published Methane Assessment and Common Remedies at School Sites in June 2005 (http://www.dtsc.ca.gov/Schools/SMBRP_SCHOOLS_Methane.pdf).

Two elementary schools and a middle school are planned; therefore, the Specific Plan needs to be revised to consider this new guidance.

Specifically, the revised Specific Plan should consider whether the following conditions exist in areas of gas wells, which according to the DTSC guidance, would indicate a “potential problematic accumulation of methane within a structure” that may be caused by the following subsurface conditions:

Methane concentration in excess of 53,000 ppmv and sufficient volume to produce elevated gas levels on the interior of the structure; or

An elevated gas pressure (e.g., 0.1 psi) to induce flow into the building.

According to DTSC, subsurface conditions should be assessed through the installation and monitoring of subsurface gas probes. DTSC states: “any subsurface methane investigation needs to screen for the possible presence of large zones of methane accumulation, or smaller zones where gas is present at elevated pressures.”

A revised Specific Plan and DEIR should be prepared to include a sampling plan and analytic results to determine if the problematic conditions, as identified by DTSC, exist in the area proposed for development. Any areas of methane accumulation or elevated gas pressures will need to be mitigated before the development of the proposed school sites and residences.

4.3.6 The DEIR fails to adequately assess Former Agricultural Lands

The area of the Specific Plan has been used for agricultural purposes. Recognizing past uses, the hazardous materials report recommended “shallow soil sampling for environmentally persistent pesticides be conducted, throughout the site” (Appendix K, p. 23). However, neither the hazardous materials report or the Specific Plan offer any specific plans for conducting the sampling and how the results might be used to ensure the safety of the future residents and the students.

DTSC has published guidance for sampling of areas formerly used for agriculture when being considered for school sites. The guidance states:

This guidance is specific to agricultural lands where pesticides and/or fertilizers were presumably applied, more or less uniformly, for agricultural purposes consistent with normal application practices. It is applicable to agricultural land that is currently under cultivation with row, fiber or food crops, orchards, or pasture. It is also applicable to fallow and former agricultural land that is no longer in production and has not been disturbed beyond normal disking and plowing practices. <http://www.dtsc.ca.gov/PublicationsForms/interim-ag-soils->

[guidance.pdf](#)

The guidance further states:

“The sampling pattern should be sufficient to characterize the site. Recommended numbers of sampling locations are ... for sites between 21 and 100 acres, on 1-acre centers. For sites greater than 100 acres, DTSC should be consulted for the appropriate number of sampling locations.” “Each location should be sampled to include one surface sample (0 to 6 inches) and one subsurface sample (2 to 3 foot range).”

This guidance was not referenced in the preparation of the Specific Plan or the accompanying DEIR and no mitigation for soil that may be contaminated with pesticides is provided.

Because the Specific Plan areas covers more than 2,500 acres, sampling to satisfy DTSC guidance could involve the collection of hundreds of samples for analysis of organochlorine pesticides and metals. Sampling should be conducted prior to the preparation of a revised DEIR to adequately characterize site conditions to ensure the safety of students at the schools which have proposed in an area formerly used for grazing and agriculture. The results should be referenced and compared to agency health-based screening levels (i.e., U.S. EPA Region 9 Preliminary Remediation Goals, <http://www.epa.gov/region09/waste/sfund/prg> and the California Human Health Screening Levels <http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf>) in a revised Specific Plan and DEIR.

4.3.7 HYDROLOGY AND FLOOD HAZARDS

The proposed project area is historical tidal marsh and river channel that was reclaimed with levees beginning over 100 years ago. Large areas of the site are 8 feet below mean high tide. The average elevation, including scattered sand mounds, is -2.6 ft, and the mean high tide is 3.3 feet. For these reasons, the hydrological impacts and the flood hazards are particularly high. The DEIR consistently misrepresents the threat level, failing to analyze potentially significant impacts due to errors of scale, scope, or depth of analysis.

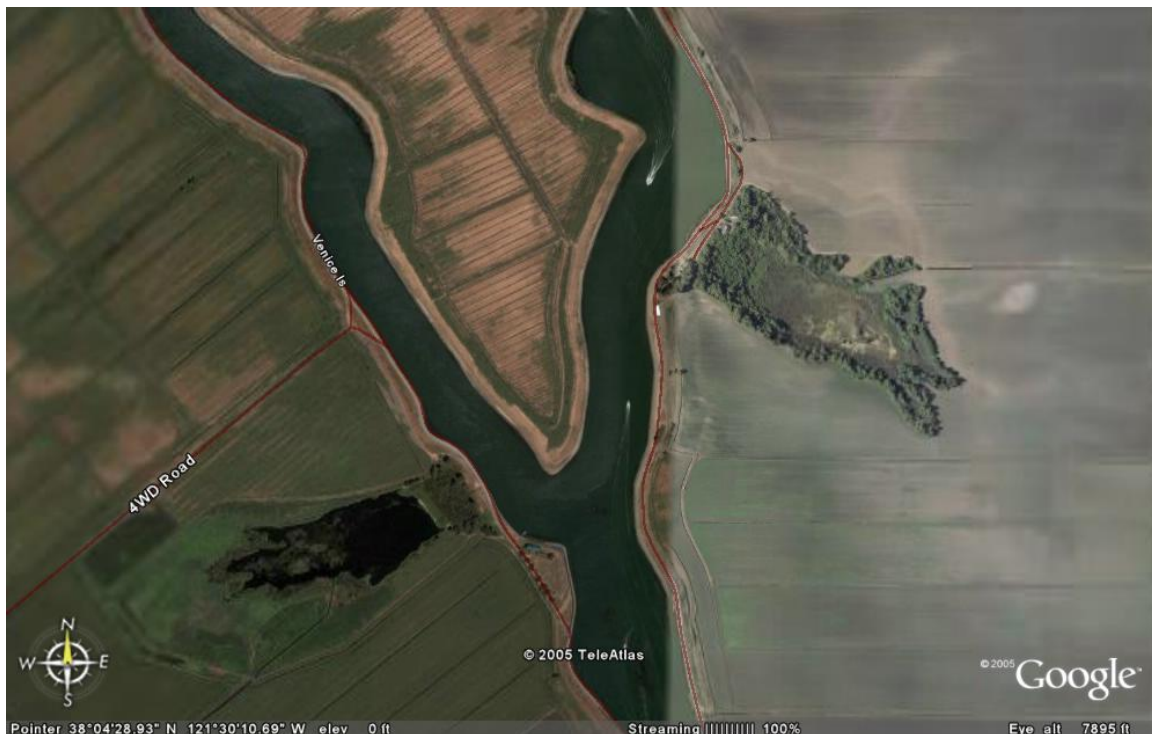
4.3.7.1 The DEIR fails to analyze the potential for scour failure of the new interior levee that could result from failure of the existing exterior levee.

Deep scour holes on the inboard side of the levee are commonly occur in the Delta when levees fail during high water events. This scour occurs because of the hydraulic head differential between the water surface elevation on the waterside of the levee and the elevation of land on the landward side of the levee. During a high water event in the Delta, flood water could exceed 7 feet NGVD while elevations on the landward side of the levee could be -5 NGVD or less. The end result would be a hydraulic drop or “waterfall” 12 feet high that would scour a deep, long hole very possible undermining the

new interior levee system and subjecting the entire specific plan to inundation depths of 7 –12 feet of water or more.

Greenbelt Alliance requested that the City analyze the potential for scour in the NOP comments, but the City and project proponents have apparently ignored this request and thereby failed to perform this essential analysis. Without this analysis, and a careful peer review, there is no way that decision makers can adequately assess the potential impacts of the project to public health and safety. The DEIR must be revised to analyze this issue utilizing a 3 dimensional hydraulic model and detail specific mitigation measures to reduce adverse impacts to a less than significant level.

Figure 1: Scour holes in western Delta that resulted from historical levee breaches



4.3.7.2 The DEIR fails to analyze and mitigate flood hazards for existing residents.

The DEIR does not adequately address or identify sufficient mitigation measures for the fact (acknowledged in the DEIR) that the project will result in more rapid inundation in the inter levee zone. The DEIR acknowledges that the time necessary to inundate the site is highly sensitive to levee breach size and then conducts a levee breach analysis assuming 170 foot breach and arrives at the conclusion that the amount of time necessary to flood the site to a water surface elevation of 2 feet NGVD⁵ would be reduced from 16 hours under present conditions to 4 hours under post project conditions. In reality, the analysis should assume a far larger levee breach size which would probably show that the inter levee zone (area between new interior levee and existing levee) would be inundated in a matter of minutes rather than hours. The breach on nearby Jones tract grew to a size

⁵ A water surface elevation 2 feet NGVD could result in water depths in excess of ten feet since most of the project site is below sea level.

of greater than 300 feet, and several other levee breaches in the Delta have been larger than that.

High velocities inter levee zone that would result from levee breaches would constitute and additional evacuation hazard. The DEIR suggests that existing residents faced with flood water could gain access to high ground on the perimeter levee or the interior levee by traversing several hundred feet or less of land subject to inundation. Under project conditions, however, this low ground would be subject to high velocities as a result of reduced accommodation space associated with construction of the interior levee. The DEIR acknowledges that such velocities may occur, and that the DEIR analysis did not analyze velocities or hydraulics associated with a levee breach and inundation of the interior zone. This must be remedied in the final EIR.

The DEIR suggests that the City develop an emergency response plan to mitigate for this significant impact of the project. Recent events with Hurricane Katrina suggest that it is not credible to believe that the City of Oakley could develop and maintain an adequate level of emergency preparedness to respond to such a catastrophe.

The DEIR does not analyze the potential for failure of the interior levee and existing infrastructure such as pipelines and transmission towers resulting from erosive force and scour of the existing exterior levee.

4.3.8 The project is contingent on construction of a levee on land not owned or controlled by the project components.

All of the alternative levee configurations call for construction of a levee parallel to Jersey Island Road on land owned by the California Department of Water Resources. It is unclear how the project proponents can assume that they will be allowed to construct a levee on state land set aside for a wetland restoration project. The DEIR and or specific plan must be revised to clarify where the western levee will be constructed.

4.3.9 The Proposed Levee Design does not adequately mitigate hazards associated with flooding.

The current proposed levee design, referred to as the Preferred Levee Alignment (PLA) within the DEIR, should not be accepted because it does not guarantee protection from flooding and associated flood hazards for slightly more than ¼ of the proposed development area. This is equivalent to 662 acres of land which includes residential, commercial and recreation areas. The PLA would include an interior levee in addition to the existing perimeter levee that would “effectively remove the inboard areas (74 percent of the project site) from the one-percent chance floodplain” The DEIR states, “the areas within the project that lie outside of the proposed interior levee system would not experience a reduction in flooding risk until improvements are made to the existing perimeter levee to meet Federal Emergency Management Agency (FEMA) levee standards.” (pg. X) The DEIR then continues to explain:

“Although the entire boundary of RD 799 (Reclamation District) is protected by a perimeter levee system that affords a high level of flood protection to the interior

areas, the existing levees **do not** generally meet FEMA standards for an Urban Standard Levee (USL). . . RD 799 is currently examining a range of options for increasing the reliability of the perimeter levee system.” (pg. 3.9-13)

This statement demonstrates deficiencies in levee design considerations related to existing levee upgrades to meet recommended safety standards set by FEMA. The existing levees were constructed between 1910 and the late 1930's (pg. 3.9-13); given the age of these levees it is extremely important that they be reassessed for stability. Years of subsidence within the development area act to increase hydrostatic pressures on the lateral levee support. This can lead to resettling of base levee soils and levee cracking which in turn will weaken the levee wall. Additionally, the site is within the Hotchkiss Tract Island, which in April of 2000 had levees that were ranked at “medium” risk for levee failure in a high risk levee failure zone by the CALFED Seismic Vulnerability Sub-Team of the Levees and Channels Technical Team. This CALFED study concluded that there is a 25 percent of catastrophic levee failure, 10 or more simultaneous levee breaches on multiple islands, in the Delta in the next 50 years.

Despite the age of the existing perimeter levee and its potential for failure, no specific improvements are mentioned or discussed within the DEIR. Before a community can be developed, RD 799 and developers should go beyond “examining a range of options” and instead include a comprehensive levee upgrade plan which demonstrates both qualitatively and quantitatively that all flood protection requirements will be achieved. In fact, RD 799 did conduct an analysis of using sheet pile technology and other methods to upgrade the existing levee system, and concluded that these technologies were not feasible for a variety of reasons. This plan should be included within a revised DEIR. A new plan, with information on how the existing levees will be upgraded to The comments that follow outline specific elements of the levee design that need to be readdressed.

4.3.10 Level of Protection Needs to be Expanded to 200 Years

Almost the entire Specific Plan Area resides below sea level. The DEIR states: “With the exception of limited areas of high ground at elevations greater than seven feet, the entire project site is within a one-percent chance of floodplain designated by (FEMA).” (pg. 3.9-13). As a result the Specific Plan Area must be protected on all sides by levees. However, the level of protection of the preexisting perimeter levee and the proposed interior levee only meet the 100-year threshold. All national floodplain management agencies along with the US Army Corps of Engineers (USACOE) and FEMA now state that the NFIP 100-year level of protection is inadequate for urban areas (personal communication with Dr. Jeffery Mount, UC Davis). The State Board of Reclamation has set a policy of minimum 200-year flood protection for new urban projects. Based on this new standard, the level of protection for the SPA should be changed to meet the more conservative value of 200 years.

4.3.11 Current Levee and Flood Control Design puts Future Inhabitants at Risk in the Event of an Emergency Levee Failure

In the event of a levee failure the current pump stations would be inundated by water, and

thus would not be able to serve their purpose of alleviating the SPA from flood waters. Currently, “The RD 799 channel system ultimately conveys runoff to five separate pump stations located along the perimeter levees as indicated on Figure 3.9-6.” (pg. 3.9-8) This should be addressed in a revised Emergency Response plan within the DEIR. Additional pumps should be available in the event of a levee failure and their location and accessibility should be outlined in a revised DEIR. Also, according to Table 3.9-4, RD 799 Pump Station Data, the last year when all pumps were tested for capacity and efficiency was 1990, and the most recent tests which occurred in June and September of 2003 were only performed on PS #1. All pump stations should be retested this year and this information should be included within the DEIR.

The DEIR clearly states that the inclusion of an inner levee would significantly reduce the amount of time it would take to achieve flooding in the area between the perimeter levee and the interior levee in the event of a breach:

The proposed levee system for the project would reduce the area subject to flooding to approximately 660 acres. Assuming a levee breach of the same 170-ft average width, the initial modeling indicates that the time to flood the inter-levee area to elevation 2.0 ft would decrease to approximately 4 hrs, a reduction of 12 hours from the existing conditions.

This 75 % reduction in time to attain a given flood depth poses a risk to the inhabitants of this inner levee area. Furthermore, given that the developed area will be buffered from flooding by levees on all sides, this model is not the most conservative example that could result. In the event of a natural disaster, such as an earthquake, it is possible that more than one area along the perimeter levee wall will breach. Additional modeling should be included within the DEIR that not only reveals flood times for more conservative conditions (i.e. additional levee segment breaches), but also characterizes flood velocities as well. The DEIR mentions that flood velocities will increase (pg. 3.9-54), but fails to quantify these velocities. Without these values there is no way to determine the escape time. Of even greater concern with the levee design, is that the only high ground that would be available for refuge is the levee itself. This could potentially threaten the lives of the elderly and children who may have difficulty traversing the steep levee walls which are designed to a vertical height of 10.3 feet. Finally, the DEIR states that high ground can be assessed from any point within the inter-levee area within less than several hundred feet. This distance has no relative meaning without a flood velocity for comparison. Also “several hundred” feet can be in the range of 200 to 900 feet. A more definitive range of distances and escape times should be included within a revised DEIR.

4.3.11.1 The DEIR fails to analyze potential impacts from a Levee Failure Due to a Major Earthquake

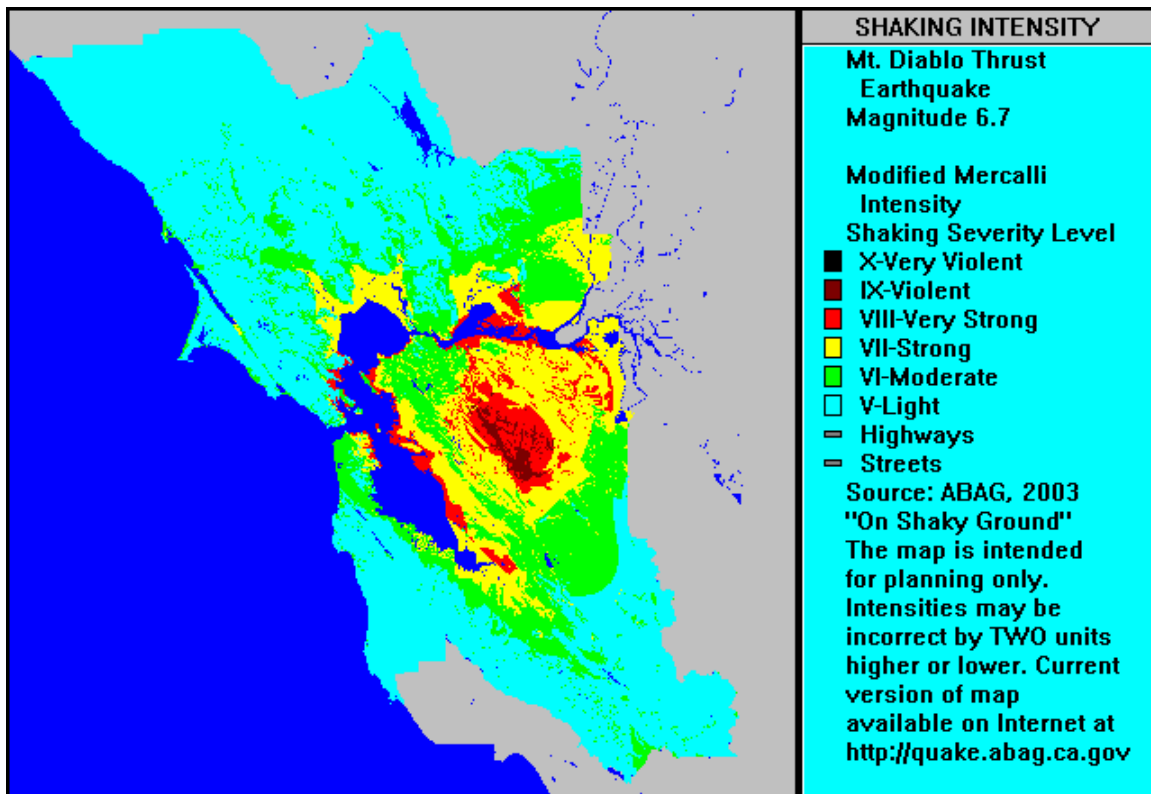
Although the following statement is made within the DEIR, there is no discussion of levee breaching from land movement associated with earthquakes:

The existing levee was constructed as non-engineered fills. Earth was “stacked” directly on top of the native ground with no efforts to prepare and pre-compact the

underlying soils. The levee is subject to damage in the event of a major earthquake. Because the levee was constructed as non-engineering fill over an un-compacted base, it is unknown exactly how the levee would respond to a major earthquake event. (pg. 3.9-14)

An expert panel of seismologists and geotechnical engineers convened by the CALFED Bay Delta Authority concluded that there is a very high risk of seismic levee failure in the Delta from a moderate earthquake. The panel also found that major upgrades to the levee system would not significantly reduce the probability of levee failure, because the probably mode of levee failure would be from liquefaction of underlying soils.

The DEIR discusses the possible generation of a seiche in the event of an earthquake (pg. 3.9-57), yet does not mention the possible levee structural damage or breaching that could cause flooding and threaten lives. The Geotechnical Update prepared by ENGEO in Appendix J of the DEIR includes a table that summarizes the distance to several known faults that may be potential seismic sources for the SPA. There are a total of six faults and fault segments within a 6 to 50 mile range of the SPA, with magnitudes ranging between 6.2 and 7.4. An earthquake within this magnitude range could be catastrophic for residential tracts located below sea level, as in the proposed development, particularly because levees in the Delta are built upon fragile, saturated foundations that will liquefy during moderate seismic events. The DEIR should include a model analysis of potential levee breaching from earthquakes, and findings from this evaluation should be incorporated into any levee upgrade plans. The potential impacts of a seismic event must be fully analyzed, and mitigation measures must be identified.



Additional considerations should be made for older levees which are incorporated into the construction of new levee systems, as along stretches of the existing perimeter levee bordering Rock Slough:

“The levee would turn in an easterly direction at Rock Slough, where the existing historic levee would be incorporated into the new project levee.” (pg. 3.9-44)

Through its Seismic Vulnerability Sub-Team (the Sub-Team), CALFED has begun to examine the issue of seismic vulnerability of levees in the Delta. In a report released in April of 2000, they found that even the best seismically engineered levees in the Delta sit atop older, un-engineered and compacted levees and saturated foundations prone to liquefy. Thus before any portion of the preexisting perimeter levee is considered for incorporation into the new levee system, an evaluation of its seismic vulnerability should be conducted and then upgrades performed.

4.3.11.2 The DEIR does not Discuss the Potential for Levee Failure Due to Land Subsidence

Although the proposed new levees include pre-compaction and other preparatory stages to reduce impacts of subsidence, the potential for significant hazards resulting from subsidence of soil beneath these levees should be analyzed. In addition, because the project introduces new hazard conditions for residents outside the proposed interior levees, the impact of subsidence on the existing levees must be analyzed as well. The DEIR fails to identify, analyze, or mitigate the impacts of subsidence on the levee system, and the resulting hazards.

Subsidence of the land is widespread in the Sacramento-San Joaquin Delta region. As a result natural flooding “shock absorbers” like marsh and floodplain environments have been removed. The effects of land subsidence are described in the DEIR as follows:

“The base floor of the project varies in elevation ranging from three feet above mean sea level (MSL – 1929 NGVD [National Geodetic Vertical Datum]) to ten feet below MSL.”(pg. 3.9-13)

A recent publication from the University of California Davis regarding regional land subsidence stated that there is a two-in-three chance that 100-year recurrence interval floods or earthquakes will cause catastrophic flooding and significant change in the Delta by 2050. Levee walls within areas of subsidence experience additional hydrostatic pressures from an increase in vertical height making them more likely to experience increased seepage rates and breaching. Although the DEIR mentions regional subsidence it fails to describe its impact to the existing perimeter levee system. Current levee conditions should be assessed within the DEIR by calculating the cumulative hydrostatic force, which provides a useful landscape-scale measure of levee failure potential. The following equation is used to calculate the hydrostatic force:

$$CF = P \times A \times L$$

Where CF is the hydrostatic force, P is the hydrostatic pressure on the island levee, A is the area of the unit length of levee (1 m x H), and L is levee length of the island.

4.4 The DEIR Fails to Analyze or Adequately Mitigate the Project's Significant Impacts on Hydrology and Water Quality.

4.4.1 The DEIR fails to adequately characterize existing hydrologic conditions.

The DEIR fails to point out or acknowledge that the entire project area would be inundated by several feet of water if the site were not continuously drained and pumped. In the event of a sustained power failure during the winter months, it would not be possible to drain and pump the site resulting in flooding even without levee failure.

4.4.2 The DEIR fails to analyze how continual draining and pumping of subsurface water will promote additional subsidence.

Groundwater levels throughout the Project will need to be maintained at least three feet below the surface through a regime of pumping and draining to prevent excessive moisture, mold, and settling in housing stock and other infrastructure. The resulting drainage will expose peat soils, which are prevalent on the site, to oxidation. Oxidation of peat soil literally transforms carbon in the soil into carbon dioxide causing the soil to “disappear.” Structures constructed on subsiding peat soils are inherently unstable.

4.4.3 The DEIR fails to analyze or adequately mitigate the Project's significant impacts on water quality.

The DEIR fails to demonstrate that Stormwater Management Plans (SWMPs) in mitigation measure 3.9.1 would significantly reduce the impacts to stormwater runoff. Similarly, mitigation measure 3.9.2 fails to demonstrate that the Lake Management Plan will adequately reduce water quality impacts. Therefore, water quality impacts to the San Joaquin—Sacramento River Delta must be fully analyzed and mitigated. The best way to mitigate discharge of polluted stormwater on the Delta is to pump the water off of the Project site for disposal or irrigation on upland sites.

4.4.3.1 Impacts to drinking water supply.

Water discharged from the site is likely to contain high concentrations of pollutants including heavy metals, hydrocarbons, excess nutrients and salts. In addition to run-off from the newly developed specific plan area, continuous groundwater pumping to prevent inundation of the site could result in the discharge of brackish water or high nitrates into Dutch and Sandmound Sloughs.

When this water is discharged into Dutch and Sand Mound Sloughs there is an approximately 50% chance that it will be transported northeast on the flood tide into Franks Tract due to a long tidal excursion in Dutch Slough. As the DEIR acknowledges, “net flow has occasionally been to the south and east [toward the drinking water intake] during dry periods and droughts” (DEIR, 3.9-7). Even without droughts tidal forces push water (and pollutants) eastward twice daily on each flood tide regardless of net flow. Given the configuration of Sand Mound Slough and Dutch Slough, their connectivity to

the larger Delta, and the long tidal excursion in Dutch Slough, it is entirely possible that pollutants could be “tidally pumped” into Franks Track and Old River where they would be eventually entrained into the drinking water supply for over 20 million people. Several modeling studies (DWR Flooded Islands Feasibility Study) have demonstrated that water in Franks Tract, particularly the southeast corner of Franks tract has a high potential of being entrained into the Delta drinking water diversions at Rock Slough and Tracy. The DEIR neither analyzes nor proposes mitigation measures for this potentially significant impact to the drinking water of 20 million Californians. The DEIR must be amended to include analysis of water quality impacts in light of drinking water quality standards.

In addition, the the Contra Costa Canal is the southern boundary of the project site. The EIR identifies the canal as the primary drinking water source for 500,000 residents of Contra Costa County. The canal is unlined and gradient permits groundwater flow into the canal. Although the DEIR claims that the impact of ground water contamination at the project site, and subsequent contamination of the drinking water in the Contra Costa Canal are less than significant, there is no analysis in the DEIR to support this claim. The DEIR should be amended to include this analysis. Failing this analysis, the DEIR should include a mitigation measure that would ensure the impact will be less than significant after mitigation (such as lining the canal or installing a closed system).

The DEIR fails to analyze the risk of a hazardous materials spill on the bridges over the Contra Costa Canal and over the Dutch and Sand Mound Sloughs. Spills related to motor vehicle accidents could release hazardous materials into these water bodies, resulting in degraded water quality and contaminated drinking water. These potentially significant impacts are not identified, analyzed, or mitigated in the DEIR.

4.4.3.2 Impacts of discharging polluted water on the Delta ecosystem and endangered aquatic species.

Although the DEIR identifies the potentially significant impact on biological resources from construction of the levees, it does not identify potential impacts to biological resources as a result of the potential increase in pollutants associated with urban run-off. The DEIR includes a list of some typical contaminants, but fails to acknowledge the potential impacts of increased temperature from shallow lakes on sensitive species, from increased levels of polyaromatic hydrocarbons, and other constituents. The DEIR must identify and analyze the potentially significant impacts of these constituents on special status species such as the Delta smelt, salmonids, and other species.

4.4.3.3 Water Quality Impacts in the Event of a Levee Breach

The Hotchkiss Tract Island is one of the eight islands listed in the Delta Flood Protection Act as critical to preserving water quality in the Delta. Development of the area will ultimately result in more pollutants entering the Delta. Of particular concern is the prevention of contaminated waters entering the Delta in the event of a levee breach. Currently “local storm water runoff and seepage from ground water is pumped to the ultimate discharge points in the Delta channels.” (pg. 3.9-8) This however is not a viable option to eliminate flood waters from the developed site in the event of a levee breach, for it could threaten the beneficial uses of the Delta waters which include municipal,

domestic and agricultural supply. The DEIR should include an analysis of alternatives for water evacuation methods that includes an environmentally-preferred method. Otherwise, significant potential impacts must be identified and mitigated in order to reduce water quality impacts related to levee breach to less-than-significant levels.

Another water quality issue which threatens beneficial uses of Delta water, and should be discussed within the DEIR is the potential for salt water intrusion during a levee breach. If a levee breaks and an island floods, especially during a dry season or drought when the Sacramento and San Joaquin rivers provide little inflow, salt water from Suisun Bay will rush into the Delta to fill the draft. When a 500-foot section of the Andrus Island levee collapsed in the summer of 1972, 164,000 acre feet of water flooded the island, drawing salt water into the Delta from the bay and shutting down water exports from the Delta for two months. The extent and distribution of salinity intrusion is a function of the size, location, timing, and duration of the breach, and the quantity of inflows into the Delta. The DEIR should use these parameters to analyze potential impacts of salt water intrusion from breaching of the proposed levee system, and identify mitigation measures to reduce impacts to less-than-significant levels.

4.5 The DEIR Fails to Analyze or Adequately Mitigate the Project's Significant Impacts on Air Quality

The CEQA Guidelines, Section 15125(b), require that an EIR discuss any inconsistencies between a proposed project and applicable general and regional plans. These plans include air quality management plans. The Project is not consistent with the Bay Area's Revised Ozone Attainment Plan, which assumes the use of certain controls on construction equipment to reduce ozone precursors, including the use of new, low-emission engines in construction equipment, low-emission pick-up trucks, and the use of natural gas and LPG in off-road equipment. (BAAQMD 10/01⁶.) These controls are not identified as mitigation measures in the Draft EIR. Thus, the Project's construction emissions are higher than assumed in this Plan and are not consistent with it.

4.5.1 Air quality impacts from CONSTRUCTION ARE not adequately disclosed and mitigated

The Draft EIR states that construction activities “would generate exhaust emissions from vehicles/equipment and fugitive dust particulate matter emissions that would affect local air quality.” With respect to fugitive dust emissions, the Draft EIR admits that “the moving of earth on the site is a construction activity with a high potential for creating air pollutants, including dust” and “once grading of the site is completed dust would continue to affect the local air quality during the construction of residential units, road construction, etc.” In addition, the Draft EIR recognizes that construction activities are also “a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking material would evaporate into the atmosphere and participate in the photochemical reaction that creates urban ozone.

⁶ Association of Bay Area Governments, Bay Area Air Quality Management District, Metropolitan Transportation Commission, Revised San Francisco Bay Area Ozone Attainment Plan for the 1-hour National Ozone Standard, Adopted October 24, 2001.

Asphalt used in paving is also a source of organic gases for a short time after its application.” (Draft EIR, pp. 3.4-15/16.)

Despite its admission to these potentially substantial emissions from Project construction, the Draft EIR declines to quantitatively analyze the impacts of these emissions on air quality and public health. Instead, the Draft EIR requires a standard slate of dust control measures “to reduce PM10 emissions during project grading and construction to less-than-significant.” (Draft EIR, p. 3.4-16.) The Draft EIR proposes no mitigation whatsoever for criteria pollutant emissions from combustion exhaust or other construction emissions such as solvents, adhesives, asphalt, etc. As discussed below, the mitigation measures required by the Draft EIR are not adequate to reduce construction air quality and public health impacts from fugitive dust and other criteria pollutant emissions to a less-than-significant level. Emissions from Project construction result in significant impacts on air quality that were not disclosed and not adequately mitigated. The Draft EIR should be revised to quantify emissions resulting from Project construction and to require adequate mitigation to reduce fugitive dust, equipment exhaust emissions, and organic gas emissions to a less-than-significant level.

4.5.2 The BAAQMD’s CEQA Guidelines Do Not Excuse The City From Evaluating Site-Specific Construction Impacts Of The Project

4.5.2.1 Fugitive Dust Emissions

The Draft EIR concludes that construction-related fugitive dust PM10 emissions during grading and construction would have the potential for creating a nuisance at nearby properties and would constitute a significant impact. It then concludes, with no analysis whatsoever, that the implementation of 12 mitigation measures would reduce this impact to a less-than-significant level, based on compliance with the Bay Area Air Quality Management District’s (“BAAQMD”) CEQA Guidelines. (Draft EIR, pp. 3.4-6 and 3.4-16; BAAQMD 12/99⁷.)

This conclusion is erroneous. The BAAQMD CEQA Guidelines do not excuse the City from preparing a site-specific analysis of air quality impacts when it can be reasonably demonstrated that these impacts would be significant, as held by the court in *CBE v. California Resources Agency* (2002) 103 Cal.App.4th 98. Further, it is impossible to conclude that site-specific impacts have been fully mitigated without performing an appropriate analysis. Under CEQA, an EIR may only conclude that impacts are less-than-significant if it provides an adequate analysis of the magnitude of the impacts and the degree to which they will be mitigated. (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d at 306/307.) This generally involves the following six steps:

- (1) Establishing quantitative significance thresholds (*e.g.*, in lb/day or ton/year) for each criteria pollutant;
- (2) Estimating emissions in pounds per day and tons per year of each criteria

⁷ Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, April 1996, Revised December 1999.

pollutant;

- (3) Comparing the emissions to the significance thresholds;
- (4) Imposing mitigation and quantifying emission reduction efficiency;
- (5) Estimating the controlled emissions; and
- (6) Comparing the controlled emissions to the significance thresholds.

One can only conclude that the mitigated impacts are not significant if the emissions in step (6) are less than the significance thresholds in step (1). The Draft EIR has leapt to the conclusion that construction emissions are not significant if 12 mitigation measures are adopted, without performing any of these essential steps. Thus, its conclusion that construction air quality impacts are reduced to a less than significant level is a hollow promise. As demonstrated below, fugitive dust PM10 emissions from construction are significant and the mitigation measures proposed in the Draft EIR do not reduce these construction impacts to a less than significant level. These impacts remain significant after the mitigation measures recommended in the Draft EIR are implemented. (*See Comment V.B.*)

4.5.2.2 Construction Equipment Exhaust Emissions

The Draft EIR also declined to evaluate ROG, NO_x, and CO⁸ emissions related to construction equipment exhaust emissions, arguing that these emissions are included in the BAAQMD's emission inventory of the regional air quality plan for the Bay Area air basin and that, therefore, "construction emissions are excluded and not calculated separately with regards to construction air emissions for individual projects. The ozone precursors generated by the project during construction have been estimated by the District and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the District." (Draft EIR, p. 3.4-15.) The Draft EIR proposed no mitigation for exhaust emissions. This is not acceptable for a number of reasons.

First, construction equipment exhaust emissions have impacts other than those affecting the regional attainment status of ozone and carbon monoxide. Construction exhaust emissions may result in significant cancer risks, primarily from diesel exhaust particulate matter emissions, increased risk of mortality in the Project vicinity, and cause violations of or contribute to existing violations of annual and 24-hour federal and California ambient air quality standards for PM10 and PM2.5⁹. These potentially significant impacts are not related to the attainment of ozone and carbon monoxide standards. The Draft EIR has failed to address these impacts.

Second, the BAAQMD Guidelines that the Draft EIR relies on were published in December 1999. Much has changed since then, including the adoption of new PM2.5 and PM10 ambient air quality standards and the publication of a Revised Ozone Attainment

⁸ CO = carbon monoxide

⁹ PM2.5 = Particulate matter with an aerodynamic diameter equal to or less than 2.5 micrometers.

Plan for the Bay Area, which was not considered in the Draft EIR. The Revised Ozone Attainment Plan assumes the use of certain controls on construction equipment to reduce ozone precursors, including the use of new, low-emission engines in construction equipment, low-emission pick-up trucks, and the use of natural gas and liquefied petroleum gas (“LPG”) in off-road equipment. These controls are not identified as mitigation measures in the Draft EIR. Thus, the Project’s construction emissions are higher than assumed in this plan and are not consistent with it. The CEQA Guidelines, Section 15125(b), require that inconsistencies between a proposed project and applicable general and regional plans be discussed. The Draft EIR does not identify these inconsistencies.

Third, the BAAQMD’s CEQA Guidelines present methods that can be used to estimate exhaust emissions (*Id.*, p. 28) and methods that can be used to mitigate them. (*Id.*, p. 53.) The BAAQMD would not present emission estimating methods and mitigation strategies if it believed these emissions were de facto exempt from evaluation due to their inclusion in attainment plans.

And finally, the BAAQMD CEQA Guidelines are just that, guidelines. They are not legally binding for the City of Oakley, which must comply with CEQA, not with the BAAQMD’s guidelines. CEQA requires that the City evaluate a project to identify its significant impacts and adopt all feasible mitigation measures for significant impacts. The City has not complied with this most basic requirement of CEQA. In fact, the City has not made any attempt to evaluate the likely significant impacts of construction equipment exhaust emissions and has not adopted mitigation measures capable of reducing these impacts to a less than significant level. As demonstrated below, these impacts are significant and entirely unmitigated.

4.5.2.3 Construction Fugitive Dust Emissions Remain Significant After Implementation Of Proposed Mitigation Measures

As discussed above, the Draft EIR concludes that the implementation of 12 mitigation measures would reduce the potentially significant impact due to fugitive dust emissions from construction to a less-than-significant level. (Draft EIR, p. 3.4-16.) This conclusion, wholly unsupported by analysis, is erroneous.

There are a large number of sources generating fugitive dust including wind erosion of graded areas and storage piles, entrained road dust on paved and unpaved roads, earthmoving activities such as grading, cut and fill, and construction of earthen levees. Grading emissions alone will likely result in significant impacts by themselves.

4.5.2.4 Diesel Exhaust Emissions And Emissions From Asphalt Paving, Solvents, And Architectural Coatings During Construction Are Significant And Not Adequately Mitigated

Typically, construction diesel exhaust emissions are estimated from a detailed construction schedule, and equipment list, and a grading plan or, in the absence of such detailed information, estimated from emission factors (expressed in terms of mass of pollutant per unit volume of soil disturbed) and the amount of soil disturbed on site. The

Draft EIR contains none of this information, recognizing only that project construction would involve “substantial earthmoving.” (See Comment I.F.)¹⁰

Site preparation will require stripping of topsoil and vegetation, cutting and filling to level the site, grading to obtain flat building pads, removal of any existing undocumented fill, excavating and backfilling of existing irrigation structures and subsurface utilities, placement of engineered fill to correct adverse native soil conditions, excavation of lakes, and construction of levees. The Geotechnical Report indicates that soils at the site are corrosive, expansive, and generally provide poor support characteristics. (Draft EIR, Appx. J.¹¹) Therefore, these soils cannot be built upon without addressing these adverse soil conditions.¹² The Draft EIR contains no information about the depth of cut that will have to occur to ameliorate these soil conditions, however, it is evident that a substantial amount of native soil must be excavated, compacted and/or filled prior to placing new fill. The Specific Plan states that cut and fill would be balanced on site. However, given that grading plans have not been developed, this conclusion is mere speculation. (See Comment I.F.) If cut materials must be exported and fill imported because on-site materials are not adequate, significant additional impacts will occur, including, but not limited to emissions associated with hauling and storage piles. These earthmoving activities require the use of diesel equipment such as dozers, loaders, graders, and compactors, which emit diesel exhaust.

4.5.2.5 Air quality impacts from project operational emissions are not adequately disclosed and mitigated

The Draft EIR concludes that operational emissions of ROG, NOx, and PM10 from the Project are significant and unavoidable after implementation of 7 mitigation measures to reduce emissions from residential uses and 10 mitigation measures to reduce emissions from commercial uses. (Draft EIR, p. 3.4-8.) The Draft EIR does not determine the emission reduction efficiency of its proposed mitigation program and, consequently, does not determine mitigated emissions from Project, as is standard practice for CEQA review. The Draft EIR only remarks that emissions reductions due to the proposed mitigation

¹⁰ The cubic yards of soil moved during a construction project are normally estimated from the grading plan. The Draft EIR does not contain a grading plan instead deferring the preparation of grading plans for the individual planning areas into the future. (See Comment II.)

¹¹ Kleinfelder, Inc., Geotechnical Soils, Geologic and Seismic Conditions, East Cypress Corridor Specific Plan, City of Oakley, California.

¹² The Geotechnical Report indicates the presence of interbedded sand layers in the upper 15 to 25 feet of subgrade soil, which increase the potential for liquefaction in case of an earthquake. Recommendations to address the potential for liquefaction include requiring that structures be built on stiffened foundations, recompacting the potentially liquefiable soil as engineered fill, and/or densifying the soil in place. In addition, a thin layer of organic silt and clay overlies the low organic clay and sand in many areas of the Project site, resulting in a high potential for subsidence and susceptibility to oxidation. For most cases, the Geotechnical Report recommends removing the material and replacing it with suitable fill. Further, the southern portion of the Project area is covered by moderate to highly plastic and expansive soil. The Geotechnical Report recommends re-grading with appropriate non-expansive soil pre-swelling the soils by moisture conditioning, stabilizing the expansive soils through lime treatment, and/or modifying or stiffening foundations to resist movement. (Draft EIR, Appx. J, pp. 19-22.)

measures are on the order of 10 to 20% and that this reduction will not reduce the significant emissions from Project operation on air quality to less-than-significant. The Draft EIR does not conduct criteria pollutant dispersion modeling to evaluate the impacts of Project's operational emissions on ambient air quality. As discussed below, the Draft EIR substantially underestimated operational emissions from the Project and thereby fails to disclose the true impact of the Project on air quality.

4.5.2.6 The Draft EIR Underestimates Operational Emissions

As discussed in detail in the following comments, the Draft EIR only analyzes those emissions attributable to Project-related vehicle traffic. The Draft EIR offers no explanation why it chose not to analyze the Project's area source emissions. Area sources are a major contributor to Project operational emissions.

4.5.2.7 ROG, NOx, and PM10 Emissions

The Draft EIR modeled ROG, NOx, and PM10 emissions from Project operations with the computer program URBEMIS2002. URBEMIS stands for "Urban Emissions Model." It is a computer program that is designed to estimate criteria pollutant emissions associated with land use development projects in California such as residential neighborhoods, shopping centers, office buildings, hospitals, schools, retail, recreational, and industrial uses; area sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects. The Draft EIR's modeling is fatally flawed for a number of reasons as discussed below, resulting in a considerable underestimate of Project operational emissions.

First, the Draft EIR fails to analyze area emissions, instead analyzing vehicular emissions only. (Draft EIR, p. 3.4-8.) Area emission sources include, *e.g.*, gas appliances, wood stoves, fireplaces, and landscape maintenance equipment, and industrial boilers, heaters, and so forth. Area emissions are a major contributor to total operational emissions, particularly during the winter months.

Second, review of the URBEMIS2002 output files¹³ reveals that the Draft EIR's modeling only included vehicle emissions attributable to residential single- and multi-family housing and commercial or industrial facilities. The Draft EIR's modeling does not take into account any vehicle emissions associated with the Village Center, commercial recreation, schools, community and neighborhood parks, the Beach Club, and open space, or vehicle traffic associated with maintenance of lakes, levees, gas well sites, roads, and so forth. Vehicle trips associated with these land uses are considerable and, if analyzed properly, will increase emissions considerably. (See Exhibit 1.)

Third, the Draft EIR's URBEMIS2002 modeling was based on vehicle emissions associated with only 3,709 single family and 180 multi-family units for a total of 3,889

¹³ The Draft EIR fails to include the printouts for the CALINE-4 and URBEMIS2002 modeling results in its technical appendix to the air quality impact analysis (Attachments 1 and 2 to Appendix G), thus effectively preventing a review of its air quality impact analysis for the operational phase of the Project without specifically requesting these files from the City. I received the modeling files from the City on October 6, 2005; attached as Exhibit 1.

residential units. According to the Draft EIR's project description, the Project consists of a total of 5,609 residential units, including 3,893¹⁴ single-family units and 1,665¹⁵ multi-family units, *i.e.* more than 1.5 times the units the Draft EIR considered for its analysis. (See Exhibit 1; Draft EIR, p. 1.0-1 and Table 2-1.)

Fourth, the Draft EIR's URBEMIS2002 modeling does not account for vehicle trips associated with the 200 potential entitled second units in planning areas PA2 and PA5. (See Exhibit 1; Draft EIR, Table 2-1.) The Draft EIR should have evaluated a worst-case scenario including these units. (See also Comment VI.B.1.)

And finally, URBEMIS2002 provides two outputs, one for the winter months and one the summer months. (See Exhibit 1) Vehicle emission rates of ROG and NO_x can be higher in the winter months. The Draft EIR provides no explanation why it chose to present only results for the summer months.

In sum, by substantially underestimating ROG, NO_x, and PM₁₀ from Project operational emissions, possibly by orders of magnitude, the Draft EIR fails to disclose and adequately mitigate the full impacts on air quality from Project operations.

4.5.2.8 CO Emissions

The Draft EIR concludes that Project-related traffic would not cause any new violations of the ambient air quality standards for CO nor contribute substantially to existing or projected violations. (Draft EIR, p. 3.4-7.) The Draft EIR bases this conclusion on CO ambient air concentrations near selected intersections from Project-related traffic modeled with the dispersion model CALINE-4. As discussed below, the Draft EIR's CO ambient air quality analysis is flawed for a number of reasons and considerably underestimates CO ambient air quality impacts attributable to Project operations.

First, the CALINE-4 dispersion model relies on peak traffic assumptions from the Draft EIR's traffic impact analysis. An analysis of the Project's trip generation forecasts by an independent traffic consultant found that the Draft EIR's estimate of traffic trips after buildout of the Project were significantly underestimated. (Brohard 10/05¹⁶.) Because the Draft EIR's ambient air quality modeling for CO assumes trip generation rates based on its flawed traffic analysis, the Project's operational air quality impacts are similarly underestimated.

Second, the Draft EIR's CO ambient air quality modeling only analyzes CO emissions attributable to vehicle exhaust. The Project also includes numerous area sources that

¹⁴ 255 units agriculture + 198 low-density single-family residential units + 1,059 medium-density single-family residential units + 2,381 high-density single-family residential units = 3,889 single-family residential units

¹⁵ 1,098 low-density detached multi-family residential units + 163 low-density attached multi-family residential units + 404 medium-density multi-family residential units = 1,665 multi-family residential units

¹⁶ Tom Brohard, PE, Tom Brohard & Associates, Letter to Suma Peesapati, Adams, Broadwell, Joseph & Cardozo, Re: Review of the Traffic Portions of the East Cypress Corridor Specific Plan Project Draft Environmental Impact Report Adjacent to the City of Oakley in Contra Costa County, October 4, 2005.

generate CO emissions such as gas appliances, pellet stoves, heaters, boilers, furnaces, and so forth. These are particularly relevant in the winter season and will constitute a considerable contribution to total Project operational emissions. The URBEMIS2002 model, used to estimate vehicle emissions of ROG, NO_x and PM₁₀, also provides CO emissions from both area emissions and traffic emissions. The Draft EIR gave no explanation why it chose not to analyze emissions during the winter season.

4.5.2.9 The Draft EIR Fails To Evaluate Air Quality Impacts Of PM_{2.5} Emissions From Project Operation

The Draft EIR fails to evaluate or even discuss PM_{2.5} emissions from Project construction, arguing that the BAAQMD has not developed a significance threshold. This is unacceptable for a number of reasons.

First, as discussed in Comment V.A, the City can not rely on the BAAQMD's CEQA Guidelines alone, particularly not in light of the fact that ambient air quality standards for PM_{2.5} were adopted years after the BAAQMD published its CEQA Guidelines. Second, the absence of significance thresholds does not excuse the City from evaluating the Project's impacts on air quality. (CEQA Guidelines Section 15358.a(2).) If analyzed, the Draft EIR would have likely found significant PM_{2.5} impacts from Project operation. Consequently, the Draft EIR fails to identify significant impacts from Project operation and fails to mitigate them.

4.5.2.10 The Draft EIR Fails To Analyze The Urban Heat Island Effect

The project would increase the emissions of ROG and NO_x from increased traffic, direct and indirect combustion of fuels in stationary sources and other equipment, restaurants, gas stations, among others. These pollutants are ozone precursors. The Draft EIR indicates that the Bethel Island monitoring station registered 5 days in 2002 and 1 day in 2004 above the State 1-hour standard for ozone. (Draft EIR, Table 3.4-3.) Thus, the general vicinity is not in compliance with the State 1-hour ozone standard. The Project would directly contribute to this existing exceedance by increasing emissions of ROG and NO_x.

In addition, the project would indirectly increase ozone by replacing open space with blacktop. This would increase local temperatures, contributing to the urban heat island effect and increasing the formation of ozone. The project would convert a substantial amount of land from green, open space to blacktop, *e.g.*, parking lots, roads, and roofs. This can reasonably be expected to increase local ambient temperature and hence, local formation of ozone.

Black surfaces absorb about 85% to 95% of the sunlight that falls on them, becoming one of the hottest surfaces in urban areas. The hot surfaces of pavement and similarly dark roofs quickly warm the air over urban areas, leading to the creation of summer urban "heat islands." On a clear summer afternoon, the air temperature in urban areas can be 2°F to 9°F hotter than the surrounding rural area. The elevated temperature increases cooling energy demand, accelerates the rate of smog production, and increases evaporative losses of organic compounds from gasoline tanks of vehicles parked over the

hot surfaces. Thus, the heat island affect would exacerbate existing exceedances of the ozone standards in the project vicinity. This is a significant ozone impact that was not discussed in the Draft EIR and is feasible to mitigate.

4.5.2.11 The Draft EIR Fails To Analyze Secondary Emissions From Electricity Generation

CEQA requires that an EIR identify direct and indirect significant effects of the project on the environment. (CEQA Guidelines Section 15126.2(a).) The Project will require a substantial amount of electricity to supply home and businesses and notably to pump and drain groundwater to prevent inundation of the site. The generation of electricity generates emissions. The Draft EIR does not discuss these so-called secondary emissions. These secondary emissions will contribute to the Project's already significant operational impacts and must be mitigated.

4.5.3 The Draft EIR Fails To Require Feasible Mitigation To Reduce Significant Air Quality Impacts From Project Operation and Construction

CEQA section 21002 requires agencies to adopt feasible mitigation measures in order to substantially lessen or avoid otherwise significant adverse environmental impacts of a proposed project. (*See also*, Pub. Res. Code §21081(a); CEQA Guidelines §15370.) To implement this requirement, an EIR must set forth mitigation measures that decisionmakers can adopt at the findings stage of the process. (CEQA Guidelines §15126(c).) For each significant effect, the EIR must identify specific mitigation measures. Where several potential mitigation measures are available, each should be discussed separately and the reasons for choosing one over the other should be stated. (CEQA Guidelines §15126(c).) Mitigation measures should be capable of “avoiding the impact altogether,” “minimizing impacts,” “rectifying the impact,” or “reducing the impact.” (CEQA Guidelines §15370.)

The Draft EIR adopts only the standard operational mitigation measures recommended in the BAAQMD CEQA Guidelines and concludes that impacts remain significant and unavoidable. The Draft EIR does not contain a discussion of other feasible mitigation measures. As discussed in Comment VII, numerous other feasible mitigation measures exist and should be required for the Project.

4.5.4 Additional Mitigation For Project Construction And Operation Is Feasible

By the Draft EIR's own admission of “significant unavoidable impacts” for the operational phase of the Project and as demonstrated in the comments above, impacts remain significant after implementation of the Draft EIR's proposed mitigation measures. Therefore, the City must impose all feasible mitigation to mitigate these significant impacts, which it does not. The comments below discuss the specific inadequacies of the Draft EIR's proposed mitigation program and propose mitigation measures that should be implemented to lessen or eliminate the significant adverse effects of Project construction and operation.

4.5.4.1 Additional Feasible Construction Mitigation

The Draft EIR proposes only 12 mitigation measures addressing fugitive dust for the construction phase of the Project. As discussed below, there are numerous relevant and reasonable fugitive dust and diesel exhaust mitigation measures contained in the CEQA guidelines and rules of air districts and other agencies that should also be required for this Project to mitigate its significant construction impacts.

Several agencies have conducted comprehensive studies of fugitive dust control measures to bring their region into compliance with national ambient air quality standards for PM₁₀. For example, the South Coast Air Quality Management District (“SCAQMD”) has sponsored research, passed regulations (*e.g.*, Rule 403¹⁷), and published guidelines that identify best management practices for controlling fugitive dusts at construction sites. The *Rule 403 Implementation Handbook*¹⁸ contains a comprehensive list of such measures. Clark County, Nevada, has also sponsored research, passed regulations (Rule 94), and published best management practices for controlling fugitive dust from construction activities.¹⁹ Clark County’s *Construction Activities Dust Control Handbook* contains a comprehensive list of best management practices.²⁰ Similarly, Arizona has developed guidance to control fugitive PM₁₀ emissions.²¹

Most of the measures included in these agency guidelines are feasible and therefore should be considered for adoption here under CEQA Guidelines Sections 15126.4 and 15091. Examples of such feasible mitigation measures are listed below:

- During clearing and grubbing, prewet surface soils where equipment will be operated; for areas without continuing construction, maintain live perennial vegetation and desert pavement; stabilize surface soil with dust palliative unless immediate construction is to continue; and use water or dust palliative to form crust on soil immediately following clearing/grubbing. (CCHD)²²
- Grade each phase separately, timed to coincide with construction phase or grade entire project, but apply chemical stabilizers or ground cover to graded areas

¹⁷ South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403, Fugitive Dust and Proposed Rule 1186, PM₁₀ Emissions from Paved and Unpaved Roads, and Livestock Operations, February 14, 1997.

¹⁸ South Coast Air Quality Management District, Rule 403 Implementation Handbook, January 1999.

¹⁹ P.M. Fransioli, PM₁₀ Emissions Control Research Sponsored by Clark County, Nevada, Proceedings of the Air & Waste Management Association’s 94th Annual Conference & Exhibition, Orlando, FL, June 24-28, 2001.

²⁰ Clark County Department of Air Quality Management, Construction Activities Dust Control Handbook, March 18, 2003.

²¹ Arizona Department of Environmental Quality, Air Quality Exceptional and Natural Events Policy PM₁₀ Best Available Control Measures, June 5, 2001.

²² The following acronyms are used in this listing of mitigation measures: ADEQ = Arizona Department of Environmental Quality; BAAQMD = Bay Area Air Quality Management District; BCAQMD = Butte County Air Quality Management District; CCHD = Clark County (Nevada) Health District; MBUAPCD = Monterey Bay Unified Air Pollution Control District; SBCAPCD = Santa Barbara County Air Pollution Control District; SJVUAPCD = San Joaquin Valley Unified Air Pollution Control District; SLOCAPCD = San Luis Obispo County Air Pollution Control District.

where construction phase begins more than 60 days after grading phase ends.
(Rule 403 Handbook)

- During initial grading, earth moving, or site preparation, projects 5 acres or greater may be required to construct a paved (or dust palliative treated) apron, at least 100 ft in length, onto the project site from the adjacent site if applicable. (BCAQMD)
- During cut and fill activities, prewater with sprinklers or wobblers to allow time for penetration; prewater with water trucks or water pulls to allow time for penetration; dig a test hole to depth of cut to determine if soils are moist at depth and continue to prewater if not moist to depth of cut; use water truck/pull to water soils to depth of cut prior to subsequent cuts; and apply water or dust palliative to form crust on soil following fill and compaction. (CCHD)
- For backfilling during earthmoving operations, water backfill material or apply dust palliative to maintain material moisture or to form crust when not actively handling; cover or enclose backfill material when not actively handling; mix backfill soil with water prior to moving; dedicate water truck or large hose to backfilling equipment and apply water as needed; water to form crust on soil immediately following backfilling; and empty loader bucket slowly; minimize drop height from loader bucket. (CCHD)
- For large tracts of disturbed land, prevent access by fencing, ditches, vegetation, berms, or other barriers; install perimeter wind barriers 3 to 5 feet high with low porosity; plant perimeter vegetation early; and for long-term stabilization, stabilize disturbed soil with dust palliative or vegetation or pave or apply surface rock. (CCHD)
- Barriers with 50 percent or less porosity located adjacent to roadways to reduce windblown material leaving a site. (Rule 403 Handbook)
- In staging areas, limit size of area; apply water to surface soils where support equipment and vehicles are operated; limit vehicle speeds to 15 mph; and limit ingress and egress points. (CCHD)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. (SJVUAPCD, ADEQ)
- For stockpiles, maintain at optimum moisture content; remove material from downwind side; avoid steep sides or faces; and stabilize material following stockpile-related activity. (CCHD)
- When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space

from the top of the container shall be maintained. (BAAQMD, SJVUAPCD, Rule 403 Handbook, ADEQ, SLOCAPCD)

- Where feasible, use bedliners in bottom-dumping haul vehicles. (Rule 403 Handbook)
- Empty loader bucket slowly and minimize drop height from loader bucket. (CCHD)
- Clean wheels and undercarriage of haul trucks prior to leaving construction site. (CCHD)
- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads. (SBCAPCD)
- Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect. (CCHD)
- All roadways, driveways, sidewalks, etc., to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. (SLOCAPCD)
- Pave all roads on construction sites. (MBUAPCD)
- To prevent trackout, pave construction roadways as early as possible; install gravel pads; install wheel shakers or wheel washers, and limit site access. (CCHD, SLOCAPCD)
- While clearing forms, use single stage pours where allowed; use water spray to clear forms; use sweeping and water spray to clear forms; use industrial shop vacuum to clear forms; and avoid use of high pressure air to blow soil and debris from the form. (CCHD)
- Limit fugitive dust sources to 20 percent opacity. (ADEQ)
- Require a dust control plan for earthmoving operations. (ADEQ)
- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans. (SBCAPCD, SLOCAPCD)
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. (SBCAPCD, SLOCAPCD)

Post a publicly visible sign with the telephone number and person to contact regarding

dust complaints. This person shall respond and take corrective action within 24 hrs. (BCAQMD, CCHD)

While portions of some of these measures are included in the Draft EIR's proposed fugitive dust mitigation measures, these measures are far more protective than those recommended for the Project. All of these measures are feasible and various combinations of them are routinely required elsewhere to reduce fugitive PM10 emissions. *See*, for example, the fugitive dust control program for the Big Dig (Kasprak and Stakutis 2000²³), for the El Toro Reuse Draft EIR²⁴, and for the Padres Ballpark Final EIR²⁵. Because fugitive dust PM10 emissions remain significant after the Draft EIR's proposed mitigation, all of these measures should be required.

4.5.4.2 Diesel Exhaust Mitigation Measures

As discussed in Comment V.C, construction-related emissions from diesel exhaust, asphalt paving, solvents, and architectural coatings are significant and, thus, must be mitigated with all feasible mitigation measures. A multitude of controls for is available for construction equipment and should be required.

The following mitigation measures are routinely required as CEQA mitigation by air districts and other agencies in California for construction projects, (*e.g.*, the mitigation programs routinely implemented by the SMAQMD and California Energy Commission ("CEC") decisions), including:

- Limiting the hours of operation of heavy duty equipment and/or the amount of equipment in use. (BAAQMD 12/99, p. 53.)
- Conversion to cleaner engines;
- Use of cleaner (reduced sulfur) fuel;
 - Add-on control devices, *e.g.*, particulate traps, catalytic oxidizers;
- Buffer zone between facility and sensitive receptors;
- Installation of high pressure injectors on diesel construction equipment;
- Restricting engine size of construction equipment to the minimum practical size;

²³ A. Kasprak and P.A. Stakutis, A Comprehensive Air Quality Control Program for a Large Roadway Tunnel Project, Proceedings of the Air & Waste Management Association's 93rd Annual Conference 7 Exhibition, June 18-22, 2000.

²⁴ County of Orange, Draft Environmental Impact Report No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport, Draft Supplemental Analysis, Volume 1, April 2001, pp. 2-121 to 2-123.

²⁵ City of San Diego, Final Subsequent Environmental Impact Report to the Final Master Environmental Impact Report for the Centre City Redevelopment Project and Addressing the Centre City Community Plan and Related Documents for the Proposed Ballpark and Ancillary Development Projects, and Associated Plan Amendments, V. IV. Responses to Comments, September 13, 1999, pp. IV-254 to IV-256.

- Electrification of construction equipment;
- Substitution of gasoline-powered for diesel-powered construction equipment;
 - Use of alternatively fueled construction equipment, using, *e.g.*, compressed natural gas, liquefied natural gas, propane, or biodiesel;
- Implementation of activity management techniques including a) development of a comprehensive construction management plan designed to minimize the number of large construction equipment operating during any given time period; b) scheduling of construction truck trips during non-peak hours to reduce peak hour emissions; c) limitation of the length of construction work-day period; and d) phasing of construction activities;
- Installation of catalytic converters on gasoline-powered equipment, if feasible;
- Minimization of construction worker trips by requiring carpooling and by providing for lunch onsite;
- Lengthening of construction period during smog season (May through October), so as to minimize the number of vehicles and equipment operating at the same time;
- Utilization of new technologies to control ozone precursor emissions as they become available and feasible;
- Use electricity from power poles rather than temporary diesel power generators; and

Emission offsets if ROG or NO_x emissions exceed 6.0 tons/quarter.

The following discusses the use and feasibility of construction equipment certified by CARB, post-combustion controls, and the use of low-sulfur fuels or PuriNO_xTM, an alternative diesel formulation.

CARB-certified Construction Equipment

Both the U.S. EPA and CARB have established emission limits on new off-road engines. CARB-certified off-road engines are engines that are 3 years old or less at the time of use and which comply with these new low emission limits. This equipment is widely available in the construction fleet and specified as a control measure in the BAAQMD's Revised Ozone Attainment Plan. Therefore, the use of CARB-certified equipment should be required for this Project in order to conform to the Clean Air Plan as required by CEQA.

The SMAQMD and other agencies require the use of at least 20 percent CARB-certified off-road engines in the mix of construction equipment operating on-site, or alternatively, setting a NO_x, ROG, and/or PM₁₀ emission reduction goal for the construction fleet. A

similar measure has been adopted by the Texas Natural Resource Conservation Commission (“TNRCC”) for the Dallas/Fort Worth and Houston-Galveston areas. (Rennie *et al.* 2001.²⁶) The Arizona Department of Environmental Quality (“ADEQ”) has also recommended this measure to address the air quality problems in the Phoenix area. (ADEQ 11/9/00, pp. 19-24.)

Post-combustion Controls

Post-combustion controls, such as oxidation catalysts and particulate filters, are devices that are installed downstream of the engine on the tailpipe to treat the exhaust. These devices are now widely used on construction equipment and are capable of removing over 90% of the PM10, CO, and ROG from engine exhaust, depending on the fuel and specific engine. The most common and widely used post-combustion control devices are particulate traps (*i.e.*, soot filters), oxidation catalysts, and combinations thereof. The many variants of these devices have recently been identified, evaluated, and comprehensively reviewed by CARB²⁷ and others.²⁸

These devices are commonly required as mitigation for construction emissions, which are similar to Project operations. The Massachusetts Turnpike Authority (“MTA”) implemented a voluntary program in the fall of 1998 which resulted in retrofitting 70 pieces of construction equipment with oxidation catalysts (Kasprak *et al.* 2001²⁹) at the “Big Dig,” the massive, 5-year, \$10 billion-plus Central Artery/Tunnel Project in Boston’s North End and one of the largest infrastructure construction projects in the country.

These controls have also been widely required to mitigate construction emissions in California. The CEC, which follows a CEQA-equivalent process in licensing of new power plants larger than 50 megawatts (“MW”), has required these devices on many projects. The Sunrise Power Project was recently constructed using this equipment.³⁰ No problems were encountered. Several other 500+MW power plants have been licensed and constructed successfully using these controls, including High Desert³¹, Elk Hills³²,

²⁶ S.G. Rennie, L. Fiffick, D. Huckabay, and B. Ubanwa, *Heavy Duty Diesel Engines Retrofit Programs as a Part of Houston SIP*, Proceedings of the Air & Waste Management Association’s 94th Annual Conference & Exhibition, June 24–28, 2001.

²⁷ California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000; California Air Resources Board, *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, October 2000.

²⁸ Manufacturers of Emission Controls Association, *Demonstration of Advanced Emission Control Technologies Enabling Diesel-Powered Heavy-Duty Engines to Achieve Low Emission Levels*, Final Report, June 1999.

²⁹ Alex Kasprak, Guido Schattaneck, and Ping K. Wan, *Emission Reduction Retrofit Program for Construction Equipment of the Central Artery/Tunnel Project*, Proceedings of the Air & Waste Management Association’s 94th Annual Conference & Exhibition, June 24-28, 2001. Also see: www.epa.gov/OMS/retrofit/documents/bigdig_case_01.htm, accessed June 18, 2004.

³⁰ California Energy Commission, *Commission Decision, Sunrise Power Project*, December 2000, Condition AQ-C3, p. 120.

³¹ California Energy Commission, *Commission Decision, High Desert Power Project*, May 2000, Condition AQ-3(o), p. 107.

Pastoria³³, Western Midway-Sunset³⁴, Mountain View³⁵, and Contra Costa³⁶, among others. (All of the CEC siting decisions are posted at www.energy.ca.gov under the name of the individual facility.)

Post-combustion controls have also been required as conventional CEQA mitigation in EIRs. The El Toro Reuse Draft EIR³⁷, page 2-124, AQ-11k and AQ-11l, required the use of particulate traps with a minimum 80% PM10 efficiency and selective catalytic reduction (“SCR”) or comparable technology with a minimum 70% NOx reduction on all off-road construction equipment. The Stanford University General Use Permit Application Draft EIR³⁸, page 4.11-10, AQ-1, required a range of measures to minimize diesel engine exhaust, including catalytic converters and particulate traps. The City of San Diego in the Padres Ballpark Final EIR³⁹ required the control of 95% of engine exhaust emissions, using, among others, oxidation catalysts, particulate filters, and “Blue Sky” low-emission engines. Similarly, the Port of Oakland required the use of new engines or post-combustion controls on trucks serving its Vision 2000 expansion project. The Port’s air quality mitigation program is now partially in place and has been very successful in reducing emissions.⁴⁰

All of these post-combustion controls are feasible for construction of this Project. Therefore, the Draft EIR should be revised requiring the use of post-combustion controls on off-road equipment specifying target control levels.

Alternative fuel: PuriNOxTM

Alternate diesel fuels exist that achieve PM10 and NOx reductions. PuriNOxTM is an alternative diesel formulation that was verified by CARB on January 31, 2001⁴¹ as achieving a 14% reduction in NOx and a 63% reduction in PM10 compared to CARB

³² California Energy Commission, Commission Decision, Elk Hills Power Project, December 2000, Condition AQ-C2(3), p. 123.

³³ California Energy Commission, Commission Decision, Pastoria Energy Facility, December 2000, Condition AQ-C3, p. 108.

³⁴ California Energy Commission, Commission Decision, Western Midway Sunset Power Project, March 2001, Condition AQ-C2, p. 114.

³⁵ California Energy Commission, Commission Decision, Mountain View Power Project, March 2001, Condition AQ-C2, p. 34.

³⁶ California Energy Commission, Commission Decision, Contra Costa Unit 8 Power Project, May 2001, Condition AQC-2, p. 12.

³⁷ County of Orange, Draft Environmental Impact Report, No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport, April 2001.

³⁸ Santa Clara County, Draft Environmental Impact Report, EIR Stanford University Draft Community Plan and General Use Permit Application, June 23, 2000.

³⁹ City of San Diego, Final Subsequent Environmental Impact Report, Ballpark and Ancillary Development Projects, and Associated Plan Amendments, September 13, 1999 and Draft Subsequent EIR, May 12, 1999, , page IV-262, I8.A.89.

⁴⁰ Port of Oakland, Summary Report #5, Vision 2000 Air Quality Mitigation Program, February 2002.

⁴¹ Letter from Dean C. Simeroth, Chief, Criteria Pollutants Branch, to Thomas J. Sheahan, Lubrizol, Verification of Lubrizol Corp. PuriNOx Fuel, January 31, 2001, <http://www.arb.ca.gov/fuels/diesel/altdiesel/altdiesel.htm>, accessed June 18, 2004.

diesel. It can be used in any direct-injection, heavy-duty compression ignition engine and is compatible with existing engines and existing storage, distribution, and vehicle fueling facilities. Operational experience indicates little or no difference in performance and startup time, no discernable operational differences, no increased engine noise, and significantly reduced visible smoke. (Hagstrand 6/04⁴².)

This fuel has been successfully used in heavy-duty off-road and on-road equipment, including by the Tri-Delta Transit Authority fleet in Contra Costa County, by the County of Sacramento at the Keifer Landfill and North Transfer station, in off-road construction equipment at very large residential construction projects in Sacramento, in truck fleets operated by Pacific Cement in San Francisco and Ramos Oil in Dixon, in yard hostlers at the Port of Long Beach, in off-road equipment operated by Hanson Aggregate in San Francisco, and in yard haulers at the Port of Houston. (Howes 4/00⁴³ and Hagstrand 6/04.) Six yard tractors have been operating on PuriNOxTM at the Port of Houston since April 2000. The Texas Natural Resource Conservation Commission (“TNRCC”) has also approved PuriNOxTM fuel for funding under Texas Senate Bill 5.

PuriNOxTM fuel is available from fuel distributors Ramos Oil in Sacramento and R.V. Jensen in Fresno and is competitively priced at a surcharge over regular diesel of about 10 cents per gallon.⁴⁴ It has been required as mitigation for construction exhaust emission impacts. For example, the NASA Ames Development Plan DEIS,⁴⁵ page 4.4-34, requires “where reasonable and feasible, use alternative diesel fuels. The CARB has verified reductions of NOx by almost 15%, and particulate matter by almost 63%, from use of alternative diesel fuels, describing PuriNOxTM.” See also construction exhaust mitigation in the Bickford Ranch Final EIR, page 1-24, requiring 10% to 20% NOx emission reductions, to be achieved by both engine selection and fuel selection. (“Includes the use of emulsified fuel in non-certified engines...”.)

Additional Feasible Operational Mitigation

The Draft EIR requires the implementation of “feasible BAAQMD mitigation measures” for mitigating the significant impacts from Project operation. The wording “feasible” renders this entire mitigation program ambiguous and unenforceable. The Draft EIR must include specific criteria for rejection of any of these measures or require them unambiguously. The Draft EIR finds significant unavoidable impacts from operation of the Project after implementation of its proposed mitigation program, yet it fails to analyze and impose all feasible mitigation. The comments below contain a long list of additional feasible mitigation measures that should be required to mitigate the Project’s significant operational emissions.

⁴² Personal communication, Petra Pless/Phyllis Fox with Hep Hepner, Ramos Oil Co., Dixon, CA, (916-371-3289, ext. 242) and Bill Hagstrand, Lubrizol (440-347-6592), March and June 2004.

⁴³ Peter Howes, An Evaluation of the Effects of PuriNOxTM on Exhaust Emissions from Yard Haulers at the Port of Houston, April 2000.

⁴⁴ Personal communication, Petra Pless with Bill Hagstrand, Lubrizol (440-347-6592), June 21, 2004.

⁴⁵ NASA Ames Research Center, NASA Ames Development Plan, Draft Programmatic Environmental Impact Statement, November 2001.

4.5.4.3 Operational Traffic Mitigation Measures

The following traffic mitigation measures are routinely required elsewhere to mitigate significant impacts from a project and should be required to mitigate the Project's significant NOx, ROG, and PM10 impacts.

- Establish a carpool/vanpool program;
- Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc.;
- Provide on-site child care or contribute to off-site child care within walking distance;
- Provide preferential parking for carpool/vanpool vehicles;
- Short-term bicycle parking for retail customers and other non-commute trips;
- Provide neighborhood-servicing shops and services within ½ mile of residential areas;
- Design and locate buildings to facilitate transit access, e.g., locate building entrances near transit stops, eliminate building setbacks, etc.;
- Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc.;
- Provide shuttle service to food service establishments/commercial areas;
- Provide shuttle service to transit stations/multimodal centers;
- Implement parking fee for single-occupancy vehicle commuters;
- Implement parking cash-out program for non-driving employees;
- Provide direct, safe, attractive pedestrian access from project to transit stops and adjacent development;
- Implement compressed work week schedule;
- Implement home-based telecommuting program;
- Provide electric vehicle ("EV") and compressed natural gas ("CNG") vehicles in vehicle fleets;
- Install CNG fueling facility;
- Provide preferential parking locations for EVs and CNG vehicles; and

- Charge reduced or no parking fee for EVs and CNG vehicles.

The Lent Ranch Final EIR⁴⁶, for example, requires most of these measures. The NASA Ames Development Plan Draft Environmental Impact Statement (“EIS”)⁴⁷ would implement an aggressive transportation demand management program (“TDM”) to reduce trip generation by at least 22 percent. The Stanford University Draft Community Plan and General Use Permit Draft EIR⁴⁸ adopts all applicable Bay Area TDMs. The Bickford Ranch Specific Plan Final EIR⁴⁹ requires that emissions be reduced by 40% by implementing many of these measures. The Old Greenwood Planned Development Draft EIR⁵⁰ requires, among others, paying an air quality mitigation fee to offset PM10 emissions from vehicle exhaust and re-entrained road dust to zero. Therefore, the above-listed measures should be assumed feasible unless otherwise demonstrated, and used by this Project to reduce traffic emissions to a less than significant level.

4.5.4.4 Operational Area Mitigation Measures

Operational area emissions can also be mitigated by controlling other sources of emissions from the Project, including exhaust emissions from landscaping equipment, emissions from natural gas combustion for heating/air-conditioning, increased ozone production from the heat island effect (*see* Comment VI.B.2), and indirect emissions from electricity generation (*see* Comment VI.B.3). In addition, the CEQA Guidelines of other air districts identify numerous other feasible measures for commercial/industrial operations. Some of these measures, which are routinely required as mitigation in other EIRs,⁵¹ include:

- Use electric lawn and garden equipment for landscaping (BAAQMD);
- Use electrically or CNG-powered specialty equipment, *e.g.*, utility carts (BAAQMD);
- Use propane-powered specialty equipment, *e.g.*, forklifts, utility carts, etc. (BAAQMD);

⁴⁶ City of Elk Grove, Lent Ranch Marketplace, Draft Environmental Impact Report, for example Table 4.3-21, page 3.0-96, and Table 12-2, October 2000.

⁴⁷ NASA Ames Research Center, NASA Ames Development Plan, Draft Programmatic Environmental Impact Statement, pp. O-11 to O-16, November 2001.

⁴⁸ Santa Clara County, Draft Environmental Impact Report, Stanford University Draft Community Plan and General Use Permit Application, Table 4.11-6, June 23, 2000.

⁴⁹ County of Placer, Bickford Ranch Specific Plan Final Environmental Impact Report, Section 8.3.2 and 8.4, November 13, 2000.

⁵⁰ City of Truckee, Draft Environmental Impact Report, Old Greenwood Planned Development, pp. 4.5-10 to 4.5-13, February 2002.

⁵¹ For example: City of Elk Grove, Lent Ranch Marketplace, Draft Environmental Impact Report, Table 4.3-5, p. 3.0-96, October 2000; County of Placer, Bickford Ranch Specific Plan Final Environmental Impact Report, pp. 8-20 to 8-22, November 13, 2000; Sacramento County, East Franklin Specific Plan, Final Environmental Impact Report, Table ES-1; and Appendix D, February 2000; City of Truckee, Draft Environmental Impact Report, Old Greenwood Planned Development, pp. 4.5-10 to 4.5-13, February 2002.

- Increase walls and attic insulation beyond Title 24 requirements (SLOAPCD⁵², SCAQMD⁵³);
- Orient buildings to maximize standard heating and cooling (SLOAPCD) and include passive solar design, *e.g.*, day-lighting (SCAQMD, SBAPCD⁵⁴, BCAQMD⁵⁵);
- Plant shade trees in parking lots to reduce evaporative emissions from parked vehicles (SLOAPCD, SCAQMD, SBAPCD, BCAQMD);
- Use energy-efficient and automated controls for air conditioning (SCAQMD, BCAQMD);
- Use lighting controls and energy-efficient interior lighting (SLOAPCD, SCAQMD, SBAPCD, BCAQMD) and built-in energy-efficient appliances (SLOAPCD);
- Use double-paned windows (SLOAPCD, SCAQMD);
- Use energy-efficient low sodium parking lot and street lights (SLOAPCD, SCAQMD);
- Install solar cooling/heating (SBAPCD);
- Install solar water heater for at least 25% of the building floor area (BCAQMD);

Substitute materials, *e.g.*, use water-based paint (SCAQMD);

Modify manufacturing processes, *e.g.*, reduce process stages, closed loop-systems, materials recycling (SCAQMD);

- Install resource recovery systems that redirect chemicals to new production processes (SCAQMD);
- Use solar or low-emission water heaters (SCAQMD);
- Use centralized water-heating systems (SCAQMD, VCAPCD⁵⁶);
- Use concrete or other non-pollutant materials for parking lots instead of asphalt (SBAPCD);

⁵² San Luis Obispo Air Pollution Control District, CEQA Air Quality Handbook, August 1997.

⁵³ South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993.

⁵⁴ Santa Barbara Air Pollution Control District, Scope and Content of Air Quality Sections in Environmental Documents, September 1997.

⁵⁵ Butte County Air Quality Management District, Indirect Source Review Guidelines, March 1997.

⁵⁶ Ventura County Air Pollution Control District, Ventura County Air Quality Management Plan, Appendix G-94, Guidelines for the Preparation of Air Quality Impact Analyses, October 1989.

- Pay an air quality mitigation fee;
- Secure emission offsets;
- Landscape with drought-resistant species, and use groundcovers rather than pavement to reduce heat reflection;
- Provide electric maintenance equipment;
- Use energy star roofing products;
- Use ozone-destruction catalyst on air condition systems; and
- Reduce standard paving by 20%.

Further, some air districts recommend that large projects that cannot be fully mitigated with on-site measures, should implement off-site mitigation measures, for example:

- Retrofit existing homes and businesses in the project area with approved energy conservation devices (SLOAPCD);
- Replace/repower school/transit bus with cleaner vehicles (SLOAPCD);
- Construct satellite work stations (SLOAPCD);
- Fund a program to buy and scrap older, high-emission vehicles (SLOAPCD);
- Contribute to an off-site TDM fund (VCAPCD);
- Repair smog-check waived vehicles (SLOAPCD);
- Introduce electric lawn and garden equipment exchange program (SLOAPCD); and
- Retrofit/purchase clean heavy-duty trucks, construction equipment, diesel locomotives, and marine vessels. (SLOAPCD)

In sum, the traffic-related measures proposed by the Draft EIR to mitigate the Project's operational impacts are clearly inadequate to reduce its operational emissions to a less than significant level. There are many additional feasible measures that should be evaluated and required for this Project. The Draft EIR should be revised to include these additional measures and recirculated for public review.

5 Conclusion

The DEIR includes an improper project description, fails to take into account readily available environmental data, relies on incomplete and "pending" surveys and delineations, fails to identify all potentially significant impacts, fails to identify and

analyze mitigation alternatives, and fails to demonstrate that the mitigation measures proposed would be sufficient to reduce impacts to less than significant levels.

Signed,

A handwritten signature in dark ink, appearing to read "David Reid". The signature is written in a cursive, flowing style with some loops and flourishes.

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