I. OVERVIEW

ESA is pleased to provide this proposal to review public comments that the City received regarding the potential health and/or safety effects of rail transportation and related handling of certain commodities proposed by the Oakland Bulk and Oversized Terminal (OBOT) at the former Oakland Army Base (“Project”). As articulated by the City, the purpose of this review is to assist the City in determining whether the information in its public record constitutes “substantial evidence” that would support a finding of substantial endangerment, pursuant to and consistent with the requirements of the 2013 Development Agreement By and Between City of Oakland and Prologis CCIG Oakland Global, LLC Regarding the property and Project Known as “Gateway Development/Oakland Global”, (DA) sections 3.4.2 and 3.4.4.

Specifically, pursuant to DA section 3.4.2, if the City finds, based upon substantial evidence, that “a failure to [adopt the ordinance] would place existing or future occupants or users of the Project, adjacent neighbors, or any portion thereof, or all of them, in a condition substantially dangerous to their health or safety,” the City may impose new regulations on the Project. In addition, under DA section 3.4.4, the City can impose new Building and/or Fire Codes on the Project.

The ESA analysis of the public record will be presented in a Report that will categorize and assess the public comments and information that was submitted in support of those comments to assist the City Council in making a determination regarding whether or not the

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1 “Substantial evidence” referred to in this document is as defined in Section 15384 of the California Environmental Quality Act (CEQA): (a) "Substantial evidence" means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.... Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence; (b) Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

2 “Public comments” and “public record” in this document refers to existing documents in the City’s project record that were received by October 7, 2015, on the Army Base Redevelopment Project.
information in the public record constitutes substantial evidence that would support a finding of substantial endangerment.

The scope of this review is focused on those commodities listed in the Proponents Draft Basis on Design (BOD) dated July 21, 2015 and that are also directly or indirectly addressed in the 2014 Oakland City Council Resolution No. 85054 C.M.S., opposing transportation of coal and other “hazardous fossil fuel materials” through the Oakland. Specifically, these commodities are:

a) bituminous coal (washed coal, clean coal, or soft coal);  
b) fuel oils (heating oil, off-road diesel fuel, high-sulfur diesel, residual fuel oils for furnaces and boilers, and fuel for low and medium speed diesel engines); and  
c) gasoline (all grades)

The scope of this review is also specifically limited to the potential health and/or safety effects to people, pursuant to the required finding in DA section 3.4.2, above. This is not a CEQA review, and is not limited to CEQA topics or the use of regulatory standards as significance criteria, but rather will consider the public comments as they may apply to health and/or safety effects, regardless of whether the mechanisms for these effects are fully understood or documented in peer-reviewed scientific sources.

ANALYSIS

ESA will review background information and public comments that could be useful to the City in determining whether or not there is “substantial evidence” that the rail transport and terminal activities for the export of coal (or other hazardous fossil fuel materials) would be “substantially dangerous” to workers or the nearby population.

The work product will be a focused short-term initial review that may provide adequate evidence for City determinations addressing DA sections 3.4.2 and 3.4.4.

The elements of Analysis are:

- Task 1.1: Confirm OBOT Project Design
- Task 1.2: Characterize OBOT Activities for Coal and Other Hazardous Fossil Fuel Materials
- Task 1.3: Review Public Input to Date on Army Base Redevelopment Project
- Task 1.4: Summarize Existing Regulatory Setting
- Task 1.5: Commodities Characterization
- Task 1.6: Prepare Draft Report

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3 For example, the Study Area will not encompass the potential for bulk materials to be introduced into Bay waters by settlement.
• Task 1.7: Revise/Prepare Final Report (as needed) / Meeting Attendance
• Task 1.8: Detailed Scoping and Consultation

ESA and Subconsultants
The proposed ESA Team is comprised of air quality and hazardous materials and rail transportation risk experts, particularly those with expertise regarding coal. Proposed subconsultants include Adelante Consulting (Barbara Toole O’Neil) and MRS.

COST-HOURS OVERVIEW
Section IV (Table 1) provides a preliminary draft of the labor and cost effort, which is intended as an informed starting point for discussion of this scalable scope of work. As drafted, we estimate a total of approximately 494 hours ($108K), including limited engagement by the subconsultants (53 hours), as well as detailed scoping and consultation by ESA with the City necessary to prepare the draft approach and scope of work presented herein (65 hours).

SCHEDULE OVERVIEW
Section V (Table 2) summarizes a preliminary draft schedule of the proposed work, also intended as a starting point for refinement in collaboration with the City. As with the scope of work, the initial schedule makes informed assumptions and is scalable to meet the City’s intended milestone of a City Council determination in summer 2016. The draft shows ESA performing work over a four-week period, providing a draft Report to the City in late May, 2016.

II. DRAFT APPROACH / SCOPE

Task 1.1: Confirm OBOT Project Design
• Confirm with the City the proponent’s project design, as specified in the Draft Basis on Design (BOD) dated July 21, 2015, and subsequently specified in the project proponent’s correspondence of January 20, 2016, to be used as the project description considered during the review of the public input (Task 1.3).
• Based on information provided to date, the proposed commodities that are expected to be imported to and exported from OBOT, and considered in this scope of work, are bituminous coal (washed coal, clean coal, or soft coal); fuel oils (heating oil, off-road diesel fuel, high-sulfur diesel, residual fuel oils for furnaces and boilers, and fuel for low and medium speed diesel engines); and gasoline (all grades). (the latter two being hazardous fossil fuels and having similar adverse characteristics as “crude oil” per the City’s 2014 Resolution).

4 Throughout this document, ESA proposes to conduct all tasks except where specifically noted as “[Named Subconsultant]” or “[ESA and Named Subconsultant].”
Examine BOD and Drawings. Review the BOD Material Safety Data Sheets for the proposed commodities. Note differences in BOD, developer’s reports, and City-generated documents in current City record. Provide the City a list of questions and specific requests for clarifying information from the proponent.\(^5\)

Describe proponent’s proposed facilities and infrastructure (distinguish existing from any proposed new changes for clarity about the baseline) based on a determination of the project description to be evaluated in this analysis.

Describe proponent’s proposed operations. Describe the operations to be evaluated in this analysis, including structural and procedural measures proposed to control emissions and prevent spills of bulk commodities. Identify the characteristics of the BOD versus proponent-initiated mitigating measures that have been proposed for OBOT.

Include consideration of the existing agreement between CCIG (on behalf of OBOT) and East Bay Municipal Utility District regarding rail traffic.

Note any differences in throughput by commodity type, facilities design and projected operations.

Note the proposed combination of coal, fuel oils, and gasoline and projected operations based on these specific commodities transported through the OBOT at the same time.

Describe proponent’s proposal to confirm how the proposed new rail will be classified and constructed to be adequate and appropriate for use in transporting the heavy loads associated with coal in particular.

**Task 1.2: Characterize OBOT Activities for Coal and Other Hazardous Fossil Fuel Materials**

- Characterize the OBOT activities to be considered within the scope of the Review, which include rail transportation of coal, fuel oils, and gasoline within the West Oakland “Study Area” (to be specified by the City); and terminal activities such as transloading of these commodities from railcar at the bulk terminal; stockpiling or other storage of these commodities pending onboarding for marine transport; and onboarding of these commodities for marine transport. These activities are collectively referred to as “terminal activities” throughout this document.
- The review will consider the *combination* of proposed bulk commodities listed above, if proposed by the proponent.

\(^5\) ESA will promptly submit this data request to the City in order to expedite obtaining the requested information from the Proponent.
• This scope assumes that the scope of the review does not include the: (i) rail transportation of coal, fuel oils, or gasoline from the point of origin to the Study Area, except as the effects occur along the rail lines within the Study Area (ii) transportation of coal, fuel oils, or gasoline by ship from the point at which is the commodity is on-boarded in the Study Area to its ultimate destination.

**Task 1.3: Review Public Input to Date on Army Base Redevelopment Project**

• Thoroughly review the existing documents in the City’s project record that were received by October 7, 2015 on the Army Base Redevelopment Project (indexed binder previously provided to ESA by the City), as well as other relevant documents (as determined by the City) including the 2012 Amendment to the 2002 Army Base Redevelopment Project EIR, East Bay Municipal Utility District/City Memorandum of Agreement regarding rail traffic.

• Prepare and maintain for inclusion in the Report a comprehensive list of information and sources provided in public comments that are considered appropriate for review and consideration throughout the work described in this scope. Organize/categorize information and sources from the public comments according to particular aspects of potential health and/or safety effects (what the potential effects are, and how they may occur) relevant to the consideration of substantial endangerment, pursuant to DA section 3.4.2.

• Health-related topics that public comments address and that shall be especially considered in the review include, but are not necessarily limited to, the following.
  
  o Potential levels of fugitive coal dust;
  
  o Estimated diesel particulate and other locomotive air emissions in the Study Area;
  
  o Thresholds that employ metrics that do and do not require receptor modeling to develop specific human exposure projections;
  
  o Various particulate and other air pollutant characteristics and quantities by commodity and by the specific design and operation of receiving, storage, and shipping facilities;
  
  o Incremental locomotive emissions in West Oakland resulting from the transport of coal, specifically considering that coal trains are among the heaviest and require additional fuel and produce additional elevated emissions; and
  
  o Methodology to quantify comparative effects of hauling coal versus other commodities.
• Safety-related topics that public comments address and that shall be especially considered in the review include, but are not necessarily limited to, the following:
  o Available thresholds relevant to the potential risks and consequences of road traffic congestion (at grade crossings), derailment, fire, explosion, and upset conditions (including spillage), in the Study Area;
  o Existing studies that distinguish among the characteristics of coal fuel oils, or gasoline that contribute to or minimize safety risks.

• Greenhouse Gas Emissions and Climate Effects-related topics that public comments address and that shall be especially considered in the review include, but are not necessarily limited to, the following:
  o Off-gassing of GHGs, including carbon monoxide and methane from coal storage piles;
  o Potential for incremental increase of GHG emissions locally and globally from storing coal in the Study Area;
  o Existing information regarding how burning coal oversees and receiving, storing, and shipping coal at the OBOT could affect air pollution and global warming/sea level rise for West Oakland;
  o Quantified incremental increase in GHG emissions as CO2 equivalent;
  o Method and/or calculation of GHG contribution from coal storage piles at OBOT.

• Appropriate thresholds to be used in the determination of whether there is “substantial evidence” that the project is “substantially dangerous”;

• Potential health and/or safety risks associated with the proposed rail transport through West Oakland and terminal activities for coal, fuel oils, or gasoline at OBOT for onboarding to marine vessels

**Task 1.4: Summarize Existing Regulatory Setting**

• Summarize screening levels set by the U.S. Environmental Protection Agency for concentrations of coal-specific trace elements that could be ingested in dust or via the consumption of surface water or produce grown in the Study Area.

• Identify existing coal dust performance requirements of relevant entities, potentially including:
  o Federal Railroad Administration, BNSF Railway (including BNSF’s load profile template)\(^6\) and/or UP;

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Task 1.5: Commodities Characterization

- As needed to supplement the public information reviewed in Task 1.3, Describe and compare the characteristics of coal for export from OBOT.

- Describe and compare U.S. coal types generally, and specifically Utah coal types by County and/or mine, as related to health and/or safety. Include a simplified description of chemical characteristics that contribute to or minimize potential human health and/or safety effects, including the coal composition and potentially harmful trace constituents like mercury, lead, arsenic, and barium as well as polycyclic aromatic hydrocarbons (PAHs) and other off-gasses including methane.\(^7\)

- Describe coal dust as a form of particulate matter (PM) and explain how it can be generated during rail transport, storage and transloading activities.

- Summarize the factors affecting the total amount of fugitive coal dust generated,\(^8\) including the factors affecting the volume of coal dust released during offloading, storage, and on-boarding to marine vessel. Estimate the volume of coal dust released during each activity per day, month and year.

- Describe mobilization and factors influencing mobilization of coal dust to achieve exposure to humans via inhalation, ingestion and leaching into surface water and ground water.

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\(^7\) A potential reference to be evaluated regarding coal characteristics includes the coal dust analysis provided as Appendix G of the Surface Transportation Board’s analysis for the Tongue River Railroad project.

\(^8\) Section 4 (Environmental Impacts Associated with Coal Transportation) of the U.S. EPA’s May 1978 Environmental Assessment of Coal Transportation (p. 59 et seq.) will be reviewed to inform this discussion. USEPA, 1978, Environmental Assessment of Coal Transportation. EPA-600/7-78-081. [http://www.scribd.com/ doc/129807057/9100T7M9] May 1978. Section 6.3.3.1 of the Surface Transportation Board’s EIS (p. 6-6 et seq.) for the Tongue River Railroad Project (and references cited therein) also will be reviewed.
o Provide a brief summary review of existing studies of emission, dispersion, and deposition of coal dust from rail cars and provide a high-level overview of the methods that prior studies have used to evaluate potential effects. Specific examples of conservative assumptions will be identified.

o Identify potential coal dust palliatives (also referred to as surfactants or “topping agents”) and distinguishing characteristics of each.

o Review surfactants and their effects on reducing fugitive coal dust from open top coal trains.

- As mentioned in Task 1.2, describe the effects of handling coal, fuel oils, and gasoline through the OBOT all at once.
- Perform the same evaluation as above in this subtask, for fuel oils, and gasoline (i.e., the other specific bulk commodities most likely to be handled through OBOT and that are addressed by the 2014 Oakland Resolution). Certain commodities are excluded from this review due to their lack of health and/or safety risk issues (or low risk) and/or regulation by the fire and building codes.

[Subconsultants, Adelante Consulting (Barbara Toole-O’Neil); and MRS]

**Task 1.6: Prepare Draft Report**

- ESA will conduct the following tasks to prepare the Draft Report:
  - Categorize, synthesize, and summarize the information gained and reviewed through Task 1.1 through Task 1.5, detailed above; the categorization of information gained from those preceding tasks may be further refined for purposes of the Draft Report.
  - Prepare a Draft Report containing the categorization, synthesis, summary, evaluation, and references record of the public comments and other information in the City public record.

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9 See, e.g., Chapter 6, Coal Dust, of the EIS being prepared by the Surface Transportation Board for the Tongue River Railroad. The Draft EIS was issued for comment on April 17, 2015 [http://www.tonguerivereis.com/draft_eis.html]. A second extension of the comment period was granted until September 23, 2015. We presume the Final EIS is in progress and may provide independent confirmation as to the appropriateness and completeness of the scope of issues to be considered in this proposed Report. See also Kotchenruther (EPA Region 10), 2013. Fugitive Dust from Coal Trains: Factors Effecting Emissions & Estimating PM2.5. [http://lar.wsu.edu/nw-airquest/docs/201306_meeting/20130606_Kotchenruther_coal_trains.pdf]

10 An example of this is provided in SNC-Lavalin, 2014, on page 131 et seq., although we do not anticipate that the referenced level of detail would be needed or helpful in this project.

11 This discussion would further develop and refine information provided in Table 3-8 (Composition of Dust Palliatives) provided in SNC-Lavalin, 2014. Human Health Risk Assessment: Fraser Surry Docks Direct Transfer Coal Facility Revised Final Report. July 18, 2014.
Task 1.7: Revise/Prepare Final Report (as needed) / Meeting Attendance

- ESA understands that the City may circulate the Report to the public and project proponent for review and comment. Under this task, ESA will revise the finalize or modify the Report, as needed or directed. Attendance at one (1) public meeting is assumed to hear public comment on the Report. Preparation of responses to comments is not assumed.

Task 1.8 Detailed Scoping and Consultation

- This task includes ESA’s work and communication with City staff to understand the background and context of the OBOT proposal relative to the DA and the City’s 2014 Resolution, and to assist the City in developing the technical aspects of a scope of work pertinent to the City determining whether the information in its public record constitutes substantial evidence of substantial endangerment

III. PROPOSED SUBCONSULTANTS

ESA has identified qualified subconsultants who will provide specialized expertise required for certain tasks identified in this preliminary scope, and referenced throughout the scope. ESA has previous working relationships with each of these firms and expert analysts. Adelante Consulting (Barbara Toole O’Neil) and MRS will focus on Task 1.5 (Commodities Characterization), with assistance as needed in Task 1.3 (Review Public Input to Date). However, it is anticipated that subconsultants will provide consultation as needed throughout the work and participate in other various tasks as needed.

IV. LABOR AND COST ESTIMATE

Table 1 presents a preliminary draft labor and cost estimate for the proposed work. As discussed with City staff to date, this process and the proposed deliverables are fairly unique, and the actual effort required could vary widely based on the quantity, scope and nature of public engagement and response, as well as the actual process that the City undertakes. This initial estimate factors in this uncertainty, but represents thoughtful initial estimates based on our understanding and initial review of information the City initially provided to ESA.
**TABLE 1- PRELIMINARY DRAFT LABOR AND COST ESTIMATE**

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<tr>
<th>Task</th>
<th>ESA Hours</th>
<th>Subconsultant Hours (Estimated based on Average Hourly Bill Rate)</th>
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<th>Total Approximate Cost</th>
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<td>Task 1.6: Prepare Draft Report</td>
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<td><strong>494</strong></td>
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<td><strong>TOTAL HOUR/COST ESTIMATES</strong></td>
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<td><strong>53</strong></td>
<td><strong>494</strong></td>
<td><strong>$ 107,813</strong></td>
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**V. PRELIMINARY DRAFT SCHEDULE**

Table 2 presents a preliminary draft schedule of the proposed work, intended as a starting point for refinement in collaboration with the City. Key assumptions are listed as table notes and apply approaches and administrative draft review durations that the City generally applies for its review of certain environmental review processes. It is assumed that certain tasks may warrant interim review and feedback from the City.

(Table 2 presented on the following page.)
TABLE 2 - PRELIMINARY DRAFT SCHEDULE

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration (weeks)</th>
<th>Start</th>
<th>End</th>
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</thead>
<tbody>
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<td>ESA-City Approach/Scope Review and Revision</td>
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<td>1/11/16</td>
<td>3/25/16</td>
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<td>Task 1.2: Characterize OBOT Activities for Coal and Other Hazardous Fossil Fuel Materials</td>
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<td>Task 1.3: Review Public Input to Date on Army Base Redevelopment Project</td>
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<tr>
<td>Task 1.4: Summarize Existing Regulatory Setting</td>
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<td>Task 1.5: Commodities Characterization</td>
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<td>Task 1.6: Prepare Draft Report</td>
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<tr>
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<sup>a</sup> Assumes one round of City review and Report clarifications by ESA.

<sup>b</sup> Public Hearing #1 assumed to have occurred in Fall 2015.

VI. QUALIFICATIONS AND KEY RESUMES

Resumes of key ESA technical staff and subconsultants for this proposed scope of work are provided to the City under separate cover.