

**BALLARD & WATKINS**  
**CONSTRUCTION SERVICES**

**AIR QUALITY IMPACT STUDY**

for

**Fair-Anselm Creek Stabilization Project**  
Fairfax, California

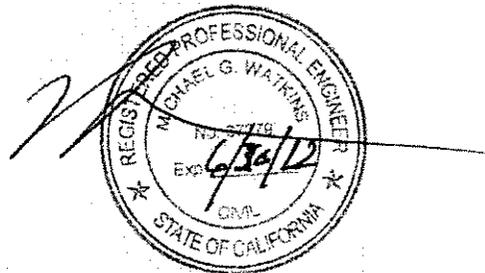
Prepared For:

**FAIRFAX CENTER PROPERTIES, LLC**  
P.O. Box 633  
Ross, CA 94957

Prepared By:

Ballard & Watkins Construction Services  
174 Pine Street  
San Anselmo, CA 94960  
415-457-3257  
[Mgwatkins@aol.com](mailto:Mgwatkins@aol.com)

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## INTRODUCTION

The purpose of this study is to evaluate the impact of the Fair-Anselm Creek Stabilization Project on the current air quality in the immediate area of the project. The project is a short duration project- less than two months, and as a result will have no long term impact on the area. The project will not be equipment intensive, therefore will not generate significant amounts of emissions. The project is not near any sensitive receptors such as schools or hospitals. It is in fact located adjacent to a heavily used parking area which already results in the generation of similar types of emissions as would be generated by this project. As a result of this project, a portion of these parking spaces will be displaced, resulting in a net reduction in the baseline air quality impacts on the existing site under its current use.

A survey of current reference materials was performed, and various reference materials were identified to assist in the determination of the level of air quality impacts generated from this project. The primary document referenced is titled *California Environmental Quality Act Air Quality Guidelines*, produced by Bay Area Air Quality District, updated May 2012. This document provides guidelines on how to approach determining the impacts of construction related projects on air quality. This document is included within Appendix A of this report. Within this document, it recommends the use of the Urbemis computer program to generate the levels of air borne pollutants which result from project related activities. This program was utilized to generate levels which are referenced in this study. Finally, *California Environmental Quality Act Guidelines Update, Proposed Thresholds of Significance* produced by Bay Area Air Quality District, dated December 7, 2009 was utilized to determine Project Construction Thresholds of Significance. This document is included within Appendix B of this report. The recommended thresholds in this document were utilized to compare to the results of the project levels generated from the Urbemis program.

## DISCUSSION

The Urbemis program generates construction emission estimates based on project related criteria. Input of the criteria is guided by the program and a user's guide prepared by the authors of the program. The project has inputs for land use data, construction data relating to the construction phases of the project, operational data regarding trip characteristics, temperature data as well as other parameters such as variable starts, Pass-by trips, and double counting which are not applicable to this project.

The land use data input portion of the program provides for the input of the type of the project, area involved, and percentage of trips based on specific criteria such as worker commute, primary, diverted, and pass-by.

Due to the nature of this project, none of the preset land use types such as single family housing, apartments low rise, etcetera, applied to this project. The program allows for blank inputs which can be defined to correspond to specific portions of the project which have different land uses resulting in unique trip generation percentages. There were five phases input for this project which included excavation of the retaining wall, grading of the creekbank, installation helical piers, shotcrete at creekbank, and trenching and paving. A mitigation measures tab is included, but is not applicable to this project

The next input step, construction data, allows for the input of the dates of the phases, the daily acreage impacted during each phase, the estimate of the fugitive dust generated by the operation, volume of soil hauled to and from the site during the phase, and equipment utilized for this phase. Each of these inputs allow for the selection and adjustments of criteria for these parameters. A mitigation measures tab is included, but adequate data is not available to estimate the effect of mitigations on this project

The following input step is for area source data. This allows inputs for various area source data which might be generated by the project, such as natural gas fuel combustion, hearth fuel combustion, landscape fuel combustion, consumer product, and architectural coating. The only tab which might apply to this project and was selected would be landscape fuel combustion. A mitigation measures tab is included, but is not applicable to this project.

Step 5 in the program allows for the input of operational data which might effect the emissions characteristics of the project. Tabs in this step allow for input of the year and vehicle fleet, trip characteristics, temperature data during the course of the project base on the dates of the phases, variable starts, and road dust. Tabs which are also available but were not applicable for this project include Pass-by trips, and double-counting correction. Mitigation measures are also included, but these do not apply to this project, or adequate data is not available to estimate the effect of mitigations.

The final step in the project is View and Print Output, in which the program generates emissions quantities for the lbs/day of the project, as well as a summary of all of the inputs at each step of the program. This output is included in Appendix C of the report.

**CONCLUSIONS**

The *California Environmental Quality Act Guidelines Update, Proposed Thresholds of Significance* offers air quality CEQA Thresholds of Significance in Table 1 of the report.

| Table 1 – Proposed Air Quality CEQA Thresholds of Significance |                                  |   |                                |
|--|----------------------------------|---|--------------------------------|
| Pollutant  | Construction-Related             | Operational-Related   |                                |
| <b>Project-Level</b>   |                                  |   |                                |
| Criteria Air Pollutants and Precursors (Regional)              | Average Daily Emissions (lb/day) | Average Daily Emissions (lb/day)  | Maximum Annual Emissions (tpy) |
| ROG  | 54                               | 54  | 10                             |
| NO <sub>x</sub>  | 54                               | 54  | 10                             |
| PM <sub>10</sub> (exhaust)                                     | 82                               | 82  | 15                             |
| PM <sub>2.5</sub> (exhaust)                                    | 54                               | 54  | 10                             |
| PM <sub>10</sub> /PM <sub>2.5</sub> (fugitive dust)            | Best Management Practices        | None  |                                |
| Local CO   | None                             | 9.0 ppm (8-hour average), 20.0 ppm (1-hour average)   |                                |
| <b>GHGs<br/>Projects other than Stationary Sources</b>         | None                             | Compliance with Qualified Climate Action Plan<br>OR<br>1.100 MT of CO <sub>2</sub> e/yr<br>OR<br>4.6 MT CO <sub>2</sub> e/SP/yr (residents + employees) |                                |

Under the Construction-Related column of this table, the document provides values for ROG, NO<sub>x</sub>, PM<sub>10</sub> (exhaust), and PM<sub>2.5</sub> (exhaust). The Urbemis program generates project specific emission number generated for the project for comparison to these thresholds.

**TABLE 2**

**PROJECT RELATED COMPARISON - CEQA THRESHOLDS OF SIGNICANCE VERSUS PROJECT EMISSIONS**

|  | CEQA Threshold values                   | Project values                          | Compliance   |
|--|---|---|--|
| <b>Criteria Air Pollutants and Precursors (Regional)</b> | <b>Average Daily Emissions (lb/day)</b> | <b>Average Daily Emissions (lb/day)</b> | <b>Criteria- Significant Lower than Threshold Yes/No</b> |
| ROG  | 54                                      | 4.02                                    | Yes  |
| NO <sub>x</sub>  | 54                                      | 41.69                                   | Yes  |
| PM <sub>10</sub> (exhaust)                               | 82                                      | 1.55                                    | Yes  |
| PM <sub>2.5</sub> (exhaust)                              | 54                                      | 1.42                                    | Yes  |
| PM <sub>10</sub> /PM <sub>2.5</sub> (fugitive dust)      | Best Management Practices               | BMP included in project documents       | Yes  |
| Local CO   | None                                    | 16.70                                   | Yes  |

Table 2 summarizes the results of the comparison results between the threshold of significance and the actual project parameters. Based on this comparison, it is clear that the project parameters are significantly less than the recommended thresholds of significance. Considering that this project will result in actual reductions of the baseline level of emissions, it is easily concluded that this project no impact on air quality, or at the least a less than significant impact.