4.3 GEOLOGY, SOILS, AND SESIMICITY

INTRODUCTION

The Geology, Soils, and Seismicity chapter of this Draft EIR describes the geologic and soil characteristics of the Tuscany Meadows project (proposed project) site and evaluates the extent to which implementation of the project could be affected by the following geologic and seismic hazards: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; soil erosion; soil stability; and expansive soils. Information in this chapter is drawn from the *Pittsburg General Plan 2020*,[1] the associated EIR,[2]and the *Geotechnical Engineering Report* prepared for the project site by Wallace Kuhl and Associates, Inc (WKA) (see Appendix G)[3].

The only Geology and Soils impact dismissed in the Initial Study that was prepared for the proposed project (see Appendix C) as having no impact is the impact regarding the use of septic tanks. All other impacts identified as potentially significant in the Initial Study are addressed in this chapter.

EXISTING ENVIRONMENTAL SETTING

The following background setting information focuses on the regional and site geology of the project site.

Regional Geology

The City of Pittsburg is located in Contra Costa County, within the geologically young and seismically active San Francisco Bay Area region. Eastern Contra Costa County, like the San Francisco Bay Area, is located in one of the most seismically active regions in the United States. Major earthquakes have occurred in close proximity to Pittsburg, and are expected to occur again. Figure 10-1 of the Health and Safety Element of the Pittsburg General Plan provides information regarding the nearest faults to Pittsburg, including their location, direction, fault classification, historical seismicity, and associated Maximum Credible Earthquake (MCE). Historically active faults in Contra Costa County include the Concord, Hayward, and Clayton-Marsh and Clayton-Marsh Creek-Greenville faults.

Project Site Geology

Topography across the site is gently rolling with a gradual slope from the south to the north, with the exception of elevated areas along the southern boundary of the site, adjacent to the existing Black Diamond Estates residential subdivision. This elevated area consists of a large engineered fill slope approximately 20 to 30 feet tall. Site elevations range from approximately 112 feet above mean sea level (msl) in the northern portions of the site to approximately 195 feet above

msl in the southern portions of the site. During a WKA field investigation on November 22 and 23, 2011, the site consisted of vacant land with low-lying vegetation. Nearly all of the surface soils on the property had recently been disced. The center of the site supported rows of stockpiled soils from previous remediation activities performed on the site.

No active or potentially active faults are known to underlie the site based on the published records, geologic maps or aerial photographs reviewed by WKA. In addition, the site is not located within an Alquist-Priolo Earthquake Fault Zone, and surface evidence of faulting was not observed by WKA during site reconnaissance.

The site is underlain by stiff and dense soil and groundwater is deeper than 100 feet below existing site grades. Therefore, WKA has concluded that liquefaction of soils beneath the site during strong earthquake ground shaking is highly unlikely.

The United States Geologic Survey (USGS) mapped the site as being underlain by Late-Pleistocene alluvial fan deposits. The southwest corner of the site is indicated to be underlain by bedrock on the USGS map. The *Quaternary Geology of Contra Costa County, and Surrounding Parts of Alameda, Marin, Sonoma, Solano, Sacramento, and San Joaquin Counties, California, derived from the Digital Database Open-file Report 97-98* (Helley and Graymer, 1997) indicates the bedrock unit to be the Pliocene aged Tulare Formation. The Tulare formation is described as "non-marine siltstone, sandstone, and conglomerate." The soil conditions encountered during the most recent field investigation are generally consistent with the mapped geology.

Project Site Soils

The soils on the project site are discussed below in further detail, including descriptions of former soil remediation activities, current soil conditions, expansive soils, and soil corrosion potential.

Former Soil Remediation Activities

The project site is a portion of the former Chevron Los Medanos Tank Farm (LMTF) facility. The LMTF, used principally for the storage of crude oil, consisted of 40 35,000-gallon barrel (1.47 million gallons total) above-ground storage tanks, five unlined surface impoundments (wax ponds), and appurtenant pipelines and access roads. Twenty four (24) of the 40 storage tanks and four of the five wax ponds were located on the proposed project site. The tanks had a diameter of approximately 100 feet. The facility operated from 1913 until July 1980. The tanks were dismantled and removed in 1981 when the facility was decommissioned. When the tank farm was decommissioned, Chevron retained a 23-acre portion of the property in fee, which is part of the annexation area of the proposed project in order to establish contiguity between the existing Pittsburg city limits and the proposed Tuscany Meadows Tentative Map area.

A Remedial Action Plan (RAP) was prepared for the project site by Risk Based Decisions, Inc. to explore the potential for soil contamination; the RAP was approved by the California Regional Water Quality Control Board in 2006. The RAP established remedial action objectives (RAOs) for various contaminants (e.g., total petroleum hydrocarbons, BTEX compounds, semi-volatile

organic compounds). Between September 22, 2008, and January 8, 2009, AS Pipeline excavated the 24 former tank sites and four wax pond sites to depths of approximately five to 24 feet below existing grades. The total estimated volume of excavated soil is approximately 75,000 cubic yards. Soils thought to meet the RAOs from the RAP were stockpiled in the vicinity of the excavation pending the results of confirmation sampling. Stockpiled soil meeting the RAOs was returned to the excavation as engineered backfill after the excavation was completed. Other sources of material used as excavation backfill consisted of remediated and released soil from a previous Highlands Ranch (2001) cleanup project, and on-site borrow material from outside of the former tank and wax pond areas.

Excavated soil failing the RAOs was placed in windrows in the biocell, a perimeter-bermed area, for ex-situ bioremediation. Bioremediation describes the process by which naturally occurring microorganisms in soils break down environmental contaminants. Organic contaminants such as petroleum hydrocarbons can be metabolized by the microorganisms and used as energy or food generating benign end products such as carbon dioxide and water. Bioremediation is ongoing at the project site but will be completed prior to the onset of construction.

Piping was commonly encountered beneath the former tank sites. The piping typically consisted of a 2-inch diameter metal pipe, approximately 2.5 feet below ground surface, running radially from the approximate tank pad center to the edge of the tank footprint. Any pipe that was encountered within the excavations was removed for off-site disposal. Remediation activities will continue with the oversight of the Regional Water Quality Control Board.

Current Soil Conditions

The project site surface soils consist of silty clays. The near-surface siltyclays are underlain by alternating layers of silty sands and sandy and clayey silts to the maximum depth explored of approximately 51 feet below site grades. Boring D5 (SW corner of site) encountered sandy silts at the project site surface, extending approximately 5.5 feet below existing site grades. Boring D7 (center of site) encountered silty sands at the surface, extending at least 15 feet below existing site grades. Discontinuous layers of clean, cohesionless sands were encountered in Boring D5 approximately 5.5 feet below existing grades and in Boring D1 (NE corner at proposed multi-family site) at a depth of approximately 33.5 feet below existing grades. For more detailed information regarding the soil conditions at a specific location, please refer to the *Geotechnical Engineering Report* prepared by WKA (see Appendix G).

Expansive Soils

Laboratory tests indicate the on-site clays are moderately plastic with a moderate to high expansion potential. According to WKA, the on-site clays are considered capable of exerting significant expansion pressures upon building foundations and concrete slabs.

Soil Corrosion Potential

WKA utilized three soil samples from the project site to determine resistivity, pH, chloride, and sulfate concentrations to help evaluate the potential for corrosive attack upon reinforced concrete

and buried metal. The results of the corrosivity testing are summarized in Table 2 of the WKA *Geotechnical Engineering Report* in Appendix G. According to WKA, the corrosivity test results suggest that the native soils are not defined as corrosive to steel reinforcement properly embedded within Portland cement concrete for the samples tested. Corrosive soils will not be addressed further in this analysis.

REGULATORY CONTEXT

The following section includes a brief summary of the regulatory context under which soils and geologic hazards are managed at the federal, State, and local levels.

Federal Regulations

Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

Uniform Building Code

The Uniform Building Code (UBC) was first published in 1927 by the International Council of Building Officials and is intended to promote public safety and provide standardized requirements for safe construction. The UBC was replaced in 2000 by the new International Building Code (IBC), published by the International Code Council (ICC), which is a merger of the International Council of Building Officials' UBC, Building Officials and Code Administrators International's National Building Code, and the Southern Building Code Congress International's Standard Building Code. The intention of the IBC is to provide more consistent standards for safe construction and eliminate any differences between the three preceding codes. All State building standard codes are based on the federal building codes.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 AP Zone Act was passed to prevent the new development of buildings and structures for human occupancy on the surface of active faults. The Act is directed at the hazards of surface fault rupture and does not address other forms of earthquake hazards. The locations of active faults are established into fault zones by the AP Zone Act. Local agencies regulate any new developments within the appropriate zones in their jurisdiction.

The AP Zone Act regulates development near active faults so as to mitigate the hazard of surface fault rupture. The AP Zone Act requires that the State Geologist (Chief of the California

Department of Mines and Geology [CDMG]) delineate "special study zones" along known active faults in California. Cities and counties affected by these zones must regulate certain development projects within these zones. The AP Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Zone Act, active faults have experienced surface displacement during the last 11,000 years. Potentially active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist.

California Building Standards Code

The State of California regulates development within the State through a variety of tools that reduce or mitigate potential hazards from earthquakes or other geologic hazards. The 2010 California Building Standards Code (California Code of Regulations [CCR], Title 24) governs the design and construction of all building occupancies and associated facilities and equipment throughout California. In addition, the California Building Standards Code governs development in potentially seismically active areas and contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The California building standards include building standards in the national building code, building standards adapted from national codes to meet California conditions, and building standards adopted to address particular California concerns.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Section1690-2699.6) addresses non-surface rupture earthquake hazards, including liquefaction, induced landslides, and subsidence. A mapping program is also established by this Act, which identifies areas within California that have the potential to be affected by such non-surface rupture hazards. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

Local Regulations

Pittsburg General Plan

The Pittsburg General Plan establishes the following goals and policies applicable to geology, soils, and seismicity.

Goal 10-G-1 Minimize risk to life and property from geologic and seismic hazards.

Goal 10-G-2 Establish procedures and standards for geotechnical review of projects located in areas of steep slopes, unstable soils, or other geologic or seismic risks.

Goal 10-G-3 Minimize the potential for soil erosion by wind and stormwater runoff.

Goal 10-G-4 Mitigate potential seismic hazards, including landsliding and liquefaction, during the design and construction of new development.

Goal 10-G-5 Limit urban development in high-risk areas (such as landslide areas, flood zones, and areas subject to liquefaction) to low-occupancy or open forms of land use.

Goal 10-G-6 Limit development on slopes greater than 30 percent (as delineated on Figure 10-1 of the Pittsburg General Plan) to lower elevations, foothills, and knolls.

Policy10-P-1 Ensure preparation of a soils report by a City-approved engineer or geologist in areas identified as having geological hazards in Figure 10-1 of the Pittsburg General Plan, as part of development review.

Policy 10-P-2 Restrict future development from occurring on slopes greater than 30 percent (as designated in Figure 10-1 of the Pittsburg General Plan) over the 900 foot elevation contour, and on major and minor ridgelines (as delineated in Figure 4-2 of the Pittsburg General Plan).

Policy 10-P-3 Regulate the grading and development of hillside areas for new urban land uses. Ensure that such new uses are constructed to reduce erosion and landsliding hazards:

- Limit cut slopes to 3:1, except where an engineering geologist can establish that a steeper slope would perform satisfactorily over the long term.
- Encourage use of retaining walls or rock-filled crib walls as an alternative to high cut slopes.
- Ensure revegetation of cut-and-fill slopes to control erosion.
- Ensure blending of cut-and-fill slopes within existing contours, and provision of horizontal variation, in order to mitigate the artificial appearance of engineered slopes.

Policy 10-P-4 Limit future extension of development into the southeast hills, where there are high levels of risk due to previous coal mining. Ensure proper geotechnical analysis and mitigation for proposed development on slopes less than 30% south of Buchanan Bypass.

Policy 10-P-5 Ensure that Bay Area Air Quality Management District requirements are implemented around construction sites to reduce wind velocity and soil transport at the sites.

Policy 10-P-6 Encourage the use of water-sprinkling trucks at large construction sites to keep the exposed soil moist during construction.

Policy 10-P-7 As part of the development approval process, restrict grading to only those areas going into immediate construction as opposed to grading the entire site, unless necessary for slope repair or creek bed restoration. On large tracts of land, avoid having large areas bare and unprotected; units of workable size shall be graded one at a time.

Policy 10-P-8 During development review, ensure that new development on unstable slopes (as designated in Figure 10-1 of the Pittsburg General Plan) is designed to avoid potential soil creep and debris flow hazards. Avoid concentrating runoff within swales and gullies, particularly where cut-and-fill has occurred.

Policy 10-P-9 Ensure geotechnical studies prior to development approval in geologic hazard areas, as shown in Figure 10-1 of the Pittsburg General Plan. Contract comprehensive geologic and engineering studies of critical structures regardless of location.

Policy 10-P-10 As part of development approval, ensure that a registered engineering geologist be available at the discretion of the City Engineer to review reports submitted by applicants in the geologic hazard areas identified in Figure 10-1 of the Pittsburg General Plan. Project proponents shall pay all costs associated with engineering studies related to geologic hazards.

Policy 10-P-11 Form geological hazard abatement districts (GHADs) prior to development approval in unstable hillside areas (as designated in Figure 10-1 of the Pittsburg General Plan) to ensure that geotechnical mitigation measures are maintained over the long-term, and that financial risks are equitably shared among owners and not borne by the City.

Policy 10-P-15 Develop standards for adequate setbacks from potentially active fault traces (as designated in Figure 10-2 of the Pittsburg General Plan) for structures intended for human occupancy. Allow roads to be built over potentially active faults only where alternatives are impractical.

Policy 10-P-16 Ensure compliance with the current Uniform Building Code during development review. Explore programs that would build incentives to retrofit unreinforced masonry buildings.

Policy 10-P-17 Ensure detailed analysis and mitigation of seismic hazard risk for new development in unstable slope or potential liquefaction areas (as designated in Figure 10-1 of the Pittsburg General Plan). Limit the location of critical facilities, such as hospitals, schools, and police stations, in such areas.

Impacts and Mitigation Measures

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to geology, soils, and seismicity. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Impacts related to geology and soils are considered significant if the proposed project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral, spreading, subsidence, liquefaction or collapse; or
- Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code.

Based on the analysis in the Initial Study for the project (see Appendix C), one potential impact was determined to have no impact, and thus, is not analyzed in this EIR. This impact pertains to the capability of the soils for supporting septic tanks. The potential impact caused by use of septic tanks is not addressed in this EIR as it is not applicable to this project.

Method of Analysis

The analysis for the proposed project is based on the Geotechnical Engineering Report prepared by Wallace Kuhl and Associates, Inc. (WKA), the *Pittsburg General Plan 2020* and the associated EIR. WKA's geotechnical analysis for the project site is comprised of a number of analytical tasks, including site reconnaissance, review of previous reports prepared for the project site, review of USGS topographic maps, geological maps, historical aerial photographs, available groundwater level measurements, subsurface exploration (drilling and sampling of 11 borings to depths of 15 to 20 feet, and one boring to a maximum depth of approximately 51 feet below the existing ground surface), bulk sampling of anticipated pavement subgrade soils, laboratory testing of selected soil samples to determine various soil engineering properties, and engineering analyses. Information from the Geotechnical Engineering Report utilized previous reports prepared by others for the project area and neighboring sites, including the Report of Testing and Observation Services Provided During Mass Grading for the Black Diamond Ranch Subdivision project; Clarification to Geotechnical Recommendations RE: Treatment of Colluvial Deposits, and Geotechnical Exploration for the Highlands Ranch Phase I; Geotechnical Investigation for the Meadowland development; and the Summary of On-Site Remediation Activities Excavation/Stockpile Phase, prepared for a portion of the remediation activities performed on the project site. The proposed project's components are compared to the existing conditions of the project site, and the Standards of Significance identified above to determine the severity of potential impacts.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

4.3-1 Risks to people and structures associated with seismic activity, including ground shaking and ground failure, such as liquefaction. Based on the analysis below, the impact is *less than significant.*

According to the *Geotechnical Engineering Report*, the project site is not underlain by any active or potentially active faults based on published records, geological maps, or aerial photographs. In addition, the project site is not located within an Alquist-Priolo Earthquake Fault Zone, and surface evidence of faulting was not observed by WKA during site reconnaissance. Groundshaking within the City is, on average, expected to result in non-structural damage, according to the City's General Plan. Based upon these factors, WKA has concluded that ground rupture at the project site resulting from seismic activity is unlikely.[4] Similarly, because the project site is underlain by stiff and dense soil and groundwater is deeper than 100 feet below existing site grades, WKA has concluded that liquefaction of soils beneath the site during strong earthquake ground shaking is highly unlikely.

Notwithstanding the fact that damage to structure and risks to people from ground rupture and ground failure, including liquefaction, is highly unlikely at the project site, it is important to note that the design of all project structures would be required to adhere to

the provisions of the 2010 CBC. The 2010 CBC contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards.

As a result of the above considerations, seismic activity in the area of the proposed project would not expose people or structures to substantial ground rupture, groundshaking, or liquefaction; and therefore, the impact is considered ***less-than-significant.***

Mitigation Measure(s)
None required.

4.3-2 Risks to people and structures associated with expansive soils and use of previously stockpiled soils as engineered fill. Based on the analysis below and with implementation of mitigation, the impact is *less than significant.*

Expansive Soils

Construction of the proposed roadways and future construction of residential development would require solid building surfaces. Expansive soils shrink and swell as a result of moisture changes, causing heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations.

The *Geotechnical Engineering Report* determined the project site consists of a combination of expansive soils and near-surface silty clays. Based on the *Geotechnical Engineering Report*, the on-site clays are considered capable of exerting significant expansion pressures upon building foundations and concrete slabs. However, measures can be taken to reduce the effects of expansive soils on the project site, as provided in the *Geotechnical Engineering Report.*

Stockpiled Soils

As previously discussed, approximately 75,000 cubic yards of soil was previously excavated on-site in the former petroleum storage tank and wax pond sites. These excavation areas were backfilled with the following: on-site excavated soils determined by testing to be approved overburden, remediated and released soil from a previous Highlands Ranch (2001) cleanup project, and on-site borrow material from outside of the former tank and wax pond areas. WKA believes that the existing stockpiled fill materials on the project site can be used as fill, as necessary, after completion of bio-remediation. The remaining areas of the site have been subjected to disturbances and are in a relatively loose condition due to discing and previous construction activities. The depth of disturbance in these areas is likely to be shallow. Compaction of these soils will need to be performed in order for the soils to support the proposed structures and pavements. Specific recommendations for overexcavation, scarification, moisture conditioning, and compaction are provided in the *Geotechnical Engineering Report* for the project site.

Conclusion

Because expansive soils are present on-site and the use of stockpiled soils as engineered fill could be subject to certain limitations if not properly treated, a ***potentially significant*** impact would result if the recommendations contained in the *Geotechnical Engineering Report* are not incorporated into project grading and foundation plans.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the above impacts to a *less-than-significant* level.

4.3-2(a) *Prior to approval of Improvement Plans and issuance of grading permit for the Tuscany Meadows subdivision, the project applicant shall submit to the City of Pittsburg Engineering Department, for review and approval, a design-level geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer. The report shall include the recommendations in the report entitled, Geotechnical Engineering Report, Highlands Ranch II (Tuscany Meadows), dated February 3, 2012. The design-level report shall address, at a minimum, the following:*

- *Compaction specifications for on-site soils;*
- *Road and pavement design;*
- *Structural foundations, including retaining wall design (if applicable);*
- *Grading practices;*
- *Erosion/winterization; and*
- *Expansive/unstable soils.*

It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report. Proof that earthwork has been performed in accordance with the recommendations of the design-level geotechnical report shall be provided to the City of Pittsburg Engineering Department.

4.3-2(b) *If any on-site soils identified for bioremediation are planned to be utilized for fill purposes, proof shall first be provided to the City of Pittsburg Engineering Department that such soils have been successfully remediated per the approved Remedial Action Plan.*

4.3-3 Risks associated with substantial erosion or loss of topsoil. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The proposed project includes utility excavation and recompaction of a portion of the project site soils. In addition, during earthwork operations, existing stockpiled soils must be completely removed to expose firm undisturbed soil. Such earthwork activities could result in the exposure of loose soil to wind and/or water. Eroded soils could then be inadvertently transported into off-site drainage facilities. Therefore, the construction-related impacts associated with the potential for soil erosion and the loss of topsoil on the project site would be ***potentially significant***.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.3-3 *Prior to issuance of a grading permit for the Tuscany Meadows subdivision, the project applicant shall submit, for the review and approval by the City Engineer, an erosion control plan that utilizes standard construction practices to limit the erosion effects during construction of the proposed project. Measures could include, but are not limited to, the following:*

- *Hydro-seeding;*
- *Placement of erosion control measures within drainageways and ahead of drop inlets;*
- *The temporary lining (during construction activities) of drop inlets with "filter fabric" (a specific type of geotextile fabric);*
- *The placement of straw wattles along slope contours;*
- *Directing subcontractors to a single designation "wash-out" location (as opposed to allowing them to wash-out in any location they desire);*
- *The use of siltation fences; and*
- *The use of sediment basins and dust palliatives.*

Cumulative Impacts and Mitigation Measures

The continuing buildout of developments in the City of Pittsburg and surrounding areas would be expected to increase the need for surface grading and excavation, and, therefore, increase the potential for impacts related to soil erosion, unforeseen hazards, and exposure of people and property to earthquakes.

4.3-4 Cumulative increase in the potential for geological related impacts and hazards. Based on the analysis below, the impact is *less than significant.*

Development of the proposed project would increase the number of structures that could be subject to the damaging effects of expansive soils. Site preparation would also result in temporary and permanent topographic changes that could affect erosion rates or patterns. However, potentially adverse environmental effects associated with geologic or soils constraints, topographic alteration, and erosion, are usually site-specific and generally would not combine with similar effects that could occur with other projects in Pittsburg. Furthermore, all projects would be required to comply with the UBC, the City of Pittsburg's General Plan, and other applicable regulations. Consequently, the proposed project would generally not be affected by, nor would it affect, other development approved by the City of Pittsburg. Therefore, the project's contribution to cumulative geology and soils impacts would be considered ***less-than-significant***.

Mitigation Measure(s)
None required.

Endnotes

[1]City of Pittsburg.*City of Pittsburg General Plan*.Adopted November 16, 2001.
[2]City of Pittsburg.*City of Pittsburg General Plan EIR*.January 2001.
[3]Wallace Kuhl and Associates, Inc. *Geotechnical Engineering Report.*February 3, 2012.
[4]Wallace Kuhl and Associates, Inc. *Geotechnical Engineering Report.*February 3, 2012, p. 8.