

IV. Environmental Impact Analysis

D. Geology and Soils

1. Introduction

This section evaluates the potential for the Project to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The analysis is in part based on the *Paleontological Resources Assessment Report*, prepared for the Fourth & Central Project, City of Los Angeles, California, dated January 2022¹, which is included as Appendix E of this Draft EIR.

The Initial Study prepared for the Project, included in Appendix A of this Draft EIR, determined that the Project's geology and soils impacts related to: earthquake fault rupture; strong seismic ground shaking; seismic-related ground failure, including liquefaction; landslides; soil erosion/loss of topsoil; geologic stability hazards; expansive soils; and soil support of alternative wastewater disposal systems, would result in no impact or a less than significant impact. Therefore, no further analysis of these issues is provided in this Draft EIR. Consistent with the Initial Study determination that impacts related to paleontological resources are potentially significant, this Geology and Soils section of the Draft EIR is focused on evaluation of paleontological resources impacts.

2. Environmental Setting

a) Regulatory Framework

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding paleontological resources at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Society of Vertebrate Paleontology Standard Guidelines
- California Public Resources Code Section 5097.5
- City of Los Angeles Conservation Element

¹ ESA, Paleontological Resources Assessment Report, Fourth & Central Project, Assessor Parcel Numbers (APN): 5147-001-007, 5147-013-016, 5147-012-015, 5147-011-015, 5147-011-016, and 5147-011-017, City of Los Angeles, California, 90013, January 2022, which is provided in Appendix E of this Draft EIR.

(1) Federal

(a) *Society for Vertebrate Paleontology Standard Guidelines*

The Society for Vertebrate Paleontology (SVP) has established standard guidelines² that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. The Paleontological Resources Preservation Act (PRPA) of 2009 calls for uniform policies and standards that apply to fossils on all federal public lands. All federal land management agencies are required to develop regulations that satisfy the stipulations of the PRPA. As defined by the SVP,³ significant nonrenewable paleontological resources are:

Fossils and fossiliferous deposits here are restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP,⁴ significant fossiliferous deposits are:

A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].

Based on the significance definitions of the SVP,⁵ all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the

² Society of Vertebrate Paleontology (SVP), Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources, 2010.

³ SVP, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, *Society of Vertebrate Paleontology News Bulletin* 163:22–27, 1995.

⁴ SVP, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, *Society of Vertebrate Paleontology News Bulletin* 163:22–27, 1995.

⁵ SVP, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, *Society of Vertebrate Paleontology News Bulletin* 163:22–27, 1995.

taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

(2) State

(a) *California PRC Section 5097.5*

California Public Resources Code (PRC) Section 5097.5 provides protection for paleontological resources on public lands, where Section 5097.5(a) states, in part, that:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

(3) Local

(a) *City of Los Angeles General Plan Conservation Element*

The City's General Plan Conservation Element, adopted in September 2001, recognizes paleontological resources in Section 3: "Archeological and Paleontological" and identifies site protection as important, stating, "Pursuant to CEQA, if a land development project is within a potentially significant paleontological area, the developer is required to contact a bona fide paleontologist to arrange for assessment of the potential impact and mitigation of potential disruption of or damage to the site. Section 3 of the Conservation Element, includes policies for the protection of paleontological resources. As stated therein, it is the City's objective that paleontological resources be protected for historical, cultural research, and/or educational purposes. Section 3 sets as a policy to continue the identification and protection of significant paleontological sites and/or resources known to exist or that are identified during "land development, demolition, or property modification activities."

b) Existing Conditions

According to the Paleontological Resources Report, the Project Site is situated in the northern portion of the Los Angeles Basin (Basin) and within the limits of the ancestral flood plain of the Los Angeles River (located approximately 0.6 miles to the east of the Project Site). The Basin formed between 18 and 3 million years ago as a result of tectonic subsidence. Continuous sedimentation into the Basin began during the middle Miocene around 13 million years ago, as thousands of feet of sediments were deposited in a marine environment. Deposition of terrestrial alluvial sediments commenced during the Pleistocene.

Geologic mapping indicates that the surface of the Project Site is mapped as Holocene-age alluvium (Qay2). Qay2 underlies areas flooded historically to a thickness of zero to 10 feet. Older alluvium (Qof1 and Qof2) is exposed at the surface 1.5 miles east of the Project Site and it is therefore likely that older alluvium underlies the younger alluvium at the Project Site. The Geotechnical Reports for the Project Site do not distinguish between older and younger alluvium, so the depth of this contact is unknown. In general, the borings conducted on the Project Site encountered artificial fill to a maximum depth of eight feet below ground surface (bgs) at the North Site and to a maximum depth of five feet bgs at the South and West Sites.⁶

On July 22, 2021, ESA requested a database search from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in and around the Project Site. The purpose of the museum records search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site, (2) assess the potential for disturbance of these localities during construction, and (3) evaluate the paleontological sensitivity within the Project Site and vicinity. The LACM records search indicates that there are no known fossil localities within Project Site, but a number of fossil localities have been previously recovered from the Puente Formation, the Fernando Formation, and unknown Pleistocene-age formations in the vicinity of the Project Site. Per the records search results, paleontological resources were located within 0.6 miles and two miles from the Project Site at depths between 20 to 43 feet bgs and unknown depths.

⁶ There were three Preliminary Geotechnical Reports prepared for the Project, one for each of the North, South and West Sites. The three Preliminary Geotechnical Reports are as follows: Geocon West, Inc, *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, North Site, 715 East 4th Street, 364 South Central Avenue, Los Angeles California*, September 13, 2021; Geocon West, Inc., *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, South Site, 730 East 4th Street, 400-464 (even) South Central Avenue, Los Angeles California*, September 13, 2021; and, Geocon West, Inc, *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, West Site, 425, 427, 429, 431, and 433 South Central Avenue, Los Angeles California*, September 13, 2021. The Preliminary Geotechnical Reports are included as appendices to the Initial Study, which is provided in Appendix A of this Draft EIR.

The literature and geologic mapping review, as well as the records search results, were used to assign paleontological sensitivity to the geologic units at the surface and underlying the Project Site, following the guidelines of the SVP (2010):

- **Fill Material:** As indicated by geotechnical testing, fill material is present at the surface of the Project Site. It is unclear as to where the fill material came from and so assigning an age is not possible. Given the fill is described as artificial and is likely the result of past grading or construction activities at the Project Site, it is unlikely to contain intact fossiliferous deposits. Therefore, this unit is assigned **No Potential** to contain paleontological resources.
- **Qay2:** This Holocene alluvium is mapped as overlapping the entirety of the Project Site and dates to the Holocene from a period of 1,000 years ago to the present. Given its age, this alluvium is too young to contain fossil specimens and, therefore, has **Low Potential** to contain paleontological resources.
- **Older Alluvium:** Older alluvium is exposed at the surface 1.5 miles east of the Project Site and it is therefore likely that older alluvium underlies the younger alluvium at the Project Site. The exact depth at which the alluvium becomes old enough to preserve fossils (i.e., >5,000 years old) is unknown at the Project Site. The closest study used to identify the depth of this transition included correlated well and boring logs at locations northwest and north of the Project Site, along US-110 and US-101 in downtown Los Angeles. This study found that the depth to older alluvial sediments was highly variable, ranging from 10 to 200 feet bgs. The LACM records search focused the depth more clearly relative to the Project Site and indicated previous fossil recoveries at depths of 20 feet bgs in the area. Given the lack of definitive information on the depth of the transition to high sensitivity sediments at the Project Site in the boring logs, an estimated minimum depth of 10 feet bgs is assumed on basic geological principles, prior studies, and the LACM fossil localities. Therefore, the potential to encounter underlying older alluvium at depth necessitates a ranking of **Low to High Potential**, increasing with depth.

A discussion of the SVP guidelines and categories of paleontological sensitivity is provided in the Methodology subsection, below.

3. Project Impacts

a) Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant impact related to geology and soils if it would:

Threshold (a): *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- i. 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 or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology⁷ Special Publication 42;*
- ii. Strong seismic ground shaking;*
- iii. Seismic-related ground failure, including liquefaction;*
- iv. Landslides;*

Threshold (b): *Result in substantial soil erosion or the loss of topsoil;*

Threshold (c): *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;*

Threshold (d): *Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;⁸*

Threshold (e): *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater; or*

Threshold (f): *Directly or indirectly destroy a unique paleontological resource or site of unique geologic feature.*

b) Methodology

The analysis of paleontological resources is summarized from the Paleontological Resources Assessment Report (contained in Appendix E of this Draft EIR). The analysis is based on a review of LACM paleontological records search results and other documentation regarding disturbances to the Project Site and its subsurface geological conditions (e.g., the Preliminary Geotechnical Reports provided in Appendix A of this

⁷ Now the CGS.

⁸ The CBC, based on the International Building Code and the now defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

Draft EIR, which are included as appendices to the Initial Study⁹). The objective of the record search through the LACM was to determine the geological formations underlying the Project Site, whether any paleontological localities have previously been identified within the Project Site or in the same or similar formations near the Project Site, and the potential for excavations associated with the Project to encounter paleontological resources. These methods are consistent with the SVP guidelines for assessing the importance of paleontological resources in areas of potential environmental effect. Although no known resources were identified within the Project Site from the LACM search, this does not preclude the possibility of unknown buried paleontological resources within the Project Site that may be impacted during construction of the Project. The potential to encounter paleontological resources during construction at the Project Site was determined by reviewing the results of the records search, the depth of native versus fill soils, land use history, past disturbances, and the extent of the proposed excavation area for the Project.

The SVP has established standard guidelines, which outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements pursuant to the standard guidelines. Similarly, most State regulatory agencies with paleontological resource-specific laws, ordinances, regulations, and standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP, and discussed under Regulatory Framework, above, significant paleontological resources are fossils and deposits containing fossils.

As further defined by the SVP, significant fossiliferous deposits are a rock unit or formation that contains significant nonrenewable paleontologic resources. This means one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils. All identifiable vertebrate fossils have scientific value and are, therefore, considered scientifically significant. All geologic units that have previously yielded vertebrate fossils are considered to have high sensitivity for the presence of fossils in the future. Paleontological sensitivity is the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit; for this reason, paleontological sensitivity depends on the known fossil data collected from the

⁹ Geocon West, Inc, *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, North Site, 715 East 4th Street, 364 South Central Avenue, Los Angeles California*, September 13, 2021; Geocon West, Inc., *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, South Site, 730 East 4th Street, 400-464 (even) South Central Avenue, Los Angeles California*, September 13, 2021; and, Geocon West, Inc, *Preliminary Geotechnical Investigation – Proposed Mixed-Use and High-Rise Development 410 South Central Avenue, West Site, 425, 427, 429, 431, and 433 South Central Avenue, Los Angeles California*, September 13, 2021. The Geotechnical Reports are included as appendices to the Initial Study, which is provided in Appendix A of this Draft EIR.

entire geologic unit, not just a specific survey. The SVP defines four categories of paleontological sensitivity or, per the SVP guidelines, potential, for the presence of paleontological resources – high, low, undetermined, and no potential – as follows:

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, monitoring will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area, which, in turn, prescribes how mitigation measures should be assigned.

c) Project Design Features

No specific Project Design Features are proposed with regard to paleontological resources.

d) Analysis of Project Impacts

Threshold (a): Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. 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 or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

As discussed in the Initial Study (Appendix A of this Draft EIR), the Project would not cause potential substantial adverse effects as a result of a known earthquake fault in or around the Project Site, and, therefore, a less than significant impact would occur with respect to Threshold (a)i. No further analysis is required.

Threshold (a): Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- ii. Strong seismic ground shaking?***

As discussed in the Initial Study (Appendix A of this Draft EIR), development of the Project would not exacerbate seismic conditions on the Project Site. With compliance to existing building codes and adherence to site-specific design recommendations contained in the final geotechnical reports prepared for the Project, Project impacts associated with respect to Threshold (a)ii would be less than significant. No further analysis is required.

Threshold (a): Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- iii. Seismic-related ground failure, including liquefaction?***

As discussed in the Initial Study (Appendix A of this Draft EIR), development of the Project would not directly or indirectly cause or exacerbate geologic hazards, including seismic-related liquefaction. With compliance to existing building codes and adherence to site-specific design recommendations contained in the final geotechnical reports prepared for the Project, Project impacts associated with respect to Threshold (a)iii would be less than significant. No further analysis is required.

Threshold (a): Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

iv. Landslides

As discussed in the Initial Study (Appendix A of this Draft EIR), the Project Site is not located within a designated landslide area. The Project Site is also not in proximity to any hillsides or cuts and, as such, the Project Site would be not susceptible to landslides from off-site sources. Therefore, the Project would result in no impacts with respect to Threshold (a)iv. No further analysis is required.

Threshold (b): Would the Project result in substantial soil erosion or the loss of topsoil?

As discussed in the Initial Study (Appendix A of this Draft EIR), development of the Project would not cause or exacerbate soil erosion or loss of topsoil on the Project Site. With compliance to existing building codes and adherence to site-specific design recommendations contained in the final geotechnical reports prepared for the Project, Project impacts associated with respect to Threshold (b) would be less than significant. No further analysis is required.

Threshold (c): Would the Project 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?

As discussed in the Initial Study (Appendix A of this Draft EIR), development of the Project would not cause or exacerbate geologic hazards by being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. With compliance to existing building codes and adherence to site-specific design recommendations contained in the final geotechnical reports prepared for the Project, Project impacts associated with respect to Threshold (c) would be less than significant. No further analysis is required.

Threshold (d): Would the Project be located on expansive soil creating substantial risks to life or property?

As discussed in the Initial Study (Appendix A of this Draft EIR), development of the Project would not cause or exacerbate geologic hazards associated with expansive soils. With compliance to existing building codes and adherence to site-specific design recommendations contained in the final geotechnical reports prepared for the Project, Project impacts associated with respect to Threshold (d) would be less than significant. No further analysis is required.

Threshold (e): Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

As discussed in the Initial Study (Appendix A of this Draft EIR), the Project would be served by the municipal wastewater system and would not require septic tanks or alternative wastewater systems. Therefore, no impact would occur with respect to septic tanks or alternative wastewater disposal systems. No further analysis is required.

Threshold (f): Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

(1) Impact Analysis

The Project Site is relatively flat and is entirely developed with warehouses and paved surface parking and does not contain any prominent geologic or topographic features. Therefore, the Project would not destroy, permanently cover, or materially and adversely modify any distinct and prominent geologic or topographic features. As such, no Project impacts associated with landform alteration would occur, and no further analysis is required. Analysis regarding the potential for unique paleontological resources is discussed below.

As discussed under Subsection 2.b, *Existing Conditions*, the Project Site is underlain by artificial fill materials, Qay2 (low potential to contain paleontological resources) and older alluvium, which has a **Low to High Potential** to contain paleontological resources, which increases with depth. Given the lack of definitive information on the depth of the transition to high sensitivity sediments at the Project Site in the boring logs, an estimated minimum depth of 10 feet bgs is assumed on basic geological principles, prior studies, and the LACM fossil localities.

Project construction would include up to approximately 651,000 cubic yards (CY) of grading (cut), including 105,000 CY within the North Site, 534,000 CY in the South Site and 12,000 CY in the West Site, all of which would be exported from the Project Site, with excavations depths to approximately 57 feet below the ground surface (bgs) for the lowest foundations and approximately 64 bgs in isolated areas for elevator pits. Therefore, Project-related grading and excavation may encounter native soil/sediment, which has a low to high potential for containing previously unknown buried paleontological resources. As a result, construction could directly or indirectly destroy a unique paleontological resource. **Therefore, given the potential for Project excavation to directly or indirectly destroy a unique paleontological resource, impacts would be potentially significant.**

(2) Mitigation Measures

The following mitigation measures are proposed to address the potential impacts on paleontological resources during Project construction:

PALEO-MM-1: Prior to the issuance of demolition permits, the Applicant shall retain a Qualified Paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting to go over the monitoring requirements, and shall be responsible for monitoring and overseeing paleontological monitors (meeting SVP standards) that will observe grading and excavation activities.

PALEO-MM-2: Paleontological monitoring shall be conducted during construction excavations into undisturbed older alluvial sediments that exceed 10 feet in depth. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring inspections shall be determined by the Qualified Paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered. Full-time monitoring can be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Paleontologist. If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established by the Qualified Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the Qualified Paleontologist's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If preservation in place is not feasible, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are submitted to their final repository. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school or historical society in the area for educational purposes.

PALEO-MM-3: Any significant fossils recovered during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository. The Qualified Paleontologist shall prepare a final report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the City and the

Natural History Museum of Los Angeles County to signify the satisfactory completion of the Project and required mitigation measures.

(3) Level of Significance after Mitigation

Impacts related to paleontological resources during Project construction would be reduced to less than significant with implementation of Mitigation Measures PALEO-MM-1 to PALEO-MM-3. The loss of any identifiable fossil, including the unauthorized collection of fossil remains, that could yield information would be a significant environmental impact. At the Project-specific level, the implementation of paleontological mitigation can mitigate direct impacts (e.g., the loss of any identifiable fossil or the loss of information associated with the resources) to a less than significant level through the collection and identification of significant resources and by making the significant resources available for future study. During Project operation, the Project would have no impacts to paleontological resources as there would be no continuous groundbreaking and excavation activities during Project operation.

e) Cumulative Impacts

(1) Impact Analysis

Chapter III, *Environmental Setting*, of this Draft EIR provides a list of 39 projects that are planned or are under construction in the Project study area.

With regard to paleontological resources, projects within the cumulative study area for the Project include construction excavation on parcels that have been disturbed or are already developed, as well as on open space parcels, and would have the potential to disturb geological units that are sensitive for paleontological resources. Generally, projects that require substantial excavation would be subject to environmental review under CEQA. If the potential for significant impacts on paleontological resources were identified given the site characteristics and development program of the related projects, the unmitigated impacts from the related projects, combined with the unmitigated Project impacts, could result in a potentially cumulative impact on paleontological resources.

Therefore, cumulative impacts on paleontological resources would be potentially significant.

(2) Mitigation Measures

Cumulative impacts to paleontological resources from related projects would be potentially significant with the Project. The Project, however, would be required to implement Mitigation Measures PALEO-MM-1 through PALEO-MM-3.

(3) Level of Significance after Mitigation

Cumulative impacts related to paleontological resources under the Project would be potentially significant prior to implementation of mitigation measures. With implementation of Mitigation Measures PALEO-MM-1 through PALEO-MM-3, Project

impacts would be reduced to a less than significant level. As paleontological resources, if encountered during excavation, would be protected and recovered and would contribute to the body of scientific knowledge of paleontological resources, the Project's contribution to cumulative impacts would not be cumulatively considerable and, therefore, would be less than significant with mitigation.