

5. Environmental Analysis

5.3 GEOLOGY AND SOILS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed project to impact paleontological resources or unique geologic features in Hacienda Heights. Project impacts to other geological, soil, and seismic-related impacts were evaluated in the Initial Study and determined to be less than significant; therefore, they will not be discussed in this section. The Initial Study is included in Appendix A to the DEIR.

5.3.1 Environmental Setting

5.3.1.1 REGULATORY BACKGROUND

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act was enacted as Public Law 111-11, Title VI Subtitle D of the Omnibus Public Land Management Act of 2009 (16 U.S. Code §§ 470aaa–470aaa-11) and directs the Department of Agriculture (US Forest Service) and the Department of the Interior (National Park Service, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service) to implement comprehensive paleontological resource management programs. The US Forest Service published the Department of Agriculture version of the Preservation Act regulations in the Federal Register in April 2015.

5.3.1.2 EXISTING CONDITIONS

The project site is located within the south eastern portion of the San Gabriel Valley Basin, a broad sediment-filled basin located at the convergence of the Transverse Ranges and Peninsular Ranges geomorphic provinces of California. Local stream channels and drainages have deposited stream and flood sediments across the northern flank of the Puente Hills during Holocene time (present to 11,000 years ago) to form a gently sloping alluvial fan that descends into the lower valley basin. Soils underlying the project site consist of silty clays, clays, silty sands, and mixtures of silt sediments deposited over time by San Jose Creek and local streams and drainage tributaries which once drained across the valley basin to the Pacific Ocean. Most of these natural river and stream channels are now controlled by debris basins, flood control channels, and flood control dams that collect surface runoff and convey stormwater to the ocean. The project site in the Whittier and La Habra Quadrangles with respect to regional geology.

The project site is developed with Wedgeworth ES and four baseball fields. The subsurface conditions generally consist of existing fill soils placed during previous site grading operations overlying natural alluvial sediments.

5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- G-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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- 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.)
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
- G-2 Result in substantial soil erosion or the loss of topsoil.
- G-3 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.
- G-4 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.
- G-5 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 waste water.
- G-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold G-1.i
- Threshold G-1.ii
- Threshold G-1.iii
- Threshold G-1.iv
- Threshold G-2
- Threshold G-3
- Threshold G-4
- Threshold G-5

These impacts will not be addressed in the following analysis.

5.3.3 Plans, Programs, and Policies

There are no plans, programs, and policies related to paleontological resources that apply to the proposed project.

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5.3.4 Environmental Impacts

5.3.4.1 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.3-1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. [Threshold G-6]

A paleontological records search for the Wedgeworth Elementary School was performed by the Natural History Museum of Los Angeles County, Vertebrate Paleontology Section in November 2018 (included as Appendix B to the IS). The records search indicated that there are no vertebrate fossil localities that lie within the project site boundaries. However, localities have been identified nearby in the same sedimentary units that are in the project area.

Surficial deposits throughout the project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the Puente Hills to the south. These younger Quaternary deposits typically do not contain significant vertebrate fossils in the uppermost layers. However, the relatively shallow depth of older sedimentary deposits may contain fossil vertebrate remains. In the more elevated terrain to the south there are surface deposits of older Quaternary Alluvium, the marine Pliocene Fernando Formation, and the marine late Miocene Puente Formation, and these rock units could also underlie the younger Quaternary Alluvium in the project area. The closest vertebrate fossil locality was found in older Quaternary deposits, over six miles north of the project area in Irwindale, south of Arrow Highway and north of Dalton Wash. It produced a fossil specimen of mastodon, *Mammut americanum*, in a gravel pit at a depth of 115 to 120 feet below the original surface. Other localities were also found farther to the north from the Puente Hills landfill in Fernando Formation (Repetto Member). Therefore, although excavation in the surficial artificial fill or in the underlain younger Quaternary Alluvium in the project site is unlikely to encounter fossils, deeper excavations that extend into older sedimentary deposits could potentially uncover fossils. Therefore, a close monitoring of the excavation in these older sedimentary would be necessary to ensure that impacts to paleontological resources are reduced to a less than significant level.

Level of Significance Before Mitigation: Potentially significant impact.

5.3.5 Cumulative Impacts

The project site has been previously disturbed and its surroundings are developed with urban uses such as educational and recreational facilities. Because ground disturbance could potentially unearth previously unidentified paleontological resources, site-specific impacts would require mitigation measures to minimize impacts to a less than significant level. Other cumulative projects in the area would also be required to provide mitigation measures if potential impacts are identified. Paleontological resources impacts are site-specific, and, provided that site-specific impacts for development projects in the project vicinity are reduced to a less than significant level, no cumulatively significant impacts are anticipated. No additional mitigation would be necessary.

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Level of Significance Before Mitigation: Less than significant.

5.3.6 Level of Significance Before Mitigation

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.3-1** The proposed project could destroy paleontological resources or a unique geologic feature if grading goes beyond surficial artificial fill or in the underlain younger Quaternary Alluvium.

5.3.7 Mitigation Measures

Impact 5.3-1

GEO-1 Prior to the beginning of ground disturbances, the Hacienda La Puente Unified School District shall retain a qualified paleontologist to monitor ground-disturbing activities that occur in deposits that could potentially contain paleontological resources (e.g., older Quaternary Alluvium, the marine Pliocene Fernando Formation (Repetto Member and Siltstone Member) and the marine late Miocene Puente Formation). Before ground-disturbing activities begin, a qualified paleontologist shall prepare a monitoring plan specifying the frequency, duration, and methods of monitoring. Sediment samples shall be collected in the deposits and processed to determine the small-fossil potential in the project site, and any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution.

5.3.8 Level of Significance After Mitigation

The mitigation measure would reduce potential impacts associated with paleontological resources to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to geology and soils would remain.

5.3.9 References

ASM Affiliates. 2019, April 19. Cultural Resources Evaluation Letter Report for the Wedgeworth Elementary School Project, Hacienda Heights, Los Angeles County, California

Converse Consultants. 2019, May 3. Geotechnical Study Report, Wedgeworth Elementary School Development Project, Wedgeworth Elementary School, 19649 Wedgeworth Drive, Hacienda Heights, California 91745.

PlaceWorks. 2019, April. Geologic and Environmental Hazards Assessment Report, Wedgeworth Elementary School for Hacienda La Puente Unified School District.