

# SAN DIEGO NATURAL HISTORY MUSEUM

10 November 2025

David Stearn  
TTLC SCA – Escondido, LLC  
4350 Von Karman Avenue, Suite 200  
Newport Beach, CA 92660

RE: Paleontological Resources Memo – Cleveland Escondido Development Project

Dear Mr. Stearn:

This letter presents the results of a paleontological resources review conducted for the Cleveland Escondido Development project (“Project”), located in the northern portion of the City of Escondido, San Diego County, California. The 10.38-acre Project site is bordered to the south by Cleveland Avenue, to the west by Conway Drive, and to the north and east by existing single-family residential development. The goal of the Project is the construction of a residential development consisting of 29 one- to two-story single-family residences, interior streets, stormwater management basins, subgrade utilities, hardscaping, and landscape improvements.

## Methods

A review of published geological maps covering the Project site and surrounding area was conducted to determine the specific geologic units underlying the Project site. The site-specific geotechnical evaluation report was also reviewed (GeoTek, Inc., 2024). Each geologic unit was subsequently assigned a paleontological resource sensitivity using the County of San Diego Guidelines for Determining Significance (2009). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur at the Project site or within the immediate surrounding area. This information was reviewed alongside available information about planned development to determine whether impacts to paleontological resources are anticipated during Project construction, and appropriate mitigation is proposed, if necessary.

## Results

Published geological mapping (Kennedy and Tan, 2007) covering the Project area indicates that the proposed Project has the potential to impact middle to late Pleistocene-age old alluvial flood plain deposits and Early Cretaceous-age intrusive igneous rocks. The site-specific geotechnical evaluation report also identifies undocumented fill across the Project site (GeoTek, Inc., 2024). These geologic units are summarized below.

The SDNHM does not have any recorded fossil localities that lie within a one-mile radius of the Project site.

**Undocumented fill** – Undocumented fill measuring one to two feet thick is present across much of the surface of the site (GeoTek, Inc., 2024). Fill generally consists of previously disturbed deposits associated with human activities. It is often composed of sedimentary materials mined from a nearby source (e.g., adjacent hilltops and slopes), but on occasion fill is imported to a project site and

may be sourced from a distant location. The undocumented fill within the Project site is likely associated with prior use of the site for agricultural purposes (GeoTek, Inc., 2024). Fossils are generally not collected from fill because any contained fossil remains have lost their original stratigraphic or even geographic contextual data and are thus of little scientific value. Therefore, undocumented fill is assigned no paleontological resource sensitivity.

**Pleistocene old alluvial flood plain deposits** – Middle to late Pleistocene-age (approximately 774,000 to 11,700 years old) old alluvial flood plain deposits are present at the surface or underlying the undocumented fill at shallow depths (one foot deep) throughout most of the Project site and measure between one and four feet thick, as documented in geotechnical borings (GeoTek, Inc., 2024). These deposits were observed to consist of oxidized reddish-brown sandy clay (GeoTek, Inc., 2024). In three of the infiltration borings extending only two feet bgs, Pleistocene-age old alluvial flood plain deposits were observed to the maximum explored depth (GeoTek, Inc., 2024). These deposits consist of sediments deposited along the ancient flood plain of the ancestral Reidy Canyon Creek that flowed through Escondido during the Pleistocene. Scientifically significant vertebrate fossils have been collected from Pleistocene alluvial sediments similar to those underlying the Project site at a number of widely distributed locations in coastal San Diego County, and have yielded a composite assemblage consisting of bony fishes, pond turtle, lizards, snakes, passenger pigeon, coot, duck, hawk, mole, shrew, field mouse, pack rat, kangaroo rat, gopher, squirrel, capybara, rabbit, dire wolf, tapir, horse, camel, deer, bison, mastodon, mammoth, and ground sloth (Chandler, 1982; Deméré et al., 2013; Guthrie, 2012; Holen et al., 2017; Jefferson, 1991; Majors, 1993; SDNHM unpublished paleontological data; White et al., 2022). These scientifically significant finds demonstrate the preservational potential of this geologic unit. Based on the lack of documented fossil localities from these deposits specifically within the City of Escondido, Pleistocene-age old alluvial flood plain deposits are assigned a moderate paleontological resource sensitivity.

**Cretaceous intrusive igneous rocks** – Early Cretaceous-age (approximately 126 million years old) intrusive igneous rocks (mapped as diorite by Kennedy and Tan, 2007) underlie the entire Project site in the relatively shallow subsurface below either the undocumented fill or Pleistocene-age old alluvial flood plain deposits (GeoTek, Inc., 2024). Igneous rocks were encountered at depths as shallow as one to five feet bgs and extended to the maximum explored depth (GeoTek, Inc., 2024). These rocks comprise part of the northern end of the Peninsular Ranges Batholith. Plutonic igneous rocks do not preserve fossils because they crystallize at extremely high temperatures and pressures several miles below the Earth's surface. Consequently, these rocks are assigned no paleontological resource sensitivity.

## Impact Analysis

Construction of the Project has the potential to impact paleontological resources if: 1.) earthwork operations are involved, and 2.) if the earthwork operations will specifically impact previously undisturbed strata with high or moderate paleontological resource sensitivity (i.e., Pleistocene-age old alluvial flood plain deposits). Earthwork impacting geologic units assigned no paleontological resource sensitivity (i.e., undocumented fill and Cretaceous intrusive igneous rocks) is not anticipated to impact paleontological resources.

Only the site-specific geotechnical evaluation report was available for review at this stage. A review of Project plans described in the geotechnical evaluation report indicates that cuts of up to 10

vertical feet and fills of up to six vertical feet will be required during site grading, and that three stormwater basins are proposed (two near the west property line, requiring cuts of two to six feet, and one near the southeastern corner of the site, requiring cuts of two feet and fills of about six feet) (GeoTek, Inc., 2024). Geotechnical earthwork recommendations for the Project include:

- site clearing (removal of vegetation and debris);
- remedial grading to remove undocumented fill, soft or loose older alluvium, and highly weathered bedrock;
- overexcavation of structural areas located on fill pads to a depth of three to four feet or at least two feet below proposed finish grades, whichever is greater;
- overexcavation of residential lots located on cut pads to a minimum depth of five feet below proposed finish grades; and
- overexcavation of utility alignments to at least one foot below trench invert depth.

The distribution of Pleistocene-age old alluvial flood plain deposits within the Project site is patchy, and subsurface geotechnical exploration was generally limited to the perimeter of the site, so it is not possible at this stage to determine exactly where impacts to this geologic unit will or will not occur. Based on the limited subsurface exploration documented in geotechnical borings, it appears likely that Pleistocene-age old alluvial flood plain deposits are relatively thin (approximately five feet thick) in this area, and that the underlying Cretaceous intrusive igneous rocks are present at relatively shallow depths. Therefore, it is generally expected that impacts are most likely to occur at depths of less than five feet bgs.

### Summary and Recommendations

Based on the moderate paleontological resource sensitivity of Pleistocene-age old alluvial flood plain deposits underlying the Project site, construction of the Project has the potential to impact paleontological resources. Therefore, implementation of a limited paleontological resource mitigation program during construction is recommended, to consist of initial monitoring of shallower excavation activities that are anticipated to impact Pleistocene-age old alluvial flood plain deposits (remedial grading, overexcavation, trenching for subgrade utilities, and excavation of stormwater basins). Based on initial observations made during monitoring, the monitoring schedule may be increased (i.e., to full time) or reduced (i.e., to spot checks) at the discretion of the qualified Project Paleontologist. Monitoring is not recommended for earthwork impacting undocumented fill or intrusive igneous rocks. In addition, monitoring is not recommended for site clearing or placement of fill.

If you have any questions concerning these findings, please feel free to contact me at 619-255-0264 or [kmccomas@sdnhm.org](mailto:kmccomas@sdnhm.org).

Sincerely,



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Enc: Figure 1. Geologic map of the Project site and vicinity.

### Literature Cited

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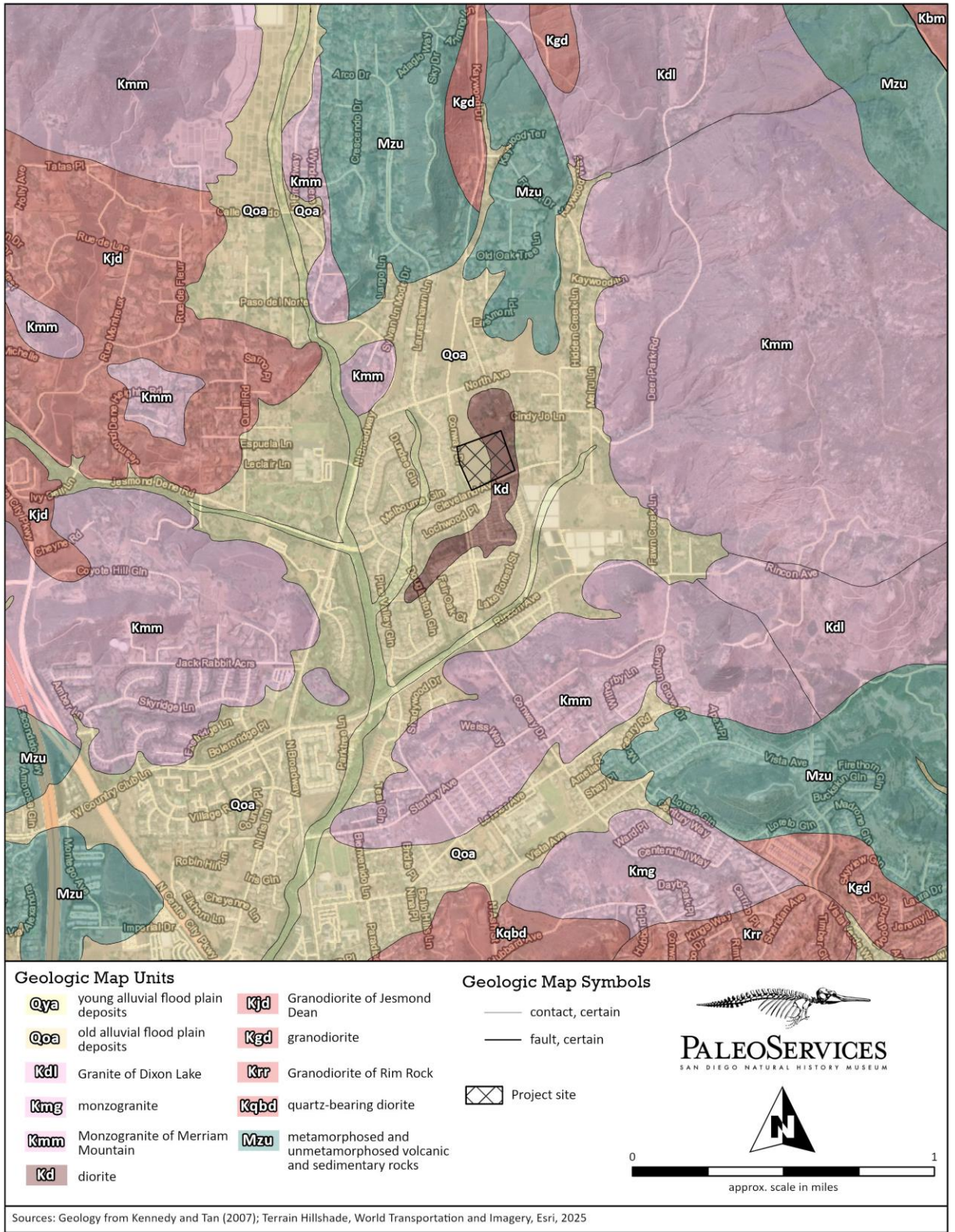


Figure 1. Geologic map of the Project site and vicinity.