Appendix H

Paleontological Resources Inventory Letter Report

VERSION (DRAFT)

Paleontological Resources Inventory Letter Report

Sandpiper Golf Course Redevelopment Project, City of Goleta, Santa Barbara County, California

APRIL 2023 (UPDATED MARCH 2025)

Prepared for:

SANDPIPER GOLF TRUST, LLC
Ty Warner Hotels and Resorts
280 Chestnut Avenue
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Contact: Mr. Bill Medel

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DUDEK

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Subject: Paleontological Resources Inventory Letter Report for the Sandpiper Golf Course Redevelopment Project, City of Goleta, Santa Barbara County, California

Dear Mr. Medel:

Ty Warner Hotels and Resorts retained Dudek to conduct a paleontological resources inventory for the Sandpiper Golf Course Redevelopment Project (Project) located at 7925 Hollister Avenue, Goleta (APN 079-210-059), Santa Barbara County, California within sections 15 and 22 of Township 4 North, Range 29 West on the Dos Pueblos Canyon, California U.S. Geological Survey 7.5-minute quadrangle topographic map (Figure 1 – Project Location). This letter report provides the paleontological resources inventory for a redesign and rerouting of the existing, 18-hole golf course including a new comfort station, demolition and replacement of the existing clubhouse with a new clubhouse and restaurant building, and renovations and enhancements to the existing historic Barnsdall Gas Station. The new clubhouse will replace the existing 9,305 square foot (sf), 27-foot-high clubhouse and golf cart storage facility which were built in the 1970s and have not been significantly updated since construction. The redevelopment project will bring the golf course up to date to continue serving the community and includes the following elements:

- Golf Course Redesign
  - This project proposes renovations to the existing golf course including a new golf-course routing plan to re-orient the golf course. The redesign proposes minimal cut into native soils in order to minimize ground disturbance. The project also includes sand-capping, which will require sand to be imported to the project site.
  - The design is inspired by the natural landscape and site condition of the grassy rolling hills of the course, the bluff, and the ocean. The intent is to create a building which is directly related to its spectacular setting, honoring the contours of the land blending the architecture, landscape, and transparency of the sky in the composition.
  - There will be improvements to area roadways and project entrances, such as relocation of the main entrance to be aligned with Cathedral Oaks Road, as well as landscape enhancements on Hollister Avenue.
- Clubhouse
  - Existing Clubhouse - The existing clubhouse will be demolished and replaced with a new, two-story clubhouse building with a basement level.
  - Proposed Clubhouse – The proposed two-story clubhouse building will include a restaurant, cocktail lounge, changing rooms, offices, back of house, and a basement level used for a golf cart storage facility.
- Barnsdall Gas Station
  - The historic Barnsdall Gas Station is proposed to be repaired and reinvigorated into a quick stop café for golfers and community members. It will include ample bicycle parking to attract those cycling along Hollister Avenue. The entire remodel will be to the interior of the existing building, with the exception of any repairs, painting and finishing necessary on the exterior of the building.

- Comfort Station and Maintenance
  - Comfort Station – A new comfort station is proposed on the golf course adjacent to the 6th green. The comfort station will have men's and women's restroom facilities and will include a small kitchenette for grab and go snacks and for use during events.
  - Maintenance Building – The existing 7,555 sf maintenance facility would be replaced with a 7,476 sf maintenance facility consisting of two structures. The new maintenance facility would include offices, employee restrooms, lockers, and small equipment storage in a new 4,316 sf structure, as well as vehicle and golf course equipment storage in the renovated and expanded 3,160 sf storage structure.
- Parking
  - The parking lot will be updated and restriped to provide ample parking and access for the Golf Course.

The City of Goleta (City), the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). This letter report was prepared in accordance with CEQA and the Society of Vertebrate Paleontology (SVP 2010) guidelines. Dudek performed a paleontological resources inventory which included a Natural History of Los Angeles County (LACM) and Santa Barbara Museum of Natural History (SBMNH) paleontological records search and a review of geological mapping, the geotechnical report prepared for this Project, geological and paleontological literature, and geological boring/soils reports. The results of the paleontological records searches indicated that there are no previously recorded fossil localities that appear directly within the proposed Project site; however, due to the sensitivity of the mapped geological units in the Project site, construction-related ground disturbance has the potential to impact non-renewable paleontological resources. Additionally, the LACM and SBMNH reported fossil localities nearby from the same geological units that underlie the Project site on the surface and at depth.

As portions of the Project site have never been developed, there is a potential to encounter intact subsurface paleontological resources in those areas. As such, a paleontological monitoring program, which includes the preparation and implementation of a Paleontological Resources Impact Mitigation Plan (PRIMP), is necessary to reduce impacts to any potential paleontological resources onsite in those areas underlain by sediments with a high potential to yield significant paleontological resources. This paleontological resource letter report was prepared by Michael Williams, Ph.D. and Sarah Siren, M.Sc., qualified Principal Investigators (PIs) for paleontology, with assistance from Jason Collins, B.A., in accordance with CEQA guidelines and SVP (2010) and Murphey et al. (2019) standards.

Paleontological Resources

Paleontological resources are the remains or traces of plants and animals that are preserved in Earth's crust, and per the Society of Vertebrate Paleontology ([SVP] 2010) guidelines, are older than written history or older than approximately 5,000 years. They are limited, nonrenewable resources of scientific and educational value and are afforded protection under state laws and regulations. This study satisfies requirements in accordance with state guidelines (13 PRC, 21000 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by SVP (2010). Table 1 provides definitions for high, undetermined, low, and no paleontological resource potential, or sensitivity, as set forth in and by the SVP (2010) Guidelines for Determining Significance: Paleontological Resources.

Table 1. Paleontological Resource Sensitivity Criteria

Resource Sensitivity / Potential	Definition
High	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 volcaniclastic formations (e.g., ashes or tephras), and some low-grade metamorphic rocks that 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). Paleontological potential consists of both (1) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units that contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units that may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
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 whether 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 paleontological resource potential require neither protection nor impact mitigation measures relative to paleontological resources.

Source: SVP (2010)

Regulatory Framework

California Environmental Quality Act

Paleontological resources are afforded protection under CEQA, which require lead agencies to disclose the potential environmental impacts of their discretionary actions. One of the screening questions in Appendix G of the CEQA Guidelines asks: “Would the project directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature?”

Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This study satisfies project requirements in accordance with CEQA (13 PRC [Public Resources Code], 21000 et seq.).

Public Resources Code Section 5097.5

California’s Public Resources Code (PRC) Section 5097.5 states 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 [lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof], except with the express permission of the public agency having the jurisdiction over the lands. Violation of this section is a misdemeanor.”

City of Goleta Regulations

The City of Goleta completed a General Plan and Coastal Land Use Plan Final Environmental Impact Report (EIR) in September 2006. Section 3.5.1.5 Paleontological Background of the EIR states:

> “As will be described below, paleontological resources can be thought of as fossil remains. Knowledge of the geology of a particular area and the paleontological resource sensitivity (i.e., fossil productivity) of particular geologic formations make it possible to predict where fossils will (or will not) be encountered. Fossils have been collected and subjected to scientific study in the South Coast area and in the central coast region for almost a century. Fossils are found in several isolated localities in the vicinity of the City of Goleta and have contributed to the knowledge of the geologic history of Santa Barbara County.”

According to Section 3.5.2 Regulatory Framework,

> “Paleontological resources, like archaeological resources, represent a limited, nonrenewable, and sensitive scientific and educational resource. In California, negative impacts to such resources are addressed under regulations of CEQA. Guidelines for the implementation of CEQA, as amended January 1, 2006, include the following question as one to be answered in the Environmental Checklist (Section 15023, Appendix G, Section XIV, Part a): “Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?”

Methods

Geological Map and Literature Review

Published geological maps and published and unpublished reports were reviewed to identify geological units on the site and determine their paleontological sensitivity.

Geotechnical Report Review

Preliminary Geotechnical Investigations prepared for the Project by Pacific Materials Laboratory of Santa Barbara, Inc. were reviewed to identify and confirm geological units located within the Project site and aide in determining their paleontological sensitivity.

Paleontological Records Searches

A paleontological records search request was sent to the LACM on March 24, 2023 and the SBMNH on February 12, 2025. The purpose of the museum records search is to determine whether there are any known fossil localities in or near the Project site, assist in identifying the sensitivity of geological units present within the Project site, and aide in determining whether a paleontological mitigation program is warranted to avoid or minimize potential adverse effects of construction on paleontological resources.

Results

Geological Map and Literature Review

The Project site lies within the Transverse Ranges Geomorphic Province (California Geological Survey 2002). This province is an east-west trending series of steep mountain ranges and valleys that extends offshore to include San Miguel, Santa Rosa, and Santa Cruz Islands. The east-west structure of the Transverse Ranges is oblique to the normal northwest trend of coastal California. More specifically, the Project site is situated within the western Transverse Ranges which mainly consists of recent to Jurassic, deformed to undeformed, terrestrial and marine sedimentary rock units (Minor et al. 2009a). While Eocene rocks that are resistant to erosion are exposed along the southern Santa Ynez Mountains and form prominent hogbacks, less resistant Pliocene to Oligocene marine and nonmarine sedimentary rock units are exposed in the lower elevations farther south (Minor et al. 2009a). The hills and mesas of the coastal plain are underlain by Pleistocene marine and nonmarine geological units, and the lower lying coastal plain are underlain by late Pleistocene and Holocene sediments (Minor et al. 2009a).

According to the published geological mapping at a scale of 1:25,000 by Minor et al. (2009b) and the Preliminary Geotechnical Investigations by Pacific Materials Laboratory of Santa Barbara, Inc. (2022a, b), the Project site is underlain by Holocene (recent to approximately 11,700 years ago [ya]; Cohen et al. [2024]) beach deposits (map unit Qb), Holocene and late Pleistocene (approximately 11,700 to 129,000 ya; Cohen et al. [2024]) alluvium and colluvium (map unit Qac), late Pleistocene marine terrace deposits (map unit Qmt; Cohen et al. [2024]), early Pliocene to late Miocene (approximately 5.33 million years ago [mya] to 11.63 mya; Cohen et al. [2024]) Sisquoc Formation (map unit Tsq), the late Miocene upper siliceous unit of the Monterey Formation (map unit Tmu), the late to middle Miocene (approximately 5.33 mya to 15.98 mya; Cohen et al. [2024]) middle shale unit of the Monterey

Formation (map unit Tmm), the middle to early Miocene (approximately 15.97 mya to 23.04 mya; Cohen et al. 2024) lower calcareous unit of the Monterey Formation (map unit Tml), and Miocene (approximately 5.33 mya to 23.04 mya; Cohen et al. [2024]) Monterey Formation, undivided (map unit Tm). Geological mapping by Dibblee (1987) at a scale of 1:24,000 indicated the marine terrace deposits are Pleistocene older alluvial deposits, did not include the Sisquoc Formation within the Project site, and indicated only the upper shale unit of the Monterey Formation is present within the Project site. Other authors (e.g., Johnson et al. [2014]) also mapped the Sisquoc Formation as being present within the Project site boundaries and considered Dibblee's Pleistocene older alluvial deposits to be marine terrace deposits like Minor et al. (2009b). Therefore, for the purposes of this report, geological mapping of Minor et al. (2009b) is considered. The geological units and their paleontological sensitivities are discussed in the following sections.

Beach Deposits

Holocene beach deposits are mapped in the northwestern portion of the Project site along the coast (Figure 2). These deposits consist of unconsolidated, fine- to medium-grained sand that only in rare instances, exceeds 5 meters in thickness (Minor et al. 2009a). These deposits are too young to contain paleontological resources and have low paleontological resource sensitivity.

Alluvium and Colluvium

Holocene and late Pleistocene alluvium and colluvium deposits are mapped in the northwestern corner of the Project site, with a sliver in the southeastern portion of the Project site (Figure 2). This geological unit consists of unconsolidated to slightly indurated gravels, sands, and silts that for the most part, have exposed thicknesses of 10 meters or less (Minor et al. 2009a).

In his compilation of Early Holocene (approximately 8,200 to 11,700 ya) and late Pleistocene vertebrates from California, Jefferson (1991) reported numerous taxa from non-asphaltic, mainland fossil localities in Santa Barbara County, including but not limited to, fish (Teleostei) tapir (*Tapirus*), ground sloth (*Paramylodon*), camel (*Camelops*), mammoth (*Mammuthus*), mastodon (*Mammut*), and horse (*Equus*).

On the surface and at shallow depths below the ground surface (bgs), these deposits have low paleontological sensitivity; however, at more substantial depths bgs, they can become old enough to yield significant paleontological resources or can be underlain by older geological units with high paleontological resource sensitivity (e.g., marine terrace deposits, the Sisquoc Formation, or the Monterey Formation). Holocene to late Pleistocene alluvium and colluvium has low paleontological sensitivity on the surface and at shallow depths bgs (e.g., five feet or less bgs) and potentially high paleontological sensitivity greater than five feet bgs.

Marine Terrace Deposits

Late Pleistocene marine terrace deposits are mapped within the majority of the Project site (Figure 2) and consist of slightly to moderately indurated, silt and siltstone, sand and sandstone that contains pebbles and larger clasts, and gravel conglomerates (pebble to cobble) that are slightly to moderately bedded (Minor et al. 2009a).

Marine terrace deposits have produced significant paleontological resources along the California coast. Wright (1972) reported an invertebrate fauna of at least 125 taxa from the lowest subaerial terrace near Goleta. The fauna included 102 mollusks and 18 foraminifers. In addition to invertebrate fossils, fossil fishes (Fitch 1964, 1966, 1967, 1970; Long 1993; Willett 1937), reptiles (Long 1993), birds (Howard 1936, 1949, 1955; Long 1993; Miller 1930; Willett 1937), marine mammals (Miller 1971; Willett 1937), and terrestrial mammals (Long 1993; Miller 1971) have been reported from marine terrace deposits in southern California.

The marine terrace deposits, mapped throughout the Project area, have high paleontological resource sensitivity.

Sisquoc Formation

The early Pliocene to late Miocene Sisquoc Formation is mapped in the northwestern portion of the Project site (Figure 2). This marine formation consists of diatomaceous shale and mudstone and conglomerates with minor amounts of dolomite and contains foraminifera, diatoms, radiolarians, sponge spicules, mollusks, and fragmentary fish fossils (Minor et al. 2009a).

Woodring and Bramlette (1950) reported Echinoderms, gastropods, bivalves, barnacles, and marine mammals from the Sisquoc Shale within the “Santa Maria District” on the north side of Point Conception. A query for Sisquoc Formation fossils from Santa Barbara County through the University of California Museum of Paleontology (UCMP) online specimen database returned the following results: fish (*Xene grex* and chondrichthyes), birds (*Puffinus diatomaceous*, *Sula willetti*, *Miosula media*, *Sula lompocanthus*, *Limosa vanrossemi*, and *Morus lompocanus*), and mammals (*Imagotaria downsi*, *Pithanotaria starri*, and *Delphinus occiduus*) (UCMP 2024).

The Sisquoc Formation has produced scientifically significant invertebrate and vertebrate fossils and has high paleontological resource sensitivity.

Monterey Formation

The Monterey Formation is divided into three subunits and an undivided unit within the Project site, crops out mainly on the coastal side of the Project site, and spans the Miocene (Figure 2). The upper siliceous unit is mostly composed of diatom rich shale and mudstone with minor amounts of dolomite and porcelanite; the middle shale unit is composed of shale and mudstone with dolomite, porcelanite, and phosphorite, and minor amounts of tuff; the lower calcareous unit is composed of mudstone and shale that is calcareous, siliceous, and phosphatic, with lesser amounts of dolomite, porcelanite, breccia, glauconite rich sandstone, and tuff (Minor et al. 2009a).

The Monterey Formation is an abundantly fossiliferous, widespread geological unit extending from Orange County in the south to north of San Francisco Bay. Throughout its extent, the Monterey Formation has produced many thousands of fossil traces, invertebrates, and vertebrates. Vertebrate taxa include sharks, bony fish, reptiles, and marine mammals (Koch et al., 2004). Dozens of bony fish species from multiple localities were reported from the Monterey Formation in a catalog of Neogene bony fishes from California (Fierstine et al. 2012). Furthermore, a new genus and species of eared seal was reported from the Monterey Formation of Los Angeles County (Downs, 1956). Schoellhamer et al. (1981) reported the presence of numerous fossil fishes and foraminifera from the Monterey Formation in this part of Orange County. In addition to vertebrate fossils recovered from the Monterey Formation, numerous Monterey Formation fossil invertebrates have been described in the scientific literature including two new stomatopod crustacean species (Hof and Schram, 1998). Finally, a small, Monterey Formation invertebrate fauna was published in the literature, which consisted of bivalves, gastropods, and an echinoid that were collected during excavations for a housing development in south Orange County (Rugh, 2018).

A query for Monterey Formation fossils from Santa Barbara County through the UCMP online specimen database returned 394 fossil specimens including fishes, reptiles, birds, and marine mammals (UCMP 2024).

The Monterey Formation has produced scientifically significant invertebrate and vertebrate fossils and has high paleontological resource sensitivity.

Geotechnical Report Review

Three geotechnical investigations were conducted by Pacific Materials Laboratory of Santa Barbara, Inc. (2022a,b,c) at the proposed clubhouse site, proposed comfort station site, and proposed Barnsdall Restaurant (Gas Station) site. These geotechnical reports refer to marine terrace deposits as older alluvium, likely due to geological mapping of Dibblee (1987), who mapped the marine terrace deposits as older alluvium. The Preliminary Geotechnical Investigation by Pacific Materials Laboratory of Santa Barbara, Inc. (2022a) included exploratory borings to a depth of 50 feet bgs at the clubhouse site. The sediments encountered in the borings consisted of stiff brown, reddish brown, and black sandy, silty clay. Pacific Materials Laboratory of Santa Barbara, Inc. (2022b) geotechnical investigation for the proposed comfort station within the Project site. Two borings to a maximum depth of six feet bgs indicated this portion of the Project site is shallowly underlain by stiff, brown to gray, clayey silt and sand. Finally, Pacific Materials Laboratory of Santa Barbara, Inc. (2022c) geotechnical investigation for the proposed Barnsdall Restaurant (Gas Station) site included Cone Penetrometer Test Soundings to a depth of 34.5 feet bgs that revealed the presence of stiff, silty sands and sandy clays.

Paleontological Records Searches

The LACM paleontological records search results were received on April 2, 2023, and the SBMNH results were received on March 4, 2025. No records of fossil localities were found within the boundaries of the Project site; however, the LACM reported eight fossil localities located nearby, with seven being from the same sedimentary deposits as are mapped within Project site (Confidential Attachment A). The LACM fossil localities are summarized in below in Table 2.

Table 2. LACM Fossil Localities Near the Project Site

Locality Number	Location	Formation	Taxa	Depth
LACM IP 36	Beach bluff on Campbell Ranch, southwest of Goleta	Marine terrace deposits (Pleistocene)	None listed	Unknown

Table 2. LACM Fossil Localities Near the Project Site

LACM IP 6913, 6919, 42426, 416	Marine terrace in seacliff west of Isla Vista	Sisquoc Formation (diatomaceous shale)	Invertebrates (Spirobidae, *Paciocinebrina*, *Turbonilla*, *Linularia*, Decapoda, Echinoidea, *Oichnus*, *Vitrinella*, Bryozoa, *Calliostoma*, *Nucella, Macoma, Glossaulax, Leukoma, Californiconus, Miodontiscus, Calyptraea, Lirobittium*)	Surface
LACM IP 15784	Beach at Hope Ranch, east of Goleta	Unknown formation (Pliocene)	Invertebrates (unspecified)	Unknown
LACM IP 31254, 31255	In sea cliff about 2.5 miles southwest of Goleta, Santa Barbara	Quaternary Terrace	Invertebrates (*Macoma, Penitella, Leukoma*, Pholadidae, *Siliqua, Tellina, Saxidomus, Psammacoma, Mactronetris, Clinocardium, Zirfaea*)	Unknown

*VP, Vertebrate Paleontology, IP, Invertebrate Paleontology

The SBMNH reported an incomplete, unidentified marine mammal skeleton less than a kilometer from the Project site within the upper shale unit of the Monterey Formation. A skull of a mastodon (*Mammut pacificus*) was salvaged from Pleistocene alluvial deposits during a construction project approximately 1.3 miles northeast of the Project site. The next closest fossil locality, from marine terrace deposits approximately 1.5 miles east of the Project site, yielded sea otter limb bones and a deciduous tooth and hundreds of mollusks (Confidential Attachment A). The SBMNH also reported fish from the Sisquoc/Monterey Formation; birds from alluvium, Sisquoc/Monterey Formation, and the Rincon/Monterey Formation; terrestrial and marine mammals from alluvium, Sisquoc/Monterey Formation, and the Monterey Formation (Confidential Attachment A).

Summary and Management Recommendations

No paleontological resources were identified within the Project site as a result of the institutional records search and desktop geological review. The paleontological records search conducted by the LACM revealed eight fossil localities are located nearby, with seven being from the same geological units that underlie the Project site. The SBMNH indicated they have nearby fossil localities from the Pleistocene deposits, the Sisquoc/Monterey Formation, and the Monterey Formation. The late Pleistocene marine terrace deposits, Sisquoc Formation, and Monterey Formation present within the Project site, have high paleontological resources sensitivity. Based on the records search results, geotechnical investigation, and map and literature review, the Project site has high potential to produce paleontological resources during planned construction activities. In the event that intact paleontological resources are discovered on the Project site, ground-disturbing activities, such as grading and large diameter drilling (two feet or greater) during site preparation and trenching for utilities, associated with construction of the golf course redesign, the clubhouse, and the comfort station and maintenance building, have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. Proposed repairs to the Barnsdall Gas Station and updates and striping of the parking lot do not involve ground disturbing activities, and therefore, do not have the potential to destroy a unique paleontological resource or site.

With implementation of the following recommended mitigation measure (MM), impacts would be reduced to below a level of significance. Impacts of the Project are considered less than significant with mitigation incorporated during construction.

Recommended MM: Paleontological Resources Impact Mitigation Plan and Paleontological Monitoring. Prior to commencement of any grading activity on site, Sandpiper Golf Trust, LLC or its designee shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) 2010 guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project that shall be consistent with the SVP 2010 guidelines and outline requirements for preconstruction meeting attendance and worker environmental awareness training; where paleontological monitoring is required within the project site based on construction plans and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. The PRIMP shall also include a statement that any fossil lab or curation costs (if necessary due to fossil recovery) are the responsibility of Sandpiper Golf Trust, LLC or its designee. A qualified paleontological monitor per the SVP (2010) guidelines shall be on site during initial rough grading and other significant ground-disturbing activities (including drilling two feet in diameter or greater) in areas underlain by late Pleistocene marine terrace deposits, the Sisquoc Formation, and the Monterey Formation. No paleontological monitoring is necessary during ground disturbance within artificial fill, if determined to be present. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find. Any significant paleontological resources shall be accessioned to an accredited paleontological repository, such as the Santa Barbara Museum of Natural History. Within 90 days of the completion of the monitoring program or an agreed upon amount of time based on the fossil(s) recovered during the paleontological monitoring program, a final paleontological monitoring report documenting all monitoring activities and discoveries shall be submitted Sandpiper Golf Trust, LLC or its designee and the City of Goleta, signifying the completion of the monitoring program.

Should you have any questions relating to this report and its findings please contact Michael Williams (mwilliams@dudek.com).

Respectfully Submitted,

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Paleontologist
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Att.: *Figure 1, Project Location Map*
Figure 2, Geological Map
Attachment A, Confidential LACM and SBMNH Paleontological Records Search Results

cc: *Sarah Siren, Dudek*
John Davis IV, Dudek

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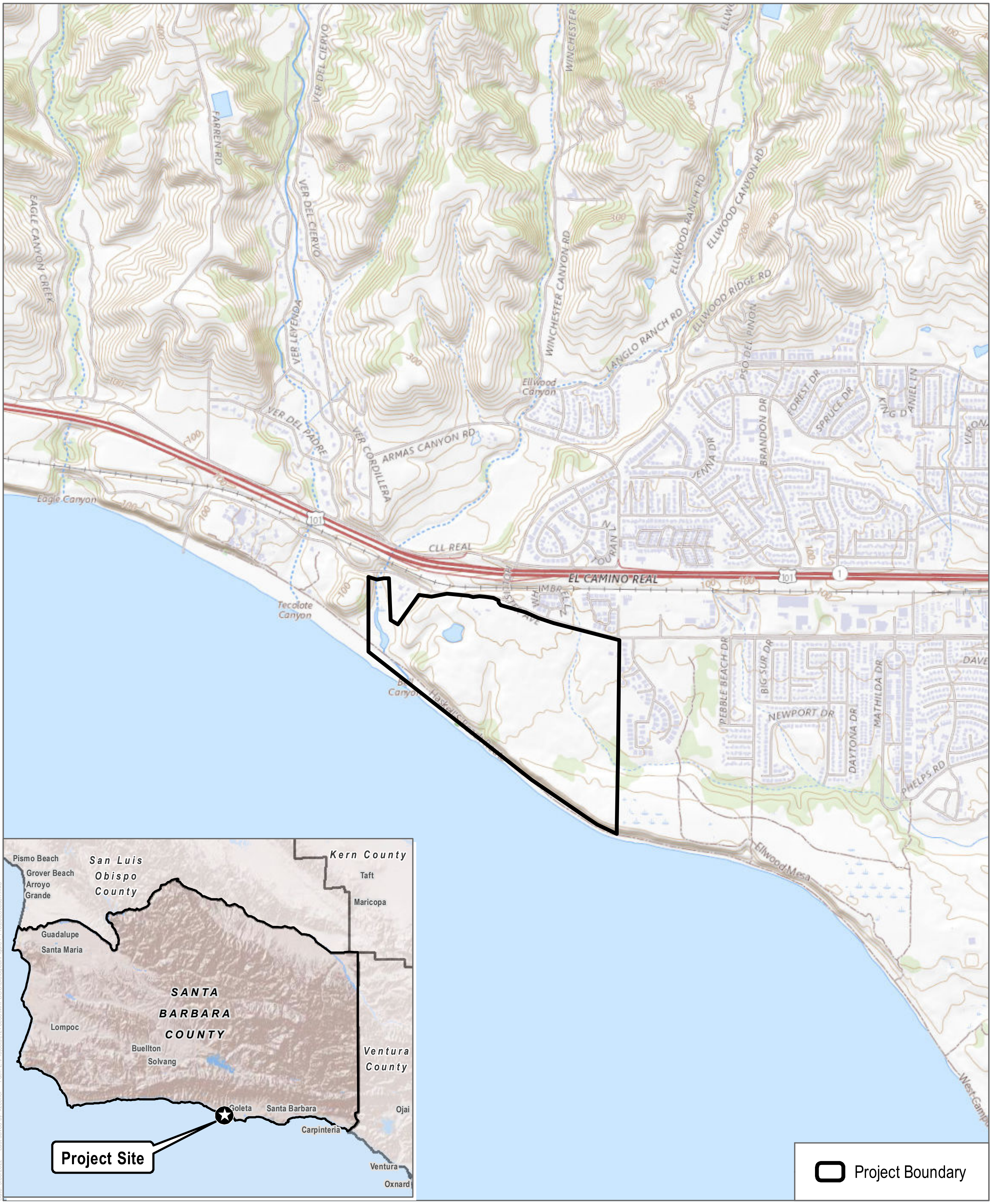
Figure 1 Project Location Map



SOURCE: USGS National Map

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

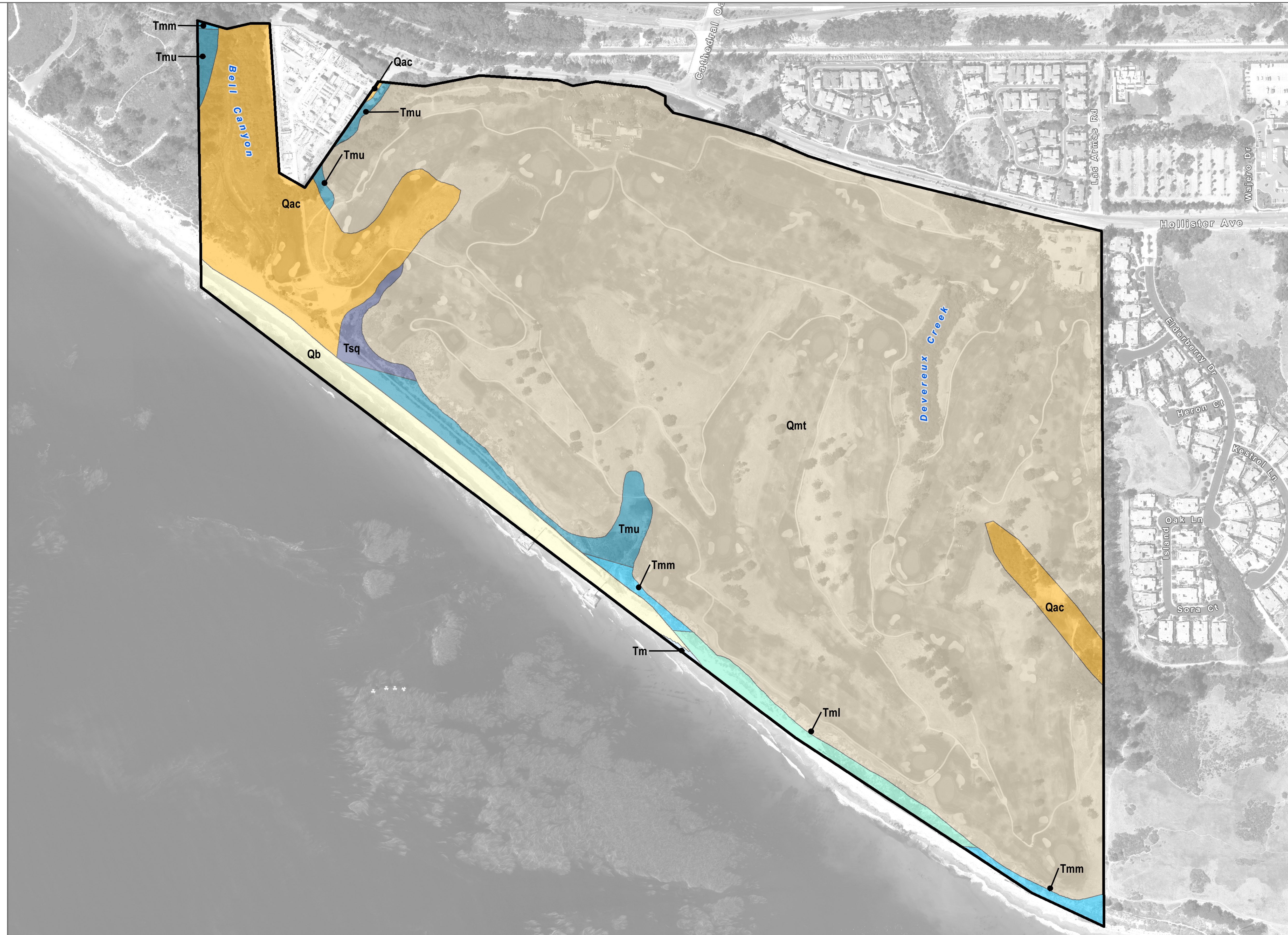
Biological Resources Assessment Report for the Sandpiper Golf Club Project

Figure 2 Geological Map

Project Parcel Boundary

Geologic Map Units

- Qb: Beach deposits (Holocene)
- Qac: Alluvium and colluvium (Holocene and upper Pleistocene)
- Qmt: Marine-terrace deposits (upper Pleistocene)
- Tsq: Sisquoc Formation (lower Pliocene and upper Miocene)
- Tmu: Monterey Formation, upper siliceous unit (upper Miocene)
- Tmm: Monterey Formation, middle shale unit (upper and middle Miocene)
- Tml: Monterey Formation, lower calcareous unit (middle and lower Miocene)
- Tm: Monterey Formation, undivided (Miocene)



SOURCE: Aerial: Sanborn 2020, Geologic Map of the Santa Barbara Coastal Plain Area 2009

DUDEK

0 220 440 Feet

FIGURE 2

Geology

Sandpiper Golf Club Project

Confidential Attachment A

LACM and SBMNH Records Search Results (Confidential)