APPENDIX C
Cultural/Paleontological Resources Report

Michael Baker
INTERNATIONAL

June 8, 2021

Sergio Gutierrez
CITY OF LONG BEACH, DEVELOPMENT SERVICES
Long Beach City Hall – 3rd Floor
411 West Ocean Boulevard
Long Beach, California 90802

RE: CULTURAL AND PALEONTOLOGICAL RESOURCES IDENTIFICATION REPORT FOR THE CAL WATER WELL AND WATER TREATMENT PLANT PROJECT, CITY OF LONG BEACH, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Gutierrez:

In support of the Cal Water Well and Water Treatment Plant Project (project), Michael Baker International staff completed a South Central Information Center (SCCIC) records search, literature review and historical map review, an archaeological field survey, and a buried site sensitivity analysis to determine whether the project could result in a significant adverse change to historical resources in accordance with the California Environmental Quality Act (CEQA). Additionally, a paleontological records search was requested from the Natural History Museum of Los Angeles County (NHMLA), and a search of online and published databases was completed to identify paleontological localities in accordance with CEQA. Methods, results, and recommendations are summarized below.

PROJECT DESCRIPTION

The project proposes to construct a water well and water treatment plant on-site and install water main improvements in an adjacent roadway right-of-way to increase the reliability of the water supply to the northern portion of the Dominguez District service area. The water well and water treatment plant would allow utilization of groundwater (via unused groundwater rights) to offset water purchased from the Metropolitan Water District.

PROJECT AREA

The project area, identified as the maximum extent of ground disturbance, is identified as APN 7307-008-053 and includes water infrastructure improvements within Long Beach Boulevard, Victoria Street, and Barclay Street (see **Attachment 1**).

CULTURAL RESOURCES IDENTIFICATION METHODS

The results of the SCCIC records search, literature review, field survey, historical map review, and archaeological field survey are presented below.

SOUTH CENTRAL COASTAL INFORMATION CENTER

Michael Baker International conducted a records search (File No. 22237.8388) on April 19, 2021. The SCCIC, as part of the California Historical Resources Information System, California State University,

Fullerton, an affiliate of the California Office of Historic Preservation (OHP), is the official state repository of cultural resources records and reports for Los Angeles County. As part of the records search, the following federal and California inventories were reviewed:

- California Inventory of Historic Resources (OHP 1976).
- California Points of Historical Interest (OHP 1992 and updates).
- California Historical Landmarks (OHP 1996).
- Archaeological Determinations of Eligibility (OHP 2012) for Los Angeles County.
- Built Environmental Resource Database (OHP 2021). The directory includes resources evaluated for listing and listed in the National Register of Historical Places (National Register), National Historic Landmarks, California Register of Historical Resources (California Register), California Historical Landmarks, and California Points of Historical Interest in Los Angeles County.

Results

No cultural resources were identified within the project area; one cultural resource was identified within the half-mile search radius of the project area, as described below.

Resource Name/#	Type	OHP Status Code	Historical Resource?	Distance from Project
SCE Long Beach-Laguna Bell 60kV 220kV Transmission line P-19-192309	HP11 – Engineering Structure	2S2 – individual property determined eligible for the National Register through the Section 106 process. Listed on the California Register.	Yes	240 yards SE

One cultural resources study has been previously completed within the project area; 15 have been completed within the half-mile search radius, as identified below.

Report Number	Author	Date	Title	In Project?	Resources Identified in the Project Area?
LA-00083	Rosen, Martin D.	1975	*Evaluation of the Archaeological Resources and Potential Impact of the Joint Outfall System's Improvements on Sewer Treatment Plants and Installation Routes for Large Diameter Sewers, Los Angeles County*	No	No
LA-00358	Stickel, Gary E.	1976	*An Archaeological and Paleontological Resource Survey of the Los Angeles River, Rio Hondo River and the Whittier Narrows Flood Control Basin, Los Angeles, California*	No	No

Report Number	Author	Date	Title	In Project?	Resources Identified in the Project Area?
LA-02970	Chamberlaine, Pat and Jean Rivers-Council	1992	*Cajon Pipeline Project Draft Environmental Impact Statement Environmental Impact Report*	No	No
LA-02882	McKenna, Jeanette A.	1993	*Cultural Resources Investigations, Site Inventory, and Evaluations, the Cajon Pipeline Project Corridor, Los Angeles and San Bernardino Counties, California*	No	No
LA-03102	McCawley, William, John Romani, and Dana Slawson	1994	*The Los Angeles County Drainage Area Subsequent Environmental Impact Report*	No	No
LA-07162	Anonymous	1997	*Cultural Resource Assessment Santa Fe Pacific Pipeline Expansion Project, Los Angeles County, California*	No	No
LA-03937	McLean, Deborah K.	1998	*Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility La 069-02, 120 East Artesia Boulevard, Long Beach, California*	No	No
LA-04479	Self, William	1999	*Carson-Norwalk Pipeline Construction Monitoring*	No	No
LA-05402	Smith, Philomene C.	2000	*Negative Archaeological Survey Report:07-la-91kp17.91-170-3n3401*	No	No
LA-07010	Gelgemaker, Gerhardt H.	2000	*6172-78 Long Beach Blvd, Long Beach, Painting Hud970926c*	No	No
LA-11150	Maxwell, Pamela	2003	*West Basin Municipal Water District Harbor/ South Bay Water Recycling Project*	No	No
LA-08470	Bonner, Wayne H.	2004	*Cultural Resources Records Search Results and Site Visit for Sprint Telecommunications Facility Candidate La60xc358a (Vinotemp Warehouse), 17621 South Susana Road, Rancho Dominguez, Los Angeles County, California*	No	No

Report Number	Author	Date	Title	In Project?	Resources Identified in the Project Area?
LA-07950	Harper, Caprice D.	2006	*Archaeological Survey Report for the Interstate 105 (i-105) Dewatering Wells Beneficial Re-use of Groundwater Project, in the Cities of Paramount, Compton, Long Beach, and Carson, Los Angeles County, California*	No	No
LA-11993	O'Neill, Laura	2012	*Finding of No Adverse Effect for the Proposed Interstate 710 Corridor Project Between Ocean Boulevard and the State Route 60 Interchange*	Yes	No
LA-12668	Brunzell, Dave	2014	*Cultural Resources Assessment of the Compton Project, Long Beach, Los Angeles County, California (BCR Consulting Project No. TRF1415)*	No	No
LA-13274	Williams, Audry and Wendy L. Tinsley Becker	2016	*Historical Resource Analysis Report / Historic Property Survey Report, Southern California Edison Company, Long Beach Steam Plant 66kV and 220kV Transmission Lines*	No	No

LITERATURE AND HISTORICAL MAP REVIEW

Michael Baker International staff reviewed literature and historical maps for historical information regarding the project area and the vicinity. Below is a list of resources reviewed, followed by a narrative description of the results for the project area.

- Township 3 South, Range 13 West, San Bernardino Base Line Meridian (BLM 1868)
- Downey, Calif. 1:62,500 scale topographic quadrangle (USGS 1896)
- Downey, Calif. 1:62,500 scale topographic quadrangle (USGS 1902)
- Compton, Calif. 1:24,000 scale topographic quadrangle (USGS 1924)
- Clearwater, Calif. 1:24,000 scale topographic quadrangle (USGS 1925)
- Long Beach, Calif. 1:24,000 scale topographic quadrangle (USGS 1949)
- Long Beach, Calif. 1:24,000 scale topographic quadrangle (USGS 1964)
- Single-frame aerial photograph: AXJ-1938 (UCSB 1938)
- Single-frame aerial photograph: AXJ-1952 (UCSB 1952)
- Single-frame aerial photograph: TG-7600 (UCSB 1976)
- Historicaerials.com (Historicaerials.com 2021)
- Online Archive of California (OAC 2021)
- Newspapers.com (2021)
- California Digital Newspaper Collection (CDNC 2021)
- "Prehistory of the Southern Bight: Models for a New Millennium" (Byrd and Raab 2007)

- "A Suggested Chronology for Southern California Coastal Archaeology" (Wallace 1955)
- "Paradise or Purgatory: Environments, Past and Present" (Vellanoweth and Grenda 2002)
- "Environmental Imperatives Reconsidered: Demographic Crises in Western North America During the Medieval Climatic Anomaly" (Jones et al. 2004)
- "Gabrielino" (Bean and Smith 1978)
- *California's Gabrielino Indians* (Johnston 1962)
- *The First Angelinos: The Gabrielino Indians of Los Angeles* (McCawley 1996)
- *Archaeological Sensitivity Study for the Interstate 710 Corridor Project* (McLean and Fulton 2017)

Results

Traditional models of the prehistory of California hypothesize that its first inhabitants were the big game-hunting Paleoindians who lived at the close of the last Ice Age (~11,000 years before present [BP] through the early Holocene 7,600 BP). As the environment warmed and dried, Ice Age megafauna died out, requiring adaption to coastal resources by groups to survive. The coastal tool manifestation of Paleoindian people is the San Dieguito Complex and within a lifeway known as the Paleocoastal Tradition. Along the coast, rising sea levels created bays and estuaries. Groups adopted marine subsistence including fish and shellfish. These resulting shell middens contain flaked cobble tools, metates, manos, discoidals, and flexed burials and allowed for a semi sedentary lifestyle (Byrd and Raab 2007).

During the middle Holocene (7,600–3,650 BP), conditions continued to warm and dry. Inhabitants practiced a mixed food procurement strategy with emphasis of shellfish and hard seeds. This shift in subsistence is what Wallace (1955) named the Millingstone Horizon. Characteristics of the middle Holocene sites include ground stone artifacts (manos and metates) used for processing plant material and shellfish, flexed burial beneath rock or milling stone cairns, flaked core or cobble tools, dart points, cogstones, discoidals, and crescentics.

Characteristics of the late Holocene (3,650–233 BP) include the increased dependence on mortar and pestle for food processing, a change to more complex and elaborate mortuary behaviors, and the introduction of the bow and arrow and ceramic technologies toward the end of the late Holocene. Marine resource exploitation proliferated and diversified. The climate fluctuated with periods of drought alternating with cooler and moister periods (Vellanoweth and Grenda 2002; Byrd and Raab 2007; Jones et al. 2004). This resulted in dynamic regional cultural patterns with considerable local variation. Settlement strategies shifted toward permanent settlement during this period.

The project area is located within the boundaries of Gabrielino Indians' territory. The name "Gabrielino" was given by the Spanish to the Indians that lived within the boundaries of the Mission San Gabriel Arcángel. Generally, their territory included all the Los Angeles Basin, parts of the Santa Ana and Santa Monica Mountains, along the coast from Aliso Creek in the south to Topanga Canyon in the north, and San Clemente, San Nicolas, and Santa Catalina Islands. The Gabrielino spoke a dialect of the Cupan group of the Takic language family. The Gabrielino lived in autonomous villages often connected by trail utilizing drainages such as the Los Angeles and San Gabriel Rivers. Each village had access to hunting, collecting, and fishing areas (Bean and Smith 1978). The closest Gabrielino placenames Tevaaxa'anga (Tibahangna or Tiba), which is located southeast of the project, is within the adjacent

Rancho Los Cerritos Ranch property (CA-LAN-696/H) (Johnston 1962; McCawley 1996; McLean and Fulton 2017).

The project area is depicted as part of Rancho San Pedro in 1868. In 1902, the project area appears vacant, but by 1924 Long Beach Boulevard is depicted running north to south through the project area. By 1939, an unimproved road (now Victoria Street) is depicted running east to west on the southern portion of the project area. By 1963, the project area is depicted as it is today with Barclay Street to north, Long Beach Boulevard to the east, and Victoria Street to the south (BLM 1868; Historicaerials.com 2021; UCSB 1938, 1952, 1976; USGS 1896, 1902, 1924, 1925, 1949, 1964).

Archaeological Field Survey

On May 3, 2021, Michael Baker International Archaeologist Marcel Young, BA, conducted an archaeological field survey of the project area. Pedestrian transects were spaced at 10 meters. No native soils were exposed and the project area had less than 5 percent surface visibility. Soils consisted of sandy clay loam fill with inclusions of imported gravel and wood chips in some areas. Photographs were taken and location information for each photograph was recorded. No cultural resources were discovered.

Buried Site Sensitivity Analysis

The soils of the area of potential effect (APE) have been heavily impacted by modern development upon the surface and in the near-surface sediments. Though the soil sits upon Holocene-age sediment, they all are mapped as Urban Land of varying complexes including the Metz-Pico, Hueneme-San Emigdio, and the Biscailuz-Hueneme series (NRCS 2021). Urban Land is heavily modified through the creation of fills, soil import and construction. It typically is of low sensitivity for significant prehistoric resources though it can contain significant historic period resources.

The buried site sensitivity of the project area has also likely been negatively impacted by close proximity to the Los Angeles River. The river flooded numerous times in the twentieth century, sometimes with great impact upon the inhabitants living along its banks. Events such as the late March to early February 1938 flood dramatically overran the natural and man-made channelized banks of the river to cover 108,000 acres, destroyed substantial concrete structures, caused millions of dollars in property damage, moved the river's natural channel up to a mile, and removed and redeposited massive amounts of soil and alluvium (KCET 2012). The 1938 flood was only considered a 50-year flood. Larger one-hundred year and one-thousand-year flood regimes could have had even greater impacts upon archaeology sites along the channel. Though the river may have provided many natural resources during prehistoric times and would have been a corridor for human movement, it could be an ever-changing area in prehistory with annually changing banks, and deposition and removal of soil and alluvium. Vellanoweth and Grenda (2002) cited an 1862 flood in which the Los Angeles River, San Gabriel River, and Santa Ana River combined to create an 18-mile-wide river flowing into the Pacific Ocean between Signal Hill and Huntington Beach.

The project area has low sensitivity for significant or potentially significant cultural deposits, such as prehistoric or historic period archaeology sites, as a result of historic and modern development and the negative impacts to the integrity of archaeological sites from the Los Angeles River flooding.

PALEONTOLOGICAL RESOURCES IDENTIFICATION METHODS

The records search results, literature review, and sensitivity analysis are presented below.

PALEONTOLOGICAL RECORDS SEARCHES AND LITERATURE REVIEW

The geology of the Torrance area has been mapped by Saucedo et al. (2016) at a scale of 1:100,000. Young alluvium, unit 2 (Qya_2) underlies the project. Young alluvium, unit 2, from the Pleistocene (2.5 million years ago to 11,700 years ago) and Holocene (11,700 years ago today) Epochs, is predominantly composed of poorly sorted and poorly consolidated clay and silt, and loose to moderately dense sand and silty sand. These deposits are generally found adjacent to stream and river channels and represent deposition by streams and rivers during flood events. In the project area, these deposits represent flooding events of the Los Angeles River (Saucedo et al. 2016).

The climate of Southern California during the Pleistocene was cooler and moister than the modern Mediterranean climate (Lamb 1989). In contrast to the harsh, cold conditions in high latitudes near the ice sheets, Southern California experienced a relatively milder climate during this time (Calder 1983). During this time, familiar Pleistocene or "Ice Age" fauna, such as mammoth, mastodons, horses, camelids, and ground sloths, inhabited the area (Stock 2001).

The NHMLA completed a paleontology collection records search for locality and specimen data on March 29, 2021; see **Attachment 2**. The records search showed no previously identified fossil localities within the project area. Seven fossil localities from the same sedimentary deposits as the project area occurred, either at the surface or at depth, all at a distance greater than 3 miles from the project.

Michael Baker International conducted supplemental searches with a 3 mile search radius of the project area using the following online sources:

- University of California Museum of Paleontology Locality Search (UCMP Locality Search 2021)
- San Diego Natural History Museum Collection Database (SDNHM Collection Database 2021)
- The Paleobiology Database (PBDB 2021)
- FAUNMAP (FAUNMAP 2021)

No additional fossil localities were identified.

PALEONTOLOGICAL RESOURCES SENSITIVITY ANALYSIS

The project area has a low sensitivity for fossil bearing deposits within intact deposits. It is underlain by deposits that are low sensitivity at the surface (Holocene age), and only transition into higher sensitivity deposits (Pleistocene age) with depth. In addition, no known fossil localities are in or near (within 3 miles) the project area.

FINDINGS AND RECOMMENDATIONS

The SCCIC records search, literature review, and archaeological field survey identified no historical resources, as defined by CEQA Section 15064.5(a), within the project area. Sensitivity for buried archaeological resources is low. Nonetheless, there is a potential for disturbing previously unknown archaeological resources during excavation into native soil materials. The proposed depth of ground-

disturbing activities has a low potential to disturb paleontological resources, due to the young age of the surficial deposits and the lack of documented localities nearby. There is a potential for encountering paleontological resources if Pleistocene age deposits are encountered at depth.

Impacts will be avoided through implementation of the City's standard conditions of approval for inadvertent discovery of archaeological or paleontological resources during earth moving activities, as follows:

> **Archaeological Resources Inadvertent Discovery.** In the event that any subsurface cultural resources are encountered during earth-moving activities, it is recommended that all work within 50 feet be halted until an archaeologist can evaluate the findings and make recommendations. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The archaeologist may evaluate the find in accordance with federal, state, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate.
>
> **Human Remains Inadvertent Discovery.** If human remains are found, those remains would require proper treatment, in accordance with State of California Health and Safety Code Sections 7050.5-7055. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are discovered during excavation of a site. As required by state law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains.
>
> **Paleontological Resources Inadvertent Discovery**. In the event that paleontological resources are encountered during the course of ground disturbing activities, all such activities shall halt immediately, at which time the applicant shall notify the City and consult with a qualified paleontologist to assess the significance of the find. The paleontological assessment shall be completed in accordance with the Society of Vertebrate Paleontology standards. If the find is identified as insignificant, no additional measures will be necessary. If the find is determined to be significant, appropriate avoidance measures recommended by the qualified paleontologist and approved by the City must be followed unless avoidance is determined infeasible. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation, curation) as recommended by the qualified paleontologist shall be instituted. A qualified professional paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year full time professional experience, or equivalent

specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology.

PREPARER QUALIFICATIONS

This report was prepared by Michael Baker International Architectural Historian Chris Wendt, Archaeologist Marcel Young, and Senior Archaeologist Nicholas Hearth. The paleontological record search and sensitivity was prepared by Senior Paleontologist Benjamin Scherzer. It was reviewed by Senior Cultural Resources Manager Margo Nayyar.

Mr. Wendt has over 12 years of experience teaching history and English. He conducts National Register, California Register, and various local register evaluations for projects subject to CEQA and Section 106 of the National Historic Preservation Act (NHPA). For these evaluations, he conducts a variety of tasks including field survey and photographic documentation of historic-era resources, property research, writing architectural descriptions, and developing historic statements. He is deeply entrenched in issues of local history teaching and has served as the visitor services and volunteer coordinator for the Los Angeles Museum of the Holocaust and Museum of Sonoma County. He also worked with the Petaluma Historical Museum and Library and Cotati Museum and Historical Society where he conducted archival research and aided in the identification of historical resources. He is a Secretary of the Interior Professionally Qualified historian and architectural historian.

Mr. Hearth has worked as an archaeologist in cultural resource management since 2002. He meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology. He received his BA in anthropology in 2003 from the University of Massachusetts, Amherst, and his MA in anthropology in 2006 from the University of California, Riverside. Mr. Hearth has worked in California, Utah, Nevada, Arizona, New Mexico, and multiple states both in the Midwest and New England. Mr. Hearth is well versed in applying Section 106 of the NHPA, CEQA, and National Environmental Policy Act (NEPA) on a variety of projects across many market sectors. He has completed projects in all phases of archaeology: Phase I pedestrian and shovel test surveys, extended Phase I survey, buried site testing, archaeological sensitivity assessments, Phase II testing and evaluations, Phase III data recovery, and Phase IV monitoring. His project responsibilities include overseeing archaeological, historical, and paleontological studies, directing all phases of archaeological field and laboratory work, and ensuring that the quality of analysis and reporting meets or exceeds appropriate local, state, and federal standards.

Marcel Young, Archaeologist/Archaeological Field Technician, has worked in various capacities in cultural resource management since 2013. He is experienced in surveying and conducting evaluations of historic archaeological sites in California. Mr. Young is versed in conducting fieldwork within frameworks of Section 106 of the NHPA, NEPA, and CEQA. He has participated in projects in several phases of archaeology: Phase I pedestrian and shovel test surveys, buried site testing, Phase III data recovery, and Phase IV monitoring. His project highlights include archaeological surveying to update and verify built environment structures and features, many of which have included prehistoric components. His other project responsibilities include implementing strategic work patterns, delineating best access routes, and conducting post impact assessments, and reporting to the National Park Service, National Forest Service, private clients, Southern California Edison, and CalRecycle.

Benjamin Scherzer, Senior Paleontologist, holds a Master of Science in Earth Sciences from Montana State University, Bozeman. He has more than 10 years of experience in paleontological research, field surveys, fossil salvage, laboratory identification, report preparation, and curatorial experience. Mr. Scherzer is a member of the Society for Vertebrate Paleontology, Geological Society of America, Society for Sedimentary Geology, and the Paleontological Society.

Ms. Nayyar is a senior architectural historian with 11 years of cultural management experience in California. Her experience includes built environment surveys, evaluation of historic-era resources using guidelines outlined in the National Register and the California Register, and preparation of cultural resources technical studies pursuant to CEQA and Section 106 of the NHPA, including identification studies, finding of effect documents, memorandum of agreements, programmatic agreements, and Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey mitigation documentation. She prepares cultural resources sections for CEQA environmental documents, including infill checklists, initial studies, and environmental impact reports, as well as NEPA environmental documents, including environmental impact statements and environmental assessments. She also specializes in municipal preservation planning, historic preservation ordinance updates, Native American consultation, and provision of Certified Local Government training to interested local governments. She develops Survey 123 and Esri Collector applications for large-scale historic resources surveys, and authors National Register nomination packets. Ms. Nayyar meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.

Sincerely,

Nicholas F. Hearth, MA, RPA
Senior Archaeologist

Benjamin Scherzer, MS
Senior Paleontologist

Marcel Young, BA
Archaeologist

Chris Wendt, MA
Architectural Historian

Attachments:

Attachment 1 – Figures

Attachment 2 – Paleontological Record Search Results

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Attachment 1
Figures

FIGURE 1

Regional Location Map

Michael Baker INTERNATIONAL

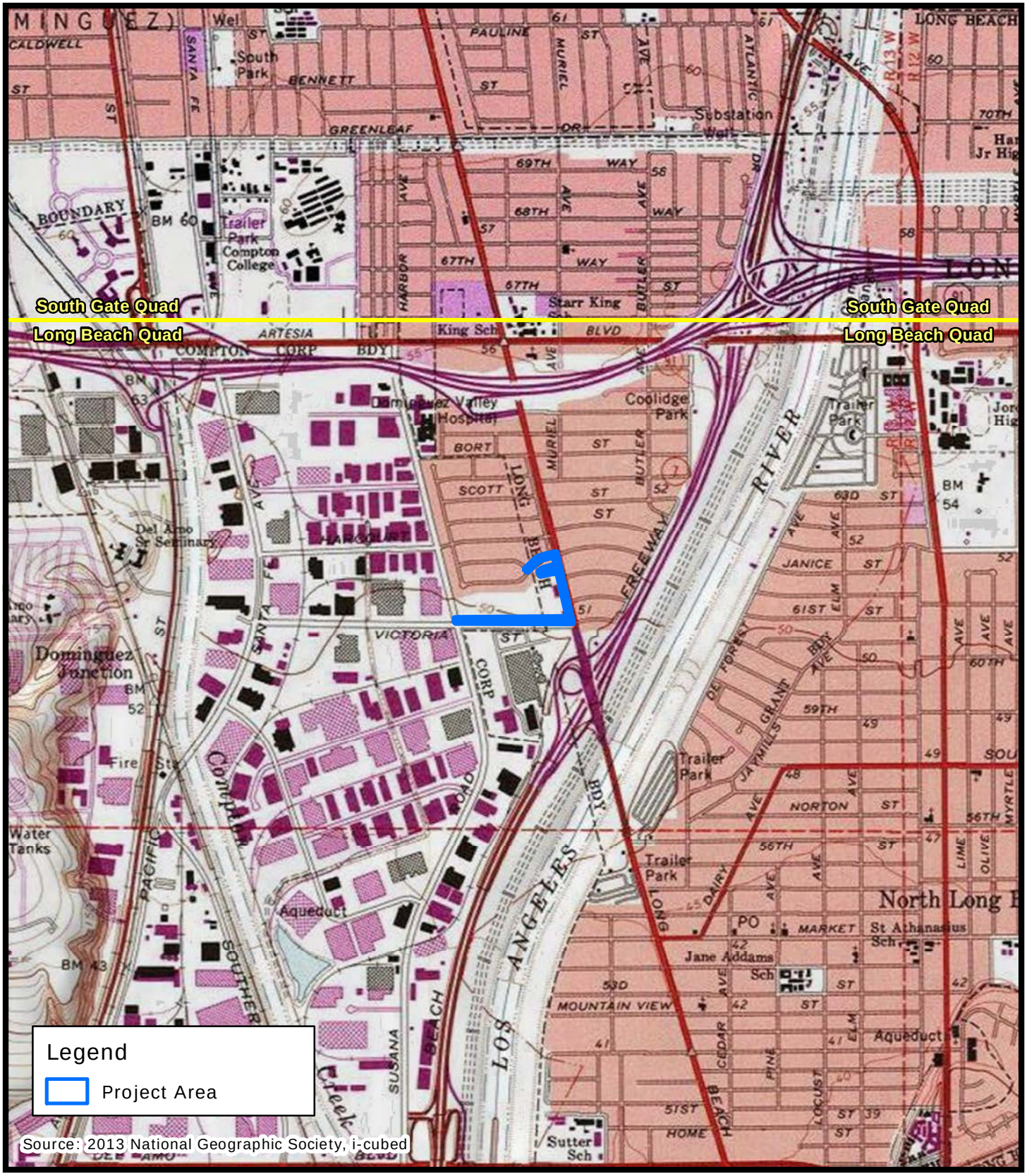

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FIGURE 2
Project Location Map

Michael Baker
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0 200 400 Feet

FIGURE 3
Project Area

Michael Baker
INTERNATIONAL

Attachment 2
Paleontological Record Search Results

2729 Prospect Park Drive, Suite 220, Rancho Cordova, CA 95670
P: (916) 361-8384 F: (916) 361-1574

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

March 29, 2021

Michael Baker International

Attn: Margo Nayyar

re: Paleontological resources for the Long Beach Well 301 Project

Dear Margo:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Long Beach Well 301 project area as outlined on the portion of the Long Beach USGS topographic quadrangle map that you sent to me via e-mail on March 25, 2021. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM IP 5059, 5603, 5655	Eastern Dominguez Hills, north of E Del Amo Blvd and W of Hwy 47	Unknown formation (Pleistocene)	Oyster shell bed (*Ostrea lurida*), and other invertebrates (*Aartsenia, Antalis, Caesia, Callianax, Calliostoma, Cancellaria, Caryocorbula, Crassinella, Crepidula, Dallocardia, Dentalium, Diplodonta, Euclia, Forreria, Glossaulax, Halistylus, Hima, Hirtoscala, Lirularia, Mangelia, Mitrella, Nucella, Paciocinebrina, Paraconcavus, Parvilucina, Psammacoma, Saxidomus, Tresus, Turbonilla, Turritella, Clinocardium, Crossata, Dendraster, Euspira, Kuritella, Macoma, Megabalanus, Panopea*)	Unknown
LACM VP 3382	NE of the intersection of	Unknown formation	Mammoth (*Mammuthus*)	5 ft bgs

	Artesia Blvd and Williams Ave., Compton	(Pleistocene; brown clay silt)		
LACM IP 7	near Compton (more precise locality not available)	Unknown formation (Pleistocene)	Oysters on a fragment of pecten	735 ft bgs (collected from well excavations)
LACM VP 3319	Intersection of Carson St. & Alameda St	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*)	30 feet bgs
LACM VP 4129	South of 223rd St. & west of Alameda Street	Unknown formation (Pleistocene; sand)	Elephant family (Proboscidea); camel family (Camelidae)	24 feet bgs
LACM VP 3660	Cover St & Pixie Ave; Lakewood	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*)	19 feet bgs
LACM IP 424	5 feet south of Interstate 405; 500 feet east of Atlantic Blvd	Unknown formation (Pleistocene)	Invertebrates (*Callianax, Chione, Dentalium, Leptopecten, Nucula*)	unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice