

May 19, 2020

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**Biological Assessment Services** 

Subject: **Biological Resources Constraints Analysis** for your project LA Co. Parcels 7203-002-001, -005, -008, -009, -010, -903 near Baker St. in north Long Beach. CA

#### Dear Mr. Locacciato:

#### Introduction

This letter reports on the biological conditions present on the property at LA Co. Parcels 7203-002-001, -005, -008, -009, -010, -903 near Baker St. in north Long Beach CA. A brief floral and faunal survey of the approximately 21-acre site was conducted on March 31, 2020. The purpose of the survey was to determine the general biologic character of the site and attempt to determine the potential for any significant biological impact resulting from change of use on the site. No attempt was made to thoroughly catalogue all of the species present on the property. The site was walked on foot utilizing existing trails, no attempt was made to walk controlled transects that would cover 100% of the site. The path chosen was intended to quickly evaluate the most common species present on the site and then to discover additional species that were located in portions of the site that appeared to support more unique flora. The entire site was easily accessible and easily viewed from many vantage points. The sky was clear and the weather mild, with temperature steady at around 73°f. The California Natural Diversity Database and the California Native Plant Society's lists of sensitive plants were accessed for the nine USGS quadrangle maps surrounding the site. The potential for the occurrence of any species found on these lists was evaluated.

#### **Site Description**

The 21-acre property is located the coastal plain of Los Angeles County and was probably historically part of the adjacent Los Angeles River's floodplain. Following channelization of the river the site was no longer subject to river flooding and meandering. Construction of the 405 freeway and surrounding residential development has rendered the site completely surrounded by various forms of suburban development and infrastructure. At some time in its history the site was later used for unspecified oil company operations before falling into disuse by the oil industry. At the present time there are a few remains of the oil operations in the form of old foundations, abandoned roads, and pipes. Most of the site appears to be regularly tilled, possible as a part of oil remediation activities. The site consists of several larger flat areas separated by berms and roadways. Elevations on the property range from 20 to 40'.

\*Elevations derived from Google Earth

\*\* Site boundary and development measurements derived from overlaying the County Assessors map on an un-ortho-corrected Google Earth photograph.

### Vegetation

Because of the long history of site disturbance and current practice of regular tilling, the property is completely dominated by nonnative, weedy, plant species, with a few native plants, representing five species, observed at the time of the survey. The native plants present were blue elderberry (*Sambuccus nigra*), mulefat (*Baccharis salicifolia*), white-flowered nightshade (*Solanum douglasii*), saltwort (*Salicornia* sp.), and telegraph weed (*Heterotheca grandiflora*).

The remainder of the site is occupied by nonnative plant species, the majority of which are weedy, but there are a few likely remnants of landscaping in the form of trees, including several eucalyptus species (*Eucalyptus* sp.) Peruvian pepper (*Schinus molle*), California fan palm (*Washingtonia filifera*), Canary Island palm (*Phoenix canaryensis*) and Brazilian pepper (*Schinus teribenthifolia*).

The remainder of the plants found on the site were nonnative weedy species including several grasses such as fountain grass (*Pennisetum setaceum*), hare barley (*Hordeum leporinum*), red brome and ripgut brome (*Bromus maditensis rubens*, *B. diandrus*). Several mustards were noted including London rocket (*Sisymbrium irio*) and wild radish (*Raphanus satiivus*). Among the remaining nonnative weedy species noted were redstem filaree and storksbill (*Erodium cicutarium*, *E. botrys*), dwarf nettle (*Urtica urens*), yellow sweetclover (*Meliotus indicus*), cheeseweed (*Malva parviflora*), Russian thistle (*Salsola kali*), flax-leaved fleabane (*Erigeron bonariensis*), brass-buttons (*Cotula australis*), five-hook bassia (*Bassia hyssopifolia*), prickly lettuce (*Lactuca serriola*), and tree tobacco (*Nicotiana glauca*).

Many of the species present are halophytes or salt-tolerant plants indicating that the soils onsite may have originated as dredge materials from the LA River channel when the area was within the tidally influenced area and salt-water intrusion was occurring. A few other are commonly associated with standing water or streamcourses. This may be because years of oil industry operation and has resulted in a relatively impermeable layer of soil that retains surface water allowing those water dependent species to survive.

#### Wildlife

The cursory nature of the site survey conducted in support of a constraints analysis, coupled with the relatively barren nature of the site, resulted in relatively few wildlife observations. Western fence lizard was the only reptile noted during the survey. Sign (tracks, scat, burrows, etc.) of several mammal species were noted on the site but the only mammal directly observed was the California ground squirrel (*Otospermophilus beecheyi*). Any of the common mammal species found in the suburban areas of southern California may utilize or traverse the site on occasion including numerous

rodent species, raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), and coyote (*Canus latrans*).

Seven bird species were noted on site at the time of the survey, Audubon's warbler, house finch, mourning dove, Anna's hummingbird, American kestrel, western meadowlark, and killdeer. The meadowlarks were present in large migratory flocks and are not likely to nest or reside on the site. The remaining species are local breeders and may nest onsite. There were many killdeer present and many of these exhibited typical nesting behavior, feigning injury and acting as decoys to lure a predator away from the nest. There are undoubtedly many other avian species that utilize the site as residents or transients, among the most common of which are likely California towhee, American crow, and bush tit. None of these species are considered particularly sensitive and none are specifically protected by state or federal law. However, all bird species that occur on the site are protected from nest disturbance by the federal Migratory Bird Treaty Act and the California Fish and Game Code. These regulations prohibit the disturbance of nesting birds in any manner that may cause reproductive failure. In general, this means that land clearing must be accomplished during winter months while the birds are not nesting. If clearing cannot be accomplished during the non-nesting season (Currently considered to be from September 30 through January 1 per CDFW) nesting bird surveys must be conducted and any nests discovered must be avoided during construction. In general, nesting bird surveys are required for any construction that takes place between January 1 and September 30. Because the buffer distances recommended by CDFW (500 feet for raptors and 300 feet for all other species) extend far beyond the property limits in many cases, nest detection and avoidance may be difficult or impossible on adjacent private properties. In these cases, appropriate nest avoidance strategies may be determined by a gualified biological monitor who is onsite if land clearance is scheduled during nesting season.

#### **Sensitive Biological Resources**

There are 124 biological resources listed as sensitive and reported in the 9-quad area surrounding the project site. Of these, 23 are listed as threatened or endangered and three others, the golden eagle, peregrine falcon, and California brown pelican, remain fully protected after being delisted. Additionally, the Crotch's bumblebee is a State Candidate for listing as Endangered.

Most of the species listed as protected and occurring in the region have very specific habitat types that do not, and never did, occur on the project site, such as marine aquatic, coastal salt marsh, or vernal pool. As such, these have been eliminated from further consideration. Several protected bird species, such as golden and bald eagles, peregrine falcons, or bank swallows, may fly over the site but would never reside there. These have also been eliminated from consideration.

After these considerations, four species remain that may once have occupied the project site prior to development. These are the California gnatcatcher (bird), El Segundo and Palos Verdes Blue butterflies, and the Pacific Pocket Mouse. Each of these species has very specific habitat requirements and in the case of the butterflies, specific larval food plants. Each of the habitat requirements for these species are

dependent on expansive areas of native habitat including soil profiles and plant cover. Because there are few native plants on the project site, and because there is no portion of the site that is undisturbed, the potential for the site to support any of the protected species found on the region is non-existent.

#### Conclusion

No species listed as Rare, Threatened, or Endangered by the state or federal governments were found on the property or are thought likely to occur there. It should be noted that this was a cursory survey and no directed surveys were conducted for listed species. An analysis was made of the likelihood of listed species occurring there based on known range and habitat preferences of these species. Any birds that nest on the site are protected by the Migratory Bird Treaty Act and the California Fish and Game Code.

Several native wildlife species were noted on the site, and the site may be adequate to support a few ground-dwelling mammals and reptiles and may be within the territories of several other more wide-ranging species. The site alone is not large enough and does not contain adequate habitat to completely support any bird species within its boundaries. All bird species noted on the site forage and/or migrate in/to offsite areas.

There are no definable streamcourses or riparian habitat elements present. Therefore, no permits or interactions with the agencies that regulate impacts to jurisdictional waters of the U.S. or State are required.

The project site at LA Co. Parcels 7203-002-001, -005, -008, -009, -010, -903 near Baker Street in north Long Beach CA does not support any Rare, Threatened or Endangered species or habitat that would support those species.

It is a pleasure working with you and I look forward to the opportunity to continue assisting with this project if necessary.

Sincerely, Biological/Assessment Services

anten

Ty M. Garrison Principal





# **Preliminary Drainage Study**

# **River Park Residential**

## 712 Baker Street Long Beach, California 90806



## Dated: April 22, 2020

**Prepared for** 

# Integral Communities

### Prepared by





#### ATTESTATION

This report has been prepared by, and under the direction of, the undersigned, a duly Registered Civil Engineer in the State of California. Except as noted, the undersigned attests to the technical information contained herein, and has judged to be acceptable the qualifications of any technical specialists providing engineering data for this report, upon which findings, conclusions, and recommendations are based.

emes awamura

James H. Kawamura, P.E. Registered Civil Engineer No. C30560 Exp. 3/31/22



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Existing Conditions HydroCalc

Proposed Conditions HydroCalc

50-year 24-Hour Isohyet Map

Existing Hydrology Map

Proposed Hydrology Map

### Section 1 Purpose and Scope

This Drainage Study presents an analysis of the hydrologic effects for the proposed 53 Carriage Townhomes, 99 Row Townhomes, and 74 condominium unit residential redevelopment project located at 712 Baker Street in the City of Long Beach, California. The study details the general project characteristics, the design, criteria and methodology applied to the analysis of the area in terms of drainage and associated conveyance facilities.

The plans and specifications in the Drainage Study are not for construction purposes; the contractor shall refer to final approved construction documents for plans and specifications.

### Section 2 Project Information

#### 2.1 Project Description

Integral Communities is proposing to redevelop approximately 20.66 acres of vacant land with 15.49 acres slated for residential development, 0.36 acres for a gravel roadway with landscaping within an utility easement, and 4.81 acres for open space within the Wrigley Heights community of the City of Long Beach, California. The proposed project will entail the construction of 53 Carriage Townhomes, 99 Row Townhomes, and 74 condominium units. The project site is currently vacant with all former structures demolished and removed.

#### 2.1.1 Project Location

The project site is located at 712 Baker Street, in the City of Long Beach, California, and is bounded by the Los Angeles River to the west, Wardlow Road to the south, Golden Avenue to the east, and the I-405 Freeway to the north. Figure 1 below illustrates the project vicinity.



Figure 1 – Project Location Map

#### 2.2 Hydrologic Setting

This section summarizes the project's size and location in the context of the larger watershed perspective, topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, and other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.

#### 2.2.1 Watershed

The project site is located within the Los Angeles River Watershed, specifically within Reach 1. This watershed is 834 square miles beginning in the Santa Monica, Santa Susana, and San Gabriel Mountains, and discharging into the Pacific Ocean via San Pedro Bay near Long Beach.

#### 2.2.2 Existing Topography, Drainage Patterns, and Facilities (Narrative)

The highest elevation on-site is approximately 52.96 feet near the northeast corner of the site and the lowest elevation is approximately 29.69 feet at the westerly boundary of the site within Baker Street. The higher elevations tend to be along the easterly boundary of the site and the lower elevations tend to be along the westerly boundary of the site. Within the center of the site are large basins that were previously used as part of a water treatment process for produced water and other fluids recovered during oil production. Currently, most of the site flows into these basins. A portion of Golden Avenue and Baker Street drains into the site.

#### 2.2.3 Adjacent Land Use

The project area is bounded by residential uses to the east and south; the Los Angeles River to the west, and the I-405 Freeway to the north.

#### 2.2.4 Soil Conditions

Albus-Keefe and Associates, Inc., prepared a Preliminary Findings of Geotechnical Investigation dated January 9, 2014 for the site located at 712 Baker Street. According to the report, the area is underlain by undocumented artificial fill, alluvial soils (terrace deposits), and Lakewood Formation bedrock. The artificial fill extends to depths of approximately 32 feet, although depths ranging from 2 to 10 feet are more typical of the overall site. The soils onsite have a range of expansive characteristics from non-expansive to moderately expansive.

According to the GeoTracker website, the project site is under the cleanup program with a status of open site assessment for several potential contaminants of concern. Information on the website stated that groundwater at the site ranges in depths from about 29 feet below ground surface (bgs) along the westerly boundary and 60 feet bgs along the easterly boundary.

#### 2.2.5 Downstream Conditions

This section summarizes the existing downstream conditions and any conditions of concern with respect to erosion and/or sedimentation due to the proposed project.

The project's stormwater will ultimately be collected by an onsite drainage system that will connect into a proposed City of Long Beach maintained storm drain system that discharges into the Los Angeles River. Since the stormwater will eventually discharge into a tidally influenced portion of the Los Angeles River, no erosion or negative downstream impacts are foreseen.

#### 2.2.6 Impervious Cover

The proposed project will not add any significant impervious area that will negatively impact the existing infrastructure located downstream of the project site.

#### 2.3 Proposed Runoff Management Facilities

The proposed facilities managing runoff from the area include:

- LID Bioretention Best Management Practices (BMPs); specifically, biofiltration planters (flow through planters).
- A proposed onsite storm drainage system will drain the project area and will connect into a proposed City of Long Beach storm drain system that discharges into the Los Angeles River.

### Section 3 Design Criteria and Methodology

This section summarizes the design criteria and methodology applied during the drainage analysis of the project site. The design criteria and methodology follows the County of Los Angeles Drainage Design Manual (January 2006).

#### 3.1 Design Criteria

#### 3.1.1 Drainage Design Criteria

Local storm drain facilities (street gutters, curb inlets) have been designed to conform to City of Long Beach standards.

#### 3.2 Methodology

#### 3.2.1 HydroCalc Software

The HydroCalc software, developed and provided by Los Angeles County Public Works, calculates various parameters using the modified rational method, which is an iterative process. The table below shows the input data that is entered into the program and the output data that is produced.

Input Data	Output Data
Area (ac)	Modeled (50-yr) Rainfall Depth (in)
Flow Path Length (ft)	Peak Intensity (in/hr)
Flow Path Slope (vft/hft)	Undeveloped Runoff Coefficient (Cu)
24-hr, 50-yr Rainfall Depth (in)	Developed Runoff Coefficent (Cd)
Percent Impervious (0.01-1.0)	Time of Concentration (min)
Soil Type (2-180)	Clear Peak Flow Rate (cfs)
Design Storm Frequency	Burned Peak Flow Rate (cfs)
Fire Factor	24-Hr Clear Runoff Volume (ac-ft)
	24-Hr Clear Runoff Volume (cu-ft)

Once the input data has been entered, HydroCalc then computes the output data using the following steps:

- 1. Assumes an initial time of concentration (T<sub>c</sub>)
- 2. Uses the assumed T<sub>c</sub> to calculate rainfall intensity (I<sub>t</sub>) with the following equation:  $I_t = I_{1440} x (1440/t)^{0.47}$

where	t = assumed initial time of concentration (min)
	$I_t$ = rainfall intensity for the duration (in/hr)
	$I_{1440} = 24$ -hour rainfall intensity (in/hr)

3. Calculates impervious area and stormwater runoff coefficient using the following equation:

 $IMP = [\sum_{i=1}^{n} (IMP_i \ge A_i)/A_T]$ where... IMP = site percent impervious  $IMP_i = impervious area (i)$   $A_i = area, i (ft^2)$   $A_T = total project site area (ft^2)$   $C_d = (0.9 \ge IMP) + (1.0 - IMP) \ge C_u$ where...  $C_d = developed site stormwater runoff coefficient$  IMP = site percent impervious  $C_u = undeveloped site stormwater runoff coefficient$  (obtained from soil curve data - See Appendix)

4. Calculates the time of concentration (T<sub>c</sub>) and compares it to the initial assumption using the following equation:

$$T_{c} = [0.31 \text{ x } L^{0.483}] / [(C_{d} \text{ x } I_{t})^{0.519} \text{ x } S^{0.135}]$$

where...  $T_c$  = time of concentration (min) L = longest flow path length  $C_d$  = developed site stormwater runoff coefficient  $I_t$  = rainfall intensity for the duration (in/hr) S = slope of longest flow path (ft/ft)

If the calculated  $T_c$  and the assumed  $T_c$  are more than 0.5 minutes apart then the process is repeated by rounding the calculated  $T_c$  to the nearest minute and using it as the assumed value. The process is complete once the calculated  $T_c$  and the assumed  $T_c$  are within 0.5 minutes of each other.

#### 3.2.2 Runoff Calculation Method: Peak Flow

Runoff calculations for this study were accomplished using the Rational Method. The Rational Method is a physically-based numerical method where runoff is assumed to be directly proportional to rainfall and area, less losses for infiltration and depression storage. Flows were computed based on the rational formula:

$$Q = C \times I \times A$$
where...
$$Q = Peak \text{ discharge (cfs);}$$

$$C = runoff \text{ coefficient, based on land use and soil type;}$$

$$I = Rainfall \text{ intensity (in/hr);}$$

$$A = \text{ watershed area (acre)}$$

The runoff coefficient represents the ratio of rainfall that runs off the watershed versus the portion that infiltrates to the soil or is held in depression storage. The runoff coefficient is dependent on the land use coverage and soil type. The County of Los Angeles Hydrology Map indicates the project site contains hydrologic Soil Types 13 and 15.

For a typical drainage study, rainfall intensity varies with the watershed time of concentration. The watershed time of concentration at any given point is defined as the time it would theoretically take runoff to travel from the most upstream point in the watershed to a concentration point, as calculated by the HydroCalc software, provided by the County.

Rational Method calculations were accomplished using the HydroCalc software. Peak discharges were computed for 25-year hypothetical storm return frequencies and the output results of the HydroCalc software can be found in the Appendix.

### Section 4 Hydrology and Drainage Analysis

This section summarizes the quantitative hydrologic analysis of proposed conditions of the project.

#### 4.1 Summary of Drainage Delineation

The existing site is shown as five subareas. Subareas E2 through E5 drain towards their respective basins. Subarea E1 drains into the adjacent Wrigley Heights dog park. The Existing Conditions Hydrology Map can be found in the appendix section of this report. The map shows the existing subareas and quantifies the peak discharge during a 25-Year 24-Hour storm event.

The proposed site is divided into five subareas, see Appendix for the Proposed Hydrology Map. Stormwater runoff in each of the proposed subareas (P1 through P3) will be collected by private onsite catch basins that drain to the subarea's respective biofiltration planter (flow through planter) for treatment. Filtered and high flows are directed from the biofiltration planters to a private storm drain network that ultimately connects to a new city storm drain line located within a portion of the vacated Baker Street near the intersection with the westerly on-site private road. Subarea P5 is mostly vegetated open space that is collected by area drains that connect to the new city storm drain within the vacated Baker Street. Two city catch basins will be constructed in the right of way of Baker Street near the site's entrance to collect runoff from a portion of Golden Avenue and Baker Street that currently drains into the project site. The catch basins will be collected by a proposed City storm drain main that runs westerly through the project site and discharges into the Los Angeles River. Subarea P4 is a small portion of the project site's entrance that will sheet flow untreated into the right of way of Wardlow Road.

#### 4.2 Summary of Results

The table below summarizes the results of the total peak runoff for the proposed conditions. It should be noted that all input data used on the HydroCalc Software can be found in the appendix section of this report.

EXISTING CONDITIONS			
SUBAREA	Flow Rate (CFS)		
E1	1.76		
E2	2.56		
E3	8.86		
E4	18.32		
E5	13.75		
TOTAL	45.25		

PROPOSED CONDITIONS		
Outlet Point	Q <sub>25</sub> (CFS)	
P1	6.90	
P2	4.33	
Р3	16.95	
P4	0.05	
P5	14.11	
TOTAL	42.34	

#### 4.3 Conclusion

The project area will not experience a drastic change in peak discharge and no negative impacts are expected to downstream receiving waters.

# APPENDIX

Input Paramotors	
Project Name	River Park Residential
Subarea ID	E1
Area (ac)	2.07
Flow Path Length (ft)	246.82
Flow Path Slope (vft/hft)	0.025
50-yr Rainfall Depth (in)	5.8
Percent Impervious	0.01
Soil Type	15
Design Storm Frequency	25-vr
Fire Factor	0
	False
	1 4150
Output Results	
Modeled (25-yr) Rainfall Depth (in)	5 0924
Peak Intensity (in/hr)	2 4361
Undeveloped Runoff Coofficient (Cu)	0.3428
Doveloped Rupoff Coofficient (Cd)	0.3420
Time of Concentration (min)	0.0404
Time of Concentration (min)	8.0
Clear Peak Flow Rate (CIS)	1.7567
Burned Peak Flow Rate (cfs)	1./56/
24-Hr Clear Runoff Volume (ac-ft)	0.1067
24-Hr Clear Runoff Volume (cu-ft)	4649.0198
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Innut Parameters	
Dreiget Norme	Diver Dark Desidential
Project Name	
	2.65
Aled (db) Flow Dath Longth (ft)	3.03
Flow Pain Lengin (II)	405.49
Flow Pain Slope (VII/III)	0.06
50-yr Rainfall Depth (in)	5.8
	0.01
Soli Type	15
Design Storm Frequency	25-yr
Fire Factor	0
LID	Faise
Output Results	
Modeled (25-yr) Rainfall Depth (in)	5.0924
Peak Intensity (in/hr)	2.1935
Undeveloped Runoff Coefficient (Cu)	0.3136
Developed Runoff Coefficient (Cd)	0.3195
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	2.558
Burned Peak Flow Rate (cfs)	2.558
24-Hr Clear Runoff Volume (ac-ft)	0.1869
24-Hr Clear Runoff Volume (cu-ft)	8140.2179
Hydrograph (River Park	Residential: F2)
3.0 <b>Tydrograph (Kiver Faik</b>	
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Input Parameters	
Project Name	River Park Residential
Subarea ID	F3
Area (ac)	3 24
Flow Path Length (ft)	336.13
Flow Dath Slope (uff/hft)	0.08
Flow Fail Slope (Vitilit)	5 0
Dereent Imperieue	0.01
Percent Impervious	0.01
	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False
Output Results	5 000 4
iviodeled (25-yr) Rainfall Depth (in)	5.0924
Peak Intensity (in/hr)	3.0383
Undeveloped Runoff Coefficient (Cu)	0.9
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.8596
Burned Peak Flow Rate (cfs)	8.8596
24-Hr Clear Runoff Volume (ac-ft)	0.2419
24-Hr Clear Runoff Volume (cu-ft)	10538,2693
A Hydrograph (River Park F	Residential: E3)
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Input Paramete	rs		
Project Name	15	River Park Resid	lantial
Subarea ID			
$\Delta r_{P2} (ac)$		67	
Flow Path Lengt	h (ft)	0.7 458 74	
Flow Path Slope	(vft/bft)	430.74	
50-vr Painfall Dr	onth (in)	5.8	
Dorcont Imporvi		0.01	
Soil Type	Jus	12	
Dosign Storm Fi		15 25-yr	
Eiro Eactor	equency	0	
		U Falso	
		1 4150	
Output Results			
Modeled (25-yr)	Rainfall Depth (in)	5.0924	
Peak Intensity (i	n/hr)	3.0383	
Undeveloped Ri	unoff Coefficient (Cu)	0.9	
Developed Rund	off Coefficient (Cd)	0.9	
Time of Concen	tration (min)	5.0	
Clear Peak Flow	Rate (cfs)	18.3207	
	w Rate (cfs)	18.3207	
Burned Peak Flo			
Burned Peak Flo 24-Hr Clear Run	off Volume (ac-ft)	0.5003	
Burned Peak Flo 24-Hr Clear Run 24-Hr Clear Run	off Volume (ac-ft) off Volume (cu-ft)	0.5003 21792.1001	
24-Hr Clear Run 24-Hr Clear Run 24-Hr Clear Run	off Volume (ac-ft) off Volume (cu-ft) Hydrograph (River F	0.5003 21792.1001 Park Residential: E4)	
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Input Paramotors	
Drais at Name	Diver Deals Desidential
	River Park Residential
	ED F 00
Area (ac)	5.03
Flow Path Length (ft)	397.81
Flow Path Slope (vft/nft)	0.05
50-yr Rainfall Depth (in)	5.8
Percent Impervious	0.01
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False
Output Results	
Madalad (25 yr) Dainfall Danth (in)	E 0024
Noueleu (20-yr) Kalillall Depth (III) Dook Intoncity (in/br)	2.0324
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Input Parameters		
Project Name	River Park Residential	
Subarea ID	P1	
Area (ac)	39	
Flow Path Length (ft)	552 11	
Flow Path Slope (vft/bft)	0.005	
Flow Fall Slope (VIVIII)	0.005 E 9	
50-yr Rainiai Depin (in)	0.04	
Percent Impervious	0.84	
Soli i ype	15	
Design Storm Frequency	25-yr	
Fire Factor	0	
LID	False	
Output Results	5 000 /	
Modeled (25-yr) Rainfall Depth (in)	5.0924	
Peak Intensity (in/hr)	2.1935	
Undeveloped Runoff Coefficient (Cu)	0.3136	
Developed Runoff Coefficient (Cd)	0.8062	
Time of Concentration (min)	10.0	
Clear Peak Flow Rate (cfs)	6.8967	
Burned Peak Flow Rate (cfs)	6.8967	
24-Hr Clear Runoff Volume (ac-ft)	1.2707	
24-Hr Clear Runoff Volume (cu-ft)	55353,7274	
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Input Parameters	
Project Name River Park Residential	
Subarea ID P2	
Area (ac) 2.87	
Flow Path Length (ft) 946.91	
Flow Path Slope (vft/hft) 0.005	
50-vr Rainfall Depth (in) 5.8	
Percent Impervious 0.85	
Soil Type 15	
Design Storm Frequency 25-vr	
Fire Factor	
Output Results	
Modeled (25 yr) Painfall Donth (in) 5 0024	
Noucleu ( $23$ -yr) Kallian Depth (III) $3.0924$	
Peak Intensity (In/nr)     1.8/2/       Understand     0.0704	
Undeveloped Runoff Coefficient (Cu) 0.2/24	
Developed Runoff Coefficient (Cd) 0.8059	
Time of Concentration (min) 14.0	
Clear Peak Flow Rate (cfs) 4.3312	
Burned Peak Flow Rate (cfs) 4.3312	
24-Hr Clear Runoff Volume (ac-ft) 0.9443	
24-Hr Clear Runoff Volume (cu-ft) 41135.6101	
Hydrograph (Piver Park Posidential: P2)	
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Input Parameters				
Project Name	River Park Residential			
Subarea ID	P3			
Area (ac)	8.7			
Flow Path Length (ft)	681.71			
Flow Path Slope (vft/hft)	0.008			
50-vr Rainfall Depth (in)	5.8			
Percent Impervious	0.76			
Soil Type	13			
Design Storm Frequency	25-vr			
Fire Factor	0			
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Madalad (25 yr) Dainfall Danth (in)	E 0024			
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Peak Intensity (In/Nr)	2.1935			
Undeveloped Runott Coetticient (Cu)	0.8507			
Developed Runott Coefficient (Cd)	0.8882			
Time of Concentration (min)	10.0			
Clear Peak Flow Rate (cfs)	16.9493			
Burned Peak Flow Rate (cfs)	16.9493			
24-Hr Clear Runoff Volume (ac-ft)	2.6542			
24-Hr Clear Runoff Volume (cu-ft)	115618.6454			
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Input Parameters				
Proiect Name	River Park Residential			
Subarea ID	P4			
Area (ac)	0.02			
Flow Path Length (ft)	6.87			
Flow Path Slope (vft/hft)	0.005			
50-vr Rainfall Denth (in)	5.8			
Dercont Imponyious	1.0			
Soil Type	15			
Docian Storm Fraguenov	15 25 yr			
Fire Factor	20-yi			
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Output Results				
Modeled (25-yr) Rainfall Depth (in)	5.0924			
Peak Intensity (in/hr)	3.0383			
Undeveloped Runoff Coefficient (Cu)	0.4143			
Developed Runoff Coefficient (Cd)	0.9			
Time of Concentration (min)	5.0			
Clear Peak Flow Rate (cfs)	0.0547			
Burned Peak Flow Rate (cfs)	0.0547			
24-Hr Clear Runoff Volume (ac-ft)	0.0076			
24-Hr Clear Runoff Volume (cu-ft)	329 9876			
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Input Parameters				
Project Name	River Park Residential			
Subarea ID	P5			
Area (ac)	5.16			
Flow Path Length (ft)	397.81			
Flow Path Slope (vft/hft)	0.05			
50-vr Painfall Dopth (in)	0.03 E 0			
Dereent Impervieue	0.06			
	0.00			
Soli Type	13			
Design Storm Frequency	25-yr			
Fire Factor	0			
LID	False			
Output Results	5 000 (			
Modeled (25-yr) Rainfall Depth (in)	5.0924			
Peak Intensity (in/hr)	3.0383			
Undeveloped Runoff Coefficient (Cu)	0.9			
Developed Runoff Coefficient (Cd)	0.9			
Time of Concentration (min)	5.0			
Clear Peak Flow Rate (cfs)	14,1097			
Burned Peak Flow Rate (cfs)	14 1097			
24-Hr Clear Runoff Volume (ac-ft)	0.4645			
24-Hr Clear Runoff Volume (cu-ft)	20235 3735			
	20233.3733			
Hydrograph (River Park Residential: P5)				
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#### 5/28/2019

LA County Hydrology Map









APPENDIX C Cultural Resources Inventory Records Search

![](_page_33_Picture_0.jpeg)

T: 626.408.8006 info@paleowest.com LOS ANGELES COUNTY 517 S. Ivy Avenue Monrovia, CA 91016

March 11, 2020

Tony Locacciato, AICP Partner Meridian Consultants, LLC 920 Hampshire Road, Suite A-5 Westlake Village, CA 91361 Transmitted via email to <u>TLocacciato@meridianconsultantsllc.com</u>

# **RE:** Cultural Resource Inventory for the Long Beach River Park, City of Long Beach, Los Angeles County, California

Dear Mr. Locacciato:

At the request of Meridian Consultants, LLC, PaleoWest Archaeology (PaleoWest) conducted a cultural resource inventory for the Long Beach River Park Project in the city of Long Beach, Los Angeles County, California. The cultural resource inventory was limited to a cultural resource literature review and records search of the California Historic Resource Information System (CHRIS) and a review of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC). This memorandum summarizes the results of the cultural resource inventory efforts for the Project.

The literature review and records search was conducted by Staff Archaeologist Alegria Garcia on February 25, 2020 at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included the Project area as well as a quarter-mile (0.25 mile) radius. The purpose of the records search was to identify any known cultural resources within the immediate vicinity of the Project area. The records search also included a review of the Office of Historic Preservation Archaeological Determination of Eligibility and the Office of Historic Preservation Directory of Historic Properties Data File.

The records search indicated that three previous studies have been conducted within a quarter mile of the Project area (Table 1). One of these studies (LA-03102) was completed in 1994 that encompassed the entire Project area; a second study (LA-11993) was conducted in 2012 and included the northern portion of the Project area. No prehistoric or historical archaeological resources were identified within the record search area. A review of historic topographic maps and aerial photographs indicates that West Baker Street had been constructed by 1930 with an oil facility built on the southern portion of the property in the 1950s or early 1960s. Although the oil facility appears to have been demolished within the last 10 years, the portion of Baker Street west of Golden Avenue is still present. Based on these findings, the historic remnants of the oil facility, as well as the in-use historic West Baker Street roadway, may require documentation and/or evaluation.

Previous Cultural Resource Studies within a Quarter Mile of the Project Area				
Report No.	Year	Author(s)	Title	
LA-00358	1976	Stickel, Gary E.	An Archaeological and Paleontological Resource Survey of the Los Angeles River, Rio Hondo River and the Whittier Narrows Flood Control Basin, Los Angeles, California	
LA-03102	1994	McCawley, William, John Romani, and Dana Slawson	The Los Angeles County Drainage Area Subsequent Environmental Impact Report	
LA-11993	2012	O'Neill, Laura.	Finding of No Adverse Effect for the Proposed Interstate 710 Corridor Project Between Ocean Boulevard and the State Route 60 Interchange	

Table 1

PaleoWest contacted the NAHC for a review of the SLF on February 26, 2020. The objective of the SLF search was to determine if the NAHC had any knowledge of Native American cultural resources (e.g., traditional use or gathering area, place of religious or sacred activity, etc.) within the immediate vicinity of the Project area. The NAHC responded on March 11, 2020, stating that the SLF was completed with negative results; however, the NAHC recommended that six Native American individuals representing seven tribal groups be contacted to elicit information regarding cultural resource issues related to the proposed Project (see Exhibit A for a copy of the response letter received from the NAHC).

It has been a pleasure working with you on this Project. If you have any questions, please do not hesitate to contact me at <u>rthomas@paleowest.com</u>.

Sincerely,

Roverta Monn

Roberta Thomas, MA, RPA Senior Archaeologist PaleoWest Archaeology

EXHIBIT A

![](_page_35_Picture_1.jpeg)


CHAIRPERSON Laura Miranda Luiseño

VICE CHAIRPERSON Reginald Pagaling Chumash

Secretary Merri Lopez-Keifer Luiseño

Parliamentarian Russell Attebery Karuk

Commissioner Marshall McKay Wintun

COMMISSIONER William Mungary Paiute/White Mountain Apache

Commissioner Joseph Myers Pomo

COMMISSIONER Julie Tumamait-Stenslie Chumash

Commissioner [Vacant]

Executive Secretary Christina Snider Pomo

#### NAHC HEADQUARTERS

1550 Harbor Boulevard Suite 100 West Sacramento, California 95691 (916) 373-3710 nahc@nahc.ca.gov NAHC.ca.gov STATE OF CALIFORNIA

## NATIVE AMERICAN HERITAGE COMMISSION

March 11, 2020

Roberta Thomas PaleoWest Archaeology

Via Email to: rthomas@paleowest.com

#### Re: Long Beach River Park Project, Los Angeles County

Dear Ms. Thomas:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were <u>negative</u>. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

terren Zuina

Steven Quinn Cultural Resources Analyst

Attachment

#### Native American Heritage Commission Native American Contact List Los Angeles County 3/11/2020

#### Gabrieleno Band of Mission Indians - Kizh Nation

Andrew Salas, Chairperson P.O. Box 393 Gabrieleno Covina, CA, 91723 Phone: (626) 926 - 4131 admin@gabrielenoindians.org

#### Gabrieleno/Tongva San Gabriel

Band of Mission IndiansAnthony Morales, ChairpersonP.O. Box 693GabrielenoSan Gabriel, CA, 91778Phone: (626) 483 - 3564Fax: (626) 286-1262GTTribalcouncil@aol.com

#### Gabrielino /Tongva Nation

Sandonne Goad, Chairperson 106 1/2 Judge John Aiso St., Gabrielino #231 Los Angeles, CA, 90012 Phone: (951) 807 - 0479 sgoad@gabrielino-tongva.com

#### Gabrielino Tongva Indians of

California Tribal CouncilRobert Dorame, ChairpersonP.O. Box 490GabrielinoBellflower, CA, 90707Phone: (562) 761 - 6417Fax: (562) 761-6417gtongva@gmail.com

#### Gabrielino-Tongva Tribe

Charles Alvarez, 23454 Vanowen Street Gabrielino West Hills, CA, 91307 Phone: (310) 403 - 6048 roadkingcharles@aol.com

Juaneno Band of Mission Indians Acjachemen Nation -Belardes

Joyce Perry, Tribal Manager 4955 Paseo Segovia J Irvine, CA, 92603 Phone: (949) 293 - 8522 kaamalam@gmail.com

Juaneno

#### Juaneno Band of Mission Indians Acjachemen Nation -Belardes

Matias Belardes, Chairperson 32161 Avenida Los Amigos Juaneno San Juan Capisttrano, CA, 92675 Phone: (949) 293 - 8522 kaamalam@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Long Beach River Park Project, Los Angeles County.





June 17, 2020

Mr. Tony Locacciato, AICP, Partner Meridian Consultants 920 Hampshire Road, Suite A-5 Westlake Village, California 91361

#### Subject: GEOHAZARDS REPORT Proposed River Park Residential Development 712 Baker Street Long Beach, Los Angeles County, California 90806 Converse Project No. 19-41-290-01

Dear Mr. Locacciato:

Converse Consultants (Converse) appreciates the opportunity to provide this Geohazards Report for the proposed River Park Residential Development located at 712 Baker Street in Long Beach, California. The proposed 20.12 acre single-family residential development site is to be located on the Oil Operators Inc. (OOI) properties. Environmental site characterizations and remediation activities on the site properties are currently being performed by others. It is proposed to coordinate the future geotechnical grading work (over-excavation and re-compaction of building pads, streets and improvements) during implementation of the remaining environmental remediation measures for the residential site development. This report was prepared in accordance with our proposal dated November 7, 2019.

Based on our geologic hazards assessment of the subject property, we conclude that the site is suitable for the proposed residential development from a geotechnical standpoint provided a site-specific geotechnical soils investigation is performed on the property and the recommendations presented in that report are incorporated during the design, permitting, grading, site remediation, and construction of the project site.

We appreciate the opportunity to be of service to Meridian Consultants. Should you have any questions, please do not hesitate to contact us at 626-930-1200.

Sincerely,

CONVERSE CONSULTANTS

Mark B. Schluter, PG, CEG, CHG Senior Engineering Geologist



## TABLE OF CONTENTS

1.0	Project Site Description	1
2.0	Subsurface Conditions	2
3.0	Faulting and Geohazards	3
4.0	Geotechnical Investigations and Monitoring	8
5.0	Closure	9
6.0	References	9

## FIGURES

- Figure 1, Site Location Map
- Figure 2, Project Site Aerial Photo
- Figure 3, Long Beach Geologic Map
- Figure 4, Southern California Regional Fault Map
- Figure 5, Epicenters Map of Southern California Earthquakes (1800-1999)
- Figure 6, Seismic Hazard Zones Map



## **1.0 PROJECT SITE DESCRIPTION**

The 20.12-acre property is located south of the San Diego Freeway (Interstate 405), north of Wardlow Road, east of the Los Angeles River Channel and Long Beach Freeway (Interstate 710) and west of Golden Avenue in the City of Long Beach, California as shown on Figure No. 1, *Site Location Map*. A new single-family residential development is proposed for the property that will include townhome style residences with associated access driveways, parking and recreational improvements. Residential development is planned on the 13.3 acre southern parcel at 712 West Baker Street (APN 7203-002-005) and the 4.8 acre northern parcel at 701 West Baker Street (APN 7203-002-001) is planned to remain as an open-space or be developed as a park. A four (4) foot deep retention swale for stormwater runoff is planned along the western length of the property. The proposed site grading is planned to be a balanced cut/fill operation with the exception of possible export of environmentally impacted earth materials that do not met the site remediation criteria and requirements.

Extensive environmental studies for soil gas, soil and ground water, site monitoring and site remediation activities have been performed on the Oil Operators, Inc. (OOI) property parcels from 1984 to present. Wastewater treatment activities have occurred on the property parcels since the 1920s. OOI operated an oil field wastewater treatment facility that treated oil field brines and wastewater that were direct by-products of crude oil drilling and oil production. Environmental monitoring and remediation activities on the property are still on going to further clean-up the site. Environmental remediation activities on the property parcels are currently being monitored and reviewed by the lead environmental enforcement agencies including the City of Long Beach and the State of California Los Angeles Regional Water Quality Control Board.

In 1959, a wastewater treatment plant was constructed on the property that consisted of five (5) circular concrete-walled skimming basins and associated pumps, aboveground storage tanks, pipelines and related small buildings and support facilities. The treatment plant was located north of two (2) rectangular-shaped, clay-lined, settling basins in the southern portion of the project site. The settling basins were referred to as Basin 1 and Basin 2. Basin 1 received oily residual solids that settled out of the produced water. Basin 2 received relatively clean processed water that was discharged off-site. The approximate location of the wastewater treatment plant on the central portion of the property is shown on Figure No. 1, *Site Location Map*.

In 1998 the water treatment facility ceased operations. In October 2000, the City of Long Beach Fire Department directed that liquid hydrocarbon products, wastewater and sludge be removed from the site and that hydrocarbon impacted soils and groundwater be remediated. The existing buildings, facilities, above ground storage tanks, structures, and pipelines were cleaned, demolished and disposed off-site in 2000 and 2001.

The existing site conditions are shown on Figure No. 2, *Project Site Aerial Photo*. Existing ground surface elevations range from approximately 25 feet to 40 feet above



mean sea level (msl). The proposed building pads for the residential development are planned to range between approximate elevations 34 feet to 41 feet above mean sea level (msl).

## 2.0 SUBSURFACE CONDITIONS

The project site is situated on a broad alluvial basin on the southern edge of the Los Angeles coastal plain. This coastal basin has been gradually filled with marine and non-marine sediments. The Los Angeles and San Gabriel rivers have deposited stream and flood sediments across the coastal plain during Holocene time (0-11,000 years) to form a relatively flat and broad river flood plain. Most of the river and stream channels flows are now controlled by an extensive network of flood control channels and storm drains which ultimately drain to the Pacific Ocean.

A general description of the subsurface conditions and various earth materials encountered during previous subsurface environmental field exploration performed by others at the project site are presented in this section.

## 2.1 Subsurface Profile

The project site is located on the Los Angeles coastal plain approximately 3.1 miles north of the Long Beach Harbor and Pacific Ocean. The project site is located in the southeast portion of the Los Angeles Basin near the western end of Signal Hill. Previous grading and earthwork has been performed along the edges of the project site to create the fill embankments for the Los Angeles River Flood Control Channel to the west of the site and for support of the San Diego Freeway (Interstate 405) raised freeway level and embankments to the north. The property is reported to be underlain by up to 26 feet of undocumented fill place during previous site grading and earthwork activities. The depth of undocumented fill varies across the project site and within the basins. The fill soils consist of fine-grained silty sand, sandy silts, silts, clayey silts and silty clays.

The fill soils are underlain by non-marine and marine alluvial sediments that have gradually filled the coastal basin over time to form a broad coastal plain as shown on Figure No. 3, *Long Beach Geologic Map.* Based on the exploratory soil borings and Cone Penetration Tests (CPTs), the native alluvial site soils consist of fine-grained, interbedded layers of sands, silty sands, sandy silts, silts, clayey silts and clays to the maximum explored depth of approximately 60 feet below ground surface (bgs).

## 2.2 Groundwater

Groundwater was encountered in the exploratory borings and monitoring wells installed across the project site at depths ranging from 30 feet to 51 feet below ground surface. Historically highest groundwater contours compiled by the CDMG (1998) for the Long Beach 7.5 minute indicate the historic high groundwater level is approximately 20 feet



below ground surface. Groundwater is not expected to be encountered during grading and construction of the project.

In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local conditions or during rainy seasons. Groundwater conditions below the site may vary depending on numerous factors including seasonal rainfall, local irrigation, stormwater recharge, pumping activities for sea water intrusion barriers, groundwater recharge and pumping, among other factors. The regional groundwater table is not expected to be encountered during the planned construction.

#### 2.3 Subsurface Variations

Based on the results of the subsurface exploration by others and our experience, some variations in the continuity and nature of subsurface conditions within the project site should be anticipated. Because of the uncertainties involved in the nature and depositional characteristics of the earth material at the site, care should be exercised in interpolating or extrapolating subsurface conditions between or beyond the boring and CPT locations.

## 3.0 FAULTING AND GEOHAZARDS

#### 3.1 Active Faults

The project site lies along the southern portion of the Los Angeles coastal plain in the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges province is characterized by northwest trending valleys and mountain ranges which have formed in response to regional tectonic forces along the boundary between the Pacific and North American tectonic plates. The Peninsular Ranges geomorphic province extends southward from the Transverse Ranges province at the north end of the Los Angeles basin to the southern tip of the Baja California Peninsula. The geologic structure is dominated by northwest trending, right-lateral faults, most notably the Newport-Inglewood fault, Whitter-Elsinore fault, San Jacinto fault and San Andreas fault. The approximate location of these local and regional faults with respect to the project site are shown on Figure No. 4, *Southern California Regional Fault Map*.

The project site is situated in a seismically active region. As is the case for most areas of Southern California, ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the project site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site. Review of recent seismological and geophysical publications indicates that the seismic hazard for the project site is high. Review of the California Geologic Survey Map Sheet 49, Epicenters and Areas Damaged by M>5 California Earthquakes, 1800-1999, (CGS, Toppozada et al., 2000), shows the mapped epicenters of earthquakes with magnitude 5.0 or greater in Southern



California during the past 200 years and is presented on Figure No. 5, *Epicenters Map of Southern California Earthquakes (1800-1999).* 

<u>Newport Inglewood Fault.</u> The Newport-Inglewood fault zone boundary is located approximately 600 feet east of the project site. The Newport-Inglewood fault system is approximately 66 km long on shore and extends northwest from Huntington Beach through Long Beach to Culver City and the Cheviot Hills. The Newport-Inglewood fault continues offshore to the southeast of Huntington Beach and makes landfall in La Jolla as the Rose Canyon fault.

The Newport-Inglewood fault is characterized by a series of uplifts and anticlines including Newport Mesa, Huntington Beach Mesa, Bolsa Chica Mesa, Alamitos Heights and Landing Hill, Signal Hill and Reservoir Hill, Dominguez Hills and Baldwin Hills.

Several earthquakes have occurred along the fault zone including the March 10, 1933 "Long Beach" earthquake of M6.4, with its epicenter off Newport Beach, and smaller earthquakes at Inglewood on June 20, 1920 (M4.9) and May 17, 2009 (4.7), Torrance on October 21, 1941 (M4.8), Gardena on November 14, 1941 (M4.8), and Newport Beach on April 7, 1989 (M 4.7). These earthquakes show evidence of right-lateral strike slip focal mechanisms.

The Newport-Inglewood fault is considered to be active and considered capable of producing a maximum moment magnitude (Mw) 7.1 earthquake. The slip rate is considered to be about 1.0 mm/year but may range up to 2 to 3 mm/year along isolated segments.

The active Newport-Inglewood fault zone dominates the geologic structure in the Long Beach area. The mapped fault traces of the active Newport-Inglewood fault zone (Cherry Hill fault segment) are located approximately 0.18 mile to 0.37 mile east of the project site. The northwest-trending Newport-Inglewood fault zone exhibits surface geomorphic features including low eroded scarps along side-stepping fault segments and a series of northwest trending elongated low hills and mesas that extend from Newport Bay in Orange County northwestward to Beverly Hills. Signal Hill is one of these fault uplifted hillsides along the Newport-Inglewood fault zone and is located approximately 1/2 mile southeast of the project site. The major fault segments of the Newport-Inglewood fault zone in the Long Beach area include the Cherry Hill fault, Pickler fault, Northeast Flank fault, Reservoir Hill fault and Seal Beach fault. The orientation of these fault segments is generally attributed to right-lateral, strike-slip faulting at depth.

<u>Whittier Fault.</u> The mapped trace of the Whittier Fault is located approximately 16 miles northeast of the project site in the Puente Hills. The revised official map for the La Habra Quadrangle effective November 1, 1991, shows the Whitter Fault traces located northeast of the site in the Puente Hills to be zoned as an active fault trace with potential for surface fault rupture.



The Whitter Fault is considered part of the Elsinore Fault system, which is one of the major right-lateral strike slip faults on the Peninsular Ranges geomorphic province. The Elsinore faults splits northwestward into the Chino fault and westward into the Whittier fault near the City of Corona.

The Whitter Fault dips north with reverse separation along most of its length. However, the late Quaternary evidence is for nearly pure strike slip movement (Gath, 1977). Part of the uplift of the Puente Hills may accompany reverse faulting related to the restraining bend and more westerly strike of the Whitter fault. The Whitter fault turns more northwesterly at the San Gabriel River and Whittier Narrows to become the East Montebello fault. The Whitter Fault is considered capable of producing a magnitude Mw 6.8 earthquake.

<u>Puente Hills Blind Thrust Fault.</u> Potential for damage from earthquakes along a zone of north-dipping blind thrust faults in the northern Los Angles basin was illustrated by the M 5.9 Whittier earthquake event on October 1, 1987 and the M 6.7 Northridge earthquake event on January 17, 1994. Blind thrust faults are low angle reverse faults which generally have no surface trace and express tectonic deformation as folding and uplift of ridges. Examples of blind thrust fault landforms include the Elysian, Repetto and Montebello Hills and the Puente Hills.

Details concerning the Puente Hills Blind Thrust are limited by the fact that the thrust fault is buried below ground surface - thus, the term "blind" thrust fault. Conventional fault finding trenches, boreholes and paleoseismic dating methods used at the surface have limited use for study of these deeply buried thrust fault structures. The geometry and location of the blind thrust fault structures and thrust ramps are based on interpretation of oil well data, seismic and strong motion data solutions, high resolution geophysical data, paleoseismic studies and structural model analyses (Yeats, R.S., 2004, Dolan, J.F. et al., 2003). Recent revisions to fault parameter models have replaced the lower Elysian Park Thrust Fault with the Puente Hills Blind Thrust and Upper Elysian Park Blind Thrust (Cao, T. et al., 2003). Seismic hazard fault models for the Los Angeles basin and vicinity will continue to be refined as new information and technology develops and becomes available through time.

The Puente Hills Blind Thrust has been interpreted to be approximately 42 km long and 19 km wide with a depth range of 3 km to 13 km below ground surface (Dolan, J.F., et al., 2003). The thrust fault dips northward from the Montebello Hills and Puente Hills beneath the San Gabriel basin.

Paleoseismic studies of the Puente Hills Blind Thrust have indicated the occurrence of at least four large Mw 7.2 to 7.5 earthquakes on this fault during the past 11,000 years.

As is the case for most areas of Southern California, strong ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the



project site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site.

### 3.2 Geohazards

Geologic hazards are defined as geologically related conditions that may present a potential danger to life and property. Geologic hazards in Southern California include fault surface rupture, landslides, soil liquefaction, lateral spreading, seismically induced slope instability, earthquake-induced flooding and tsunami and seiches due to seismic shaking. The site-specific potential for each of these seismic hazards is discussed in the following sections.

<u>Fault Surface Rupture.</u> The project site is not located within a currently designated State of California Earthquake Fault Zone (formerly Alquist-Priolo Special Studies Zones) for surface fault rupture. The Alquist Priolo Earthquake Fault Zoning Act requires the California Geologic Survey to zone "active faults" within the State of California. An "active fault" has exhibited surface displacement within Holocene time (within the last 11,700 years) hence constituting a potential hazard to structures that may be located across it. Essential service structures are required to be set-back at least 50 feet from an active fault. The active fault set-back distance is measured perpendicular from the dip of the fault plane. Based on review of existing geologic information, no know active faults project through or toward the site. The nearest mapped active fault trace is the Newport-Inglewood fault zone located approximately 0.18 mile to 0.37 mile east of the project site as shown on Figure No. 6, *Seismic Hazard Zones Map*. The potential for surface rupture resulting from the movement of nearby major faults, or currently unknown faults, is not known with certainty but is considered low.

Landslides. The project site is relatively flat. Fill slope embankments for the Los Angeles River channel embankment are located along the west side of the project site and along the north side of the property along the San Diego Freeway (Interstate 405). These engineered fill slope embankments range from 20 to 25 feet in vertical height. No earthquake-induced landslide areas are shown on the Earthquake Zones of Required Investigation – Long Beach Quadrangle by the California Geologic Survey for the project site. In the absence of significant ground slopes, the potential for seismically induced landslides to affect the proposed site is considered to be very low.

<u>Liquefaction.</u> Liquefaction is the sudden decrease in the strength of cohesionless soils due to dynamic or cyclic shaking. Saturated soils behave temporarily as a viscous fluid (liquefaction) and, consequently, lose their capacity to support the structures founded on them. The potential for liquefaction decreases with increasing clay and gravel content but increases as the ground acceleration and duration of shaking increase. Liquefaction potential has been found to be the greatest where the groundwater level and loose sands occur within 50 feet of the ground surface. Soil liquefaction generally occurs in submerged sandy soils and non-plastic silts during or after strong ground



shaking. There are several general requirements for liquefaction to occur. They are as follows.

- Soils must be submerged
- Soils must be primarily sandy
- Soils must be loose to medium-dense
- Ground motion must be intense
- Duration of shaking must be sufficient for the soils to lose shear resistance

The project site is underlain by alluvial sediments that are identified within a mapped potential liquefaction zone as shown on the Earthquake Zones of Required Investigation-Long Beach Quadrangle (1999) and on Figure No. 6, *Seismic Hazard Zones Map.* The potential for liquefaction and seismic settlement ground failures at the site shall require a site specific geotechnical investigation to evaluate liquefaction potential and mitigation measures.

Lateral Spreading. Seismically induced lateral spreading involves primarily lateral movement of earth materials due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. The project site is underlain by alluvial sediments that are identified within a mapped potential liquefaction zone. The topography at the project site is relatively flat. Fill slope embankments for the Los Angeles River channel are located along the west side of the project site and for the San Diego Freeway along the north side of the site. These fill slopes were engineered to provide support for their respective structures. Under these circumstances, the potential for lateral spreading on these fill slope embankments are considered low. The potential for lateral spreading ground failure at the site shall require a site specific geotechnical investigation to evaluate lateral spreading potential and mitigation measures if needed.

<u>Seismically Induced Slope Instability.</u> Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. The project site is not shown with any earthquake-induced landslide areas due the relatively flat ground conditions of the site topography. In the absence of significant ground slopes, the potential for seismically induced landslides to affect the proposed site is considered to be very low.

Earthquake-Induced Flooding. Review of the Flood Insurance Rate Map (FIRM), Map Number 06037C1955F, dated September 26, 2008, from the FEMA Map Service Center Viewer, indicates that the site is in an area designated as Zone X, "area of minimal flood hazard". The area along the west side of the project site at the base of the Los Angeles River channel embankment is mapped as an "area with reduced flood risk due to levee". The Los Angeles River flood channel located west of the project site was built with a low flow central channel and lined with concrete on the bottom and embankment sidewalls



to control erosion. The area within the Los Angeles River channel concrete lined embankments are shown as Zone A, "special flood hazard areas". Due to the absence of groundwater at shallow depths, proximity of the Los Angeles River channel that serves as a regional flood control structure, and freeway embankments located along the north side of the project site, the potential for earthquake induced flooding at the project site is considered low.

<u>Tsunami and Seiches.</u> Tsunamis are seismic sea waves generated by fault displacement or major ground movement. *Based on the location of the site from the* Pacific Ocean (approximately 3.1 miles) and review of the *Tsunami Inundation Map for Emergency Planning – Long Beach Quadrangle, dated March 1, 2009, tsunamis do not* pose a hazard. The mapped tsunami inundation run up area extends northward up the Los Angeles River flood channel to approximately 1.4 miles south of the project site to an area south Willow Street. Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Based on site locations away from lakes and reservoirs, seiches do not pose a hazard.

<u>Volcanic Eruption Hazard.</u> There are no know volcanoes near the site. According to Jennings (1994), the nearest potential hazards from volcanic eruptions is the Amboy Crater-Lava Lake area located in the Mojave Desert more than 120 miles northeast of the project site. Volcanic eruption hazards are not present.

## 4.0 GEOTECHNICAL INVESTIGATIONS AND MONITORING

A site specific geotechnical investigation with subsurface exploration, soil sampling, laboratory testing and engineering analyses should be performed to further evaluate the subsurface soil condition and potential geologic hazards for residential development. It is proposed to coordinate the site grading work with implementation of environmental mitigation measures. Geotechnical recommendations and mitigation measures for site development shall then be provided for site clearing, grading, over-excavation and recompaction, environmental mitigation, vapor membranes, foundation designs, corrosion and pavement designs. The geotechnical consultant should then review the plans and specifications as the project design progresses. Such review is necessary to identify design elements, assumptions, or new conditions which require revisions or additions to the geotechnical recommendations.

The project geotechnical consultant should then be present to observe conditions during grading and construction. Geotechnical observation and testing should be performed as needed to verify compliance with project specifications and building codes. Additional geotechnical recommendations may be required based on subsurface conditions encountered during construction.



## 5.0 CLOSURE

The findings and opinions of this geohazard report were prepared in accordance with generally accepted engineering geologic principals and practice. The report was prepared without the benefit of subsurface investigation and testing. We make no warranty, either express or implied. Our opinions and conclusions are based on the review of available published maps, documents and information. Our services are for the sole benefit and exclusive use of Meridian Consultants as it pertains to the subject property in accordance with the General Conditions under which these services are provided.

The Scope of Services for this report were designed solely in accordance with the objectives, schedule, budget and risk-management preferences of Meridian Consultants. This report should not be regarded as a guarantee that no further geohazard, beyond which could be detected within the scope of this study, is present at the property. Converse makes no warranties or guarantees as the accuracy or completeness of information provided or compiled by others. It is possible that information exists beyond the scope of this study. It is not possible absolutely confirm that no geohazards exist at the property. If none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence, but merely the results of the evaluation of the property at the time of the study. Additional information, which was not found or available to Converse at the time of report preparation, may result in a modification of the conclusions and recommendations presented. Any reliance on this report by Third Parties shall be at the Third Party' sole risk.

Thank you for the opportunity to be of assistance. If you should have any questions regarding this report, please do not hesitate to contact Mark Schluter at (626) 930-1223 or Norman Eke at (626) 930-1260.

## 6.0 **REFERENCES**

- CALIFORNIA DEPARTMENT OF CONSERVATION, 1988, Seismic Hazard Zone Report for the Long Beach 7.5-Minute Quadrangle, Los Angeles County, California.
- CALIFORNIA GEOLOGIC SURVEY, 1999, Earthquake Zones of Required Investigation, Long Beach Quadrangle, Earthquake Fault Zones Revised Official Map Released July 1, 1986, Seismic Hazard Zones Official Map Released March 25, 1999.
- CALIFORNIA GEOLOGIC SURVEY, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Faulting Zoning Act with Index to Earthquake Fault Zone Maps, Special Publication 42, Interim revision 2011.



- CALIFORNIA GEOLOGIC SURVEY-NOTE 48, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals and Essential Services Buildings, November 2019.
- CALIFORNIA ENVIRONMENTAL, 2019, Remedial Action Plan, Proposed Residential Redevelopment Project, Oil Operators, Inc. (OOI) Property, 712 Baker Street, Approximately 20 Acres, Long Beach, California 90806, CE Job No.EP610-3029, dated August 2019, 36 pages.



712 Baker Street, Long Beach, California Proposed River Park Residential Development June 15, 2020

# Figures

Figure 1, Site Location Map

Figure 2, Project Site Aerial Photo

Figure 3, Long Beach Geologic Map

Figure 4, Southern California Regional Fault Map

Figure 5, Epicenters Map of Southern California Earthquakes (1800-1999)

Figure 6, Seismic Hazard Zones Map





#### Ľ 2,000' 1.000' SCALE: 1"=2,000' SCALE IN FEET



PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT **712 BAKER STREET** LONG BEACH, CALIFORNIA

Figure No. Figure No. 19-41-290-01

1













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

7 August 2020



Meridian Consultants 706 S. Hill Street, 11th Floor Los Angeles, CA 90014 clan@meridianconsultantsllc.com

Attn: Christine Lan

re: Paleontological resources for the Long Beach River Park Residential Project, City of Long Beach, CA

Dear Christine:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at Long Beach River Park Residential Project in the City of Long Beach, CA as outlined on the portion of the Compton USGS topographic quadrangle map that you sent to me via e-mail on 3 August 2020. 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	Таха	Depth
	South of 223rd			
	St. & west of	undetermined		24 feet
LACM VP 4129	Alameda Street	(Pleistocene)	Proboscidea; Camelidae	bgs
	Intersection of			
	Carson St. &	undetermined		30 feet
LACM VP 3319	Alameda St	(Pleistocene)	Mammoth ( <i>Mammuthus</i> )	bgs
	5 feet south of			
	Interstate 405;			
	500 feet east of	undetermined		
LACM IP 424	Atlantic Blvd	(Pleistocene)	Invertebrates	unknown
	Alameda and	undetermined		
LACM IP 5059	Del Amo Blvds	(Pleistocene)	Oyster shell bed (Ostrea lurida)	unknown
	Cover St & Pixie	undetermined		19 feet
LACM VP 3660	Ave	(Pleistocene)	Mammoth ( <i>Mammuthus</i> )	bgs

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

Excavations into older Quaternary deposits and underlying units may well encounter significant fossils. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the records of the Natural History Museum of Los Angeles County. It is not intended to take the place of a thorough paleontological assessment of the proposed project area covering other institutional records, a literature review, or any potential on-site survey.

Sincerely,

Alyssa Bell

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

enclosure: invoice





August 5, 2020

Mr. Tony Locacciato, AICP Partner Meridian Consultants 920 Hampshire Road Suite A-5 Westlake Village, California 91361

Subject: Document Review – Remedial Action Plan Proposed River Park Residential Development 712 W Baker Street Long Beach, California Converse Project No. 19-41-290-01

Mr. Locacciato:

Converse Consultants (Converse) appreciates the opportunity to present our Review of the draft Remedial Action Plan, dated August 2019, prepared by California Environmental, and the California Regional Water Quality Control Board (CRWQCB) comments, dated May 2020, to Meridian Consultants for the Proposed River Park Residential Development of the former Oil Operators Inc. (OOI) property at 712 W. Baker Street in the City of Long Beach, California. This work was conducted in accordance with our proposal dated May 26, 2020 and authorized by Mr. Tony Locacciato of Meridian Consultants on May 28, 2020.

## **Project Site Description**

The 20.12-acre property is located south of the San Diego Freeway (Interstate 405), north of Wardlow Road, east of the Los Angeles River Channel and Long Beach Freeway (Interstate 710) and west of Golden Avenue in the City of Long Beach, California as shown on **Figure No. 1**, *Site Location Map*. A new single-family residential development is proposed for the property that will include townhome style residences with associated access driveways, parking, and recreational improvements. Residential development is planned on the 13.3-acre southern parcel at 712 West Baker Street (APN 7203-002-005). The 4.8-acre northern parcel at 701 West Baker Street (APN 7203-002-001) is planned to remain as an open-space or be developed as a park. A four (4) foot deep retention swale for stormwater runoff is planned along the western length of the property. The proposed site grading is planned to be a balanced cut/fill operation with the exception of

possible export of environmentally impacted earth materials that do not met the site remediation criteria and requirements.

Extensive environmental studies for soil gas, soil and ground water, site monitoring and site remediation activities have been performed on the Oil Operators, Inc. (OOI) property parcels from 1984 to present. Wastewater treatment activities have occurred on the property parcels since the 1920s. OOI operated an oil field wastewater treatment facility that treated oil field brines and wastewater that were direct by-products of crude oil drilling and oil production. Environmental monitoring and remediation activities on the property parcels are currently being monitored and reviewed by the lead environmental enforcement agencies including the City of Long Beach and the State of California Los Angeles Regional Water Quality Control Board.

In 1959, a wastewater treatment plant was constructed on the property that consisted of five (5) circular concrete-walled skimming basins and associated pumps, aboveground storage tanks, pipelines and related small buildings and support facilities. The treatment plant was located north of two (2) rectangular-shaped, clay-lined, settling basins in the southern portion of the project site. The settling basins were referred to as Basin 1 and Basin 2. Basin 1 received oily residual solids that settled out of the produced water. Basin 2 received relatively clean processed water that was discharged off-site. The approximate location of the wastewater treatment plant on the central portion of the property is shown on **Figure No. 1**, *Site Location Map*.

In 1998 the water treatment facility ceased operations. In October 2000, the City of Long Beach Fire Department directed that liquid hydrocarbon products, wastewater and sludge be removed from the site and that hydrocarbon impacted soils and groundwater be remediated. The existing buildings, facilities, above ground storage tanks, structures, and pipelines were cleaned, demolished and disposed off-site in 2000 and 2001.

The existing site conditions are shown on **Figure No. 2**, *Project Site Aerial Photo*. Existing ground surface elevations range from approximately 25 feet to 40 feet above mean sea level (msl). The proposed building pads for the residential development are planned to range between approximate elevations 34 feet to 41 feet above mean sea level (msl).

Two responsible parties have been identified related to impacts at the Site. Oil Operators, Inc (OOI) has been identified as the responsible party related to the water treatment activities conducted at the site at the Site under Consent Decree with city of Long Beach. Tesoro (nee BP Pipelines) for the gasoline and VOCs from pipeline leaks along the



Meridian Consultants Review of Remedial Action Plan Proposed River Park Development August 5, 2020

eastern portion of the site from pipelines located in Golden Avenue under CRWQCB Cleanup and Abatement Order (CAO) R4-2013-0064.

## Proposed Development

A new single-family residential development (River Park) with building pad elevations approximately 34.2 feet to 41.1 feet above mean sea level (msl) is proposed for parcel 7203-002-005, 712 Baker Street. The north parcel, 7203-002-001, 701 Baker Street will remain as an open-space/park area. The conceptual **Site Development Plan – Figure 3** depicts the general areas of the proposed development. Recreation areas are planned north of Baker St. and in the southern half of the project north of Wardlow Road. A future homeowner's association will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls.

The preliminary design depicts excavated areas on the east portion of the property with an overall east to west project slope. A four-foot deep, retention basin for stormwater runoff control is planned along the western length of the property. The proposed grading is generally a balanced cut/fill operation except for the possible export of impacted soil that does not meet the recommended risk-based concentration (RBC). Imported fill is required to make up for impacted soil that needs to be disposed of offsite during implementation of the approved RAP.

## **Remedial Actions**

There are two remedial actions currently underway at the Property. Remediation of the impacts from pipeline leaks pipeline along Golden Avenue by Tesoro Logistics.

Current remedial activities at the OOI Property consist of:

- Ongoing soil remediation (bioremediation) activities, undertaken in response to the Consent Decree issued in 2002, under the oversight of the City of Long Beach Department of Health and Human Services, Division of Hazardous Materials (LBDHHS).
- The groundwater monitoring (GWM) activities performed under the oversight of the California Regional Water Quality Control Board Los Angeles Region (LARWQCB).



• A Vapor Extraction System (VES) in the eastern part of the Site from 2012 to 2014 to reduce vapor phase benzene concentrations adjacent to Golden Avenue.

The draft RAP outlines the continued remediation of the OOI Property.

#### Remedial Action Plan

In August 2019 a Remedial Action Plan (Draft Conceptual RAP) was prepared by California Environmental for Integral Partners for the Oil Operators(OOI) property. The plan was submitted to the Los Angeles Regional Water Quality Board for review.

The purpose of the RAP is to outline a pathway for completion of remediation activities that leads to the issuance of a No Further Action determination by the lead enforcement agencies (the City of Long Beach and the state of California – Los Angeles Regional Water Quality Control Board, LARWQCB).

#### Chemicals of concern

The following chemicals of concern (COCs) were identified in the RAP:

*Soil Vapor* - Soil vapor investigations conducted at the site reported the presence of methane, vapor phase benzene and total petroleum hydrocarbons in the gasoline and light hydrocarbon range (TPH-g). The onsite VOCs in soil gas are related to the Tesoro pipeline leaks.

The presence of methane is consistent with the presence of active TPH bioremediation cells on the property along with the biologic breakdown of the TPH in the lower vadose zone

Elevated concentrations of methane were found in the eastern, central, and southern portions of the property. Beneath Basins 1 and 2 at the Site, south of Baker Street, the highest methane concentration detected at 5 feet bgs was 374,000 ppmv. This location is within the active bioremediation zone where ephemeral pockets of elevated methane are expected due to the active bioremediation being conducted. Methane gas concentrations were typically lower (~5,000 ppmv) in the 5-foot depth samples outside of the bioremediation cells as compared to the deeper 15-foot samples.



The maximum vapor phase TPH-g concentration was 78,000 ug/l in TSO15-35 feet, located adjacent to the historical pipeline leaks.

*Soil* - Based on multiple investigations conducted from 1981 to 2020 and a Human Health Risk Assessment dated 2016, prepared by Mearns Consulting, for OOI, the RAP identified the following COCs in the soil along with proposed screening levels:

- Lead in soil  $\leq$  80 mg/Kg (upper 10 ft)
- Arsenic in soil ≤ 10 mg/Kg (upper 5 ft)
- TPH in soil based upon carbon range (upper 0-10 ft),
- C4-C12 < 370 mg/Kg
- C13-C22 < 5,500 mg/Kg,
- C23-C32 < 5,000 mg/Kg
- C32-C40 < 6,500 mg/Kg

*Groundwater* - No COCs were identified in the groundwater based on the quarterly groundwater monitoring showing that the OOI site COCs (TPH-o and lead) have not significantly impacted the groundwater quality beneath the site.

Groundwater beneath the eastern portion of the site is impacted with TPH-g and VOCs that reportedly have migrated onsite from offsite pipeline releases. Accumulations of gasoline product (LNAPL) were periodically found in monitoring well Brycon MW1 from 2013-2019. The pipeline release RP (Tesoro), as required by the LARWQCB Clean-up and Abatement Order (CAO) R4-2013-0064, will install an expanded vapor extraction system (VES) for removal of the vapor phase pipeline-related VOCs present beneath the OOI property

Arsenic is present in groundwater at concentrations up to 0.711 mg/L. This is greater than the MCL of 0.01 mg/L. The concentrations of arsenic in groundwater are reportedly correlated with the TPHg plume in groundwater.

#### Remedial Alternatives

The following alternatives were evaluated:

*Alternative* 1 – No Action. This alternative was rejected since it yields a site where exposure to the near surface COCs is likely and is therefore incompatible with the proposed residential development.



Alternative 2 - Complete excavation of all COCs exceeding the RBCs. This alternative would require the excavation, treatment, and disposal of more than 77,000 cubic yards of impacted soil, just from the north of Baker parcel alone. Over 10,000 end-dump truck trips would be required to transport the impacted soil and import clean fill. The truck traffic, noise and associated deep excavation work would pose risks and nuisances that would be unacceptable for the adjacent residential community. This option has a large carbon footprint that cannot easily be offset.

*Alternative* 3 - Placement of an Engineered Cap over the impacted soil north of Baker Street for future use as open space or a park and clean-up of the south parcel to the proposed RBCs to allow for construction of the proposed residential community.

CC	C	Locations	Proposed Mitigation Measure				
	Methane	NoB	Engineered cap				
		SoB	Engineering control – Vapor intrusion membrane – residential VES implement by Tesoro				
Vapor Phase	TPHg/VOCs	NoB	None (No Structures)				
		SoB	Engineering control - passive, membrane –residential/ VES implemented by Tesoro				
	TPH		Engineered Cap				
	Lead	NoB	Engineered Cap				
<b>C</b> 1	Arsenic		Engineered Cap				
Soll	TPH	SoB	Bioremediated to RBCs or dispose offsite				
	Lead		Remove and dispose > RBC within the REI				
	Arsenic		Remove and dispose > RBC within the REI				
Groundwater	TPH-g/VOCs	Nob & SoB	RP for pipeline release to implement clean-up as required by LARWQCB				
	Arsenic		Remediation not required - Monitor				

The following summarizes the proposed mitigation measures:

Nob – North of Baker, SoB South of Baker, RBC Risk based Concentration

## **Proposed Remedial Activities**

The RAP proposes removal and treatment of TPH impacted soil that exceeds the sitespecific cleanup goals for the 13.3-acre south parcel (7203-002-005) to be developed as a new residential community. Containment through placement of an Engineered Cap is recommended for the 4.8-acre north parcel (APN 7203-002-001) that will remain as open space or developed as a park. Civil engineering drawings that include provisions for VOC/methane vapor control, grading, drainage control, and design drawings for the



Engineered Cap will be prepared and submitted once the major components of the RAP are approved by the LARWQCB.

The proposed RAP includes the following components:

- 1) Continued bioremediation under the oversight from the city of Long Beach and the LARWQCB of the TPH impacted soil to meet the proposed RBCs associated with the identified COCs.
- 2) Obtain an LARWQCB issued Waste Discharge Requirements (WDR) (if required) for onsite reuse of the treated TPH impacted soil.
- 3) Verification sampling of all treated and imported soil prior to placement as engineered-compacted fill to ensure conformance with the approved RBCs.
- 4) Placement of the soil that meets the proposed RBGs as engineered compacted fill below the proposed finish grade.
- 5) The RAP defines the Remedial Earth Interval (REI) at the site as the area from the future ground surface to a depth of 10 feet below grade. The residential risk-based clean up goals (RBCs) are applicable within the REI.
- 6) Segregation and selective grading for the onsite soil that contains low or non-detect concentrations of the COCs for use as engineered fill within the upper portion of the REI.
- 7) Engineering design and placement of an Engineered Cap on the north parcel that will remain as open space. Civil engineering drawings that will include provisions for grading, drainage control, and design of the Engineered Cap, a soil management plan (SMP) and plans for VOC/methane vapor control system. As part of the cap engineering design, a treatability study will be performed on the TPH, arsenic and lead-affected soil located at the North Parcel. The purpose of the treatability study is to ensure that the affected soil can be mixed with cement and cement kiln dust, to develop a suitable soil/cement mixture that when cured develops a 1x10<sup>-7</sup> cm/sec vertical hydraulic conductivity. Thus, protecting (long-term) human health and groundwater quality.
- 8) Continuous environmental monitoring and implementation of a Soil Management Plan (SMP) for all remediation earthwork until final rough grades are achieved.
- 9) Design and future installation of a passive sub-slab vapor intrusion mitigation system (membrane and venting) for all future onsite residential and associated structures. Future HOA to enforce Operations and Maintenance Implementation Plan (OMIP) for the vapor intrusion mitigation system.



- 10) Continued operation by Tesoro of the VES unit(s) associated with remediation of the TPHg/VOC release from the offsite petroleum pipelines.
- 11) Abandonment of the existing monitoring wells and establishment of the final monitoring well network for use in post- remediation groundwater monitoring. Sampling of the deeper groundwater zone beneath Area 3 to assess for impacts below the upper saturated zone.
- 12) Development of a land use covenant (LUC) including restriction on development for the CAP parcel, protection and maintenance of engineering controls, including the Engineered Cap, on the north parcel, a prohibition of pumping and use of groundwater; for future access requirements associated with operation of the VES unit(s) and for groundwater monitoring activities, to limit exposure to soils below the recommended REI, and the requirement for installation of a vapor intrusion mitigation system for all onsite structures.
- 13) It is anticipated that a future homeowner's association will have overall responsibility for maintenance of common areas, the recreation centers, maintaining drainage facilities, and for management of future operations and maintenance plan for the anticipated engineering controls. Financial assurance instruments for the maintenance operations may need to be implemented. An access agreement will be required for the RP to sample and ultimately decommission the groundwater monitoring well network.

Figures 5 through 11 and 17 from the RAP, depicting graphically the extent of remediation, are attached as **Appendix A**.

## Water Board Response

On May 21, 2020, the LARWQCB issued comments on the proposed RAP. The comments are summarized below. A copy of the comments is provided in **Appendix B**.

1 The Draft Conceptual RAP proposes site-specific risk-based clean-up goals (RBGs) for soil based on a site-specific Human Health Risk Assessment (HHRA) dated January 14, 2016, prepared by Mearns Consulting, LLC. The Draft Conceptual RAP states that the proposed RBGs were agreed to following review and consultation with Dr. James Carlisle of the Office of Environmental Health Hazard Assessment (OEHHA). However, an OEHHA Memorandum dated February 18, 2016 prepared by Dr. James Carlisle states that OEHHA cannot support Mearns' risk and hazard estimates for soil contaminants. California Environmental has provided follow-up



email correspondence between OEHHA and Mearns where OEHHA provides some recommendations for soil RBGs which have been incorporated into the Draft Conceptual RAP. However, the email also points to the need for additional discussion to determine exposure point concentrations. Furthermore, the email is not an official memorandum from OEHHA agreeing with the RBGs now proposed in the Draft Conceptual RAP.

Additionally, the HHRA uses the Johnson & Ettinger (J&E) soil gas screen model and groundwater screen model modified by the Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO, December 2014) to assess the potential risks and hazards due to exposure to contaminants detected in soil vapors at 5 feet and 15 feet below the ground surface (bgs) and in groundwater at 47 feet bgs for a residential exposure scenario. However, OEHHA no longer recommends use of the J&E model for screening sites and is instead recommending an empirically derived default attenuation factor of 0.03 following guidance from U.S. EPA (2015). Therefore, the risks for a potential residential exposure scenario should be reevaluated according to updated guidance.

The proposed clean-up goals for the Site should be consistent with State Water Resources Control Board (SWRCB) Resolution 92-49, which states that the Regional Board shall "Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable..." Therefore, prior to the use of RBGs as clean-up goals, it must be demonstrated that cleanup to background water quality is not reasonable, based on those justifications included in SWRCB Resolution 92-49, such as technical and/or economic infeasibility. Regional Board staff suggest the preparation of a feasibility study to demonstrate that the proposed clean-up goals are consistent with SWRCB Resolution 92-49.

- 2 With respect to arsenic in groundwater, additional technical justification should be presented to the Regional Board to support the claim that Site historical operations did not contribute to the elevated arsenic concentrations detected in Site groundwater. If sufficient justification cannot be provided to prove this claim, then a plan to remediate the Site's release of arsenic to groundwater should be developed and included in the final remedial action plan.
- 3 With respect to light non aqueous phase liquid detected near monitoring well Brycon MW1, additional investigation may be necessary to determine the source of the LNAPL impacts, unless additional documentation can be provided to disprove Tesoro's theory (e.g. documents identifying what the piping transported, what



the sump held, etc.). The final RAP should include a contingency for remediation of the LNAPL impacts to soil and groundwater, unless it can be determined that the Site is not the source of the release.

- 4. Regional Board staff are not convinced that management of these systems by an HOA will adequately safeguard human health at the Site. The final RAP should provide detailed descriptions of how these operations would be handled by the HOA (e.g. retaining a consultant to conduct monitoring and repairs, etc.), and/or provide detailed examples of how this role has been successfully performed by other HOAs, as relayed by your consultant, California Environmental.
- 5. Sampling matrix will need to be forwarded to OEHHA for their review and concurrence once the final RAP is submitted.

## Comments

For the residential portion of the project, the plan primarily involves the creation of a 10foot remedial earth interval to separate soil impacted with elevated levels of TPH and metals, specifically arsenic and lead, from the residential development. In addition, vapor mitigation barrier is proposed beneath the residential structures to mitigate the impacts from methane and VOCs.

For the north parcel, which is proposed as open space, an engineered cap and a land use covenant restricting development is proposed.

In addition, a groundwater monitoring network is proposed to replace the current monitoring wells impacted by the development.

Based upon our review of the above, we have the following comments:

- We agree with the Water Boards comment that additional discussion regarding cleanup goals and the preparation of an updated HHRA, consistent with current requirements.
- It is noted that there is some disagreement between OOI and Tesoro regarding the sources of arsenic, LNAPL and soil vapor. Tesoro has stated the following:
  - "Tesoro disagrees that it is the party responsible for impacts at the Site, and the submission of this IRAP Addendum is not intended to waive Tesoro's


rights to seek review of the Order. Tesoro has considerable data and site operations information showing OOI's operations and/or other pipelines may be or are sources of benzene, unrefined product, and refined product along the eastern boundary of the OOI property".

 With respect to the HOA being responsible for the operation and maintenance of the engineering controls, it is our recommendation that the responsibility for maintaining the operation and maintenance remain with the responsible parties and access agreements provided to the responsible parties by the HOA to allow access for the operation and maintenance.

### Conclusion

The contaminants and impacts to the Property from the OOI operations appear to have been adequately defined and delineated. Mitigation measures as outlined in the Draft RAP should be sufficient to allow to the use of the site for residential development pending review by the Water Board and the City of Long Beach.

On site bioremediation will continue pursuant to the current permit requirements.

The previously identified impacts from offsite sources are being mitigated as outlined in the Tesoro IRAP. If additional impacts from offsite sources are identified mitigation measure will be amended to address them.

There is some disagreement between the responsible parties as to the source of some impacts. Further investigation may be required to correctly clarify and /or identify the source(s) of the impact.

Regardless, the measures under regulatory oversight should be sufficient to allow redevelopment of the site for residential purposes.

No time frame for the remedial activities was presented in the RAP. Based on the proposed activities enumerated in the RAP, the implementation of the remedial earth interval can be conducted during grading activities at the site. The installation of a subslab membrane and venting can occur in the initial phase of construction.

Implementation of the IRAP is estimated at 64 weeks for design, permitting and installation with quarterly reporting for 2 years after installation and semi-annual reporting thereafter. The total remedial period is not known.



Meridian Consultants Review of Remedial Action Plan Proposed River Park Development August 5, 2020

#### Closure

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Norman Eke at (626) 930-1260.

#### CONVERSE CONSULTANTS

John Ziegler Senior Professional

Norman S. Eke Senior Vice President

Appendix A – RAP Figures (or do we include a copy of the RAP all 1062 pages of it) Appendix B– Water Board Comments

Figure 1 – Site Location Figure 2 - Existing Site Conditions Figure 3 - Proposed Development



Figures

# Figures



Copyright 2020 Converse Consultants Converse Project No. 19-41-290-01



#### Ľ 2,000' 1.000' SCALE: 1"=2,000' SCALE IN FEET



PROPOSED 20-ACRE RESIDENTIAL DEVELOPMENT **712 BAKER STREET** LONG BEACH, CALIFORNIA

Figure No. Figure No. 19-41-290-01

1





	Pro	posed Site Plan
	William Lyon Homes	Project No:
	Ontario, California	19-41-290-01
Ś	Converse Consultants	FIGURE <b>3</b>

Meridian Consultants Review of Remedial Action Plan Proposed River Park Development August 5, 2020

# **RAP Figures**

# Appendix A







#### Los Angeles Regional Water Quality Control Board

May 21, 2020

Mr. Kevin Laney Oil Operators, Inc. 2852 Gundry Avenue Signal Hill, CA 90755

#### SUBJECT: COMMENTS ON THE DRAFT CONCEPTUAL REMEDIAL ACTION PLAN

#### SITE: OIL OPERATORS, INC., 712 BAKER STREET, LONG BEACH, CALIFORNIA (SCP NO. 0093, SITE ID NO. 2044M00)

Dear Mr. Laney:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the state regulatory agency with primary responsibility for protecting groundwater and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the referenced site (Site).

Regional Board staff have reviewed the draft *Remedial Action Plan* (Draft Conceptual RAP) dated August 2019, prepared by your consultant California Environmental. Upon receipt of the Draft Conceptual RAP, Regional Board staff identified and discussed various issues with your consultants, California Environmental and The Brownfield Redevelopment Group Co. During a call on April 3, 2020, California Environmental requested a comment letter from the Regional Board summarizing the issues identified in the Draft Conceptual RAP. This letter has been prepared in response to the request.

#### COMMENTS

Based on our review of the Draft Conceptual RAP, the following comments should be addressed in the final RAP submitted to the Regional Board:

1. The Draft Conceptual RAP proposes site-specific risk-based clean-up goals (RBGs) for soil based on a site-specific Human Health Risk Assessment (HHRA) dated January 14, 2016, prepared by Mearns Consulting, LLC. The Draft Conceptual RAP states that the proposed RBGs were agreed to following review and consultation with Dr. James Carlisle of the Office of Environmental Health Hazard Assessment (OEHHA). However, an OEHHA Memorandum dated February 18, 2016 prepared by Dr. James Carlisle states that OEHHA cannot support Mearns' risk and hazard estimates for soil contaminants. California Environmental has provided follow-up email correspondence between OEHHA and Mearns where OEHHA provides some recommendations for soil RBGs which have been incorporated into the Draft Conceptual RAP. However, the email also points to the need for additional discussion to determine exposure point concentrations. Furthermore,

IRMA MUÑOZ, CHAIR | RENEE PURDY, EXECUTIVE OFFICER



the email is not an official memorandum from OEHHA agreeing with the RBGs now proposed in the Draft Conceptual RAP.

Additionally, the HHRA uses the Johnson & Ettinger (J&E) soil gas screen model and groundwater screen model modified by the Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO, December 2014) to assess the potential risks and hazards due to exposure to contaminants detected in soil vapors at 5 feet and 15 feet below the ground surface (bgs) and in groundwater at 47 feet bgs for a residential exposure scenario. However, OEHHA no longer recommends use of the J&E model for screeening sites and is instead recommending an empirically derived default attenuation factor of 0.03 following guidance from U.S. EPA (2015).<sup>1</sup> Therefore, the risks for a potential exposure scenario should be reevaluated according to updated guidance.

Finally, the proposed clean-up goals for the Site should be consistent with State Water Resources Control Board (SWRCB) Resolution 92-49, which states that the Regional Board shall "Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable..." Therefore, prior to the use of RBGs as clean-up goals, it must be demonstrated that cleanup to background water quality is not reasonable, based on those justifications included in SWRCB Resolution 92-49, such as technical and/or economic infeasibility. Regional Board staff suggest the preparation of a feasibility study to demonstrate that the proposed clean-up goals are consistent with SWRCB Resolution 92-49.

2. The Draft Conceptual RAP states that the arsenic detected in groundwater at concentrations higher than expected background concentrations is unrelated to historical activities at the Site. The Draft Conceptual RAP cites a technical PowerPoint presentation to the Regional Board, which presents the following theory:

Arsenic naturally occurs in Site aquifer sediments. Under oxic conditions, the arsenic is adsorbed to naturally occurring iron, manganese, and aluminum hydroxides on Site alluvial aquifer sediments. Elevated groundwater arsenic concentrations at the Site are caused by the introduction of biodegradable petroleum hydrocarbons into groundwater, which promotes groundwater microbial activity (and thus consumption of oxygen), creating a reducing environment. Oxygen depletion and the reducing geochemical conditions in the groundwater causes the release and mobilization of iron, and therefore arsenic, into groundwater.

In conclusion, the long-term releases of gasoline and diesel fuel from numerous fuel pipelines beneath Golden Avenue east of the Site caused and continues to cause reducing conditions in Site groundwater. These fuel releases generated a dissolved-phase arsenic groundwater plume, which can be observed on the eastern portion of the Site along Golden Avenue and is absent downgradient on the western portion of the Site near the Los Angeles River.

Regional Board staff acknowledge the likely occurrence of mobilization of naturally occurring arsenic in soil sediments to groundwater due to reducing conditions caused by

<sup>&</sup>lt;sup>1</sup> <u>https://www.epa.gov/vaporintrusion/technical-guide-assessing-and-mitigating-vapor-intrusion-pathway-subsurface-vapor</u>

biodegradation of petroleum hydrocarbons released into groundwater. However. historical activities at the Site may have also contributed to the occurrence of arsenic in Site groundwater. The well containing the highest concentration of arsenic in groundwater is TMW6, which is located centrally on the Site, not on the eastern portion. Laboratory analytical data for influent wastewater to the Site's historical wastewater facility provided to Regional Board staff showed that at least one water sample contained arsenic. Additionally, the Subsurface Characterization Report of the Southern Portion of Oil Operators, Inc. (Report) dated December 12, 1991, prepared for the Site reported that arsenic was detected in shallow soils at the Site at concentrations significantly greater than presumed background concentrations, up to 190 ppm. The Report states that "these levels of lead and arsenic are soluble and may leach to the groundwater." Therefore, additional technical justification should be presented to the Regional Board to support the claim that Site historical operations did not contribute to the elevated arsenic concentrations detected in Site groundwater. If sufficient justification cannot be provided to prove this claim, then a plan to remediate the Site's release of arsenic to groundwater should be developed and included in the final remedial action plan.

- 3. The Draft Conceptual RAP does not propose to address the light non-aqueous phase liquid (LNAPL) impacts detected near groundwater monitoring well Brycon MW1 due to the assumption that these impacts originate from the petroleum pipelines beneath Golden Avenue. However, the results of the supplemental assessment for the LNAPL impacts conducted by California Environmental in April through June 2019 did not definitively show that the petroleum pipelines are the source of LNAPL detected. A comment letter dated January 28, 2020, prepared by AECOM on behalf of Tesoro for the adjacent BP Pipeline/ARCO cleanup site (which includes the petroleum pipelines) provides an alternative explanation for the presence of the LNAPL. According to this letter, piping at approximately 20 to 25 feet below the ground surface (bgs) that connected a sump at the Site to the sewer overlies the area with the highest detected LNAPL impacts. The letter infers that this is the source of the LNAPL. This hypothesis is supported by the absence of significant soil impact in the vadose zone above 25 feet bgs. Therefore, additional investigation may be necessary to determine the source of the LNAPL impacts, unless additional documentation can be provided to disprove Tesoro's theory (e.g. documents identifying what the piping transported, what the sump held, etc.). The final RAP should include a contingency for remediation of the LNAPL impacts to soil and groundwater, unless it can be determined that the Site is not the source of the release.
- 4. The Draft Conceptual RAP proposes to emplace an engineered cap on the north parcel that will remain as open space and design and install a passive sub-slab vapor intrusion mitigation system (vapor membrane and venting) for all future onsite residential and associated inhabitable structures. The proposal includes development of a land use covenant to restrict development on the north parcel and to require the installation of a vapor intrusion mitigation system for all onsite structures with provisions for the protection and maintenance of engineering controls. The Draft Conceptual RAP states that "It is anticipated that a future homeowner's association (HOA) will have responsibility ... for management of future operations and maintenance plan for the anticipated engineering controls." Regional Board staff are not convinced that management of these systems by an HOA will adequately safeguard human health at the Site. The final RAP should provide detailed descriptions of how these operations would be handled by the HOA (e.g. retaining a consultant to conduct monitoring and repairs, etc.), and/or provide detailed examples of how this role has been successfully performed by other HOAs, as relayed by your consultant, California Environmental.

5. The proposed soil verification sampling matrix will need to be forwarded to OEHHA for their review and concurrence once the final RAP is submitted.

If you have any questions, please contact Ms. Rebecca Orr at (213) 576-6811 or rebecca.orr@waterboards.ca.gov or Mr. Jeffrey Hu at (213) 576-6803 or jeffrey.hu@waterboards.ca.gov.

Sincerely,

Renee Purdy Executive Officer

cc (via email):

Mr. Alan Burks, Wrigley Association

Mr. Charles Buckley, California Environmental

Ms. Joan Greenwood, Wrigley Area Neighborhood Alliance

Ms. Carmen Piro, Long Beach Human Health Services

Ms. Nichole Stewart, for the Countryside Lane Homeowners Association

Mr. Anthony Silva, The Brownfield Redevelopment Group Co.

Mr. John Stanek, Integral Partners, LLC

Mr. Eric Weeks, Integral Communities

Ms. Gabriele Windgasse, California Department of Public Health

Mr. Chris Windsor, Tesoro Logistic Operations LLC

Ms. Madeline Worsnopp, AECOM Technical Services, Inc.

Councilmember Roberto Uranga, City of Long Beach

Meridian Consultants Review of Remedial Action Plan Proposed River Park Development August 5, 2020

# Water Board Comments

# Appendix B

















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Location: 712 W. BAKER ST LONG BEACH, C	:, <sup>ву:</sup> A GHB	$ (C_F) $
Date: August 201	9 Checked By:	









# **Conceptual LID BMP Calculations**

# **River Park Residential**

# 712 Baker Street Long Beach, California 90806



Dated: April 22, 2020

**Prepared for** 

# Integral Communities

**Prepared by** 





#### ATTESTATION

This report has been prepared by, and under the direction of, the undersigned, a duly Registered Civil Engineer in the State of California. Except as noted, the undersigned attests to the technical information contained herein, and has judged to be acceptable the qualifications of any technical specialists providing engineering data for this report, upon which findings, conclusions, and recommendations are based.

wamu

James H. Kawamura, P.E. Registered Civil Engineer No. C30560 Exp. 3/31/22



### Section 1 Purpose and Scope

These LID Calculations presents an analysis of each drainage management area for the proposed 53 Carriage Townhomes, 99 Row Townhomes, and 74 condominium unit residential redevelopment project, known as *River Park Residential*. The calculations are done in accordance with the Low Impact Development (LID) Best Management Practices (BMP) Design Manual.

#### Section 2 Project Information

Integral Communities is proposing to redevelop approximately 20.66 acres of vacant land with 15.85 acres slated for residential development and 4.81 acres for open space within the Wrigley Heights community of the City of Long Beach, California. The proposed project will entail construction of 53 Carriage Townhomes, 99 Row Townhomes, and 74 condominium units.

According to the Preliminary Findings of Geotechnical Investigation prepared by Albus-Keefe and Associates, Inc., dated January 9, 2014, the area is underlain by undocumented artificial fill, alluvial soils (terrace deposits), and Lakewood Formation bedrock. The artificial fill extends to depths of approximately 32 feet, although depths ranging from 2 to 10 feet are more typical of the overall site. The soils onsite have a range of expansive characteristics from non-expansive to moderately expansive.

#### Section 3 LID Calculation Analysis

A feasibility analysis for the project was performed for infiltration, capture and use, and/or biofiltration BMPs of the first flush. Infiltration along with Capture & Use was deemed infeasible due to potential soil contamination from historic site use by oil companies and the open status as a cleanup site on the State's GeoTracker website. See the following Table 4.1: Infiltration Feasibility Screening, Table 4.2: Capture & Use Feasibility Screening, and the site's summary from the GeoTracker website. Biofiltration planters (flow through planters) were chosen for management of the residential portion of the project's water quality design volume. The proposed residential area is divided into three drainage management areas that are collected by catch basins with each drainage area discharging to a Flow through planter for biofiltration of the water quality design volume. A small portion (902 square feet) of the driveway off Wardlow Road will drain off-site untreated. The open space area at the northern portion of the site is approximately 6 percent impervious walk area that drains into the adjacent landscaping. Once treated, the project's stormwater will be directed to a proposed city storm drain system that discharges into the Los Angeles River.

River Park Residential Long Beach, California

			I
Category 3 Screening (Infeasible)	<ol> <li>Underlying Groundwater</li> <li>Depth from bottom of infiltration facility to seasonal high groundwater is 5 ft</li> <li>Sites with soil and/or groundwater contamination** Infiltration is not feasible</li> <li>Site Soils</li> <li>Infiltration rate is ≤ 0.3 in/hr and connectivity to higher K<sub>sat</sub> soils is infeasible</li> <li>Geotechnical hazards such as liquefaction, collapsible soils, or expansive soils exist</li> <li>Site Surroundings</li> <li>Site is located on or within 50 feet upgradient of a steep slope (20% or greater) and has not been approved by a professional geotechnical engineer or geologist</li> </ol>	If any of the above boxes are checked, a site-specific geotechnical investigation report and/or hydrologic analysis conducted and certified by a State of California registered professional geotechnical engineer or geologist shall be submitted to prove infiltration practices are not feasible.*	ent. See Geotechnical Report Requirements
Category 2 Screening (Potentially Feasible)	<ol> <li>Underlying Groundwater</li> <li>Depth from bottom of infiltration facility to seasonal high groundwater is ≤ 10 ft</li> <li>Unconfined aquifer is present with beneficial uses that may be impaired by infiltration. Full treatment required if this is the case</li> <li>Groundwater is known to be polluted.</li> <li>Site Soils</li> <li>Buildination rate is ≤ 0.5 in/hr but potential connectivity to higher K<sub>sat</sub> soils is feasible</li> <li>Genoundwigs</li> <li>Site Surroundings</li> <li>Buildings or structures are within 10 to 25 ft of the potential infiltration BMP</li> <li>High-risk areas such as service/gas stations, truck stops, and heavy industrial sites. Full treatment is required if this is the case, or high-risk areas must be separate from stormwater runoff mingling</li> </ol>	If all of the above boxes are checked, or if corresponding boxes in Category 1 are checked in combination with the above boxes, a site-specific geotechnical investigation report and/or hydrologic analysis conducted and certified by a State of California registered professional geotechnical engineer or geologist shall be carried out to approve infiltration measures <sup>4</sup> . Otherwise, proceed to Category 3 screening.	<i>eening</i> by Building and Safety Bureau and Public Works Departme
Category 1 Screening (Feasible)	<ul> <li>Underlying Groundwater</li> <li>Depth of bottom of infiltration facility to seasonal high groundwater is &gt; 10 ft</li> <li>Site Soils</li> <li>Site Soils</li> <li>Infiltration rate (K<sub>su</sub>) is &gt; 0.5 in/hr</li> <li>Geotechnical hazards</li> <li>Site Surroundings</li> <li>Site Surroundings</li> <li>Site Surroundings</li> <li>Site Surroundings</li> <li>Site Surroundings</li> <li>No continuous presence of dry weather flows</li> </ul>	If all of the above boxes are checked, they shall be confirmed by a site-specific geotechnical investigation report and/or hydrologic analysis conducted and certified by a State of California registered professional geotechnical engineer or geologist, verifying that infiltration BMPs are feasible at the site*. Otherwise, proceed to Category 2 screening.	Table 4.1: Infiltration Feasibility Scre * Geotechnical Reports shall be reviewed b herein.
	Description	snottourteni	

ITY OF LONG BEACH LOW IMPACT DEVELOPMENT BEST MANAGEMENT PRACTICES HANDBO

\*\* The presence of soil and/or groundwater contamination and/or the presence of existing or removed underground storage tanks shall be documented by CEQA or NEPA environmental reports, approved geotechnical reports, permits on file with the City, or a review of the State of California's Geotracker website.

River Park Residential Long Beach, California

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Category 3 Screening (Infeasible)	<ol> <li>Landscaped Area</li> <li>Landscaped area categorization c 3 exists in accordance with Tabl 4.3</li> <li>Site Soils</li> <li>Geotechnical hazards such a landsliding collapsible soils, o landsliding collapsible soils, o expansive soils exist</li> <li>Site Surroundings</li> <li>Site Is located on or within 50 fee of a steep slope (20% or greater as determined by the Departmen of Building and Safety; irrigatio within 3 days of a rain event coul cause geotechnical instability</li> </ol>	If any of the above boxes are checked, site-specific geotechnical investigatio report and/or hydrologic analysi conducted and certified by a State of California registered professions geotechnical engineer, geologist, o landscape architect shall be submitted th prove capture & use practices are no feasible.*	
Category 2 Screening (Potentially Feasible)	<ol> <li>Landscaped Area</li> <li>Landscaped area categorization of 2 exists in accordance with Table 4.3</li> <li>Captured volume greater than the Estimated Total Water Usage (ETWU) from October 1 - April 30.</li> <li>Site Soits</li> <li>Site Soits</li> <li>Geotechnical hazards such as liquefaction are a potential near the site</li> <li>Soil hydraulic conductivities are sufficient for the designed water application rate; if not, soil amendments will be implemented</li> </ol>	If all of the above boxes are checked, or if corresponding boxes in Category 1 are checked in combination with the above boxes, a site-specific geotechnical investigation report and/or hydrologic analysis conducted and certified by a State of California registered professional civil engineer, geotechnical engineer, geologist, or landscape architect, shall be carried out to approve capture and use measures.* Otherwise, proceed to Category 3 screening.	ning
Category 1 Screening (Feasible)	<ol> <li>Landscaped Area</li> <li>Landscaped area categorization of 1 exists in accordance with Table 4.3</li> <li>Captured volume equal to or less than the Estimated Total Water Usage (ETWU) from October 1 - April 30.</li> <li>Site Soils</li> <li>Geotechnical hazards are not a geotential near the site</li> <li>Vector Control</li> <li>Approved vector control measures will be implemented</li> </ol>	If all of the above boxes are checked, they shall be confirmed by a site-specific geotechnical investigation report and/or hydrologic analysis conducted and certified by a State of California registered professional civil engineer, geotechnical engineer, geologist, or landscape architect, verifying that capture and use BMPs are feasible at the site.* Otherwise, proceed to Category 2 screening.	ble 4.2: Capture and Use Feasibility Scree
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\* Geotechnical Reports shall be reviewed by the Building and Safety bureau and Public Works Department. See Geotechnical Report Requirements contained in the Infiltration Feasibility section.

CITY OF LONG BEACH LOW IMPACT DEVELOPMENT BEST MANAGEMENT PRACTICES HANDBOOK

## Table 4.2: Capture & Use Feasibility Screening

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#### Site History

The Oil Operators Incorporated (OOI) property covers approximately 20-acres and is located south of the 405 freeway, east of the 710 freeway and the Los Angeles River, in the City of Long Beach. It is bounded on the south by Wardlow Road and on the east by Golden Avenue. A residential development is present to the east of the property, across Golden Avenue. The site address is 712 West Baker Street. Baker Street divides the property into two parts, a northern part and a larger southern part. The area immediately to the west of the property is the Los Angeles River.

OOI is a non-profit cooperative organization of numerous oil companies, operators and individuals that operate oil wells in the Long Besch/Signel Hill area. OOI owns the subject property and has operated onsite water treatment facilities since 1926 to treat produced water (production brines) and other fluids recovered during oil production. The aforementioned process removed oil and sediment from the water, allowing the treated water to be disposed of offisite. As a by-product of this process, low-grade oil was recovered for recycling. In the mid 1950s, a water treatment plant was constructed onsite consisting of five circular concrete skimming basins and associated pumps, tanks, pipelines and other facilities. The treatment plant was located north of the two large rectangular basins, referred to as Basins 1 and 2.

Basin 1 is a large square setting basin that contained residual oily solids that settled out of the oil production brine water processed throughout the site over the last several decades. Basin 2 received relatively clean water, after it had gone through various stages of skimming. In Basin 2, the treated water was held until it was released to the senitation district for disposal. Additional smaller basins were historically present south of Basins 1 and 2. These smeller besins were closed in 1986 and 1987.

Prior to ceasing operations in 1999, the OOI facility consisted of five circular concrete skimming basins, Basins 1 and 2, various aboveground storage tanks and surface buildings. Much of the vacant area of the property was formerly leased to a plant nursery. The property had been undergoing decommissioning in phases since 1998. The nursery vacated the site in 1999. In 2000, the City of Long Beach ordered all buildings, sheds and similar structures to be demolished with the debris hauled offsite. In 2001, the remaining aboveground storage tanks were cleaned and demolished. Currently, the site is vacant.

Basin 1 has been the subject of remediation since it contained only solids/sludge that settled out of the oil production wastewater processed at the site. Cleanup criteria were established for the primary chemicals of concern (COC) in Basin 1, which are total petroleum hydrocarbons (TPH), gasoline components; benzene, toluene, ethylbenzene and xylenes (BTEX) and heavy metals (arsenic, chromium, lead and nickel).

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# Calculations

# LID CALCULATIONS BIOFILTRATION SITE:

#### TOTAL SITE

Area:	20.66 acres or	899,888 square feet
Impervious Area:	12.62 acres or	549,940 square feet
Pervious Area:	8.03 acres or	349,948 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 529,941 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 49,682 C.F.

Determine K<sub>sat, design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine  $d_p$ 

$$d_p$$
 (FT) = (K<sub>sat,design</sub> x T) ÷ 12 = (2.5 in x 48 hr) ÷ 12  
 $d_p$  (FT) = 10 Ft. Use: 1 Ft.

Determine A<sub>min</sub>

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
$$A_{min} = 30,574 \text{ S.F.}$$

Provided Biofiltration Area: 30,916 S.F.

# LID CALCULATIONS BIOFILTRATION RES. SITE:

#### TOTAL RESIDENTIAL SITE

Area:	15.49 acres or	674,922 square feet
Impervious Area:	12.32 acres or	536,739 square feet
Pervious Area:	3.17 acres or	138,183 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 496,883 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 46,583 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine  $d_p$ 

$$d_p$$
 (FT) = (K<sub>sat,design</sub> x T) ÷ 12 = (2.5 in x 48 hr) ÷ 12  
 $d_p$  (FT) = 10 Ft. Use: 1 Ft.

Determine A<sub>min</sub>

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
$$A_{min} = 28,666 \text{ S.F.}$$

Provided Biofiltration Area: 30,916 S.F.
## LID CALCULATIONS BIOFILTRATION 1:

#### DMA 1

Area:	3.90 acres or	169,937 square feet
Impervious Area:	3.26 acres or	142,199 square feet
Pervious Area:	0.64 acres or	27,738 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 130,753 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 12,258 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine d<sub>p</sub>

$$\begin{array}{l} \mathsf{d}_{p} \ (\mathsf{FT}) = \ (\mathsf{K}_{sat,design} \ \mathsf{x} \ \mathsf{T}) \div 12 = (2.5 \ \mathsf{in} \ \mathsf{x} \ 48 \ \mathsf{hr}) \div 12 \\ \mathsf{d}_{p} \ (\mathsf{FT}) = \ 10 \ \mathsf{Ft}. \qquad \mathsf{Use:} \qquad 1 \ \mathsf{Ft}. \end{array}$$

Determine Amin

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
  
$$A_{min} = 7,543 \text{ S.F.}$$

Provided Biofiltration Area: 7,567 S.F.

## LID CALCULATIONS BIOFILTRATION 2:

#### DMA 2

2.87 acres or	125,162 square feet
2.45 acres or	106,625 square feet
0.43 acres or	18,537 square feet
0.00 acres or	0 square feet
3.00 hrs	
	2.87 acres or 2.45 acres or 0.43 acres or 0.00 acres or 3.00 hrs

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 97,816 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 9,170 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine d<sub>p</sub>

Determine Amin

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
  
$$A_{min} = 5,643 \text{ S.F.}$$

Provided Biofiltration Area: 6,230 S.F.

## **LID CALCULATIONS BIOFILTRATION 3:**

#### DMA 3

Area:	8.70 acres or	378,921 square feet
Impervious Area:	6.59 acres or	287,013 square feet
Pervious Area:	2.11 acres or	91,908 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 267,503 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 25,078 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine d<sub>p</sub>

$$\begin{array}{l} {d_p} \ (FT) = \ (K_{sat,design} \ x \ T) \div 12 = (2.5 \ in \ x \ 48 \ hr) \div 12 \\ {d_p} \ (FT) = \ 10 \ Ft. \qquad Use: \qquad 1 \ Ft. \end{array}$$

Determine Amin

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
  
$$A_{min} = 15,433 \text{ S.F.}$$

Provided Biofiltration Area: 17,119 S.F.

### LID CALCULATIONS BIOFILTRATION 4:

#### **DMA 4 Untreated**

Area:	0.02 acres or	902 square feet
Impervious Area:	0.02 acres or	902 square feet
Pervious Area:	0.00 acres or	0 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1] Catchment Area = 812 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 76 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine d<sub>p</sub>

$$\begin{array}{l} \mathsf{d}_{p} \ (\mathsf{FT}) = \ (\mathsf{K}_{sat,design} \ \mathsf{x} \ \mathsf{T}) \div 12 = (2.5 \ \mathsf{in} \ \mathsf{x} \ 48 \ \mathsf{hr}) \div 12 \\ \mathsf{d}_{p} \ (\mathsf{FT}) = \ 10 \ \mathsf{Ft}. \qquad \mathsf{Use:} \qquad 1 \ \mathsf{Ft}. \end{array}$$

Determine A<sub>min</sub>

$$A_{min} = V_{design} \div [(T_{fill} \times K_{sat, design} \div 12) + d_p]$$
  
$$A_{min} = 47 \text{ S.F.}$$

## LID CALCULATIONS BIOFILTRATION 5:

#### DMA 5 Open Space

Area:	5.16 acres or	224,966 square feet
Impervious Area:	0.30 acres or	13,201 square feet
Pervious Area:	4.86 acres or	211,765 square feet
Undeveloped Area:	0.00 acres or	0 square feet
T <sub>fill</sub> :	3.00 hrs	

Catchment Area = (Imp x 0.9) + [(Per + Undeveloped Area) x 0.1]Catchment Area = 33,057 S.F.

 $V_{design}$  (CF) = 1.5 x 0.0625 x Catchment Area (Sq. Ft.)  $V_{design}$  (CF) = 3,099 C.F.

Determine K<sub>sat,design</sub>

 $K_{sat,design} = K_{sat,media} \div FS = 5 \text{ in } \div 2$  $K_{sat,design} = 2.5 \text{ in/hr}$ 

Determine d<sub>p</sub>

$$\begin{array}{l} \mathsf{d}_{p} \ (\mathsf{FT}) = \ (\mathsf{K}_{sat,design} \ \mathsf{x} \ \mathsf{T}) \div 12 = (2.5 \ \mathsf{in} \ \mathsf{x} \ 48 \ \mathsf{hr}) \div 12 \\ \mathsf{d}_{p} \ (\mathsf{FT}) = \ 10 \ \mathsf{Ft}. \qquad \mathsf{Use:} \qquad 1 \ \mathsf{Ft}. \end{array}$$

Determine Amin

 $\begin{aligned} \mathsf{A}_{min} &= \mathsf{V}_{design} \div \left[ (\mathsf{T}_{\mathsf{fill}} \times \mathsf{K}_{sat, design} \div 12) + d_p \right] \\ \mathsf{A}_{min} &= 1,907 \text{ S.F.} \end{aligned}$ 

# **LID** Exhibit









Certified Mail #7011 1150 0001 6148 1966

Mr. Charles Alvarez Gabrielino-Tongva Tribe 23454 Vanowen St. West Hills, CA 91307

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Alvarez:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrielino-Tongva Tribe in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



If there are any additional questions, please contact me at (562) 570-6872 or by email at <u>Amy.Harbin@longbeach.gov</u>. You may also contact Scott Kinsey at (562) 570-6461 or by email at <u>Scott.Kinsey@longbeach.gov</u>.

Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, AICP – Planner V



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276-001-20

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Consultants



Certified Mail #7011 1150 0001 6148 1973

Ms. Linda Candelaria Gabrielino-Tongva Tribe 80839 Camino Santa Juliana Indio, CA 92203

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Ms. Candelaria:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrielino-Tongva Tribe in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



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Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, A

Planner V



276-001-20



### Certified Mail #7011 1150 0001 6148 1980

Mr. Robert F. Dorame Gabrieleno Tongva Indians of California Tribal Council PO Box 490 Bellflower, CA 90707

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Dorame:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrieleno Tongva Indians of California Tribal Council in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



If there are any additional questions, please contact me at (562) 570-6872 or by email at <u>Amy.Harbin@longbeach.gov</u>. You may also contact Scott Kinsey at (562) 570-6461 or by email at <u>Scott.Kinsey@longbeach.gov</u>.

Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, AICP Planner V



Project Location

Meridian Consultants







Certified Mail #7011 1150 0001 6148 1997

Ms. Sandonne Goad Gabrielino/Tongva Nation 106 ½ Judge John Aiso Street, #231 Los Angeles, CA 90012

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Ms. Goad:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrielino/Tongva Nation in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



If there are any additional questions, please contact me at (562) 570-6872 or by email at <u>Amy.Harbin@longbeach.gov</u>. You may also contact Scott Kinsey at (562) 570-6461 or by email at <u>Scott.Kinsey@longbeach.gov</u>.

Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, AFCP Planner V





FIGURE 1





Certified Mail #7011 1150 0001 6148 2000

Mr. Michael Mirelez Torres Martinez Desert Cahuilla Indians PO Box 1160 Thermal. CA 92274

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Mirelez:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Torres Martinez Desert Cahuilla Indians in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



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Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, AKP Planner V



FIGURE 1





Certified Mail #7011 1150 0001 6148 2017

Mr. Anthony Morales Gabrieleno/Tongva San Gabriel Band of Mission Indians PO Box 693 San Gabriel, CA 91778

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Morales:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrieleno/Tongva San Gabriel Band of Mission Indians in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



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Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, Alep Planner V



76-001-20



Certified Mail #7011 1150 0001 6148 2024

Mr. Joseph Ontiveros Soboba Band of Luiseno Indians PO Box 487 San Jacinto, CA 92581

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Ontiveros:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Soboba Band of Luiseno Indians in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



If there are any additional questions, please contact me at (562) 570-6872 or by email at <u>Amy.Harbin@longbeach.gov</u>. You may also contact Scott Kinsey at (562) 570-6461 or by email at <u>Scott.Kinsey@longbeach.gov</u>.

Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey, Alce Planner V

76-001-20

Gri

Consultants

Project Location

FIGURE '





Certified Mail #7011 1150 0001 6148 2031

Mr. Andrew Salas Gabrieleno Band of Mission Indians – Kizh Nation PO Box 393 Covina, CA 91723

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014) Formal Notification for the Long Beach River Park Residential Project. Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1

Dear Mr. Salas:

The City of Long Beach (City) has determined that a project application is complete for the Long Beach River Park Residential Project (Project) and is providing written notice to the Gabrieleno Band of Mission Indians – Kizh Nation in response to the Tribe's request for notification of projects proposed within the City.

The City has received an application requesting approval to develop an approximately 20-acre site in the Wrigley Heights neighborhood in the City of Long Beach.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). **Project Location:** As shown in **Figure 1: Project Location**, attached herein, the Project site includes six (6) parcels located at 701 and 712 W. Baker Street; and 3501, 3539, 3701, and 3801 Golden Avenue. The associated parcels are 7203-002-001, 7203-002-005, 7203-002-008, 7203-002-009, 7203-002-010, 7203-002-007.



If there are any additional questions, please contact me at (562) 570-6872 or by email at <u>Amy.Harbin@longbeach.gov</u>. You may also contact Scott Kinsey at (562) 570-6461 or by email at <u>Scott.Kinsey@longbeach.gov</u>.

Sincerely,

Amy L. Harbin, AICP Planner V

Scott Kinsey,

Planner V

**Project Location** 

Weridian Consultants









GABRIELENO BAND OF MISSION INDIANS - KIZH NATION Historically known as The San Gabriel Band of Mission Indians recognized by the State of California as the aboriginal tribe of the Los Angeles basin

February 3, 2020

Project Name: Long Beach River Park Residential Project Located: 701 and 712 W. Baker St. and 3501, 3539, 3701, and 3801 Golden Ave Long Beach CA

Dear Amy L. Harbin,

Thank you for your letter dated January 28, 2020 regarding AB52 consultation. The above proposed project location is within our Ancestral Tribal Territory; therefore, our Tribal Government requests to schedule a consultation with you as the lead agency, to discuss the project and the surrounding location in further detail.

Please contact us at your earliest convenience. *Please Note:AB 52, "consultation" shall have the same meaning as provided in SB 18 (Govt. Code Section 65352.4).* 

Thank you for your time,

Chy Sh

Andrew Salas, Chairman Gabrieleno Band of Mission Indians – Kizh Nation 1(844)390-0787

Andrew Salas, Chairman Albert Perez, treasurer I Nadine Salas, Vice-Chairman Martha Gonzalez Lemos, treasurer II Dr. Christina Swindall Martinez, secretary Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723

admin@gabrielenoindians.org




# Gabrieleno Band of Mission Indians – Kizh Nation

Protection of Tribal Cultural Resources (TCRs)

# Most Important Things for Agencies to Know About AB52:

- An EIR, MND, or ND can not be certified until AB-52 tribal consultation has concluded.
- Agreed mitigation measures with the tribe, MUST be recommended for inclusion in the environmental document.
- Signature confirming acceptance of these mitigation measures recommended by our Tribal Government is required within 14 days of receipt to conclude AB52 consultation.

# Tribal Cultural Resources Mitigation Measures within Kizh Nation Tribal Territory:

Note: To avoid compliance issues with the following laws, all Native American Monitoring shall be conducted by a documented lineal descendant from the ancestral Tribe of the project area (NAGPRA Law 10.14)

- The Native American Graves Protection and Repatriation Act (NAGPRA), Public Law-101-601, 25 U.S.C. 3001 et seq., 104 Stat. 3048.
- CEQA Guidelines Section15064.5, PRC 5097.98 (d)(1).
- The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

If you are receiving these measures, The Gabrieleño Band of Mission Indians Kizh -Nation are the direct lineal descendants of your project area. The Kizh Nation ONLY responds and consults on projects within their ANCESTRAL tribal territory. Therefore, to remain in compliance with above referenced laws and to enable our Tribe with the ability to protect and preserve our last remaining and irreplaceable Tribal Cultural Resources, it is recommended that the project applicant retain a qualified professional tribal monitor/consultant from the Gabrieleño Band of Mission Indians Kizh -Nation. The Kizh Nation possesses Tribal archives including documented historical information as well as multiple members who possess unique knowledge derived from oral tradition passed down through generations of the Tribe in order to provide the expertise needed to identify whether a project is located within a culturally sensitive area given its proximity to village areas, commerce areas, recreation areas, ceremonial areas, and burial locations.

Native American Heritage Commission (NAHC) Guidelines for Native American Monitors/Consultants (approved 9/13/05): By acting as a liaison between Native American, archaeologist, developers, contactors and public agency, a Native American monitor/consultant can ensure that cultural features are treated appropriately from the Native American point of view. This can help others involved in a project to coordinate mitigation measures. These guidelines are intended to provide prospective monitors/consultants, and people who hire monitors/consultants, with an understanding of the scope and extant of knowledge that should be expected.

**Mitigation Guidelines for Tribal Cultural Resources (TCRs):** CEQA now defines TCRs as an independent element separate from archaeological resources. Environmental documents shall address a separate Tribal Cultural Resources section that includes a thorough analysis of the impacts to only TCRs and includes separate and independent mitigation measures created with tribal input under AB-52 consultations. Therefore, all agreements, mitigation, and conditions of approval regarding TCRs shall be handled solely with the Tribal Government and conversely all agreements, mitigation, and conditions of approval regarding TCRs shall be handled solely with the Tribal Resources shall be handled by an Archaeological resource company.



### **MITIGATION MEASURES**

Retain a Native American Monitor/Consultant: The Project Applicant shall be required to retain and compensate for the services of a Tribal monitor/consultant who is both ancestrally affiliated with the project area and approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the Native American Heritage Commission's (NAHC) Tribal Contact list for the area of the project location. This list is provided by the NAHC. A Native American monitor shall be retained by the Lead Agency or owner of the project to be on site to monitor all project-related, ground-disturbing construction activities (i.e., boring, grading, excavation, potholing, trenching, etc.). A monitor associated with one of the NAHC recognized Tribal governments which have commented on the project shall provide the Native American monitor. The monitor/consultant will only be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor/consultant have indicated that the site has a low potential for impacting Tribal Cultural Resources.

**Unanticipated Discovery of Tribal Cultural and Archaeological Resources:** Upon discovery of any tribal cultural or archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request preservation in place or recovery for educational purposes. Work may continue on other parts of the project while evaluation and, if necessary, additional protective mitigation takes place (CEQA Guidelines Section15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource", time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources.

**Public Resources Code Sections 21083.2(b)** for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All Tribal Cultural Resources shall be returned to the Tribe. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to the Tribe or a local school or historical society in the area for educational purposes.

#### Unanticipated Discovery of Human Remains and Associated Funerary Objects:

Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC and PRC 5097.98 shall be followed.



#### Resource Assessment & Continuation of Work Protocol:

Upon discovery of human remains, the tribal and/or archaeological monitor/consultant/consultant will immediately divert work at minimum of 150 feet and place an exclusion zone around the discovery location. The monitor/consultant(s) will then notify the Tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are human and subsequently Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a Most Likely Descendent (MLD).

#### Kizh-Gabrieleno Procedures for burials and funerary remains:

If the Gabrieleno Band of Mission Indians – Kizh Nation is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

#### **Treatment Measures:**

Prior to the continuation of ground disturbing activities, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.



**Professional Standards:** Archaeological and Native American monitoring and excavation during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.

Acceptance of Tribal Government Recommended Mitigation Measures:

By \_\_\_\_\_ Lead Agency Representative Signature

Date: \_\_\_\_\_

Revised: April 2020



# Attachment A

Kizh Nation Ancestral Tribal Territory extended along the coast from Malibu Creek in Los Angeles County down to Aliso Creek in Orange County and encompassed the Channel Islands of Catalina (Pimugna), San Nicolas (Haraasnga), and San Clemente (Kiinkenga). Our inland border was the San Gabriel Mountains (Hidakupa) and eastwardly our territory extended to parts of San Bernardino (Waatsngna), Orange, and Riverside counties.

