

Appendix H

Part 1 of 2

Appendix H

Hydrology and Water Quality Report



8850 Sunset

**Hydrology and Water Quality
Technical Report
December 20, 2018**

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PROJECT DESCRIPTION

A. Project Description

Existing Conditions

The project site is located on the south side of Sunset Boulevard in between N. San Vicente Boulevard and Larrabee Street at 8850 Sunset in the City of West Hollywood. The existing project site encompasses approximately 0.92 acres and includes a two-story building with 3 levels of below grade parking and a surface parking lot and appears to be 97% impervious. All existing buildings and hardscape will be removed as part of the proposed project.

Proposed Conditions

The site will be developed into a fifteen-story, commercial building over four levels of subterranean parking and will include including hotel, condominiums, and entertainment. The development will span approximately to the property line.

B. Surface Hydrology

Surface hydrology is regulated by the City of West Hollywood, Los Angeles County Department of Public Works (LACDPW) and State of California Water Resources Control Board. Requirements include compliance with the State of California General Permit for storm water discharges during construction for projects with over one acre of land disturbance, and post-construction compliance with the Los Angeles County Department of Public Works Hydrology Manual and City of West Hollywood Low Impact Development (LID) Standards.

Existing Hydrology

Existing storm water runoff from the project site is conveyed via sheet flow and curb drains to the adjacent streets. The existing site slopes mostly towards the south with an approximately 11% gradient. Additionally, there is an easterly slope of approximately 2.5% across the existing site.

The site is located within the Federal Emergency Management Agency (FEMA) Flood Zone X, which denotes an area where the potential for flooding is minimal. There are no surface water bodies in the project vicinity. See Appendix A for the FEMA Flood Map for the project location.

The LACDPW Hydrology Manual requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. The existing site's peak flow generated from a 50-year storm event is approximately 3.16 cubic feet per second. See Existing Hydrology Exhibit in Appendix B and Existing Hydrology Calculation in Appendix D.

Proposed Hydrology

Storm water runoff from the Project site will be conveyed to the public streets via roof downspouts and site area and podium drains, in a similar manner as the existing drainage. However, the proposed storm drain design will include modular wetland systems, capture and reuse systems, or other approved BMPs in order to treat storm water runoff as required by LACDPW and the City of West Hollywood.

The proposed development will also decrease the existing impervious area by adding planting and landscaping around the site and upper levels. The additional landscape area is insignificant for hydrology purposes, as the peak flow generated from a 50-year storm event will remain 3.14 cfs. See Proposed Hydrology Exhibit in Appendix B and Proposed Hydrology Calculation in Appendix D. Due to the additional storm water treatment requirements and increase in landscape area, the project's impact on the surface water hydrology is considered less than significant.

Existing Water Quality Management

Based on our research and existing records, there is currently no storm water BMPs on the existing site.

Proposed Water Quality Management – Construction

The State of California Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) requirements mandate that storm water Best Management Practices (BMPs) be implemented during Project construction including Storm Water Pollution Prevention Plan (SWPPP) for projects disturbing one acre or more. Since this project site is less than one acre, an NPDES SWPPP will not be required.

However, the City of West Hollywood requires a Local Storm Water Pollution Prevention Plan (LSWPPP) and preparation of an Erosion Control Plan (ECP), which will be approved by and filed with the City.

The Project LSWPPP and ECP will identify potential pollutant sources that may affect the quality of discharge associated with construction activity, identify non-storm water discharges, and recommend means and methods to effectively prohibit the entry of pollutants into the public storm drain system during construction.

Proposed Water Quality Management-Project Implementation

Permanent post-construction storm water management mitigation will be implemented per the County of Los Angeles Department of Public Works Low Impact Development Standards Manual, dated February 14, 2014.

LID (Low Impact Development) is a storm water management strategy with goals to mitigate the impacts of increased runoff and storm water pollution as close to its source as possible. Per the latest LID guidelines new construction developments must treat storm water through infiltration, capture and reuse, or biofiltration.

Considering the proposed development's subterranean footprint and the existing slope of the site, we expect infiltration to be infeasible. The required LID volume of storm water runoff will be treated using biofiltration systems. Biofiltration systems would consist of hard bottom biofilters

with layers of mulch, soil, and gravel which treat storm water through biofiltration before discharging it into the street or the 21 inch RCP storm drain main pipe in Sunset Blvd. These biofiltration systems can be located on podium decks on a multi-level building, as long as they are designed to accept concentrated drainage from levels above. The anticipated biofiltration systems will either be planter box(s) or proprietary BMP devices. The design team should engage early in satisfying storm water mitigation requirements.

Due to these required storm water quality mitigation measures to be implemented for construction activities and post-construction, impacts to the surface water hydrology and water quality are considered less than significant.

C. Groundwater Hydrology

Existing Groundwater

Based on a review of the City of West Hollywood General Plan (2011), the existing historic high groundwater can be approximated at 20 feet below the surface.

Proposed Groundwater Impacts

Due to the depth of excavation reaching below the historic high groundwater level, dewatering operations will likely be required during construction of the below grade parking. If this is the case, a small amount of groundwater would be removed during excavation, but only until the waterproofing is installed up to the groundwater table level. This impact on the area's groundwater levels is considered negligible and less than significant.

Regarding groundwater quality, BMPs required by the City of West Hollywood's LSWPPP guidelines and included in the project ECP will include spill prevention and cleanup guidelines, dewatering operations guidelines and storm water run-on prevention. These BMPs would protect the groundwater from contamination by construction activities. During normal building operations, the groundwater quality will be protected as the entire site is covered by the impervious basement floor and walls, preventing any opportunity of pollutant intrusion into the groundwater system.

Groundwater depletion as a result of development is caused by increasing the imperviousness of a site. The proposed project would not increase the imperviousness of the Project Site. Therefore, the Project would not deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and the impact would be less than significant.

APPENDIX A
FEMA Flood Zone Map

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



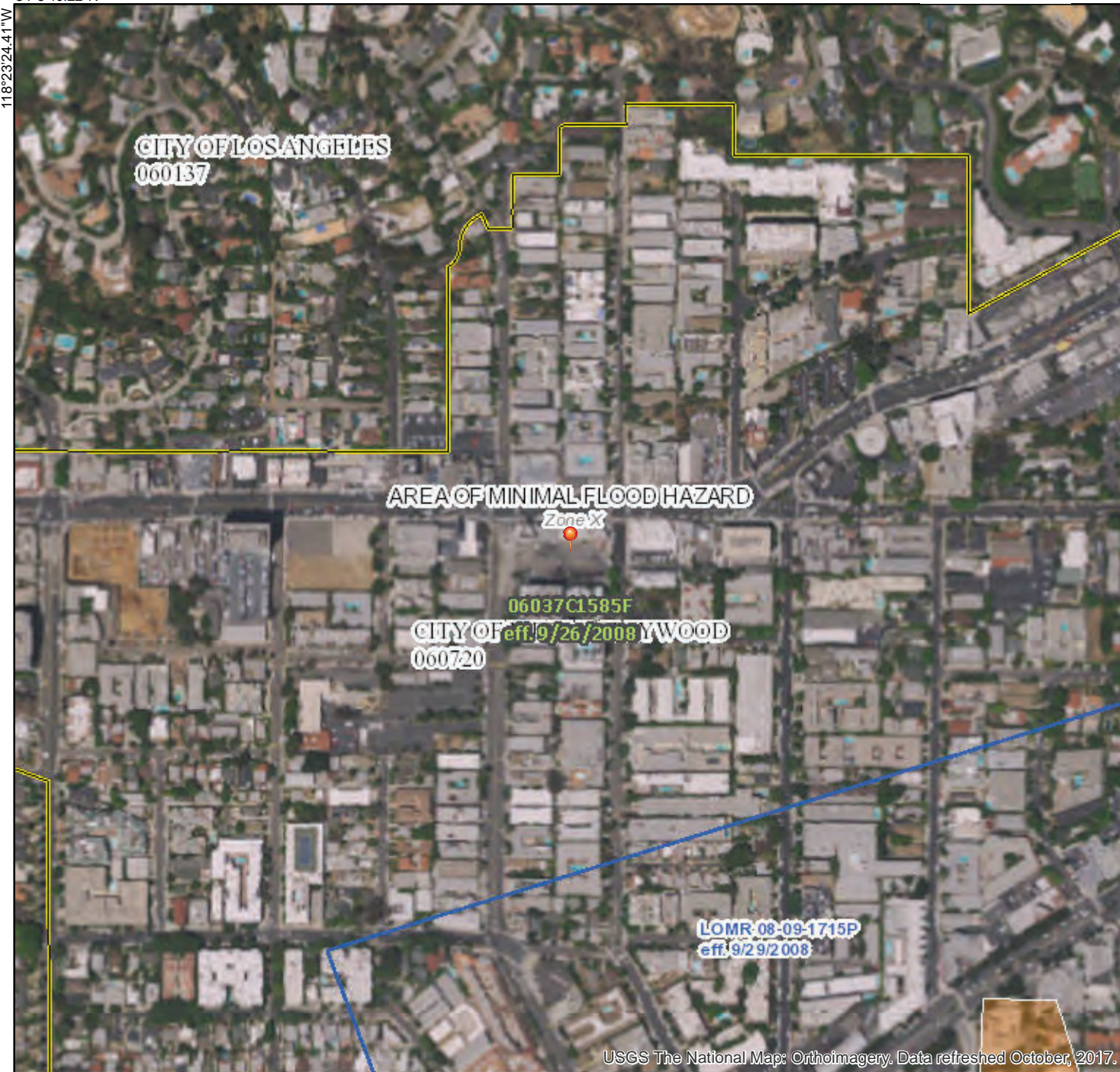
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/18/2018 at 12:30:14 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

118°23'24.41"W



USGS The National Map: Orthoimagery. Data refreshed October, 2017.

0 250 500 1,000 1,500 2,000 Feet 1:6,000 34°5'10.42"N

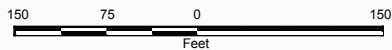
118°22'46.96"W

APPENDIX B
Existing Hydrology Exhibit

Existing Storm Drain

LEGEND

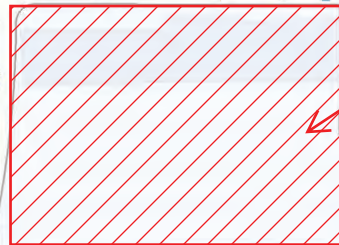
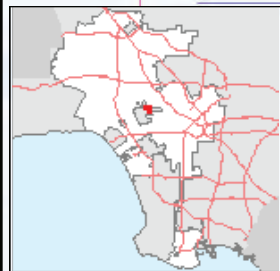
- Storm Drain Inlets**
- Storm Flow Direction**
- Storm Pipes**
 - Unknown
 - City of Los Angeles
 - Los Angeles County
 - Federal Government
 - Private
 - State of California
- Flow Path**
- Alleys**
- Streets**
 - Multiple Symbols
- Digital Sewer Wye Map Index**
- Drainage Map Index**
- City Boundary Outline**
- Easements**
 - Private Street
 - Original Lot & Deed in Street
 - Governmental (Except L.A. City)
 - City of Los Angeles
 - Former City Bnd/County/Other City
 - Tract Line in Street & Freeway
- Landbase Lines / Parcel Outline**
 - All Others
 - Right-of-way Sideline
 - Tract Line
 - Lot Line
 - Lot Cut
 - Freeway Road Way
- Parcels**



This map is a user generated static output from an Intranet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.



1 : 1,834



PROJECT LOCATION

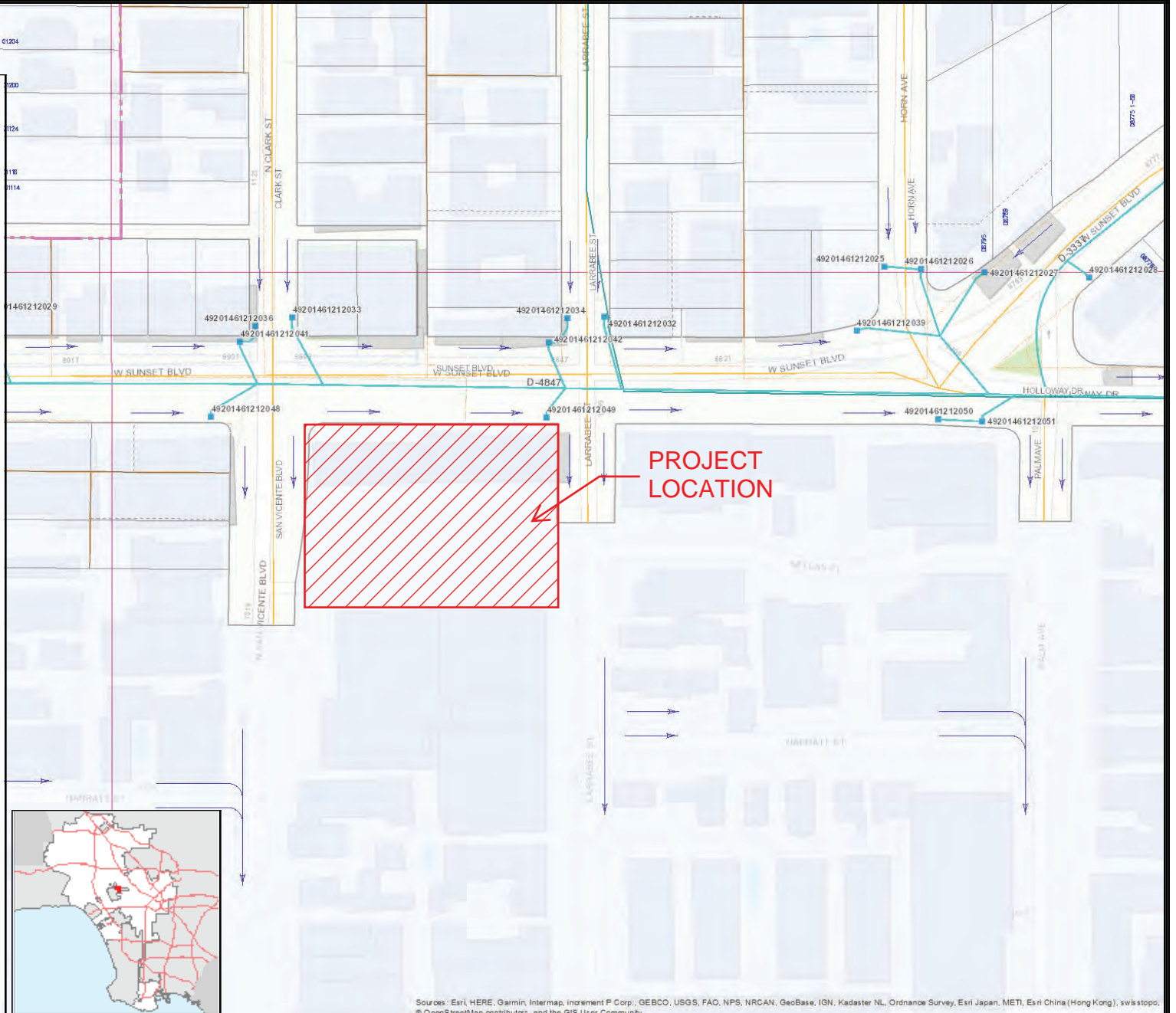
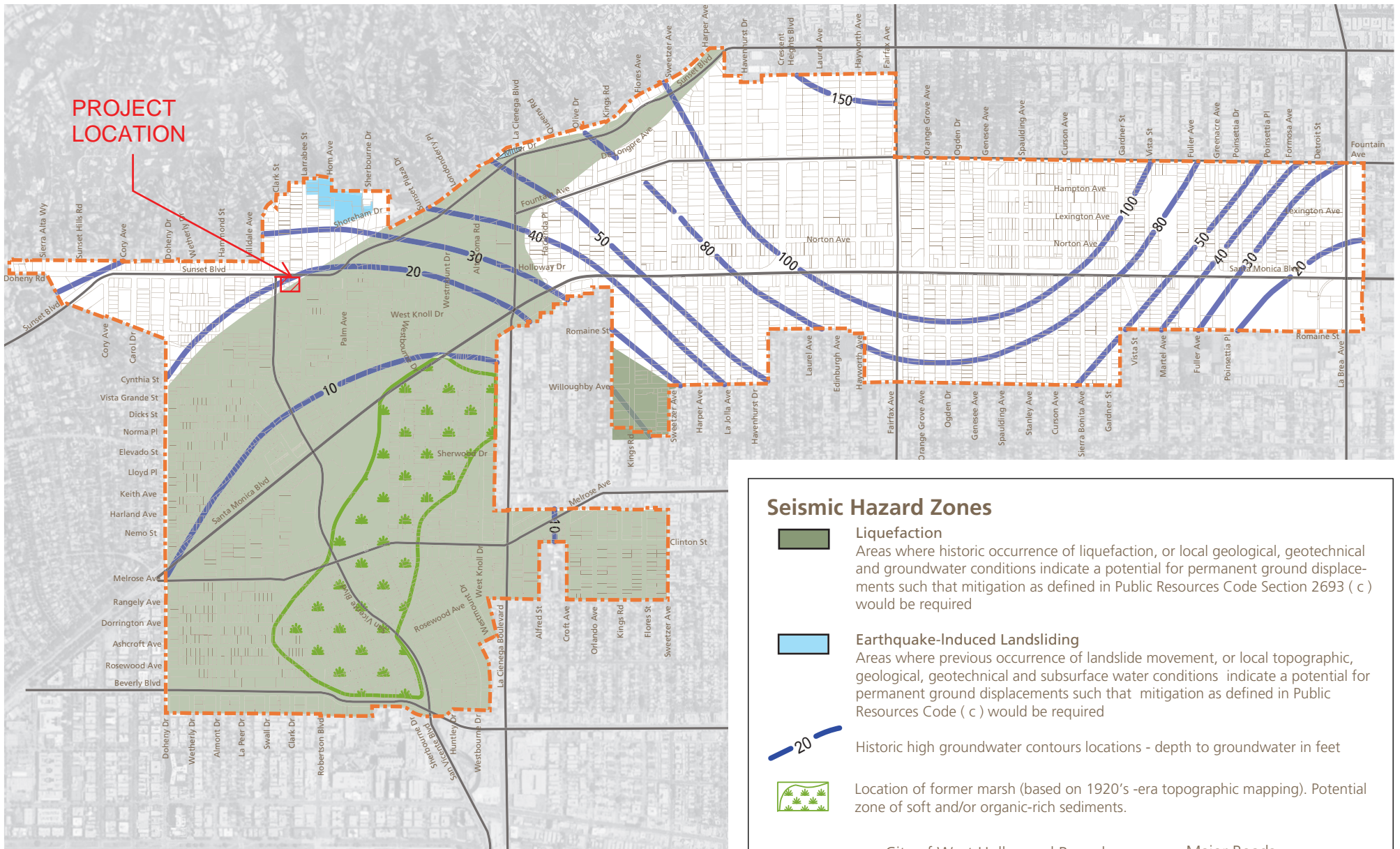








Figure 10-2: Seismic Hazard Zones




Source mapping from CDMG Seismic Hazard Zone Map of the Hollywood Quadrangle (CDMG 1999a) and Beverly Hills Quadrangle (1999b).

NOTE: ALL LOCATIONS, DIRECTIONS AND DIMENSIONS ARE APPROXIMATE

Seismic Hazard Zones

-  **Liquefaction**
Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693 (c) would be required
-  **Earthquake-Induced Landsliding**
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code (c) would be required
-  Historic high groundwater contours locations - depth to groundwater in feet
-  Location of former marsh (based on 1920's -era topographic mapping). Potential zone of soft and/or organic-rich sediments.
-  City of West Hollywood Boundary
-  Major Roads

0 500 1,000 2,000 ft 

City of West Hollywood General Plan 2035

