



MINIMUM PRESCRIPTIVE FOUNDATION DESIGN

MINIMUM PRESCRIPTIVE FOUNDATION DESIGN ONE STORY SINGLE AND TWO FAMILY DWELLINGS ON INFILL LOTS

The City of West Hollywood (the City) is located in an area where a broad variety of foundation soils conditions are encountered ranging from competent to poor. This document provides minimum prescriptive foundation options intended to reduce the adverse effects of soft compressible soils, expansive soils, and soils potentially subject to liquefaction during ground shaking. The provided options are applicable only to one-story single- or two- family homes on infill lots and for additions to existing single- or two-family homes. An infill lot is defined as a lot that is adjacent to at least two lots with existing residential structures.

The provided minimum prescriptive options may be used in lieu of site-specific geotechnical study and structural foundation design. As an alternative to the prescriptive foundation options, the homeowner may elect to retain the services of a geotechnical and structural consultant for the design of foundation elements. The provided design options are considered conservative for the expressed intent of reducing the potential hazards associated with non-uniform, unstable, and/or weak subgrade soil conditions. There may be local site-specific conditions, e.g., non-engineered fill, localized instability, where the use of these minimum prescriptive foundation system may not be deemed appropriate at the judgment of the Building Official and the project would then require site-specific engineering design.

In order to differentiate between the various geotechnical conditions within the City limits, the City has established three geotechnical development zones, Zones I through III, as delineated on the attached Figure 1. The zones and associated prescriptive foundation systems are described as below:

	Zone characteristics	Foundation system
Zone I	Potential soft/compressible and/or expansive soils	City of West Hollywood Building and Safety Division Type V sheet “Wood Frame Prescriptive Provisions” applies.
Zone II	As Zone I plus peat deposits and soils potentially susceptible to liquefaction	Thickened edge mat foundation (Figure 2)
Zone III	Areas potentially susceptible to earthquake induced landsliding	Site-specific geotechnical evaluation is required.

For Zone III, a site-specific geotechnical evaluation is required to characterize and, if needed, mitigate the landsliding potential. In addition, a Fault Precaution Zone (FPZ) is established in the northern portion of the City (Figure 1) where any new developments require additional investigation and evaluation by the Applicant and subsequent review and approval by the City of West Hollywood Building & Safety Division.



All foundations shall be designed in accordance with the minimum requirements for each zone and the current edition of the California Building Code and Los Angeles County Amendments adopted by the City at the time of permit application.

ZONE I

Potential soft/compressible and/or expansive soils

Use City of West Hollywood Building and Safety Division Type V sheet “Wood Frame Prescriptive Provisions”.

ZONE II

Peat deposits and soils potentially susceptible to liquefaction

Applicable construction within Zone II shall be supported on thickened edge mat foundation as shown on Figure 2. Exterior posts of improvements connected to the residence, e.g., patio cover posts, may be supported on deepened pad footings or on continuous thickened edge footing as shown on Figure 3.

1. The soils below mat slab shall be pre-saturated with potable water to a depth of at least 18 inches prior to placing the concrete. The Building Inspector will determine if the pre-wetting of subgrade soils is adequate.
2. The interior of the thickened edge mat slab shall be cast over 2 inches of dry/slightly moist silty sand over a 10-mil moisture barrier membrane placed on at least 2 inches of silty sand.
3. Mat slab shall be at least 12 inches thick (actual thickness) with thickened edges extending not less than 24 inches below the lowest adjacent grade and reinforced with #5 deformed reinforcing bars placed 12 inches on center each way at the top and bottom of the slab, and 5-#5 reinforcing bars at the top and bottom at the thickened edges.
4. Wood-framed exterior columns of improvements connected to the residence shall be founded on at least 18 inches square deepened pad footings extending at least 30 inches below the lowest adjacent grade. The deepened pad footing shall be reinforced at the bottom with 2-#4 reinforcing bars each way. Alternatively, the exterior columns may be founded on a thickened edge of a 4 inches thick patio slab reinforced with #4 bars placed 16 inches on center each way located in the mid-thickness of the slab. The thickened edge shall be reinforced at the top and the bottom with 2-#4 reinforcing bars continuous in the longitudinal direction.

ZONE III

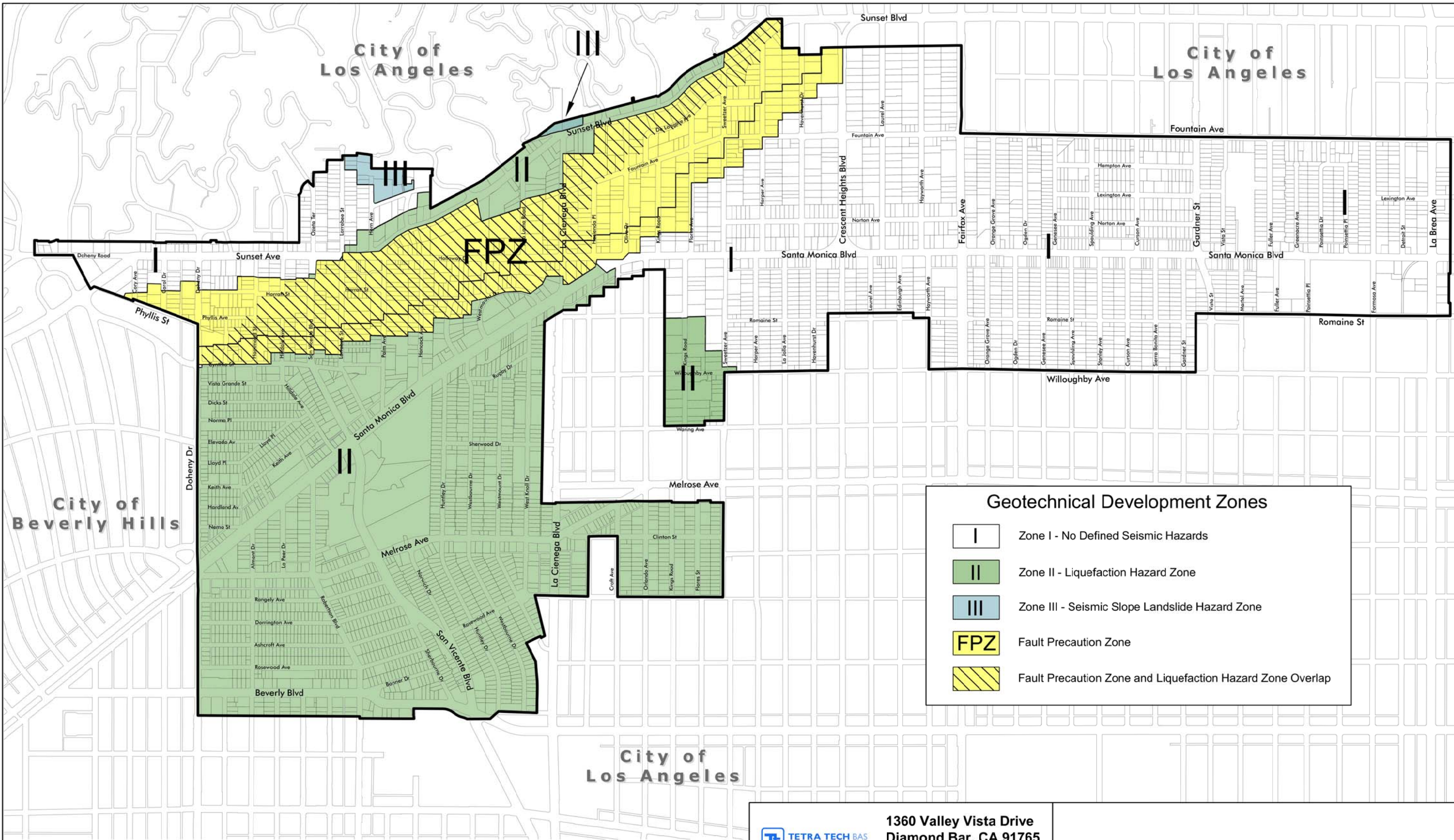
Potential for earthquake-induced landslides



Construction sites located within the designated earthquake-induced landsliding zone require site-specific evaluation by a qualified geologist and/or engineer to characterize and, if needed, mitigate the landsliding potential.

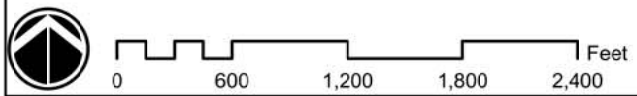
Fault Precaution Zone

Construction sites located within the City's designated Fault Precaution Zone for rupture hazards associated with activity on the Hollywood fault require site-specific investigation and approval by the City Building & Safety Division.



Geotechnical Development Zones

I	Zone I - No Defined Seismic Hazards
II	Zone II - Liquefaction Hazard Zone
III	Zone III - Seismic Slope Landslide Hazard Zone
FPZ	Fault Precaution Zone
[Diagonal Hatching]	Fault Precaution Zone and Liquefaction Hazard Zone Overlap



Source mapping from CDMG Seismic Hazard Zone Map of the Hollywood Quadrangle (CDMG, 1999a) and Beverly Hills Quadrangle (CDMG, 1999b), and KFM Geoscience (2010).

	1360 Valley Vista Drive Diamond Bar, CA 91765 Phone (909) 860-5096		
	Project Name:	Geotechnical Checklist - West Hollywood, CA	
Project Number:	cWH 13-27E	Date:	October 2013

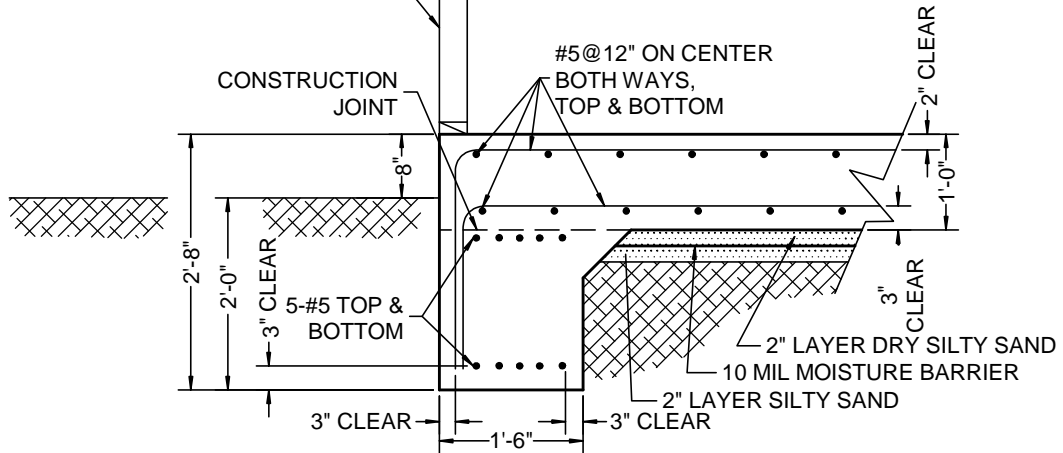
Geotechnical Development Zones

Figure 1

NOTES:

1. SATURATE SOIL 18" DEEP PRIOR TO PLACING CONCRETE.
2. FOR ANCHOR BOLTS, SEE "WOOD FRAME PRESCRIPTIVE PROVISIONS".
3. MIN 28-DAY COMPRESSIVE CONCRETE STRENGTH ($f'c$) SHALL BE 3,000 PSI.
4. SPECIAL DEPUTY INSPECTION REQUIRED.

FOR FRAMING SEE "WOOD FRAME PRESCRIPTIVE PROVISIONS"

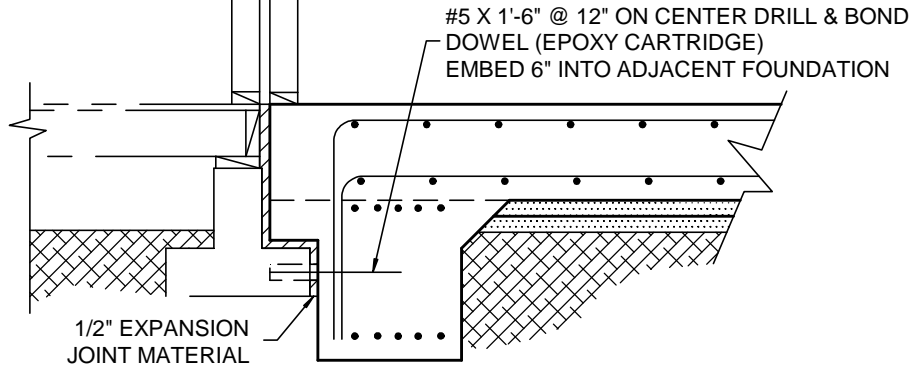


TYPICAL SECTION

ADJACENT EXISTING FOUNDATION | NEW FOUNDATION

NOTES:

1. FOR DETAILS NOT SHOWN, SEE "TYPICAL SECTION" ABOVE.
2. DOWELS SHALL BE USED TO JOIN NEW FOUNDATION TO EXISTING STRUCTURE.



CONNECTION TO ADJACENT FOUNDATION

CITY OF WEST HOLLYWOOD

**ZONE II
MAT FOUNDATION**

DESIGNED BY : B. WALDROP

DATE : 10/9/13

SCALE : N.T.S.

FILE :

FIGURE 2

