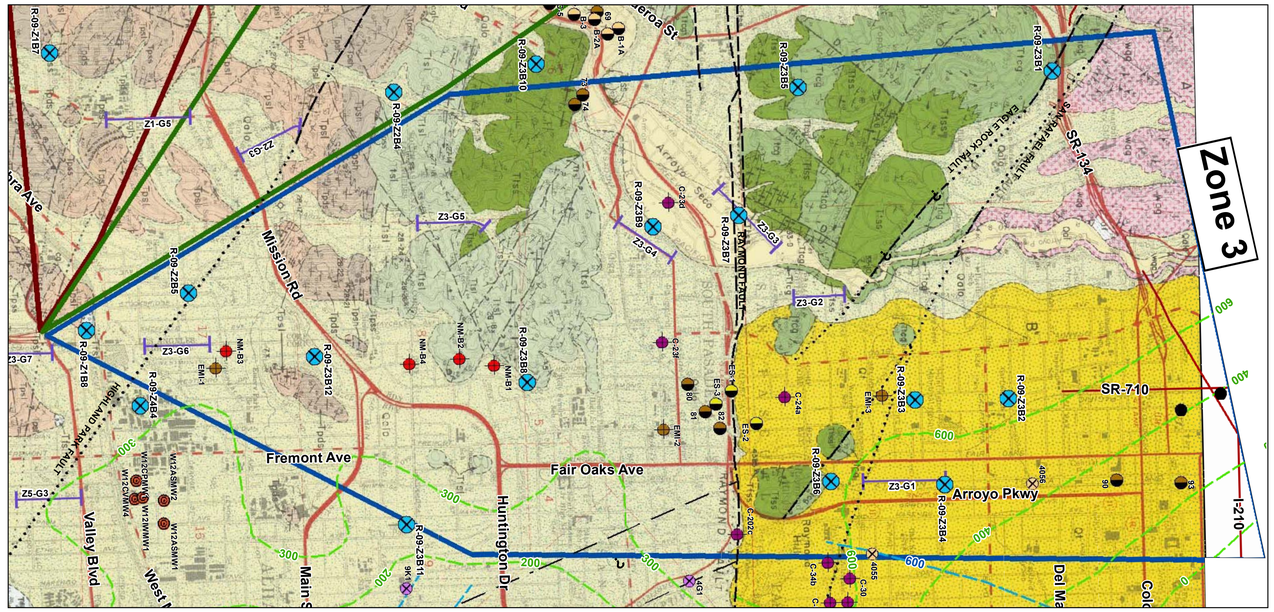
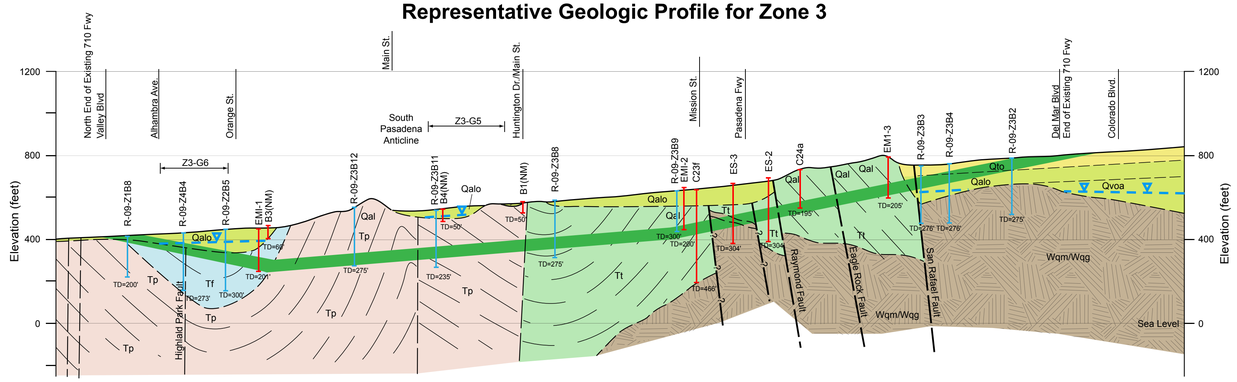
Geotechnical Map



Representative Geologic Profile for Zone 3



EXPLANATION

HORIZONTAL GRAPHIC SCALE

2,000 0 1,000 2,000

Data Sources:

CDMG (1998d)	Geoscience (2004)
CDWR (1966)	Lamar (1970)
CH2M HILL (2009)	MSGW (2006)
EMI (2006)	Morton and Miller (2003)
Dibblee (1989b)	Tan (2000b)
Dibblee (1999)	

UNITS (from Lamar, 1970)

Quaternary Deposits

- Qto — Old Terrace and fan alluvium: primarily sand and gravel
- Qalo — Old Alluvium, sand and gravel
- Qvoa — Very Old Alluvium: primarily cobbles and coarse gravel

Fernando Formation (Pliocene; Undifferentiated)

- Tf — Siltstone: massive

Puente Formation (Late Miocene)

- Tp — Interbedded Siltstone, claystone, mudstone, shale and sandstone, brown, gray, and black

Topanga Formation (Middle Miocene)

- Tt — Predominantly sandstone and conglomerate with abundant interbeds of siltstone and mudstone; brown, dark gray, and black.

Crystalline Basement Rocks (Mesozoic)

- Wqm Wqg — Primarily Diorite and gneiss; generally highly fractured

SYMBOLS (All locations are approximate)

- Z4-B4 — Continuous Core Boring (CH2M HILL, this study)
- 14D1 — Water Production Well (CDWR, 1966)
- Z5-G2 — Seismic Reflection Line (CH2M HILL, this study)
- C23f — Caltrans Boring (1974a)
- B4(NM) — Ninyo and Moore (1999)
- EMI-2 — Continuous Core Boring (EMI, 2006)
- ES-2 — Caltrans Boring (1974b)
- Typical Tunnel Profile
- Historically Highest Groundwater Level (CDMG, 1998f, 1998d)
- 2006 Groundwater Level (MSGW, 2006 and RBMB, 2006)
- Inactive Fault
- Active Fault
- Geologic Contact, dashed where inferred or indefinite

Legend

(All Locations are Approximate)

- R-09-Z1B8 — Continuous Core Boring (CH2M HILL, this study)
- W12ASMW2 — Facility Monitoring Well (CH2M HILL, 2009)
- Caltrans As-built LOTB's (Various Locations)
- 4077B — Water Production Well; Location for which only Groundwater Data in Available (LACDPW, 2009)
- EMI-1 — Continuous Core Boring (EMI, 2006)
- A-1 and B-3 — Geotechnical Boring (City of Los Angeles, 2000, 2006a, and 2006b)
- C-1 — Geotechnical Boring (URS, 2006)
- MW-17 — Groundwater Monitoring Well (CH2M HILL, 2006)
- CA-DSW — Water Production Well (Geosyntec, 2004)
- MW1-4 — Groundwater Monitoring Well (CH2M HILL, 2003)
- B-90 — Geotechnical Boring (City of Los Angeles, 2001)
- NM-B1 — Boring (Ninyo and Moore, 1999)
- 80 — Geotechnical Boring (Law/Crandall, 1993)
- PO-103-182 — Monitoring Well, (JMMI, 1992 and CH2M HILL, 2007)
- 2760c — Boring (Yerkes, et al, 1977)
- C-65/C-23f — Boring (Caltrans, 1974a)
- ES-1 — Geotechnical Boring (Caltrans, 1974b)
- 9D2 — Water Production Well (CDWR, 1966)
- 200 — Depth to Bedrock in Feet Below Existing Ground Surface (Yerkes, et al, 1977)
- 1400 — Structural Contour Line, Elevation at Top of Bedrock in Feet (MSL) (CDWR, 1966 and Geoscience, 2004)
- 220 — Groundwater Elevation in Feet (MSL) (San Gabriel Basin - MSGW, 2006 and Raymond Basin - RBMB, 2006 and 2007)
- Z2-G2 — Seismic Reflection Line (CH2M HILL, this study)
- Zone 1 Limits
- Zone 2 Limits
- Zone 3 Limits
- NEIS
- ECIS
- Metro Red Line
- Metro Gold Line Eastside Extension (Tunnel Portion)
- Existing Street, Road, or Highway

Source of Base Map: Lamar, 1970

North

0 2,000 4,000 Feet

0 750 1,500 Meters

DRAFT

PLATE 7
Representative Geologic Profile and Geotechnical Map for Zone 3
SR-710 Tunnel Technical Study
Los Angeles County, California

CH2MHILL

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