

INFORMATION HANDOUT

**For Contract No. 06-487504
At 06-Kings-198-R16.5/R17.2**

**Identified by
Project ID 0600004881**

MATERIALS INFORMATION

Geotechnical Recommendation (Overhead Signs)

Memorandum

*Flex your power!
Be energy efficient!*

To: ALICIA RODRIGUEZ
Project Development, Design III
Traffic Design
District 6

Date: January 13, 2012

File: 06-KIN-198 PM R16.5/R17.2
EA: 06-487501
FFIS: 0600000488
Overhead Signs

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Geotechnical Recommendation

Per your request, the Office of Geotechnical Design North (OGDN) has prepared this memorandum providing geotechnical recommendations for the proposed overhead signs to be installed near 12th Ave. OC on SR 198 in Kings County.

Based on the Sign Details SD1 and SD2 provided to us, we understand that the overhead signs will be standard plan structures and Caltrans Standard Plans 2010 will be used. Table 1 below summarizes the proposed types of the signs and their foundations. The proposed foundations are in compliance with 2010 Standard Plan S8, Overhead Signs –Truss Single Post Type, Round Pedestal Pile Foundation and 2010 Standard Plan S49 Overhead Signs – Lightweight Foundation Details.

Type of Sign	Foundation
Laminated Panel, Type A Post Type V	CIDH Pile Diameter 54-inch, Length 19-foot
Laminated Panel, Type A Post 6-inch NPS, wall thickness of 0.432-inch	CIDH Pile Diameter 30-inch, Length 10-foot
Laminated Panel, Type A Post 8-inch NPS, wall thickness of 0.50-inch	CIDH Pile Diameter 30-inch Length 11-foot
Laminated Panel, Type A Post 10-inch NPS, wall thickness of 0.50-inch	CIDH Pile Diameter 36-inch, Length 13-foot

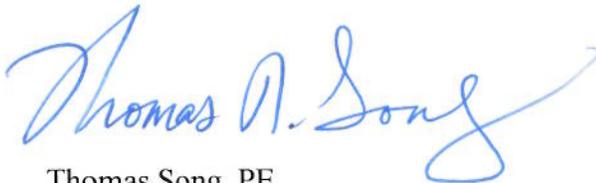
Based on our communication with Mr. Stanley P. Johnson, specialist for Signs and Overhead Structures and Caltrans Standard Plans May 2006, the subject foundation specifications provided in Standard Plans 2010 assume a subsurface condition consisting of a cohesionless material with an internal friction angle of 30 degree and a unit weight of 120 pcf.

Field investigation was not performed at this time. Subsurface conditions at the proposed sign locations are evaluated based on existing Logs of Test Borings (LOTBs) for 12TH Ave. OC (Widen). Photocopy of the LOTBs is provided in the Attachment of this memorandum. Based on the LOTBs, a majority of the subsurface materials encountered consisted of sands, silts, and their mixtures with apparent densities of medium dense to dense. As such, the aforementioned soil parameters assumed in Standard Plans 2010 are judged available at the site. Therefore, the site is suitable to receive the proposed overhead signs and their foundations.

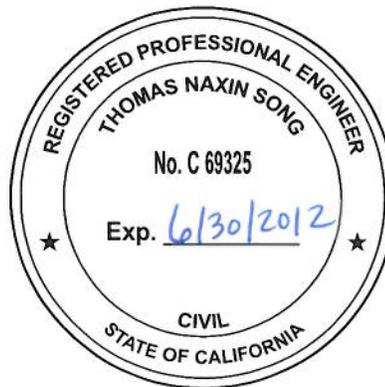
Based on the LOTBs, groundwater was encountered in Boring R-11-002 at a depth of about 14 feet below the ground surface at the time of field exploration. Depending on location and depth of excavation, groundwater maybe encountered during installation of CIDH pile. If encountered, temporary dewatering may be required or wet construction method including testing should be used. In addition, loose materials were documented in the LOTBs at depths near ground surface. If encountered, the loose materials and groundwater could increase the potential of caving of drilled CIDH holes, which may require the use of temporary casing during CIDH pile installation.

This memorandum completes the scope of work of your request. The evaluations, discussions, and recommendations contained herein are based on specific project information regarding location, design, and construction that have been provided and expected. If any changes are proposed during final project design and/or construction, OGDN should review the changes to determine if the recommendations are still applicable.

If you have any questions, please call me at (916) 227-1057.



Thomas Song, PE
Transportation Engineer – Civil
Geotechnical Design – North
Geotechnical Services
Division of Engineering Services



- C: District Project Manager, Jim Heinen
District Construction R.E. Pending File
District Material Engineer, Doug Lambert
GS Corporate, Shira Rajendra

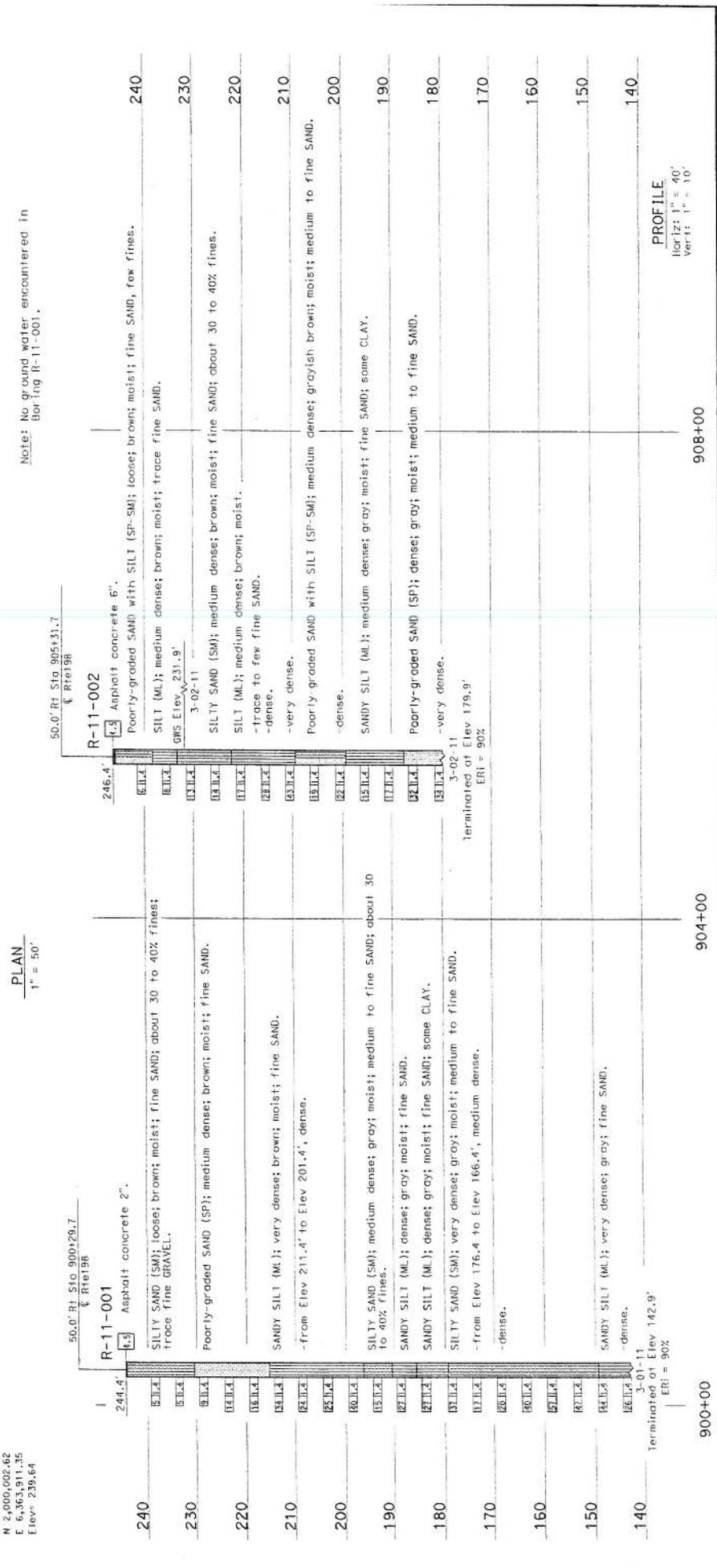
Attachment

LOTBS for 12TH Ave. OC (Widen)

DIST	COUNTY	ROUTE	PROJECT	SHEET TOTAL
006	K.110	198		NO. SHEETS
Thomas A. Seng REGISTERED CIVIL ENGINEER				DATE
08-22-11 PROFESSIONAL SEAL NO. 43315 CIVIL ENGINEER				DATE
PLANS APPROVAL DATE The State of California or its officers or agents shall not be held responsible for the consequences of electronic copies of this plan sheet.				

This LOG sheet was prepared in accordance with the California Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

Note: No ground water encountered in Boring R-11-001.



BENCH MARK

- SURVEY CONTROL**
- FBM101 Iron Pipe w/ California Red Plug
305.465 ft RT "A1" Line, Rte 198
N 1,999,471.01
E 6,363,331.44
Elev= 254.51
 - FBM102 Iron Pipe w/ California Red Plug
112.28 ft LT "A1" Line, Rte 198
S 10,908,411.57
N 2,600,602.62
E 6,363,911.35
Elev= 239.64

50.0' Rt Sta 900+29.7
Rte 198

R-11-001

244.4' Asphalt concrete 2"

- 240 SILTY SAND (SM); loose; moist; fine SAND; about 30 to 40% fines; trace fine GRAVEL.
- 230 Poorly-graded SAND (SP); medium dense; brown; moist; fine SAND.
- 220 SANDY SILT (ML); very dense; brown; moist; fine SAND.
- 210 -from Elev 211.4' to Elev 201.4'; dense.
- 200 SANDY SILT (ML); medium dense; gray; moist; medium to fine SAND; about 30 to 40% fines.
- 190 SANDY SILT (ML); dense; gray; moist; fine SAND.
- 180 SANDY SILT (ML); dense; gray; moist; fine SAND; some CLAY.
- 170 SILTY SAND (SM); very dense; gray; moist; medium to fine SAND.
- 160 -from Elev 176.4 to Elev 166.4'; medium dense.
- 150 SANDY SILT (ML); very dense; gray; fine SAND.
- 140 -dense.

50.0' Rt Sta 905+31.7
Rte 198

R-11-002

246.4' Asphalt concrete 6"

- 240 Poorly-graded SAND with SILT (SP-SM); loose; brown; moist; fine SAND, few fines.
- 230 SILT (ML); medium dense; brown; moist; trace fine SAND.
- 220 SILTY SAND (SM); medium dense; brown; moist; fine SAND; about 30 to 40% fines.
- 210 SILT (ML); medium dense; brown; moist.
- 200 -trace to few fine SAND.
- 190 -very dense.
- 180 Poorly-graded SAND with SILT (SP-SM); medium dense; grayish brown; moist; medium to fine SAND.
- 170 -dense.
- 160 SANDY SILT (ML); medium dense; gray; moist; fine SAND; some CLAY.
- 150 Poorly-graded SAND (SP); dense; gray; moist; medium to fine SAND.
- 140 -very dense.

900+00

904+00

908+00

ENGINEERING SERVICES THOMAS A. SENG REGISTERED CIVIL ENGINEER 08-22-11		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION PROJECT NUMBER & PHASE: 06000004881 UNIT: 3643		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X PROJECT NO.: 45-0009 POST-MILE: R16.9		12TH AVE OC (WIDEN) LOG OF TEST BORINGS 1 OF 4	
FUNCTIONAL SUPERVISOR NAME: J. Huang		FIELD INVESTIGATION BY B. Dargatzis / J. Huang		PROJECT NUMBER & PHASE: 06-467501		DATE: 08/22/11	