GEOTILL Inc.

Geotechnical Engineering • Subsurface Exploration • Environmental Services • Construction Testing and Material Engineering

GEOTECHNICAL ENGINEERING LIBRARY

GEOTILL

USA

GEOTILL

ENGINEERING, INC.

Phone 317-449-0033 Fax 317- 285-0609

info@geotill.com

Toll Free: 844-GEOTILL

Geotechnical, Environmental and Construction Materials Testing Professionals

www.geotill.com

Offices Covering all USA

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

Section # Page #	**Description**	**Date**
Figure 2-3 Page 7	Part 8, *Hole Completion,* 2th bullet is amended to read: • *Sealing Method (e.g., grout, dry bentonite chips)*	10/2015
Figure 2-3 Page 7	Add new: • Part 9, "***Instrumentation Installed***"	10/2015
Page 10	Add new: Section 2.5.1.3, "***Description of Isolated Interbeds/layer***" *For small isolated layers or interbeds, it is acceptable to call out the isolated layer without having to create a new layer as long as the following conditions are met: (1) the isolated layer must be 2 feet thick or less, and (2) the isolated layer must be described completely per Sec. 2.5.1, and (3) predominant soil description above and below the isolated layer are the same.* *Poorly Graded SAND (SP); dense; brown; moist; fine sand.* *6 inch thick interbed of Fat Clay (CH); very stiff; black; moist; PP=3 tsf.*	10/2015
Page 10	Change **2.5.1.3 Description of Fills** to **2.5.1.4**	10/2015
Section 2.5.2 Page 11	The 2nd paragraph is amended to read: *The ASTM procedure for identifying and describing fine-grained and coarse-grained soil is only applicable to material passing the 3-inch sieve. The percentage(s) of cobbles and/or boulders (if encountered) must be reported per Section 2.5.17* ***and the group name must be modified accordingly.***	10/2015

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

<table>
<tr><th>Section #
Page #</th><th>Description</th><th>Date</th></tr>
<tr><td>Section 2.5.2 Page 11</td><td>The text is modified as follows:

The group name for a soil with a borderline symbol must be the group name for the first symbol. <s>except for:</s>
• <s>CL/CH lean to fat CLAY</s>
• <s>ML/CL CLAYEY SILT, and</s>
• <s>CL/ML SILTY CLAY”</s></td><td>10/2015</td></tr>
<tr><td>Sec. 2.5.2 Page 11</td><td>Dual Symbol is modified as follows:

A dual symbol is two symbols separated by a hyphen, e.g., GP-GM, SW-SC, GW-GC. They are used to indicate that a soil has about 10% fines.</td><td>10/2015</td></tr>
<tr><td>Figure 2-13 Page 17</td><td>The figure is amended to read:

Percent or Proportion of Soil, Pp
<table>
<tr><th>Description</th><th>Criteria</th></tr>
<tr><td>Trace</td><td>Particles are present but estimated to be less than 5%</td></tr>
<tr><td>Few</td><td>5 - 10%</td></tr>
<tr><td>Little</td><td>15 - 25%</td></tr>
<tr><td>Some</td><td>30 - 45%</td></tr>
<tr><td>Mostly</td><td>50 - 100%</td></tr>
</table></td><td>10/2015</td></tr>
</table>

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

<table>
<tr><th>Section #
Page #</th><th>Description</th><th>Date</th></tr>
<tr><td>Figure 2-14
Page 17</td><td>The figure is amended to read:

Particle Size, Ps
<table>
<tr><th>Description</th><th>Sieve Size</th><th>Approximate Particle Size (in)</th></tr>
<tr><td>Boulder</td><td>Greater than 12 in.</td><td>12 < Ps</td></tr>
<tr><td>Cobble</td><td>3 - 12 in.</td><td>3 < Ps ≤ 12</td></tr>
<tr><td>Coarse Gravel</td><td>3/4 - 3 in.</td><td>3/4 < Ps ≤ 3</td></tr>
<tr><td>Fine Gravel</td><td>No. 4 - 3/4 in.</td><td>1/5 < Ps ≤ 3/4</td></tr>
<tr><td>Coarse Sand</td><td>No. 10 - No. 4</td><td>1/16 < Ps ≤ 1/5</td></tr>
<tr><td>Medium Sand</td><td>No. 40 - No. 10</td><td>1/64 < Ps ≤ 1/16</td></tr>
<tr><td>Fine Sand</td><td>No. 200 - No. 40</td><td>1/300 < Ps ≤ 1/64</td></tr>
<tr><td>Fines</td><td>Passing No. 200</td><td>Ps ≤ 1/300</td></tr>
</table></td><td>10/2015</td></tr>
<tr><td>Sec. 2.5.19
Page 21</td><td>“Additional Comments”, add bullet:

• No SPT recovery from elev. XX to elev. XX</td><td>10/2015</td></tr>
<tr><td>Figure 2-23
Page 22</td><td>Item 11, “Relative Strength of Intact Rock”, is amended to read:
<table>
<tr><td>11</td><td>Relative Strength of Intact Rock</td><td></td><td>3.3</td><td></td><td>○</td></tr>
</table></td><td>10/2015</td></tr>
<tr><td>Section 2.6.1.3
Page 23</td><td>Add the following to the end of the section:

If subsequent changes only occur in the soil properties, these changes can be shown independently in parentheses.

SEDIMENTARY ROCK (SANDSTONE); medium grained; gray; intensely weathered; soft; unfractured (Well-graded SAND (SW); medium dense; moist; medium sand; weak cementation)

(dense)

(medium dense)</td><td>10/2015</td></tr>
</table>

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

<table>
<tr><th>Section # Page #</th><th>Description</th><th>Date</th></tr>
<tr><td>Figure 2-44 Page 36 & 37</td><td>Add new row:

<table><tr><th>Test Method(s)</th><th>Test Name</th><th>Material Required</th><th>Typical Sample Size/Type</th><th>TL-101 Required</th></tr><tr><td>ASTM D 6467</td><td>Drained Residual Shear Strength</td><td>1 lb.</td><td>1 Tube</td><td>No</td></tr></table>
Also:
Replace “ASTM D 5333” with ASTM D 4546”
Delete “ASTM D 427”
Replace “ASTM D 2938” with “ASTM D 7012 Method C”
Replace “ASTM D 4767” with “ASTM D 7263”</td><td>10/2015</td></tr>
<tr><td>Section 5.2.2 Page 59</td><td>Add bullets to “Optional notes may include:”
Depth and length of no recovery
No SPT recovery from elev XX to elev XX</td><td>10/2015</td></tr>
<tr><td>Section 5.2.3.3 Page 60</td><td>Item (a) is amended to read:

The Plan View should be shown at the top of the first LOTB sheet. When the site is sufficiently large or complex, the first LOTB sheet should be used entirely for the Plan View.

Item (d):

Change “BENCHMARK” to “BENCH MARK”</td><td>10/2015</td></tr>
<tr><td>Section 5.2.3.4 Page 61</td><td>Add:

l) Show RQD and/or recovery</td><td>10/2015</td></tr>
<tr><td>Figure 5-3 Page 63</td><td>Add:
Groundwater symbol to CPT boring
Next to the diamond “symbol”, add Hole Type “RC” and Description “Rotary core with continuously-sampled, self-casing wire-line”</td><td>10/2015</td></tr>
</table>

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

Section # Page #	Description	Date
Figure 5-4 Page 64	Under Field and Laboratory Testing: • Add "DR – Drained Residual Shear Strength (ASTM D 6467)" • Replace "CL – Collapse Potential (ASTM D 5333)" with "CL – Collapse Potential (ASTM D 4546)" • Delete "SL – Shrinkage Limit (ASTM D 427)" • Replace "Unconfined Compression – Rock (ASTM D 2938)" with "Unconfined Compression – Rock (ASTM D 7012 Method C)" • Replace "UW – Unit Weight (ASTM D 4767)" with "UW – Unit Weight (ASTM D 7263)"	10/2015
Section A.10 Page 81	End of second paragraph, add: • *"Mechanical breaks must be fitted together and counted as one piece."*	10/2015

Soil and Rock Logging, Classification, and Presentation Manual (2010)
Erratum Sheet

<table>
<tr><th>Section #
Page #</th><th>Description</th><th>Date</th></tr>
<tr><td>Figure 2-3
Page 7</td><td>Item 4 is amended to read:
o Northing and Easting, local coordinate reference system (required)</td><td>8/2018</td></tr>
<tr><td>Figure 4-3
Page 54</td><td>Change location information to Northing and Easting</td><td>8/2018</td></tr>
<tr><td>Figure 5-1
Page 58</td><td>Change location information to Northing and Easting

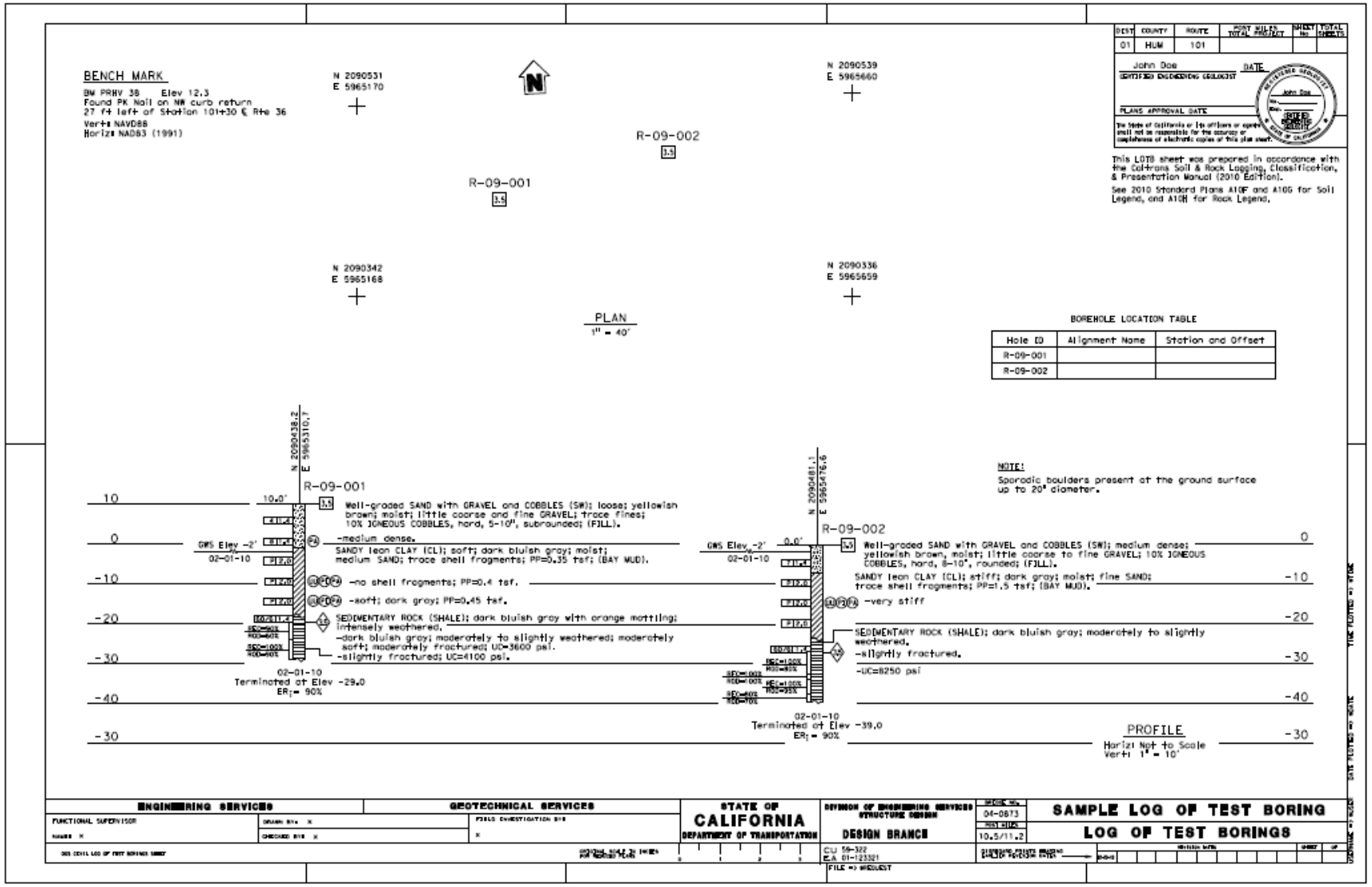
Add the following Table:

<table><tr><th>Hole Identification</th><th>Alignment Name</th><th>Station and Offset</th></tr><tr><td>R-09-001</td><td>C/L Rte 96</td><td>100+30.2 18.8′ Rt</td></tr><tr><td>R-09-002</td><td>C/L Rte 96</td><td>101+96.1 27.8′ Lt</td></tr></table></td><td>8/2018</td></tr>
<tr><td>Section 5.2.3.3
Page 60</td><td>Add new:

m) Show Table listing Hole Identification, Alignment Name, and Station and Offset</td><td>8/2018</td></tr>
<tr><td>Section 5.2.3.4
Page 61</td><td>Delete the following:
a) Show the control line, increasing from left to right, horizontally across the bottom of the Profile View.

Item (c) is amended to read:
c) Show the Hole Identification, top of hole elevation, Northing and Easting at the top of each boring log

Item (i) is amended to read:
i) Show results from field penetration tests at relevant elevations along the boring log (see Appendix A.8)</td><td>8/2018</td></tr>
</table>


BENCH MARK
BM PRHV 38 Elev 12.3
Found PK Nail on NW curb return
27 ft left of Station 101+30 ℄ Rte 36
Vertx NAVD88
Horizx NAD83 (1991)
N 2090531
E 5965170
N 2090539
E 5965660
R-09-002
3.5
R-09-001
3.5
N 2090342
E 5965168
N 2090336
E 5965659
PLAN
1" = 40'
DIST 01
COUNTY HUM
ROUTE 101
JOHN DOE
DATE
PLANS APPROVAL DATE
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.
BOREHOLE LOCATION TABLE
Hole ID
Alignment Name
Station and Offset
R-09-001
R-09-002
N 2090438.2
E 5965310.7
R-09-001
10.0'
3.5
Well-graded SAND with GRAVEL and COBBLES (SW); loose; yellowish brown; moist; little coarse and fine GRAVEL; trace fines; 10% IGNEOUS COBBLES, hard, 5-10", subrounded; (FILL).
GWS Elev -2'
02-01-10
-medium dense.
SANDY lean CLAY (CL); soft; dark bluish gray; moist; medium SAND; trace shell fragments; PP=0.35 tsf; (BAY MUD).
-no shell fragments; PP=0.4 tsf.
-soft; dark gray; PP=0.45 tsf.
SEDIMENTARY ROCK (SHALE); dark bluish gray with orange mottling; intensely weathered.
-dark bluish gray; moderately to slightly weathered; moderately soft; moderately fractured; UC=3600 psi.
-slightly fractured; UC=4100 psi.
02-01-10
Terminated at Elev -29.0
ER= 90%
N 2090481.1
E 5965476.6
R-09-002
0.0'
3.5
Well-graded SAND with GRAVEL and COBBLES (SW); medium dense; yellowish brown, moist; little coarse to fine GRAVEL; 10% IGNEOUS COBBLES, hard, 6-10", rounded; (FILL).
GWS Elev -2'
02-01-10
SANDY lean CLAY (CL); stiff; dark gray; moist; fine SAND; trace shell fragments; PP=1.5 tsf; (BAY MUD).
-very stiff
SEDIMENTARY ROCK (SHALE); dark bluish gray; moderately to slightly weathered.
-slightly fractured.
-UC=8250 psi
02-01-10
Terminated at Elev -39.0
ER= 90%
NOTE:
Sporadic boulders present at the ground surface up to 20" diameter.
PROFILE
Horizt Not to Scale
Vertt 1" = 10'
10
0
-10
-20
-30
-40
ENGINEERING SERVICES
GEOTECHNICAL SERVICES
FUNCTIONAL SUPERVISOR
NAME
DRAWN BY
CHECKED BY
FIELD INVESTIGATION BY
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH
CU 59-322
EA 01-123321
FILE => WEDUEST
SAMPLE LOG OF TEST BORING
LOG OF TEST BORINGS