

## RESULTS

### STANDARD PENETRATION TEST (SPT)

GEO TECHNICAL SURVEY – BORE HOLE INVESTIGATION

| Borehole location No | Distance km |
|----------------------|-------------|
| <b>A1</b>            |             |
| BH-01                | 0+290       |
| BH-02                | 0+390       |
| BH-03                | 0+800       |
| BH-04                | 1+210       |
| BH-05                | 0+290       |
| BH-06                | 0+527       |
| BH-07                | 1+500       |
| <b>NS1</b>           |             |
| BH-01                | 8+165       |
| BH-02                | 8+250       |
| BH-03                | 8+350       |
| BH-04                | 8+450       |
| BH-05                | 8+550       |
| BH-06                | 8+865       |
| BH-07                | 8+740       |
| BH-08                | 8+850       |
| BH-10                | 9+106       |
| BH-11                | 9+110       |
| BH-12                | 9+415       |
| BH-13                | 9+415       |
| BH-14                | 9+415       |
| BH-15                | 9+520       |
| BH-16                | 9+700       |
| BH-17                | 9+800       |
| BH-18                | 9+900       |
| BH-19                | 10+020      |
| BH-20                | 10+080      |
| BH-24                | 10+535      |
| BH-25                | 10+600      |
| BH-26                | 10+700      |
| BH-27                | 10+800      |
| BH-28                | 10+800      |
| BH-29                | 10+950      |
| BH-30                | 11+110      |
| BH-31                | 11+132      |
| BH-32                | 11+258      |
| BH-34                | 11+260      |
| BH-35                | 11+400      |
| BH-36                | 11+650      |
| BH-37                | 11+750      |
| BH-38                | 11+850      |
| BH-39                | 11+950      |
| BH-40                | 12+050      |
| BH-41                | 12+050      |

|       |        |
|-------|--------|
| BH-42 | 12+160 |
| BH-43 | 12+350 |
| BH-44 | 12+400 |
| BH-45 | 12+518 |
| BH-46 | 12+555 |
| BH-47 | 12+850 |
| BH-48 | 12+850 |
| BH-49 | 13+000 |
| BH-50 | 13+100 |
| BH-51 | 13+200 |
| BH-52 | 13+300 |
| BH-53 | 13+400 |
| BH-54 | 13+500 |
| BH-55 | 13+600 |
| BH-56 | 13+700 |
| BH-57 | 13+800 |
| BH-58 | 13+900 |
| BH-59 | 14+000 |
| BH-60 | 14+100 |
| BH-61 | 14+340 |
| BH-62 | 14+410 |
| BH-63 | 14+535 |
| BH-64 | 14+550 |
| BH-65 | 12+160 |
| BH-66 | 14+725 |
| BH-67 | 14+765 |
| BH-68 | 14+843 |
| BH-69 | 15+130 |
| BH-70 | 15+233 |
| BH-71 | 15+300 |
| BH-72 | 15+400 |
| BH-73 | 15+500 |
| BH-74 | 15+730 |
| BH-75 | 15+860 |
| BH-76 | 15+946 |
| BH-77 | 15+946 |
| BH-78 | 15+946 |
| BH-79 | 16+000 |
| BH-80 | 16+100 |
| BH-81 | 16+170 |
| BH-82 | 16+240 |
| BH-83 | 16+300 |
| BH-84 | 16+360 |
| BH-85 | 16+415 |
| BH-86 | 16+490 |
| BH-87 | 8+647  |
| BH-88 | 8+850  |
| BH-89 | 8+786  |
| BH-91 | 10+192 |



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                   | BOREHOLE<br>No: A1, BH-02<br>Sheet No: 1 of 2<br>GROUND ELEVATION, EL (m): 10.931<br>CHAINAGE : STA 0+390, CL |  |        |        |                           |  |           |            |                |                           |             |         |
|--|-------------------|---|--|--------|--------|---------------------------|--|-----------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |                   | GROUND WATER LEVEL (m) : 1.60   |  |        |        |                           |  |           |            |                |                           |             |         |
| DATE   | From : 14/03/2007 | To : 15/03/2007   | COORDINATES:<br>X=109 971.147<br>Y=200 290.883 |        |        |                           |  |           |            |                |                           |             |         |
| SCALE (m)  | ELEVATION (m)     | DEPTH (m)   | THICKNESS (m)                                  | LEGEND | COLOUR | SOIL NAME                 | DESCRIPTION  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0  |                   |   |  |        |        |                           |  |           |            |                |                           |             |         |
| 1  | 1.10              | 1.10  | 1.10   |        | RED    | LATERITIC SILT            | RED-REDDISH BROWN, SLIGHTLY CLAYEY MEDIUM TO COARSE SANDY LATERITIC SILT WITH LATERITE NODULES AND SOME AMOUNT OF CONCRETE FRAGMENT'S FILL | 1.15-1.45 | 04/30      | 4              |                           | D           |         |
| 2  |                   |   |  |        | GRAY   | CLAYEY SILT               | VERY SOFT GRAY, GRAYISH BROWN CLAYEY SILT WITH FINE SAND   | 2.15-2.45 | 01/30      | 1              |                           | S           |         |
| 3  |                   |   |  |        |        |                           | CONTAINING WITH MINOR QUANTITY OF ORGANIC PEAT   | 3.15-3.45 | 06/30      | 5              |                           | W           |         |
| 4  | 3.20              | 2.1   |  |        |        |                           | GRAY, WHITISH GRAY, YELLOWISH GRAY, KEOLONIZED CLAYEY SILT WITH SOME MEDIUM SAND AND TRACES OF MICA SHOWS RELICT STRUCTURES                | 4.15-4.45 | 05/30      | 5              |                           | S           |         |
| 5  |                   |   |  |        | GRAY   | COMPLETELY WEATHERED ROCK | COMPLETELY WEATHERED ROCK  | 5.15-5.45 | 04/30      | 4              |                           | W           |         |
| 6  | 6.00              | 2.8   |  |        |        |                           |  | 6.15-6.45 | 06/30      | 5              |                           | S           |         |
| 7  |                   |   |  |        |        |                           |  | 7.15-7.45 | 21/30      | 21             |                           | W           |         |
| 8  |                   |   |  |        | YELLOW | COMPLETELY WEATHERED ROCK | YELLOW, YELLOWISH BROWN CLAYEY SILT WITH SOME ANGULAR TO SUB ANGULAR QUARTZ GRAINS AND TRACES MICA. SHOWS RELICT STRUCTURES.               | 8.15-8.45 | 25/30      | 25             |                           | S           |         |
| 9  |                   |   |  |        |        |                           | COMPLETELY WEATHERED ROCK  | 9.15-9.45 | 21/30      | 21             |                           | W           |         |
| 10   |                   |   |  |        |        |                           |  |           |            |                |                           |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                   | BOREHOLE<br>No: A1, BH-02<br>Sheet No: 2 of 2<br>GROUND ELEVATION, EL (m): 10.931<br>CHAINAGE : STA 0+390, CL |  |        |        |           |             |           |            |                |                           |             |         |
|--|-------------------|---|--|--------|--------|-----------|-------------|-----------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |                   | GROUND WATER LEVEL (m) : 1.60   |  |        |        |           |             |           |            |                |                           |             |         |
| DATE   | From : 14/03/2007 | To : 15/03/2007   | COORDINATES:<br>X=109 971.147<br>Y=200 290.883 |        |        |           |             |           |            |                |                           |             |         |
| SCALE (m)  | ELEVATION (m)     | DEPTH (m)   | THICKNESS (m)                                  | LEGEND | COLOUR | SOIL NAME | DESCRIPTION | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 10   |                   |   |  |        |        |           |             |           |            |                |                           |             |         |
| 11   |                   |   |  |        |        |           |             | 10.15     | 14/30      | 14             |                           | W           |         |
| 12   |                   |   |  |        |        |           |             | 11.45     | 24/30      | 24             |                           | S           |         |
| 13   |                   |   |  |        |        |           |             | 12.15     | 26/30      | 26             |                           | W           |         |
| 14   |                   |   |  |        |        |           |             | 12.45     | 37/30      | 37             |                           | S           |         |
| 15   |                   |   |  |        |        |           |             | 13.15     | 32/30      | 32             |                           | W           |         |
| 16   |                   |   |  |        |        |           |             | 14.45     | 30/30      | 30             |                           | S           |         |
| 17   |                   |   |  |        |        |           |             | 15.15     |            |                |                           |             |         |
| 18   |                   |   |  |        |        |           |             | 16.15     |            |                |                           |             |         |
| 19   |                   |   |  |        |        |           |             | 17.15     |            |                |                           |             |         |
| 20   |                   |   |  |        |        |           |             | 18.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 19.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 20.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 21.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 22.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 23.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 24.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 25.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 26.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 27.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 28.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 29.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 30.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 31.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 32.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 33.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 34.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 35.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 36.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 37.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 38.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 39.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 40.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 41.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 42.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 43.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 44.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 45.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 46.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 47.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 48.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 49.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 50.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 51.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 52.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 53.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 54.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 55.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 56.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 57.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 58.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 59.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 60.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 61.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 62.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 63.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 64.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 65.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 66.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 67.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 68.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 69.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 70.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 71.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 72.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 73.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 74.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 75.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 76.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 77.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 78.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 79.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 80.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 81.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 82.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 83.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 84.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 85.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 86.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 87.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 88.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 89.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 90.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 91.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 92.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 93.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 94.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 95.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 96.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 97.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 98.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 99.15     |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 100.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 101.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 102.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 103.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 104.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 105.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 106.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 107.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 108.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 109.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 110.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 111.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 112.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 113.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 114.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 115.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 116.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 117.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 118.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 119.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 120.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 121.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 122.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 123.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 124.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 125.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 126.15    |            |                |                           |             |         |
|  |                   |   |  |        |        |           |             | 127.15    |            |                |                           |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: A1, BH-03<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110 351.034<br>Y=200 359.654 |        | GROUND ELEVATION, EL (m): 7.804<br>CHAINAGE : STA 0+800, CL |                                 | GROUND WATER LEVEL (m): 0.45  |               |            |                |        |             |
|--|---------------|---|--------|---|---------------------------------|---|---------------|------------|----------------|--------|-------------|
| LOCATION : Bivagama- Kaduwela  |               | DATE : From : 19/03/2007 To: 19/03/2007   |        | TEST SAMPLE   |                                 | REMARKS   |               |            |                |        |             |
| DEPTH (m)  | ELEVATION (m) | THICKNESS (m)   | LEGEND | COLOUR  | SOIL NAME                       | DESCRIPTION   | DEPTH (m)     | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) |
| 0  | SCALE (m)     |   |        |   |                                 |   |               |            |                |        |             |
| 1  | 0.85          | 0.85  |        | GRAY  | CLAYEY SAND                     | GRAY, REDDISH GRAY<br>SLIGHTLY CLAYEY<br>MEDIUM TO COARSE SAND  | 1.15-<br>1.45 | 69/30      |                | D      |             |
| 2  |               |   |        | GRAY  | SANDY CLAY                      | VERY STRF GRAY,<br>WHITISH GRAY FINE<br>SANDY CLAY  | 2.15-<br>2.45 | 22/30      | 9              | S      |             |
| 3  | 2.90          | 2.05  |        |   |                                 |   | 3.15-<br>3.45 | 25/30      | 22             | W      |             |
| 4  |               |   |        |   |                                 |   | 4.15-<br>4.45 | 23/30      | 25             | S      |             |
| 5  |               |   |        |   |                                 |   | 5.15-<br>5.45 | 35/30      | 23             | W      |             |
| 6  |               |   |        | GRAY  | COMPLETELY<br>WEATHERED<br>ROCK | DENSE GREY, YELLOWISH<br>BROWN, BROWNISH GRAY<br>SLIGHTLY SILTY CLAYEY<br>FINE TO MEDIUM SAND<br>WITH TRACES OF MICA<br>SHOWS RELICT<br>STRUCTURES.<br>COMPLETELY WEATHERED<br>ROCK | 6.15-<br>6.45 | 19/30      | 35             | S      |             |
| 7  |               |   |        |   |                                 |   | 7.15-<br>7.45 | 50/30      | 19             | W      |             |
| 8  |               |   |        |   |                                 |   | 8.15-<br>8.45 | 24/30      | 32             | S      |             |
| 9  |               |   |        |   |                                 |   | 9.15-<br>9.45 | 32/30      | 24             | W      |             |
| 10   |               |   |        |   |                                 |   |               |            | 32             | S      |             |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: A1, BH-03<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110 351.034<br>Y=200 359.654 |        | GROUND ELEVATION, EL (m): 0.450<br>CHAINAGE : STA 0+800, CL |           | GROUND WATER LEVEL (m): 0.45 |           |            |                |        |             |
|--|---------------|---|--------|---|-----------|------------------------------|-----------|------------|----------------|--------|-------------|
| LOCATION : Bivagama- Kaduwela  |               | DATE : From : 19/03/2007 To: 19/03/2007   |        | TEST SAMPLE   |           | REMARKS                      |           |            |                |        |             |
| DEPTH (m)  | ELEVATION (m) | THICKNESS (m)   | LEGEND | COLOUR  | SOIL NAME | DESCRIPTION                  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) |
| 0  | SCALE (m)     |   |        |   |           |                              |           |            |                |        |             |
| 1  |               |   |        |   |           |                              | 10.15     | 26/30      |                | W      |             |
| 2  |               |   |        |   |           |                              | 10.45     | 50/30      | 50             | S      |             |
| 3  |               |   |        |   |           |                              | 11.00     | 50/30      | 50             | W      |             |
| 4  |               |   |        |   |           |                              | 11.45     | 50/30      |                | S      |             |
| 5  |               |   |        |   |           |                              | 12.00     |            |                | W      |             |
| 6  |               |   |        |   |           |                              | 12.45     | 50/30      | 50             | S      |             |
| 7  |               |   |        |   |           |                              |           |            |                |        |             |
| 8  |               |   |        |   |           |                              |           |            |                |        |             |
| 9  |               |   |        |   |           |                              |           |            |                |        |             |
| 10   |               |   |        |   |           |                              |           |            |                |        |             |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                       | BOREHOLE<br>No: <u>ALBH-04</u><br>Sheet No: <u>1</u> of <u>2</u>        |               |        |              |                           |  |           |            |                |                           |        |             |         |
|--|-----------------------|---|---------------|--------|--------------|---------------------------|--|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| COORDINATES:<br>X=110 613.134<br>Y=200 674.976   |                       | GROUND ELEVATION, EL (m): <u>8.968</u><br>CHAINAGE : <u>STA 1+210 C</u> |               |        |              |                           |  |           |            |                |                           |        |             |         |
| LOCATION : <u>Kadawatha</u>  |                       | GROUND WATER LEVEL (m): <u>0.50</u>                                     |               |        |              |                           |  |           |            |                |                           |        |             |         |
| DATE : From : <u>20/03/2007</u>  | To: <u>20/03/2007</u> |   |               |        |              |                           |  |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)         | DEPTH (m)   | THICKNESS (m) | LEGEND | COLOUR       | SOIL NAME                 | DESCRIPTION  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 0  |                       |   |               |        |              |                           |  |           |            |                |                           |        |             |         |
| 1  | 0.90                  | 0.90  | 0.90          |        | GREY         | SILTY CLAY                | GRAY SILTY CLAY WITH PLANT ROOTS AND ORGANIC MATTER  | 1.15-1.45 | 7/20       |                |                           | D      |             |         |
| 2  |                       |   |               |        | WHITISH GREY | SANDY CLAY                | FIRM WHITISH GRAY, GRAY FINE TO MEDIUM SANDY PLASTIC CLAY  | 2.15-2.45 | 10/30      |                |                           | S      |             |         |
| 3  | 2.00                  | 1.10  | 1.10          |        | GREY         | COMPLETELY WEATHERED ROCK | MEDIUM DENSE GRAY, LIGHT GRAY FINE TO MEDIUM ANGULAR TO SUBANGULAR SAND WITH HIGH CONTENT OF MICA SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK | 3.15-3.45 | 14/30      |                |                           | S      |             |         |
| 4  |                       |   |               |        |              |                           |  | 4.15-4.45 | 23/30      |                |                           | W      |             |         |
| 5  |                       |   |               |        |              |                           |  | 5.15-5.45 | 22/30      |                |                           | S      |             |         |
| 6  |                       |   |               |        |              |                           |  | 6.15-6.45 | 28/30      |                |                           | W      |             |         |
| 7  |                       |   |               |        | YELLOW       | COMPLETELY WEATHERED ROCK | YELLOW, YELLOWISH BROWN FINE TO MEDIUM ANGULAR TO SUB ANGULAR SAND WITH TRACES OF MICA. SHOWS RELICT STRUCTURES COMPLETELY WEATHERED ROCK          | 7.15-7.45 | 50/30      |                |                           | S      |             |         |
| 8  |                       |   |               |        |              |                           |  | 8.15-8.45 | 50/30      |                |                           | W      |             |         |
| 9  |                       |   |               |        |              |                           |  | 9.15-9.45 | 50/30      |                |                           | S      |             |         |
| 10   |                       |   |               |        |              |                           |  |           |            |                |                           | W      |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                       | BOREHOLE<br>No: <u>ALBH-04</u><br>Sheet No: <u>2</u> of <u>2</u>        |               |        |        |           |             |           |            |                |                           |        |             |         |
|--|-----------------------|---|---------------|--------|--------|-----------|-------------|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| COORDINATES:<br>X=110 613.134<br>Y=200 674.976   |                       | GROUND ELEVATION, EL (m): <u>8.968</u><br>CHAINAGE : <u>STA 1+210 C</u> |               |        |        |           |             |           |            |                |                           |        |             |         |
| LOCATION : <u>Kadawatha</u>  |                       | GROUND WATER LEVEL (m): <u>0.50</u>                                     |               |        |        |           |             |           |            |                |                           |        |             |         |
| DATE : From : <u>20/03/2007</u>  | To: <u>20/03/2007</u> |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)         | DEPTH (m)   | THICKNESS (m) | LEGEND | COLOUR | SOIL NAME | DESCRIPTION | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 10   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 11   |                       |   |               |        |        |           |             | 10.45     | 6.65       |                |                           |        |             |         |
| 12   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 13   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 14   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 15   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 16   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 17   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 18   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 19   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |
| 20   |                       |   |               |        |        |           |             |           |            |                |                           |        |             |         |



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                | BOREHOLE<br>No.: A1, BH-05<br>Sheet No: 1 of 1               |               |        |           |                    |   |           |            |                |                           |        |             |         |
|--|----------------|--|---------------|--------|-----------|--------------------|---|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| COORDINATES:<br>X=109 875.948<br>Y=200 315.906   |                | GROUND ELEVATION, EL (m): 11.200<br>CHAINAGE : STA 0+290, CL |               |        |           |                    |   |           |            |                |                           |        |             |         |
| LOCATION : Bivagama- Kaduwela  |                | GROUND WATER LEVEL (m) : 0.55                                |               |        |           |                    |   |           |            |                |                           |        |             |         |
| DATE : From : 09/01/2007   | To: 09/01/2007 |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)  | DEPTH (m)  | THICKNESS (m) | LEGEND | COLOUR    | SOIL NAME          | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 0  |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| 1  | 1.0            | 1.0  | 1.0           |        | BROWN     | CLAYEY SILT        | BROWN/DARK BROWN SLIGHTLY CLAYEY SILT WITH PLANT FRAGMENTS TOP SOIL   | 1.45-1.90 | 130        | 1              |                           | D      |             |         |
| 2  |                |  |               |        | DARK GREY | SILTY ORGANIC CLAY | VERY SOFT, DARK GREY, BLACKISH GREY, SLIGHTLY SILTY ORGANIC CLAY WITH TO MEDIUM SAND WITH SOILS ORGANIC FRAGMENTS | 2.15-2.45 | 230        | 2              |                           | S      |             |         |
| 3  | 3.0            | 2.0  |               |        | YELLOW    | CLAYEY SILT        | YELLOW, YELLOWISH BROWN, WHITISH GREY KEOLINIZED CLAYEY SILT WITH FINE TO MEDIUM ORGANIC FRAGMENTS                | 3.15-3.45 | 130        | 1              |                           | W      |             |         |
| 4  | 3.65           | 1.65   |               |        | GREY      | BIOTITE GONISS     | BIOTITE GONISS, MEDIUM GRAINED, FAINTLY DISCOLORED, MODERATELY FRACTURED BIOTITE GONISS                           | 70%       |            |                |                           | S      |             |         |
| 5  | 4.65           | 1.00   |               |        |           |                    | END OF BORING   | C         | r          |                |                           | C      |             |         |
| 6  |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| 7  |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| 8  |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| 9  |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |
| 10   |                |  |               |        |           |                    |   |           |            |                |                           |        |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                | BOREHOLE<br>No.: A1, BH-06<br>Sheet No: 1 of 2              |               |        |        |                           |   |           |            |                |                           |        |             |         |
|--|----------------|---|---------------|--------|--------|---------------------------|---|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| COORDINATES:<br>X=110 128.478<br>Y=200 261.328   |                | GROUND ELEVATION, EL (m): 7.913<br>CHAINAGE : STA 0+527, CL |               |        |        |                           |   |           |            |                |                           |        |             |         |
| LOCATION : Bivagama- Kaduwela  |                | GROUND WATER LEVEL (m) : 0.45                               |               |        |        |                           |   |           |            |                |                           |        |             |         |
| DATE : From : 06/01/2007   | To: 07/01/2007 |   |               |        |        |                           |   |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)  | DEPTH (m)   | THICKNESS (m) | LEGEND | COLOUR | SOIL NAME                 | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 0  |                |   |               |        |        |                           |   |           |            |                |                           |        |             |         |
| 1  | 0.8            | 0.8   | 0.8           |        | GREY   | SANDY SILT                | WHITISH GREY, GREY, YELLOWISH BROWN FINE GREY SANDY SILT WITH PLANT ROOTS TOP SOIL  | 1.15-1.45 | 140        | 4              |                           | D      |             |         |
| 2  | 2.4            | 1.6   |               |        | GREY   | SILTY CLAY                | SOFT GREY, BROWNISH YELLOW SILTY KEOLINIZED CLAY  | 2.15-2.45 | 100        | 5              |                           | S      |             |         |
| 3  |                |   |               |        |        |                           |   | 3.15-3.45 | 130        | 31             |                           | W      |             |         |
| 4  |                |   |               |        |        |                           |   | 4.15-4.45 | 100        | 28             |                           | S      |             |         |
| 5  |                |   |               |        |        |                           |   | 5.15-5.45 | 200        |                |                           | W      |             |         |
| 6  |                |   |               |        | GREY   | COMPLETELY WEATHERED ROCK | YELLOWISH BROWN, GREY, YELLOWISH GREY SLIGHTLY CLAYEY SILTY FINE TO MEDIUM SAND WITH ROCK FRAGMENTS SHOWS RELICT STRUCTURES COMPLETELY WEATHERED ROCK | 6.15-6.45 | 100        | 50             |                           | S      |             |         |
| 7  |                |   |               |        |        |                           |   | 7.15-7.45 | 100        |                |                           | W      |             |         |
| 8  |                |   |               |        |        |                           |   | 8.15-8.45 | 100        |                |                           | S      |             |         |
| 9  |                |   |               |        |        |                           |   | 9.15-9.45 | 100        |                |                           | W      |             |         |
| 10   |                |   |               |        |        |                           |   |           |            |                |                           | W      |             |         |

**ELB**

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: AI, BH-06<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110 128.478<br>Y=200 261.328 |               | GROUND ELEVATION, EL (m): 7.913<br>CHAINAGE : STA 0+527, CL |        | GROUND WATER LEVEL (m): 0.45   |                              |           |            |                |        |             |         |
|--|---------------|---|---------------|---|--------|--|------------------------------|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Bivaagama-Kaduvela  |               | DATE : From : 06/01/2007 To : 07/01/2007  |               | DATE : From : 25/03/2007 To : 25/03/2007                    |        | LOCATION : Kadawatha   |                              |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND  | COLOUR | SOIL NAME  | DESCRIPTION                  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 10   |               |   |               |   |        |  | SAME AS PREVIOUS DESCRIPTION | 10.15     | 10.45      |                | W      |             |         |
| 11   | 10.75         | 8.33  |               |   |        |  | ROCK LEVEL                   | 10.45     | 5000       |                |        |             |         |
| 12   | 11.80         | 11.05   |               |   | GREY   | WHITISH GREY, GREENISH GREY, MEDIUM GRAINED FAINTLY DISCOLOURED THINLY FOLIATED MODERATELY FRACTURED QUARTZITE 1.50-1.80 HIGHLY FRACTURED ROCK | 100% 44%                     |           |            |                | CS     |             |         |
| 13   |               |   |               |   |        |  | END OF BORING                |           |            |                |        |             |         |
| 14   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 15   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 16   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 17   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 18   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 19   |               |   |               |   |        |  |                              |           |            |                |        |             |         |
| 20   |               |   |               |   |        |  |                              |           |            |                |        |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: AI, BH-07<br>Sheet No: 1 of 1<br>COORDINATES:<br>X=110 774.263<br>Y=200 918.588 |               | GROUND ELEVATION, EL (m): 9.948<br>CHAINAGE : STA 1+500, CL |        | GROUND WATER LEVEL (m): 0.70 |   |           |            |                |        |             |         |
|--|---------------|---|---------------|---|--------|------------------------------|---|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Kadawatha   |               | DATE : From : 25/03/2007 To : 25/03/2007  |               | DATE : From : 25/03/2007 To : 25/03/2007                    |        | LOCATION : Kadawatha         |   |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND  | COLOUR | SOIL NAME                    | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 0  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 1  |               |   |               |   | GRAY   | CLAYEY SILT                  | GRAY BROWN, BROWNISH GRAY CLAYEY SILT WITH PLANT ROOTS.                                   | 1.15-1.45 | 0450       |                | D      |             |         |
| 2  | 1.38          | 1.38  |               |   | GRAY   | CLAYEY SAND                  | GRAY WHITISH GRAY CLAYEY MEDIUM TO COARSE ANGULAR TO SUB-ANGULAR SAND WITH ORGANIC MATTER | 2.15-2.45 |            |                | S      |             |         |
| 3  | 2.25          | 0.87  |               |   |        |                              | ROCK LEVEL  |           |            |                | W      |             |         |
| 4  |               |   |               |   |        |                              | END OF BORING   |           |            |                |        |             |         |
| 5  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 6  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 7  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 8  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 9  |               |   |               |   |        |                              |   |           |            |                |        |             |         |
| 10   |               |   |               |   |        |                              |   |           |            |                |        |             |         |



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: <u>NSI_BH-01</u><br>Sheet No: 1 of 1 |               | COORDINATES:<br>X=110 079.614<br>Y=200 759.416 |        | GROUND ELEVATION, EL (m):<br>CHAINAGE : STA 8+165, CL |  | GROUND WATER LEVEL (m):<br>1.10 |            |                |        |             |
|--|---------------|--|---------------|--|--------|---|--|---------------------------------|------------|----------------|--------|-------------|
| LOCATION : <u>Kadavatha</u>  |               | DATE : From : 25/03/2007 To: 25/03/2007              |               | STANDARD PENETRATION TEST                      |        | TEST SAMPLE   |  | REMARKS                         |            |                |        |             |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME   | DESCRIPTION  | DEPTH (m)                       | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) |
| 0  |               |  |               |  |        |   |  |                                 |            |                |        |             |
| 1  | 1.05          | 1.05   | 1.05          |  | GREY   | FILL  | BLACKISH GRAY, BLACK, BROWN CLAYEY SILT WITH LATERAL GRAVEL AND PLANT ROOTS. | 1.15-1.45                       | 10/20      |                | D      |             |
| 2  | 2.00          | 2.00   | 0.95          |  | GREY   | SILTY CLAY  | VERY SOFT GRAY BROWNISH GRAY SILTY CLAY WITH GRAVELS.                        | 1.45-2.15                       | 10/20      |                | S      |             |
| 3  | 3.10          | 3.10   | 1.10          |  | GREY   | SANDY CLAY  | STIFF GRAY BLACKISH GRAY, BROWNISH GRAY FINE SANDY CLAY WITH ROCK FRAGMENTS. | 2.15-3.15                       | 10/20      |                | S      |             |
| 4  | 3.55          | 3.55   | 0.45          |  | GREY   | COMPLETELY WEATHERED ROCK                             | WHITISH GRAY, OFF WHITE SILTY SANDY CLAYEY COMPLETELY WEATHERED ROCK         | 3.15-3.45                       | 04/20      |                | W      |             |
| 5  |               |  |               |  |        |   | END OF BORING  |                                 |            |                |        |             |
| 6  |               |  |               |  |        |   |  |                                 |            |                |        |             |
| 7  |               |  |               |  |        |   |  |                                 |            |                |        |             |
| 8  |               |  |               |  |        |   |  |                                 |            |                |        |             |
| 9  |               |  |               |  |        |   |  |                                 |            |                |        |             |
| 10   |               |  |               |  |        |   |  |                                 |            |                |        |             |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: <u>NSI_BH-02</u><br>Sheet No: 1 of 1 |               | COORDINATES:<br>X=110 114.442<br>Y=200 680.292 |        | GROUND ELEVATION, EL (m):<br>CHAINAGE : STA 8+250, CL |   | GROUND WATER LEVEL (m):<br>0.65 |            |                |        |             |
|--|---------------|--|---------------|--|--------|---|---|---------------------------------|------------|----------------|--------|-------------|
| LOCATION : <u>Kadavatha</u>  |               | DATE : From : 26/03/2007 To: 26/03/2007              |               | STANDARD PENETRATION TEST                      |        | TEST SAMPLE   |   | REMARKS                         |            |                |        |             |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME   | DESCRIPTION   | DEPTH (m)                       | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) |
| 0  |               |  |               |  |        |   |   |                                 |            |                |        |             |
| 1  | 1.30          | 1.30   | 1.30          |  | BLACK  | CLAYEY SILT   | BLACKISH BROWN, BROWNISH GRAY CLAYEY SILT WITH PLANT ROOTS  | 1.15-1.45                       | 10/20      |                | D      |             |
| 2  | 2.40          | 2.40   | 1.10          |  | GRAY   | SILTY CLAY  | WHITISH GRAY, BROWNISH GRAY SILTY SANDY SILTY CLAY  | 1.45-2.15                       | 02/20      |                | S      |             |
| 3  | 3.20          | 3.20   | 0.8           |  | GRAY   | COMPLETELY WEATHERED ROCK                             | YELLOWISH GRAY, BLACK GRAY OFF WHITE CLAYEY SILT WITH QUARTZ GRAINS SHOWS RELICT STRUCTURES.  | 2.15-3.15                       | 13/20      |                | S      |             |
| 4  | 3.95          | 3.95   | 0.75          |  | GRAY   | COMPLETELY WEATHERED ROCK                             | GRAY, YELLOW, YELLOWISH GRAY SILTY SANDY CLAY WITH QUARTZ, GARNET GRAINS AND TRACES OF MICA COMPLETELY WEATHERED ROCK   | 3.15-4.45                       | 14/20      |                | W      |             |
| 5  |               |  |               |  |        |   | END OF BORING   |                                 |            |                |        |             |
| 6  |               |  |               |  |        |   |   |                                 |            |                |        |             |
| 7  |               |  |               |  |        |   |   |                                 |            |                |        |             |
| 8  | 7.80          | 7.80   | 3.85          |  | GRAY   | COMPLETELY WEATHERED ROCK                             | BLACKISH GRAY, BLACK, OFF WHITE SILTY FINE SAND WITH QUARTZ, GARNET GRAINS, HIGH CONTENT OF MICA AND POCKETS OF CLAY SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK | 5.15-7.45                       | 49/20      |                | W      |             |
| 9  |               |  |               |  |        |   | END OF BORING   |                                 |            |                |        |             |
| 10   |               |  |               |  |        |   |   |                                 |            |                |        |             |



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: NSI_BH-03<br>Sheet No: 1 of 1<br>COORDINATES:<br>X=110 142.719<br>Y=200 584.391 |               | GROUND ELEVATION, EL. (m): 8.834<br>CHAINAGE : STA 8+350, CL |        | GROUND WATER LEVEL (m): 0.60 |   |           |            |                |        |             |         |
|--|---------------|---|---------------|--|--------|------------------------------|---|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Kadawatha   |               | DATE : From : 27/03/2007 To: 27/03/2007   |               | STANDARD PENETRATION TEST                                    |        | TEST SAMPLE                  |   |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME                    | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 0  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 1  | 1.35          | 1.45  | 0.10          |  | GRAY   | CLAYEY SILT                  | VERY SOFT GRAY, BROWNISH GRAY CLAYEY SILT   | 1.15-1.45 | 10/200     |                | W      |             |         |
| 2  | 1.60          | 0.15  |               |  | GRAY   | SANDY CLAY                   | GRAY, BROWNISH GRAY SLIGHTLY SILTY FINE SANDY CLAY  | 1.45-2.15 | 13/800     |                | S      |             |         |
| 3  | 2.70          | 1.10  |               |  | GRAY   | CLAYEY SAND                  | GRAY, BROWNISH GRAY SLIGHTLY CLAYEY FINE TO COARSE ANGULAR TO SUB ANGULAR SAND                              | 2.15-3.15 |            |                | W      |             |         |
| 4  | 3.30          | 0.60  |               |  | GRAY   | SAND                         | WASHED SAMPLE - GRAY, BLACKISH GRAY, RED FINE TO COARSE SAND WITH QUARTZ GRAINS, TRACERS OF MICA AND GARNET | 3.15-3.45 | 15/6000    |                | W      |             |         |
| 5  |               |   |               |  |        |                              | ROCK LEVEL  |           |            |                |        |             |         |
| 6  |               |   |               |  |        |                              | END OF BORING   |           |            |                |        |             |         |
| 7  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 8  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 9  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 10   |               |   |               |  |        |                              |   |           |            |                |        |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: NSI_BH-04<br>Sheet No: 1 of 1<br>COORDINATES:<br>X=110 162.724<br>Y=200 486.442 |               | GROUND ELEVATION, EL. (m): 8.488<br>CHAINAGE : STA 8+450, CL |        | GROUND WATER LEVEL (m): 0.70 |   |           |            |                |        |             |         |
|--|---------------|---|---------------|--|--------|------------------------------|---|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Kadawatha   |               | DATE : From : 28/03/2007 To: 28/03/2007   |               | STANDARD PENETRATION TEST                                    |        | TEST SAMPLE                  |   |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME                    | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 0  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 1  | 1.10          | 1.10  | 0.00          |  | GRAY   | CLAYEY SILT                  | GRAY, BROWNISH GRAY CLAYEY SILT   | 1.15-1.45 | 10/200     |                | W      |             |         |
| 2  | 1.70          | 0.6   |               |  | GRAY   | SILTY SAND                   | VERY SOFT YELLOWISH GRAY, WHITISH GRAY SILTY CLAY WITH ORGANIC MATTER               | 1.45-2.15 | 7/200      |                | S      |             |         |
| 3  | 2.70          | 1.00  |               |  |        |                              | LOOSE WHITISH GRAY, YELLOWISH GRAY SILTY FINE TO MEDIUM ANGULAR TO SUB ANGULAR SAND | 2.15-3.15 |            |                | W      |             |         |
| 4  |               |   |               |  |        |                              | GRAY, BLACKISH GRAY, GREENISH GRAY SLIGHTLY SANDY SILTY CLAY WITH TRACES OF MICA    | 3.15-4.15 | 12/200     |                | W      |             |         |
| 5  | 5.00          | 2.30  |               |  |        |                              | COMPLETELY WEATHERED ROCK   | 4.15-4.45 | 13/200     |                | S      |             |         |
| 6  |               |   |               |  |        |                              |   | 5.15-5.45 | 19/200     |                | W      |             |         |
| 7  |               |   |               |  |        |                              |   | 6.15-6.45 | 23/200     |                | S      |             |         |
| 8  |               |   |               |  |        |                              |   | 6.45-7.15 | 36/200     |                | W      |             |         |
| 9  |               |   |               |  |        |                              |   | 7.15-8.15 | 50/200     |                | S      |             |         |
| 10   | 9.70          | 4.70  |               |  |        |                              | COMPLETELY WEATHERED ROCK   | 8.15-9.45 | 50/200     |                | W      |             |         |
|  |               |   |               |  |        |                              | END OF BORING   |           |            |                |        |             |         |

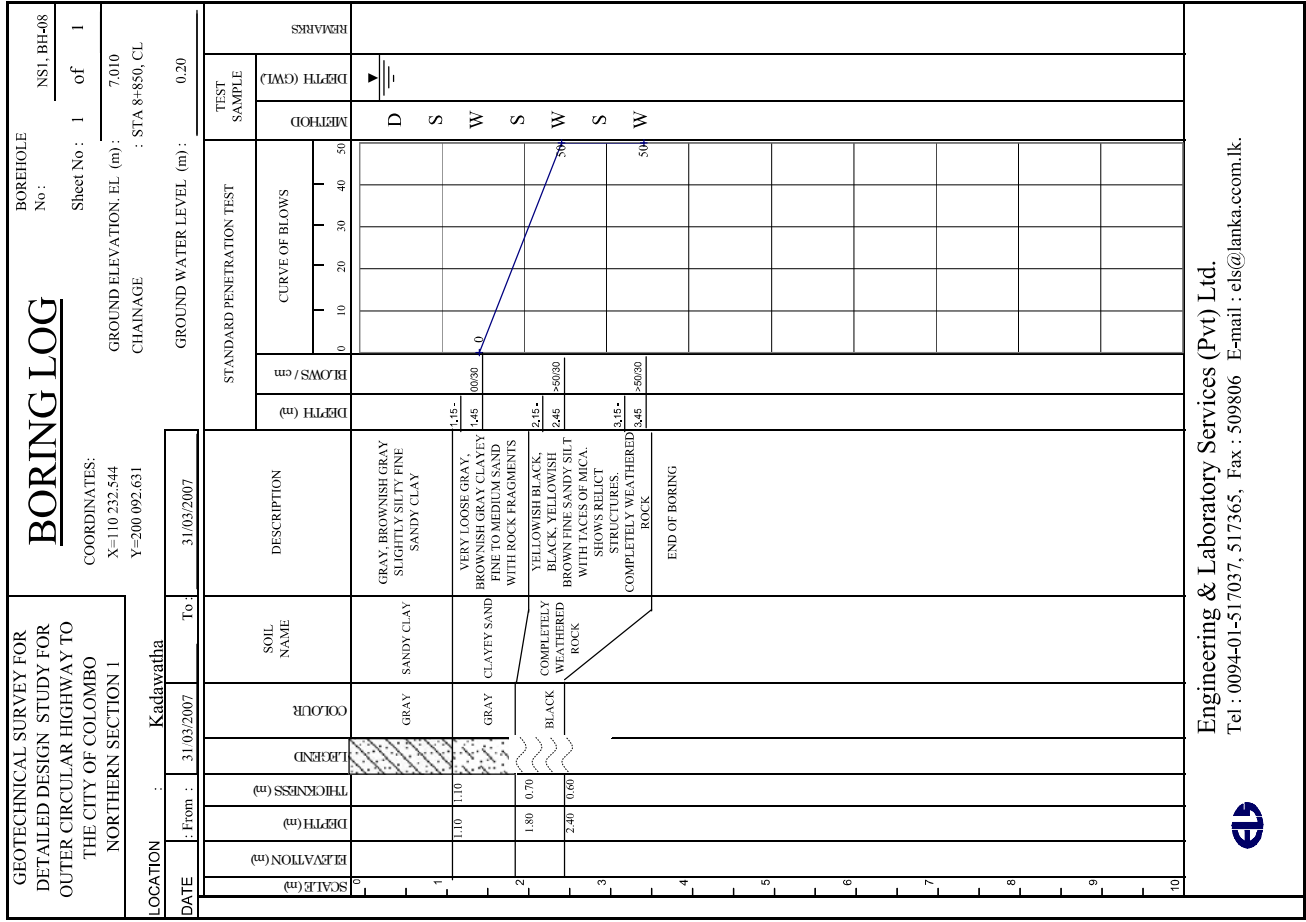
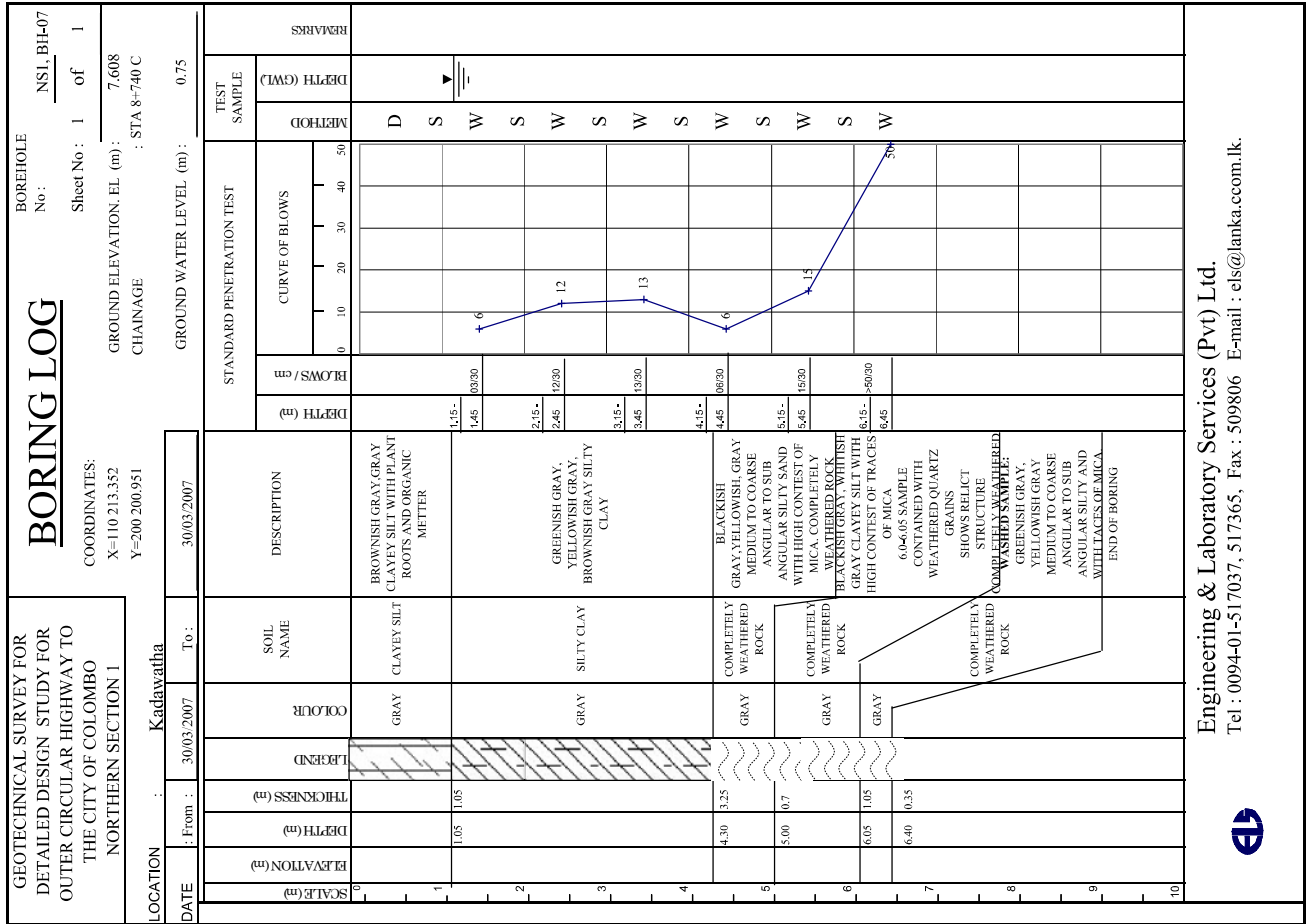

  
**Engineering & Laboratory Services (Pvt) Ltd.**  
 Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.

| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: <u>NSI, BH-05</u><br>Sheet No: 1 of 1     |  |                  |    |  |  |  |  |
|---|-------------------|---|--|------------------|----|--|--|--|--|
| COORDINATES:<br>X=110 180.207<br>Y=200 388.013  |                   | GROUND ELEVATION, EL (m): 8.061<br>CHAINAGE : STA 8+550 C |  |                  |    |  |  |  |  |
| LOCATION : <u>Kadawatha</u>   |                   | GROUND WATER LEVEL (m): 0.30                              |  |                  |    |  |  |  |  |
| DATE  | From : 29/03/2007 | To: 29/03/2007  | TEST SAMPLE  |                  |    |  |  |  |  |
| DEPTH (m)   | ELEVATION (m)     | DEPTH (m)   | METHOD   |                  |    |  |  |  |  |
| THICKNESS (m)   | LEGEND            | DESCRIPTION   | CURVE OF BLOWS   |                  |    |  |  |  |  |
| DEPTH (m)   | COLOUR            | SOIL NAME   | STANDARD PENETRATION TEST  |                  |    |  |  |  |  |
| DEPTH (m)   | LEGEND            | DESCRIPTION   | TEST SAMPLE  |                  |    |  |  |  |  |
| DEPTH (m)   | COLOUR            | SOIL NAME   | REMARKS  |                  |    |  |  |  |  |
| 0   | 0                 |   |  |                  |    |  |  |  |  |
| 1   | 1.25              | 1.25  | BROWN, LIGHT BROWN, PALE YELLOWISH BROWN, SLIGHTLY SILTY FINE SANDY ORGANIC CLAY WITH PLANT ROOTS.   | 1.45- 0.40       | 4  |  |  |  |  |
| 2   | 1.80              | 0.55  | SOFT BROWN LIGHT BROWN SLIGHTLY SILTY FINE TO MEDIUM SANDY CLAY  | 2.15- 2.45 0.130 | 1  |  |  |  |  |
| 3   | 2.80              | 1.00  | VERY LOOSE LIGHT BROWN, YELLOWISH BROWN, SLIGHTLY SILTY FINE TO MEDIUM SAND  | 3.15- 3.45 1.130 | 11 |  |  |  |  |
| 4   | 4.00              | 1.20  | PALE YELLOW, WHITISH GRAY SLIGHTLY SILTY CLAYEY FINE TO COARSE SAND.   | 4.15- 4.45 2.230 | 22 |  |  |  |  |
| 5   |                   |   | COMPLETELY WEATHERED ROCK  | 5.15- 5.45 2.930 | 23 |  |  |  |  |
| 6   |                   |   | PURPLE DARK BROWN, OFF PINKISH BROWN, OFF WHITE SILTY MEDIUM TO COARSE SAND WITH WEATHERED FELDSPAR PARTICLES AND ANGULAR TO SUB ANGULAR QUARTZ GRAINS AND TRACES OF MICA. | 6.15- 6.45 5.030 | 50 |  |  |  |  |
| 7   |                   |   | COMPLETELY WEATHERED ROCK  | 7.15- 7.45 2.600 | 50 |  |  |  |  |
| 8   |                   |   | SHOWS RELICT STRUCTURES. COMPLETELY WEATHERED ROCK   | 8.15- 8.45 2.900 | 50 |  |  |  |  |
| 9   | 9.60              | 5.60  | END OF BORING  | 9.15- 9.45 2.900 | 50 |  |  |  |  |
| 10  |                   |   |  |                  |    |  |  |  |  |

| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: <u>NSI, BH-06</u><br>Sheet No: 1 of 1     |  |                   |    |  |  |  |  |
|---|-------------------|---|--|-------------------|----|--|--|--|--|
| COORDINATES:<br>X=110 200.271<br>Y=200 274.756  |                   | GROUND ELEVATION, EL (m): 7.741<br>CHAINAGE : STA 8+865 C |  |                   |    |  |  |  |  |
| LOCATION : <u>Kadawatha</u>   |                   | GROUND WATER LEVEL (m): 0.00                              |  |                   |    |  |  |  |  |
| DATE  | From : 2007/04/07 | To: 2007/04/08  | TEST SAMPLE  |                   |    |  |  |  |  |
| DEPTH (m)   | ELEVATION (m)     | DEPTH (m)   | METHOD   |                   |    |  |  |  |  |
| THICKNESS (m)   | LEGEND            | DESCRIPTION   | CURVE OF BLOWS   |                   |    |  |  |  |  |
| DEPTH (m)   | COLOUR            | SOIL NAME   | STANDARD PENETRATION TEST  |                   |    |  |  |  |  |
| DEPTH (m)   | LEGEND            | DESCRIPTION   | TEST SAMPLE  |                   |    |  |  |  |  |
| DEPTH (m)   | COLOUR            | SOIL NAME   | REMARKS  |                   |    |  |  |  |  |
| 0   | 0                 |   |  |                   |    |  |  |  |  |
| 1   | 1.05              | 1.05  | BROWN, LIGHT BROWN, YELLOWISH BROWN, FINE TO MEDIUM SANDY CLAY (TOP SOIL TAKEN FROM PADDY LAND)  | 1.15- 1.45 0.400  | 4  |  |  |  |  |
| 2   |                   |   | FIRM, GRAY, LIGHT GRAY SILTY PLASTIC CLAY  | 2.15- 2.45 0.800  | 8  |  |  |  |  |
| 3   | 2.70              | 1.65  | YELLOW, DARK GRAY, SLIGHTLY CLAYEY SILTY FINE TO MEDIUM SAND WITH HIGH CONTENT OF TRACES OF MICA, WEATHERED GARNET GRAINS AND FINE GRAVEL    | 3.15- 3.45 0.800  | 8  |  |  |  |  |
| 4   |                   |   | COMPLETELY WEATHERED ROCK  | 4.15- 4.45 2.600  | 30 |  |  |  |  |
| 5   |                   |   | COMPLETELY WEATHERED ROCK  | 5.15- 5.45 2.600  | 50 |  |  |  |  |
| 6   |                   |   | ROCK LEVEL.<br>GRAY WHITISH GRAY, PALE YELLOWISH GRAY MEDIUM GRAINED, MODERATELY FRACTURED, GARNET BOTTLIE GNEISS 6.15-6.35 HIGHLY FRACTURED | 6.15- 6.45 20.30% |    |  |  |  |  |
| 7   |                   |   | BIOTITE GNEISS   |                   |    |  |  |  |  |
| 8   | 7.65              | 1.3   | GRAY, WHITISH GRAY, PINKISH RED, MEDIUM GRAINED, FRESH GARNET BOTTLIE GNEISS   | 8.15- 8.45 80%    |    |  |  |  |  |
| 9   | 8.15              | 0.5   | BIOTITE GNEISS   | 8.15- 8.45 C R    |    |  |  |  |  |
| 10  |                   |   | END OF BORING  |                   |    |  |  |  |  |



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



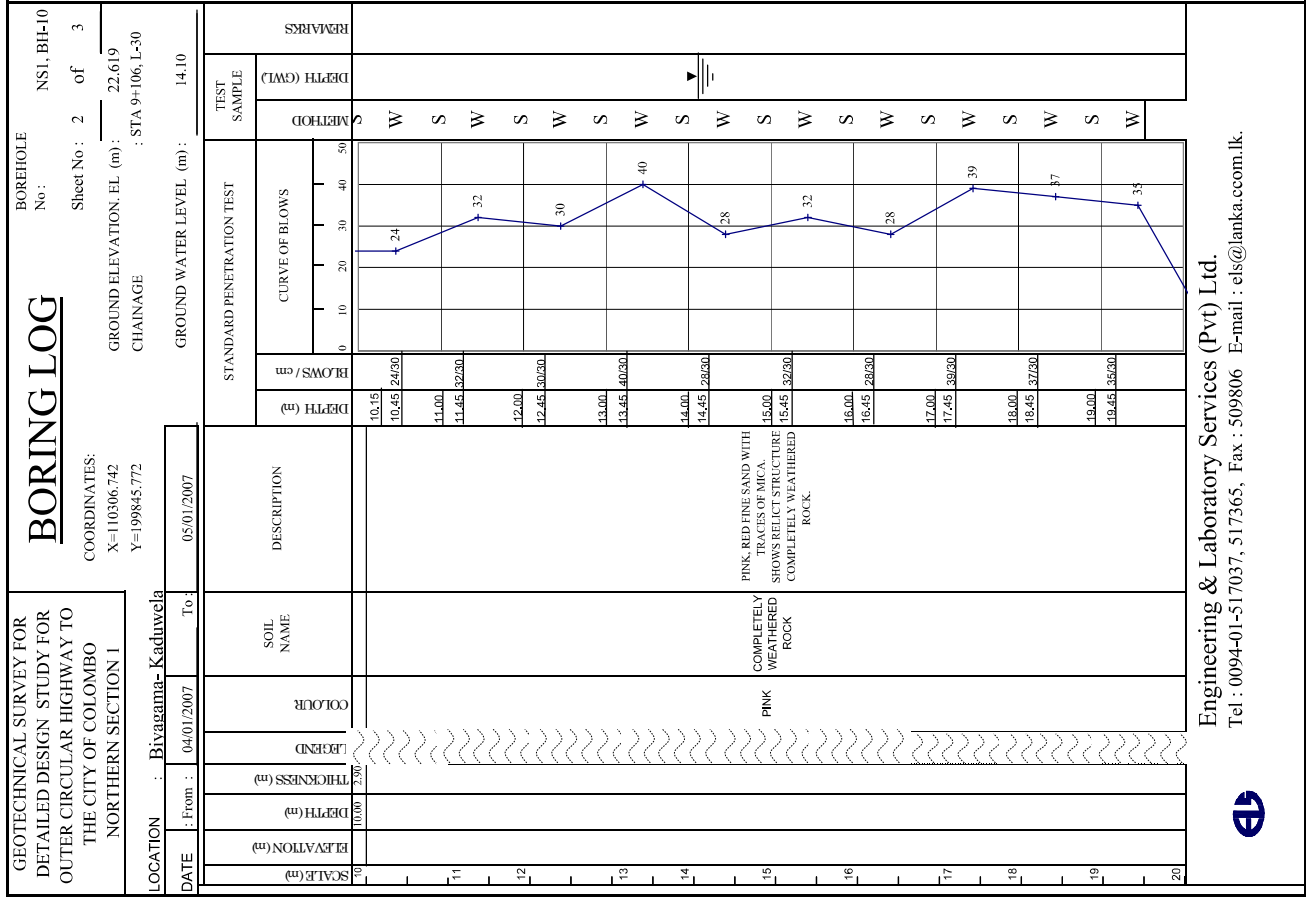
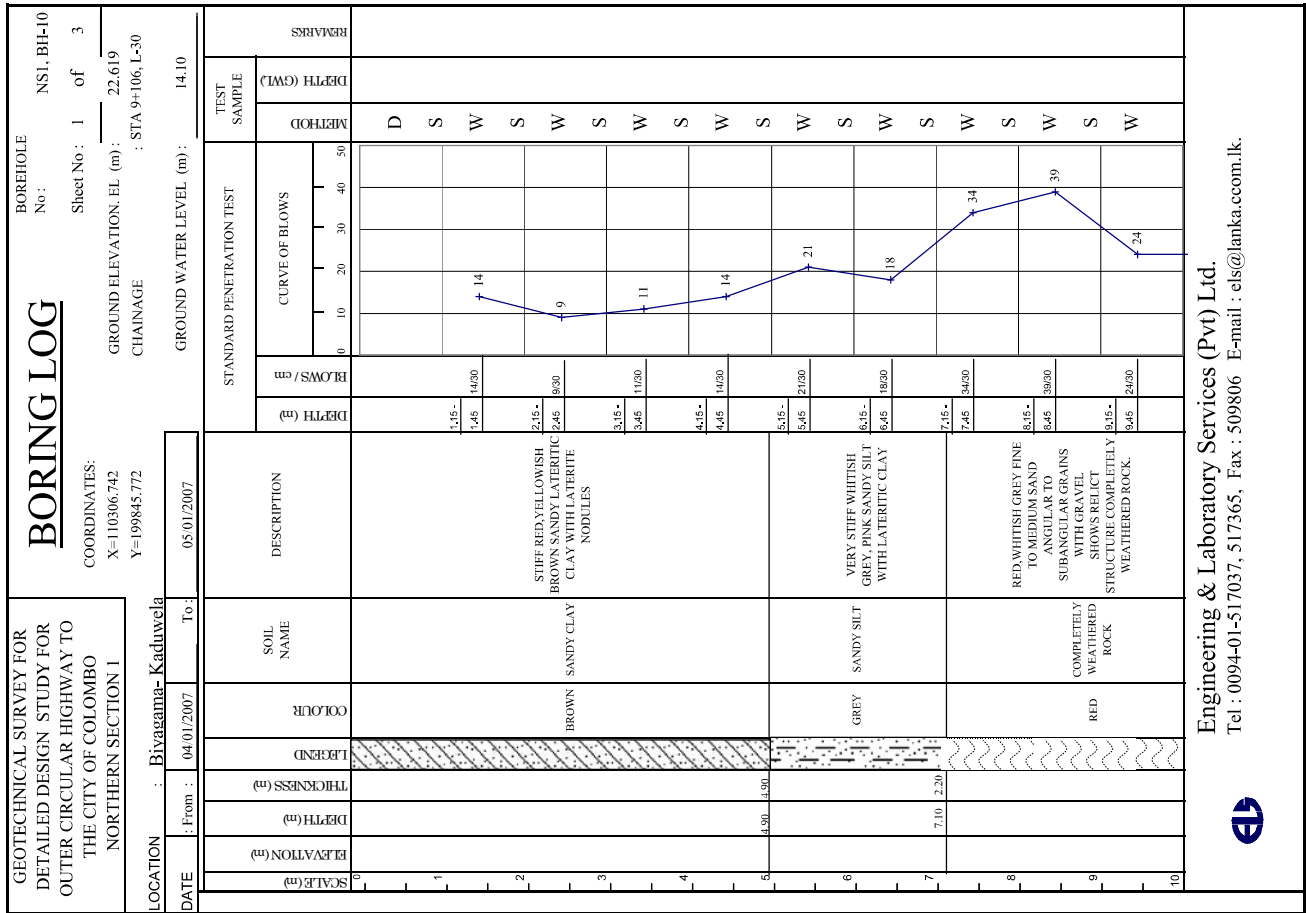
Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



**Engineering & Laboratory Services (Pvt) Ltd.**  
 Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.







| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: NS1, BH-12<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110 204.852<br>Y=199 615.310 |               | BOREHOLE<br>No: NS1, BH-12<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110 204.852<br>Y=199 615.310 |   |              |            |                |        |             |         |
|--|---------------|--|---------------|--|---|--------------|------------|----------------|--------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |               | GROUND ELEVATION, EL (m) : 8.443<br>CHAINAGE : STA 9+41.5, R-113                                 |               | GROUND ELEVATION, EL (m) : 8.443<br>CHAINAGE : STA 9+41.5, R-113                                 |   |              |            |                |        |             |         |
| DATE : From : 02/01/2007 To: 03/01/2007  |               | GROUND WATER LEVEL (m) : 1.80  |               | GROUND WATER LEVEL (m) : 1.80  |   |              |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | DESCRIPTION   | DEPTH (m)    | BLOWS / ft | CURVE OF BLOWS | METHOD | TEST SAMPLE | REMARKS |
| 0  |               |  |               |  |   |              |            |                |        |             |         |
| 1  | 1.00          | 1.00   | 1.00          | YELLOW SANDY CLAY  | YELLOW/YELLOWISH BROWN FINE SANDY CLAY  | 1.15 - 1.45  | 06/30      | 1              | D      |             |         |
| 2  | 1.90          | 0.90   | 0.90          | GREY SANDY CLAY  | VERY SOFT WHITTISH GREY FINE HIGHLY SANDY PLASTIC CLAY WITH GRAVEL  | 1.45 - 2.45  | 06/30      | 5              | S      |             |         |
| 3  |               |  |               | YELLOW SILTY SAND  | LOOSE YELLOW/WHITISH GREY FINE SILTY SAND WITH MINOR QUANTITY OF CLAY   | 2.45 - 3.45  | 08/30      | 3              | W      |             |         |
| 4  | 4.00          | 3.10   |               |  |   | 3.45 - 4.15  | 06/30      | 5              | S      |             |         |
| 5  |               |  |               |  |   | 4.15 - 5.15  | 06/30      | 8              | W      |             |         |
| 6  |               |  |               |  |   | 5.15 - 6.15  | 10/30      | 10             | S      |             |         |
| 7  |               |  |               | COMPLETELY WEATHERED ROCK  | YELLOW/LIGHT GREY FINE SAND WITH ANGULAR TO SUBANGULAR GRAINS WITH TRACES OF MICA SHOWS RELICT STRUCTURE. COMPLETELY WEATHERED ROCK | 6.15 - 7.15  | 18/30      | 18             | W      |             |         |
| 8  |               |  |               |  |   | 7.15 - 8.15  | 24/30      | 24             | S      |             |         |
| 9  |               |  |               |  |   | 8.15 - 9.15  | 54/30      |                | W      |             |         |
| 10   |               |  |               |  |   | 9.15 - 10.15 |            |                | S      |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |               | BOREHOLE<br>No: NS1, BH-12<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110 204.852<br>Y=199 615.310 |               | BOREHOLE<br>No: NS1, BH-12<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110 204.852<br>Y=199 615.310 |             |               |            |                |        |             |         |
|--|---------------|--|---------------|--|-------------|---------------|------------|----------------|--------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |               | GROUND ELEVATION, EL (m) : 8.443<br>CHAINAGE : STA 9+41.5, R-113                                 |               | GROUND ELEVATION, EL (m) : 8.443<br>CHAINAGE : STA 9+41.5, R-113                                 |             |               |            |                |        |             |         |
| DATE : From : 02/01/2007 To: 03/01/2007  |               | GROUND WATER LEVEL (m) : 1.80  |               | GROUND WATER LEVEL (m) : 1.80  |             |               |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | DESCRIPTION | DEPTH (m)     | BLOWS / ft | CURVE OF BLOWS | METHOD | TEST SAMPLE | REMARKS |
| 10   |               |  |               |  |             | 10.15 - 10.45 | 50/30      |                | W      |             |         |
| 11   |               |  |               |  |             |               |            |                | S      |             |         |
| 12   |               |  |               |  |             | 12.00 - 13.00 |            |                | S      |             |         |
| 13   |               |  |               |  |             |               |            |                |        |             |         |
| 14   |               |  |               |  |             |               |            |                |        |             |         |
| 15   |               |  |               |  |             |               |            |                |        |             |         |
| 16   |               |  |               |  |             |               |            |                |        |             |         |
| 17   |               |  |               |  |             |               |            |                |        |             |         |
| 18   |               |  |               |  |             |               |            |                |        |             |         |
| 19   |               |  |               |  |             |               |            |                |        |             |         |
| 20   |               |  |               |  |             |               |            |                |        |             |         |

Engineering & Laboratory Services (Pvt) Ltd.  
 Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.







| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NS1, BH-14<br>Sheet No: 3 of 3<br>GROUND ELEVATION, EL (m): 14.359<br>CHAINAGE : STA 9+415, L-25<br>GROUND WATER LEVEL (m): 4.20 |               |  |                   |
|---|-------------------|--|---------------|--|-------------------|
| COORDINATES:<br>X=110340.050<br>Y=199643.065  |                   | BOREHOLE<br>No: NS1, BH-15<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 22.432<br>CHAINAGE : STA 9+520, CL                                   |               |  |                   |
| LOCATION : Bivagama-Kaduvela  |                   | LOCATION : Bivagama - Kaduvela   |               |  |                   |
| DATE  | From : 30/12/2006 | To : 31/12/2006  | DATE          | From : 27/12/2006  | To : 28/12/2006   |
| 20  | ELEVATION (m)     | 20.15  | DEPTH (m)     | 0.96   | 0.96              |
| 21  | DEPTH (m)         | 20.45  | THICKNESS (m) | 0.96   | 0.96              |
| 22  | DEPTH (m)         | 21.15  | SOIL NAME     | CLAYEY SAND  | YELLOW            |
| 23  | DEPTH (m)         | 21.45  | COLOUR        | YELLOW   | YELLOW            |
| 24  | DEPTH (m)         | 22.45  | LEGEND        |  |                   |
| 25  | DEPTH (m)         | 22.45  | DESCRIPTION   | SOFT YELLOW YELLOWISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES | YELLOW SANDY CLAY |
| 26  | DEPTH (m)         | 23.00  | DESCRIPTION   | SAME AS PREVIOUS DESCRIPTION   | YELLOW SANDY SILT |
| 27  | DEPTH (m)         | 23.00  | DESCRIPTION   | END OF BORING  | YELLOW SANDY SILT |
| 28  | DEPTH (m)         |  | DESCRIPTION   |  |                   |
| 29  | DEPTH (m)         |  | DESCRIPTION   |  |                   |
| 30  | DEPTH (m)         |  | DESCRIPTION   |  |                   |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NS1, BH-15<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 22.432<br>CHAINAGE : STA 9+520, CL |               |  |                   |
|---|-------------------|--|---------------|--|-------------------|
| COORDINATES:<br>X=110337.932<br>Y=199535.438  |                   | BOREHOLE<br>No: NS1, BH-15<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 22.432<br>CHAINAGE : STA 9+520, CL |               |  |                   |
| LOCATION : Bivagama-Kaduvela  |                   | LOCATION : Bivagama - Kaduvela   |               |  |                   |
| DATE  | From : 27/12/2006 | To : 28/12/2006  | DATE          | From : 27/12/2006  | To : 28/12/2006   |
| 1   | ELEVATION (m)     | 0.96   | DEPTH (m)     | 0.96   | 0.96              |
| 2   | DEPTH (m)         | 2.05   | THICKNESS (m) | 0.96   | 0.96              |
| 3   | DEPTH (m)         | 2.15   | SOIL NAME     | CLAYEY SAND  | YELLOW            |
| 4   | DEPTH (m)         | 2.45   | COLOUR        | YELLOW   | YELLOW            |
| 5   | DEPTH (m)         | 3.15   | LEGEND        |  |                   |
| 6   | DEPTH (m)         | 3.45   | DESCRIPTION   | SOFT YELLOW YELLOWISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES   | YELLOW SANDY CLAY |
| 7   | DEPTH (m)         | 4.15   | DESCRIPTION   | STIFF YELLOW, REDDISH BROWN SANDY LATERITIC SILT WITH LATERITIC CLAY LATERITE NODULES  | YELLOW SANDY SILT |
| 8   | DEPTH (m)         | 4.45   | DESCRIPTION   | STIFF YELLOW, REDDISH BROWN SANDY LATERITIC SILT WITH LATERITIC CLAY LATERITE NODULES  | YELLOW SANDY SILT |
| 9   | DEPTH (m)         | 5.15   | DESCRIPTION   | VERY STIFF PINK WHITISH GREY REOLINIZED FINE TO MEDIUM SANDY SILT WITH MINOR QUANTITY OF LATERITIC CLAY AND LATERITE NODULES | SANDY SILT        |
| 10  | DEPTH (m)         | 5.80   | DESCRIPTION   |  |                   |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                | BOREHOLE<br>No: NS1, BH-15<br>Sheet No: 2 of 3<br>GROUND ELEVATION, EL (m): 22.432<br>CHAINAGE : STA 9+520, CL |               |        |       |                           |  |           |            |                |                           |        |             |         |
|--|----------------|--|---------------|--------|-------|---------------------------|--|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| LOCATION : Bivagama - Kaduwele   |                | GROUND WATER LEVEL (m): 9.00   |               |        |       |                           |  |           |            |                |                           |        |             |         |
| DATE : From : 27/12/2006   | To: 28/12/2006 |  |               |        |       |                           |  |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)  | DEPTH (m)  | THICKNESS (m) | LEGEND | COLOR | SOIL NAME                 | DESCRIPTION  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 10   |                | 10.15  | 15/30         |        |       |                           | SAME AS PREVIOUS DESCRIPTION   | 10.15     | 15/30      | 15             |                           | W      |             |         |
| 11   |                | 11.15  | 15/30         |        |       |                           | SAME AS PREVIOUS DESCRIPTION   | 11.15     | 15/30      | 16             |                           | S      |             |         |
| 12   | 12.00          | 12.15  | 15/30         | 6.20   |       |                           | SAME AS PREVIOUS DESCRIPTION   | 12.15     | 15/30      | 21             |                           | W      |             |         |
| 13   |                | 13.15  | 26/30         |        |       |                           | PINK WHITISH GREY KEOLINIZED CLAY WITH WEATHERED FELDSPAR PARTICLES AND ANGULAR TO SUBANGULAR QUARTZ GRAINS SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK | 13.15     | 26/30      | 26             |                           | S      |             |         |
| 14   |                | 14.15  | 29/30         |        | PINK  | COMPLETELY WEATHERED ROCK |  | 14.15     | 29/30      | 29             |                           | W      |             |         |
| 15   |                | 15.15  | 34/30         |        |       |                           |  | 15.15     | 34/30      | 34             |                           | S      |             |         |
| 16   | 16.20          | 16.15  | 44/30         | 4.20   |       |                           |  | 16.15     | 44/30      | 44             |                           | W      |             |         |
| 17   |                | 17.15  | 44/30         |        |       |                           | GREY, WHITISH GREY LIGHT PINK ANGULAR TO SUBANGULAR GRAINS WITH TRACES OF MICA AND WEATHERED FELDSPAR SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK       | 17.15     | 44/30      | 44             |                           | S      |             |         |
| 18   |                | 18.15  | 39/30         |        | GREY  | COMPLETELY WEATHERED ROCK |  | 18.15     | 39/30      | 39             |                           | W      |             |         |
| 19   |                | 19.15  | 45/30         |        |       |                           |  | 19.15     | 45/30      | 45             |                           | S      |             |         |
| 20   |                |  |               |        |       |                           |  |           |            | 45             |                           |        |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |                | BOREHOLE<br>No: NS1, BH-15<br>Sheet No: 3 of 3<br>GROUND ELEVATION, EL (m): 22.432<br>CHAINAGE : STA 9+520, CL |               |        |       |           |                              |           |            |                |                           |        |             |         |
|--|----------------|--|---------------|--------|-------|-----------|------------------------------|-----------|------------|----------------|---------------------------|--------|-------------|---------|
| LOCATION : Bivagama - Kaduwele   |                | GROUND WATER LEVEL (m): 9.00   |               |        |       |           |                              |           |            |                |                           |        |             |         |
| DATE : From : 27/12/2006   | To: 28/12/2006 |  |               |        |       |           |                              |           |            |                |                           |        |             |         |
| SCALE (m)  | ELEVATION (m)  | DEPTH (m)  | THICKNESS (m) | LEGEND | COLOR | SOIL NAME | DESCRIPTION                  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | METHOD | DEPTH (GWL) | REMARKS |
| 26   |                | 20.15  | >50/20        |        |       |           |                              | 20.15     | >50/20     | 50             |                           | S      |             |         |
| 27   |                | 21.15  | >50/20        |        |       |           |                              | 21.15     | >50/20     | 50             |                           | W      |             |         |
| 28   |                | 22.15  | >50/20        |        |       |           |                              | 22.15     | >50/20     | 50             |                           | S      |             |         |
| 29   |                | 23.15  | >50/20        |        |       |           |                              | 23.15     | >50/20     | 50             |                           | W      |             |         |
| 30   |                | 24.15  | >50/20        |        |       |           | SAME AS PREVIOUS DESCRIPTION | 24.15     | >50/20     | 50             |                           | S      |             |         |
| 31   |                | 25.15  | >50/20        |        |       |           |                              | 25.15     | >50/20     | 50             |                           | W      |             |         |
| 32   |                | 26.15  | >50/20        |        |       |           |                              | 26.15     | >50/20     | 50             |                           | S      |             |         |
| 33   |                | 26.60  | 10.40         |        |       |           | END OF BORING                | 26.60     | 10.40      |                |                           |        |             |         |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No.: NS1, BH-16<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110380.811<br>Y=199360.617 |               | GROUND ELEVATION, EL. (m): 8.536<br>CHAINAGE : STA 9+700, CL |        | GROUND WATER LEVEL (m): 1.80 |   |           |            |                |        |             |         |
|--|---------------|---|---------------|--|--------|------------------------------|---|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| DATE : 04/01/07  |               | To:   |               | From: 04/01/07   |        | To: 04/01/07                 |   |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME                    | DESCRIPTION   | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 0  |               |   |               |  |        |                              |   |           |            |                |        |             |         |
| 1  |               |   |               |  | GREY   | SANDY CLAY                   | SOFT WHITTISH GREY FINE SANDY CLAY WITH LATERITIC CLAY AND LATERITE NODULES                                     | 1.15-1.45 | 3/30       |                | D      |             |         |
| 2  | 2.00          | 2.00  |               |  |        |                              | FIRM RED, REDDISH BROWN WHITTISH GREY SANDY LATERITIC CLAY WITH LATERITE NODULES                                | 2.15-2.45 | 6/30       |                | S      |             |         |
| 3  | 3.10          | 1.10  |               |  | RED    | SANDY CLAY                   | YELLOW WHITTISH GREY FINE SAND WITH KEOLINIZED CLAY WITH SMALL CONTENT OF TRACES OF MICA SHOWS RELICT STRUCTURE | 3.15-3.45 | 3/30       |                | W      |             |         |
| 4  | 4.00          | 0.90  |               |  | YELLOW | COMPLETELY WEATHERED ROCK    | COMPLETELY WEATHERED ROCK   | 4.15-4.45 | 8/30       |                | S      |             |         |
| 5  |               |   |               |  |        |                              | COMPLETELY WEATHERED ROCK   | 5.15-5.45 | 12/30      |                | W      |             |         |
| 6  |               |   |               |  |        |                              |   | 6.15-6.45 | 19/30      |                | S      |             |         |
| 7  |               |   |               |  | GREY   | COMPLETELY WEATHERED ROCK    | GREY PINK FINE SAND WITH WEATHERED FELDSPAR PARTIALS AND TRACES OF MICA SHOWS RELICT STRUCTURE                  | 7.15-7.45 | 30/30      |                | W      |             |         |
| 8  |               |   |               |  |        |                              | COMPLETELY WEATHERED ROCK   | 8.15-8.45 | >50/30     |                | S      |             |         |
| 9  |               |   |               |  |        |                              |   | 9.15-9.45 | >50/30     |                | W      |             |         |
| 10   |               |   |               |  |        |                              |   |           |            |                | S      |             |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No.: NS1, BH-16<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110380.811<br>Y=199360.617 |               | GROUND ELEVATION, EL. (m): 8.536<br>CHAINAGE : STA 9+700, CL |        | GROUND WATER LEVEL (m): 1.80 |                              |           |            |                |        |             |         |
|--|---------------|---|---------------|--|--------|------------------------------|------------------------------|-----------|------------|----------------|--------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| DATE : 04/01/07  |               | To:   |               | From: 04/01/07   |        | To: 04/01/07                 |                              |           |            |                |        |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND   | COLOUR | SOIL NAME                    | DESCRIPTION                  | DEPTH (m) | BLOWS / cm | CURVE OF BLOWS | METHOD | DEPTH (GWL) | REMARKS |
| 10   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 11   |               |   |               |  |        |                              | SAME AS PREVIOUS DESCRIPTION |           |            |                | W      |             |         |
| 12   |               |   |               |  |        |                              | END OF BORING                |           |            |                |        |             |         |
| 13   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 14   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 15   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 16   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 17   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 18   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 19   |               |   |               |  |        |                              |                              |           |            |                |        |             |         |
| 20   |               |   |               |  |        |                              |                              |           |            |                | S      |             |         |



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



Engineering & Laboratory Services (Pvt) Ltd.

Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                  | BOREHOLE<br>No: NS1, BH-18<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110435.196<br>Y=99168.131 |             | GROUND ELEVATION, EL (m): 10.382<br>CHAINAGE : STA 9+900, CL                                 |                  | GROUND WATER LEVEL (m): 3.00  |           |
|--|------------------|---|-------------|--|------------------|-------------------------------|-----------|
| LOCATION : Bivagama- Kaduwela  |                  | DATE : From : 02/01/2007 To: 03/01/2007   |             | DATE : From : 30/12/2006 To: 31/12/2006  |                  | LOCATION : Bivagama- Kaduwela |           |
| 10   | SCALE (m)        | 10.15   | DEPTH (m)   | 10.15  | EL ELEVATION (m) | 10.15                         | DEPTH (m) |
| 11   | DEPTH (m)        | 10.45   | SOIL NAME   | COMPLETELY WEATHERED ROCK  | 10.45            | 10.45                         | DEPTH (m) |
| 12   | THICKNESS (m)    | 11.00   | COLOUR      | GREY   | 11.00            | 11.00                         | DEPTH (m) |
| 13   | EL ELEVATION (m) | 11.45   | LEGEND      |  | 11.45            | 11.45                         | DEPTH (m) |
| 14   | DEPTH (m)        | 12.00   | DESCRIPTION | WHITISH GREY FINE SAND WITH TRACES OF MICA SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK. | 12.00            | 12.00                         | DEPTH (m) |
| 15   | THICKNESS (m)    | 12.45   | SOIL NAME   | COMPLETELY WEATHERED ROCK  | 12.45            | 12.45                         | DEPTH (m) |
| 16   | EL ELEVATION (m) | 12.45   | COLOUR      | GREY   | 12.45            | 12.45                         | DEPTH (m) |
| 17   | DEPTH (m)        | 12.45   | LEGEND      |  | 12.45            | 12.45                         | DEPTH (m) |
| 18   | THICKNESS (m)    | 12.45   | DESCRIPTION | END OF BORING  | 12.45            | 12.45                         | DEPTH (m) |
| 19   | EL ELEVATION (m) | 12.45   | SOIL NAME   | COMPLETELY WEATHERED ROCK  | 12.45            | 12.45                         | DEPTH (m) |
| 20   | DEPTH (m)        | 12.45   | COLOUR      | GREY   | 12.45            | 12.45                         | DEPTH (m) |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                  | BOREHOLE<br>No: NS1, BH-19<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110473.535<br>Y=99060.487 |             | GROUND ELEVATION, EL (m): 21.983<br>CHAINAGE : STA 10+020, CL                             |                  | GROUND WATER LEVEL (m): 9.28  |           |
|--|------------------|---|-------------|---|------------------|-------------------------------|-----------|
| LOCATION : Bivagama- Kaduwela  |                  | DATE : From : 30/12/2006 To: 31/12/2006   |             | DATE : From : 30/12/2006 To: 31/12/2006   |                  | LOCATION : Bivagama- Kaduwela |           |
| 0  | SCALE (m)        | 0   | DEPTH (m)   | 0   | EL ELEVATION (m) | 0                             | DEPTH (m) |
| 1  | DEPTH (m)        | 1.45  | SOIL NAME   | SANDY CLAY  | 1.45             | 1.45                          | DEPTH (m) |
| 2  | THICKNESS (m)    | 2.15  | COLOUR      | RED   | 2.15             | 2.15                          | DEPTH (m) |
| 3  | EL ELEVATION (m) | 2.45  | LEGEND      |   | 2.45             | 2.45                          | DEPTH (m) |
| 4  | DEPTH (m)        | 2.45  | DESCRIPTION | VERY STIFF RED-REDDISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES                   | 2.45             | 2.45                          | DEPTH (m) |
| 5  | THICKNESS (m)    | 3.45  | SOIL NAME   | SANDY CLAY  | 3.45             | 3.45                          | DEPTH (m) |
| 6  | EL ELEVATION (m) | 4.15  | COLOUR      | BROWN   | 4.15             | 4.15                          | DEPTH (m) |
| 7  | DEPTH (m)        | 4.45  | LEGEND      |   | 4.45             | 4.45                          | DEPTH (m) |
| 8  | THICKNESS (m)    | 5.15  | DESCRIPTION | HARD DARK BROWN-RED SANDY LATERITIC CLAY WITH LATERITE NODULES                            | 5.15             | 5.15                          | DEPTH (m) |
| 9  | EL ELEVATION (m) | 5.45  | SOIL NAME   | SANDY CLAY  | 5.45             | 5.45                          | DEPTH (m) |
| 10   | DEPTH (m)        | 6.45  | COLOUR      | GREY  | 6.45             | 6.45                          | DEPTH (m) |
| 11   | THICKNESS (m)    | 6.45  | LEGEND      |   | 6.45             | 6.45                          | DEPTH (m) |
| 12   | EL ELEVATION (m) | 7.15  | DESCRIPTION | VERY STIFF WHITISH GREY-REDDISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES          | 7.15             | 7.15                          | DEPTH (m) |
| 13   | DEPTH (m)        | 7.45  | SOIL NAME   | SANDY CLAY  | 7.45             | 7.45                          | DEPTH (m) |
| 14   | THICKNESS (m)    | 8.15  | COLOUR      | PINK  | 8.15             | 8.15                          | DEPTH (m) |
| 15   | EL ELEVATION (m) | 8.45  | LEGEND      |   | 8.45             | 8.45                          | DEPTH (m) |
| 16   | DEPTH (m)        | 8.45  | DESCRIPTION | PINK KEOLINIZED CLAY WITH ANGULAR TO SUB ANGULAR QUARTZ GRAINS, COMPLETELY WEATHERED ROCK | 8.45             | 8.45                          | DEPTH (m) |
| 17   | THICKNESS (m)    | 9.15  | SOIL NAME   | COMPLETELY WEATHERED ROCK   | 9.15             | 9.15                          | DEPTH (m) |
| 18   | EL ELEVATION (m) | 9.45  | COLOUR      | PINK  | 9.45             | 9.45                          | DEPTH (m) |
| 19   | DEPTH (m)        | 9.45  | LEGEND      |   | 9.45             | 9.45                          | DEPTH (m) |
| 20   | THICKNESS (m)    | 9.45  | DESCRIPTION | COMPLETELY WEATHERED ROCK   | 9.45             | 9.45                          | DEPTH (m) |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel: 0094-01-517037, 517365, Fax: 509806 E-mail: els@lanka.com.lk.





| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NS1, BH-19<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110473.535<br>Y=199060.487<br>GROUND ELEVATION, EL (m): 21.983<br>CHAINAGE : STA 10+020, CL |  |
|--|-------------------|---|--|
| LOCATION : Bivagama- Kaduwela  |                   | GROUND WATER LEVEL (m): 9.28  |  |
| DATE   | From : 30/12/2006 | To : 31/12/2006   |  |
| 10   | SCALE (m)         |   |  |
| 11   | ELEVATION (m)     |   |  |
| 12   | DEPTH (m)         |   |  |
| 13   | THICKNESS (m)     |   |  |
| 14   | COLOUR            |   |  |
| 15   | SOIL NAME         |   |  |
| 16   | DESCRIPTION       |   |  |
| 17   | LEGEND            |   |  |
| 18   | DEPTH (m)         |   |  |
| 19   | THICKNESS (m)     |   |  |
| 20   | ELEVATION (m)     |   |  |
|  | REMARKS           |   |  |
|  | TEST SAMPLE       |   |  |
|  | DEPTH (GWL)       |   |  |
|  | METHOD            |   |  |
|  | CURVE OF BLOWS    |   |  |
|  | BLOWS / ft        |   |  |
|  | DEPTH (m)         |   |  |
|  | DESCRIPTION       |   |  |
|  | SOIL NAME         |   |  |
|  | COLOUR            |   |  |
|  | LEGEND            |   |  |
|  | THICKNESS (m)     |   |  |
|  | DEPTH (m)         |   |  |
|  | ELEVATION (m)     |   |  |
|  | SCALE (m)         |   |  |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NS1, BH-20<br>Sheet No: 1 of 2<br>COORDINATES:<br>X=110584.566<br>Y=199026.512<br>GROUND ELEVATION, EL (m): 19.033<br>CHAINAGE : STA 10+080, L-98 |  |
|--|-------------------|---|--|
| LOCATION : Bivagama- Kaduwela  |                   | GROUND WATER LEVEL (m): 5.60  |  |
| DATE   | From : 24/12/2006 | To : 24/12/2006   |  |
| 10   | SCALE (m)         |   |  |
| 11   | ELEVATION (m)     |   |  |
| 12   | DEPTH (m)         |   |  |
| 13   | THICKNESS (m)     |   |  |
| 14   | COLOUR            |   |  |
| 15   | SOIL NAME         |   |  |
| 16   | DESCRIPTION       |   |  |
| 17   | LEGEND            |   |  |
| 18   | DEPTH (m)         |   |  |
| 19   | THICKNESS (m)     |   |  |
| 20   | ELEVATION (m)     |   |  |
|  | REMARKS           |   |  |
|  | TEST SAMPLE       |   |  |
|  | DEPTH (GWL)       |   |  |
|  | METHOD            |   |  |
|  | CURVE OF BLOWS    |   |  |
|  | BLOWS / ft        |   |  |
|  | DEPTH (m)         |   |  |
|  | DESCRIPTION       |   |  |
|  | SOIL NAME         |   |  |
|  | COLOUR            |   |  |
|  | LEGEND            |   |  |
|  | THICKNESS (m)     |   |  |
|  | DEPTH (m)         |   |  |
|  | ELEVATION (m)     |   |  |
|  | SCALE (m)         |   |  |

**Engineering & Laboratory Services (Pvt) Ltd.**  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |  |               |      |           |  |               |  |        |  | BOREHOLE<br>No: NS1, BH-20<br>Sheet No: 2 of 2<br>COORDINATES:<br>X=110 584 566<br>Y=199 026 512<br>GROUND ELEVATION, EL (m): 19.033<br>CHAINAGE : STA 10+080, L=98<br>LOCATION : Bivagama - Kaduwela<br>DATE : From : 24/12/2006 To: 24/12/2006<br>GROUND WATER LEVEL (m): 5.60 |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|--|--|---------------|------|-----------|--|---------------|--|--------|--|--|--|-----------|--|-------------|--|---------------------------|--|--|-------------|--|---------|--|--|
| SCALE (m)  |  | ELEVATION (m) |      | DEPTH (m) |  | THICKNESS (m) |  | LEGEND |  | COLOUR   |  | SOIL NAME |  | DESCRIPTION |  | STANDARD PENETRATION TEST |  |  | TEST SAMPLE |  | REMARKS |  |  |
|  |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|  |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|  |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 10   |  | 17.00         | 8.00 |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 11   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 12   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 13   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 14   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 15   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 16   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 17   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 18   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 19   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 20   |  |               |      |           |  |               |  |        |  |  |  |           |  |             |  |                           |  |  |             |  |         |  |  |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION 1 |  |               |  |           |  |               |  |        |  | BOREHOLE<br>No: NS1, BH-24<br>Sheet No: 1 of 1<br>COORDINATES:<br>X=110 653 346<br>Y=198 572 169<br>GROUND ELEVATION, EL (m): 8.391<br>CHAINAGE : STA 10+535, CL<br>LOCATION : Bivagama - Kaduwela<br>DATE : From : 24/12/2006 To: 24/12/2006<br>GROUND WATER LEVEL (m): 0.10 |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|--|--|---------------|--|-----------|--|---------------|--|--------|--|---|--|-----------|--|-------------|--|---------------------------|--|--|-------------|--|---------|--|--|
| SCALE (m)  |  | ELEVATION (m) |  | DEPTH (m) |  | THICKNESS (m) |  | LEGEND |  | COLOUR  |  | SOIL NAME |  | DESCRIPTION |  | STANDARD PENETRATION TEST |  |  | TEST SAMPLE |  | REMARKS |  |  |
|  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
|  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 0  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 1  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 2  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 3  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 4  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 5  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 6  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 7  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 8  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 9  |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |
| 10   |  |               |  |           |  |               |  |        |  |   |  |           |  |             |  |                           |  |  |             |  |         |  |  |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NSI, BH-25<br>Sheet No: 1 of 1<br>GROUND ELEVATION, EL (m): 8.879<br>CHAINAGE : STA 10+600, CL |               | BOREHOLE<br>No: NSI, BH-26<br>Sheet No: 1 of 1<br>GROUND ELEVATION, EL (m): 9.236<br>CHAINAGE : STA 10+700, CL |                 |            |  |             |            |                |                           |             |         |
|---|-------------------|--|---------------|--|-----------------|------------|--|-------------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama - Kaduwela  |                   | LOCATION : Bivagama - Kaduwela   |               | LOCATION : Bivagama - Kaduwela   |                 |            |  |             |            |                |                           |             |         |
| DATE  | From : 23/12/2006 | To : 23/12/2006  | DATE          | From : 18/12/2006  | To : 19/12/2006 |            |  |             |            |                |                           |             |         |
| SCALE (m)   | ELEVATION (m)     | DEPTH (m)  | THICKNESS (m) | LEGEND   | COLOUR          | SOIL NAME  | DESCRIPTION  | DEPTH (m)   | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0   |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |
| 1   | 1.00              | 1.00   | 1.00          |  | BROWN           | SANDY CLAY | BROWN DARK BROWN, FINE SANDY CLAY WITH ORGANIC MATTER TOP SOIL                       | 1.15 - 1.45 | 1160       | 11             |                           | D           |         |
| 2   | 1.80              | 0.80   | 0.80          |  | GREY            | SILTY SAND | MEDIUM DENSE WHITISH GREY SLIGHTLY CLAYEY SILTY FINE TO MEDIUM SAND WITH FINE GRAVEL | 2.15 - 2.45 | 1420       | 14             |                           | S           |         |
| 3   | 3.00              | 1.20   |               |  | GREY            | SILTY SAND | MEDIUM DENSE WHITISH GREY FINE SAND WITH SILT  | 3.15 - 3.45 | 1230       | 12             |                           | W           |         |
| 4   |                   |  |               |  |                 |            |  | 4.15 - 4.45 | 1920       | 19             |                           | S           |         |
| 5   |                   |  |               |  | GREY            | SILTY SAND | GREY DARK GREY FINE SAND WITH SILT   | 5.15 - 5.45 | 2530       | 25             |                           | W           |         |
| 6   | 6.00              | 3.00   |               |  |                 |            |  |             |            |                |                           |             |         |
| 7   |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |
| 8   |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |
| 9   |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |
| 10  |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |
| END OF BORING   |                   |  |               |  |                 |            |  |             |            |                |                           |             |         |

| GEO TECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |                   | BOREHOLE<br>No: NSI, BH-26<br>Sheet No: 1 of 1<br>GROUND ELEVATION, EL (m): 9.236<br>CHAINAGE : STA 10+700, CL |               | BOREHOLE<br>No: NSI, BH-26<br>Sheet No: 1 of 1<br>GROUND ELEVATION, EL (m): 9.236<br>CHAINAGE : STA 10+700, CL |                 |                           |   |             |            |                |                           |             |         |
|---|-------------------|--|---------------|--|-----------------|---------------------------|---|-------------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama - Kaduwela  |                   | LOCATION : Bivagama - Kaduwela   |               | LOCATION : Bivagama - Kaduwela   |                 |                           |   |             |            |                |                           |             |         |
| DATE  | From : 18/12/2006 | To : 19/12/2006  | DATE          | From : 18/12/2006  | To : 19/12/2006 |                           |   |             |            |                |                           |             |         |
| SCALE (m)   | ELEVATION (m)     | DEPTH (m)  | THICKNESS (m) | LEGEND   | COLOUR          | SOIL NAME                 | DESCRIPTION   | DEPTH (m)   | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0   |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |
| 1   | 0.90              | 0.90   | 0.90          |  | BROWN           | CLAYEY SAND               | BROWN LIGHT BROWN CLAYEY FINE SAND WITH PLANT ROOTS AND ORGANIC CLAY NODULES  | 1.15 - 1.45 | 300        | 3              |                           | D           |         |
| 2   | 2.00              | 1.10   | 1.10          |  | BROWN           | SILTY SAND                | VERY LOOSE BROWN, LIGHT BROWN, SILTY FINE SAND WITH CLAY  | 2.15 - 2.45 | 800        | 6              |                           | UD          |         |
| 3   | 3.30              | 1.30   |               |  | GREY            | SANDY CLAY                | FIRM WHITISH GREY FINE SANDY CLAY   | 3.15 - 3.45 | 840        | 8              |                           | W           |         |
| 4   |                   |  |               |  |                 |                           |   | 4.15 - 4.45 | 8000       |                |                           | S           |         |
| 5   |                   |  |               |  | GREY            | COMPLETELY WEATHERED ROCK | WHITISH GREY, GREY KEOLINIZED CLAY WITH TRACES OF MICA, WEATHERED FELDSPAR AND ANGULAR TO SUB ANGULAR QUARTZ GRAINS COMPLETELY WEATHERED ROCK | 5.15 - 5.45 | 8000       | 50             |                           | W           |         |
| 6   |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |
| 7   |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |
| 8   | 8.00              | 4.70   |               |  |                 |                           |   |             |            |                |                           |             |         |
| 9   |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |
| 10  |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |
| END OF BORING   |                   |  |               |  |                 |                           |   |             |            |                |                           |             |         |

Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.ccom.lk.



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.ccom.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               |            |               | BOREHOLE<br>No.: NSI, BH-27<br>Sheet No: 1 of 2<br>GROUND ELEVATION, EL. (m): 11.781<br>CHAINAGE : STA 10+800, CL<br>COORDINATES<br>X=110 784.618<br>Y=198 331.685 |                           |  |            |            |                |                           |             |         |
|--|---------------|------------|---------------|--|---------------------------|--|------------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama - Kaduwela   |               |            |               | GROUND WATER LEVEL (m) : 0.05  |                           |  |            |            |                |                           |             |         |
| DATE   | From          | To         | DATE          | From   | To                        | DATE   | To         |            |                |                           |             |         |
| 24/12/2006   | 24/12/2006    | 24/12/2006 | 24/12/2006    | 24/12/2006   | 24/12/2006                | 24/12/2006   | 24/12/2006 |            |                |                           |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | SOIL NAME                 | DESCRIPTION  | DEPTH (m)  | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0  |               |            |               |  |                           |  |            |            |                |                           |             |         |
| 1  | 0.00          | 0.90       | 0.90          |  | SANDY CLAY                | DARK GREY HIGHLY FINE SANDY CLAY WITH ORGANIC MATTER   | 1.15-1.45  | 12/30      | 12             |                           | D           |         |
| 2  | 2.00          | 1.10       | 1.10          |  | SILTY SAND                | MEDIUM DENSE YELLOW, YELLOWISH BROWN SLIGHTLY CLAYEY SILTY FINE SAND WITH GRAVEL   | 2.15-2.65  | 21/30      | 21             |                           | S           |         |
| 3  |               |            |               |  |                           |  | 3.15-3.45  | 24/30      | 24             |                           | W           |         |
| 4  |               |            |               |  |                           |  | 4.15-4.45  | 30/30      | 30             |                           | S           |         |
| 5  |               |            |               |  |                           |  | 5.15-5.45  | 45/30      | 45             |                           | W           |         |
| 6  |               |            |               |  | COMPLETELY WEATHERED ROCK | YELLOW, WHITISH GREY FINE SAND WITH WEATHERED FELDSPAR PARTICLES, ANGULAR TO SUBANGULAR QUARTZ GRAINS AND TRACES OF MICA | 6.15-6.45  | 41/30      | 41             |                           | S           |         |
| 7  |               |            |               |  |                           |  | 7.15-7.45  | 50/30      | 50             |                           | W           |         |
| 8  |               |            |               |  |                           |  | 8.15-8.45  | 50/30      | 50             |                           | S           |         |
| 9  |               |            |               |  |                           |  | 9.15-9.45  | 50/30      | 50             |                           | W           |         |
| 10   |               |            |               |  |                           |  |            |            | 50             |                           | S           |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               |            |               | BOREHOLE<br>No.: NSI, BH-27<br>Sheet No: 2 of 2<br>GROUND ELEVATION, EL. (m): 11.781<br>CHAINAGE : STA 10+800, CL<br>COORDINATES<br>X=110 784.618<br>Y=198 331.685 |            |                              |             |            |                |                           |             |         |
|--|---------------|------------|---------------|--|------------|------------------------------|-------------|------------|----------------|---------------------------|-------------|---------|
| LOCATION : Bivagama - Kaduwela   |               |            |               | GROUND WATER LEVEL (m) : 0.05  |            |                              |             |            |                |                           |             |         |
| DATE   | From          | To         | DATE          | From   | To         | DATE                         | To          |            |                |                           |             |         |
| 24/12/2006   | 24/12/2006    | 24/12/2006 | 24/12/2006    | 24/12/2006   | 24/12/2006 | 24/12/2006                   | 24/12/2006  |            |                |                           |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)  | THICKNESS (m) | LEGEND   | SOIL NAME  | DESCRIPTION                  | DEPTH (m)   | BLOWS / cm | CURVE OF BLOWS | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 10   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 11   | 11.20         | 9.60       |               |  |            | SAME AS PREVIOUS DESCRIPTION | 10.15-10.45 | 50/30      | 50             |                           | W           |         |
| 12   |               |            |               |  |            |                              | 11.15-11.45 | 50/30      |                |                           | S           |         |
| 13   |               |            |               |  |            |                              |             |            |                |                           | W           |         |
| 14   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 15   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 16   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 17   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 18   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 19   |               |            |               |  |            |                              |             |            |                |                           |             |         |
| 20   |               |            |               |  |            |                              |             |            |                |                           |             |         |

Engineering & Laboratory Services (Pvt) Ltd.  
 Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanka.com.lk.



| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: NS1, BH-29<br>Sheet No: 1 of 1<br>GROUND ELEVATION, EL (m): 10.477<br>CHAINAGE : STA 10+800.L-35<br>COORDINATES:<br>X=110795.925<br>Y=198.347.129 |               | BORING LOG                    |              | BOREHOLE<br>No: NS1, BH-29<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 16.067<br>CHAINAGE : STA 10+950.CL<br>COORDINATES:<br>X=10830.794<br>Y=198197.148 |   |             |            |                  |                           |             |         |
|--|---------------|---|---------------|-------------------------------|--------------|---|---|-------------|------------|------------------|---------------------------|-------------|---------|
| LOCATION : Bivagama-Kaduwela   |               | DATE : From : 21/12/2006 To: 21/12/2006   |               | LOCATION : Bivagama- Kaduwela |              | DATE : From : 19/12/2006 To: 20/12/2006   |   |             |            |                  |                           |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND                        | COLOUR       | SOIL NAME   | DESCRIPTION   | DEPTH (m)   | BLOWS / cm | CURVE OF BLOWS   | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0  | 1.00          | 1.00  | 1.00          |                               |              |   |   | 1.15 - 1.45 | 10/30      | 0 10 20 30 40 50 |                           | DEPTH (GWL) |         |
| 1  | 1.00          | 1.00  | 1.00          |                               | BROWN        | SANDY CLAY  | LIGHT BROWN, BROWN SANDY CLAY WITH ORGANIC MATTER   | 1.15 - 1.45 | 10/30      | 10               |                           | D           |         |
| 2  |               |   |               |                               | WHITISH GREY | SILTY SAND  | LOOSE WHITISH GREY, GREY SILTY FINE SAND WITH KEOLINIZED CLAY   | 1.45 - 2.45 | 6/20       | 6                |                           | UD          |         |
| 3  | 3.00          | 2.00  |               |                               |              |   |   | 3.15 - 3.45 | 8/30       | 9                |                           | S           |         |
| 4  |               |   |               |                               |              |   |   | 3.45 - 4.45 | 12/30      | 12               |                           | W           |         |
| 5  |               |   |               |                               |              |   |   | 4.45 - 5.15 | 29/30      | 29               |                           | S           |         |
| 6  |               |   |               |                               | YELLOW       | COMPLETELY WEATHERED ROCK   | YELLOW YELLOWISH BROWN FINE TO MEDIUM SAND WITH ANGULAR TO SUBANGULAR QUARTZ GRAINS AND GRAVEL, TRACES OF MICA SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK | 5.15 - 6.45 | 31/30      | 31               |                           | W           |         |
| 7  |               |   |               |                               |              |   |   | 6.45 - 7.45 | 9/30       | 9                |                           | S           |         |
| 8  |               |   |               |                               |              |   |   | 7.45 - 8.15 | 5/30       | 5                |                           | W           |         |
| 9  | 9.45          | 6.45  |               |                               |              |   |   | 8.15 - 9.45 | 5/30       | 5                |                           | S           |         |
| 10   |               |   |               |                               |              |   | END OF BORING   | 9.45 - 9.45 | 5/30       | 5                |                           | S           |         |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               | BOREHOLE<br>No: NS1, BH-29<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 16.067<br>CHAINAGE : STA 10+950.CL<br>COORDINATES:<br>X=10830.794<br>Y=198197.148 |               | BORING LOG                    |        | BOREHOLE<br>No: NS1, BH-29<br>Sheet No: 1 of 3<br>GROUND ELEVATION, EL (m): 16.067<br>CHAINAGE : STA 10+950.CL<br>COORDINATES:<br>X=10830.794<br>Y=198197.148 |  |  |            |                  |                           |             |         |
|--|---------------|---|---------------|-------------------------------|--------|---|--|--|------------|------------------|---------------------------|-------------|---------|
| LOCATION : Bivagama- Kaduwela  |               | DATE : From : 19/12/2006 To: 20/12/2006   |               | LOCATION : Bivagama- Kaduwela |        | DATE : From : 19/12/2006 To: 20/12/2006   |  |  |            |                  |                           |             |         |
| SCALE (m)  | ELEVATION (m) | DEPTH (m)   | THICKNESS (m) | LEGEND                        | COLOUR | SOIL NAME   | DESCRIPTION  | DEPTH (m)  | BLOWS / cm | CURVE OF BLOWS   | STANDARD PENETRATION TEST | TEST SAMPLE | REMARKS |
| 0  | 1.70          | 1.70  | 1.70          |                               |        |   |  | 1.15 - 1.45 <th>240/30</th> <th>0 10 20 30 40 50</th> <th></th> <th>DEPTH (GWL)</th> <th></th> | 240/30     | 0 10 20 30 40 50 |                           | DEPTH (GWL) |         |
| 1  | 1.70          | 1.70  | 1.70          |                               | RED    | SANDY CLAY  | HARD RED REDDISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES  | 1.15 - 1.45  | 240/30     | 50               |                           | D           |         |
| 2  |               |   |               |                               | YELLOW | SANDY CLAY  | VERY STIFF YELLOW, RED YELLOWISH BROWN SANDY LATERITIC CLAY WITH LATERITE NODULES  | 1.45 - 2.15  | 16/30      | 16               |                           | W           |         |
| 3  | 3.00          | 1.30  |               |                               |        |   |  | 2.15 - 2.45  | 16/30      | 16               |                           | S           |         |
| 4  |               |   |               |                               |        |   |  | 2.45 - 3.15  | 8/30       | 8                |                           | W           |         |
| 5  |               |   |               |                               |        |   |  | 3.15 - 3.45  | 6/30       | 6                |                           | S           |         |
| 6  |               |   |               |                               |        |   |  | 3.45 - 4.15  | 9/30       | 9                |                           | W           |         |
| 7  | 7.20          | 4.20  |               |                               |        |   |  | 4.15 - 4.45  | 9/30       | 9                |                           | S           |         |
| 8  |               |   |               |                               |        |   |  | 4.45 - 5.15  | 6/30       | 6                |                           | W           |         |
| 9  |               |   |               |                               | GREY   | COMPLETELY WEATHERED ROCK   | WHITISH GREY, GREY KEOLINIZED CLAY WITH ANGULAR TO SUBANGULAR QUARTZ GRAINS SHOWS RELICT STRUCTURE COMPLETELY WEATHERED ROCK | 5.15 - 6.45  | 8/30       | 8                |                           | S           |         |
| 10   |               |   |               |                               |        |   |  | 6.45 - 7.15  | 9/30       | 9                |                           | W           |         |
|  |               |   |               |                               |        |   |  | 7.15 - 7.45  | 10/30      | 10               |                           | S           |         |
|  |               |   |               |                               |        |   |  | 7.45 - 8.15  | 12/30      | 12               |                           | W           |         |

**Engineering & Laboratory Services (Pvt) Ltd.**  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@ianka.com.lk.

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               |           |               |       |        |           |                              |                |           | BOREHOLE<br>No.: NS1, BH-29<br>Sheet No: 2 of 3<br>COORDINATES:<br>X=110830.794<br>Y=198197.148<br>GROUND ELEVATION, EL. (m) : 16.067<br>CHAINAGE : STA 10+950,CL |             |         |  |  |  |  |  |  |  |
|--|---------------|-----------|---------------|-------|--------|-----------|------------------------------|----------------|-----------|---|-------------|---------|--|--|--|--|--|--|--|
| LOCATION : Bivagama- Kaduwela  |               |           |               |       |        |           |                              |                |           | GROUND WATER LEVEL (m) : 1.50   |             |         |  |  |  |  |  |  |  |
| DATE : From : 19/12/2006 To: 20/12/2006  |               |           |               |       |        |           |                              |                |           | STANDARD PENETRATION TEST   |             |         |  |  |  |  |  |  |  |
| DEPTH (m)  | ELEVATION (m) | DEPTH (m) | THICKNESS (m) | LAYER | COLOUR | SOIL NAME | DESCRIPTION                  | CURVE OF BLOWS |           | METHOD  | DEPTH (GWL) | REMARKS |  |  |  |  |  |  |  |
|  |               |           |               |       |        |           |                              | BLOWS / 30cm   | DEPTH (m) |   |             |         |  |  |  |  |  |  |  |
| 10   | 17.00         | 10.15     | 9.80          |       |        |           | SAME AS PREVIOUS DESCRIPTION | 22             | 22.00     | S   |             |         |  |  |  |  |  |  |  |
| 11   |               | 10.45     | 22.90         |       |        |           |                              | 21             | 21.00     | W   |             |         |  |  |  |  |  |  |  |
| 12   |               | 11.00     | 21.00         |       |        |           |                              | 24             | 21.45     | S   |             |         |  |  |  |  |  |  |  |
| 13   |               | 12.00     | 20.00         |       |        |           |                              | 27             | 22.45     | W   |             |         |  |  |  |  |  |  |  |
| 14   |               | 13.00     | 19.00         |       |        |           |                              | 25             | 23.00     | S   |             |         |  |  |  |  |  |  |  |
| 15   |               | 14.00     | 18.00         |       |        |           |                              | 25             | 24.00     | W   |             |         |  |  |  |  |  |  |  |
| 16   |               | 14.45     | 25.90         |       |        |           |                              | 25             | 24.45     | S   |             |         |  |  |  |  |  |  |  |
| 17   |               | 15.00     | 25.00         |       |        |           |                              | 25             | 25.00     | W   |             |         |  |  |  |  |  |  |  |
| 18   |               | 15.45     | 25.90         |       |        |           |                              | 25             | 25.45     | S   |             |         |  |  |  |  |  |  |  |
| 19   |               | 16.00     | 25.00         |       |        |           |                              | 25             | 26.00     | W   |             |         |  |  |  |  |  |  |  |
| 20   |               | 16.45     | 25.90         |       |        |           |                              | 25             | 26.45     | S   |             |         |  |  |  |  |  |  |  |
|  |               | 17.00     | 25.00         |       |        |           |                              | 25             | 27.00     | W   |             |         |  |  |  |  |  |  |  |
|  |               | 17.45     | 25.90         |       |        |           |                              | 25             | 27.45     | S   |             |         |  |  |  |  |  |  |  |
|  |               | 18.00     | 25.00         |       |        |           | 25                           | 28.00          | W         |   |             |         |  |  |  |  |  |  |  |
|  |               | 18.45     | 25.90         |       |        |           | 25                           | 28.45          | S         |   |             |         |  |  |  |  |  |  |  |
|  |               | 19.00     | 25.00         |       |        |           | 25                           | 29.00          | W         |   |             |         |  |  |  |  |  |  |  |
|  |               | 19.45     | 25.90         |       |        |           | 25                           | 29.45          | S         |   |             |         |  |  |  |  |  |  |  |
|  |               | 20.00     | 25.00         |       |        |           | 25                           | 30.00          | W         |   |             |         |  |  |  |  |  |  |  |

| GEOTECHNICAL SURVEY FOR<br>DETAILED DESIGN STUDY FOR<br>OUTER CIRCULAR HIGHWAY TO<br>THE CITY OF COLOMBO<br>NORTHERN SECTION I |               |           |               |       |        |           |                              |                |           | BOREHOLE<br>No.: NS1, BH-29<br>Sheet No: 3 of 3<br>COORDINATES:<br>X=110830.794<br>Y=198197.148<br>GROUND ELEVATION, EL. (m) : 16.067<br>CHAINAGE : STA 10+950,CL |             |         |  |  |  |  |  |  |  |
|--|---------------|-----------|---------------|-------|--------|-----------|------------------------------|----------------|-----------|---|-------------|---------|--|--|--|--|--|--|--|
| LOCATION : Bivagama- Kaduwela  |               |           |               |       |        |           |                              |                |           | GROUND WATER LEVEL (m) : 1.50   |             |         |  |  |  |  |  |  |  |
| DATE : From : 19/12/2006 To: 20/12/2006  |               |           |               |       |        |           |                              |                |           | STANDARD PENETRATION TEST   |             |         |  |  |  |  |  |  |  |
| DEPTH (m)  | ELEVATION (m) | DEPTH (m) | THICKNESS (m) | LAYER | COLOUR | SOIL NAME | DESCRIPTION                  | CURVE OF BLOWS |           | METHOD  | DEPTH (GWL) | REMARKS |  |  |  |  |  |  |  |
|  |               |           |               |       |        |           |                              | BLOWS / 30cm   | DEPTH (m) |   |             |         |  |  |  |  |  |  |  |
| 20   | 20.00         | 20.00     | 20.00         |       |        |           | SAME AS PREVIOUS DESCRIPTION | 0              | 20.00     | W   |             |         |  |  |  |  |  |  |  |
| 21   |               | 20.45     | 20.00         |       |        |           |                              | 0              | 20.45     | S   |             |         |  |  |  |  |  |  |  |
| 22   |               | 21.00     | 19.00         |       |        |           |                              | 0              | 21.00     | W   |             |         |  |  |  |  |  |  |  |
| 23   |               | 21.45     | 18.00         |       |        |           |                              | 0              | 21.45     | S   |             |         |  |  |  |  |  |  |  |
| 24   |               | 22.00     | 17.00         |       |        |           |                              | 0              | 22.00     | W   |             |         |  |  |  |  |  |  |  |
| 25   |               | 22.45     | 16.00         |       |        |           |                              | 0              | 22.45     | S   |             |         |  |  |  |  |  |  |  |
| 26   |               | 23.00     | 15.00         |       |        |           |                              | 0              | 23.00     | W   |             |         |  |  |  |  |  |  |  |
| 27   |               | 23.45     | 14.00         |       |        |           |                              | 0              | 23.45     | S   |             |         |  |  |  |  |  |  |  |
| 28   |               | 24.00     | 13.00         |       |        |           |                              | 0              | 24.00     | W   |             |         |  |  |  |  |  |  |  |
| 29   |               | 24.45     | 12.00         |       |        |           |                              | 0              | 24.45     | S   |             |         |  |  |  |  |  |  |  |
| 30   |               | 25.00     | 11.00         |       |        |           |                              | 0              | 25.00     | W   |             |         |  |  |  |  |  |  |  |
|  |               | 25.00     | 10.00         |       |        |           |                              | 0              | 25.00     | CS  |             |         |  |  |  |  |  |  |  |
|  |               | 25.00     | 9.00          |       |        |           |                              | 0              | 25.00     | CS  |             |         |  |  |  |  |  |  |  |



Engineering & Laboratory Services (Pvt) Ltd.  
Tel : 0094-01-517037, 517365, Fax : 509806 E-mail : els@lanika.com.lk.