

BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole **BH4** Project No **PC124991**
 Client **ROLTON GROUP** Ground Level **41.65** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 0.30- 0.60 | B | | | | | Tarmac. ** [MADE GROUND] | G.L. | | 41.65 | |
| 0.30 | D | | | | | Concrete with reinforcing. ** [MADE GROUND] | 0.30 | | 41.55 | |
| 0.30 | E | | | | | | | | | |
| 1.00 | D | | | | S9 | Firm light brown, locally mottled grey and orange brown, slightly sandy slightly gravelly clay with occasional pockets (up to 3mm in size) of black carbonaceous deposits. Gravel is angular to subrounded fine to medium quartzite, flint and calcareous siltstone. [PROBABLE MADE GROUND] At 1.00m, driller notes presence of claystone. | 1.10 | | 40.55 | |
| 1.00 | E | | | | | | | | | |
| 1.10 | D | | | | | | | | | |
| 1.20- 1.65 | D | 1.20 (DRY) | | | | | | | | |
| 2.00 | D | | | | S11 | Firm thinly laminated in parts, brown locally bluish grey and orange brown mottled slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium calcareous siltstone. | 2.00 | | 39.65 | |
| 2.00 | E | | | | | | | | | |
| 2.70- 3.15 | U40 | 1.20 (DRY) | 67 | 34 | | Firm brown locally bluish grey and orange brown mottled CLAY, thinly laminated in parts. At 2.70m, medium strength | | | | |
| 3.15 | D | | | | | Below 3.15m, fissured with rare medium to coarse sand sized gypsum crystals. Fissures are extremely closely spaced and randomly orientated. | | | | |
| 4.20- 4.65 | D | 1.50 (DRY) | | | S15 | Stiff thinly laminated fissured brownish grey micaceous CLAY. Fissures are extremely to very closely spaced randomly orientated with rare white silt dustings on some surfaces. | | | | |
| 5.70- 6.15 | U70 | 1.50 (DRY) | | | | | | | | |
| 6.15 | D | | | | | Below 6.15m, polished surface on some discontinuities. | | | | |
| 7.20- 7.65 | D | 1.50 (DRY) | | | | | | | | |
| 7.70- 8.00 | B | | | | | | 7.50 | | 34.15 | |
| 8.70- 9.15 | UT90 | 1.50 (DRY) | | | | | | | | |
| 9.15 | D | | | | | Below 9.15m, with occasional dark grey silt dustings on some surfaces. | | | | |
| 9.60 | D | | | | | At 9.60m, recovered as angular to subrounded medium to coarse gravel and cobble sized fragments of medium strong grey calcareous siltstone. | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|---------------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | | Inspection Pit | DC | G.I. | | | 21/08/12 | 08:00 | | | | | | None encountered during boring. |
| 20.00 | 0.15 | Cable Percussion | DC | 20.00 | 1.50 | DRY | 21/08/12 | 18:00 | | | | | | |

Remarks Inspection pit hand excavated to 1.20m depth, 0.5 hours breaking out concrete. ** Drillers description.
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar
 A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Logged by **NT/CO**
 Figure **1 of 2**
 20/09/2012

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH4**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **41.65** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-----------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 10.20-10.65 | D | 1.50 (DRY) | | | S26 | | | | | |
| 11.70-12.15 | U100 | 1.50 (DRY) | | | | | | | | |
| 12.15 | D | | | | | | | | | |
| 13.20-13.65 | D | 1.50 (DRY) | | | S25 | | | | | |
| 14.70-15.15 | U110 | 1.50 (DRY) | | | | | | | | |
| 15.15 | D | | | | | Below 15.15m, becoming stiff to very stiff and grey and brownish grey in colour. | | | | |
| 15.50 | D | | | | | | | | | |
| 16.40-16.85 | D | 1.50 (DRY) | | | S31 | Between 16.40-16.85m, with rare fine gravel sized shell fragments and rare orange brown silt dustings on some discontinuities. | | | | |
| 17.90-18.35 | UT110 | 1.50 (DRY) | | | | | | | | |
| 18.35 | D | | | | | Below 18.35m, with occasional angular to subrounded fine to coarse gravel sized calcareous siltstone / mudstone. | | | | |
| 19.50-19.95 | D | 1.50 (DRY) | | | S38 | | | | | |
| End of Borehole | | | | | | | 20.00 | | 21.65 | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **NT/CO**
Figure **2 of 2**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | | |
|-----------------------------|----------------|---------------|---------------|-------------|---------------|----------------|--|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|--|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 | |
| BH4 | 1.20 | 40.45 | S | - | 1 | 1 | 2 | 2 | 2 | 3 | 9 | * | | | | | |
| BH4 | 4.20 | 37.45 | S | - | 1 | 2 | 2 | 3 | 3 | 3 | 11 | * | | | | | |
| BH4 | 7.20 | 34.45 | S | - | 2 | 3 | 3 | 4 | 4 | 4 | 15 | * | | | | | |
| BH4 | 10.20 | 31.45 | S | - | 3 | 4 | 6 | 6 | 7 | 7 | 26 | | | * | | | |
| BH4 | 13.20 | 28.45 | S | - | 3 | 4 | 6 | 6 | 6 | 7 | 25 | | | * | | | |
| BH4 | 16.40 | 25.25 | S | - | 3 | 5 | 7 | 7 | 7 | 10 | 31 | | | * | | | |
| BH4 | 19.50 | 22.15 | S | - | 3 | 10 | 8 | 9 | 10 | 11 | 38 | | | | * | | |
| Driller | | | David Cowling | | | | Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005 | | | | | | | | | | |
| Hammer No. | | | EQU436 | | | | | | | | | | | | | | |
| Energy Ratio, Er (%) | | | 74.00 | | | | | | | | | | | | | | |
| Calibration Date | | | 23/03/2012 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

-/- Blows/penetration (mm) after seating
 -*/- Total blows/penetration (mm)
 SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)
 C - SPT with cone
 L - Split Spoon with liner used



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole **BH5** Project No **PC124991**

Client **ROLTON GROUP** Ground Level **44.75 m OD**

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|------------|-------------|--------------------------|--------------|-----|-------|--|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| 0.30- 0.90 | B | | | | | Tarmac. ** [MADE GROUND] | G.L. | | 44.75 | | |
| 0.30 | D | | | | | | 0.05 | | 44.70 | | |
| 0.30 | E | | | | | Concrete. ** [MADE GROUND] | 0.30 | | 44.45 | | |
| 0.90- 1.20 | B | | | | | Soft brown sandy gravelly clay with occasional roots. Gravel is angular to subangular fine to coarse brick, flint, clinker and concrete. [MADE GROUND] | 0.90 | | 43.85 | | |
| 0.90 | D | | | | | | | | | | |
| 0.90 | E | | | | | | | | | | |
| 1.20- 1.65 | D | 1.20 (DRY) | | | S6 | | | | | | |
| 1.80 | D | | | | | Firm greyish brown mottled orangish brown slightly sandy CLAY with occasional rootlets. With rare angular to subangular fine to medium flint gravel. Below 1.80m, becoming brown mottled bluish grey and slightly micaceous. | | | | | |
| 1.90- 2.40 | B | | | | | | | | | | |
| 1.90 | E | | | | | | | | | | |
| 1.90- 2.35 | UF40 | 1.50 (DRY) | | | | | | | | | |
| 2.40- 2.85 | U43 | 1.50 (DRY) | | | | | | | | | |
| 2.85 | D | | | | | | | | | | |
| 3.20 | D | | | | | At 3.20m, recovered with angular to subangular coarse gravel of claystone. | | | | | |
| 3.30- 3.90 | B | | | | | Below 3.30m, becoming stiff with occasional firm to medium gravel sized sandy pockets. | | | | | |
| 3.30 | D | | | | | | | | | | |
| 3.90- 4.35 | D | 1.50 (DRY) | | | S12 | Below 3.90m, becoming thinly laminated in places and fissured. Fissures are randomly orientated extremely closely to very closely spaced, dull and clean with occasional black staining and an occasional silt dusting. | | | | | |
| 5.40- 5.85 | U78 | 1.50 (DRY) | | | | | | | | | |
| 5.85 | D | | | | | Below 5.80m, fissures becoming extremely to very closely spaced, subhorizontal to subvertical. | | | | | |
| 6.90- 7.35 | D | 1.50 (DRY) | | | S18 | | | | | | |
| 8.20 | D | | | | | Below 8.20m, becoming very stiff and dark greyish brown in colour. Fissures slightly polished with dark orangish brown staining in places. | | | | | |
| 8.40- 8.70 | UT90 | 1.50 (DRY) | 76 | 30 | | At 8.40m, high strength | | | | | |
| 8.70 | D | | | | | | | | | | |
| 8.90- 9.30 | B | | | | | | | | | | |
| 9.90-10.35 | D | 1.50 (DRY) | | | S23 | | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|-------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|---------------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | | Inspection Pit | DC/LC | G.I. | | | 13/08/12 | 08:00 | | | | | | None encountered during boring. |
| 30.00 | 0.15 | Cable Percussion | DC/LC | 25.50 | 1.50 | DRY | 13/08/12 | 18:00 | | | | | | |
| | | | | 25.50 | 1.50 | DRY | 14/08/12 | 08:00 | | | | | | |
| | | | | 30.00 | 1.50 | DRY | 14/08/12 | 18:00 | | | | | | |

Remarks Inspection pit hand excavated to 1.20m depth. **** Drillers description.**
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar
 A 50mm standpipe was installed to 5.00m with a slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: gravel filter up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Logged by **sc**
 Figure **1 of 4**
 20/09/2012

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH5**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **44.75** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 11.40-11.85 | U100 | 1.50 (DRY) | 156 | 24 | | At 11.40m, very high strength | | | | |
| 11.85 | D | | | | | At 11.85m, becoming slightly sandy and with occasional shell fragments. Laminae absent. | | | | |
| 12.90-13.35 | D | 1.50 (DRY) | | | S26 | Below 12.95m, with silt partings (up to 1mm in thickness) and occasional silt pockets (up to 1cm in size). | | | | |
| 14.40-14.85 | U110 | 1.50 (DRY) | | | | | | | | |
| 14.85 | D | | | | | Below 14.85m, with occasional black staining on fissure surfaces. | | | | |
| 16.00-16.45 | D | 1.50 (DRY) | | | S35 | | | | | |
| 17.50-17.80 | UT120 | 1.50 (DRY) | 151 | 27 | | At 17.50m, thinly laminated. At 17.50m, very high strength | | | | |
| 17.80 | D | | | | | | | | | |
| 19.00-19.45 | D | 1.50 (DRY) | | | S36 | | | | | |
| | | | | | | Below 20.00m, with occasional shell fragments. | | | | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks  Driller notes claystone boulder pushed from 26.6 to 28.0m, pushed aside at 28.0m.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

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Figure **2 of 4**
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BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**

Borehole **BH5**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **44.75** m OD


| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-------------|-------------|--------------------------|--------------|-----|--------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 20.50-20.80 | U130 | 1.50 (DRY) | | | | | | | | |
| 20.80 | D | | | | | | | | | |
| 22.00-22.45 | D | 1.50 (DRY) | | | S34 | | | | | |
| 23.50-23.95 | U120 | 1.50 (DRY) | 87 | 28 | | At 23.50m, with occasional fine gravel sized shell fragments. At 23.50m, high strength Between 23.95-26.62m, fissures occasionally polished. | | | | |
| 23.95 | D | | | | | | | | | |
| 25.00-25.45 | D | 1.50 (DRY) | | | S48 | | | | | |
| 26.40-26.60 | UTF 130 | 1.50 (DRY) | | | | At 26.60m, driller notes presence of claystone boulder. | | | | |
| 26.50-26.60 | D | | | | | | | | | |
| 26.60-27.50 | B | | | | | | | | | |
| 26.80-26.80 | | 1.50 (DRY) | | | C50*/1 | | | | | |
| 28.00-28.50 | B | | | | | | | | | |
| 28.00 | D | | | | | | | | | |
| 28.00-28.45 | UF100 | 1.50 (DRY) | | | | | | | | |
| 28.50-28.95 | D | 1.50 (DRY) | | | S51 | | | | | |
| 29.50-29.95 | U130 | 1.50 (DRY) | 17 | 28 | | At 29.50m, extremely closely fissured, randomly orientated and open (possibly affected by disturbance during sampling) At 29.95m, Fissures become subhorizontal and extremely closely spaced. At 29.50m, very low strength | | | | |
| 29.95 | D | | | | | | 30.00 | | 14.75 | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks **ABS** At 23.50 and 29.50, measured undrained strength possibly affected by fissuring in test specimen and disturbance during sampling.
At 26.40m, UT sample shoe damaged.

Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC**
Figure **3 of 4**
20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH5**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **44.75** m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|----------|-------------|--------------------------|--------------|-----|-------|-----------------|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| | | | | | | End of Borehole | 30.00 | | 14.75 | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |


Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **sc**

Figure **4 of 4**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | | |
|-----------------------------|----------------|---------------|---------------|-------------|---------------|----------------|--|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|---|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 | |
| BH5 | 1.20 | 43.55 | S | - | 1 | - | 1 | 1 | 2 | 2 | 6 | * | | | | | |
| BH5 | 3.90 | 40.85 | S | - | 2 | 3 | 3 | 3 | 3 | 3 | 12 | * | | | | | |
| BH5 | 6.90 | 37.85 | S | - | 2 | 3 | 4 | 4 | 5 | 5 | 18 | | * | | | | |
| BH5 | 9.90 | 34.85 | S | - | 4 | 4 | 4 | 6 | 6 | 7 | 23 | | | * | | | |
| BH5 | 12.90 | 31.85 | S | - | 3 | 4 | 6 | 6 | 7 | 7 | 26 | | | * | | | |
| BH5 | 16.00 | 28.75 | S | - | 6 | 8 | 8 | 9 | 9 | 9 | 35 | | | | * | | |
| BH5 | 19.00 | 25.75 | S | - | 6 | 7 | 8 | 9 | 9 | 10 | 36 | | | | * | | |
| BH5 | 22.00 | 22.75 | S | - | 6 | 8 | 8 | 8 | 9 | 9 | 34 | | | | * | | |
| BH5 | 25.00 | 19.75 | S | - | 8 | 8 | 10 | 11 | 13 | 14 | 48 | | | | | * | |
| BH5 | 26.80 | 17.95 | C | - | 50/1 | | | | | | 50*/1 | | | | | | > |
| BH5 | 28.50 | 16.25 | S | - | 6 | 7 | 11 | 11 | 13 | 16 | 51 | | | | | | * |
| Driller | | | David Cowling | | | | Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005 | | | | | | | | | | |
| Hammer No. | | | EQU436 | | | | | | | | | | | | | | |
| Energy Ratio, Er (%) | | | 74.00 | | | | | | | | | | | | | | |
| Calibration Date | | | 23/03/2012 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

-/- Blows/penetration (mm) after seating
 -*/- Total blows/penetration (mm)
 SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)
 C - SPT with cone
 L - Split Spoon with liner used




BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole **BH6** Project No **PC124991**

Client **ROLTON GROUP** Ground Level **43.13** m OD


| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|------------|-------------|--------------------------|--------------|-----|-------|--|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| 0.30 | E | | | | | Concrete slab. ** [MADE GROUND] | G.L. | | 43.13 | | |
| 0.50 | D | | | | | Brick fill. ** [MADE GROUND] | 0.17 | | 42.96 | | |
| 1.00 | E | | | | | Soft brown mottled bluish grey and black slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to medium quartz, flint, brick and clinker. [MADE GROUND] | 0.50 | | 42.63 | | |
| 1.20- 1.65 | D | NIL (DRY) | | | S9 | | 1.20 | | 41.93 | | |
| 2.00 | D | | | | | Stiff brown mottled bluish grey CLAY. | | | | | |
| 2.70- 3.15 | U40 | NIL (DRY) | 82 | 32 | | At 2.70m, high strength | | | | | |
| 3.20 | D | | | | | Stiff fissured brown mottled bluish grey and orange CLAY, thinly laminated in parts. Fissures are extremely to very closely spaced, randomly orientated, dull and clean with occasional orangish brown staining. | 3.20 | | 39.93 | | |
| 4.20- 4.65 | D | 2.50 (DRY) | | | S18 | | | | | | |
| 5.70- 6.15 | U45 | 2.50 (DRY) | | | | At 6.20m, with a little sand and fine gravel sized gypsum crystals. | | | | | |
| 6.20 | D | | | | | | | | | | |
| 7.20- 7.65 | D | 2.50 (DRY) | | | S24 | Below 7.20m, becoming dark greyish brown with occasional fine to coarse gravel sized pockets of grey silt. | | | | | |
| 8.70- 9.15 | U50 | 2.50 (DRY) | | | | Below 9.20m, becoming dark brownish grey in colour. | | | | | |
| 9.20 | D | | | | | | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|-------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|---------------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | 0.15 | Inspection Pit | CR/PJ | G.I. | | | 20/08/12 | 08:00 | | | | | | None encountered during boring. |
| 19.65 | | Cable Percussion | CR/PJ | 19.65 | 2.50 | DRY | 20/08/12 | 18:00 | | | | | | |

Remarks  Inspection pit hand excavated to 1.20m depth.
 ** Drillers description.
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar
 Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.
 All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **CO**
 Figure **1 of 2**
 20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH6**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **43.13** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-----------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 10.20-10.65 | D | 2.50 (DRY) | | | S23 | At 10.20m, with rare fine gravel sized shell fragments. | | | | |
| 11.70-12.15 | U55 | 2.50 (DRY) | | | | | | | | |
| 12.20 | D | | | | | Below 12.20m, fissures becoming closely spaced with a silt dusting. | | | | |
| 13.20-13.65 | D | 2.50 (DRY) | | | S32 | | | | | |
| 14.70-15.15 | U60 | 2.50 (DRY) | | | | Below 15.20m, becoming very stiff. Fissures becoming occasionally polished with black mottling, silt dusting absent. | | | | |
| 15.20 | D | | | | | | | | | |
| 16.20-16.65 | D | 2.50 (DRY) | | | S31 | | | | | |
| 17.70-18.15 | U75 | 2.50 (DRY) | | | | | | | | |
| 18.20 | D | | | | | | | | | |
| 19.20-19.65 | D | 2.50 (DRY) | | | S37 | | | | | |
| End of Borehole | | | | | | | 19.65 | | 23.48 | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |


Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **CO**

Figure **2 of 2**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | | |
|-----------------------------|----------------|---------------|-----------------|-------------|---------------|--|--------------|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|--|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 | |
| BH6 | 1.20 | 41.93 | S | - | 1 | 1 | 2 | 2 | 2 | 3 | 9 | * | | | | | |
| BH6 | 4.20 | 38.93 | S | - | 2 | 3 | 4 | 4 | 5 | 5 | 18 | | * | | | | |
| BH6 | 7.20 | 35.93 | S | - | 2 | 4 | 5 | 6 | 6 | 7 | 24 | | | * | | | |
| BH6 | 10.20 | 32.93 | S | - | 3 | 4 | 5 | 6 | 5 | 7 | 23 | | | * | | | |
| BH6 | 13.20 | 29.93 | S | - | 3 | 5 | 6 | 8 | 8 | 10 | 32 | | | | * | | |
| BH6 | 16.20 | 26.93 | S | - | 2 | 4 | 6 | 7 | 8 | 10 | 31 | | | | * | | |
| BH6 | 19.20 | 23.93 | S | - | 4 | 6 | 8 | 8 | 9 | 12 | 37 | | | | | * | |
| Driller | | | Chris Rainsbury | | | Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005 | | | | | | | | | | | |
| Hammer No. | | | SDS04 | | | | | | | | | | | | | | |
| Energy Ratio, Er (%) | | | 81.00 | | | | | | | | | | | | | | |
| Calibration Date | | | 13/02/2012 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

-/- Blows/penetration (mm) after seating
 -*/- Total blows/penetration (mm)
 SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)
 C - SPT with cone
 L - Split Spoon with liner used



BOREHOLE RECORD - Cable Percussion

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Engineer ROLTON GROUP


Borehole BH7
Project No PC124991

Client ROLTON GROUP

Ground Level 42.10 m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|------------|-------------|--------------------------|--------------|-----|-------|---|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| | | | | | | Concrete with reinforcing. ** [MADE GROUND] | G.L. | | 42.10 | | |
| 0.30 | D | | | | | | 0.20 | | 41.90 | | |
| 0.30 | E | | | | | | | | | | |
| 0.50- 1.00 | B | | | | | Brown mottled red, orange and bluish grey very gravelly sand, very clayey in places. Gravel is subangular to subrounded fine to medium brick, clinker, concrete and flint. | | | | | |
| 0.50 | W | | | | | [MADE GROUND] | 0.80 | | 41.30 | | |
| 1.00 | D | | | | | | 1.10 | | 41.00 | | |
| 1.00 | E | | | | | | | | | | |
| 1.10 | D | | | | | | | | | | |
| 1.30- 1.75 | D | 1.30 (1.00) | | | S7 | Dark brown mottled black and reddish brown very sandy gravel with a high brick and concrete cobble content and rare fine to medium gravel sized pockets of clay. Gravel is angular to subangular fine to coarse brick, slag concrete and clinker. | | | | | |
| | | | | | | [MADE GROUND] | | | | | |
| 1.80- 2.20 | B | | | | | | | | | | |
| 2.00 | D | | | | | | | | | | |
| 2.00 | E | | | | | Firm fissured brown mottled bluish grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, dull and smooth occasionally stained bluish grey. | | | | | |
| 2.80- 3.25 | U47 | 1.50 (DRY) | 98 | 32 | | At 2.80m, high strength | | | | | |
| 3.25 | D | | | | | Between 3.25-4.75m, thinly laminated and micaceous. | | | | | |
| 4.30- 4.75 | D | 1.50 (DRY) | | | S18 | Below 4.30m, fissures stained orangish brown. | | | | | |
| 5.80- 6.25 | U85 | 1.50 (DRY) | | | | | | | | | |
| 6.25 | D | | | | | At 6.25m, becoming stiff and laminated with occasional fine gravel sized shell fragments. Occasionally with silt partings up to 1mm thick. | | | | | |
| 7.30- 7.75 | D | 1.50 (DRY) | | | S22 | | | | | | |
| 7.80- 8.30 | B | | | | | | | | | | |
| 8.80- 9.25 | UT90 | 1.50 (DRY) | 110 | 29 | | At 8.80m, becoming very stiff and dark greyish brown. Fissures very closely spaced, slightly polished occasionally stained dark brown. | | | | | |
| 9.25 | D | | | | | At 8.80m, high strength Below 9.25m, laminae absent. | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | 0.15 | Inspection Pit | DC | G.I. | | | 14/08/12 | 08:00 | 0.50 | NIL | | | 1.50 | |
| 20.00 | | Cable Percussion | DC | 10.80 | 1.50 | DRY | 14/08/12 | 18:00 | | | | | | |
| | | | | 10.80 | 1.50 | DRY | 15/08/12 | 08:00 | | | | | | |
| | | | | 20.00 | 1.50 | DRY | 15/08/12 | 18:00 | | | | | | |


Remarks  Inspection pit hand excavated to 1.20m depth, 0.5hours breaking out concrete. ** Drillers description.
E sample = 1 x vial, 1 x plastic jar and 1 amber jar
A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010

Logged by SC
Figure 1 of 2
20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH7**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **42.10** m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|-----------------|-------------|--------------------------|--------------|-----|-------|--|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| 10.30-10.75 | D | 1.50 (DRY) | | | S28 | | | | | | |
| 11.80-12.25 | U100 | 1.50 (DRY) | 136 | 28 | | At 11.80m, high strength | | | | | |
| 12.25 | D | | | | | Below 12.25m, Fissure spacing increasing, silt and staining absent | | | | | |
| 13.30-13.75 | D | 1.50 (DRY) | | | S31 | | | | | | |
| 14.80-15.25 | U120 | 1.50 (DRY) | | | | | | | | | |
| 15.25 | D | | | | | | | | | | |
| 16.40-16.85 | D | 1.50 (DRY) | | | S26 | At 16.40m, with occasional light grey rootlet tracks. | | | | | |
| 17.70 | D | | | | | At 17.70m, claystone boulder, recovered as angular to subangular medium to coarse gravel sized fragments. | | | | | |
| 18.00-18.45 | UT110 | 1.50 (DRY) | 114 | 28 | | At 18.00m, fissure approximately 45 degrees, very closely to closely spaced and sub-vertical, slightly polished. | | | | | |
| 18.45 | D | | | | | At 18.45m, fissures extremely closely spaced, randomly orientated, smooth, occasionally stepped and clean. | | | | | |
| | | | | | | At 18.00m, high strength | | | | | |
| 19.50-19.95 | D | 1.50 (DRY) | | | S28 | | | | | | |
| End of Borehole | | | | | | | 20.00 | | 22.10 | | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **sc**
Figure **2 of 2**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | | |
|-----------------------------|----------------|---------------|---------------|-------------|---------------|----------------|--|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|--|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 | |
| BH7 | 1.30 | 40.80 | S | - | 1 | 1 | 1 | 2 | 2 | 2 | 7 | * | | | | | |
| BH7 | 4.30 | 37.80 | S | - | 1 | 2 | 3 | 4 | 5 | 6 | 18 | | * | | | | |
| BH7 | 7.30 | 34.80 | S | - | 2 | 4 | 5 | 5 | 6 | 6 | 22 | | | * | | | |
| BH7 | 10.30 | 31.80 | S | - | 4 | 6 | 6 | 7 | 7 | 8 | 28 | | | | * | | |
| BH7 | 13.30 | 28.80 | S | - | 5 | 6 | 8 | 7 | 7 | 9 | 31 | | | | * | | |
| BH7 | 16.40 | 25.70 | S | - | 3 | 6 | 5 | 7 | 7 | 7 | 26 | | | | * | | |
| BH7 | 19.50 | 22.60 | S | - | 4 | 5 | 6 | 7 | 7 | 8 | 28 | | | | * | | |
| Driller | | | David Cowling | | | | Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005 | | | | | | | | | | |
| Hammer No. | | | EQU436 | | | | | | | | | | | | | | |
| Energy Ratio, Er (%) | | | 74.00 | | | | | | | | | | | | | | |
| Calibration Date | | | 23/03/2012 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

-/- Blows/penetration (mm) after seating
 -*/- Total blows/penetration (mm)
 SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)
 C - SPT with cone
 L - Split Spoon with liner used



BOREHOLE RECORD - Cable Percussion

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Engineer ROLTON GROUP


Borehole Project No BH8 PC124991

Client ROLTON GROUP

Ground Level 42.20 m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|-------------|-------------|--------------------------|--------------|-----|-------|---|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| | | | | | | Concrete with reinforcing. ** [MADE GROUND] | G.L. | | 42.20 | | |
| 0.30- 0.50 | B | | | | | | 0.20 | | 42.00 | | |
| 0.30 | D | | | | | | | | | | |
| 0.30 | E | | | | | | | | | | |
| 0.50- 0.80 | B | | | | | Firm brown mottled red, orange and black very gravelly sand, occasionally very clayey. Gravel is subangular to subrounded fine to medium brick, clinker and concrete. | 0.50 | | 41.70 | | |
| 0.50 | D | | | | | | | | | | |
| 1.00 | D | | | | | | | | | | |
| 1.00 | E | | | | | | | | | | |
| 1.20- 1.70 | B | | | | | | | | | | |
| 1.20- 1.65 | D | 1.20 (DRY) | | | S10 | Soft dark brown mottled red, orange, yellow and black sandy gravelly clay, with occasional timber fragments (upto 15cm in size) and a medium cobble content of subangular brick and concrete. Gravel is angular to subangular fine to coarse brick, concrete and clinker. | 1.20 | | 41.00 | | |
| 1.70 | D | | | | | | 1.70 | | 40.50 | | |
| 2.00 | D | | | | | | | | | | |
| 2.00 | E | | | | | | | | | | |
| 2.20- 2.65 | U50 | 1.50 (DRY) | 55 | 33 | | Soft dark brownish grey mottled black slightly sandy slightly gravelly slightly organic clay, fissured in parts. Fissures are randomly orientated extremely closely spaced. Gravel is angular to subrounded fine to medium brick, quartzite and flint. | | | | | |
| 2.65 | D | | | | | | | | | | |
| | | | | | | Stiff fissured brown mottled bluish grey slightly micaceous CLAY, thinly laminated in parts and with occasional rootlets. Fissures are randomly orientated, extremely to very closely spaced, smooth, dull with a slight silt dusting. | | | | | |
| 3.80- 4.25 | D | 1.50 (DRY) | | | S18 | At 2.20m, medium strength | | | | | |
| | | | | | | | | | | | |
| 5.30- 5.75 | U65 | 1.50 (DRY) | 87 | 30 | | At 5.30m, high strength | | | | | |
| 5.75 | D | | | | | Below 5.75m, becoming very stiff and dark greyish brown, with occasional fine to medium gravel sized shell fragments and orange staining on fissure surfaces. | | | | | |
| | | | | | | | | | | | |
| 6.80- 7.25 | D | 1.50 (DRY) | | | S21 | | | | | | |
| 7.40 | D | | | | | | | | | | |
| 7.60- 8.05 | UT100 | 1.50 (DRY) | | | | | | | | | |
| 8.05 | D | | | | | Below 8.05m, orange staining absent. | | | | | |
| | | | | | | | | | | | |
| 9.10- 9.55 | D | 1.50 (DRY) | | | S22 | Between 9.10-10.95m, with rare silt pockets (upto 10mm in size). | | | | | |
| 10.00-10.40 | B | | | | | | | | | | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|-------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|---------------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | | Inspection Pit | | G.I. | NIL | DRY | 15/08/12 | 08:00 | | | | | | None encountered during boring. |
| 20.00 | 0.15 | Cable Percussion | DC/LC | 10.00 | 1.50 | DRY | 15/08/12 | 18:00 | | | | | | |
| | | | DC/LC | 10.00 | 1.50 | DRY | 16/08/12 | 08:00 | | | | | | |
| | | | | 20.00 | 1.50 | DRY | 16/08/12 | 18:00 | | | | | | |
| | | | | | | | | | | | | | | |

Remarks  Inspection pit hand excavated to 1.20m depth, 1 hour breaking out concrete. ** Drillers description.
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar
 Backfill details from base of hole: arisings up to 2.50m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by CO
 Figure 1 of 2
 20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH8**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **42.20** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-----------------|-------------|--------------------------|--------------|-----|-------|---|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 10.50-10.95 | U90 | 1.50 (DRY) | | | | Below 10.95m, fissures mottled black. | | | | |
| 10.98 | D | | | | | | | | | |
| 12.00-12.45 | D | 1.50 (DRY) | | | S24 | | | | | |
| 13.50-13.95 | U100 | 1.50 (DRY) | | | | | | | | |
| 13.95 | D | | | | | | | | | |
| 15.00-15.45 | D | 1.50 (DRY) | | | S27 | | | | | |
| 15.80 | D | | | | | At 15.80m, with a subrounded claystone cobble | | | | |
| 16.50-16.80 | UT130 | 1.50 (DRY) | | | | | | | | |
| 18.00-18.45 | D | 1.50 (DRY) | | | S30 | Below 18.00m, fissure spacing increasing and silt absent. | | | | |
| 18.80 | D | | | | | | | | | |
| 19.50-19.80 | U130 | 1.50 (DRY) | | | | At 19.80m, fissures predominantly subhorizontal. | | | | |
| 19.80 | D | | | | | | | | | |
| 20.00 | D | | | | | | | | | |
| End of Borehole | | | | | | | 20.00 | | 22.20 | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **CO**
Figure **2 of 2**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | |
|------|----------------|---------------|------|-------------|---------------|----------------|--|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 |
| BH8 | 1.20 | 41.00 | S | - | 1 | 1 | 2 | 2 | 4 | 2 | 10 | * | | | | |
| BH8 | 3.80 | 38.40 | S | - | 2 | 2 | 3 | 4 | 5 | 6 | 18 | | * | | | |
| BH8 | 6.80 | 35.40 | S | - | 2 | 3 | 5 | 5 | 5 | 6 | 21 | | * | | | |
| BH8 | 9.10 | 33.10 | S | - | 3 | 4 | 4 | 5 | 5 | 8 | 22 | | * | | | |
| BH8 | 12.00 | 30.20 | S | - | 4 | 4 | 5 | 6 | 6 | 7 | 24 | | * | | | |
| BH8 | 15.00 | 27.20 | S | - | 3 | 6 | 6 | 6 | 7 | 8 | 27 | | * | | | |
| BH8 | 18.00 | 24.20 | S | - | 5 | 6 | 7 | 7 | 8 | 8 | 30 | | * | | | |
| | | | | | | | <p>Remarks In accordance with BS EN ISO22476-3:2005</p> | | | | | | | | | |

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole **BH9** Project No **PC124991**

Client **ROLTON GROUP** Ground Level **42.09** m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|------------|-------------|--------------------------|--------------|-----|-------|---|-------|--------|------------|-------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| | | | | | | Reinforced concrete slab. ** [MADE GROUND] | G.L. | | 42.09 | | |
| 0.30 | D | | | | | Brown slightly clayey gravelly sand. Gravel is angular to subangular fine to coarse brick, concrete, quartzite and flint. [MADE GROUND] | 0.20 | | 41.89 | | |
| 0.30 | E | | | | | | | | | | |
| 0.70 | D | | | | | Firm orangish brown slightly sandy CLAY. | | | | | |
| 1.00 | E | | | | | | | | | | |
| 1.20- 1.65 | D | NIL (DRY) | | | S9 | | | 1.20 | | 40.89 | |
| 1.20- 1.65 | E | | | | | | | | | | |
| 2.00 | E | | | | | | | | | | |
| 2.70- 3.15 | U40 | NIL (DRY) | 65 | 35 | | At 2.70m, medium strength | | | | | |
| 3.20 | D | | | | | Below 3.20m, thinly laminated in places and fissured. Fissures are subhorizontal extremely closely to very closely spaced dull with a silt dusting and occasional orange staining. | | | | | |
| 4.20- 4.65 | D | 2.50 (DRY) | | | S14 | Stiff fissured dark greyish brown mottled orangish brown slightly micaceous CLAY, slightly sandy in parts. Fissures are extremely closely to very closely spaced and randomly orientated with occasional silt dusting and occasional orange staining. | 4.00 | | 38.09 | | |
| 5.70- 6.15 | U55 | 2.50 (DRY) | | | | | | | | | |
| 6.20 | D | | | | | Below 6.20m, orange staining absent. | | | | | |
| 7.20- 7.65 | D | 2.50 (DRY) | | | S22 | Below 7.20m, becoming stiff, mottling absent with silt partings on fissure surfaces (upto 1mm in thickness) | | | | | |
| 8.70- 9.15 | U55 | 2.50 (DRY) | 80 | 29 | | At 8.70m, high strength | | | | | |
| 9.20 | D | | | | | At 9.20m, with occasional silt layers (upto 5mm in thickness) | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|------------------|-------|---------------|-------------|----------------|----------|-------|--------------|-------------|---------|---------|--------------|---------------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| 1.20 | | Inspection Pit | CR/PJ | G.I. | | | 15/08/12 | 08:00 | | | | | | None encountered during boring. |
| 30.15 | 0.15 | Cable Percussion | CR/PJ | 18.20 | 2.50 | DRY | 15/08/12 | 18:00 | | | | | | |
| | | | | 18.20 | 2.50 | DRY | 16/08/12 | 08:00 | | | | | | |
| | | | | 30.15 | 2.50 | DRY | 16/08/12 | 18:00 | | | | | | |

Remarks Inspection pit hand excavated to 1.20m depth. **** Drillers description.**
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar
 A standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, fine gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC / CO**
 Figure **1 of 4**
 20/09/2012

BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH9**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **42.09** m OD

| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 10.20-10.65 | D | 2.50 (DRY) | | | S29 | Below 10.00m, becoming very stiff greyish brown with occasional fine gravel sized shell fragments, silt layers absent. | | | | |
| 11.70-12.15 | U60 | 2.50 (DRY) | | | | | | | | |
| 12.20 | D | | | | | Below 12.20m, fissures occasionally polished. | | | | |
| 13.20-13.65 | D | 2.50 (DRY) | | | S46 | At 13.60m, recovered with angular medium to coarse gravel of claystone | | | | |
| 14.70-15.15 | U75 | 2.50 (DRY) | 113 | 29 | | | | | | |
| 15.20 | D | | | | | At 14.70m, high strength | | | | |
| 16.20-16.65 | D | 2.50 (DRY) | | | S34 | Below 15.20m, fissure spacing increasing, silt dusting absent. | | | | |
| 17.70-18.15 | U75 | 2.50 (DRY) | | | | | | | | |
| 18.20 | D | | | | | | | | | |
| 19.20-19.65 | D | 2.50 (DRY) | | | S33 | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |


Remarks  At 14.70m, measured undrained strength possibly affected by fissuring in test specimen.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010

Logged by **sc / CO**
Figure **2 of 4**
20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**

Borehole **BH9**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **42.09** m OD


| Sampling | | | Properties | | | Strata | | Scale 1:50 | | |
|-------------|-------------|--------------------------|--------------|-----|-------|--|-------|------------|------------|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | |
| 20.70-21.15 | U75 | 2.50 (DRY) | 111 | 26 | | At 20.70m, high strength | | | | |
| 21.20 | D | | | | | Below 21.20m, with occasional black staining on fissure surfaces. | | | | |
| 22.20-22.65 | D | 2.50 (DRY) | | | S41 | | | | | |
| 23.70-24.15 | U80 | 2.50 (DRY) | | | | | | | | |
| 24.20 | D | | | | | | | | | |
| 25.20-25.65 | D | 2.50 (DRY) | | | S36 | | | | | |
| 26.50 | D | | | | | At 26.50m, medium strong grey claystone cobble or boulder, recovered as angular medium to coarse gravel sized fragments | | | | |
| 26.70-27.15 | U80 | 2.50 (DRY) | 107 | 26 | | At 26.70m, with occasional coarse gravel sized fragments of light brown claystone. Fissures extremely to very closely spaced, randomly orientated and open (possibly affected by disturbance during sampling). | | | | |
| 27.20 | D | | | | | Below 27.20m, with rare fine to medium gravel sized silt pockets | | | | |
| 28.20-28.65 | D | 2.50 (DRY) | | | S45 | At 26.70m, high strength | | | | |
| 29.70-30.15 | U100 | 2.50 (DRY) | | | | | | | | |

| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks **At 20.70m, measured undrained strength possibly affected by fissuring in test specimen.**
At 26.70m, measured undrained strength possibly affected by fissuring in test specimen and disturbance during sampling.

Symbols and abbreviations are explained on the accompanying key sheet.
 All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC / CO**
 Figure **3 of 4**
 20/09/2012



BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP**


Borehole **BH9**
Project No **PC124991**

Client **ROLTON GROUP**

Ground Level **42.09** m OD

| Sampling | | | Properties | | | Strata | | | Scale 1:50 | | |
|----------|-------------|--------------------------|--------------|-----|-------|-----------------|-------|--------|------------|--|--|
| Depth | Sample Type | Depth Cased & (to Water) | Strength kPa | w % | SPT N | Description | Depth | Legend | Level m OD | | |
| | | | | | | End of Borehole | 30.15 | | 11.94 | | |


| Boring | | | | Progress | | | | | Groundwater | | | | | |
|--------|----------|-----------|------|---------------|-------------|----------------|------|------|--------------|-------------|---------|---------|--------------|------------------------|
| Depth | Hole Dia | Technique | Crew | Depth of Hole | Depth Cased | Depth to Water | Date | Time | Depth Struck | Depth Cased | Rose to | in Mins | Depth Sealed | Remarks on Groundwater |
| | | | | | | | | | | | | | | |

Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **sc / co**
Figure **4 of 4**
20/09/2012



Fieldwork Results - SPT Results Summary

Project BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

Project No PC124991

Client ROLTON GROUP

| Hole | Depth m bgl | Level m OD | Type | SWP (mm) | Seating Drive | | Test Drive | | | | SPT 'N' Value | Uncorrected SPT 'N' | | | | | |
|------|----------------|---------------|------|-------------|---------------|----------------|--|----------------|-----------------|-----------------|------------------|------------------------|----|----|----|----|---|
| | | | | | 0-75 (mm) | 75-150 (mm) | 0-75 (mm) | 75-150 (mm) | 150-225 (mm) | 225-300 (mm) | | 10 | 20 | 30 | 40 | 50 | |
| BH9 | 1.20 | 40.89 | S | - | 1 | 2 | 2 | 2 | 2 | 3 | 9 | * | | | | | |
| BH9 | 4.20 | 37.89 | S | - | 2 | 2 | 4 | 3 | 4 | 3 | 14 | | * | | | | |
| BH9 | 7.20 | 34.89 | S | - | 1 | 2 | 5 | 5 | 5 | 7 | 22 | | | * | | | |
| BH9 | 10.20 | 31.89 | S | - | 2 | 2 | 6 | 6 | 8 | 9 | 29 | | | | * | | |
| BH9 | 13.20 | 28.89 | S | - | 3 | 4 | 5 | 6 | 25 | 10 | 46 | | | | | | * |
| BH9 | 16.20 | 25.89 | S | - | 2 | 5 | 7 | 9 | 8 | 10 | 34 | | | | * | | |
| BH9 | 19.20 | 22.89 | S | - | 3 | 5 | 8 | 7 | 8 | 10 | 33 | | | | * | | |
| BH9 | 22.20 | 19.89 | S | - | 3 | 7 | 10 | 10 | 10 | 11 | 41 | | | | | * | |
| BH9 | 25.20 | 16.89 | S | - | 4 | 7 | 9 | 9 | 9 | 9 | 36 | | | | * | | |
| BH9 | 28.20 | 13.89 | S | - | 4 | 6 | 8 | 10 | 14 | 13 | 45 | | | | | | * |
| | | | | | | | Remarks In accordance with BS EN ISO22476-3:2005 | | | | | | | | | | |

-/- Blows/penetration (mm) after seating
 -*/- Total blows/penetration (mm)
 SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)
 C - SPT with cone
 L - Split Spoon with liner used



APPENDIX D

PLANS SECTIONS ILLUSTRATING THE WORKS ADJACENT TO THE BOUNDARIES



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 ENGINEERING THE FUTURE

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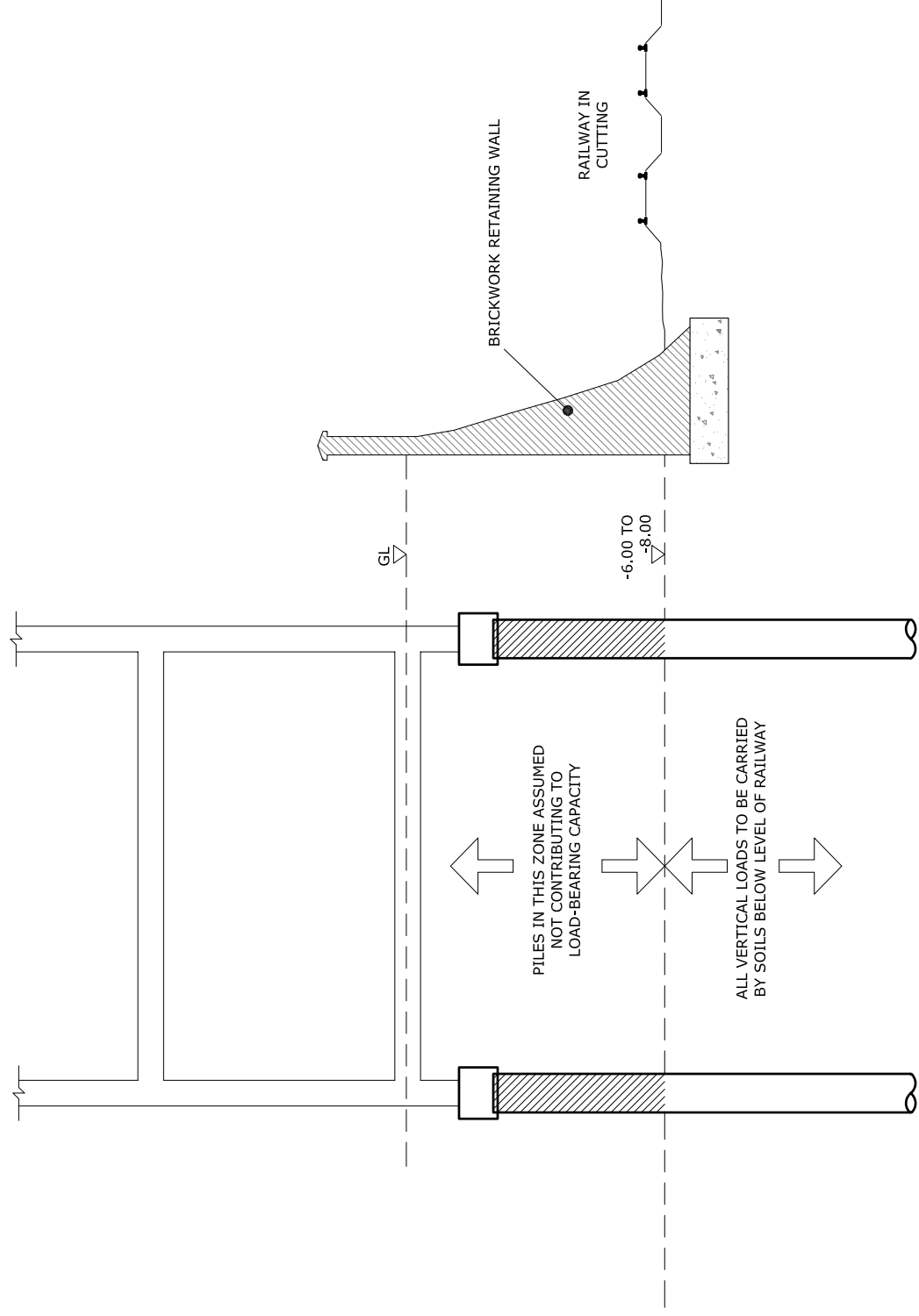
● THE CHARLES PARKER BUILDING
 MIDLAND ROAD, HIGHAM FERRERS
 NORTHANTS NN10 8UN

○ ONE MINERVA BUSINESS PARK
 LYNCH WOOD
 PETERBOROUGH PE2 6FT

○ THE DAVID ROLTON BUILDING
 TIMELO QUARTZ POINT
 STONEBRIDGE ROAD
 BIRMINGHAM B46 3JL



EXTRACT OF GROUND FLOOR PLAN



SECTION THROUGH PILED FOUNDATIONS ADJACENT TO RAILWAY CUTTING (ILLUSTRATIVE ONLY)

| Rev. | Date | Description of Issue | Chkd |
|------|------|----------------------|------|
| | | | |

| Revisions | |
|-----------|--|
| | |

Issue Purpose:
PRELIMINARY

Project:
**EC HARRIS
 BACTON LOW RISE
 CAMDEN**

Drawing Title:
SECTION A-A

Designer's Risk Assessment Reference:
 N/A

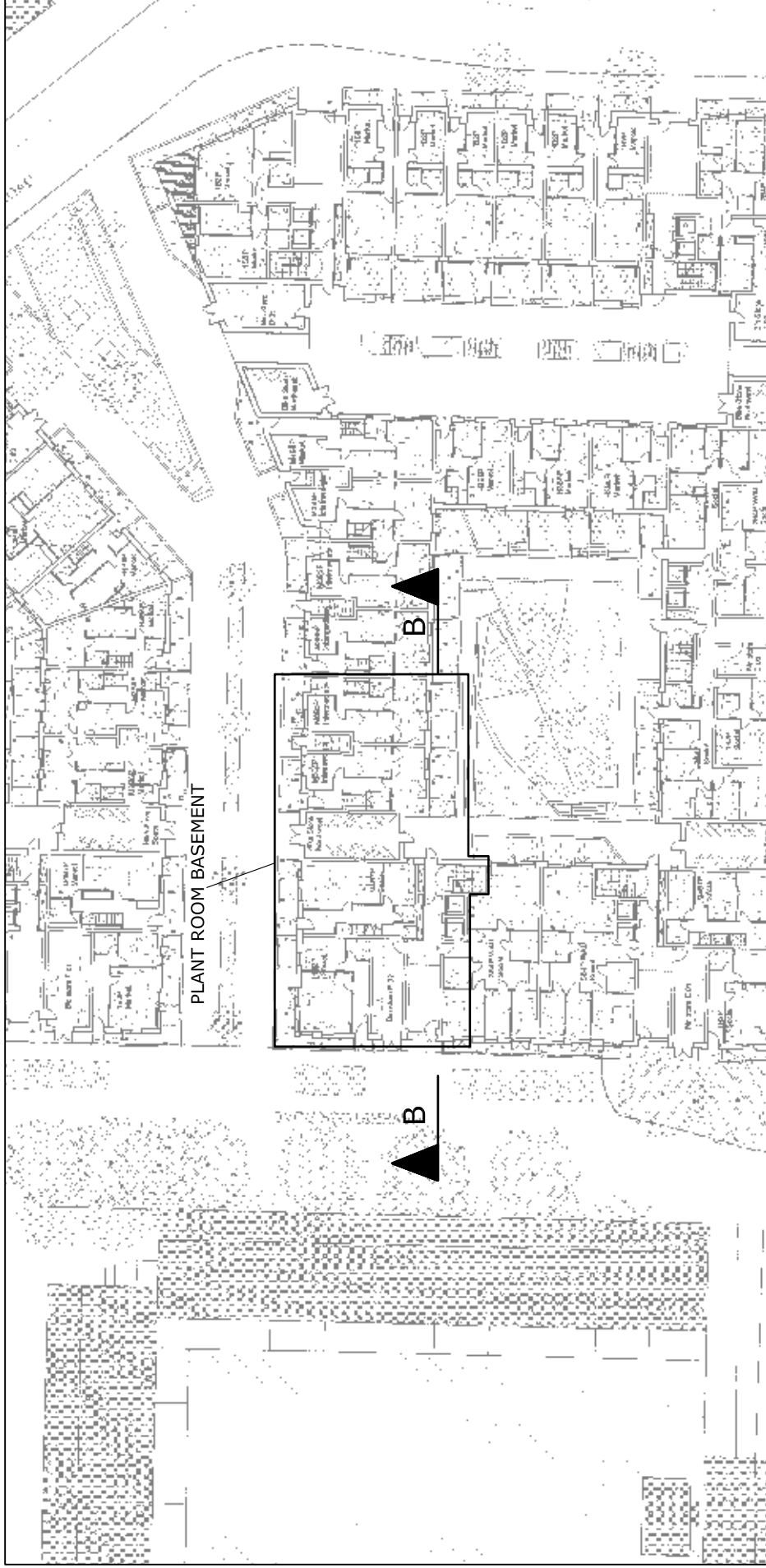
Specification Reference:
 N/A

Drawn By: **LW** Checked By: **PA**

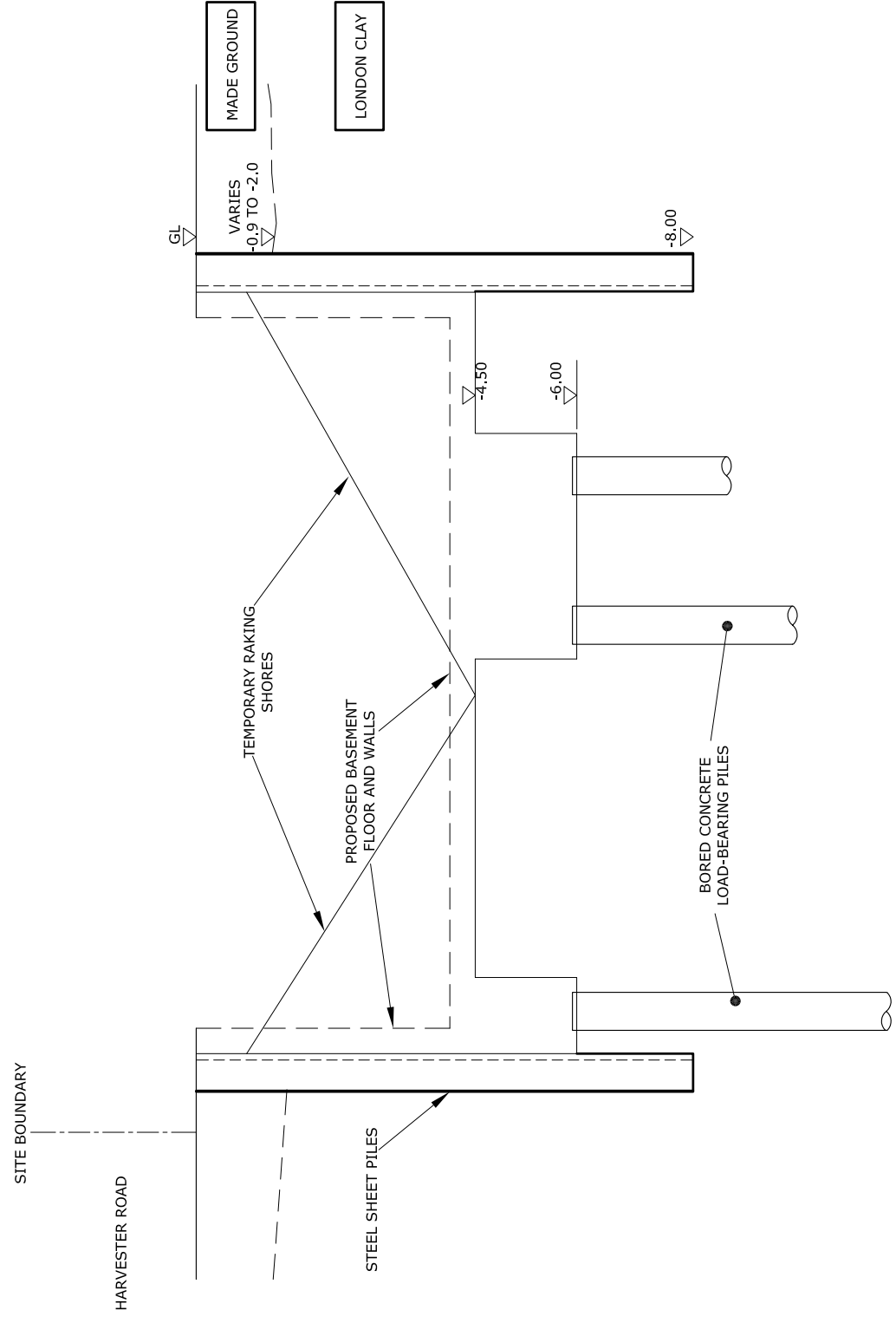
Scales: **1:50@A1** Date: **OCT '12**
1:100@A3

Drawing No. Rev.

- THE CHARLES PARKER BUILDING
 MIDLAND ROAD, HIGHAM FERRERS
 NORTHANTS NN10 8UN
- ONE MINERVA BUSINESS PARK
 LYNCH WOOD
 PETERBOROUGH PE2 6FT
- THE DAVID ROLTON BUILDING
 TWINE QUARTZ POINT
 STONEBRIDGE ROAD
 BIRMINGHAM B46 3JL



EXTRACT OF GROUND FLOOR PLAN



SECTION THROUGH BASEMENT DURING CONSTRUCTION (ILLUSTRATIVE ONLY)

| Rev. | Date | Description of Issue | Chkd |
|---|------|----------------------|------|
| Revisions | | | |
| PRELIMINARY | | | |
| Issue Purpose: | | | |
| Project: | | | |
| EC HARRIS BACTON LOW RISE CAMDEN | | | |
| Drawing Title: | | | |
| SECTION B-B | | | |
| Designer's Risk Assessment Reference: | | | |
| N/A | | | |
| Specification Reference: | | | |
| N/A | | | |
| Drawn By: | | | |
| LW | | | |
| Checked By: | | | |
| PA | | | |
| Scales: | | | |
| 1:50@A1 | | | |
| 1:100@A3 | | | |
| Date: | | | |
| OCT '12 | | | |
| Drawing No. | | | |
| Rev. | | | |
| 12-0083 | | | |
| P1 | | | |
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APPENDIX E

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