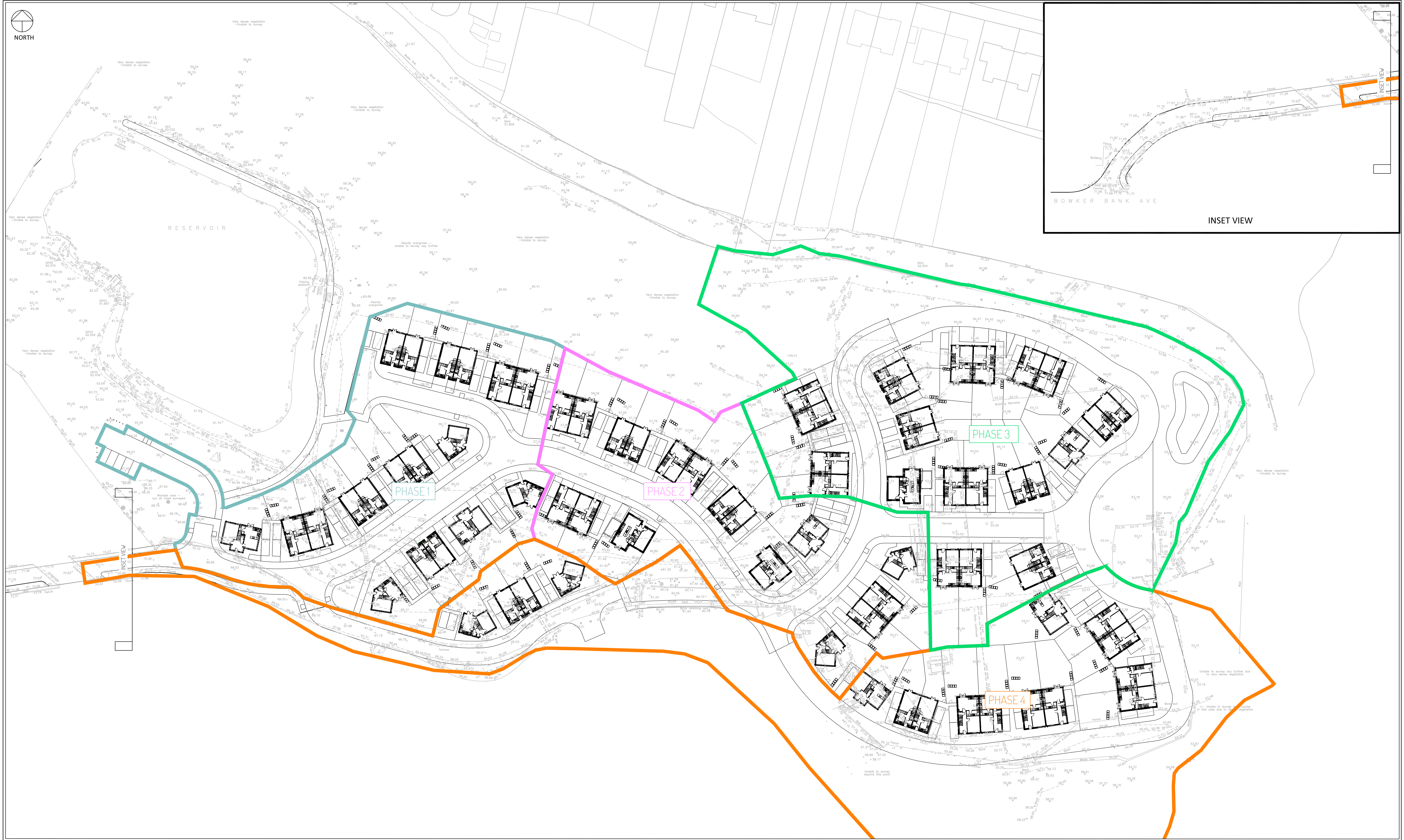
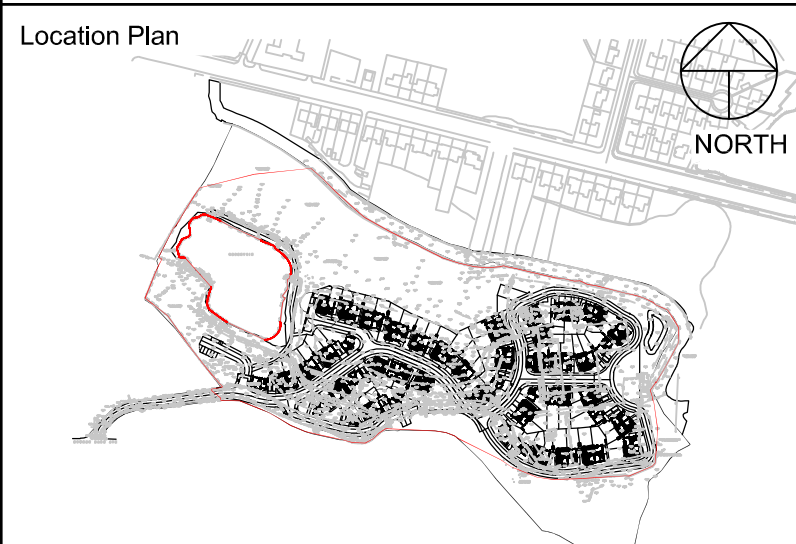




|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  |                                    |  |                                                                                                                                                                                                                                                         |                        |         |                |            |            |                |          |
|------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|--|-------|--|-------|--|------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|----------------|------------|------------|----------------|----------|
| Location Plan                                                                      |  | Notes                                                                                                                                                                                                                                                                                                                                                                                                        |  | Notes |  | Notes |  | Notes |  | Project                            |  | <div><div></div><div>CIVIC ENGINEERS</div></div>                                                                                                                                                                                                        |                        |         |                |            |            |                |          |
|  |  | <div><div>1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.</div><div>2. This drawing should not be scaled.</div><div>3. All dimensions are to be verified by the contractor on site.</div><div>4. All discrepancies should be reported to the C.A. prior to the commencement of the works.</div></div> <div>© CIVIC ENGINEERS</div> |  |       |  |       |  |       |  | BLACKLEY MERE                      |  |                                                                                                                                                                                                                                                         |                        |         |                |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | Title                              |  | Carver's Warehouse, 77 Dale Street, Manchester, M1 2HG. Tel: 0161 228 8757<br>Lloyds Wharf, 3 Mill Street, London, SE1 2BD. Tel: 020 7253 2877<br>Unit 02/01, Tower Works, Globe Road, Leeds, LS11 5DG. Tel: 0113 2825 130<br>www.civicingengineers.com |                        |         |                |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | Scope of Works<br>Phasing Overview |  | MANCHESTER<br>LONDON<br>LEEDS                                                                                                                                                                                                                           |                        |         |                |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  |                                    |  | www.civicingengineers.com                                                                                                                                                                                                                               |                        |         |                |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  |                                    |  | INFORMATION                                                                                                                                                                                                                                             |                        |         |                |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | Scale @ A1                         |  | Date Created                                                                                                                                                                                                                                            | Drawn                  | Checked | Project Number | Originator | Discipline | Drawing Number | Revision |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | 1:500                              |  | Nov 17                                                                                                                                                                                                                                                  | TC                     | PM      | 830-01         | CIVIC      | GA         | 181            | P01      |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | 21.11.17                           |  | P01                                                                                                                                                                                                                                                     | Issued for Information |         | TC             |            |            |                |          |
|                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |  |       |  |       |  | Date                               |  | Rev                                                                                                                                                                                                                                                     | Description            |         | Drawn          | Chk        |            |                |          |





| Notes                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.</li><li>2. This drawing should not be scaled.</li><li>3. All dimensions are to be verified by the contractor on site.</li><li>4. All discrepancies should be reported to the C.A. prior to the commencement of the works.</li></ol> |
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| Notes |
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|          | T03 | Tender Issue |  | TC    |     |
|----------|-----|--------------|--|-------|-----|
| 26.07.17 | T02 | Tender issue |  | TC    | PC  |
| 13.04.17 | T01 | Tender Issue |  | TC    | NF  |
| Date     | Rev | Description  |  | Drawn | Chk |

|         |                      |
|---------|----------------------|
| Project | BLACKLEY MERE        |
| Title   | PROPOSED SITE LEVELS |

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TENDER

|                |            |            |                |          |
|----------------|------------|------------|----------------|----------|
| Project Number | Originator | Discipline | Drawing Number | Revision |
| 830-01         | CIVIC      | GA         | 110            | T03      |

## **Appendix B:**

### **Earthworks Specification**

**820-01 – Earthworks Specification – P01**

**820-01 – Earthworks Specification – T02**



831-01  
Blackley Mere, Blackley  
Earthworks Specification

|                   |                                |
|-------------------|--------------------------------|
| Prepared by       | NF                             |
| Checked by        | PM                             |
| Date:             | 28 <sup>th</sup> February 2017 |
| Revision:         | P01                            |
| Clause Changes:   | -                              |
| Reason for issue: | Preliminary Issue              |

## D20 GROUNDWORKS

To be read with Preliminaries/General conditions.

All earthworks should be undertaken in accordance with the Highways Agency Specification for Highway Works.

### GENERALLY/THE SITE

#### 110A SITE INVESTIGATION

- Site specific site investigation has been undertaken prior to the works. Refer to documents for details on previous site investigations. Should actual conditions vary from those present within the site investigation documents then a change to the proposals for pavements and structures etc. may be necessary.
- It is the responsibility of the Contractor to ensure that the actual ground conditions are as assumed and should conditions vary then operations which may be affected by any change to the design of pavements and structures etc. in the locality should stop and the Contractor should inform the PM/Supervisor immediately.

#### 145 VARIATIONS IN GROUND WATER LEVEL

- Give notice: If levels encountered are significantly different from levels in the site investigation report, stated as assumed, or previously measured.

#### 150 EXISTING SERVICES

- It is the contractor's responsibility to locate and mark the positions of all services affected by the work. Arrange with the appropriate authorities for the location and marking of the positions of mains services.

### CLEARANCE/EXCAVATING

#### 170 REMOVING TREES, SHRUBS AND HEDGES

- Identification: Site is clear from trees, shrubs and hedges.
- Safety: Comply with Forestry and Arboriculture Safety and Training Council Safety Guides.
- Felling: Cut down and grub up roots of shrubs and smaller trees. Fell larger trees as close to the ground as possible.

#### 181 SITE CLEARANCE

- Generally: Clear site of rubbish, debris and vegetation.
- Large roots: Grub up and dispose of without undue disturbance of soil, adjacent areas and existing canal wall.

**230 BENCHING**

Surfaces of excavations with a gradient greater than 1:5 (20%) and which are to receive filling: Provide horizontal benches cut to match the depths of compacted layers of filling.

**240 ADJACENT EXCAVATIONS**

- Proximity: Where an excavation encroaches below a line drawn at an angle of 45° from the nearest formation level of another higher excavation the lower excavation, all work within it and backfilling thereto must be completed before the higher excavation is made.

**250 PERMISSIBLE DEVIATIONS FROM FORMATION LEVELS**

- Beneath mass concrete foundations: ±25 mm.
- Beneath ground bearing slabs and R.C. foundations: ±15 mm.
- Embankments and cuttings: ±50 mm.

**260 EXCAVATED FORMATIONS**

- Place concrete or other fill as soon as possible to prevent deterioration due to water, frost or other causes.

**270 FOUNDATIONS GENERALLY**

- Give notice if:
  - A natural bearing of undisturbed subsoil is not present at the formation level as shown on the drawings.
  - The formation contains soft or hard spots or highly variable material.
  - Material at formation is distinct from that encountered elsewhere on the site.
  - Material at formation varies from that stated as assumed on the Drawings or in the Specification.
  - Evidence of Root Activity is present at formation level.

**310 UNSTABLE GROUND**

- Generally: Ensure that the excavation remains stable at all times.
- Give notice: Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
- Take action: If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

**320 EXISTING SITE FEATURES**

- Break out old foundations, beds, drains, manholes etc. and seal all drain ends.

**325A CONTAMINATED EARTH**

Refer to Development remediation strategy.

**330 UNRECORDED FEATURES**

- Give notice: If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

**360 EXCESS EXCAVATION**

- Excavation taken wider than required: Backfill in accordance with clause 710.
- Excavation taken deeper than required: Backfill in accordance with clause 710.

**381 UNAUTHORISED EXCAVATION**

- Do not make any excavation other than those necessary to construct the building.

**384 EARTHWORK SUPPORTS**

- The contractor is responsible for the design and construction of all temporary earthwork supports required to construct the building. Details of the proposed system to be used must be presented to the CA for approval prior to work on site. All temporary earthwork supports are to be removed on completion unless otherwise agreed with the CA. Take measurements, record sketches etc of any supports left in position and inform CA.

**DISPOSAL OF MATERIALS****441 SURPLUS SUBSOIL/SPOIL**

- Any surplus subsoil/ spoil arising from excavations or landscaping works will need to be disposed of to a licensed tip in accordance with the requirements of the European Waste Directive.

**450 WATER**

- Generally: Keep all excavations free from water until:
- Formations are covered.
- Below ground construction are completed.
- Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
- Drainage: Form surfaces of excavations and fill to provide adequate falls.
- Removal of water: Provide temporary drains, sumps and pumping as necessary.

**454 GROUND WATER LEVEL**

- Give notice: If it is considered that the excavations are below water table.

**457 PUMPING**

- General: Do not disturb excavated faces or stability of adjacent ground or structures.
- Pumped water: Discharge without flooding the site or adjoining property.

- Sumps: Construct clear of excavations. Fill on completion.

#### 460 PERMANENT DRAINAGE SYSTEM

- Do not use for disposal of water from the excavations without agreement from the CA and the local authority.

#### FILLING

#### 500A PROPOSED FILL MATERIALS

- All fill materials should be in accordance with the Highways Agency 'Specification for Highway Works' and as shown on the drawings and/or described in the Specification.

#### 510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

- General: Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
  - Frozen or containing ice.
  - Organic.
  - Contaminated or noxious.
  - Susceptible to spontaneous combustion.
  - Likely to erode or decay and cause voids.
  - With excessive moisture content, slurry, mud or from marshes or bogs.
  - Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
  - Unacceptable, class U2 as defined in the Highways Agency 'Specification for highway works', clause 601.

#### 520 FROST SUSCEPTIBILITY

- General: Except as allowed below, fill must be non frost-susceptible as defined in Transport Research Laboratory Report SR 829 'Specification for the TRRL frost-heave test'.
- Frost-susceptible fill: May only be used within the external walls of buildings below spaces that will be heated. Protect from frost during construction.

#### 530 PLACING FILL

- Excavations and areas to be filled: Free from loose soil, rubbish and standing water.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
- Adjacent structures, membranes and buried services:
  - Do not overload, destabilise or damage.
  - Submit proposals for temporary support necessary to ensure stability during filling.

- Layers: Place so that only one type of material occurs in each layer.

### 535 COMPACTION

- General: Compact fill materials as soon as possible after placing.
- The fill material is to be compacted to a target compaction of 95%, with minimum of 90% compaction, compared to the materials at optimum moisture content. The contractor is requested to compact trial areas of the different materials (reused excavated material and imported from the GTA) for approval before progressing the rest of the works. Thoroughly compact each layer to the requirements described in Specification for Highway Works Table 6/1 for this class of material.
- After compaction: Surface of each layer must be well closed, showing no movement under compaction plant, without cracks, holes, ridges, loose material or other signs of poor compaction.
- Defective areas: Remove and recompact to full thickness of layer using new material. The fill material is to be compacted to specification
- Compliance Testing: -
  - Permitted Tests: Either Nuclear Density Tests or Sand Replacement Density (SRD) test. To be carried out in accordance with BS 1377:1990 by a UKAS accredited tester.
  - Test Frequency: Either one test per compacted layer or every 250m<sup>3</sup>, whichever gives the greater number of test results.

### 617 HIGHWAYS AGENCY TYPE 1 GRANULAR FILLING

- Fill: To Highways Agency 'Specification for highway works', clause 803:
  - Crushed rock (other than argillaceous rock).
  - Crushed concrete.
  - Crushed non-expansive slag to clause 801.2.
  - Well-burned non-plastic colliery shale.
- Filling: To Highways Agency 'Specification for highway works', clauses 801.3 and 802.

### 620 SUBGRADE IMPROVEMENT LAYER (CAPPING)

- Fill: To Highways Agency 'Specification for highway works', Table 6/1, Class 6F1 or 6F2/6F5.
- Filling: Place and compact to Highways Agency Specification for highway works, Table 6/1, clause 612 and clause 613.3, 613.9 and 613.10.

### 700 BACKFILLING TO FOUNDATIONS

- Under concrete and paving: Hardcore to be used as clause 710.

### 710 HARDCORE FILLING

- Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a

- soaked condition to BS 812-111, and in any one layer only one of the following:
- Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
  - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
  - Crushed non-expansive slag.
  - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
  - Well-burned non-plastic colliery shale.
  - Natural gravel.
  - Natural sand.
- Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer.

### 730 BLINDING

- Surfaces to receive sheet overlays or concrete:  
Blind with:
  - Concrete where shown on drawings; or
  - Sand, fine gravel or other approved fine material applied to fill interstices. Moisten as necessary before final rolling to provide a flat, close smooth surface.
- Sand for blinding: To BS 882 table 4, type C or M.
- Permissible deviations on surface level: +0 -25 mm.



**831-01**  
**Blackley Mere, Blackley**  
**Earthworks Specification**

|                          |                                |
|--------------------------|--------------------------------|
| <b>Prepared by</b>       | NF                             |
| <b>Checked by</b>        | PM                             |
| <b>Date:</b>             | 13 <sup>th</sup> December 2017 |
| <b>Revision:</b>         | T02                            |
| <b>Clause Changes:</b>   | -                              |
| <b>Reason for issue:</b> | Tender Issue                   |

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  - Frozen or containing ice.
  - Organic.
  - Contaminated or noxious.
  - Susceptible to spontaneous combustion.
  - Likely to erode or decay and cause voids.
  - With excessive moisture content, slurry, mud or from marshes or bogs.
  - Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
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  - Submit proposals for temporary support necessary to ensure stability during filling.

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  - Defective areas: Remove and recompact to full thickness of layer using new material. The fill material is to be compacted to specification
  - Compliance Testing: -
    - Permitted Tests: Either Nuclear Density Tests or Sand Replacement Density (SRD) test. To be carried out in accordance with BS 1377:1990 by a UKAS accredited tester.
    - Test Frequency: Either one test per compacted layer or every 250m<sup>3</sup>, whichever gives the greater number of test results.
- 617 HIGHWAYS AGENCY TYPE 1 GRANULAR FILLING
- Fill: To Highways Agency 'Specification for highway works', clause 803:
    - Crushed rock (other than argillaceous rock).
    - Crushed concrete.
    - Crushed non-expansive slag to clause 801.2.
    - Well-burned non-plastic colliery shale.
  - Filling: To Highways Agency 'Specification for highway works', clauses 801.3 and 802.
- 620 SUBGRADE IMPROVEMENT LAYER (CAPPING)
- Fill: To Highways Agency 'Specification for highway works', Table 6/1, Class 6F1 or 6F2/6F5.
  - Filling: Place and compact to Highways Agency Specification for highway works, Table 6/1, clause 612 and clause 613.3, 613.9 and 613.10.
- 700 BACKFILLING TO FOUNDATIONS
- Under concrete and paving: Hardcore to be used as clause 710.
- 710 HARDCORE FILLING
- Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a

- soaked condition to BS 812-111, and in any one layer only one of the following:
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  - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
  - Well-burned non-plastic colliery shale.
  - Natural gravel.
  - Natural sand.
  - Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer.

### 730 BLINDING

- Surfaces to receive sheet overlays or concrete:  
Blind with:
  - Concrete where shown on drawings; or
  - Sand, fine gravel or other approved fine material applied to fill interstices. Moisten as necessary before final rolling to provide a flat, close smooth surface.
- Sand for blinding: To BS 882 table 4, type C or M.
- Permissible deviations on surface level: +0 -25 mm.

# **Appendix C:**

## **Soil Acceptance Criteria**

## Blackley Mere, Crumpsall - Remediation Strategy and Verification Plan

| Soil Acceptance Criteria                                          |                      |                                    |                                                |                               |                          |         |
|-------------------------------------------------------------------|----------------------|------------------------------------|------------------------------------------------|-------------------------------|--------------------------|---------|
| Human Health Remediation Targets – Low Rise Residential End Use – |                      |                                    |                                                |                               |                          |         |
| Includes Gardens with Plant Uptake Pathway                        |                      |                                    |                                                |                               |                          |         |
| Determinand                                                       | Units                | Within 600mm Cover System (Garden) | Below Hard Standing and >600mm of cover system | Public Open Space 450mm Cover | Public Open Space >450mm | Pathway |
| Arsenic                                                           | mg/kg                | 37(i)                              | 640(iv)                                        | 79(iii)                       | 640(iv)                  | 1       |
| Cadmium                                                           | mg/kg                | 11(i)                              | 532(iv)                                        | 120(iii)                      | 532(iv)                  | 1       |
| Chromium (Hexavalent)                                             | mg/kg                | 6(i)                               | 220(iv)                                        | 7.7(iii)                      | 220(iv)                  | 1       |
| Lead                                                              | mg/kg                | 210(vi)                            | 760(viii)                                      | 760(viii)                     | 760(viii)                | 1       |
| Elemental Mercury                                                 | mg/kg                | 1.2(i)                             | 30(iv)                                         | 16(iii)                       | 30(iv)                   | 2       |
| Nickel                                                            | mg/kg                | 180(i)                             | 3400(iv)                                       | 230(iii)                      | 3400(iv)                 | 1       |
| Selenium                                                          | mg/kg                | 250(i)                             | 1800(iv)                                       | 1100(iii)                     | 1800(iv)                 | 1       |
| Copper                                                            | mg/kg                | 2400(i)                            | 44000(iv)                                      | 12000(iii)                    | 44000(iv)                | 1       |
| Zinc                                                              | mg/kg                | 3700(i)                            | 170000(iv)                                     | 81000(iii)                    | 170000(iv)               | 1       |
| Phenol                                                            | mg/kg                | 280(i)(xi)                         | 280(xiv)(xi)                                   | 760(iii)(xi)                  | 760(iv)(xi)              | 2       |
| Naphthalene                                                       | mg/kg                | 2.3(i)(xi)                         | 2.3(xiv)(xi)                                   | 1200(iv)(xi)                  | 1200(iv)(xi)             | 2       |
| Acenaphthylene                                                    | mg/kg                | 170(i)(xi)                         | 500(v)                                         | 15000(iii)(xi)                | 29000(iv)(xi)            | 3       |
| Acenaphthene                                                      | mg/kg                | 210(i)(xi)                         | 500(v)                                         | 15000(iii)(xi)                | 29000(iv)(xi)            | 1       |
| Fluorene                                                          | mg/kg                | 170(i)(xi)                         | 500(v)                                         | 9900(iii)(xi)                 | 20000(iv)(xi)            | 1       |
| Phenanthrene                                                      | mg/kg                | 95(i)(xi)                          | 500(v)                                         | 3100(iii)(xi)                 | 6200(iv)(xi)             | 3       |
| Anthracene                                                        | mg/kg                | 500(i)(xi)                         | 500(v)                                         | 74000(iii)(xi)                | 150000(iv)(xi)           | 3       |
| Fluoranthene                                                      | mg/kg                | 280(i)(xi)                         | 500(v)                                         | 3100(iii)(xi)                 | 6300(iv)(xi)             | 3       |
| Pyrene                                                            | mg/kg                | 500(i)(xi)                         | 500(v)                                         | 7400(iii)(xi)                 | 15000(iv)(xi)            | 3       |
| Benzo(a)Anthracene <sup>(c)</sup>                                 | mg/kg                | 7.2(i)(xi)                         | 11(ii)(xi)                                     | 29(iii)(xi)                   | 49(iv)(xi)               | 3       |
| Chrysene                                                          | mg/kg                | 15(i)(xi)                          | 30(ii)(xi)                                     | 57(iii)(xi)                   | 93(iv)(xi)               | 3       |
| Benzo(b)Fluoranthene <sup>(iii)</sup>                             | mg/kg                | 2.6(i)(xi)                         | 3.9(ii)(xi)                                    | 7.1(iii)(xi)                  | 13(iv)(xi)               | 3       |
| Benzo(k)Fluoranthene <sup>(iii)</sup>                             | mg/kg                | 77(i)(xi)                          | 110(ii)(xi)                                    | 190(iii)(xi)                  | 370(iv)(xi)              | 3       |
| Benzo(a)Pyrene <sup>(vii)</sup>                                   | mg/kg                | 2.2(i)(xi)                         | 3.2(ii)(xi)                                    | 5.7(iii)(xi)                  | 11(iv)(xi)               | 3       |
| Indeno(123-cd)Pyrene                                              | mg/kg                | 27(i)(xi)                          | 45(ii)(xi)                                     | 82(iii)(xi)                   | 150(iv)(xi)              | 3       |
| Dibenzo(a,h)Anthracene                                            | mg/kg                | 0.24(i)(xi)                        | 0.31(ii)(xi)                                   | 0.57(iii)(xi)                 | 1.1(iv)(xi)              | 3       |
| Benzo(ghi)Perylene                                                | mg/kg                | 320(i)(xi)                         | 360(ii)(xi)                                    | 640(iii)(xi)                  | 1400(iv)(xi)             | 3       |
| TPH C <sub>5</sub> -C <sub>6</sub> (aliphatic)                    | mg/kg                | 42(i)(xi)                          | 42(ii)(xi)                                     | 42(ii)(xi)                    | 10000(xiv)(xi)           | 2       |
| TPH C <sub>6</sub> -C <sub>8</sub> (aliphatic)                    | mg/kg                | 100(i)(xi)                         | 100(ii)(xi)                                    | 100(ii)(xi)                   | 10000(xiv)(xi)           | 2       |
| TPH C <sub>8</sub> -C <sub>10</sub> (aliphatic)                   | mg/kg                | 27(i)(xi)                          | 27(ii)(xi)                                     | 27(ii)(xi)                    | 10000(xiv)(xi)           | 2       |
| TPH C <sub>10</sub> -C <sub>12</sub> (aliphatic)                  | mg/kg                | 130(i)(xi)                         | 130(ii)(xi)                                    | 130(ii)(xi)                   | 10000(xiv)(xi)           | 2       |
| TPH C <sub>12</sub> -C <sub>16</sub> (aliphatic)                  | mg/kg                | 1000(xiv)(xi)                      | 1000(xiv)(xi)                                  | 1000(xiv)(xi)                 | 10000(xiv)(xi)           | 1       |
| TPH C <sub>16</sub> -C <sub>21</sub> (aliphatic)                  | mg/kg                | 1000(xiv)(xi)                      | 1000(xiv)(xi)                                  | 1000(xiv)(xi)                 | 10000(xiv)(xi)           | 1       |
| TPH C <sub>21</sub> -C <sub>35</sub> (aliphatic)                  | mg/kg                |                                    |                                                |                               |                          | 1       |
| TPH C <sub>5</sub> -C <sub>7</sub> (aromatic)                     | mg/kg                | 70(i)(xi)                          | 370(ii)(xi)                                    | 370(ii)(xi)                   | 10000(xiv)(xi)           | 2       |
| TPH C <sub>7</sub> -C <sub>8</sub> (aromatic)                     | mg/kg                | 130(i)(xi)                         | 860(ii)(xi)                                    | 860(ii)(xi)                   | 10000(xiv)(xi)           | 2       |
| TPH C <sub>8</sub> -C <sub>10</sub> (aromatic)                    | mg/kg                | 34(i)(xi)                          | 47(ii)(xi)                                     | 47(ii)(xi)                    | 10000(xiv)(xi)           | 2       |
| TPH C <sub>10</sub> -C <sub>12</sub> (aromatic)                   | mg/kg                | 74(i)(xi)                          | 250(ii)(xi)                                    | 250(ii)(xi)                   | 10000(xiv)(xi)           | 2       |
| TPH C <sub>12</sub> -C <sub>16</sub> (aromatic)                   | mg/kg                | 140(i)(xi)                         | 1800(ii)(xi)                                   | 1800(ii)(xi)                  | 10000(xiv)(xi)           | 1       |
| TPH C <sub>16</sub> -C <sub>21</sub> (aromatic)                   | mg/kg                | 260(i)(xi)                         | 1900(ii)(xi)                                   | 1900(ii)(xi)                  | 10000(xiv)(xi)           | 1       |
| TPH C <sub>21</sub> -C <sub>35</sub> (aromatic)                   | mg/kg                | 1000(xiv)(xi)                      | 1900(ii)(xi)                                   | 1900(ii)(xi)                  | 10000(xiv)(xi)           | 1       |
| Asbestos                                                          | Fibres Volume Weight | NFD                                | 0.01%                                          | NFD                           | 0.01                     | 1       |

## Blackley Mere, Crumpsall - Remediation Strategy and Verification Plan

# Solubility <0.01µg/l

### Notes 1

NFD = No Fibres Detected

Asbestos will be screened visually on site by a qualified environmental consultant and where potential ACM is identified, representative samples will be subject to quantitative analysis of % volume by weight. Should any ACM be identified visually on site then this shall be removed and disposed of off site.

Should any ACM be identified within the soil matrices in laboratory testing, further detailed % assessment would be required when the reported laboratory result exceeds the limit of detection for the analytical method at 0.001% by volume (weight).

### Notes 2

Excludes matrices where free product is observed.

No viable exposure pathway beneath hardstanding and cover system.

### Notes 3

Main exposure pathways: 1 = soil ingestion, 2 = vapour inhalation (indoor), 3 = dermal contact and ingestion, 4 = dust inhalation.

Abbreviations:

- i. Value derived from LQM Suitable 4 Use Levels (S4ULs) for residential end use with plant uptake.
- ii. Value derived from LQM Suitable 4 Use Levels (S4ULs) for residential end use without plant uptake – these levels used below 600 mm cover system within residential gardens as soils will be present within a residential setting yet soils will not be disturbed and garden plants will not reach these soils.
- iii. Value derived from LQM Suitable 4 Use Levels (S4ULs) for public open space (POS) residential.
- iv. Value derived from LQM Suitable 4 Use Levels (S4ULs) for public open space (POS) park – these levels used below 300 mm POS cover system as soils will not be disturbed by any future site users and exposure to these soils will be similar to a park end use.
- v. Value derived from LQM Suitable 4 Use Levels (S4ULs) alongside assessment with WM3 to ensure that materials remaining on site do not exceed the WM3 toxicity criteria for hazardous waste.
- vi. Value derived from Category 4 Screening Levels (C4SL) for residential land use with homegrown produce.
- vii. Value derived from Category 4 Screening Levels (C4SL) for residential land use without homegrown produce.
- viii. Value derived from Category 4 Screening Levels (C4SL) for public open space (POS) residential.
- ix. Value derived from Category 4 Screening Levels (C4SL) for public open space (POS) park.
- x. Mercury – based on elemental mercury.
- xi. PAH and TPH levels used are for 1% SOM.
- xii. Xylenes based on p-xylene (o-xylene 2600 mg/kg, m-xylene 3500 mg/kg) and is capped by its solubility.
- xiii. Value derived from LQM Suitable 4 Use Levels (S4ULs) for residential end use with plant uptake due to the volatilisation risk.
- xiv. BTEX is not SOM-related due to inhalation pathway

**END OF REPORT**