

## **APPENDIX E**

*CGL Verification Plan*

| Reference                                 | Principal requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Design or construction related | Site visit required by qualified geoenvironmental engineer                                              | Supporting documentation                                                     |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <b>1.0 General principles</b>             | <p>The proposed development will comprise three new earthwork embankments and two new bridge structures supported on piled foundations.</p> <p>The site verification requirements are as follows:</p> <ul style="list-style-type: none"> <li>Removal and disposal of Made Ground material generated as part of enabling works excavations;</li> <li>Excavation of natural soils to obtain formation levels for temporary and permanent works;</li> <li>Separation and stockpiling of Made Ground and natural soils within the temporary lagoon stockpile area;</li> <li>Verification sampling and testing including confirming acceptability of site won materials proposed for re-use to comply with site specific re-use criteria (Section 6 of the Remediation Scheme Addendum);</li> <li>Monitoring of surface and groundwater throughout the construction phases; and</li> <li>Watching brief for areas of unexpected / unidentified contamination.</li> </ul> <p>Amendments will be made to accord with differing conditions encountered during the progress of the works.</p> | Design & construction          | <p><b>YES</b></p> <ul style="list-style-type: none"> <li>As detailed in Section 4.0 onwards.</li> </ul> | Details of construction programme to be provided by FM Conway Limited (FMC). |
| <b>2.0 Compliance with legislation</b>    | The construction and verification activities on the site should be undertaken in accordance with current health and safety and environmental legislation, in accordance with the contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Construction                   | -                                                                                                       | -                                                                            |
| <b>3.0 Health and Safety requirements</b> | This verification plan does not specifically cover health and safety requirements. This should be addressed in the Contractor's Health and Safety Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Design & Construction          | -                                                                                                       | -                                                                            |

| Reference                                          | Principal requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Design or construction related | Site visit required by qualified geoenvironmental engineer                                                                                                                                                                                                                                                                   | Supporting documentation                                                                                                                                                                                                                                                                                                                                                       |
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| <b>4.0 Waste disposal and materials management</b> | <p>All material bound for off-site disposal (either to a soil treatment facility or to landfill will require characterisation in accordance with the Hazardous Waste Regulations 2005 and disposal in accordance with the requirements of the Landfill Regulations (2002, as amended) and the Environmental Protection (Duty of Care) Regulations, 1991.</p> <p>See Section 3.1 of Remediation Scheme Addendum for waste classification undertaken at investigation stage and associated appendices for details on waste classification requirements.</p> <p>Management of materials is to be undertaken in conjunction with the scheme Materials Management Plan (MMP) (Aconex ref: A720-E05-IW-BR-CGL-EW-TS-0002 P3).</p> | Construction                   | <p><b>YES</b></p> <ul style="list-style-type: none"> <li>Obtain soils data and waste acceptance criteria (WAC) test data;</li> <li>Screening of soils data against the established re-use criteria (see Section 6 of the RS Addendum); and</li> <li>Waste classification of arisings requiring off-site disposal.</li> </ul> | <ul style="list-style-type: none"> <li>Duty of care records for disposal of waste (including discharge consent if pumped groundwater discharged to sewer);</li> <li>Laboratory test results; and</li> <li>Material management protocols, as required (i.e. exemptions, permits etc).</li> </ul>                                                                                |
| <b>5.0 Soft landscaping</b>                        | <p>Soft landscaping will be required in certain areas of the scheme including the embankment side slopes. Landscape requirements are to be confirmed though will include the use of topsoil and subsoil to act as a growing medium.</p> <p>Subsoil/topsoil will be soil imported from a known and reputable source or validated clean natural soils. Concentrations must be below the Maximum Permissible Concentrations detailed below in Appendix D. The pre-delivery chemical test results and source will be reviewed by a suitably qualified geoenvironmental engineer prior to the material being brought onto site.</p>                                                                                              | Construction                   | <p><b>YES</b></p> <ul style="list-style-type: none"> <li>To validate construction of landscaping</li> <li>To take samples for chemical analysis <ul style="list-style-type: none"> <li>1 test per 150 m<sup>3</sup> (including a minimum of one test for each separate source material used).</li> </ul> </li> </ul>         | <ul style="list-style-type: none"> <li>Source certificates and pre-delivery test data (to be provided by Contractor);</li> <li>Site visit reports including photographs;</li> <li>Chemical test results;</li> <li>Comparison against topsoil import criteria (Appendix H, RS Addendum); and</li> <li>Layout drawings showing location of areas of soft landscaping.</li> </ul> |
| <b>6.0 Gas protection</b>                          | No enclosed spaces are proposed as part of the Western Access development requiring gas protection measures and, as such, this aspect if not required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A                            | N/A                                                                                                                                                                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                            |

| Reference                           | Principal requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Design or construction related     | Site visit required by qualified geoenvironmental engineer                                                                                                                                                                                                                                                                                                                                                                                                             | Supporting documentation                                                                                                                                                                                                                                                                 |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>7.0 Construction monitoring</b>  | <p><b>Groundwater</b><br/>Groundwater monitoring and sampling to be undertaken monthly during construction within established boreholes for the scheme with increased frequency (weekly) during key phases (e.g. piling operations). Resultant laboratory data to be compared to established trigger levels.</p> <p>Post- construction monitoring to be undertaken initially monthly dropping to bi-monthly for up to one year post construction.</p> <p><b>Surface water</b><br/>Surface water (Yeading Brook and Grand Union Canal) monitoring to include visual inspection and in situ physico-chemical parameter monitoring to be completed daily. Weekly monitoring and sampling during construction. Additional ammonia sampling to be undertaken from Yeading Brook concurrently with groundwater sampling.</p> <p>Post-construction surface water monitoring to be undertaken monthly up to three months after completion.</p> <p>Contingency measures to be reviewed in line with the RS Addendum.</p> | Construction and post-construction | <p><b>YES</b></p> <ul style="list-style-type: none"> <li>Undertake water monitoring and obtain water samples;</li> <li>Screen water data against the established groundwater trigger levels (see Section 9 of the RS Addendum);</li> <li>Review baseline data for ammonia species in Yeading Brook and track trends in quality;</li> <li>Pending review of data against trigger levels agree additional measures / contingency with the Environment Agency.</li> </ul> | <ul style="list-style-type: none"> <li>Site visit reports including photographs;</li> <li>Monitoring data sheets;</li> <li>Chemical test results; and</li> <li>Comparison against the established scheme trigger levels (see Section 9 of the RS Addendum).</li> </ul>                   |
| <b>8.0 Unexpected contamination</b> | <p>A watching brief, to include visual / olfactory inspection, is to be maintained during all enabling works, pile installation and earthworks construction. A qualified geoenvironmental engineer will undertake part-time supervision of site activities based upon the contractor's proposed programme. The contractor is to maintain a watching brief throughout the programme. Should unexpected contamination be encountered the process contained within Appendix L of the Remediation Scheme Addendum is to be followed.</p> <p>The watching brief is to include visual inspection for gross contamination, including free phase product or gasworks related wastes (e.g. spent oxide / 'blue billy' and foul lime) which are not to be re-used within the scheme.</p>                                                                                                                                                                                                                                  | Construction                       | <p><b>YES</b></p> <ul style="list-style-type: none"> <li>Site supervision on part time basis, in accordance with Contractor's programme.</li> </ul>                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Site visit reports including photographs;</li> <li>Chemical test results;</li> <li>Comparison against the established scheme re-use criteria (see Section 6 of the RS Addendum); and</li> <li>Where required, revised risk assessment.</li> </ul> |