

GROUNDWORKS SPECIFICATION

British Museum – Number 38 Russell Square

	24.8.18	Tender	AL	LK
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**Our Ref: Job N°1756/702
Alan Baxter Ltd**

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1.00 GENERAL

This specification is to be read in conjunction with the engineering specifications for concrete, roads, drainage and piling.

Where this specification conflicts with the relevant British or European Standard, the requirements of this specification take priority.

- 1.01 **SITE INVESTIGATION:** a site investigation has been carried out. A copy of the site investigation report is appended. The information is supplied as an indication only and gives no assurance that there may not be considerable variations of subsoil conditions over the site as a whole.
- 1.02 **GROUNDWATER LEVEL:** an average pre-contract water level of approximately 21m AOD has been assumed for the purpose of measurement.
- 1.03 **LEVELS:** the levels referred to on the drawings relate to AOD. The contractor shall set up and maintain a site datum relative to this.
- 1.04 **TREES AND UNDERGROWTH:** before starting work verify with the Contract Administrator (C.A.) which trees, shrubs and hedges are to be removed. Cut down, grub up main roots and fill voids with suitable material. Dispose of all wood. Protect trees to be retained as indicated on the drawings.
- 1.05 **TOP SOIL:** before commencement of general excavation or filling excavate all top soil from required areas and keep separate from excavated subsoil.
- 1.06 **SERVICES:** inspect all available drawings and make enquiries about existing services on site before submitting tender. Verify positions and depth of all services before commencement of work on site.
- 1.07 **CLEANLINESS:** surrounding roads, areas adjacent to site to be kept clean at all times.
- 1.08 **DISPOSAL OF MATERIAL OFF-SITE:** Excavate, handle and dispose of material in a safe manner, in accordance with current legislation and as directed by the relevant Authorities. Take note of any contamination appraisal information included in the site investigation report. Engage an accredited specialist to determine and carry out all contamination tests necessary in order to classify the material for handling and disposal purposes. Different zones of contaminated soil are to be clearly identified, assessed, categorized and disposed of appropriately. Submit a report giving contamination classifications and locations and setting out proposals for disposal of excavated material. Obtain agreement from the C.A. prior to excavations commencing.

2.00 EXCAVATION

- 2.01 **GENERAL EXCAVATION TO REDUCE LEVELS:** excavate subsoil to levels and profile shown on drawings.
- 2.02 **EXCAVATION FOR FORMATION TO FOUNDATIONS AND GROUND BEARING SLABS:** excavate down to a natural bearing formation of undisturbed soil unless otherwise instructed. Obtain instructions if a natural bearing formation of undisturbed subsoil:

- a) Is obtained at a lesser depth than that shown on the drawings
- b) Is at a deeper level than shown on the drawings.

2.03 EXCAVATION FOR FORMATION TO ROADS AND HARDSTANDING: excavation shall be to the depth or level shown on the drawings (formation level). Areas where the expected bearing material is not found at the levels shown, soft spots and voids in the formation shall be reported to the C.A. If so directed dig out and fill such areas with material agreed with the C.A.

2.04 EXCAVATION FOR DRAINAGE: excavate to slopes, levels, depths and heights shown on the drawings. Trench widths to be kept as small as practicable, but not less than the external diameter of the pipe plus 300mm or larger dimension as shown on the drawings. Trench sides shall be vertical bottom up to 300mm above crown of pipe. The overall width of trenches shall not exceed the following:

Nominal pipe bore (mm)	100	150	225	300	375
Maximum trench width (mm)	600	700	800	900	1000

Soft spots and voids in bottom of trenches shall be excavated and filled with same material as required for bedding.

2.05 EXCAVATED FORMATIONS may be inspected by the C.A. before new work is laid on them. Give C.A. not less than 24 hours notice of when excavation will be ready for inspection and provide safe access to formation level. Place concrete or other fill as soon as possible after inspection to prevent deterioration due to water, frost, drying out or other causes. If after inspection surfaces become unsuitable, advise the C.A. and obtain instructions.

2.06 TRIM excavations to required profiles and levels. Remove all loose material.

2.07 EXCESS EXCAVATION: backfill any excavations taken wider or deeper than required with material agreed with the C.A.

2.08 ADJACENT EXCAVATIONS: excavations shall not encroach below line drawn at 30° (from the horizontal) from the nearest lower edge of any foundation. If this condition cannot be met, obtain instructions before proceeding.

2.09 UNAUTHORISED EXCAVATIONS: do not make any excavation other than those necessary to construct the works.

2.10 KNOWN OBSTRUCTIONS: break out as necessary existing walls, foundations etc to achieve:

- a) Top of existing obstruction to be at least 450mm below soffit of permanent works.
- b) Top of existing obstruction to be at least 150mm beneath and around any service pipe/duct.

2.11 UNKNOWN OBSTRUCTIONS: obtain instructions before proceeding.

- 2.12 EARTHWORK SUPPORTS to be removed on completion of works unless otherwise agreed. Take measurements, record sketches etc of any supports left in position and inform C.A.
- 2.13 WATER: keep all excavations free from water and keep water from excavations clear of other construction work.
- 2.14 EXCAVATION BELOW THE NATURAL GROUND WATER LEVEL: provide details of proposed method for de-watering excavations with tender.
- 2.15 PERMANENT DRAINAGE SYSTEM: do not use for disposal of water from excavations without the agreement of the C.A.
- 2.16 SURPLUS EXCAVATED MATERIAL not specified to be spread and levelled or stockpiled to be removed from site.
- 2.17 MULTIPLE HANDLING: allow for and, if requested by the C.A., supply details of positions of temporary stockpiles.
- 2.18 COLD WEATHER: excavations to be protected against freezing.
- 2.19 EXPLOSIVES or similar means shall not be used.
- 3.00 FILLING
- 3.01 EXCAVATED MATERIALS arising from the excavation of natural ground that complies with the specification may be used for general soil filling.
- 3.02 COMPACTED GENERAL FILL shall be dry, clean subsoil free from clay, vegetable material, topsoil, roots and rubbish.
- 3.03 COMPACTED HARD CORE shall be good, clean, hard brick (free from old plaster and timber), crushed cement concrete, hard tiles, stone or ballast broken before placing to pass a 75mm ring, suitably graded so as to be capable of thorough compaction and free from all rubbish, contamination and having a low sulphate content (refer to Cl. 3.09).
- 3.04 COMPACTED GRANULAR FILL shall be clean, as-dug natural ballast, hoggin or recycled concrete having a grading such that it may be satisfactorily compacted for the proposed use.
- 3.05 COMPACTED SUB-BASE shall be granular sub-base material Type 1 or 2 as described in Clauses 801 to 803 of the Highways England Specification for Highway Works.
- 3.06 COMPACTION OF FILLING: spread material in layers not exceeding 225mm thick and as soon as possible thereafter compact each layer using plant and methods suitable to the type of material and in accordance with method 6 in table 6/4 of the Highways England Specification for Highway Works. Provide details of plant and minimum number of passes per layer prior to placing any fill. Prepare a sample area of compacted fill if required by the CA. In drainage trenches, spreading and compaction shall be carried out evenly without dislodging, distorting or damaging the pipe. Power rammers are not to be used within 300mm of any part of the pipe or joint.

- 3.07 PROTECTION OF FORMATION: do not allow construction traffic on compacted filling until the level has been raised by not less than 150mm above formation level by properly compacted temporary protective filling. Remove temporary protective filling from site before commencement of permanent construction.
- 3.08 MOISTURE CONTENT of cohesive soils at time of placing and compacting to be such that soils just bind together when squeezed in the hand. Adjust moisture content of the soil as necessary to achieve adequate compaction.
- 3.09 SOLUBLE SULPHATE CONTENT - (SO₃) of materials for filling within 1m of permanent works must not exceed 1 g/litre when tested to BS 1377: Part 3. Test if required by C.A.
- 3.10 DIFFERING MATERIALS: to be laid separately so that only one type of material occurs in each layer.
- 3.11 TESTING OF MATERIALS: carry out tests on materials which are instructed by the C.A.
- 3.12 IMPORTED MATERIAL: provide test certificates to the C.A. for all imported material.