

email: dwilson@gbg.co.uk
dw0120GCE Nestle Canteen 108

24th January 2020

Barratt London
c/o Gravity Consulting Engineers
Capitol Building
Oldbury
Bracknell
RG12 8FZ

For the attention of: Tony Watkin, Director

Dear Tony,

Nestle –Canteen, Hayes

Thank you for your enquiry and for providing us with the Scope of Investigation Works, we have pleasure in submitting our fee proposals for investigating the structural elements at the above site.

Structure description and background

The Main Factory was originally built in the 1930's, and has been used throughout its history as an industrial building.

The Canteen comprises a large open single storey central area, and a single/double storey wraparound, and a single storey locker room. The central area is formed of concrete/brick encased steel columns and a steel trussed roof, spanning around 25m. The wraparound is formed of concrete/brick encased steel columns and reinforced concrete slabs.



A suite of investigation works have been provided by Gravity Consulting Engineers to provide information on the form and condition of the steel columns, roof trusses, concrete slabs and walls. The scope also includes for providing an outline set of "recommendations for future preventative measures to attain a 60-year design life".

Proposals –Survey Scope

1) Roof Truss Condition

Steel roof trusses and bracing members within the main hall – Undertake a full visual and measurement survey of the exposed truss members (11 No.) recording corrosion levels, loss of section, tightness of connections and any components requiring strengthening or replacement.

We understand that the cement ceiling boards and lathes have been removed and the 11No roof trusses are now fully exposed, however the high level walkway has not been signed off as fit for use.

Directors: G S Ballard MA FRICS • K F Ballard • NOC Fleming BSc • D M Clarke FCCA Dip IoD

Consultants: D Doran BSc FGGI CEng Eurling FICE FIStructE • SW Kemp CEng BSc MICE

• H Tomsett BSc CEng MICE **Associates:** IDM Wilson • C Olton BEng IEng MICE

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Our proposal includes for conducting a laser survey of 2No roof trusses to enable us to check the consistency in layout and dimensions, prior to compiling a generic roof truss dimensional drawing. Our Site Team will then undertake a visual condition survey from within a mobile elevated working platform, to gain hands on access to each truss to check the tightness of the framing elements and to record the notifiable defects of each truss i.e. missing rivets, nuts etc.

We will compile a Schedule of Notifiable Defects, relocated by a unique reference number marked up on the drawings.

CTR: 2No Team Days with MEWP

2) Embedded Truss End Connections

Roof truss end connections to column or beam, embedded within brickwork – Remove brickwork where necessary to expose 22 No. connections, recording corrosion levels, loss of section, tightness of connection and any components requiring strengthening or replacement.

Each truss end has 2No connections with the embedded columns (High level and c1m lower Low Level connections) resulting in there being a total of 44No end connections. However, the Scope of Works only requires 22No end connections to be inspected.



We therefore propose to specifically target truss ends which have been exposed to long term water ingress issues, where we will remove and set aside the bricks to enable the steel ends, at both the high and low level connections to be inspected. We have allowed for inspecting a total of 22No connections with the embedded steel columns. Retained bricks will be re-laid on a bed of fresh mortar.

CTR: 3No Team Days with MEWP.

3) Column Inspections

Columns encased within brickwork to the main hall, wraparound and colonnade. (12 No. to the main hall, approximately 28 No. to the single storey colonnade and approximately 44 No. to the 2-storey wraparound = approximately 84 No. columns in all). Remove localised areas of brickwork encasement to columns at upper (beam connection) and lower (base plate connection) levels or where wet conditions are observed to a large representative number of columns (at least 50% of all columns) recording corrosion levels, loss of section, tightness of any exposed connections and any components requiring strengthening or replacement.

During our previous visual inspections during the first quarter of 2016, we noted that there was a very low incidence of cracking in the masonry cladding encasing the steel columns in the wrap around or the Locker Room.

High level intrusive inspections at the roof truss end connections with the embedded steel columns in the Main Hall have already been included within the Item 2 scope of works.

During our previous trial pitting investigations we also noted that any base plates fixed to the steel columns are not located at surface of the slab, so they are most likely embedded within concrete in the column foundation. We have therefore included for targeting any base plates, within the Item 10 scope of works detailed below.

We therefore propose to better target these intrusive works on the encased columns as follows: Main Hall: 0 + Wrap Around: 22No + Locker Room: 16No = 38No.

We will select columns which are visually assessed as having defects and/or exposed to long term moisture ingress, plus a number of columns which are assessed as good, to remove sufficient brickwork work to expose the beam connection. The condition of the steel work will be recorded, with any loss of section measured.

Beam column connections encased in concrete, which are visually assessed as having no surface defects, will initially be tap tested, prior to being scanned using impulse radar to assess the condition. Where voids or quality issues are identified, intrusive works will be undertaken to record the condition of the steelwork.

The retained bricks will then be reinstated on a fresh bed of mortar; areas where concrete is broken out will be reinstated using a proprietary concrete repair mortar.

NB We have also included for extracting 4No steel samples (cut from the flanges of 2No columns and 2No beams) to determine the tensile strength of the steel.

CTR: 8No Team days + podium and/or access platform + Lab Works 4No Tensile Tests.

4) Precast concrete Slab/Roof Planks

Precast concrete floor/roof planks, forming suspended slabs, to the wraparound (1st floor and roof) and colonnade roof – Undertake a full visual survey to the soffit and top surface of all slabs (roof slabs can only be inspected from the top with the waterproofing in place) noting any cracking, spalling, exposed corroding reinforcement, sagging of the slabs between supports and any other defects. Carry out insitu and laboratory testing of the concrete to determine durability, establishing cover to reinforcement, chloride content and depth of carbonation. Undertake localised breakouts to examine the condition of the embedded reinforcement/tendons and whether observed surface cracking extends through the structural plank member. The 1st floor of the wraparound would need to be cleared of any carpet or other finishes (by others) prior to the survey taking place.



During our previous inspection works we noted that a large number of the roof planks/suspended slabs had cracks, however at a number of these sites we undertook intrusive works to inspect the reinforcement, the condition of the steel was rated good.

Due to the very high levels of flaking paint, it will be essential that both the floors slabs, walls and ceilings are cleaned down by others, prior to our team undertaking a visual survey to record the position of cracks and other defects within the suspended slabs within wrap around and the Locker Room.

Our proposal includes for undertaking targeted intrusive works to investigate the cracks and to expose areas of the reinforcement in the soffit of the roof slab plus the topside and soffit of the first floor slab. We have allowed for intrusive works at 15No sites to inspect the reinforcement, as well as recording the depth of cover and carbonation, bar type and to extract 1No dust sample for chloride analysis. NB: I have also included for extracting 5No additional dust samples to test for the presence of HAC.

CTR: 3No Team days + platform + Lab Works 15No Chloride Analysis + 5No HAC.

5) Ground bearing slabs

Ground bearing slabs to the Main Hall, Colonnade and Wraparound – Undertake a full visual survey of the top surface of all slabs which should be cleared and swept clean of all debris (by others) in advance of the survey. Make spot checks for flatness and record any cracking or other surface defects.

Undertake intrusive breakouts/core investigations where cracking is observed to determine if cracks pass through the structural slab or screed only. Cut cores through the slab at 1 location in each of the three areas (Main Hall, Colonnade and Wraparound) to determine the slab thickness, test the cores for compressive strength and undertake window sampling to establish the thickness of any sub-base and the Modulus of Subgrade reaction (K value) of the underlying sub-grade. Determine the live load capacity of the slabs in kN/m². Reinstate core holes and lap repair any damp-proof membrane (DPM) encountered.

To conduct a visual survey of the ground bearing slabs within the three zones to record areas with defects, prior to gathering impulse radar data within each zone to record the reinforcement layout. NB We have assumed that the floors will have been cleaned down to expose the surface of the slabs. At 4No locations with a crack in the slab in each of the three zones, we will cut a small diameter core to provide a profile i.e. depth of screed and the crack.

Within each zone we will then cut a c100mm dia core through the full thickness of the slab, to provide cores for 3No compressive strength tests, prior to exposing a localised area of the reinforcement to determine the bar type and size.

At each of these site we will then undertake dynamic cone penetration testing (DCP) to provide you with an indication of the soil bearing capacity and Modulus of Subgrade reaction (K value), which is obtained by converting the DCP readings to SPT and/or CBR values. Within each of these test sites we will also provide shear vane test results. The results of these survey works will enable us to provide you with an estimate of the live load capacity of the slabs.

All intrusive work sites will be made good, with bentonite being packed into the base to provide a waterproof seal, prior to the site being made good using a proprietary concrete repair mortar.

CTR: 3No Team days + Lab Works 3No compressive strength tests.

6) Wall & Slab Moisture Investigations

Inspect walls and make intrusive investigations to check for the presence and effectiveness of a damp-proof course (DPC). Take WME protimeter damp readings in walls above the DPC and on the surface of all ground bearing slabs to check for the presence of an effective DPM. Make any necessary allowances to not record areas as damp where rain water penetration through defective roofs and walls has caused dampness.

The site team will undertake intrusive works to confirm if a DPC/DPM has been incorporated in the masonry walls at 6No sites, with the retained bricks then being re-laid on fresh mortar.

Thermography will then be used to undertake a reconnaissance level survey to identify areas of the walls and ground bearing slabs which may be retaining higher levels of moisture, supported at a number of sites across the three zones where we will provide incremental moisture meter readings/profiles.

CTR: 2No Team days for Thermographic Survey.

7) Encased Steel Beams

Concrete encased steel beams to the Colonnade and Wraparound structures – Undertake a full visual survey of all downstand beams recording all cracking, spalling, exposed steel sections or evidence of corrosion. Approximate total number of beams = 83 No. Remove localised areas of concrete encasement to all beams exhibiting distress in one form or another recording corrosion levels, loss of section, tightness of any exposed connections and any components requiring strengthening or replacement. Make further intrusive investigations to a representative number of visually undamaged beams to confirm good conditions at these locations.

The site team will conduct a visual condition survey of the downstand beams within the wrap around and Locker Room.

At the Item 3 work sites, we will undertake additional intrusive works on beams with cracks/spalls to record the level of corrosion, photograph and then record the depth of cover and carbonation.

We have also included for extracting 18No dust samples for chloride analysis.

CTR: 4No Team days + access platform + Lab Works 18No Chloride Analysis.

8) Reinforced Concrete Edge Beams, Stairs & Window Surrounds (Internal)

Inspect reinforced concrete elements (not suspended floor slabs covered under item 4) above) comprising wall sections, window surrounds, edge beams and any other components for cracking, spalling, exposed corroding reinforcement. Carry out insitu and laboratory testing of the concrete to determine durability, establishing cover to reinforcement, chloride content and depth of carbonation.

To target 4No edge beams + 4No window surrounds (internally) and 1No set of stairs, in the wrap-around, conduct a visual condition assessment, prior to recording the depth of cover and reinforcement layout using impulse radar and/or covermeter.

At each of these inspection sites we will also determine the depth of carbonation and extract 1No dust sample from the edge beams and window surrounds, plus 2No dust samples from the stairs for chloride analysis.

CTR: 2No Team days + access platform + Lab Works 10 No Chloride Analysis.

9) Brick Walls

Brick wall sections with rendered finish exhibiting cracking, spalling or other defects. Visual and intrusive survey to determine and record locations and whether defects propagate through the brickwork or are confined to the render finish.

Conduct a visual survey of the masonry walls, with rendered finishes, to record locations of cracks or blown render.

To target 6No sites with cracks, spalls or other defects and to undertake intrusive works to size the defect, then record the make-up of the wall, depth of any cavity, confirm presence of insulation material.

Reinstatement: Retained bricks will be reinstated on a bed of fresh mortar, no allowance has been made for reinstating any plaster, render or decorative finishes.

CTR: 1No Team day + access platform.

10) Foundation Inspections

Depth of foundation investigation – Trial pitting at column and wall locations to the Main Hall, Colonnade (where previous investigations have revealed inadequate foundations) and Wraparound. On exposure of foundations measure the dimensions of the pad/strip footing and take a concrete sample for Sulphate content analysis. Undertake trial pits at up to 15 locations over a 5-day operation.

To deploy a mini digger, with a Trial Pitting Team, within the Main Hall to excavate trial pits at a single corner of the columns bases to expose the pad/strip foundations to 5No steel columns to enable the Engineer to record the detail NB we will also seek to confirm the presence, condition and size of any steel column base plate that may be embedded within the concrete footing. We will also excavate a trench close to a masonry wall to inspect and detail the strip foundation

On the ground bearing slabs within the Locker Room and wrap-around the Trial Pitting Team will undertake intrusive works to expose pad/strip foundations at a total of 8No encased steel columns to enable the Engineer to record the detail and to confirm the position and size of any steel column base plates embedded in the footing concrete. We have also included for exposing the strip foundation below the masonry walls at 2No sites

On completion of these works we will back fill using as much of the arisings as possible and compact the pits to leave a level surface.

We have also included for extracting a total of 5No concrete core samples from a selection of the exposed foundations, which will provide samples to determine the compressive strength, cement content, and sulphate content of the concrete.

CTR: 3No mini digger shift + 10No TP shifts + Lab Works 5No sulphate content + 5No cement content + 5No compressive strength.

11) Rainwater Goods, Gutters and Downpipes

Carry out a survey and quantify the length and number of all rainwater goods and gulley's that will require replacement.

The Lead Investigation Engineer and a Technician will undertake the visual survey using a suitable MEWP.

CTR: Lead Investigation Engineer + Technician x 1No shift.

12) CCTV survey

Carry out a site reconnaissance survey to identify the location of all manholes, rodding eyes and other points of access to the underground drainage system.

Jet out the pipe system as required and undertake a CCTV survey of the pipes. Quotation to be submitted by subcontract CCTV Survey supplier, allowing for single shift to provide salient information and for supervising the CCTV survey team.

Lead Investigation Engineer and a Technician will undertake the necessary survey works to provide salient information to our approved CCTV Survey supplier to enable them to provide a quotation to undertake a condition survey of the drainage pipework, which is to include allowances for jetting out/cleaning down the system. NB The survey works proposed does not include for locating/mapping utility services or compiling any topographic drawings.

CTR: Lead Investigation Engineer + Technician x 1No shift.

13) Corrosion Management

Engagement of a corrosion consultant to advise on the most suitable method of preserving the integrity of the steel trusses, columns and beams incorporated in the Main Hall, Colonnade and Wraparound buildings;

To deploy a Principal Consultant to site to inspect a range of exposed structural steel work and to review our initial survey findings, to enable options and recommendations to be compiled for their extended life usage.

CTR: Principal Consultant on site plus office reporting time to compile options and recommendations for extended life usage.

14) Schedule of Defects: Structural Elements

Within our Final Report we will also include Schedules of Notifiable Defects for the structural elements which will be compiled from the investigation works conducted internally, as detailed above.

Notes & Assumptions

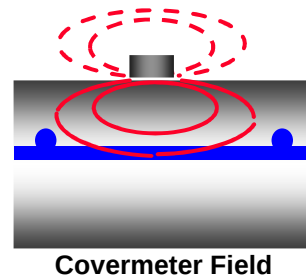
We will seek to keep the sizes of the breakouts to a minimum through smaller exposures targeted from the data collected from the covermeters/radar.

Any sample holes in concrete will be reinstated using a proprietary cementitious repair mortar. We have specifically excluded reinstatement of any decorative finishes.

Any penetrations through the roofing membranes will be temporarily reinstated with a hot bitumen patch repair.

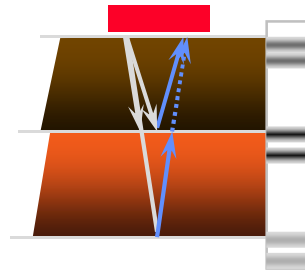
The following **NDT** survey methods will be used:

Metal Detectors & Covermeters - Measure currents induced in ferromagnetic objects to determine their location to a depth over a maximum range to c.250mm and give an accurate depth measurement over a range to c.100mm. The ranges are considerably reduced for non-ferrous metals. These instruments are not to be confused with the treasure seekers' metal detector which is a much coarser instrument designed merely to locate the presence of conductors buried in the ground, or simple covermeters which are best suited to determining the arrangement of near surface reinforcing steel.



Each area of selected for investigation will be scanned to establish the near surface reinforcement layout and depth of concrete cover to the reinforcement.

Impulse Radar or GPR - provides a method for the internal assessment of a wide variety of materials and is particularly appropriate for identifying the general arrangement of shallow buried objects and the internal elements of concrete and masonry structures. The key advantage of this technique lies in the rapidity with which data can be gathered without the need for extensive opening up, and the small spaces within which it can be operated.



Surveys are carried out by profiling the structure over a series of closely spaced survey lines to enable continuous monitoring of the subsurface over the section of the structure being investigated. A reconstruction of the arrangement, form and condition of the materials is provided. Radar would be used specifically to locate reinforcing bars and the spacings between them.

Survey antennae are drawn across the surface held by hand or attached to specially made handles. Recording equipment is stationed on a specially constructed trolley with trailing cables connecting the equipment kept to a minimum. All equipment is powered by internal sealed batteries.

Note; this method would be used as a complement to the covermeters: it can be used as a rapid scanner to locate reinforcement, establishing bar spacing and layout.

Trial Pits

Trial pits will be excavated to gain access to the foundations for inspection, sizing and sampling.

We have assumed that the trial pits will not need to exceed 1.5m deep and that water inflows at that depth will be nominal. Shoring will be provided as required and we will use a gas monitor to check for hazardous vapours, where necessary.

We have further assumed that at each location the ground slabs are no more than 250mm thick of lightly reinforced concrete.

We do not foresee the need for confined space working with harnesses and evacuation tripods etc., but proper care as per HSE guidance HSG150 for shallow excavations will be applied. Any deeper excavations would require temporary support and confined space safety arrangements which would involve additional costs beyond the scope of this proposal.

We have assumed that you will be able to provide us with information on the location of buried services so that they can be avoided. Please note that we will deploy an RD400 services detector prior to any ground works being undertaken in order to locate any near surface services (<1m); however, we cannot take responsibility for damage to services that are not shown on the drawings, or where the relevant drawings are not received prior to our attendance on site.

Dynamic Cone Penetrometer Testing

DCP testing is normally carried out in the bases of trial pits or beneath slabs through cored holes. The test involves the penetration of the underlying strata by driving a metal cone by means of a drop weight through the ground. Generally, the total depth of driving will be to a depth of between 1.5 – 2 metres, or until refusal.

Measurements are made throughout the test on the depth of penetration against number of blows. An indication of the bearing capacity can be obtained by converting the DCP readings to SPT values. For assessments of slabs on ground, equivalent CBR values are obtained are reported.

Core Sampling

We have allowed for removing the samples using a diamond tipped coring barrel with water as coolant and flush.

At the sample location the slab will be scanned using impulse radar and/or a covermeter in order to locate the near surface reinforcement and so that it can be avoided during the coring process.

Laboratory testing of the samples will be undertaken at a UKAS accredited laboratory.

Steel Sampling

Steel link bar samples will be extracted using an 110V powered angle grinder fitted with a steel cutting disk. Samples will be in the order of 150mm in length. NB A fire extinguisher will be positioned close at hand during all steel sampling works. Sample locations to be agreed with the Client's Engineers.

Chloride Testing

Chloride sampling is important because in a normal, uncontaminated reinforced concrete structure, the concrete provides a protective alkaline environment which chemically protects the steel reinforcement from corrosion.

If the concrete is contaminated with chloride salt, the chemical protection normally imparted by the concrete may be overcome and the steel may then corrode, provided that a sufficient supply of moisture and oxygen is available.

Access, Health and Safety

Access permissions and any necessary working protection will be supplied by the Client free of charge to us, who will be responsible for ensuring and maintaining a safe working environment for our operatives.

We, and any subcontractors we may employ on this task, undertake to observe all appropriate safety procedures as required by the Client or his Principal Contractor where appointed under CDM Regulations 2015, and to act only as directed and instructed in matters of safety and security, and according to any Risk Assessment and Method Statement submitted and approved.

We have also assumed that the site will be cleaned down by others including walls, ceilings and slab prior to any survey works commencing and that our work areas will remain clear and uncluttered throughout the duration of the survey. Any obstructions that prevent access to the areas that require investigating will result in missing information.

We undertake to observe all appropriate safety procedures as required by the Client, and to act only as directed and instructed in matters of safety and security. All staff deployed to conduct surveys will hold a current CSCS card and will include at least one person qualified in Emergency First Aid (One day course).

We have included for the provision of mobile working platforms and adjustable safety platforms to gain access to the high level elements to be inspected. Our personnel are trained in the correct use of podium steps/platforms and ladders for surveying purposes and all platforms will be erected and signed off by PASMA trained operatives.

The quotation below is based on the assumption that all site survey works are carried out during the same mobilisation period during normal weekday working hours. We have assumed continuous access to the site will be made available between 07:30 – 17:30 hours Mon-Fri with no restrictions, including on noisy works.

We have assumed that parking for our site vans, welfare, power and lighting will be provided on-site, free of charge for the duration of the survey works.

The survey crew will wear appropriate PPE, including high visibility clothing, safety footwear, hard hats and any other safety equipment as required at all times. We have allowed for a site safety induction of a maximum of 0.5 hour immediately prior to the first survey session.

All GBG staff attending on site will endeavour to carry out their duties in a manner which does not pose a threat to the health and safety of themselves or any other individual accompanying them, under their supervision, or in their immediate proximity. Note that GBG reserve the right to cancel a survey and leave the site if in the opinion of the GBG representative, the site poses a hazard to the survey team's safety and/or health. In such circumstances, the Client will be notified at the earliest possible opportunity.

We are able to provide a copy of GBG's Health & Safety and Environmental Policy. A detailed Method Statement and Risk Assessment will be available following receipt of a confirmed order for these works.

Reporting

Our report will seek to address those features of the topics identified above which are of engineering interest or relevance, through the provision of drawings in plan, section and elevation, schedule of defects as well as photographs all accompanied by a written report.

Any plans, sections and elevations will be plotted on colour AutoCAD 2016 drawings (generated on plans and elevations to be provided by the Client electronically in advance of the surveys). Our report will be issued electronically.

Progress

Working in the manner outlined above, we estimate that, using a site team of three – five staff, sufficient initial data will be collected through c25No shifts of site surveying: analysis of the data and preparation of a final report will require a further 12-15 working days. Preliminary results may be available sooner upon request.

Costs

We are pleased to offer the investigations as described above as follows:

Item 1: Roof Truss Survey:	£7,225.00 plus VAT
Item 2: Embedded Truss Ends Survey	£7,490.00 plus VAT
Item 3: Column Inspections	£18,030.00 plus VAT
Item 4: Pre-cast Slab/Roof Plank Inspections	£7,675.00 plus VAT
Item 5: Ground Bearing Slabs	£9,103.00 plus VAT
Item 6: Wall & Slab Moisture Investigations	£5,630.00 plus VAT
Item 7: Encased Steel Beams	£9,530.00 plus VAT
Item 8: RC Elements	£5,565.00 plus VAT
Item 9: Brick Walls	£3,715.00 plus VAT
Item 10: Foundation Detailing	£16,037.00 plus VAT
Item 11: Rainwater Goods	£2,305.00 plus VAT
Item 12: CCTV Survey Scoping	£2,250.00 plus VAT
Item 13: Corrosion Management Consultancy	£4,200.00 plus VAT
<u>Estimated Total</u>	<u>£98,755.00 plus VAT</u>

The costs assume that all survey items are covered under a single instruction.

All of the costs above include for all necessary site personnel, travel and equipment costs plus all analysis and reporting of data/information and laboratory testing of samples thereafter.

For reference we attach schedules of rates to give a break-down of the costs for budgetary purposes: note that we may alter staffing and times at our discretion to suit the requirements of the survey and the information recovered. We have allowed for attendance on site of a maximum of 7.5 hours per survey session and have assumed that the survey team members will attend a site safety induction of a maximum of 0.5 hour immediately prior to commencement of their first survey session. No attendance at any meetings, site inductions etc. (other than that indicated above) prior to, or following the site works has been allowed for: attendance at any such meetings would be charged at the rates given below.

We have allowed within the costs above for the production of a standard GBG site specific Risk Assessment and Method Statement and a simple schedule of works. Any additional documents/forms required for access onto site will be subject to additional charges which would be charged at the rates given below.

If a survey team arrives on site but is unable to gain access, or proceed with work for reasons beyond our control, but within the Client's, or if cancellation is made with less than 24 hours notice, charges for attendance for each member of staff, plus equipment costs, expenses and access costs will be made.

The above costs are based on normal daytime weekday working between 07.30-17.30 hours. If the works are to be conducted out of hours i.e. overnight or at the weekend, the following additional charges will apply for each survey team:

- Weekday overnight (Mon/Tue thru to Thu/Fri) £550
- Weekend daytime (Sat or Sun) £650
- Weekend overnight (Fri/Sat thru to Sun/Mon) £750

The above surcharges are for a two man team + VAT per survey session.

Any delays to the survey works caused by restrictions in access to the areas which require investigations that necessitate additional visits to site, above the number of days allowed for in this quotation, will be charged according to the rates given below.

Claims for payment including VAT at the appropriate rate will be presented to **Barratt London** on completion of the site works for payment strictly within 28 days, with nil retention.

Our typical lead in time to mobilise for site works for a survey of this nature is around 2-3 weeks from receipt of written Purchase Order, however this lead in time is constantly changing - please do phone Jon Dear on 01923 678800 to secure our next available site team.

Yours sincerely,

David

David Wilson

For and on behalf of GBG Structural Services

SCHEDULE OF RATES –Nestle Canteen Building, Hayes
Proposal for Site Investigations and Appraisal of Existing Structure

Item 1: Canteen Main Hall Roof Truss Condition Survey

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.1	97.5
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	2	860
	Surveyor	400	1	400
	Technician (IPAF)	375	3	1125
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	2.5	1075
	Surveyor	400	1	400
	Technician	375	1	375
	ACAD	340	3	1020
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Callipers, wire brushes, camera	85	2	170
	Laser Scanner	225	1	225
	Report	75	Item	75
		SURVEY	TOTAL	£ 6317.5
	Travel per mile	0.85	150	127.5
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	MEWP + delivery/collection	240	3	720
	Two man Trial Pitting Team	850	0	0
TOTAL :				£7225.00

SCHEDULE OF RATES –Nestle Canteen Building, Hayes
Proposal for Site Investigations and Appraisal of Existing Structure

Item 2 Embedded Truss End Connections

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.1	97.5
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	3	1290
	Technician	375	3	1125
	Technician/Coreman	375	3	1125
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	1.5	645
	Technician	375	1	375
	ACAD	340	2	680
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Masonry saw, breakers, hand tools, wire brushes and repair materials	225	3	675
Laboratory	n/a	0	0	0
	Report	75	Item	75
		SURVEY	TOTAL	£ 6582.5
	Travel per mile	0.85	150	127.5
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	120	0	0
	MEWP + delivery/collection	240	3	720
TOTAL :				£7490.00

SCHEDULE OF RATES –Nestle Canteen Building, Hayes
Proposal for Site Investigations and Appraisal of Existing Structure

Item 3 Column Inspections

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.2	195
Supervision	Project Manager	495	1	495
Onsite Survey	Lead Investigation Engineer	430	8	3440
	Technician	375	8	3000
	Technician/Coreman	375	8	3000
Analysis & Reporting	Project Manager	495	1	495
	Lead Investigation Engineer	430	4	1720
	Technician	375	2	750
	ACAD	340	5	1700
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Radar, covermeter, masonry saw, breakers, hand tools, wire brushes and repair materials	225	8	1800
Laboratory	Tensile strength @£120	120	4	480
	Report	75	Item	75
		SURVEY	TOTAL	£ 17150
	Travel per mile	0.85	400	340
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	8	480
	MEWP + delivery/collection	240	0	0
TOTAL :				£18030.00

SCHEDULE OF RATES –Nestle Canteen Building, Hayes
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Item 4 Pre-cast Slab & Roof Plank Inspections

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.2	195
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	3	1290
	Technician	375	3	1125
	Technician/Coreman	375	3	1125
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	2.25	967.5
	Technician	375	1	375
	ACAD	340	2	680
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Radar, covermeter, masonry saw, breakers, hand tools, wire brushes and repair materials	225	3	675
Laboratory	Chloride @£15 x 15 + HAC @ £16 x 5	305	1	305
	Report	75	Item	75
		SURVEY	TOTAL	£ 7307.5
	Travel per mile	0.85	150	127.5
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	3	180
	MEWP + delivery/collection	240	0	0
TOTAL :				£7675.00

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Item 5 Ground Bearing Slab

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.25	243.75
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	3	1290
	Technician	375	3	1125
	Technician/Coreman	375	3	1125
Analysis & Reporting	Project Manager	495	1	495
	Engineer	465	3	1395
	Lead Investigation Engineer	430	1.5	645
	Technician	375	1	375
	ACAD	340	2	680
	Weekend premium per 3 man team	975-1125	0	0
Equipment charges	Radar, covermeter, DCP breakers, hand tools, wire brushes and repair materials	275	3	825
Laboratory	Compressive strength @£130	130	3	390
	Report	75	Item	75
		SURVEY	TOTAL	£ 8911.25
	Travel per mile	0.85	155	131.75
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	0	0
	MEWP + delivery/collection	240	0	0
TOTAL :				£9103.00

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Item 6 Wall & Slab Moisture Investigations

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.2	195
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	2	860
	Technician	375	2	750
	Technician/Coreman	375	0	0
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	2	860
	Technician	375	2	750
	ACAD	340	2	680
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Thermographic moisture meter Camera,	350	2	700
Laboratory	n/a	0	0	0
	Report	75	Item	75
		SURVEY	TOTAL	£ 5365
	Travel per mile	0.85	100	85
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	2	120
	MEWP + delivery/collection	240	0	0
TOTAL :				£5630.00

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Item 7 Encased Steel Beams

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.2	195
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	4	1720
	Technician	375	4	1500
	Technician/Coreman	375	4	1500
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	2	860
	Technician	375	2	750
	ACAD	340	3	1020
	Weekend premium per 3 man team	975-1125	0	0
Equipment charges	Radar, covermeter, masonry saw, breakers, hand tools, wire brushes and repair materials	225	3	675
Laboratory	Chloride @£15	15	18	270
	Report	75	Item	75
		SURVEY	TOTAL	£ 9060
	Travel per mile	0.85	200	170
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	4	240
	MEWP + delivery/collection	240	0	0
TOTAL :				£9530.00

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Item 8 Additional RC Elements

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.2	195
Supervision	Project Manager	495	0.5	247.5
Onsite Survey	Lead Investigation Engineer	430	2	860
	Technician	375	2	750
	Technician/Coreman	375	2	750
Analysis & Reporting	Project Manager	495	0.5	247.5
	Lead Investigation Engineer	430	2	860
	Technician	375	1	375
	ACAD	340	1	340
	Weekend premium per 3 man team	975-1125	0	0
Equipment charges	Radar, covermeter, masonry saw, breakers, hand tools, wire brushes and repair materials	225	2	450
Laboratory	Chloride @£15	15	10	150
	Report	75	Item	75
		SURVEY	TOTAL	£ 5300
	Travel per mile	0.85	100	85
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	2	120
	MEWP + delivery/collection	240	0	0
TOTAL :				£5565.00

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Item 9 Brick Walls

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.1	97.5
Supervision	Project Manager	495	0.25	123.75
Onsite Survey	Lead Investigation Engineer	430	1	430
	Technician	375	1	375
	Technician/Coreman	375	1	375
Analysis & Reporting	Project Manager	495	0.25	123.75
	Lead Investigation Engineer	430	2	860
	Technician	375	0.5	187.5
	ACAD	340	2	680
	Weekend premium per 3 man team	975-1125	0	0
Equipment charges	Radar, covermeter, masonry saw, breakers, hand tools, wire brushes and repair materials	225	1	225
Laboratory	n/a	0	0	0
	Report	75	Item	75
		SURVEY	TOTAL	£ 3552.5
	Travel per mile	0.85	50	42.5
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	1	60
	MEWP + delivery/collection	240	0	0
TOTAL :				£3715.00

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Item 10: Foundation Inspection Survey

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.1	97.5
Supervision	Project Manager	495	0.25	123.75
Onsite Survey	Lead Investigation Engineer	430	5	2150
	Technician	375	0	0
	Technician (IPAF)	375	0	0
Analysis & Reporting	Project Manager	495	0.25	123.75
	Lead Investigation Engineer	430	3	1290
	Investigation Engineer	400	0	0
	Technician	375	1	375
	ACAD	340	3	1020
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Included below	0	0	0
Laboratory	Sulphates @£35 x 5 + Cement content @ £110 x 5 + Compressive strength @ £130 x 5	1375	1	1375
	Report	75	Item	75
		SURVEY	TOTAL	£ 6630
	Travel per mile	0.85	320	272
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Mini digger + driver + transport	525	3	1575
	Two man Trial Pitting Team	750	10	7500
TOTAL :				£16037.00

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Item 11 Rainwater Goods Gutters and Downpipes

Item	Detail	Rate/day £	No.	Sum
Consultancy	Principal/Consultants	1400	0	0
Quality Control	Project Director/Chartered Engineer	975	0.1	97.5
Supervision	Project Manager	495	0.25	123.75
Onsite Survey	Lead Investigation Engineer	430	1	430
	Technician	375	1	375
	Technician/Coreman	375	0	0
Analysis & Reporting	Project Manager	495	0.25	123.75
	Lead Investigation Engineer	430	0.75	322.5
	Technician	375	0	0
	ACAD	340	1	340
	Weekend premium per 2 man team	650-750	0	0
Equipment charges	Camera, EDM	75	1	75
Laboratory	n/a	0	0	0
	Report	75	Item	75
		SURVEY	TOTAL	£ 1962.5
	Travel per mile	0.85	50	42.5
	Congestion & LEZ	25	0	0
	Subsistence, Hotels/ p/d	98	0	0
	Mobilisation	300	0.2	60
	Access Tower & podium steps	60	0	0
	MEWP + delivery/collection	240	1	240
TOTAL :				£2305.00