



Nestle Former Canteen Building, Hayes

Report on the Investigation of a Two Storey Steel Framed Former Canteen Building

Final Report - 4689

BDW Trading Limited

PROJECT: Nestle Former Canteen Building, Hayes

TITLE: Report on the Investigation of a Two Storey Steel Framed Former Canteen Building

CLIENT: BDW Trading Limited

Report No: 4689

Compiled By: Y Wickins BSc (Hons)

Reviewed By: J Dear BEng (Hons)

Issued on: 7th October 2020

TABLE OF CONTENTS

1.0	INTRODUCTION	2
1.1.	Terms of Reference	2
1.2.	General	2
1.3.	Background	2
1.4.	Purpose of Investigation	4
2.0	THE SURVEY	9
2.1.	General	9
2.2.	Methodology	9
2.3.	Access, Areas Surveyed and Site Relocation	13
3.0	FINDINGS	15
3.1.	Presentation of Results	15
3.2.	Structure	16
3.3.	Condition	18
3.4.	Material Sampling and Testing	22
3.5.	Recommendations	31

Appendices

Appendix 1	Drawings (including photographs)
Appendix 2	Sample Descriptions and Photographs
Appendix 3	Site and Laboratory Test Results Summary
Appendix 4	DCP Test Results Graphs

Report on the Investigation of a Two Storey Steel Framed Former Canteen Building

1.0 INTRODUCTION

1.1. Terms of Reference

Purpose: To determine certain structural details and material properties as required by the Client's Design Team

Location: North Hyde Gardens, Hayes, UB3 4RF

Consultants: GB Geotechnics Ltd (GBG)

Instructed by: BDW Trading Limited

Date of Instruction: 10th March 2020

1.2. General

This report is the final report of this investigation. It therefore supersedes any previous reports whether written or oral, and completes all work currently ordered under this contract.

1.3. Background

The Main Factory on the Nestle site was originally built in the 1930's, and has been used throughout its history as an industrial building. The former Canteen building comprises a large open single storey double height central Main Hall area, a double storey Wraparound adjoining the southern and western sides and a single storey Locker Room adjoining the northern end. A single storey Wraparound is present on the eastern side of the Main Hall, although this is also referred to as the Colonnade.

The Main Hall area is generally formed of brickwork masonry encased steel columns and a steel trussed roof spanning approximately 25.5m. The Wraparound is generally formed of brickwork masonry encased steel columns, with concrete encased steel beams supporting pre-cast reinforced concrete floor/roof planks. The columns and walls are generally founded on concrete pad or strip foundations.



Aerial view of the former canteen building showing the northern elevation and various portions of the building

A suite of previous investigative works have been carried out by various parties in order to ascertain the condition of the former Canteen Building, as well as certain construction details. GBG carried out some initial inspections and exploratory work to the former Canteen building in 2016, on behalf of the Client's Design Team, with the findings of this survey presented in full within GBG Report 4097 RevA.

Previous Condition Survey Reports

- o W1530 CS001 Condition Survey - Canteen Building
- o Elliott Wood's Nestle FINAL Structural Survey
- o 0000-S-Z-M-800-00-S101 T2 DEMOLITION STRATEGY
- o GBG Report 4097 RevA

A suite of investigation works was initially provided by Gravity Consulting Engineers to provide information on the form and condition of the steel columns, beams, roof trusses, concrete slabs and walls forming the former Canteen building. The scope also included for providing an outline set of “*recommendations for future preventative measures to attain a 60-year design life*”.

A reduced survey scope was subsequently instructed by BDW Trading Limited, with any recommendations for further investigation to be included as part of the investigation report. Note that the Locker Room is due to be demolished and was omitted from the scope.

1.4. Purpose of Investigation

The purpose of the investigation was to determine certain structural details and material properties as required by the Client’s Design Team.

The final scope of the investigation agreed, as detailed in GBG proposal document *yw0120GCE Nestle Canteen 108 P02*, is summarised below.

Roof Truss Condition

- o Visual survey and inspection of 3No. exposed truss members.

- o Carrying out a laser survey of 2No. roof trusses to enable the consistency in layout and dimensions to be checked, prior to compiling a generic roof truss dimensional drawing.

- o Extracting 6No. representative paint samples for laboratory testing to determine the lead content of the paint.

Embedded Truss End Connections

- Roof truss end connections to columns or beams, embedded within brickwork – removing brickwork where necessary, exposing 6No. truss ends, recording corrosion levels, loss of section, tightness of connection and any components requiring strengthening or replacement.

Column Inspections

- Inspecting columns encased within brickwork to the Main Hall, Wraparound and Colonnade by localised exposure (18 No. in total). Recording the condition of the steelwork, with any loss of section measured. Selecting columns which are visually assessed as having defects and/or are exposed to long term moisture ingress, plus a number of columns in apparently good areas for comparison.
- Extracting 2No. steel samples from the column webs for laboratory testing to determine the tensile strength of the steel.

Pre-cast Concrete Slab/Roof Planks

- Undertaking targeted intrusive works at 9No. locations in order to investigate the cracks to the soffits of the slabs and to expose areas of the reinforcement in the soffit of the slabs to record the steel reinforcement type, size and condition.
- Recording the depth of cover and carbonation at each location, as well as extracting concrete dust samples from each location for laboratory testing to determine the chloride content of the concretes as well as the presence or otherwise of High-alumina cement (HAC).

Ground Bearing Slabs

- o Ground bearing slabs to the Main Hall, Colonnade and Wraparound – undertaking a visual survey of accessible areas of the top surface of all ground floor slabs.
- o Extracting 3No. 100mm diameter concrete core samples from the ground floor slabs for compressive strength and density testing and carrying out DCP (Dynamic Cone Penetrometer) testing of the sub-base/soil at each core location to provide an indication of the soil bearing capacity.

Wall and Slab Moisture Investigations

- o Undertaking intrusive works to confirm if a DPC (damp proof course) has been incorporated in the masonry walls at 6No sites.
- o Using thermography to undertake a reconnaissance level survey, 2-3No areas within the Main Hall, Colonnade and Wraparound, in order 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 with incremental moisture meter readings/profiles.

Encased Steel Beams

- o Conducting a visual condition survey of the downstand beams within the Wraparound and Colonnade prior to selecting 18No. locations where the beams can be locally exposed to record the steel condition. Beams selected were to include areas where the encasement exhibits defects/signs of water ingress as well as apparently sound areas for comparison.

- o Establishing the cover and carbonation depth at representative locations as well as extracting 9No. concrete dust samples from the beam encasements for laboratory testing to determine the chloride content of the concretes.
- o Extracting 2No. steel samples from the beam flanges for laboratory testing to determine the tensile strength of the steel.

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

- o Inspecting reinforced concrete elements (wall sections, window surrounds, edge beams and any other components) to identify cracking, spalling, and/or exposed corroding reinforcement.
- o Carrying out insitu and laboratory testing of the concrete to determine durability, establishing cover to reinforcement, chloride content and depth of carbonation (2No. edge beams, 2No. window surrounds and 1No. set of stairs).

Brick Walls

- o Brick wall sections with rendered finish exhibiting cracking, spalling or other defects; carrying out visual and intrusive surveys to determine and record locations of defects and whether defects propagate through the brickwork or are confined to the render finish (surveying 5No. locations in 'bad' condition and 3No. locations in 'good' condition).
- o Extracting 2No. mortar samples for establishing the probable mortar mix-proportions, and where cement based, the equivalent mortar grade.

Foundation Inspections

- o Trial pitting (7No. locations in total) at column and wall locations to the Main Hall, Colonnade (where previous investigations have revealed inadequate foundations) and Wraparound. Upon exposure of foundations, measuring the dimensions of the pad/strip footing and steel column base plates embedded in the footing concrete.

2.0 THE SURVEY

2.1. General

Survey Dates: 3rd & 4th, 6th & 7th, 10th to 14th, 17th to 21st and 28th
August 2020 – 15No. daytime survey sessions (15 x
c.7.5 hours duration)

Personnel: 2-6 person survey team

2.2. Methodology

The main site investigative techniques used were physical measurement, ultrasonic measurement, impulse radar surveying, covermeter surveying, thermography and moisture content testing, accompanied by intrusive breakouts/exposures, trial pit excavation, concrete core sampling, concrete dust sampling, carbonation testing, mortar lump sampling, steel sampling, paint sampling and dynamic cone penetrometer (DCP) testing, enabling both on site interpretation as well as more detailed analysis of the survey data and laboratory test results off site.

Physical/Direct Measurement

Steel, masonry and concrete element sizes, connection details and element spacing's were measured using a combination of tape measures, laser distance measurers and Vernier callipers.

Ultrasonic Measurement

An ultrasonic thickness gauge was used to estimate the thickness of steel components where direct measurement was not possible, such as the webs of the columns and beams, certain flange plates and truss components.

Impulse Radar Surveys

Used primarily for establishing the near surface reinforcement arrangement in selected pre-cast concrete planks/in-situ concrete slabs, along with certain construction details; the data was collected from a series of profiles set typically at varying centres to suite the survey, using a transducer with an in-built centre frequency of 1.5/1.6GHz. Recovered signals were viewed on-site and recorded digitally, allowing more detailed analysis of the data off site if required. The surveying and recording equipment is hand held with the transducer placed on the surface of the element and drawn along each profile by hand.

Calibration (Radar)

Our quality standard calls wherever possible for a calibration of wave velocities in the surveyed materials on site: otherwise less reliable comparative methods with other materials surveyed elsewhere must be used. These are probably accurate to about $\pm 5-8\%$, excluding the effects of varying moisture and variations in compaction.

Covermeter Surveys

Covermeters were primarily used to establish the near surface reinforcement layout within pre-cast concrete planks and to estimate the localised minimum depth of concrete cover to the embedded steel.

Accuracy

The techniques used to locate reinforcement/embedded steel and to estimate the depth of cover to the reinforcement/embedded steel are non-destructive, calibrated to the manufacturer's instructions.

The positions of the steel reinforcement shown/stated can be considered accurate to $\pm 30\text{mm}$ (in the plane of the surveyed surface) where located non-destructively. The depths of cover are considered accurate to $\pm 10\text{mm}$ where located/estimated non-destructively.

Thermography and Moisture Content Testing

Representative wall areas were selected to measure their respective moisture contents using a protimeter and the surface temperatures using a thermal imaging camera.

Traditional Intrusive Inspections (Breakouts/Exposures)

Traditional intrusive inspection techniques were employed to expose the embedded steel bars or sections for inspection, sizing and sampling and for localised removal of finishes, as well as for establishing the profile of certain elements. This was generally achieved using a combination of hand tools and/or 110V light breakers. Pilot holes were drilled using a 110V percussion drills.

Trial Pitting

Trial pits were excavated using a mini digger, 110V electrical breakers and hand tools.

Concrete Coring

Samples of concrete were extracted from the ground floor slab in the form of 100mm diameter cores for laboratory testing and/or inspection. The samples were extracted using a diamond tipped barrel on an 110V drilling rig with water as a coolant flush. Prior to coring the near surface reinforcement was located with impulse radar or a covermeter, as described above, so that it could be avoided where possible.

Concrete Dust Sampling

Samples of the concrete were extracted from the various reinforced concrete elements or concrete encasement to steel frame elements as dust for laboratory testing. The samples were extracted using a battery or 110V powered rotary-percussion drill. At each sample location the outer 5mm of concrete was discarded to avoid surface contaminations. The samples were generally retained from a depth of 5-30mm from the surface of the concrete.

Carbonation Testing

The depth of carbonation was estimated at representative locations by spraying a freshly fractured surface of the concrete with a phenolphthalein indicator solution using the methodology described in BRE Information Sheet IP6/81.

Mortar Lump Sampling

Samples for the mortar to walls or column encasements were retained as lumps, removed using hand tools

Steel Sampling

Samples were extracted from steel frame elements (c.150mm long x 25mm wide) for laboratory examination and testing. The samples were cut using a hand held electrical 110V angle grinder fitted with a steel cutting blade or a high speed drill fitted with a hole saw. Column samples were taken from the webs and beam samples were extracted from the flanges at locations agreed in advance with the Client's Design Team.

Paint Sampling

Paint samples were removed from representative truss elements using hand tools.

Dynamic cone Penetrometer (DCP)

DCP testing was carried out on the sub-base/soil beneath the slab at each of the three internal ground slab/core sample locations. A DCP with a 16mm diameter rod and 20mm diameter 60° cone, tapered at one end, was used. A drop weight, weighing approximately 8Kg was dropped through a standard height of 575mm to drive the cone into the ground.

The rate of penetration through the soil was recorded at each of the test locations and was used to calculate equivalent Standard Penetration Test (SPT) 'N' values at varying depths below the slab. The 'N' values were used to estimate the allowable bearing capacity of the soil.

Reinstatement

The intrusive breakouts and sample holes to the concrete were reinstated with a proprietary cementitious repair mortar, such as Weber Multifix HB40. Similarly, encasements to columns were reinstated. Steel beams were coated with an intumescent paint to provide temporary fire and corrosion protection.

Truss ends partially exposed during the investigation were not reinstated to assist with any structural repairs required.

The trial pits were backfilled and compacted as proposed, with the internal slab reinstated at two locations with a c.100mm thick concrete layer, using a pre-batched bagged concrete (although not part of the scope).

We specifically excluded reinstatement of steel samples and any decorative finishes and/or screed layers.

2.3. Access, Areas Surveyed and Site Relocation

Access to the building was arranged through the Client (Barrat London) and was generally available throughout the building, however, no trial pit access was available to the Colonnade areas due to the presence of a site walkway system. Due to a prolonged site induction process our trial pit team allowance was halved, and therefore we completed three out of the proposed seven trial pits planned.

Due to the very high levels of flaking paint to the walls, slabs and beams, it was advised by GBG that it would be essential that the floor 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 building. However, such enabling works were not carried out, and hence, we were not able to carry out a full visual survey of the concrete, masonry and screed surfaces.

High level truss elements in the Main Hall were accessed via a mobile elevated working platform (MEWP) provided by the Client. High level beams and slab soffits within the Wraparound were accessed via mobile podium steps provided by GBG.

All results are referenced to the layouts provided to GBG by the Client and reproduced on the attached survey drawings.

3.0 FINDINGS

3.1. Presentation of Results

The findings of the construction detailing and inspections carried out during this investigation are presented in full on the survey drawings within Appendix 1, as outlined in the table below, and the findings are summarised under the headings **3.2 Structure**, **3.3 Condition** and **3.4 Material Sampling and Testing**. The material sample and test locations and a selection of photographs of interest are presented on the same drawings to help illustrate the findings of the survey.

Survey Drawing Subjects	Drawing References
FOUNDATION CONSTRUCTION DETAILS	4689-TP1 to 3
DETAILS OF GROUND FLOOR SLAB CONSTRUCTION	4689-G1 to 2
DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION	4689-C1 to 7
DETAILS OF 1ST FLOOR TRANSFER BEAM CONSTRUCTION	4689-TB1 to 4
DETAILS OF ROOF BEAM CONSTRUCTION	4689-RB1 to 4
DETAILS OF ROOF TRUSS CONSTRUCTION	4689-T1 to 6
DETAILS OF ROOF TRUSS CONNECTIONS	4689-TR1 to 8
DETAILS OF 1ST FLOOR SLAB CONSTRUCTION	4689-FS1 to 6
DETAILS OF ROOF SLAB CONSTRUCTION	4689-RS1 to 4
DETAILS OF 1ST FLOOR STAIR CORE CONSTRUCTION	4689-SC1
DETAILS OF GROUND FLOOR WALL DAMP PROOF COURSE (DPC) AND CRACK SURVEYS	4689-W1 to 2
DETAILS OF DAMP SURVEYS TO GROUND FLOOR WALLS	4689-TS1 to 2
DETAILS OF DEFECT OBSERVATIONS IN VICINITY OF SURVEY AREAS	4689-V1 to 2
LOCATIONS OF SAMPLES	4689-S1

The results of the material sampling and testing are discussed below under the heading **3.4 Material Sampling and Testing**. A selection of sample descriptions and photographs are presented in A2.1 to 2.12 of Appendix 2, the site and laboratory test results are presented in A3.1 to 3.4 of Appendix 3 and the DCP test results graphs are presented in A4.1 to A4.3 of Appendix 4.

3.2. Structure

The focus of the survey was to assess the condition of the structure forming the former Canteen building, however, as a matter of course, the construction details exposed/visible at the survey locations were recorded and are presented in full on the survey drawings in Appendix 1, as outlined previously in the table under heading **3.1 Presentation of Results**. A summary of the building structures is discussed below.

Ground Slabs

The ground floor slabs surveyed within the Main Hall and Wraparound were found to comprise a 197-210mm thick concrete ground bearing slabs, reinforced with a mesh. The slabs were overlain with a granolithic screed of varying thickness. A polythene damp proof membrane was observed to the underside of the slab at two of the three ground slab survey areas (GS1 and GS2). At the remaining survey area (GS3) a membrane was observed to the underside of the slab at core location C3, however, no membrane was encountered at core location C4.

Columns

The columns investigated within the Main Hall and Wraparound generally comprised of rolled steel sections (tapered flanges) encased in brickwork masonry, but in some instances with only mortar/rubble infill around the steel sections. In some instances to the Wraparound (particularly the Colonnade), the central portion of the masonry encasement around the steel sections was voided.

Foundations

The foundations investigated to the Main Hall columns were found to comprise of concrete pad foundations. The steel column sections were found to bear onto steel base plates where investigated, which are bolted to the concrete foundation.

The lower portion of the column sections are restrained to the base plates via angles bolted to the column flanges and base plate/foundation. The lower portions of the columns (below ground level) and base plates are encased in concrete where surveyed.

Concrete pad foundations were also generally found during the 2016 investigations to the Wraparound columns. A trial pit to a perimeter column forming the Colonnade in 2016 found a block of mass concrete existed below the column, which was presumed to be the foundation, however the foundation measured just 200 x 250mm on plan, which is smaller than the size of the column encasement. No access was available for trial pits works within the Colonnade during these investigations due to the presence of a site walkway system.

Beams

The beams investigated at both first floor and roof level within the Main Hall and Wraparound generally comprised of rolled steel sections (tapered flanges) encased in concrete.

Steel Roof Trusses

The steel trusses forming the Main Hall roof were found to span East to West, typically between steel columns embedded with brickwork masonry walls/piers or steel transfer beams, which in turn span between the steel columns.

Suspended Floor and Roof Slabs

The suspended first floor and roof slabs investigated within the Main Hall and Wraparound were found to comprise of hollow pre-cast reinforced concrete planks spanning between the beams. The planks were typically 300mm wide but varied in overall concrete thickness between 90mm and 165mm. The planks are reinforced with plain round steel bars i.e. are not pre-stressed.

The first floor and roof slabs are typically overlain with a screed finish of varying thickness, although the waterproofing detail over the screed to the roof slabs was not surveyed as part of this investigation.

Stair Cores

A single stair core landing was investigated within the north-western corner of the Wraparound and the landing slab was found to be of reinforced concrete construction.

Walls

The internal brickwork masonry walls were investigated at low level (up to 500mm above ground f.f.l.) in six representative locations within the Wraparound and northern end of the Main Hall, in order to locate the presence or otherwise of a damp proof course at low level. A damp proof course was observed at only two out of the six low level survey locations.

3.3. Condition

The reinforced concrete floor plank soffits and window sill/lintel elements, concrete encasement to the steel beams, masonry encasement to the steel columns and masonry walls have a render/plaster and/or paint finish, with the paint frequently exhibiting cracking and flaking. The screed finish to the floor slab decks is partially visible, although areas of parquet flooring and rubble obscure areas of the screed finish. A full visual inspection of the concrete, masonry and screed surfaces was therefore not possible as part of this investigation.

Defect observations in the vicinity of our survey areas are shown on Drawings 4689-V1 and V2 and/or the drawings presenting the various element construction details, as outlined previously in the table under heading **3.1 Presentation of Results**. Comments on the condition of the elements exposed/visible and photographs of interest are presented on the same drawings.

Ground Slabs

The visible screed surfaces (typically granolithic screed) to the ground floor slabs within the Main Hall were generally observed to be in reasonable condition. Localised cracking was however, observed to the screed surfaces within the Wraparound.

The most prominent cracking was observed to the screed within the south-eastern corner of the building (Wraparound) at ground floor Survey Area GS3 (refer to Drawing 4689-G2). A core sample (C3) was extracted through the slab at a crack location in GS3. The cracking was found to extend through the depth of the screed although the crack did not extend into concrete.

Columns

The brickwork masonry encased steel columns locally exposed within the Main Hall and Wraparound were generally observed to be in reasonable condition, typically displaying light surface corrosion, with occasional areas of moderate surface corrosion observed (refer to Drawings 4689-C1 to C7). The locations included areas with evidence of water ingress and cracking to finishes, along with apparently dry areas for comparison. There were no areas of significant section loss recorded at the survey locations. Similarly, the concrete encased steel column base plate partially exposed within trial pit TP1 in the Main Hall exhibited no more than light surface corrosion (refer to Drawing 4689-TP1).

Foundations

The surfaces of the concrete pad foundations investigated to the Main Hall were observed to be in good condition where locally exposed within trial pits TP1 to TP3 (refer to Drawing 4689-TP to 3). Note it was not possible to carry out any trial pits to the Colonnade columns due to the presence of the site walkway systems.

Beams

The concrete encased steel beams locally exposed within the Main Hall and Wraparound were generally observed to be in reasonable condition, typically displaying light surface corrosion, with occasional areas of moderate surface corrosion observed (refer to Drawings 4689-TB1 to 4 and RB1 to 4). The locations included areas with evidence of water ingress and surface cracking, along with apparently dry areas for comparison. There were no areas of significant section loss recorded at the survey locations.

Steel Roof Trusses

The internal elements forming three steel Main Hall roof trusses along Grid D, D and H were closely inspected (refer to Drawings 4689-T1 to T6) and the truss end connections were partially exposed for inspection at 5No. locations on the western side of the roof and 3No. locations on the eastern side of the roof (refer to Drawings 4689-TR1 to TR8).

At the western end bearing the trusses are typically fixed to the column flanges via bolted plates, whereas the eastern end of the trusses bear onto column head plates, without a vertical bolted connection (assumed roller connection).

The truss steelwork is generally in reasonable condition where surveyed, exhibiting light surface corrosion, with occasional areas of moderate surface corrosion observed, particularly to bolts/rivet heads where encased in masonry. The locations included areas with evidence of water ingress along with apparently dry areas for comparison. There were no areas of significant section loss recorded at the survey locations to the truss components, although repair/replacement of some bolts/rivets is likely to be required. There were also areas of missing bolts identified on the western end connections, which will require replacement unless justified by design check.

Suspended Floor and Roof Slabs

The reinforcement bars within the soffit of the pre-cast concrete floor planks were locally exposed at six locations at first floor level (refer to Drawing 4689-FS1 to FS6) and at five locations at roof level (refer to Drawing 4689-RS1 to RS4). The locations included areas with evidence of water ingress along with apparently dry areas for comparison.

The steel reinforcement was generally in visually good condition where exposed, displaying no more than light surface corrosion. The exception was at a single roof exposure location (cracked concrete) where the steel bar exhibited moderate to heavy surface corrosion.

Prominent linear cracks are evident to the slab soffit finishes, which generally were found to align with the plank edges and do not extend into the concrete planks, however, the soffits of the slabs are concealed by flaking paint and a full visual survey of the concrete soffits was therefore not possible as part of this investigation.

Stair Cores

A single stair core landing was investigated within the north-western corner of the Wraparound and the reinforced concrete landing slab soffit was found to be in visually reasonable condition. A single bar was exposed for inspection and found to exhibit only light surface corrosion (refer to Drawing 4689-SC1).

Walls

At a total of thirteen wall survey locations within the Wraparound and northern end of the Main Hall, localised removal of the cracked wall render found that the cracks did not extent into the brickwork. As discussed previously, at six locations the exposures were carried out at low level (up to 500mm above ground f.f.l.), in order to also locate the presence or otherwise of a damp proof course at low level. A damp proof course was observed at only two out of the six low level survey locations (refer to Drawings 4689-W1 and W2).

Thermal imaging and representative surface moisture meter testing was carried out at five of the locations and found that, at the time of the survey, cooler temperatures and elevated moisture contents were typically confined to the lower portions of the walls and to the masonry in-line with down-pipes (refer to Drawings 4689-TS1 and TS2).

3.4. Material Sampling and Testing

Sub-base/Soil Testing

Dynamic cone Penetrometer (DCP) testing was carried out at the base of the core holes within the ground floor slab at Survey Areas GS1 (Main Hall) and GS2 and GS3 (Wraparound). The survey areas are shown on Drawings 4689-G1 and G2. Survey Areas GS1 and 2 were at locations where there was no cracking visible to the screed finish, whilst GS3 was in a location where cracking was observed to the screed. The extent of the cracking to the screed local to GS3 is shown on Drawing 4689-G2.

The rate of penetration through the sub-base/soil was recorded and was used to estimate the equivalent Standard Penetration Test (SPT) 'N' values and allowable bearing capacity (kPa) at varying depths below the ground slab. The results are presented in full in graphical format on A4.1 to A4.3 of Appendix 4 and summarised below.

At Survey Areas GS1 and GS2 the estimated allowable bearing capacity immediately below the slab (250-400mm below f.f.l.) was in the order of 200kPa (assumed sub-base layer). The estimated allowable bearing capacity below this assumed sub-base layer was approximately 75-100kPa at GS1 down to the maximum depth of testing (2100mm below f.f.l.) and approximately 50-75kPa at GS2 down to the maximum depth of testing (1100mm below f.f.l.).

At Survey Area GS3 the estimated allowable bearing capacity of the sub-base soil was in the order of 30-50kPa from the underside of the slab down to the maximum depth of testing (1100mm below f.f.l.).

Concrete Sampling and Testing

A total of 4No. 100mm diameter (OD) concrete core samples were extracted from the ground floor slab (C1 from GS1, C2 from GS2 and C3 and C4 from GS3). The survey areas/core sample locations are shown on Drawings 4689-G1 and G2.

A total of 22No. dust samples were retained for laboratory testing from concrete foundations, pre-cast concrete planks and concrete encasement to steel beams. A further 4No. mortar/concrete lump samples were retained from steel column encasements. The sample references and locations are presented on Drawing 4689-S1.

High-Alumina Cement (HAC)

A total of 9 No. concrete dust samples (8 No. from various roof and first floor pre-cast concrete planks and 1No. from the concrete encasement to a steel beam) were selected for testing to determine the presence or otherwise of HAC in accordance with BRE IS 15/74.

The results of these tests are presented in full within A3.1 to A3.2 of Appendix 3 and summarised below.

None of the nine samples tested from the pre-cast concrete floor and roof planks or concrete encasement to a steel beam contained HAC and it is considered unlikely that HAC would have been used in the construction of similar elements elsewhere within the building.

Visual Appearance of Concrete Cores

All four concrete cores from the ground floor slab (C1 to C4) were initially inspected in the laboratory. The core sample descriptions and photographs are presented in A2.1 to A2.4 of Appendix 2 and summarised below.

All the concretes were similar in appearance, generally containing approximately 45-55% mixed flint-gravel as the coarse aggregate, which was sub-rounded to sub-angular and equant to elongate in shape, generally well graded and evenly distributed, with a maximum nominal size of 20mm. The cement paste within the core samples was light grey to grey in colour and generally of good compaction, with excess voidage judged at 0.5 to 1.5%. However, some slight honeycombing was evident towards the bottom of core C4.

Concrete Density and Compressive Strength

A total of 3No. core samples from the ground floor slab (C1 to C3) were tested to determine the density and compressive strength of the concretes in accordance with BS EN 12504-1: 2009.

The results of these tests are presented in full within A3.1 of Appendix 3 and summarised below.

The concrete density (saturated density) of the cores ranged between 2310 to 2320kg/m³, with an average of 2310kg/m³.

The concrete core compressive strengths of the samples ranged between 60.9 and 62.6MPa, with an average of 59.8MPa. The strengths achieved are indicative that a good quality structural concrete was used for the ground floor slabs at these test locations.

Cover and Carbonation

At 14No. representative dust sample/breakout locations (5No. to the pre-cast concrete planks and 9No. to the concrete encased steel beams), the localised minimum depth of cover to the reinforcement was physically measured and the corresponding depth of carbonation was estimated by spraying the freshly fractured surface of the concrete with a phenolphthalein indicator solution.

The results of these tests are presented in full within A3.1 to A3.2 of Appendix 3 and summarised in the tables below.

Element	Number of tests	Maximum (mm)	Minimum (mm)	Average (mm)
Pre-cast R.C. Planks	5	30	20	25
Concrete Encased Steel Beams	9	90	41	55

Summary of Concrete Cover Readings

Element	Number of tests	Maximum (mm)	Minimum (mm)	Average (mm)
Pre-cast R.C. Planks	5	15	5	7
Concrete Encased Steel Beams	9	90	15	34

Summary of Carbonation Readings

At the five test locations to the pre-cast concrete planks and at seven out of the nine test locations to the concrete encased steel beams the depth of carbonation had not reached the depth of cover to the steel and these elements have a good margin of un-carbonated concrete around the embedded steel reinforcement at the test locations. At the remaining two test locations to the concrete encased steel beams the depth of carbonation was very high and had exceeded the depth of cover to the steel. This is likely due to variations in the quality of compaction of the concrete encasement. Where the carbonation has exceeded the cover to the steel the alkaline protection normally afforded to the steel by the concrete has been lost, making the steel at these locations more susceptible to corrosion in the presence of sufficient moisture/water.

Chloride Content

A total of 22No. concrete dust samples/concrete or mortar lump samples from representative elements (10No. from pre-cast concrete planks, 8No. from concrete encasement to steel beams and 4No. from concrete/mortar encasement to steel columns), were tested to determine the chloride content of the concretes in accordance with B.S.1881:Part 124:2015.

The results of these tests are presented in full within A3.1 to A3.2 of Appendix 3 and summarised below. An assumed cement content of 14% was used to express the results by mass of cement.

The chloride contents of the twelve samples to the concrete/mortar encasement to steel beams and columns were all very low to low at 0.09% or less by mass of cement.

The chloride contents of the ten samples tested from the pre-cast concrete planks ranged between 0.05 and 0.58%, with an average of 0.25% by mass of cement. The chloride contents of the plank samples are variable and elevated in places, indicating contamination of the concrete on an inconstant basis, possibly due to the use of poorly washed marine aggregates or chloride containing admixtures at the time of casting. Given the variability in the chloride levels detected within the pre-cast concrete planks tested during this investigation, it should be expected that there are planks elsewhere that contain higher chloride contents than those identified during this investigation.

Residual Risk of Significant Reinforcement/Steel Element Corrosion

BRE Digest 444: Part 2: 2000 provides guidance on the risk of corrosion of embedded steel reinforcement in relation to carbonation (carbonated or uncarbonated), cast-in chloride content (% by mass of cement) and environment (damp or dry).

For a building of this approximate age Figure 4c of the Digest is most relevant and this is reproduced below/overleaf.

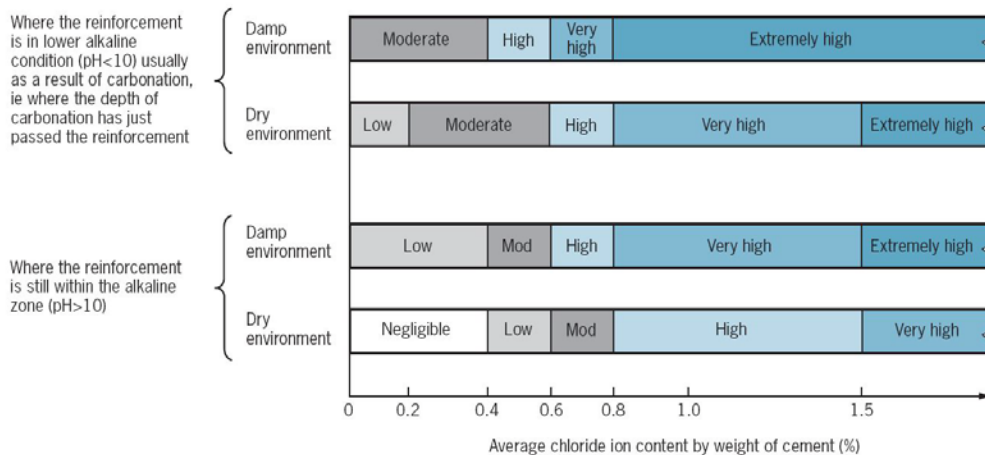
4c 60-year-old concrete structures (extrapolated data)

Figure 4 Estimated risk of steel reinforcement corrosion associated with carbonation, cast-in chloride content and environmental conditions

The residual risk of significant/extensive corrosion occurring to the concrete encased steel elements as a result of the effects of carbonation and/or chlorides should generally be considered to be low in the short to mid-term, providing the elements are kept in a dry environment. However, the risk of significant corrosion increases in any areas of water ingress, particularly where this coincides with areas where the carbonation front has reached or exceeded the depth of concrete cover to the embedded steel.

The residual risk of significant/extensive corrosion occurring to the reinforcement within the pre-cast concrete planks as a result of the effects of carbonation and/or chlorides should generally be considered to be low to moderate in the short to mid-term, providing the elements are kept in a dry environment. However, the risk of significant corrosion increases in any areas of water ingress and/or as the carbonation front reaches the steel reinforcement in the longer term.

Sulfate Content

A total of 3No. concrete dust samples, extracted from the foundations, were tested to determine the sulfate content of the concretes in accordance with BS B.S.1881:Part 124:2015.

The results of these tests are presented in full within A3.1 of Appendix 3 and summarised below. An assumed cement content of 14% was used to express the results by mass of cement.

The sulfate contents of the three foundation samples ranged between 1.97 and 2.29%, with an average of 2.11% by mass of cement.

The sulfate levels detected in these samples are in line with those expected from an Ordinary Portland Cement type concrete (typically 2-3%) and below the threshold of around 5% at which sulfate attack can occur in the presence of sufficient moisture/water. No signs of sulfate attack were observed to the concrete foundation surfaces exposed within the trial pits excavated.

Steel Sampling and Testing

A total of 4No. steel samples (SS1 to SS4) were extracted from representative steel beams and columns as follows:

- 2No. samples (SS1 and SS2) were extracted from steel column webs.
- 2No. samples (SS3 and SS4) were extracted from steel beam flanges.

The sample locations are presented on Drawing 4689-S1.

All four steel samples (SS1 to SS4) were tested to determine the yield stress and tensile strength of the steel in accordance with BS EN ISO 6892-1:2016 A224.

The determined yield stress and the maximum stress for each sample is tabulated in Figure A3.3 of Appendix 3 and summarised below.

The yield stress achieved by the steel beam and column samples ranged between 234MPa and 276MPa, with an average of 261MPa. The corresponding maximum stresses ranged between 412 to 460MPa, with an average of 442MPa. The yield stresses achieved are indicative of mild steel.

Mortar Sampling and Testing

A total of 2No. mortar samples (M4 and M5) were extracted from ground floor wall survey areas within the Wraparound. The sample locations are presented on Drawing 4689-S1.

Each of the two mortar samples were chemically analysed to determine the calcium and silica contents of the samples in accordance with BS 4551:2005+A2:2013. From these the probable mix proportions were determined, based on calculations using standard assumptions for the raw materials (sand, cementing medium). The results of the chemical analysis (mortar laboratory testing) are presented in full within A3.4 of Appendix 3 and discussed below.

Because the traditional method of gauging the materials for mortars has been by volume there is a fairly wide tolerance on any mix such that a given mortar may fit into two or even three grades of mortar.

Older mortars/renders and some modern ones, particularly when working on historic structures, normally contain lime and sand, sometimes with the addition of tile or brick dust or ash or other materials such as a pozzolan to give hydraulicity to accelerate the hardening of the mortar. The sand used may also contain lime, from limestone or marine shells.

Without samples of the original sand, or a petrographic examination, it is not possible to differentiate, using the standard tests, between cement and cement/lime binders. The classification into grades is loose with many of these mortar mixes falling into two grades.

The calcium oxide and soluble silica contents of samples M4 and M5, as determined by analysis, correspond to the following possible mortar mixes.

Sample M4

Mix Proportions

Equivalent Mortar Grade

(BS 5628-1:2005)

1:7 to 8 or 1:5 to 6 Cement: Sand**iv or iii**

1:1:5 to 6 Cement: Sand

iv or iii

Sample M5

Mix Proportions

Equivalent Mortar Grade

(BS 5628-1:2005)

1: 8 or 1:7 to 8 Cement: Sand**v or iv**

1:2:8 to 9 Cement: Sand

v or iv

Based on the chemical analysis, visual observations and experience of the laboratory, the most likely mix proportions and equivalent mortar grades are highlighted in bold above. Where the exact mortar mix proportions are required then petrographic examination of samples will be necessary to establish constituent materials, so that the mix proportion selection can be adjusted if necessary.

Paint Sampling and Testing

A total of 6No. paint samples (M1 to 3 and M6 to 8) were extracted from representative steel truss elements within the Main Hall. The sample locations are presented on Drawing 4689-S1. All six paint samples were tested to determine the cadmium and lead content of the paint. The results of the testing are presented in full within A3.3 of Appendix 3 and summarised below.

The cadmium content of the six samples was generally low at 0.3 mg/kg or less. The lead content of the six samples was variable ranging between 1000 and 17000 mg/kg, with an average content of 6200 mg/kg. The variability in the lead content is possibly attributable to differing paint layers to the trusses and/or the age of the structure. The lead in paint content is generally above the levels recommended by contemporary standards/guidance and therefore, suitable precautions should be followed during paint removal, in accordance with current HSE guidelines.

3.5. Recommendations

As a minimum, a suite of conventional concrete patch repairs (including suitable steel preparation) are required in order to address the localised defects currently visible to the pre-cast reinforced concrete plank soffits and reinforced concrete window sills/lintels. However, a full visual inspection of the concrete surfaces is required, once the finishes (including flaking paint) has been cleaned, in order to quantify the extent of any repairs. Hammer tap testing will need to be utilised to check for de-lamination. Similarly, some localised patch repairs are expected to be required to the beam, column and truss end encasements and wall areas with water damage, upon cleaning of finishes/flaking paintwork and subsequent inspection.

Any significantly corroded reinforcement or steel elements/fixings or missing truss bolts/fixings (expected to be very localised) will need to be strengthened or replaced unless justified by design check. The truss fixed end and assumed roller end connections will need to be justified by design check.

Ongoing repairs patch repairs should be expected as part of the building's maintenance plan, which is not untypical for a structure of this type and age. As to be expected with a building of this type and age, the level of repair intervention to the superstructure elements will likely increase with age as the depth of carbonation reaches the embedded steel reinforcement/steel elements in further locations, but maintaining the superstructure elements in a dry environment will reduce the level of future intervention.

The roof finishes and water ingress paths should be surveyed and repair/replacement carried out accordingly. This includes the apparent lack of a damp proof course incorporated into the majority of the internal masonry walls.

The application of an anti-carbonation coating to the exposed concrete elements will reduce the rate of carbonation and increase the durability of the structure, although it should be noted that manufacturers of such coatings normally advise re-application every c.10 years.

The exposed steel roof truss elements will require cleaning and the application of a protective coating. Lead in truss paint content was generally found to be above the levels recommended by contemporary standards/guidance and therefore, suitable precautions should be followed during paint removal, in accordance with current HSE guidelines.

The visible screed surfaces (typically granolithic screed) within the Wraparound exhibit localised cracking. The most prominent cracking was observed to the screed within the south-eastern corner of the building (Wraparound); at this location the sub-base/soil testing indicated the absence of a firmer sub-base layer, possibly leading to slab movement and the observed cracking of the screed. Although the cracking did not extend into the concrete, the apparent lack of a firmer sub-base indicates that ongoing movement may occur within these areas. Therefore consideration should be given to the nature of support provided to the ground floor slab within the Wraparound areas.

A trial pit to a perimeter column forming the Colonnade in 2016 found a block of mass concrete existed below the column, which was presumed to be the foundation, however the foundation provision was minimal. No access was available for trial pits works within the Colonnade during these investigations due to the presence of a site walkway system. Further investigation of the foundations to the Colonnade columns is recommended to assess the extent of the foundation provision, along with the condition of the steel columns and base plates at low level (below ground).

APPENDIX 1 DRAWINGS (INCLUDING PHOTOGRAPHS)

FIG.1: PLAN OF GROUND FLOOR SHOWING LOCATION OF TRIAL PIT NOT TO SCALE

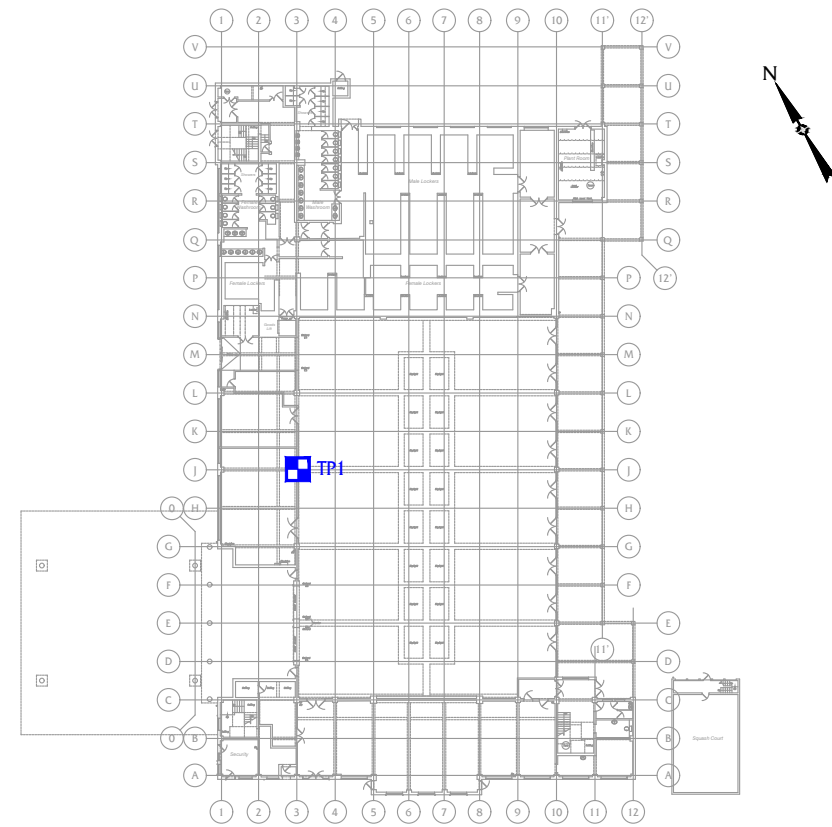


FIG.2: PART PLAN SHOWING DETAILS OF FOUNDATION AND COLUMN BASE PLATE AT TRIAL PIT TP1 SCALE 1:10

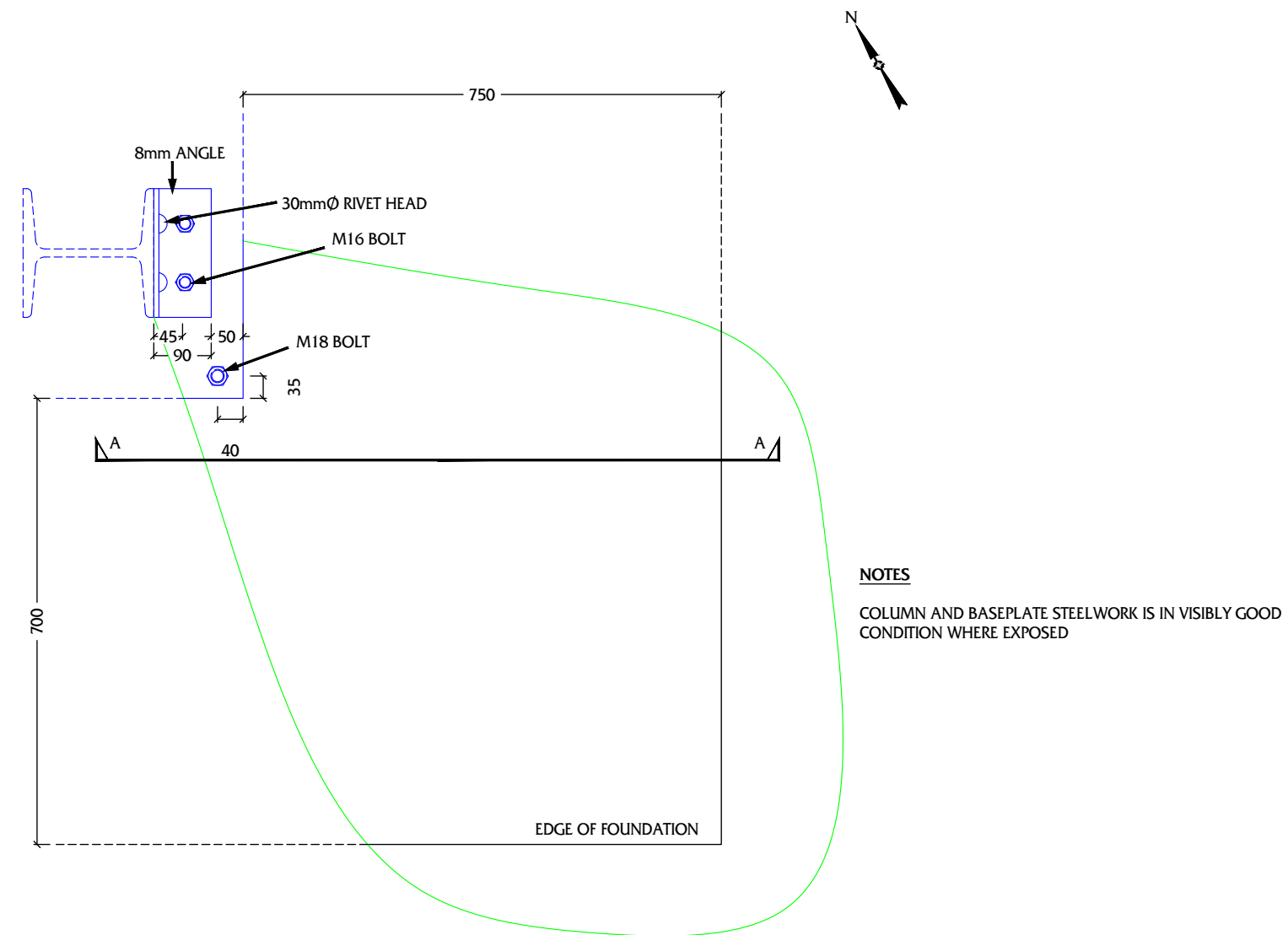
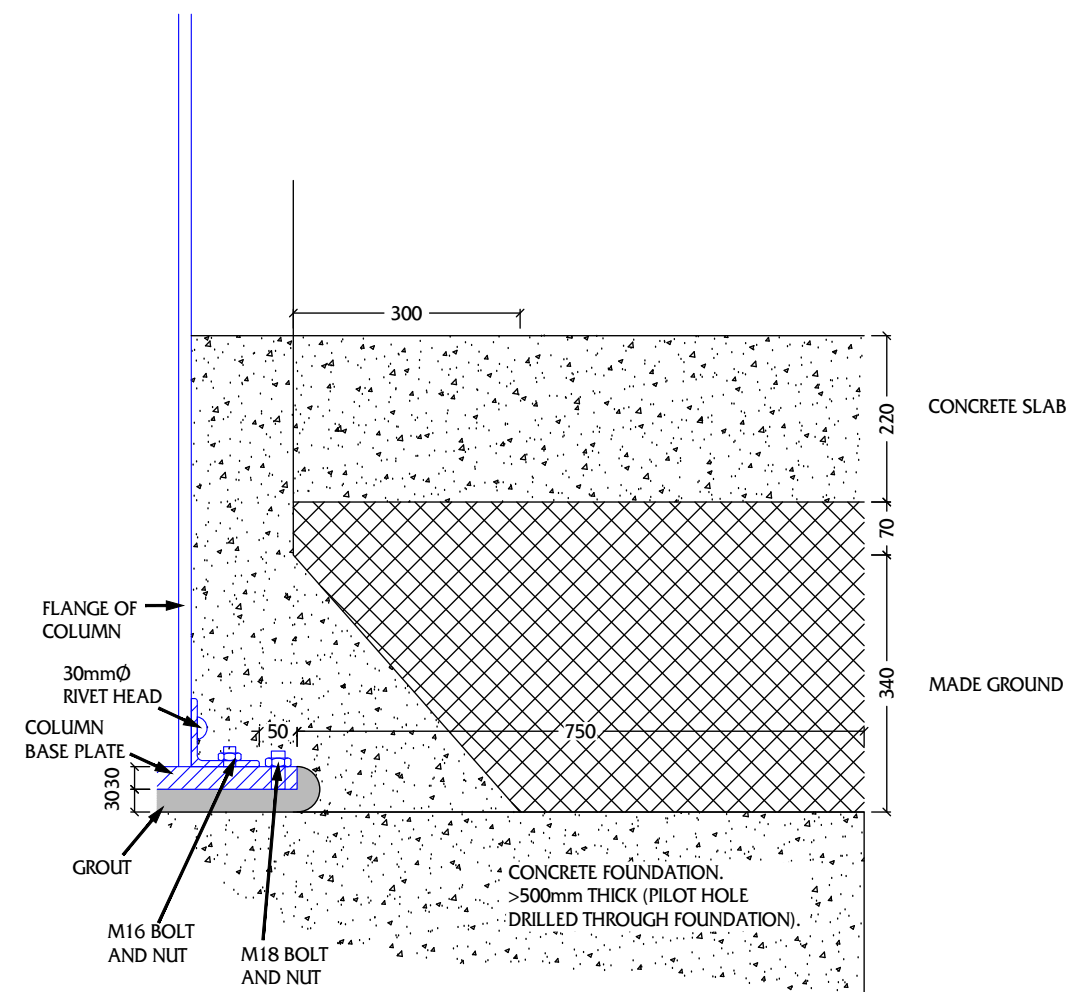


FIG.3 PART SECTION A-A LOOKING NORTH THROUGH TRIAL PIT TP1 SHOWING
BASEPLATE AND FOUNDATION CONSTRUCTION DETAILS SCALE 1:10



P2a: TRIAL PIT TP1



P2b: CLOSE UP VIEW OF BASE PLATE
AT BOTTOM OF TRIAL PIT TP1

AERIAL VIEW OF SITE



SYMBOLS USED

	PLAN EXTENT OF BUILDING SURVEYED		CONCRETE
	TRIAL PIT LOCATION		BRICKWORK
	APPROXIMATE EXTENT OF TRIAL PIT		MADE GROUND
	STEELWORK		GROUT
			STEELWORK

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: **BARRATT LONDON**

Title: FOUNDATION CONSTRUCTION DETAILS
TRIAL PIT TP1

Drawn	Date	Scale	Dwg. No. 4689-TP1
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
 Watford
 Hertfordshire
 WD25 9XX
 England

Telephone:
 +44 (0)1923 678800
 Fax:
 +44 (0)1923 678500

Email:
structs@gbg.co.uk
 Website:
www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF GROUND FLOOR SHOWING LOCATION OF TRIAL PIT NOT TO SCALE

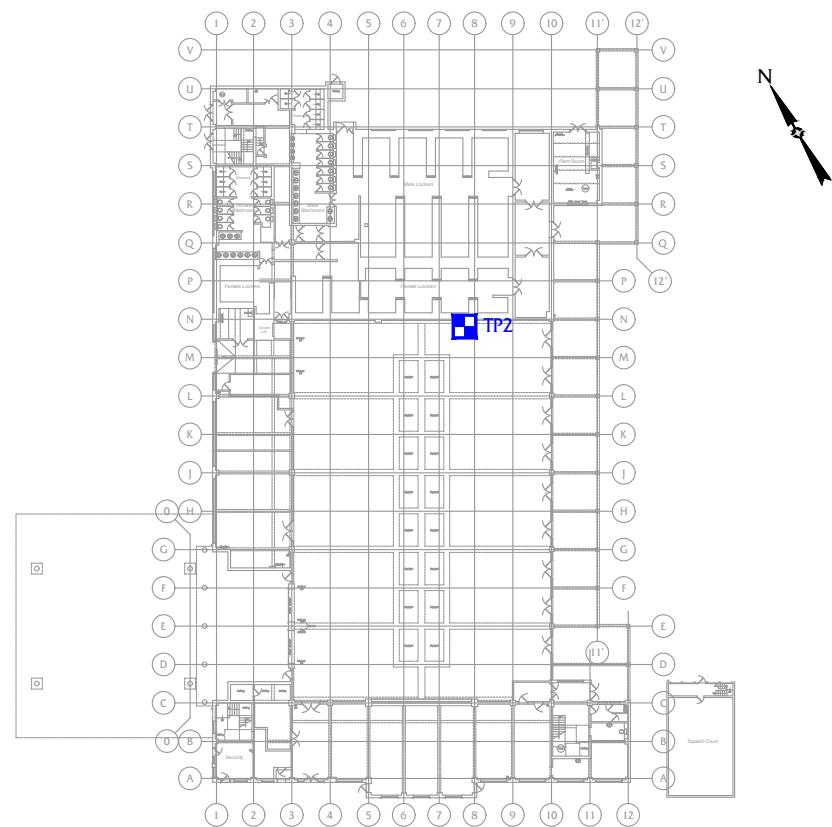


FIG.6 PART SECTION B-B LOOKING EAST THROUGH TRIAL PIT TP2
SHOWING FOUNDATION CONSTRUCTION DETAILS SCALE 1:10

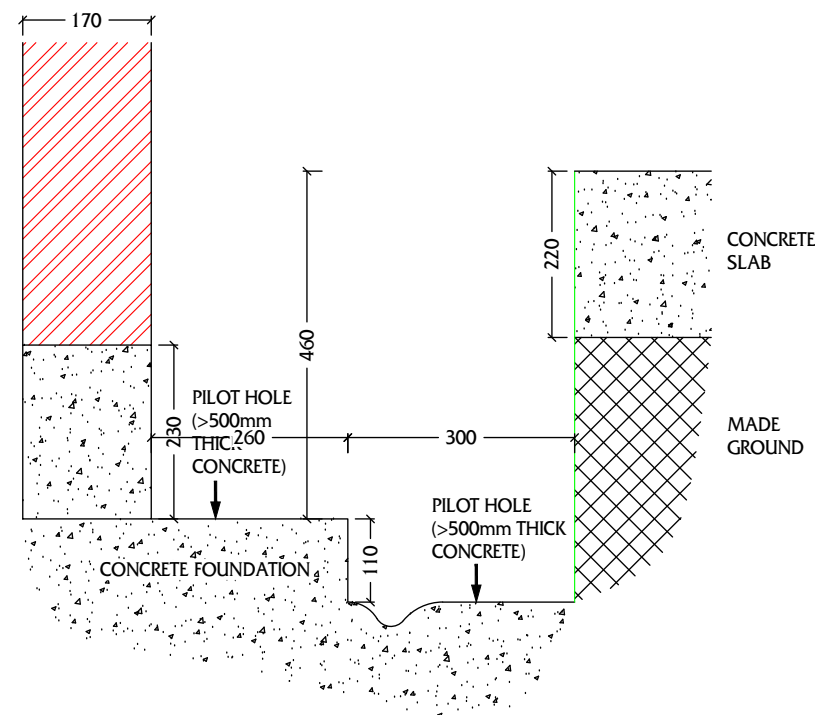
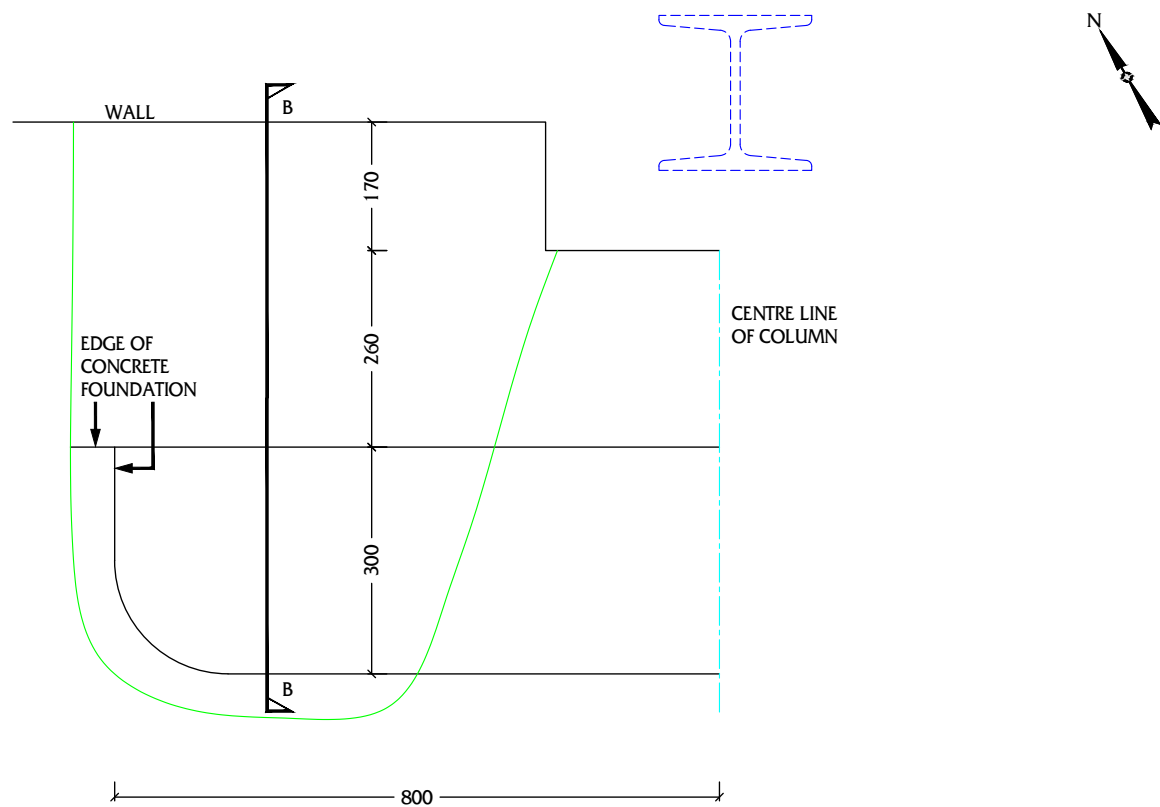


FIG.5: PART PLAN SHOWING DETAILS OF FOUNDATION AT TRIAL PIT TP2 SCALE 1:10



P5a: TRIAL PIT TP2



P5b: LOOKING DOWN AT FOUNDATION AT BASE OF TRIAL PIT TP2

AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
TRIAL PIT LOCATION	BRICKWORK
APPROXIMATE EXTENT OF TRIAL PIT	MADE GROUND
STEELWORK	GROUT
	STEELWORK

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

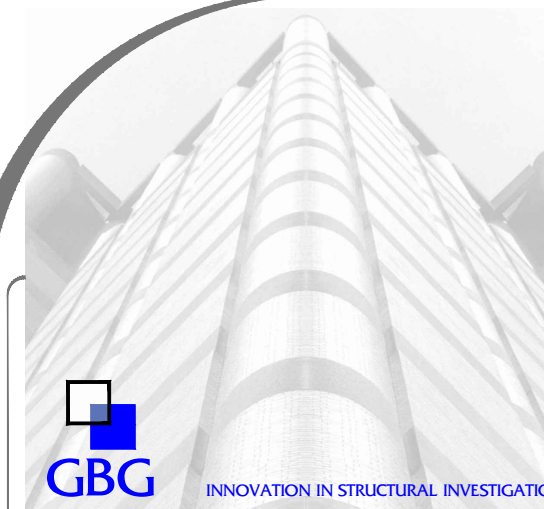
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: FOUNDATION CONSTRUCTION DETAILS
TRIAL PIT TP2

Drawn: HW CAD Date: SEP 20 PM Scale: AS SHOWN APP Dwg. No. 4689-TP2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF GROUND FLOOR SHOWING LOCATION OF TRIAL PIT NOT TO SCALE

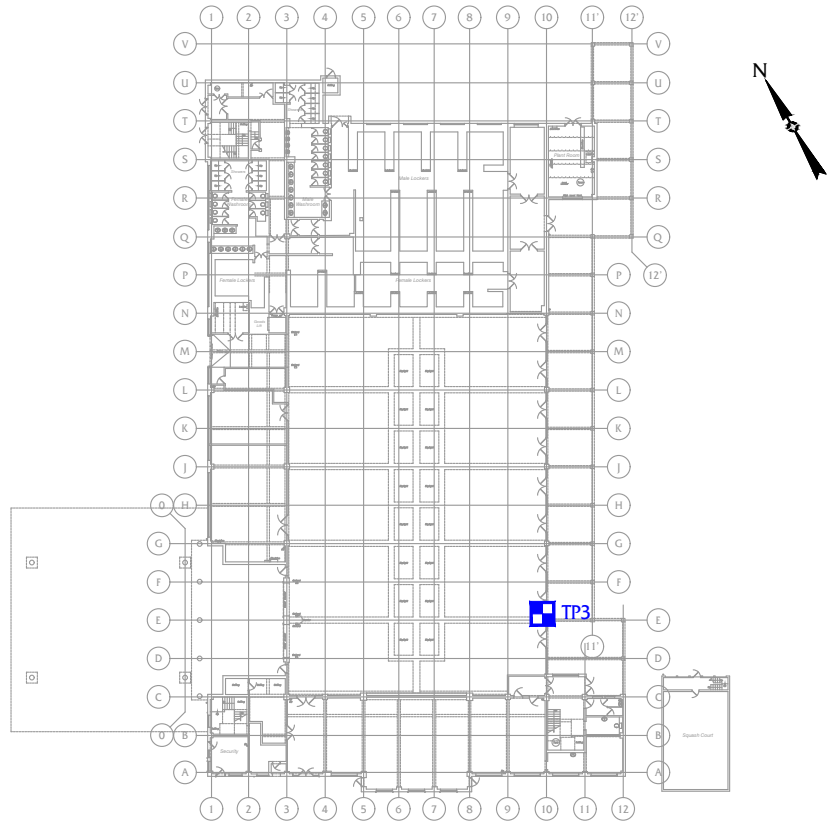


FIG.8: PART PLAN SHOWING DETAILS OF FOUNDATION AT TRIAL PIT TP3 SCALE 1:10

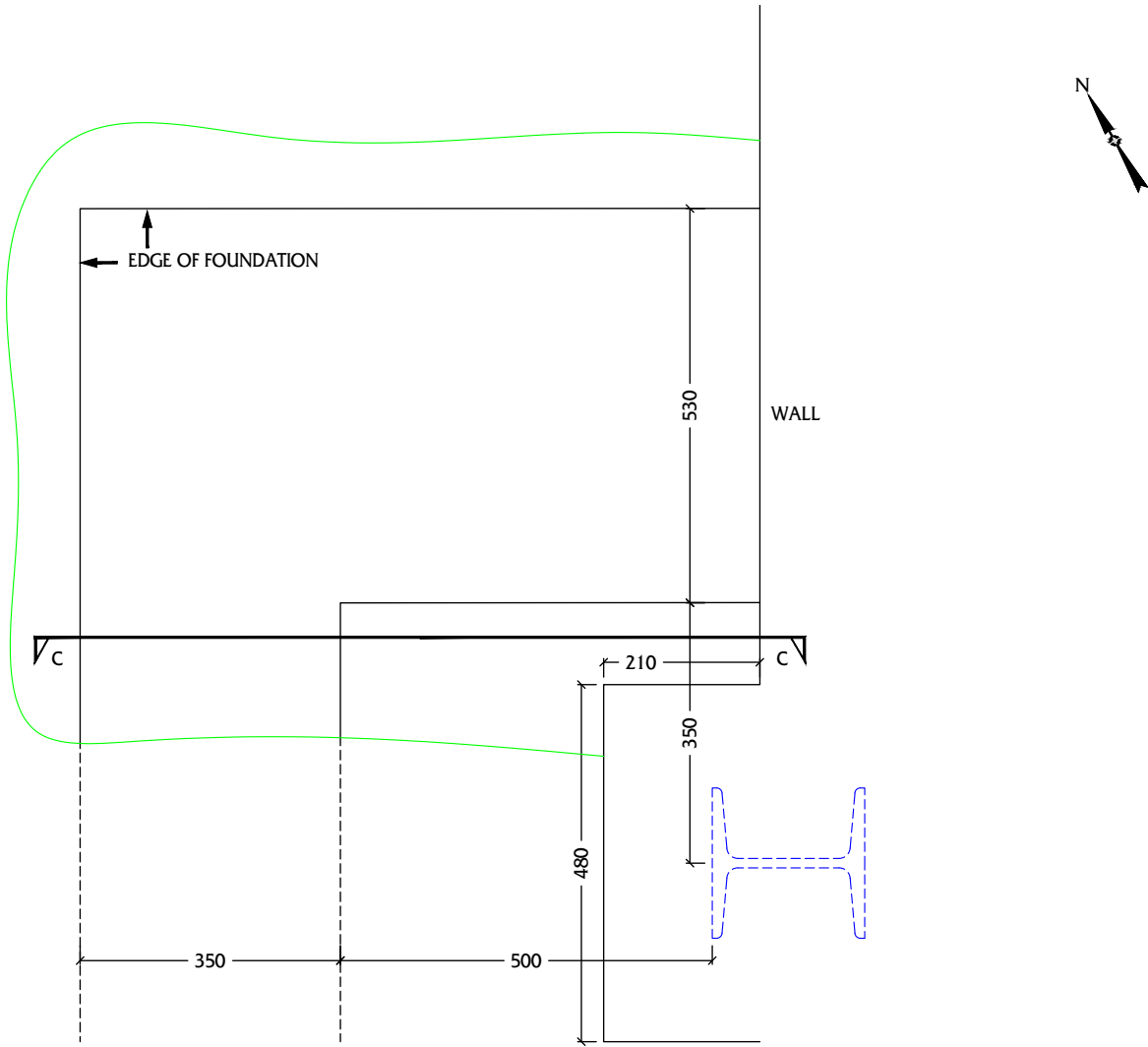
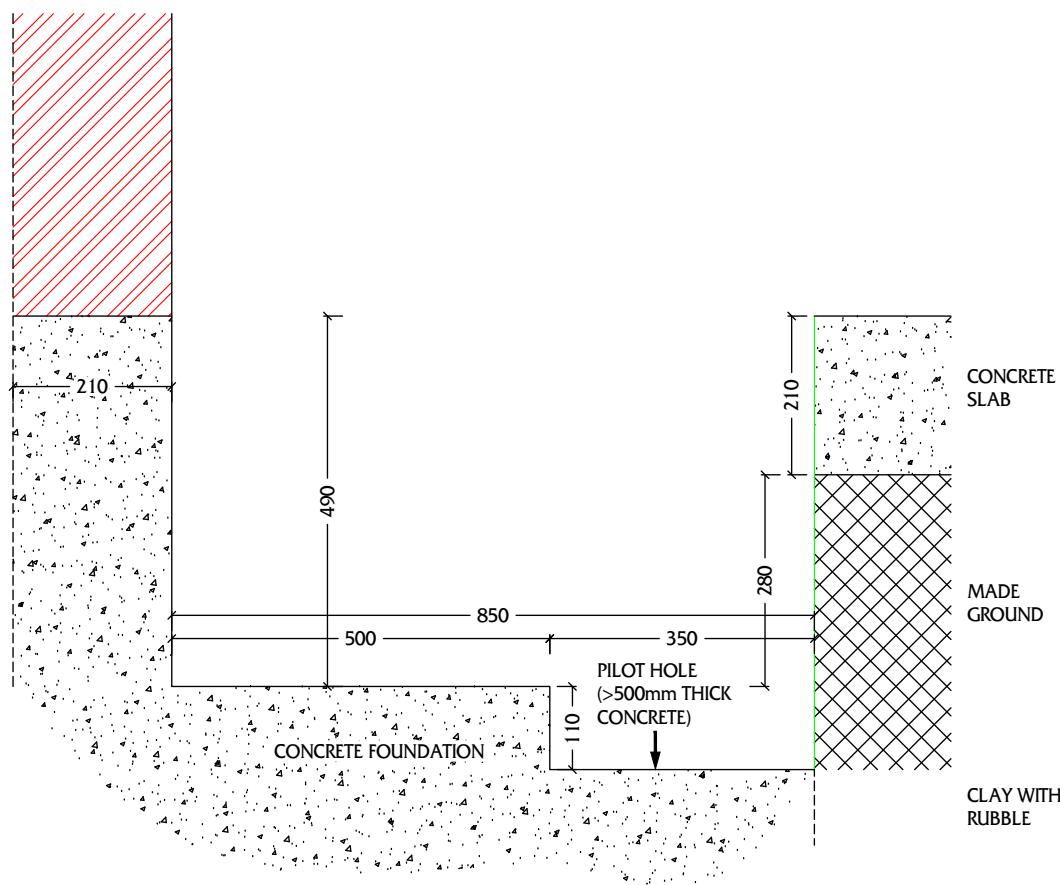


FIG.9 PART SECTION C-C LOOKING SOUTH THROUGH TRIAL PIT TP3 SCALE 1:10



P8a: TRIAL PIT TP3



P8b: LOOKING DOWN AT FOUNDATION AT BASE OF TRIAL PIT TP3

AERIAL VIEW OF SITE



SYMBOLS USED

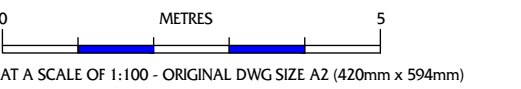
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
TRIAL PIT LOCATION	BRICKWORK
APPROXIMATE EXTENT OF TRIAL PIT	MADE GROUND
STEELWORK	GROUT
	STEELWORK

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

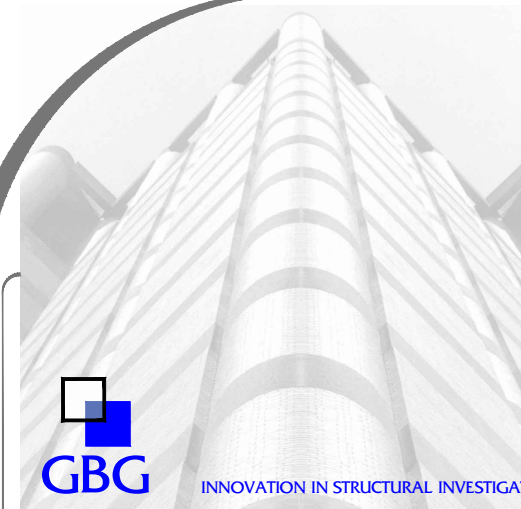
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: FOUNDATION CONSTRUCTION DETAILS
TRIAL PIT TP3

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-TP3
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Welford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
---	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF GROUND FLOOR SHOWING LOCATION OF SLAB SURVEYED NOT TO SCALE

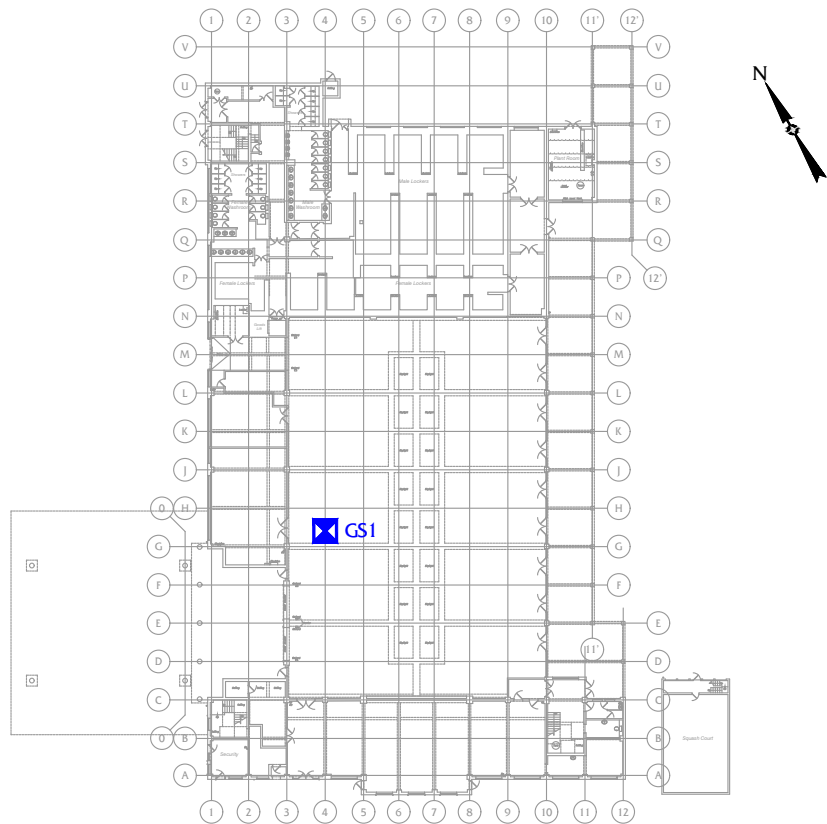


FIG.2: PART PLAN OF GROUND FLOOR SHOWING NEAR SURFACE REINFORCEMENT ARRANGEMENT AND CORE, DCP AND PILOT HOLE LOCATIONS - SURVEY AREA GS1 SCALE 1:20

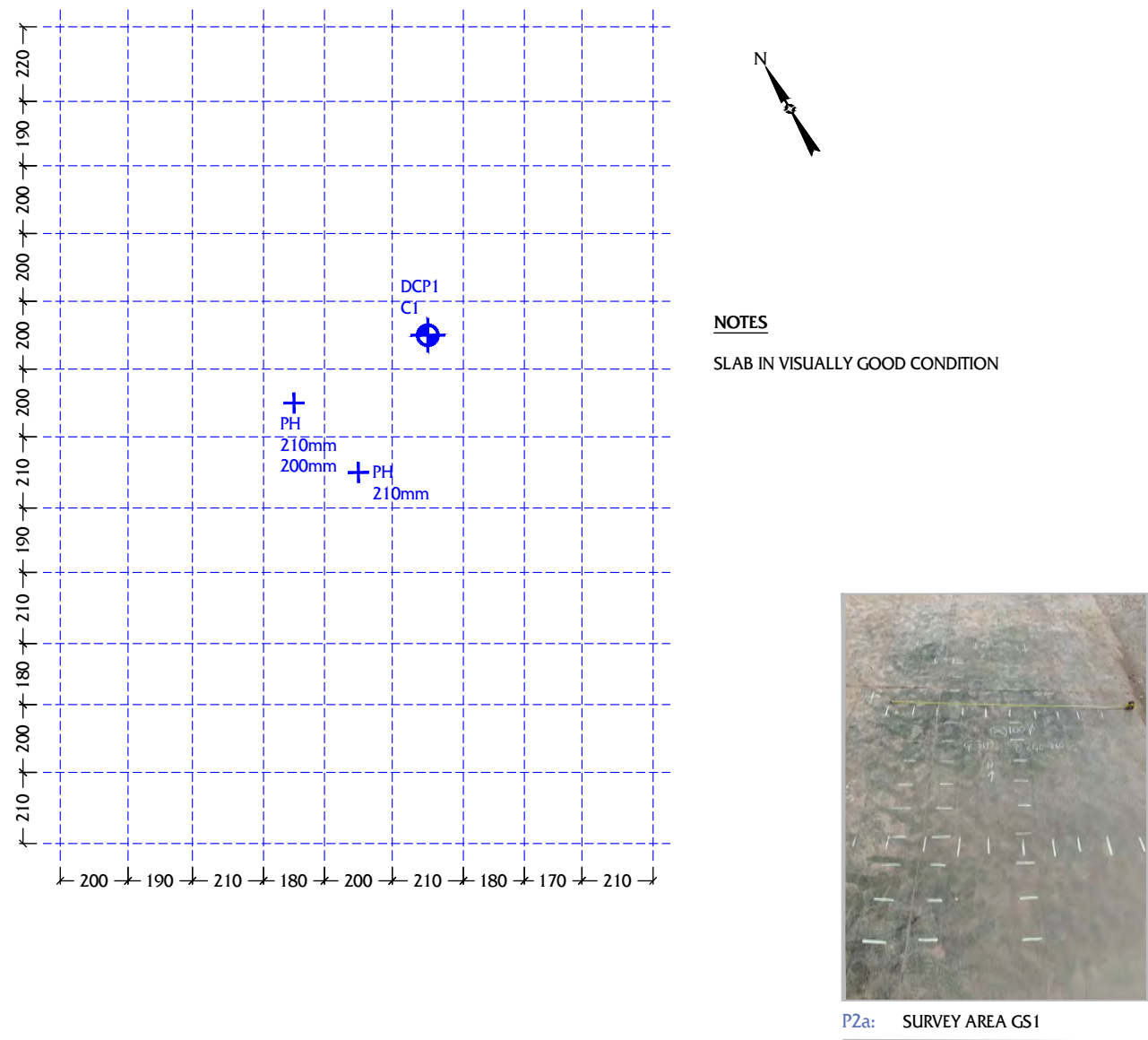
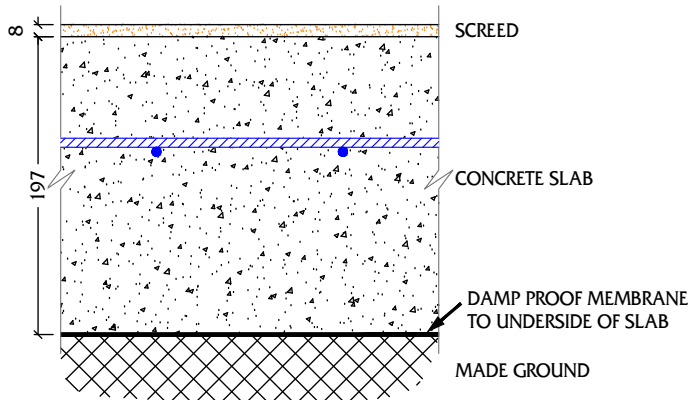


FIG.3: PART SECTION THROUGH GROUND FLOOR SLAB AT CORE / PILOT HOLE LOCATIONS - SURVEY AREA GS1 SCALE 1:5



AERIAL VIEW OF SITE



SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	MATERIAL TYPES
SLAB INVESTIGATED	CONCRETE
CORE AND DYNAMIC CONE PENETROMETER TEST LOCATION	SCREED
PILOT HOLE	MADE GROUND
REINFORCEMENT POSITION, DETERMINED VIA NDT METHODS (MAY COMPRISE OF MORE THAN 1 ADJACENT BARS)	
REINFORCEMENT MESH	

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR SLAB CONSTRUCTION - SHEET 1 OF 2

Drawn: HW CAD Date: SEP 20 PM Scale: AS SHOWN APP Dwg. No. 4689-G1



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800, Fax: +44 (0)1923 678500, Email: struct@gbg.co.uk, Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF GROUND FLOOR SHOWING LOCATION OF SLABS SURVEYED NOT TO SCALE

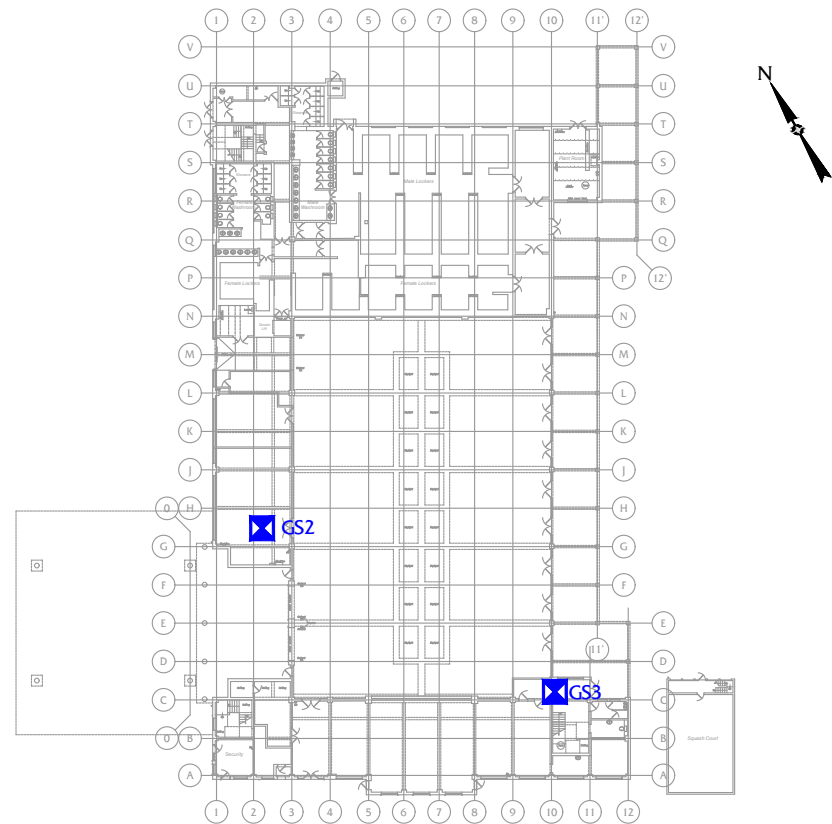


FIG.6: PART SECTION THROUGH GROUND FLOOR SLAB AT CORE C2 LOCATION - SURVEY AREA GS2 SCALE 1:5

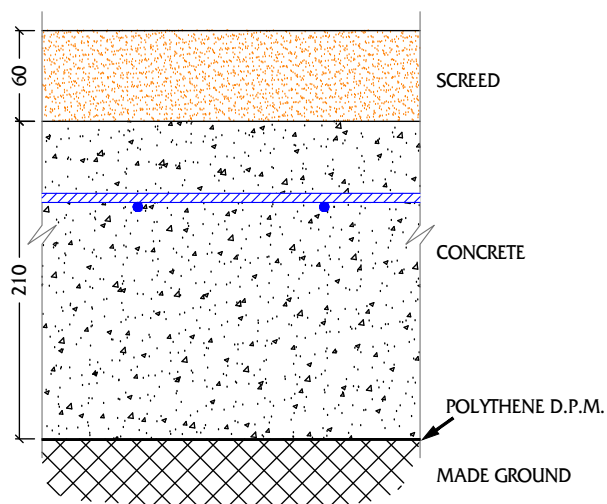


FIG.7: PART PLAN OF GROUND FLOOR SLAB AT SURVEY AREA GS3 SHOWING LOCALISED SURFACE DEFECTS, CORE AND DCP LOCATIONS NOT TO SCALE

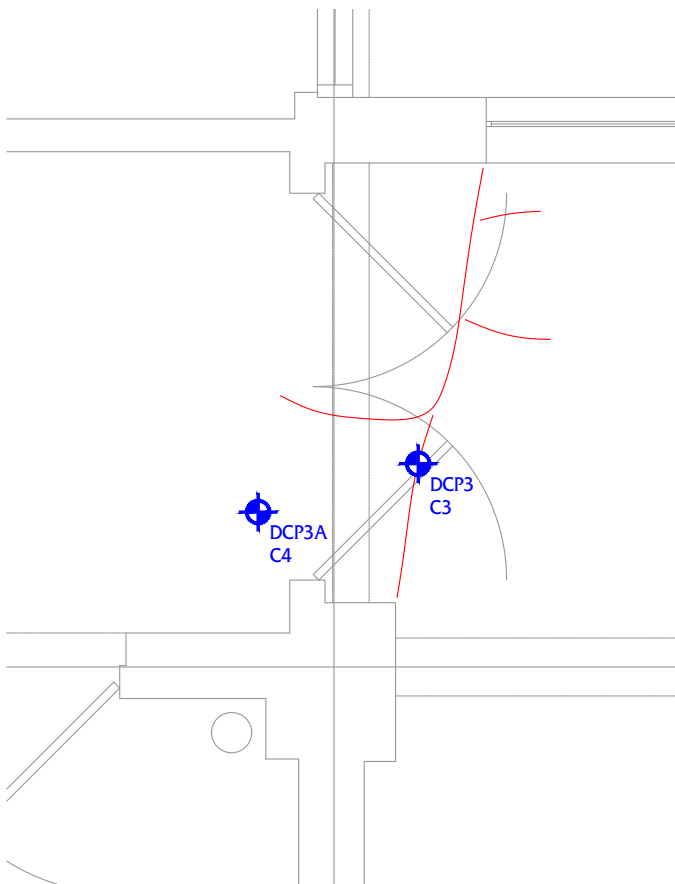


FIG.5: PART PLAN OF GROUND FLOOR SHOWING NEAR SURFACE REINFORCEMENT ARRANGEMENT AND DCP LOCATION - SURVEY AREA GS2 SCALE 1:20

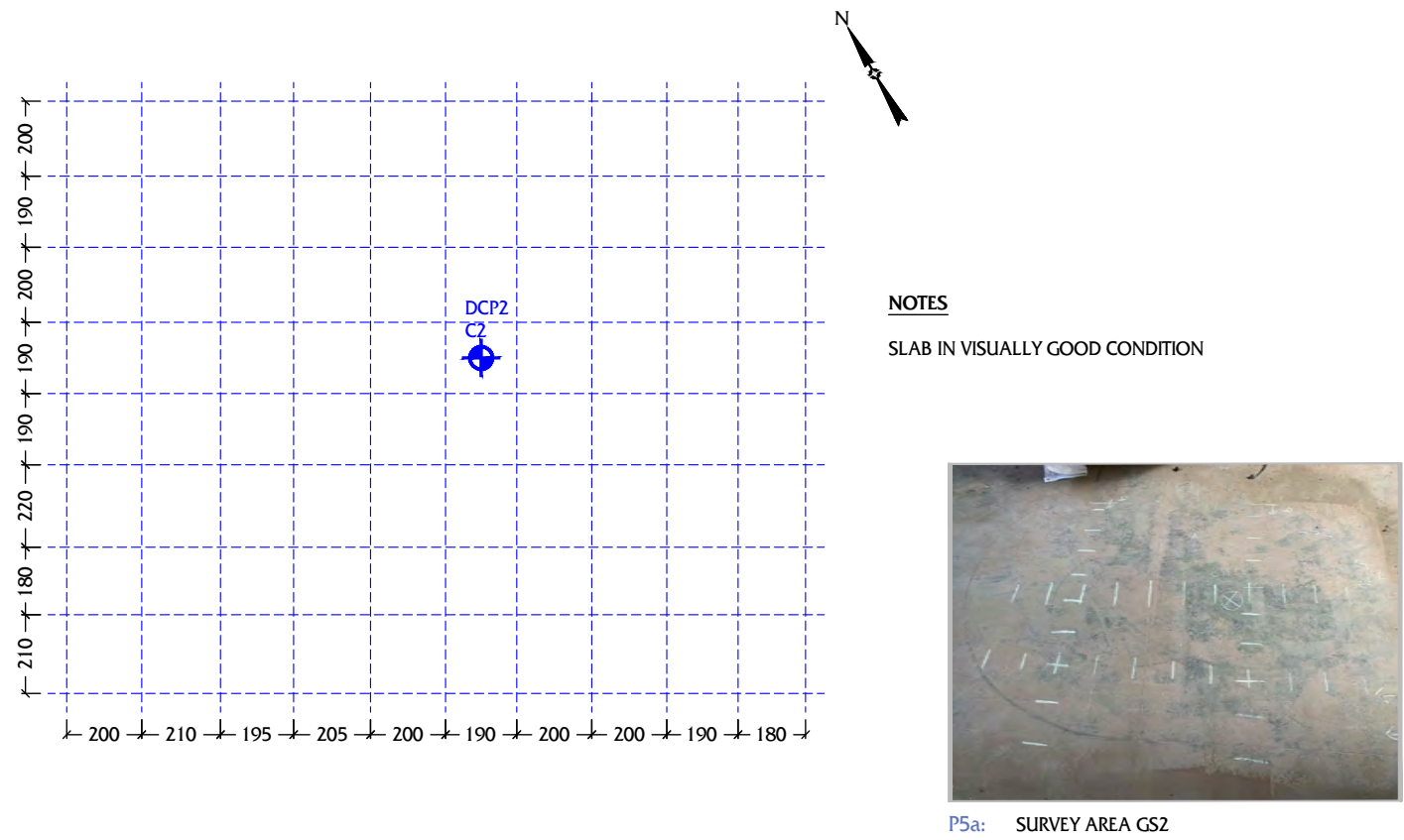
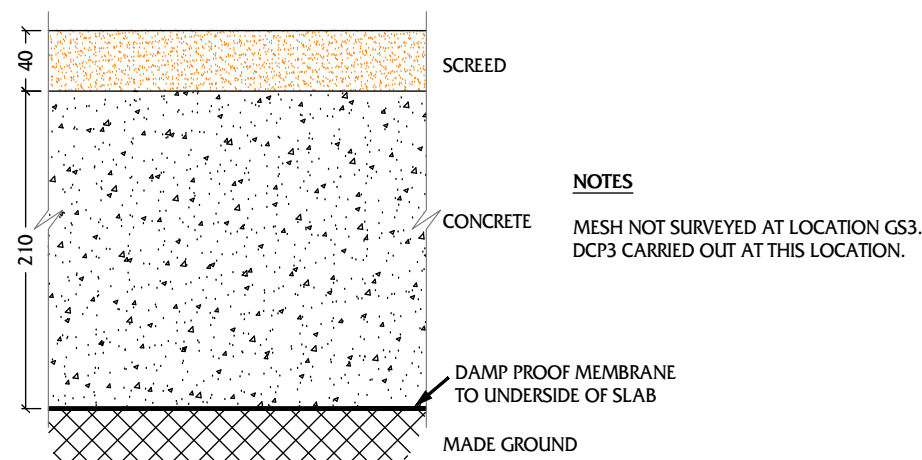


FIG.8: PART SECTION THROUGH GROUND FLOOR SLAB AT CORE C3 LOCATION (CRACK LOCATION) - SURVEY AREA GS3 SCALE 1:5



AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	SCREED
CORE AND DYNAMIC CONE PENETROMETER TEST LOCATION	MADE GROUND
PILOT HOLE	
REINFORCEMENT POSITION, DETERMINED VIA NDT METHODS (MAY COMPRISE OF MORE THAN 1 ADJACENT BARS)	
REINFORCEMENT MESH	
CRACK LOCATION	

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE
------	----------	------

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR SLAB CONSTRUCTION - SHEET 2 OF 2

Drawn: HW CAD Date: SEP 20 PM Scale: AS SHOWN APP Dwg. No. 4689-G2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800, Fax: +44 (0)1923 678500, Email: struct@gbg.co.uk, Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

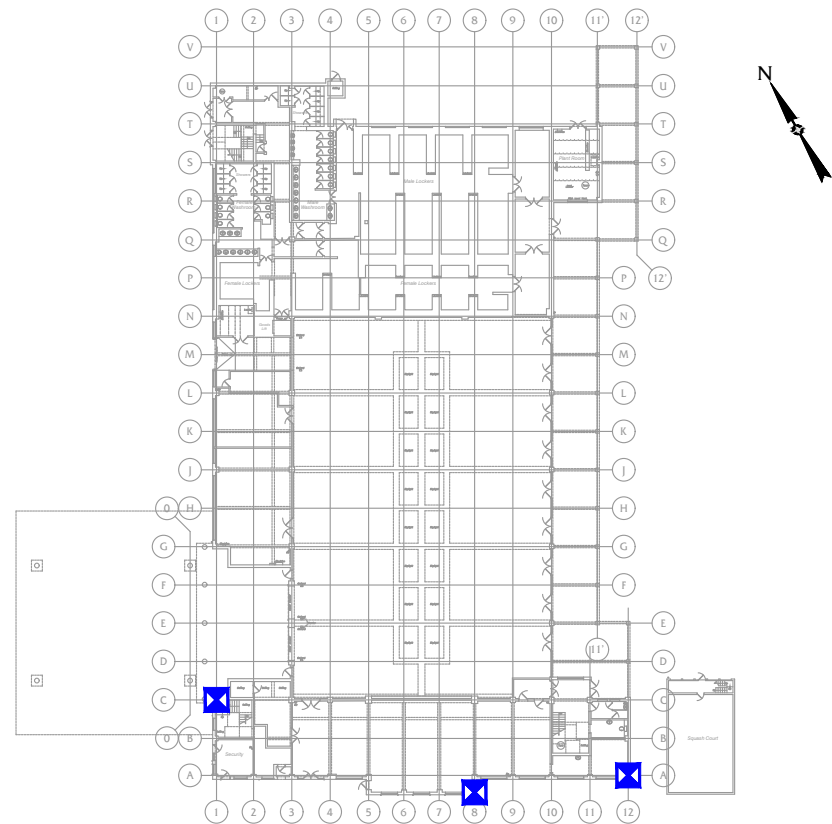
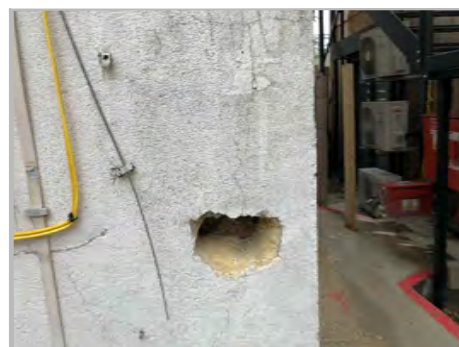
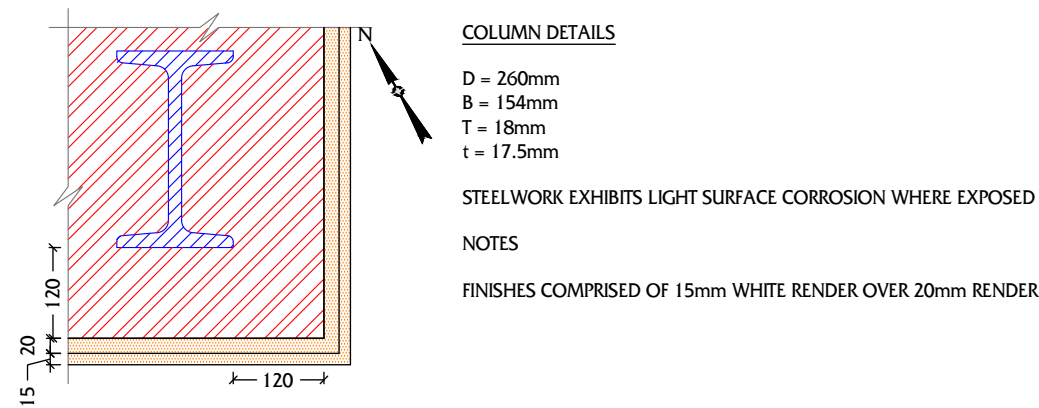


FIG.3: PART PLAN SHOWING DETAILS OF COLUMN A12 SCALE 1:10

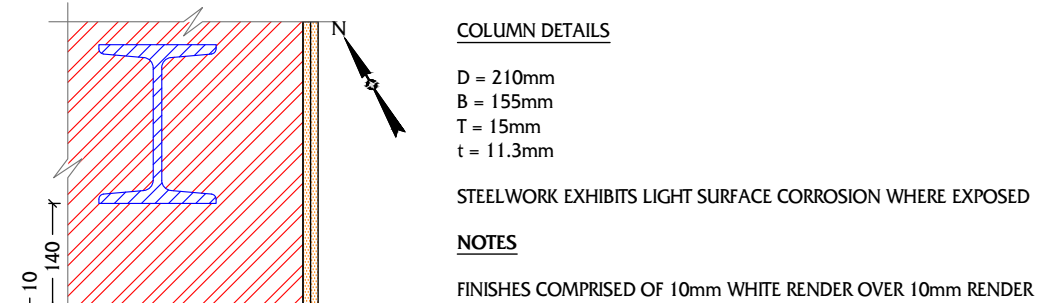


P3a: COLUMN A12



P3b: CLOSE UP VIEW OF COLUMN A12

FIG.2: PART PLAN SHOWING DETAILS OF COLUMN A8 SCALE 1:10

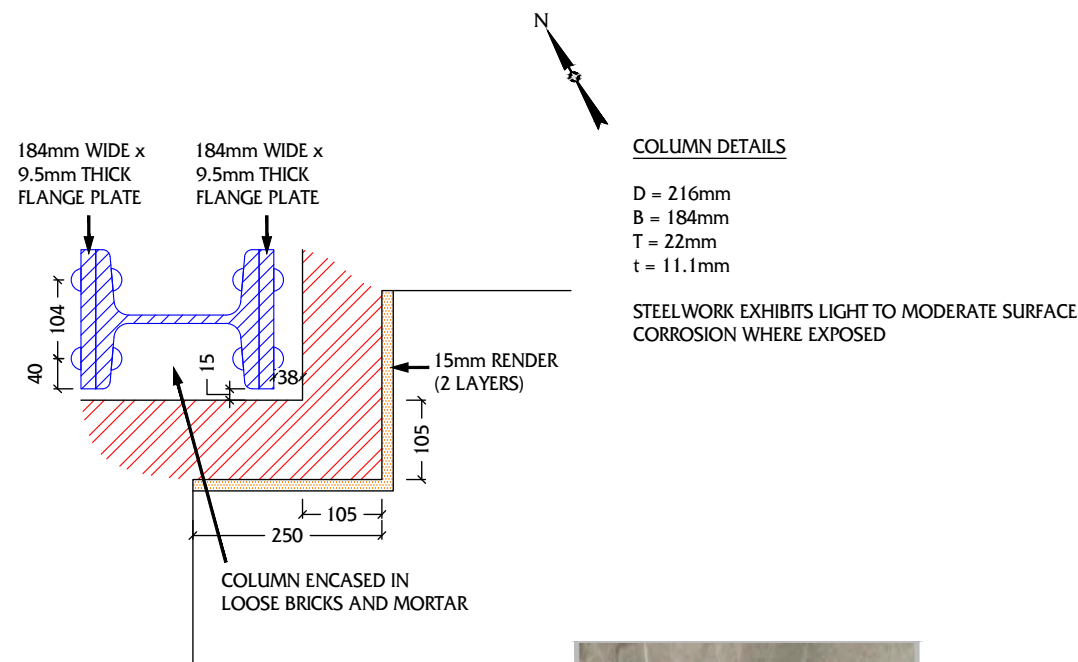


P2a: COLUMN A5



P2b: CLOSE UP VIEW OF COLUMN A5

FIG.4: PART PLAN SHOWING DETAILS OF COLUMN C1 SCALE 1:10



P4a: COLUMN C1



P4b: CLOSE UP VIEW OF COLUMN C1

AERIAL VIEW OF SITE



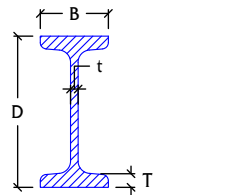
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- COLUMN SURVEYED

MATERIAL TYPES

- STEELWORK
- BRICKWORK
- RENDER / PLASTER
- MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 1 OF 7

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-C1



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Weyford, Henlebury, WID25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.5: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

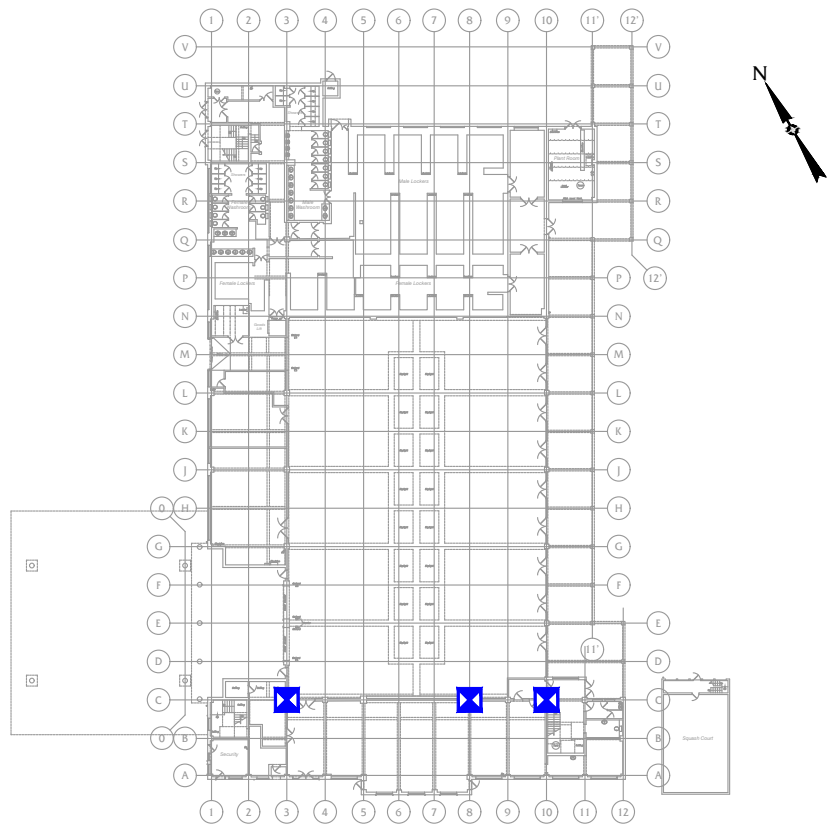
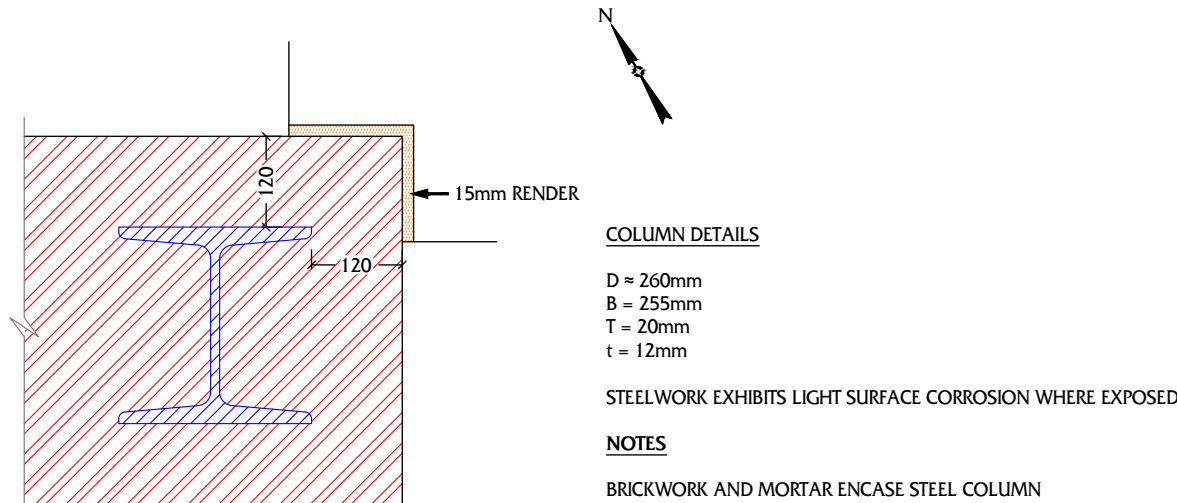


FIG.6: PART PLAN SHOWING DETAILS OF COLUMN C3 SCALE 1:10

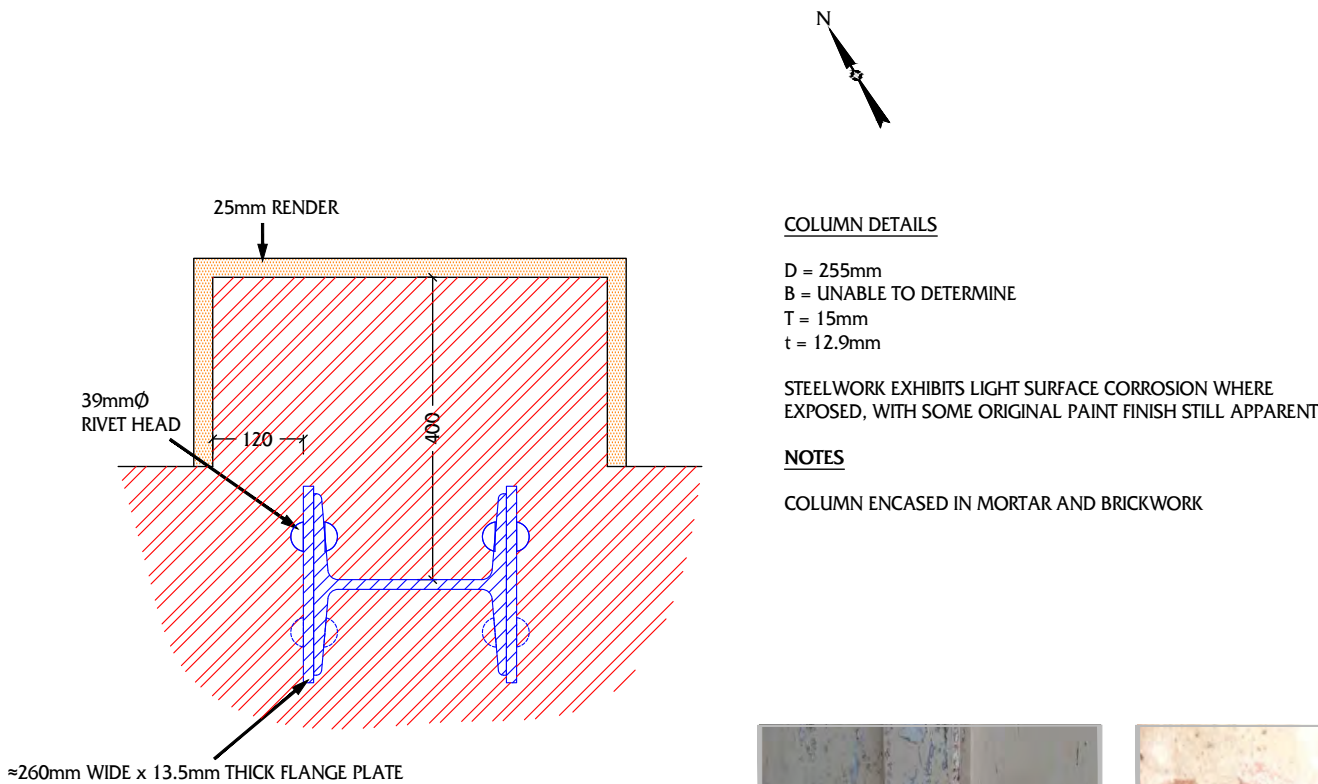


P6a: COLUMN C3



P6b: CLOSE UP VIEW OF COLUMN C3

FIG.7: PART PLAN SHOWING DETAILS OF COLUMN C8 SCALE 1:10

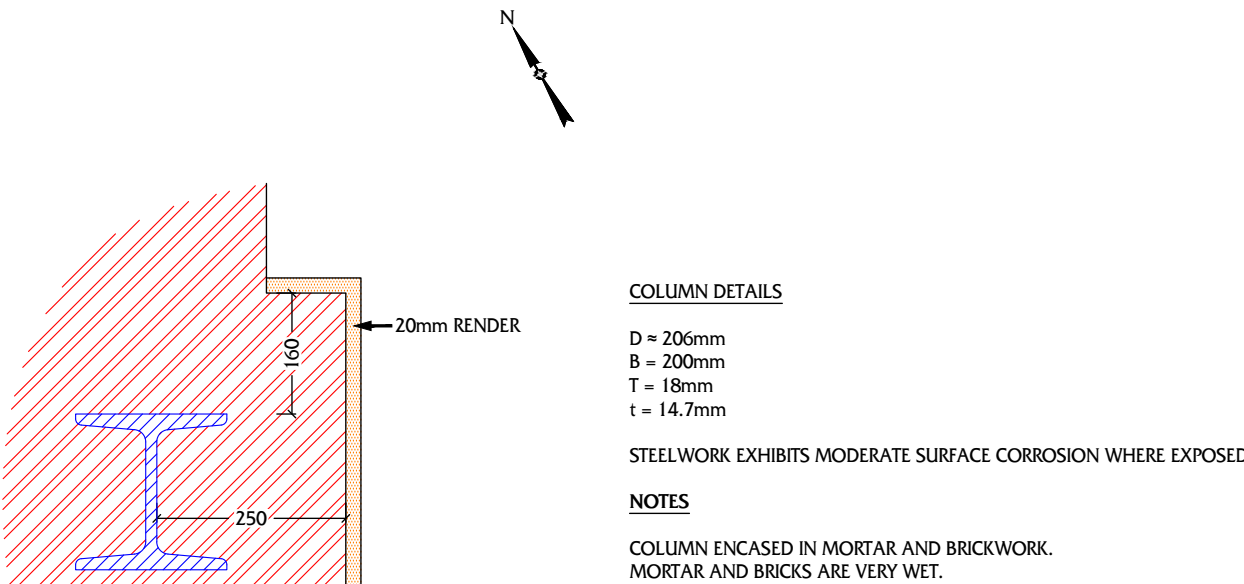


P7a: COLUMN C8



P7b: CLOSE UP VIEW OF COLUMN C8

FIG.8: PART PLAN SHOWING DETAILS OF COLUMN C10 SCALE 1:10



P8a: COLUMN C10



P8b: CLOSE UP VIEW OF COLUMN C10

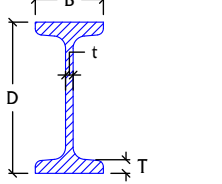
AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	STEELWORK
COLUMN SURVEYED	BRICKWORK
	RENDER / PLASTER
	MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 2 OF 7

Drawn	Date	Scale	Dwg. No. 4689-C2
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Widford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
---	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.9: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

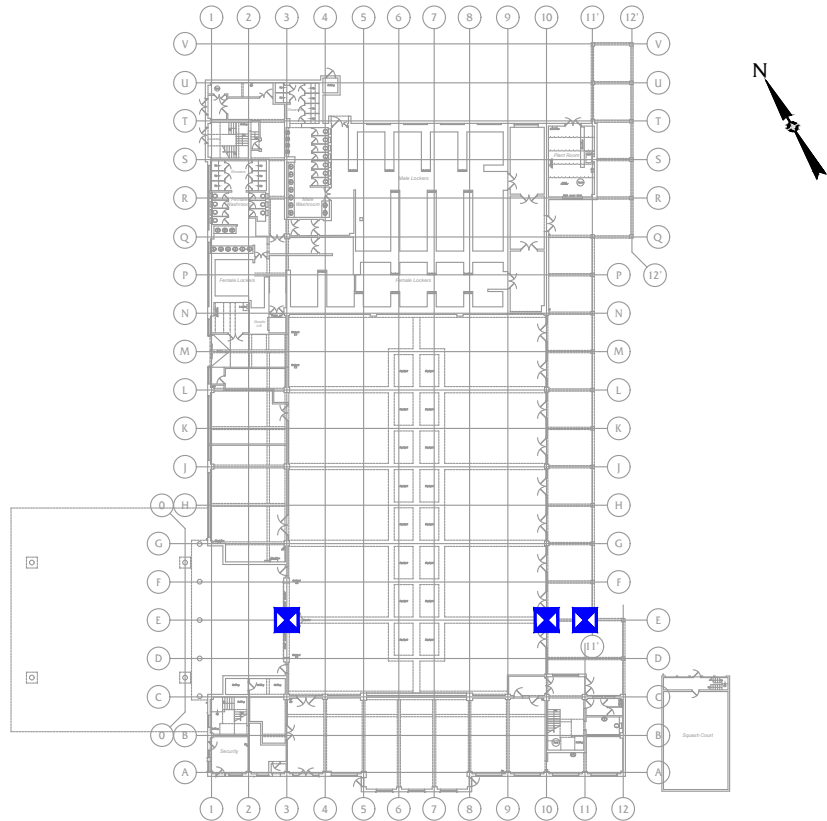
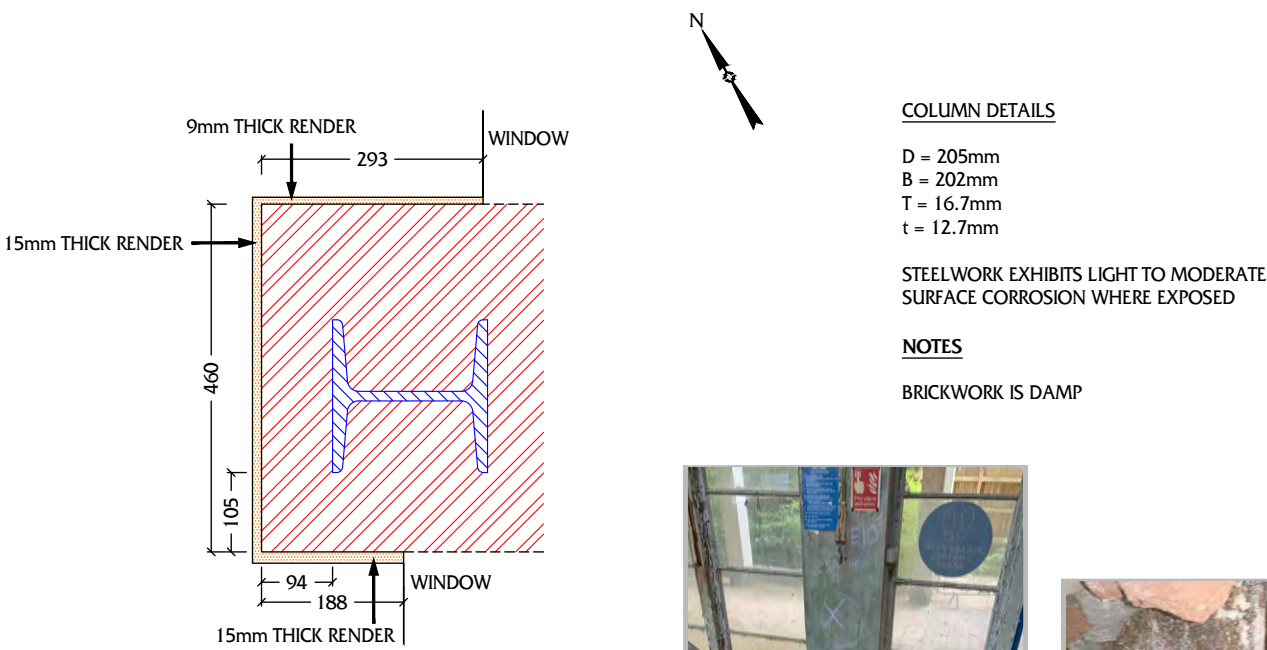


FIG.11: PART PLAN SHOWING DETAILS OF COLUMN E10 SCALE 1:10

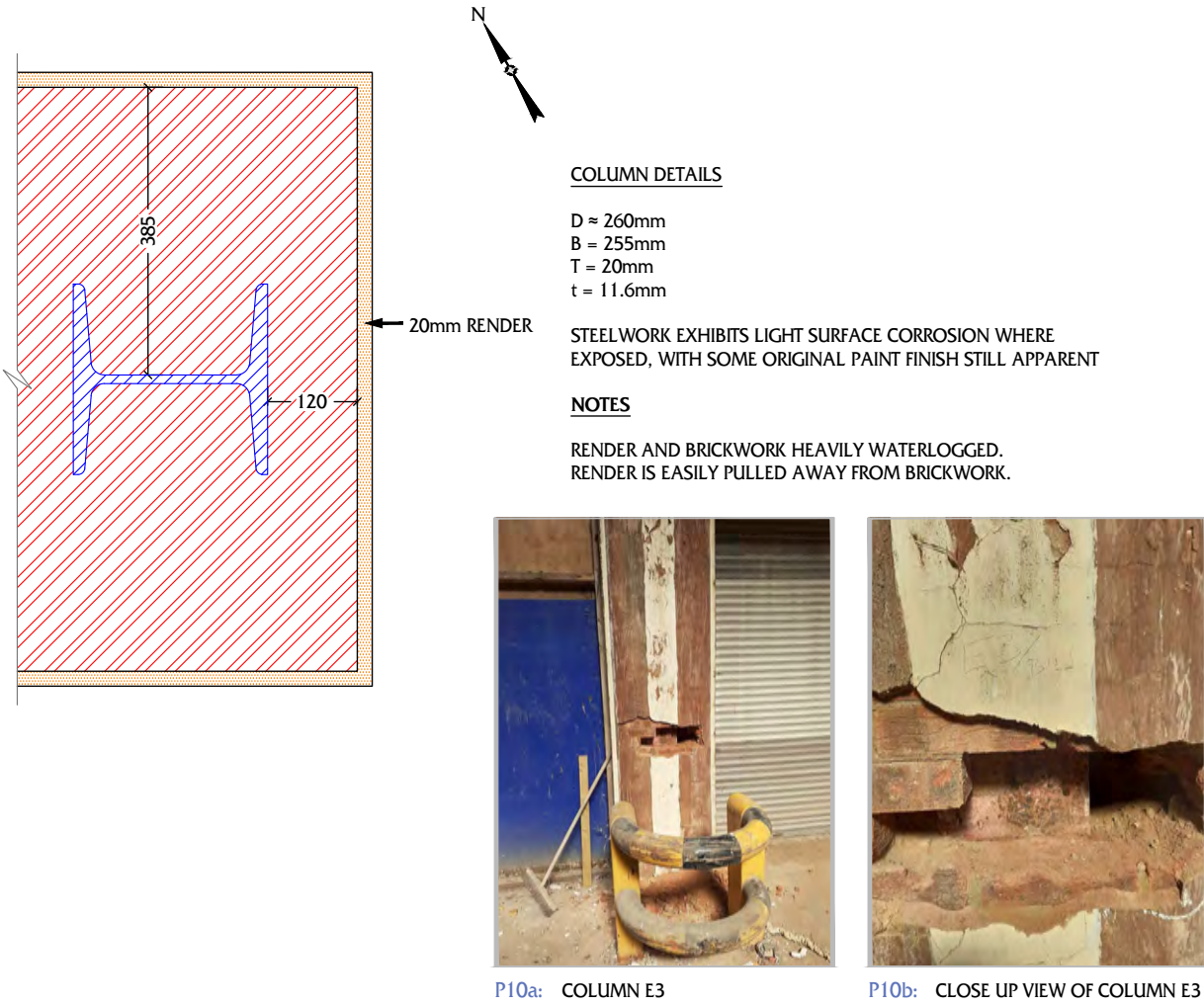


P11a: COLUMN E10



P11b: CLOSE UP VIEW OF COLUMN E10

FIG.10: PART PLAN SHOWING DETAILS OF COLUMN E3 SCALE 1:10

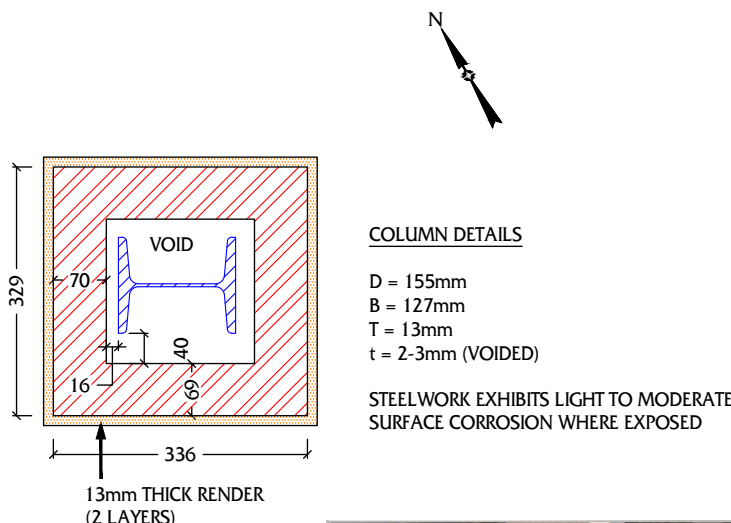


P10a: COLUMN E3

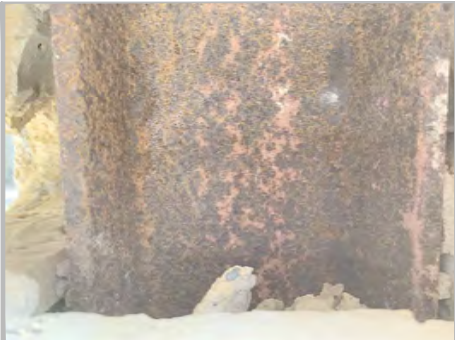


P10b: CLOSE UP VIEW OF COLUMN E3

FIG.12: PART PLAN SHOWING DETAILS OF COLUMN E11 SCALE 1:10



P12a: COLUMN E11



P12b: CLOSE UP VIEW OF COLUMN E11

AERIAL VIEW OF SITE



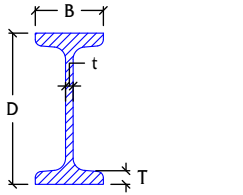
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- COLUMN SURVEYED

MATERIAL TYPES

- STEELWORK
- BRICKWORK
- RENDER / PLASTER
- MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 3 OF 7

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-C3



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Warrington, Cheshire, Warrington, England. Telephone: +44 (0)1923 678800. Email: struct@gbg.co.uk. Website: www.gbg.co.uk. Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 13: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

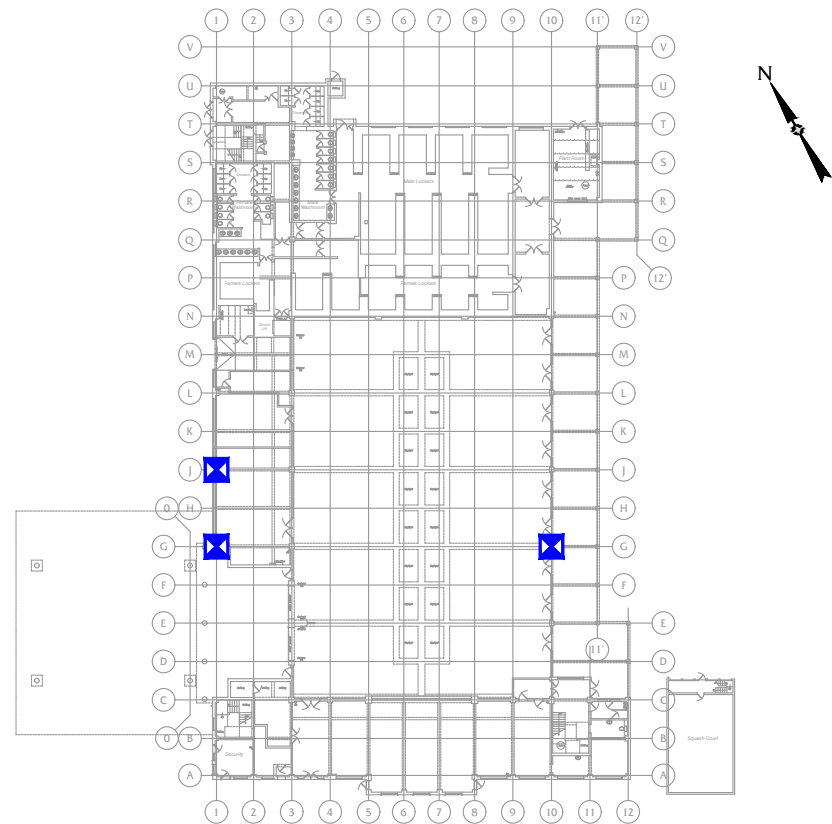


FIG. 14: PART PLAN SHOWING DETAILS OF COLUMN G1 SCALE 1:10

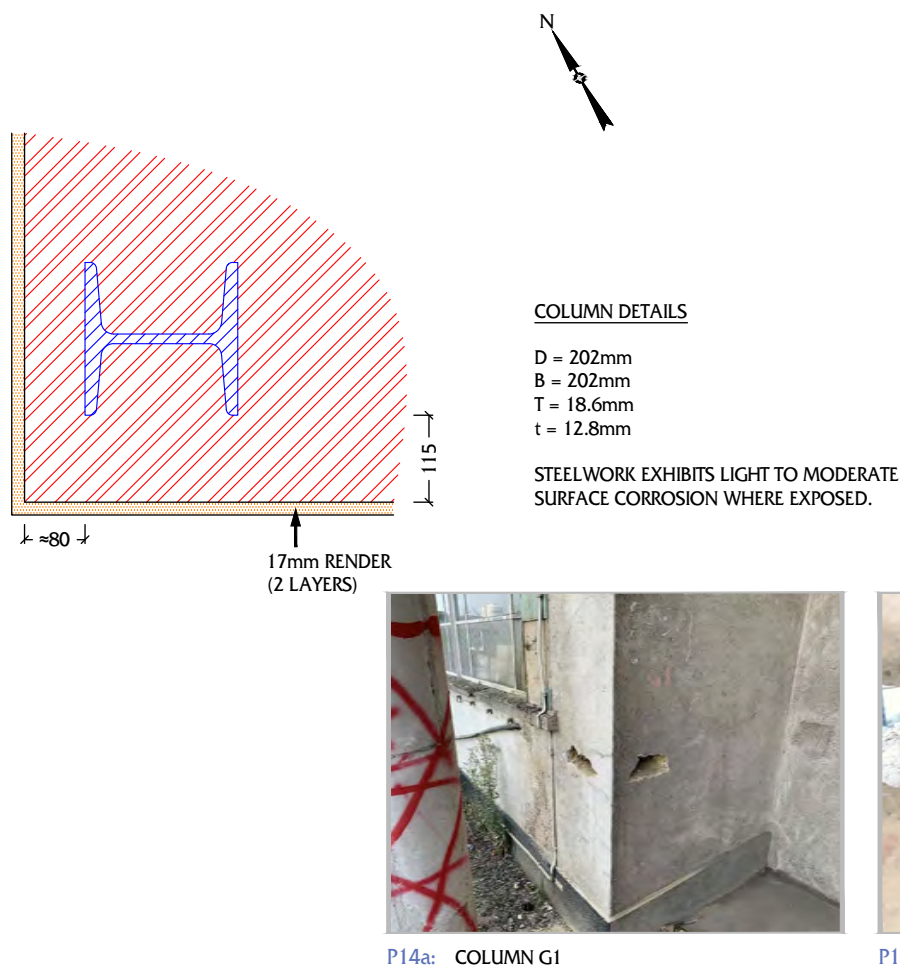


FIG. 15: PART PLAN SHOWING DETAILS OF COLUMN G10 SCALE 1:10

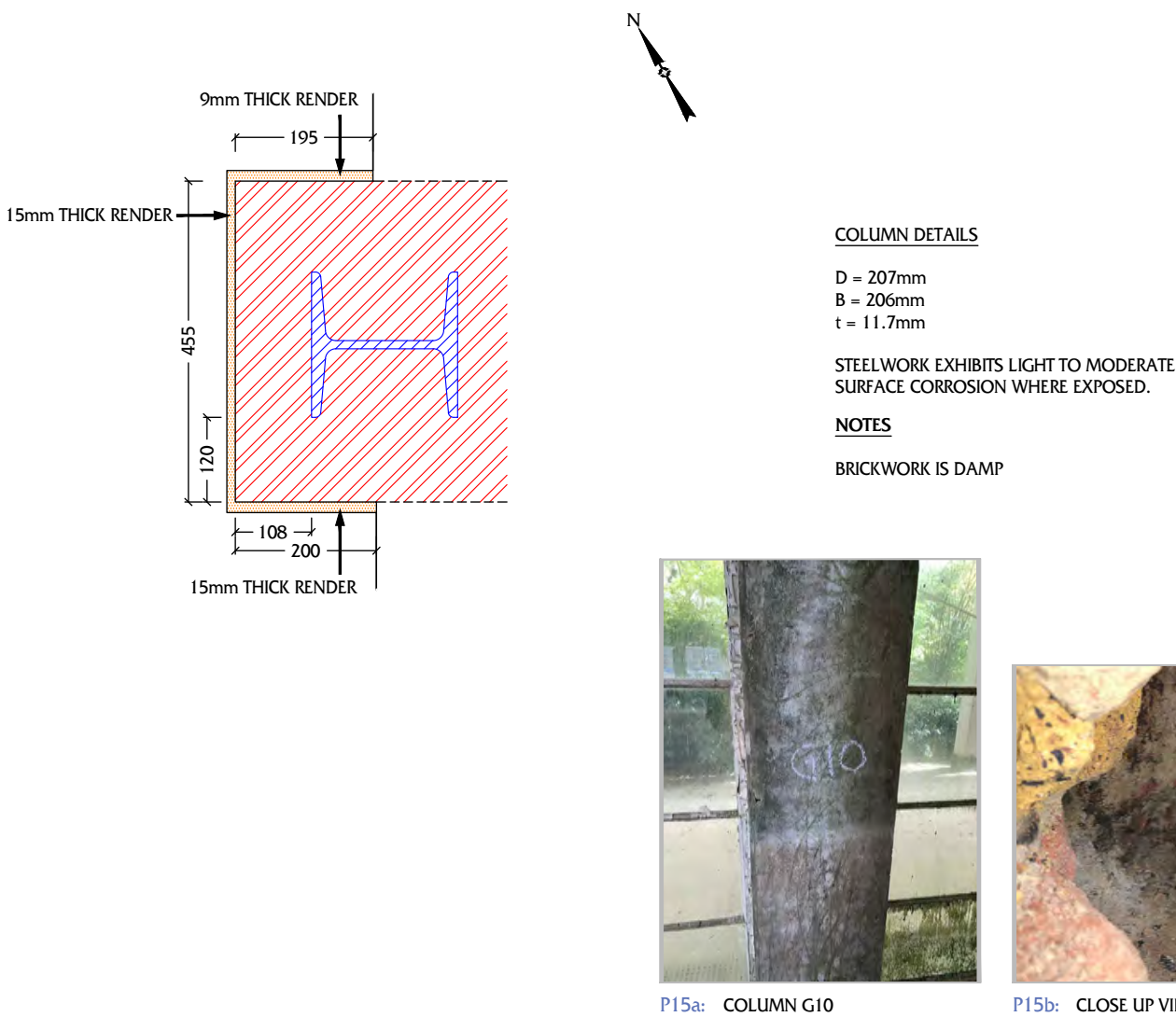
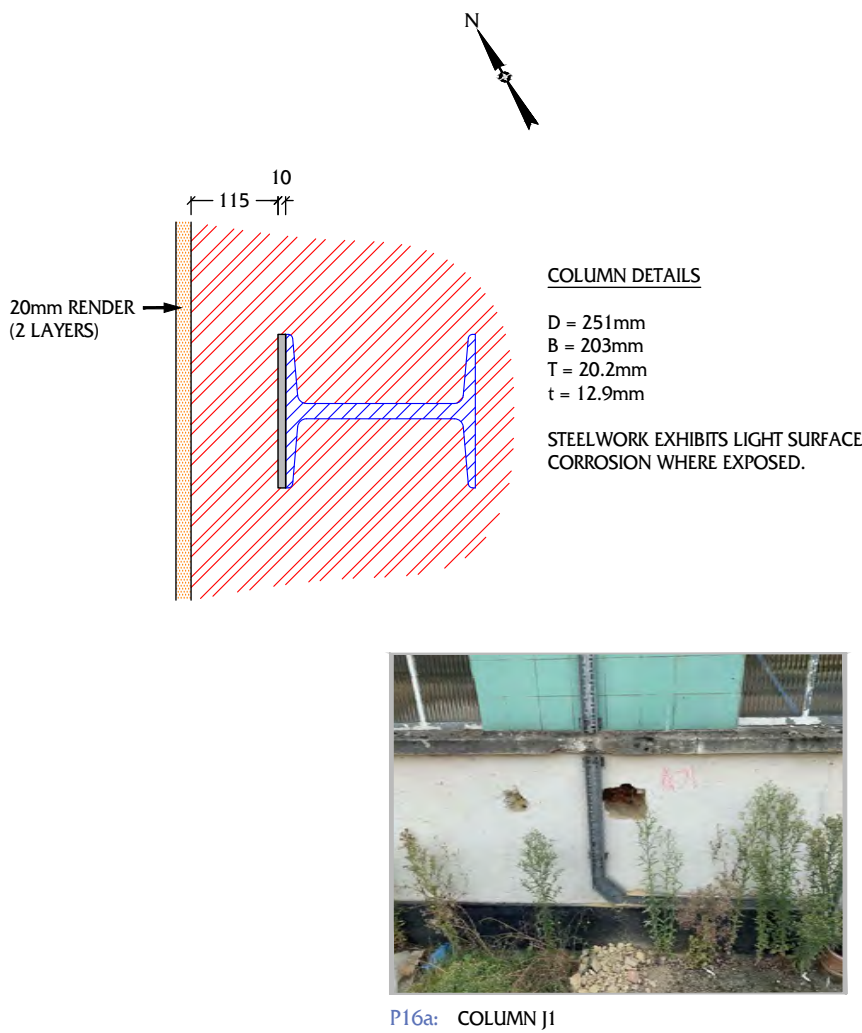
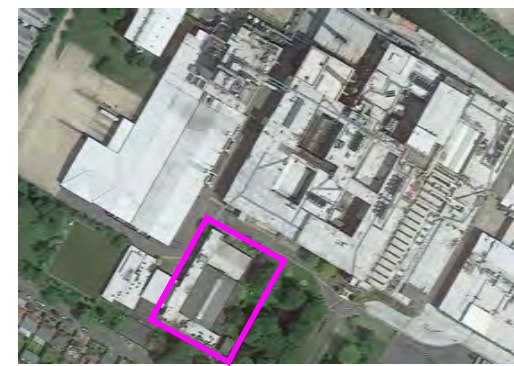


FIG. 16: PART PLAN SHOWING DETAILS OF COLUMN J1 SCALE 1:10



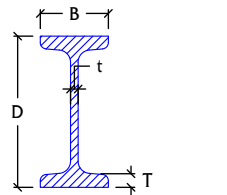
AERIAL VIEW OF SITE



SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	STEELWORK
COLUMN SURVEYED	BRICKWORK
	RENDER / PLASTER
	MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 4 OF 7

Drawn	Date	Scale	Dwg. No. 4689-C4
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Widford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
---	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 17: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

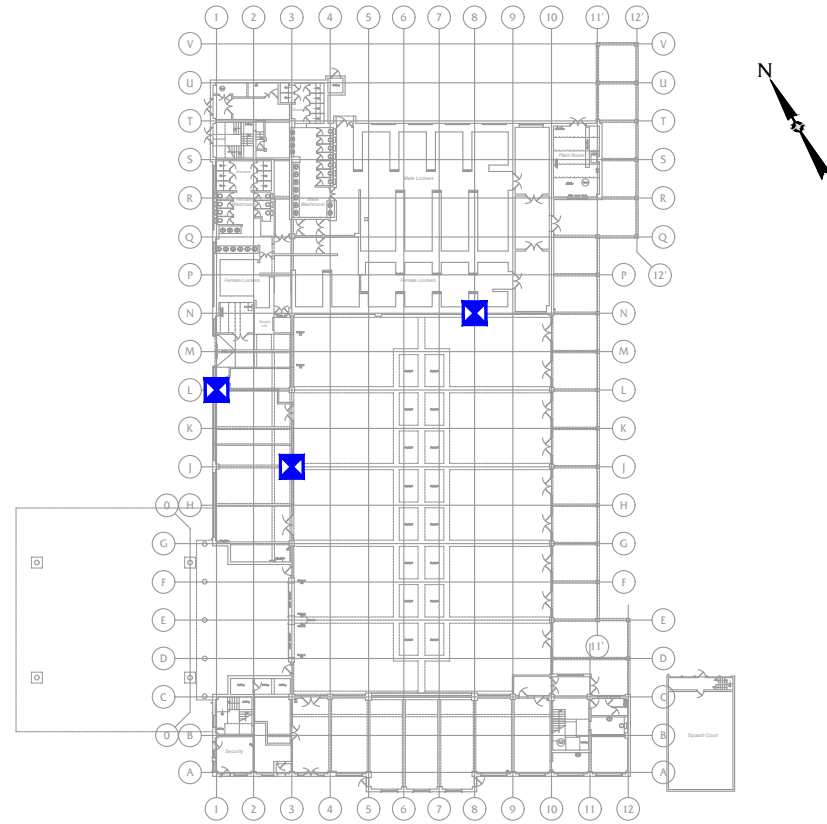
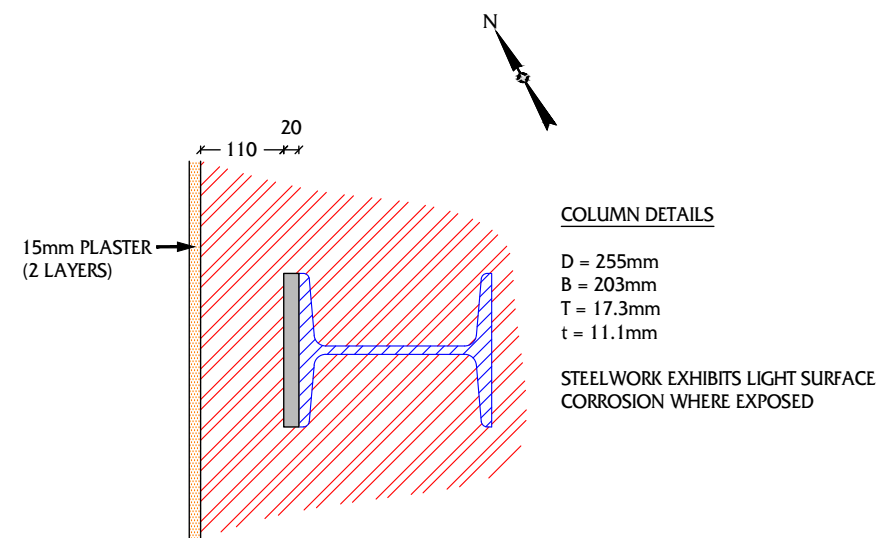


FIG. 19: PART PLAN SHOWING DETAILS OF COLUMN L1 SCALE 1:10

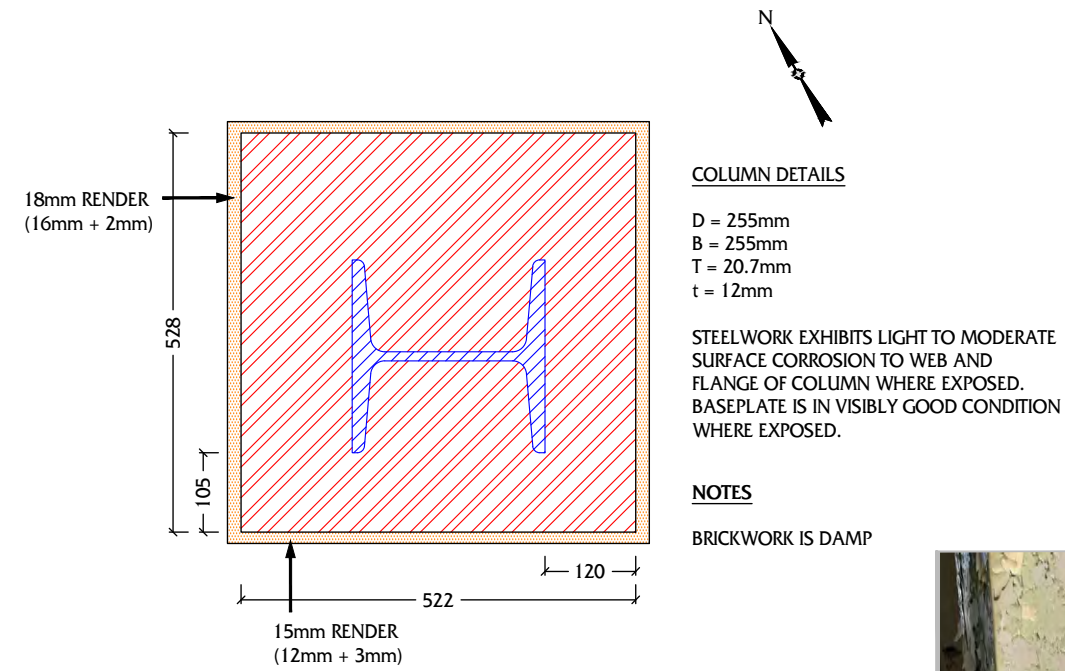


P19a: COLUMN L1



P19b: CLOSE UP VIEW OF COLUMN L1

FIG. 18: PART PLAN SHOWING DETAILS OF COLUMN J3 SCALE 1:10

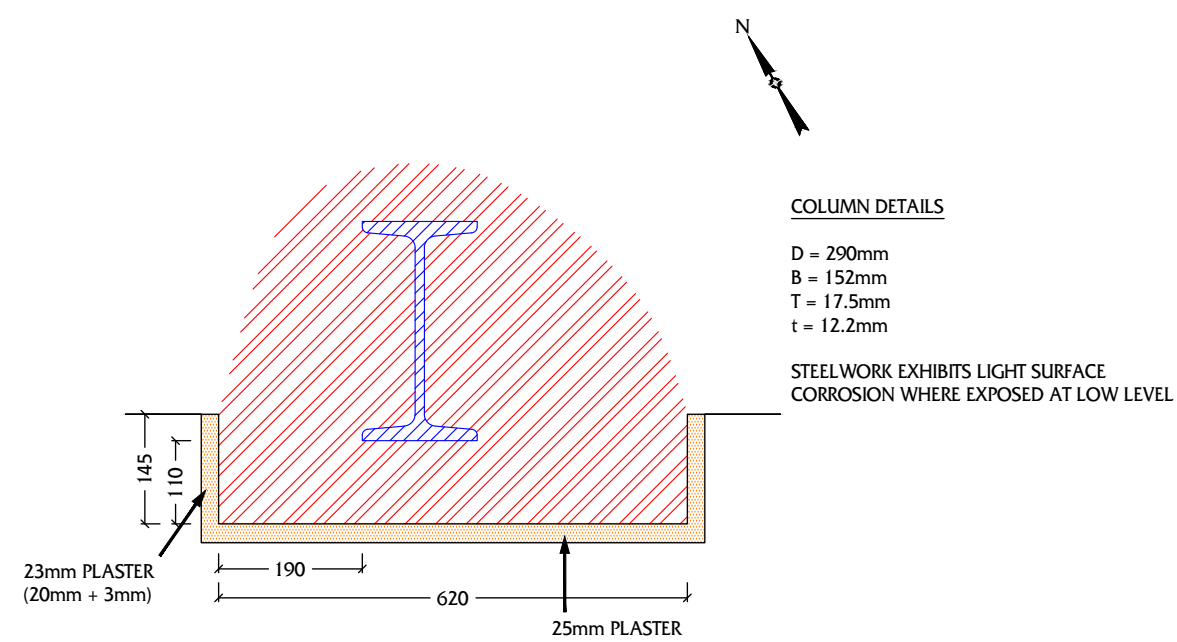


P18a: COLUMN J3

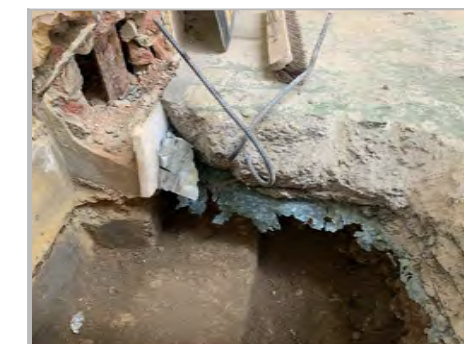


P18b: CLOSE UP VIEW OF EXPOSED BASE PLATE TO COLUMN J3

FIG. 20: PART PLAN SHOWING DETAILS OF COLUMN N8 SCALE 1:10



P20a: COLUMN N8



P20b: CLOSE UP VIEW OF COLUMN N8 EXPOSED AT LOW LEVEL

AERIAL VIEW OF SITE



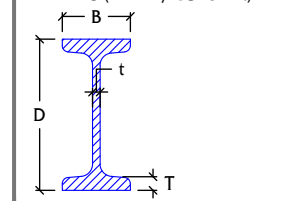
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- COLUMN SURVEYED

MATERIAL TYPES

- STEELWORK
- BRICKWORK
- RENDER / PLASTER
- MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 5 OF 7

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-C5



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Widford
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk
© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.21: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

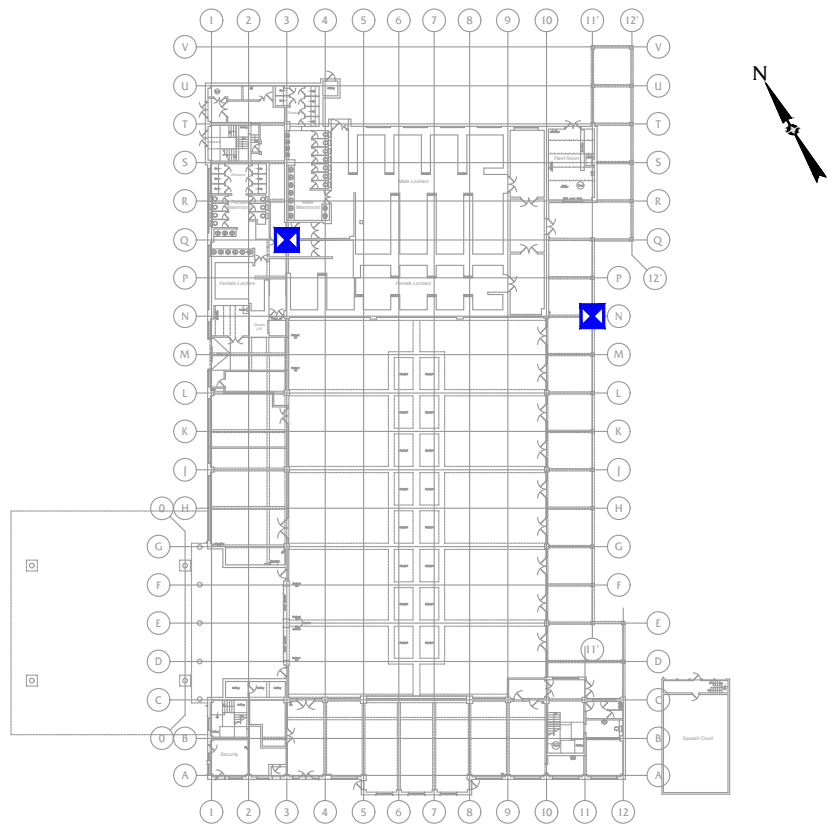
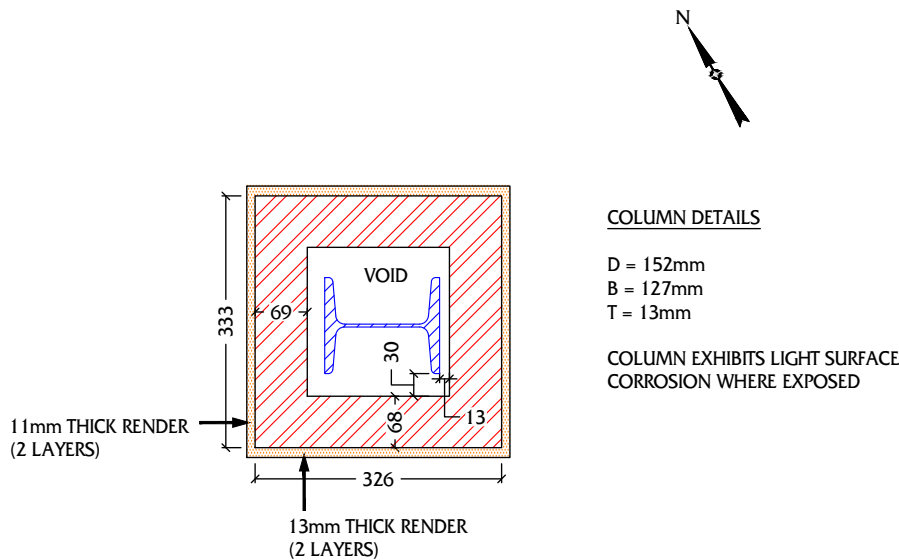


FIG.22: PART PLAN SHOWING DETAILS OF COLUMN N11 SCALE 1:10

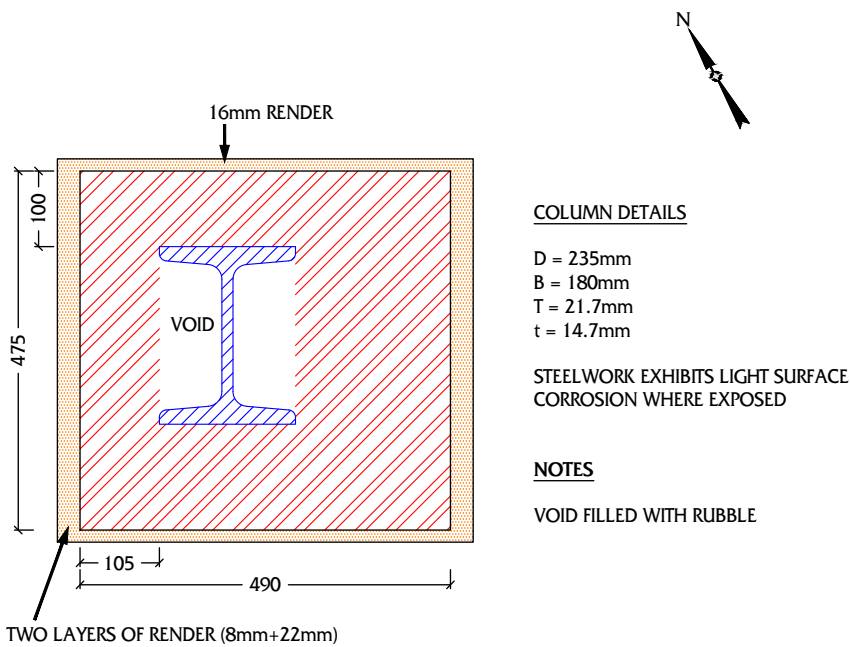


P22a: COLUMN N11



P22b: CLOSE UP VIEW OF COLUMN N11

FIG.23: PART PLAN SHOWING DETAILS OF COLUMN Q3 SCALE 1:10



P23a: COLUMN Q3



P23b: CLOSE UP VIEW OF COLUMN Q3

AERIAL VIEW OF SITE



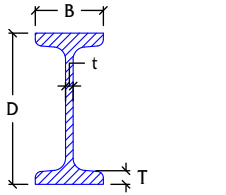
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- COLUMN SURVEYED

MATERIAL TYPES

- STEELWORK
- BRICKWORK
- RENDER / PLASTER
- MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

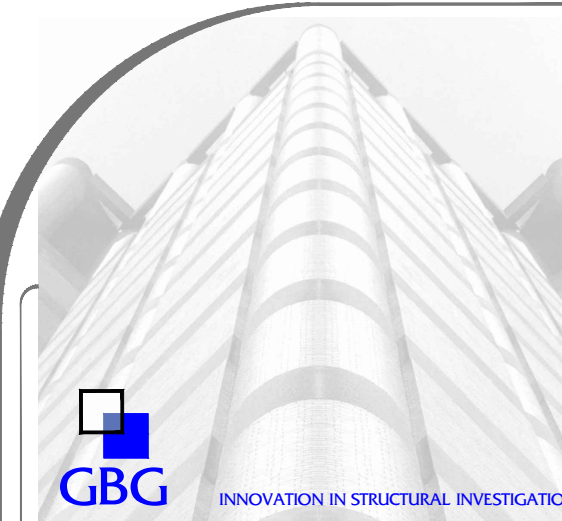
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 6 OF 7

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-C6



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Welford
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk
© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.24: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF COLUMNS SURVEYED NOT TO SCALE

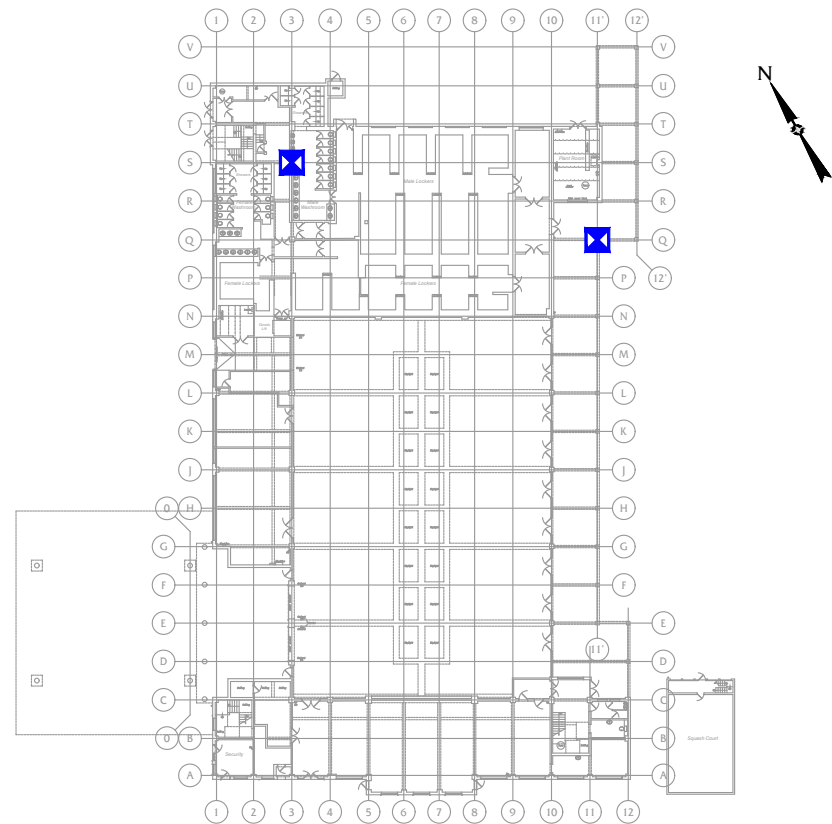
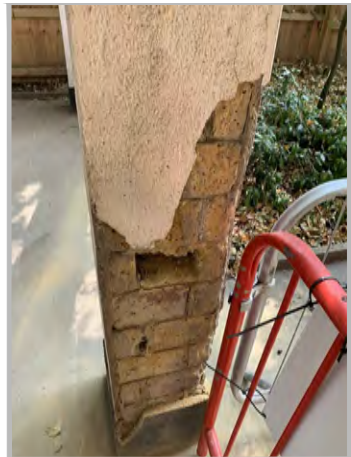
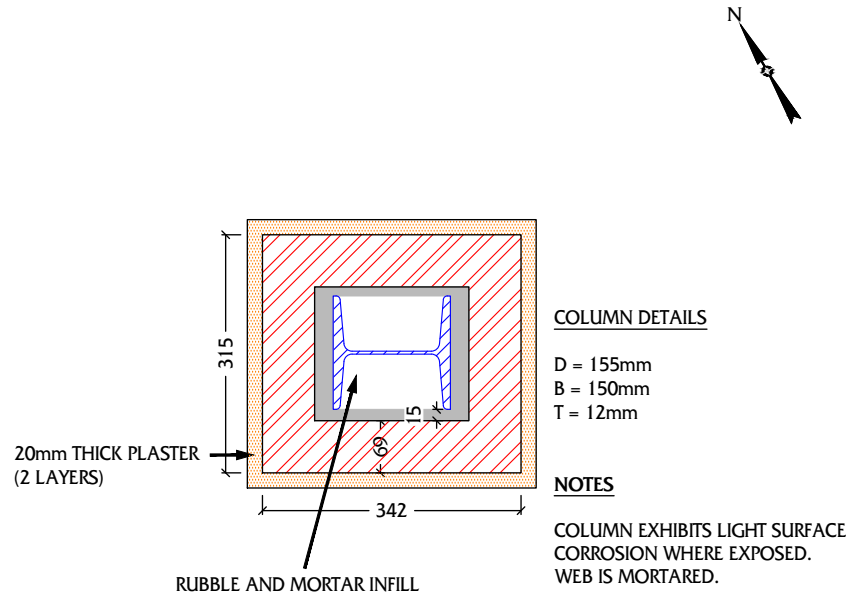


FIG.25: PART PLAN SHOWING DETAILS OF COLUMN Q11 SCALE 1:10

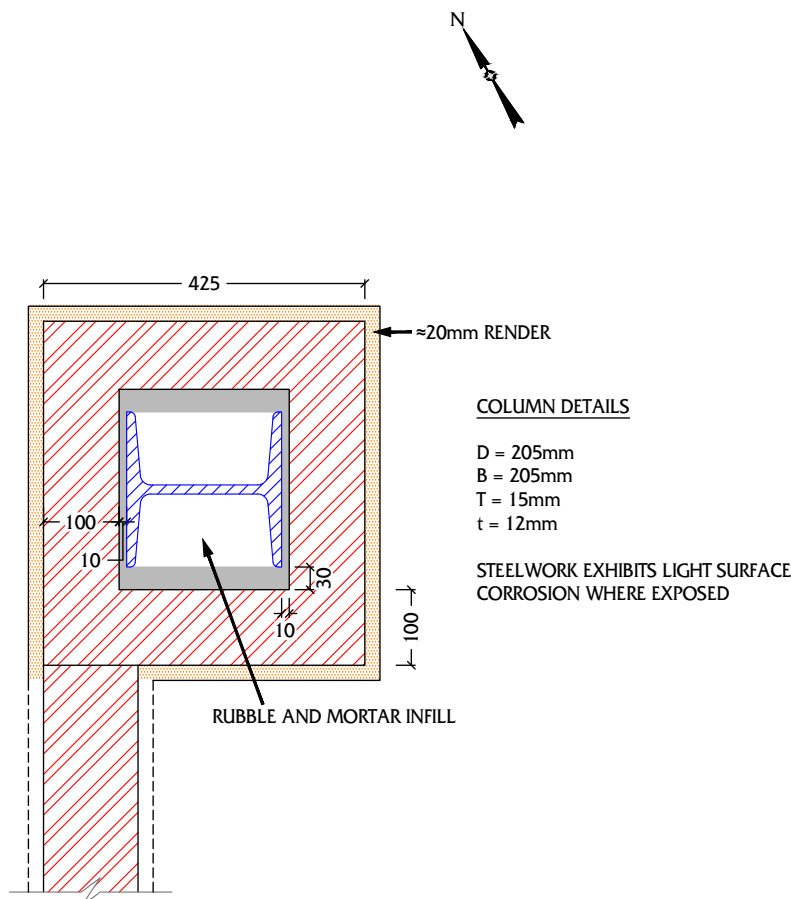


P25a: COLUMN Q11



P25b: CLOSE UP VIEW OF COLUMN Q11

FIG.26: PART PLAN SHOWING DETAILS OF COLUMN S3 SCALE 1:10



P26a: COLUMN S3



P26b: CLOSE UP VIEW OF COLUMN S3

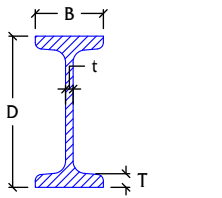
AERIAL VIEW OF SITE



SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	STEELWORK
COLUMN SURVEYED	BRICKWORK
	RENDER / PLASTER
	MORTAR

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR COLUMN CONSTRUCTION - SHEET 7 OF 7

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-C7
--------------------	----------------------	--------------------------	------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF TRANSFER BEAM SURVEYED NOT TO SCALE

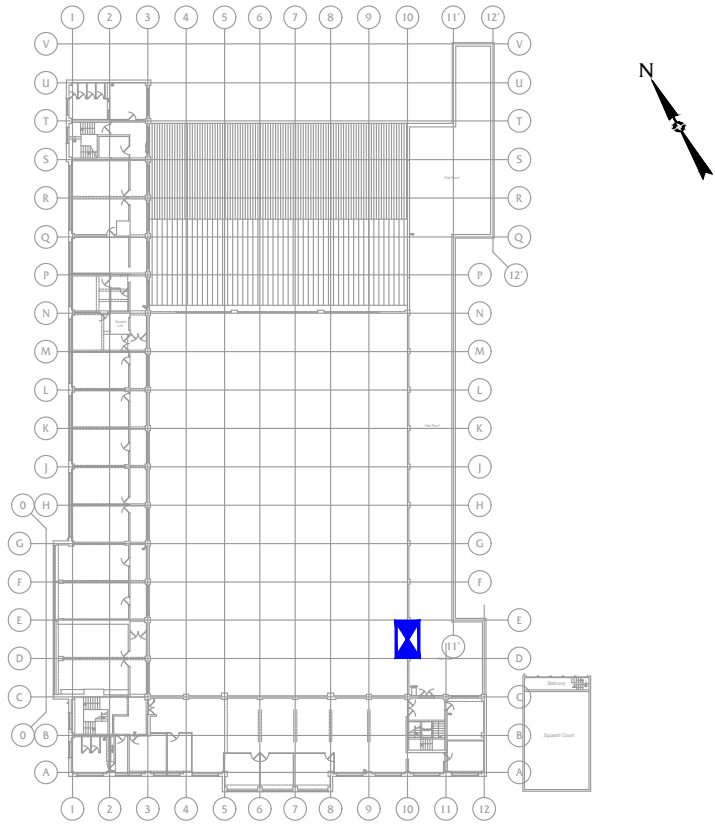
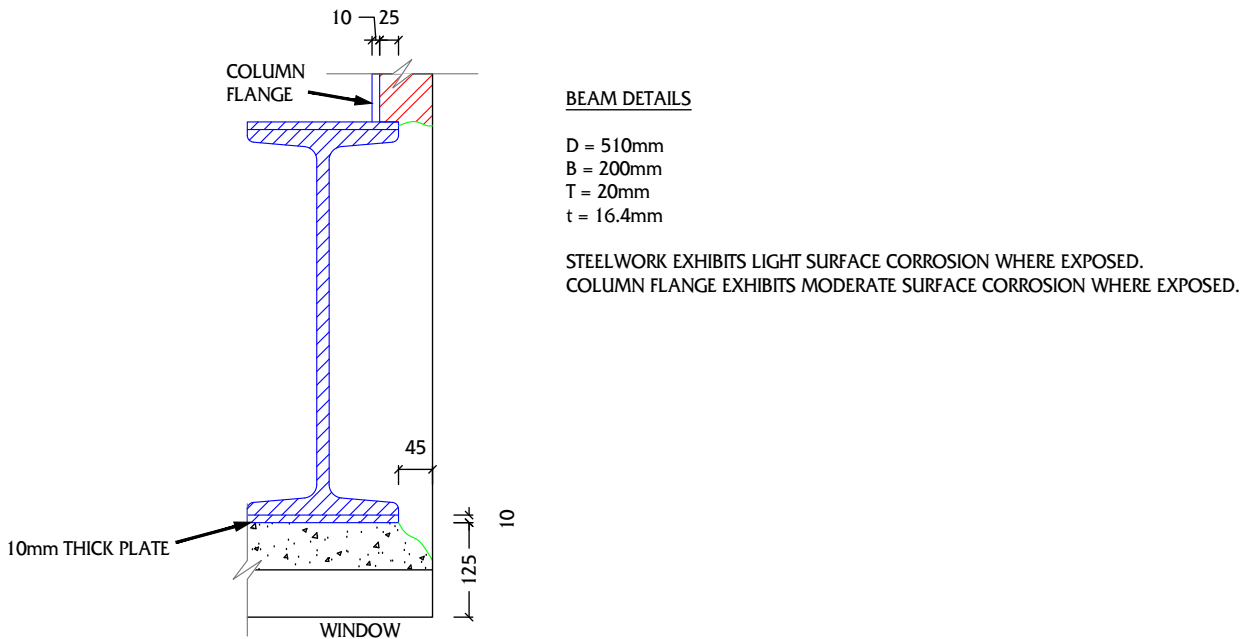


FIG.2: PART SECTION LOOKING SOUTH THROUGH TRANSFER BEAM - SURVEY AREA D-E/10 SCALE 1:10

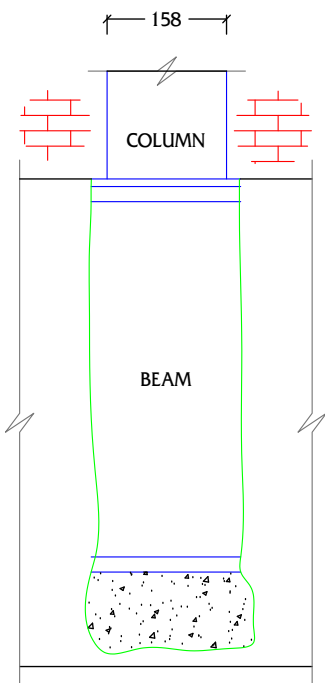


P2a: TRANSFER BEAM D-E/10



P2b: CLOSE UP VIEW OF TRANSFER BEAM D-E/10

FIG.3: PART ELEVATION LOOKING EAST TOWARDS TRANSFER BEAM - SURVEY AREA D-E/10 SCALE 1:10



AERIAL VIEW OF SITE



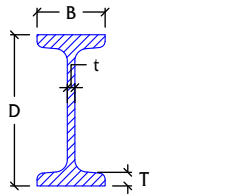
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- BEAM INVESTIGATED
- APPROXIMATE EXTENT OF BREAKOUT
- STEELWORK

MATERIAL TYPES

- CONCRETE
- STEELWORK
- BRICKWORK (SECTION)
- BRICKWORK (ELEVATION)

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR TRANSFER BEAM CONSTRUCTION - SHEET 1 OF 4

Drawn HW SEP 20 CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TB1



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF 1ST FLOOR SHOWING LOCATION OF TRANSFER BEAM SURVEYED NOT TO SCALE

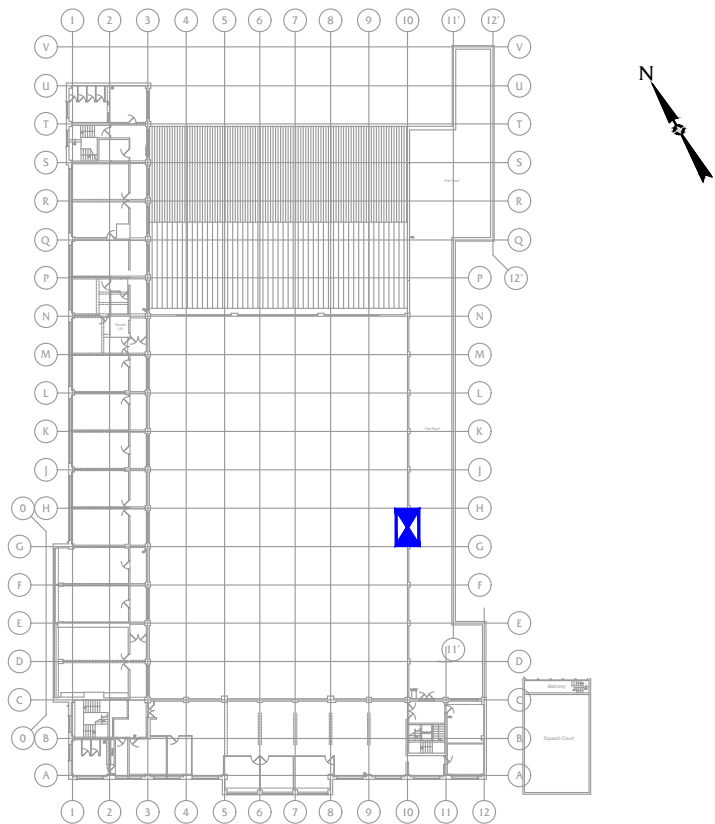


FIG.6: PART ELEVATION LOOKING EAST TOWARDS TRANSFER BEAM - SURVEY AREA G-H/10 SCALE 1:10

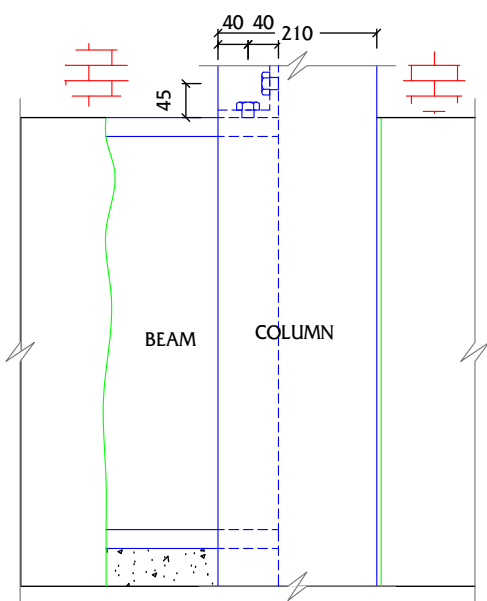
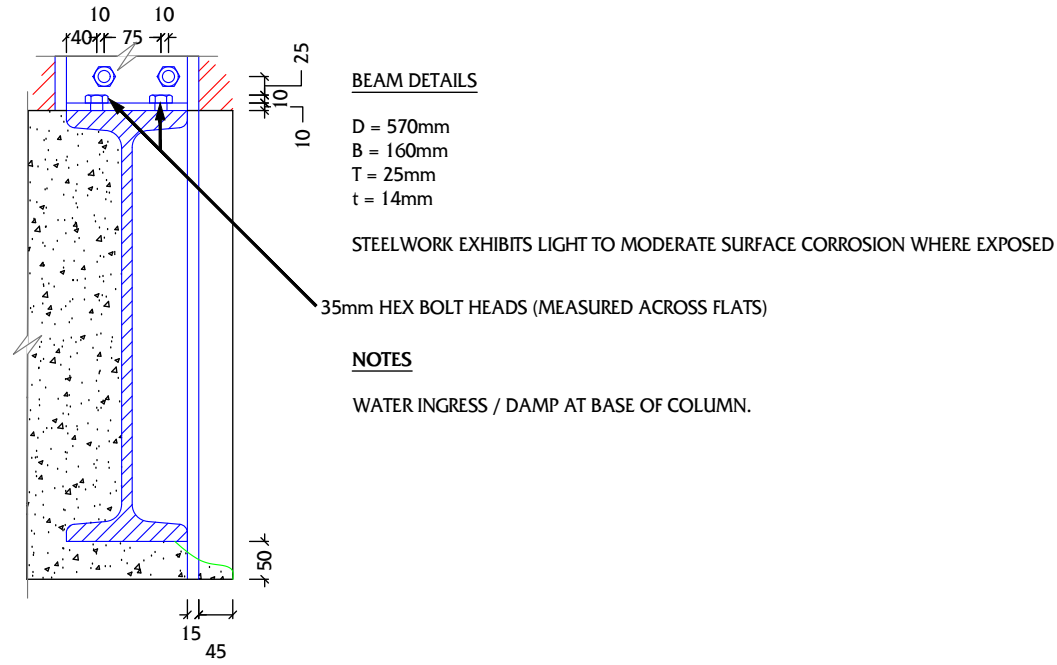


FIG.5: PART SECTION LOOKING SOUTH THROUGH TRANSFER BEAM - SURVEY AREA G-H/10 SCALE 1:10



P5a: TRANSFER BEAM G-H/10



P5b: CLOSE UP VIEW OF TRANSFER BEAM G-H/10

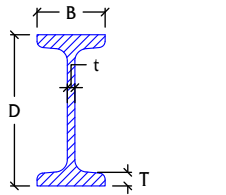
AERIAL VIEW OF SITE



SYMBOLS USED

	PLAN EXTENT OF BUILDING SURVEYED		CONCRETE
	BEAM INVESTIGATED		STEELWORK
	APPROXIMATE EXTENT OF BREAKOUT		BRICKWORK (SECTION)
	STEELWORK		BRICKWORK (ELEVATION)

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR TRANSFER BEAM CONSTRUCTION - SHEET 2 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-TB2
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF 1ST FLOOR SHOWING LOCATION OF TRANSFER BEAM SURVEYED NOT TO SCALE

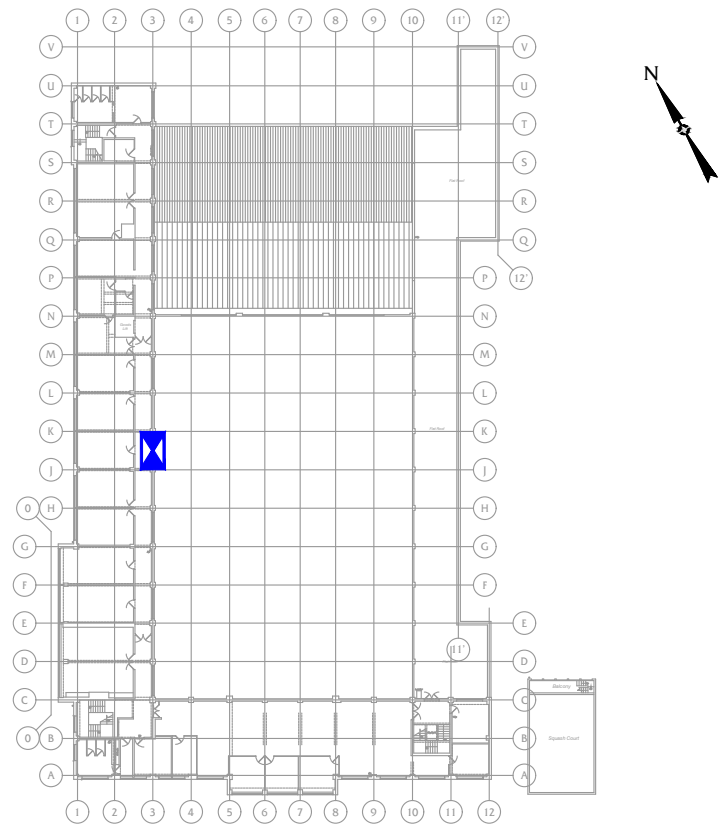


FIG.9: PART ELEVATION LOOKING WEST TOWARDS TRANSFER BEAM - SURVEY AREA J-K/3 SCALE 1:10

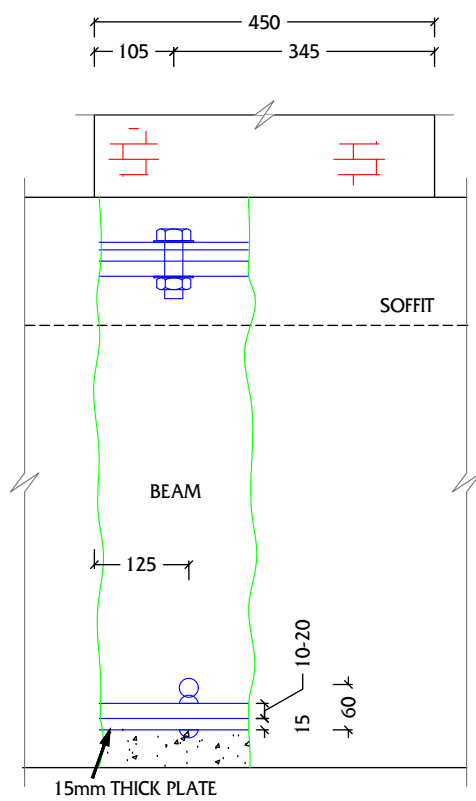
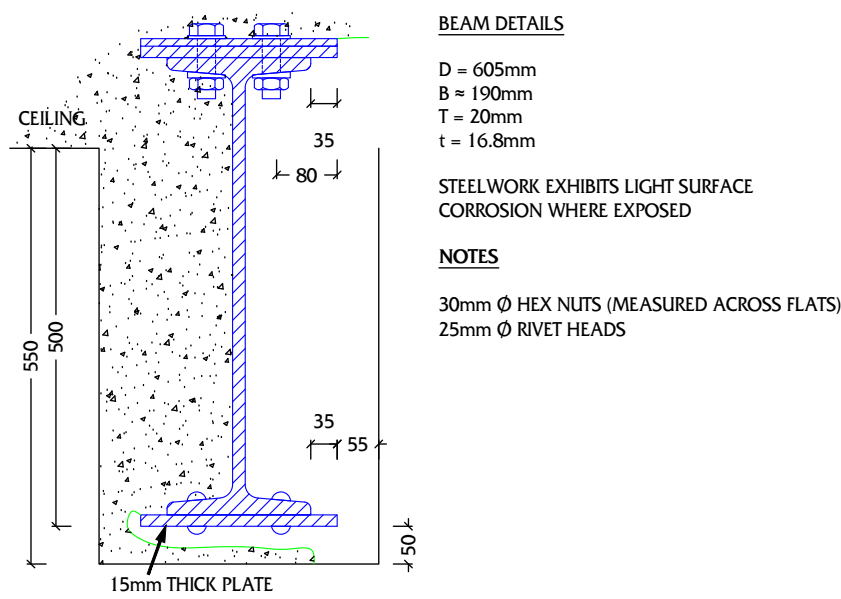


FIG.8: PART SECTION LOOKING NORTH THROUGH TRANSFER BEAM - SURVEY AREA J-K/3 SCALE 1:10

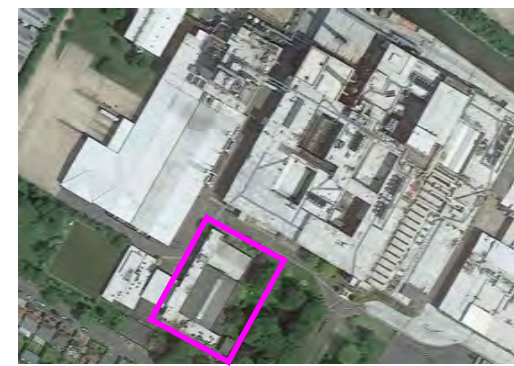


P8a: TRANSFER BEAM J-K/3



P8b: CLOSE UP VIEW OF TRANSFER BEAM J-K/3

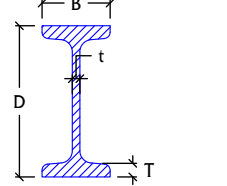
AERIAL VIEW OF SITE



SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
BEAM INVESTIGATED	STEELWORK
APPROXIMATE EXTENT OF BREAKOUT	BRICKWORK (SECTION)
STEELWORK	BRICKWORK (ELEVATION)

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

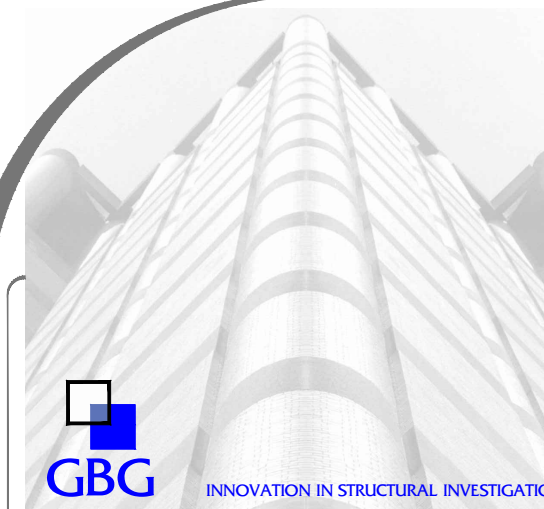
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR TRANSFER BEAM CONSTRUCTION - SHEET 3 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-TB3
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.10: PLAN OF 1ST FLOOR SHOWING LOCATION OF TRANSFER BEAM SURVEYED NOT TO SCALE

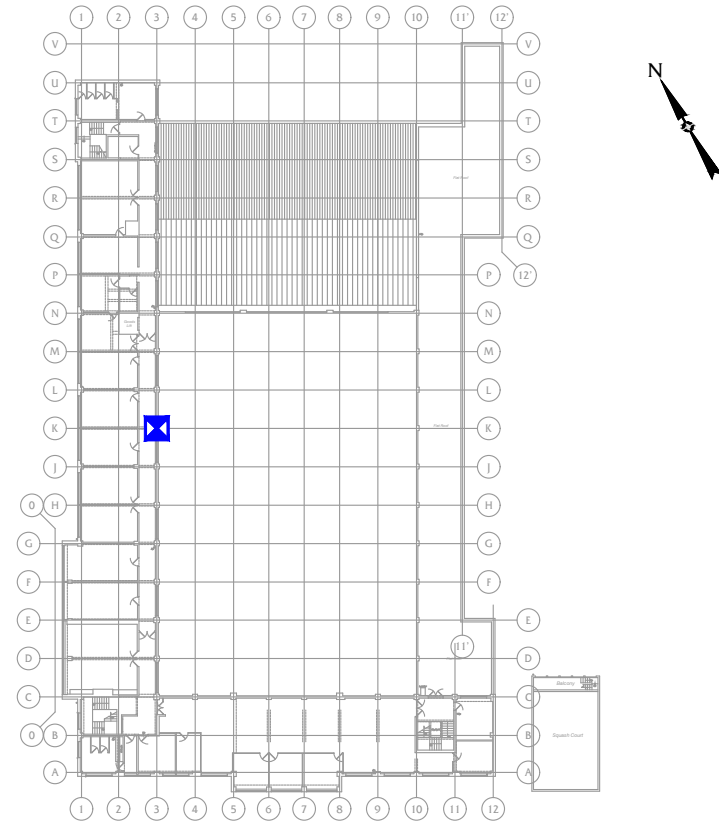
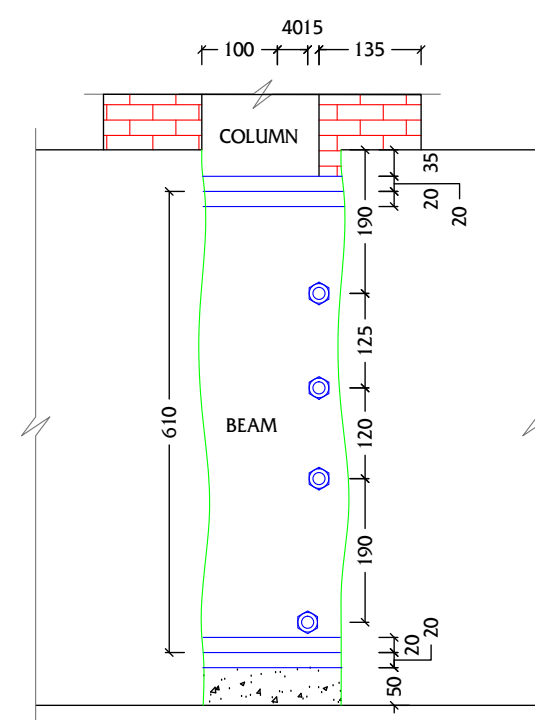


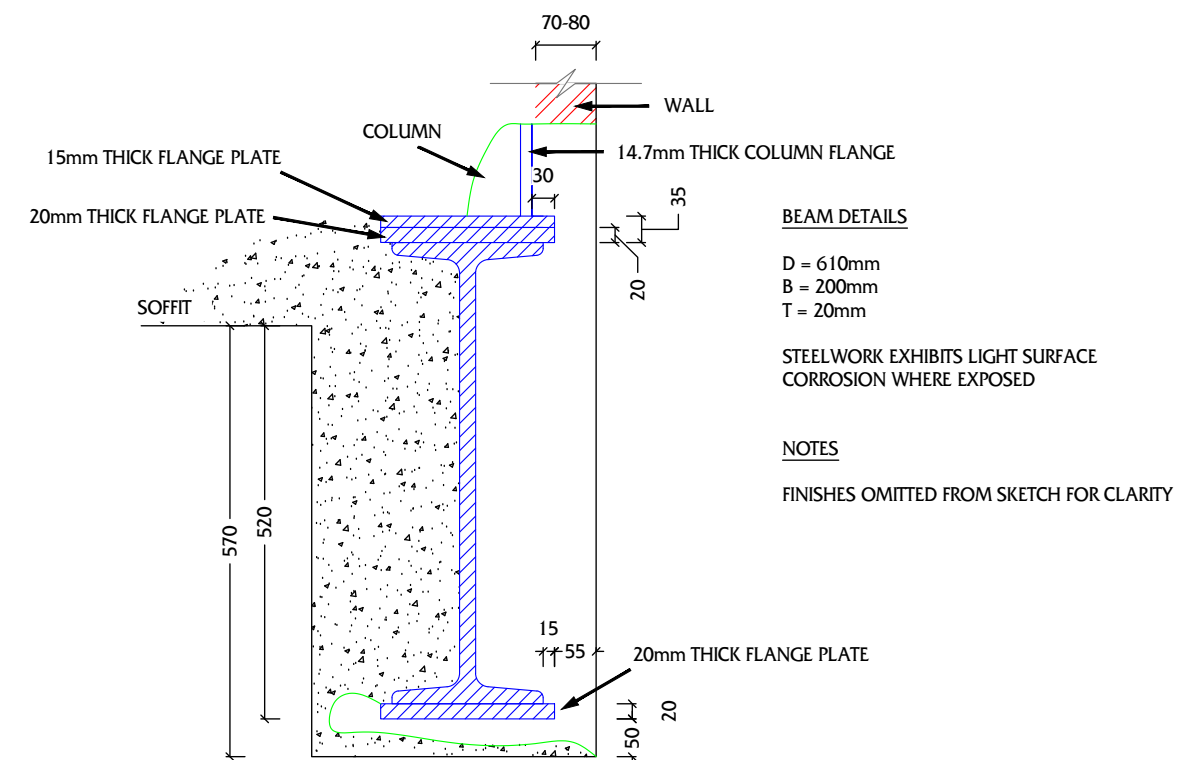
FIG.12: PART ELEVATION LOOKING WEST TOWARDS TRANSFER BEAM - SURVEY AREA K3 SCALE 1:10



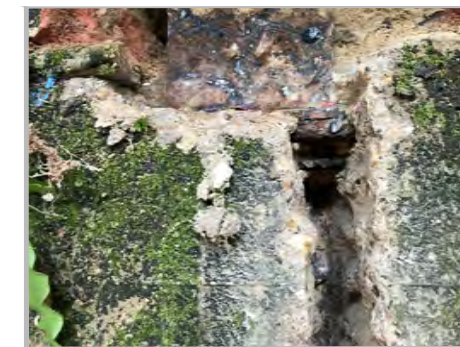
NOTES

25mm HEX BOLT HEADS (MEASURED ACROSS FLATS)

FIG.11: PART SECTION LOOKING NORTH THROUGH TRANSFER BEAM - SURVEY AREA K3 SCALE 1:10



P11a: TRANSFER BEAM K3



P11b: CLOSE UP VIEW OF TOP OF TRANSFER BEAM
K3



P11c: CLOSE UP VIEW OF BOTTOM OF TRANSFER BEAM K3

AERIAL VIEW OF SITE

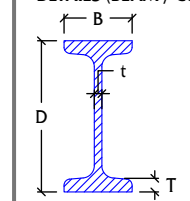


SYMBOLS USED

- | | | | |
|---|----------------------------------|---|-----------------------|
|  | PLAN EXTENT OF BUILDING SURVEYED |  | CONCRETE |
|  | BEAM INVESTIGATED |  | STEELWORK |
|  | APPROXIMATE EXTENT OF BREAKOUT |  | BRICKWORK (SECTION) |
|  | STEELWORK |  | BRICKWORK (ELEVATION) |

MATERIAL TYPES

- | | |
|---|--------------------------|
|  | CONCRETE |
|  | STEELWORK |
|  | BRICKWORK
(SECTION) |
|  | BRICKWORK
(ELEVATION) |

STEEL MEASUREMENT
DETAILS (BEAM / COLUMN)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: **BARRATT LONDON**

Title: DETAILS OF 1ST FLOOR TRANSFER BEAM
CONSTRUCTION - SHEET 4 OF 4

Drawn	Date	Scale	Dwg. No. 4689-TB4
HW	SEP 20	AS SHOWN	
CAD	PM	APP	

Drawn	Date	Scale	Dwg. No. 4689-TB4
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



INNOVATION IN STRUCTURAL INVESTIGATION

GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Watford
Hertfordshire
WD25 9XX
Enfold

Telephone:
+44 (0)1923 678800
Fax:
+44 (0)1923 678500

Email:
structs@gbg.co.uk
Website:
www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATIONS OF ROOF BEAMS SURVEYED OVER NOT TO SCALE

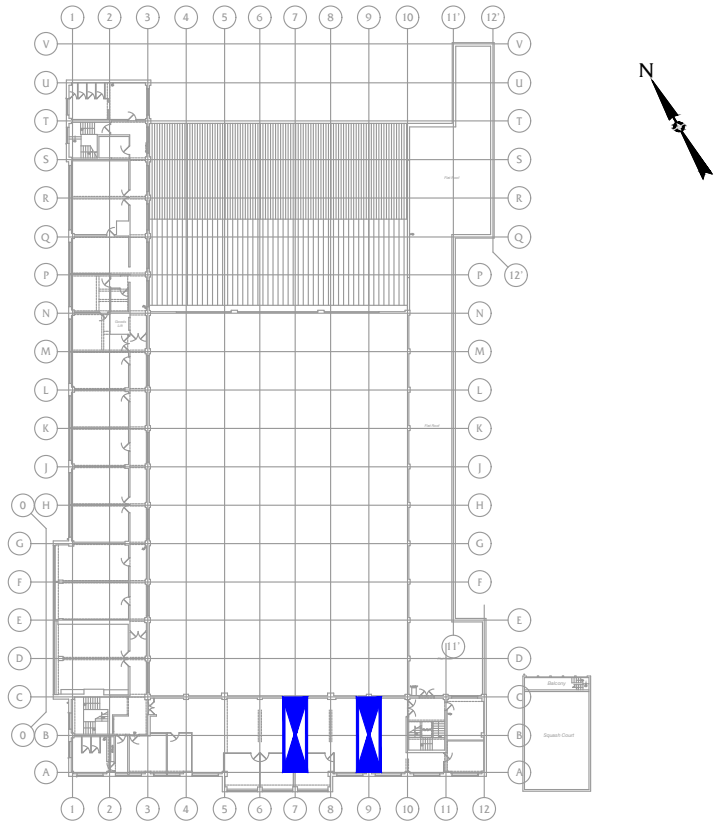
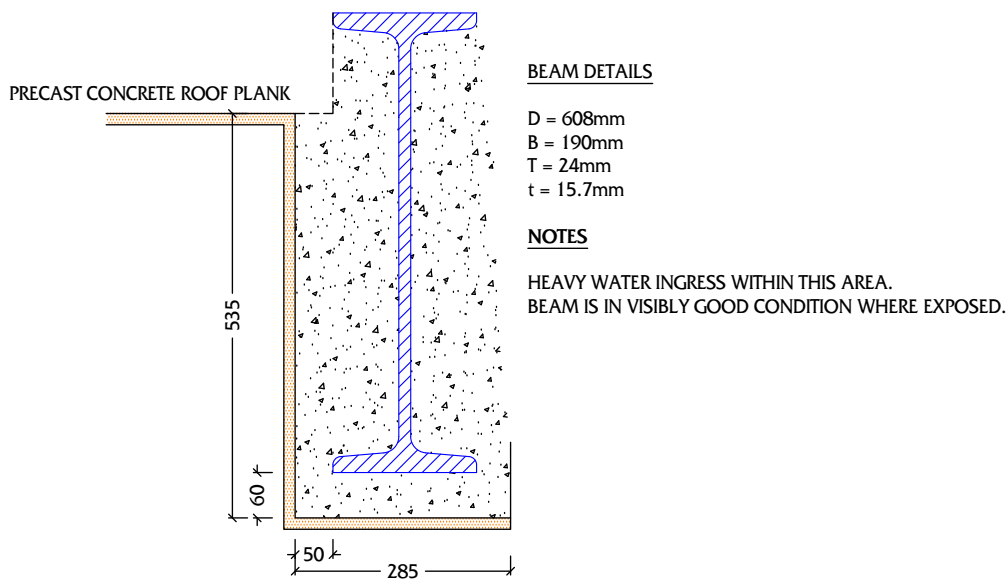
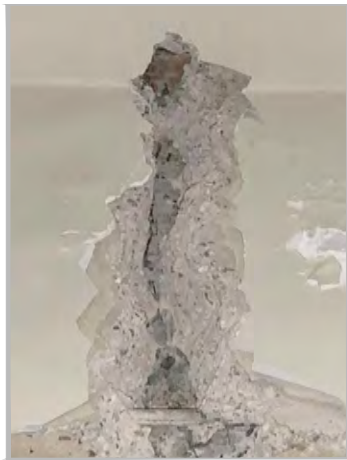


FIG.2: PART SECTION LOOKING NORTH THROUGH PRIMARY BEAM A-C/7 SCALE 1:10

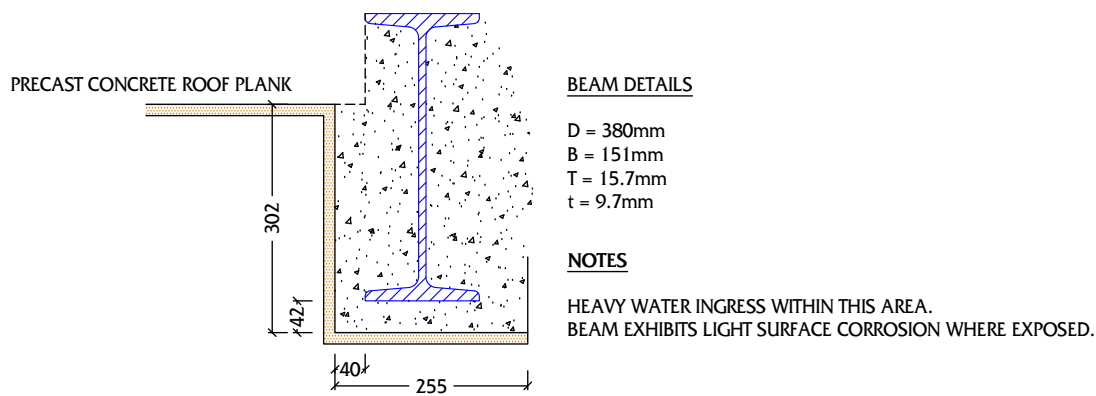


P2a: PRIMARY BEAM A-C/7



P2b: CLOSE UP VIEW OF PRIMARY BEAM A-C/7

FIG.3: PART SECTION LOOKING NORTH THROUGH PRIMARY BEAM A-C/9 SCALE 1:10



P3a: PRIMARY BEAM A-C/9



P3b: CLOSE UP VIEW OF PRIMARY BEAM A-C/9

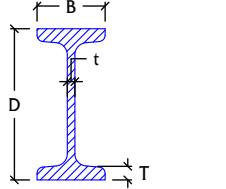
AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
BEAM INVESTIGATED	STEELWORK
	RENDER / PLASTER

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)

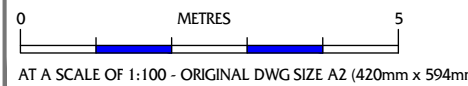


PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF BEAM CONSTRUCTION
SHEET 1 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RB1
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF 1ST FLOOR SHOWING LOCATIONS OF ROOF BEAMS SURVEYED OVER NOT TO SCALE

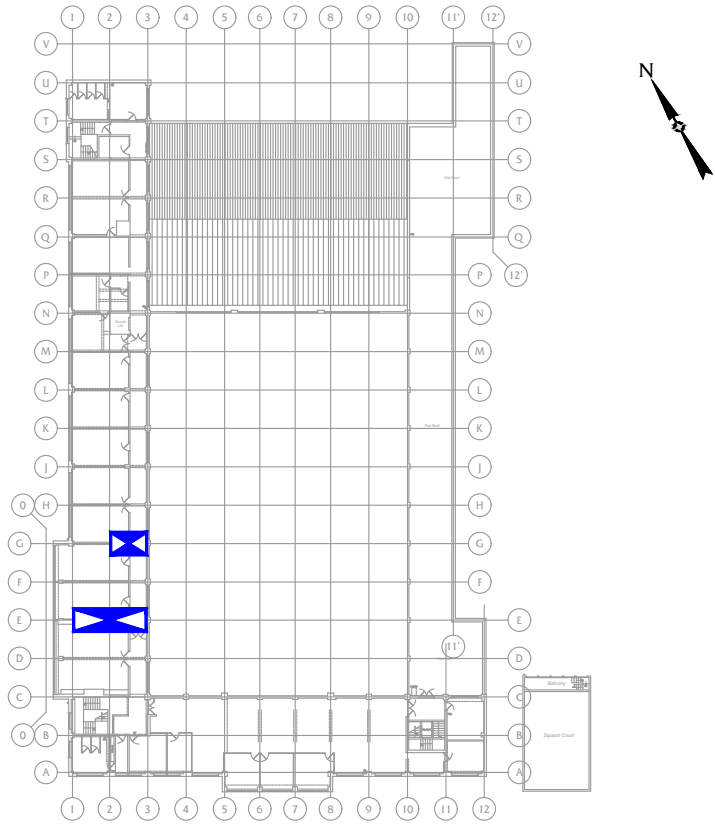
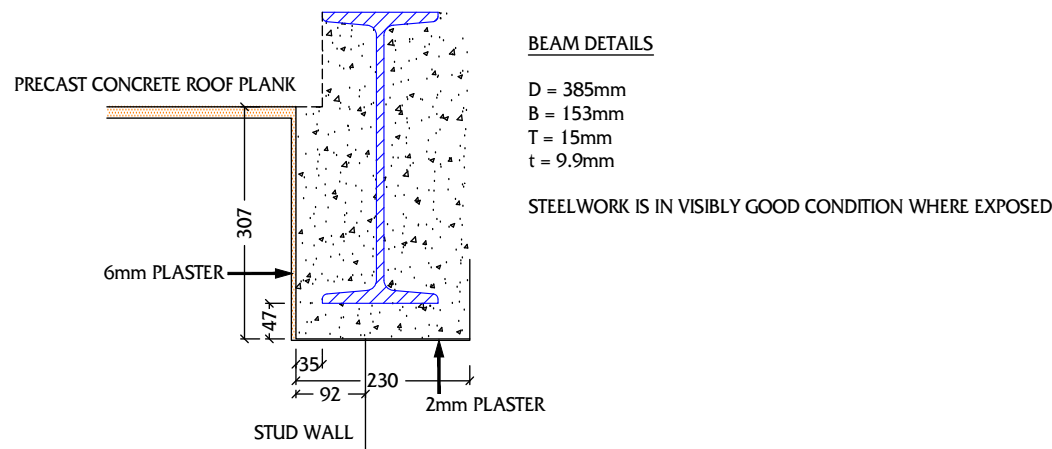


FIG.6: PART SECTION LOOKING WEST THROUGH PRIMARY BEAM G/2-3 SCALE 1:10

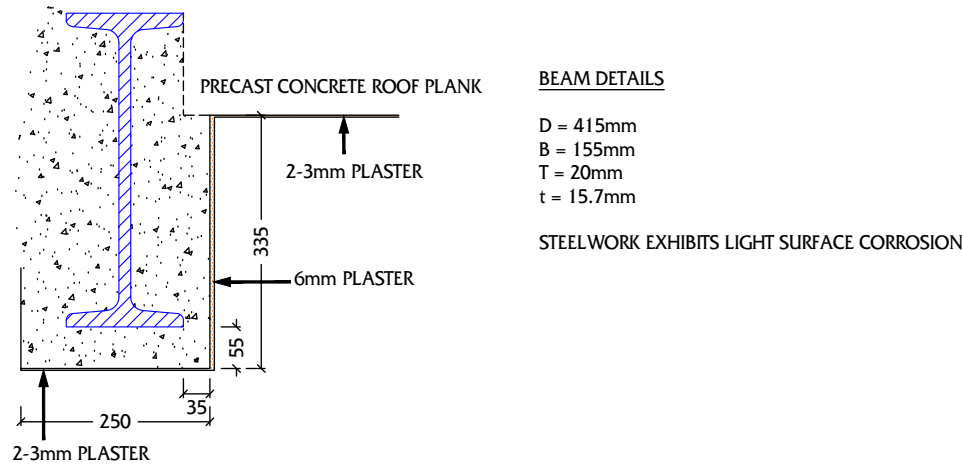


P6a: PRIMARY BEAM G/2-3



P6b: CLOSE UP VIEW OF PRIMARY BEAM G/2-3

FIG.5: PART SECTION LOOKING WEST THROUGH PRIMARY BEAM E/1-3 SCALE 1:10



P5a: PRIMARY BEAM E/1-3



P5b: CLOSE UP VIEW OF PRIMARY BEAM E/1-3

AERIAL VIEW OF SITE



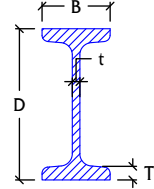
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- BEAM INVESTIGATED

MATERIAL TYPES

- CONCRETE
- STEELWORK
- RENDER / PLASTER

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF BEAM CONSTRUCTION
SHEET 2 OF 4

Drawn: HW
CAD: SEP 20
Date: PM
Scale: AS SHOWN
APP: Dwg. No. 4689-RB2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Widford
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF BEAM SURVEYED NOT TO SCALE

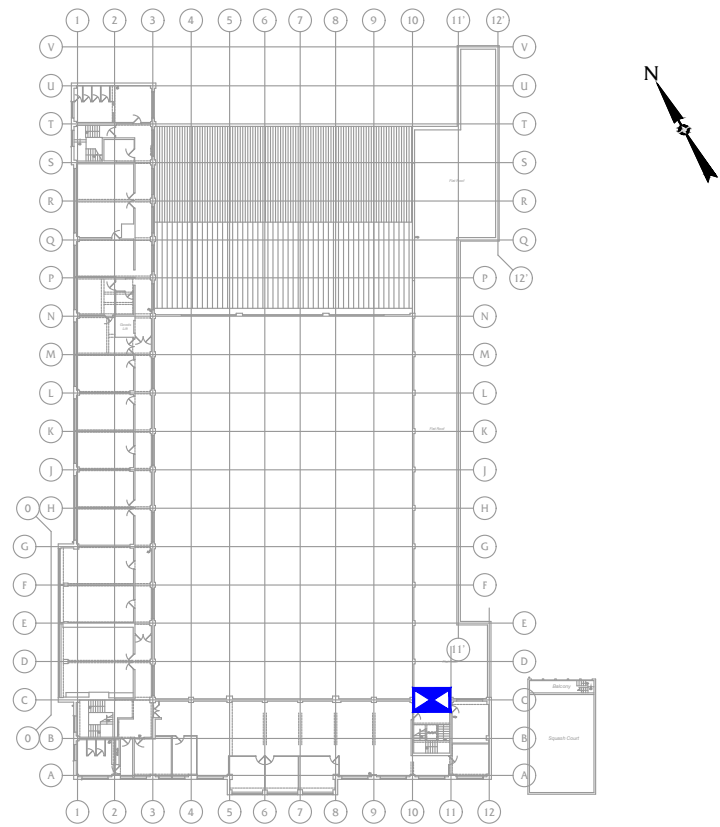
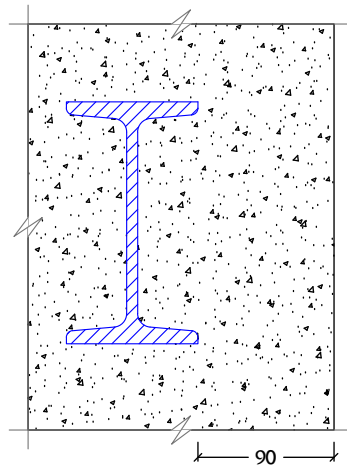
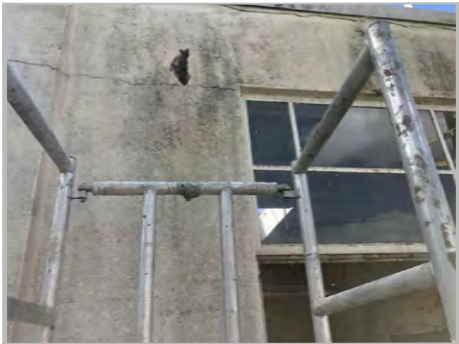
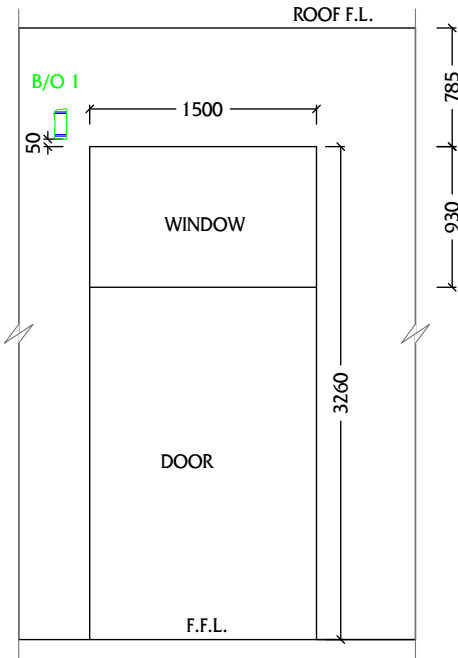


FIG.9: PART SECTION LOOKING WEST THROUGH BEAM - SURVEY AREA C/10-11 SCALE 1:5



BEAM DETAILS
D = 160mm
B = 87mm
T = 10mm
t = 7.3mm
STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED

FIG.8: PART ELEVATION LOOKING SOUTH SHOWING LAYOUT OF SURVEY AREA C/10-11 AND POSITION OF BREAKOUT TO BEAM SCALE 1:50



P8a: SURVEY AREA C/10-11



P8b: CLOSE UP VIEW OF BEAM C/10-11

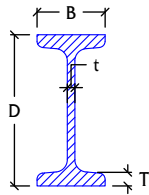
AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- BEAM INVESTIGATED
- APPROXIMATE EXTENT OF BREAKOUT
- STEELWORK

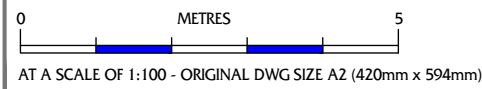
STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS
GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF BEAM CONSTRUCTION
SHEET 3 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RB3
--------------------	----------------------	--------------------------	-------------------



GBG INNOVATION IN STRUCTURAL INVESTIGATION

GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Wotton
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 10: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF BEAM SURVEYED NOT TO SCALE

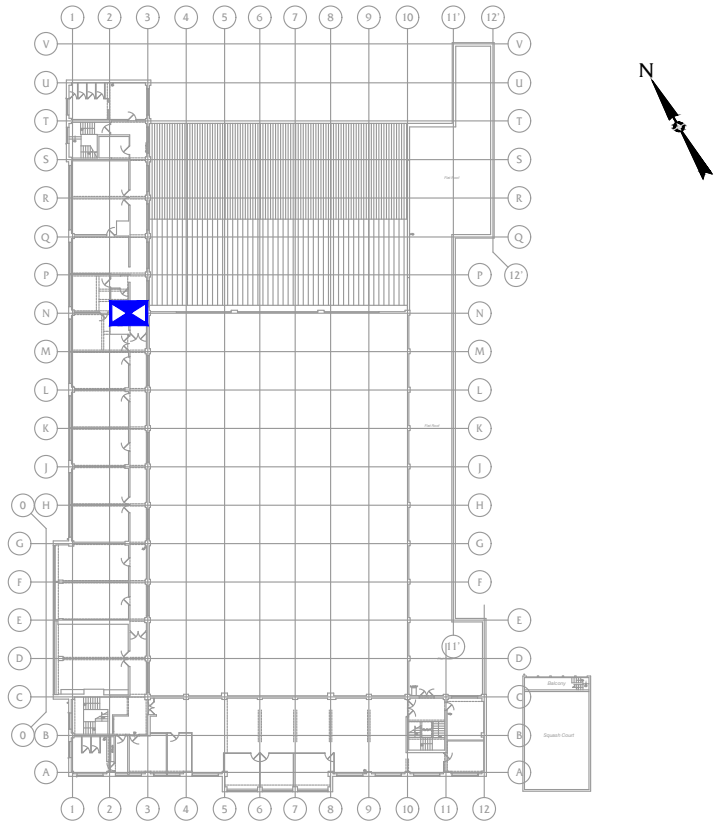
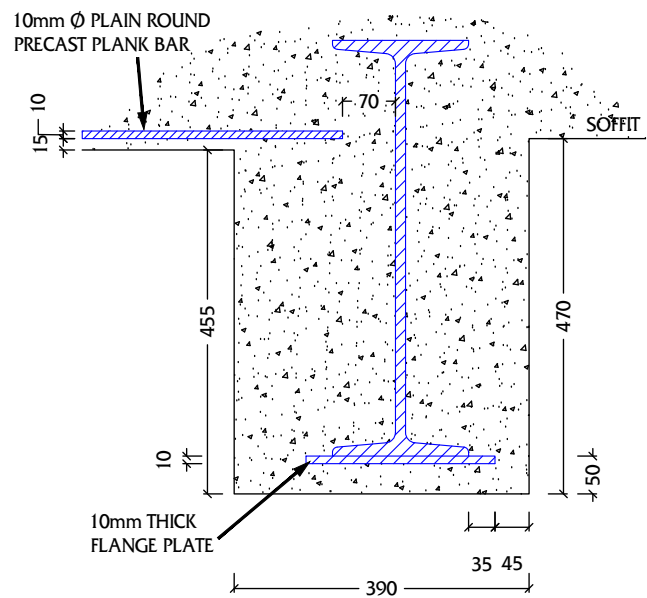


FIG. 12: PART SECTION LOOKING EAST THROUGH PRIMARY BEAM - SURVEY AREA N/2-3 SCALE 1:10



BEAM DETAILS

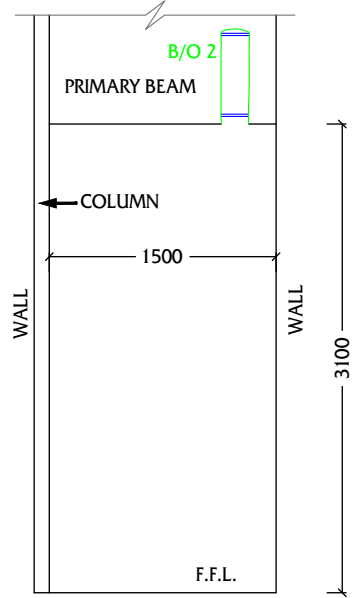
D = 550mm
B = 180mm
T = 15mm
t = 13.4mm

STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED

NOTES

FINISHES OMITTED FROM SKETCH FOR CLARITY

FIG. 11: PART ELEVATION LOOKING SOUTH SHOWING LAYOUT OF SURVEY AREA N/2-3 AND POSITION OF BREAKOUT TO BEAM SCALE 1:50



P11a: SURVEY AREA N/2-3



P11b: CLOSE UP VIEW OF BEAM N/2-3

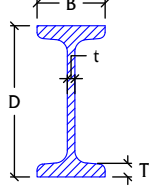
AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- BEAM INVESTIGATED
- APPROXIMATE EXTENT OF BREAKOUT
- STEELWORK

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF BEAM CONSTRUCTION
SHEET 4 OF 4

Drawn HW SEP 20 CAD Date PM Scale AS SHOWN APP Dwg. No. 4689-RB4



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 1: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

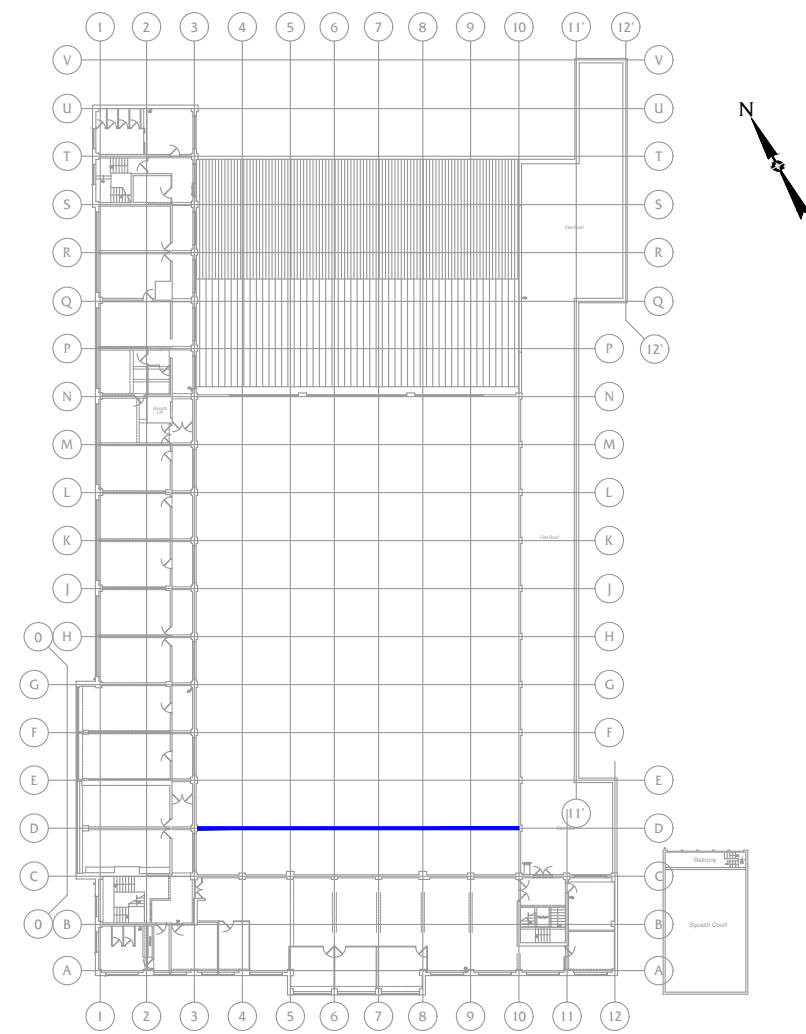
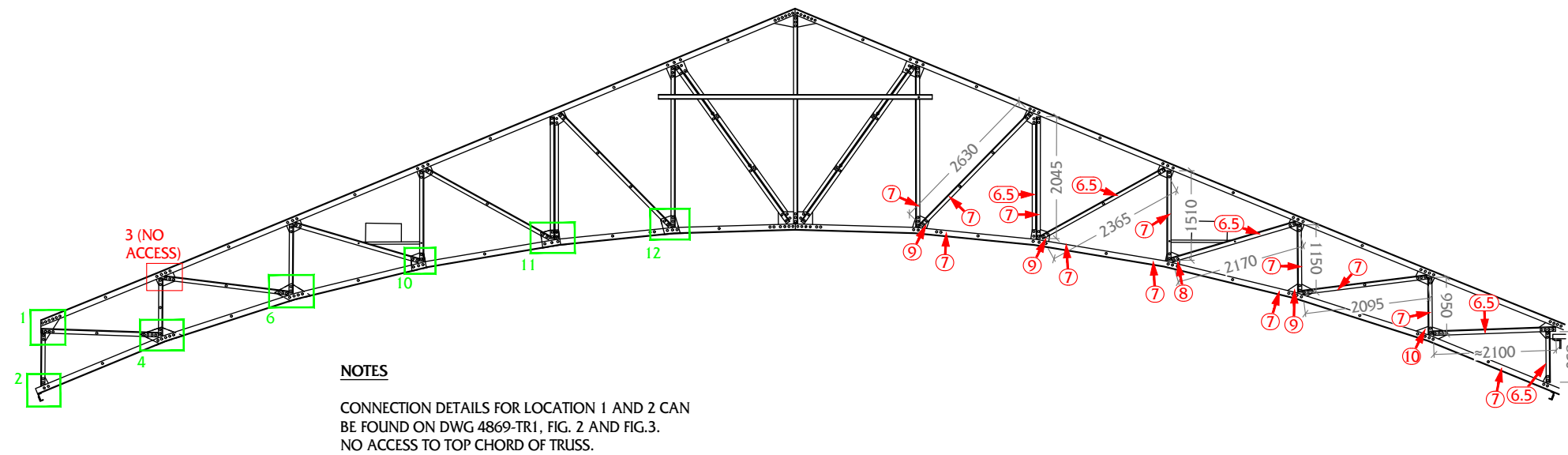
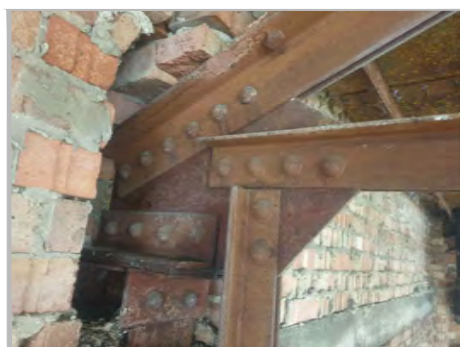
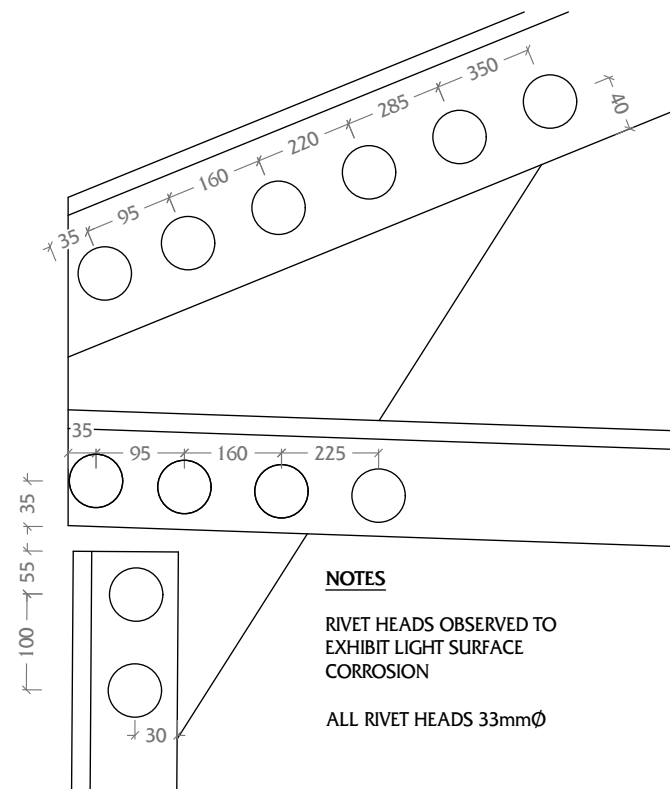


FIG. 1a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS D NOT TO SCALE



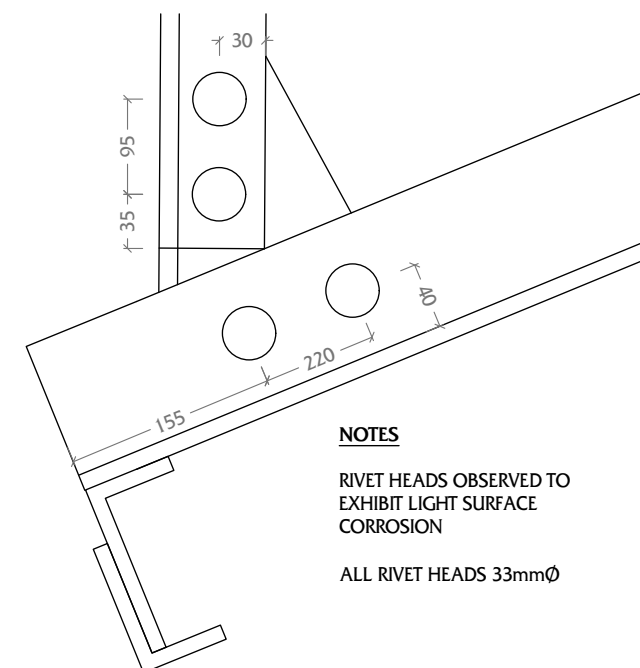
P1a: CONNECTION 3

FIG. 1b: PART ELEVATION SHOWING RIVET SPACINGS AT LOCATION 1 ON TRUSS D NOT TO SCALE



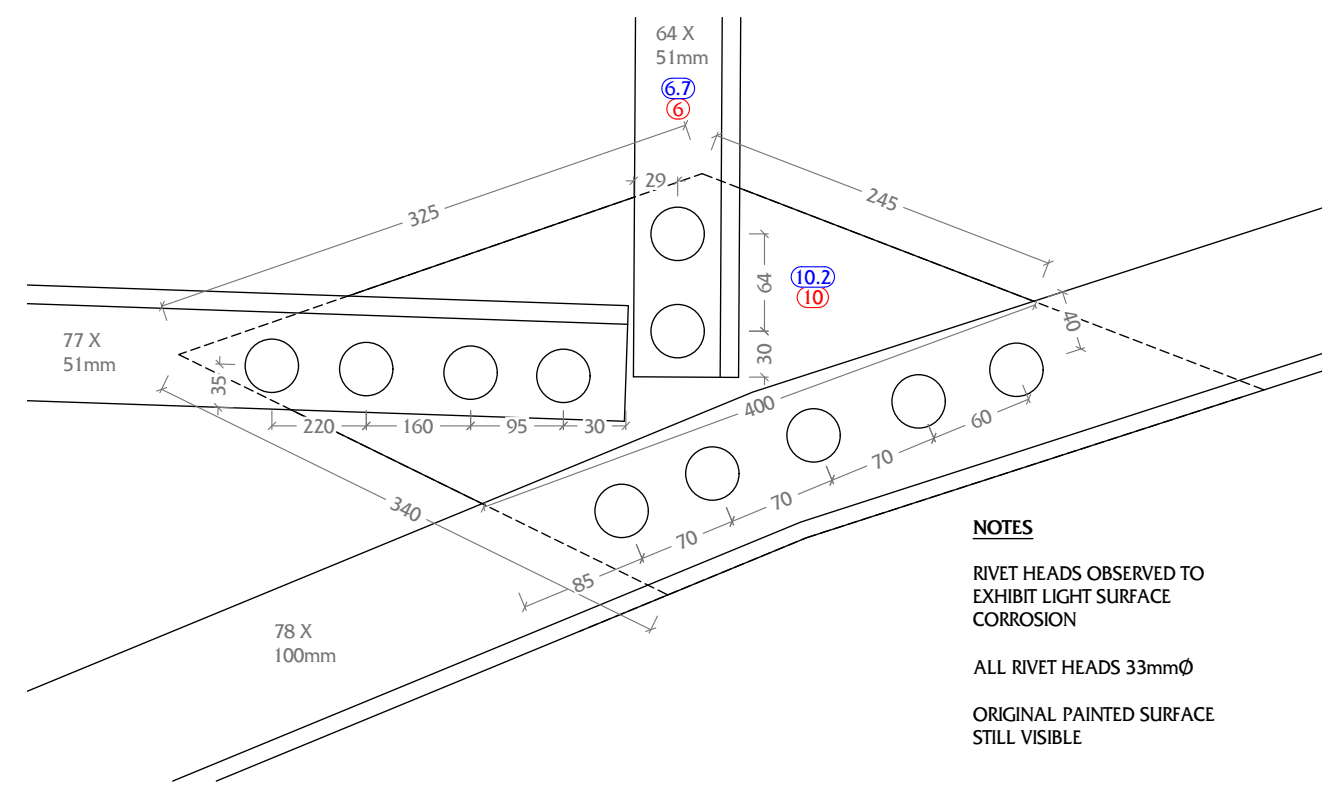
P1b: CONNECTION 1

FIG. 1c: PART ELEVATION SHOWING RIVET SPACINGS AT LOCATION 2 ON TRUSS D NOT TO SCALE



P1c: CONNECTION 2

FIG. 1d: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 4 ON TRUSS D NOT TO SCALE



P1d: CONNECTION 4

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 1 OF 6

Drawn	Date	Scale	Dwg. No. 4689-T1
VC	SEP '20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2019 G B Geotechnics Ltd. File 4689

FIG.2: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

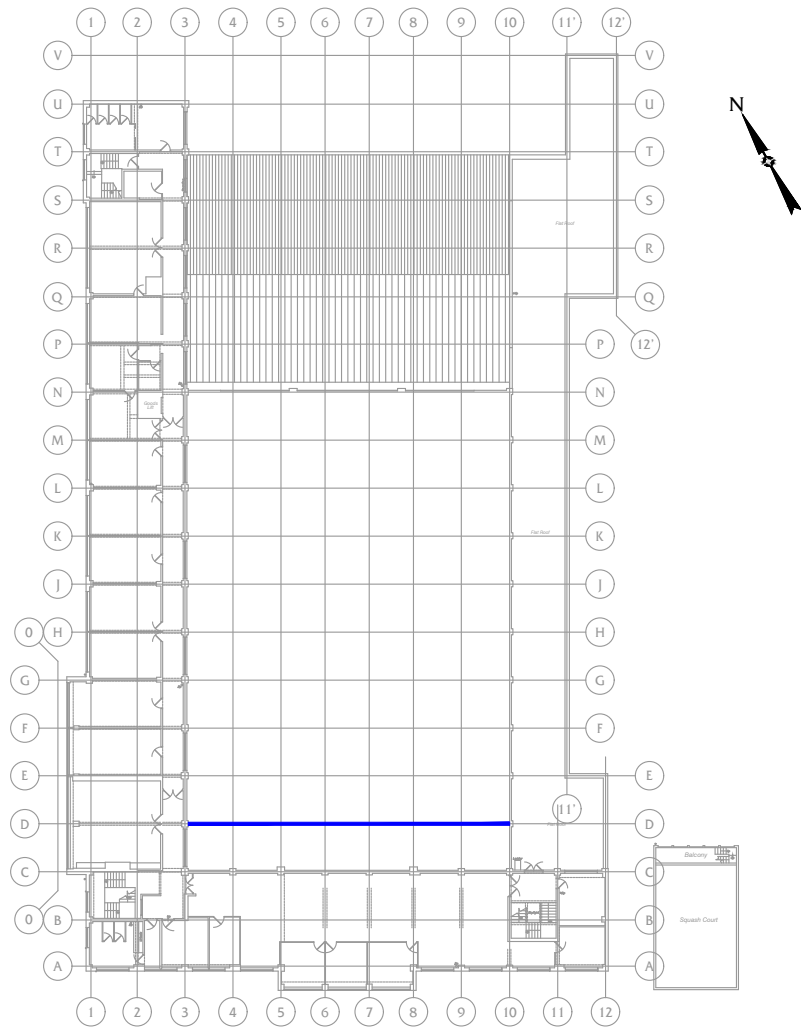


FIG.2b: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 6 ON TRUSS D NOT TO SCALE

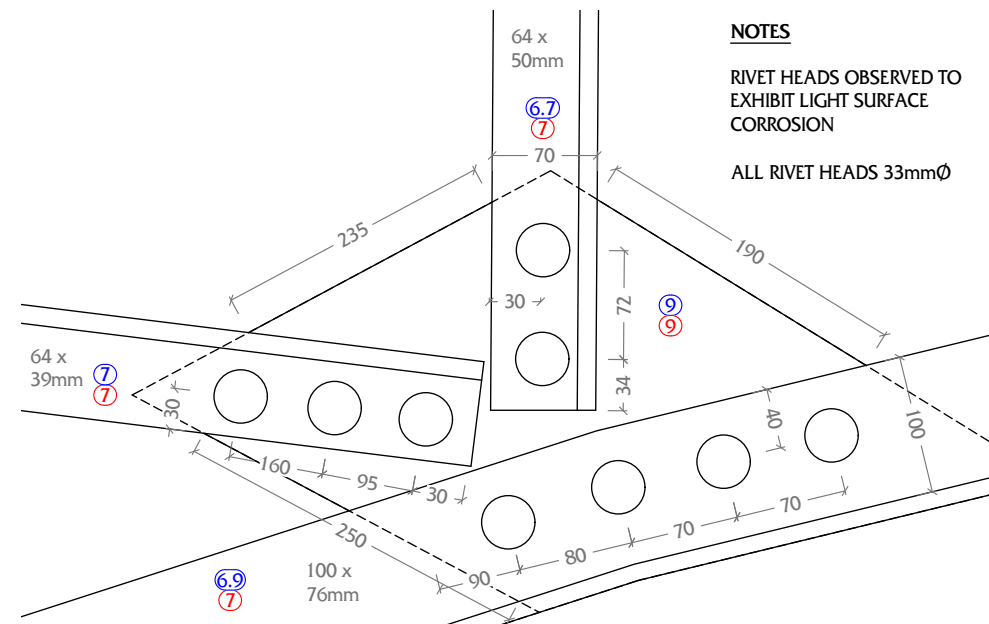


FIG.2c: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 10 ON TRUSS D NOT TO SCALE

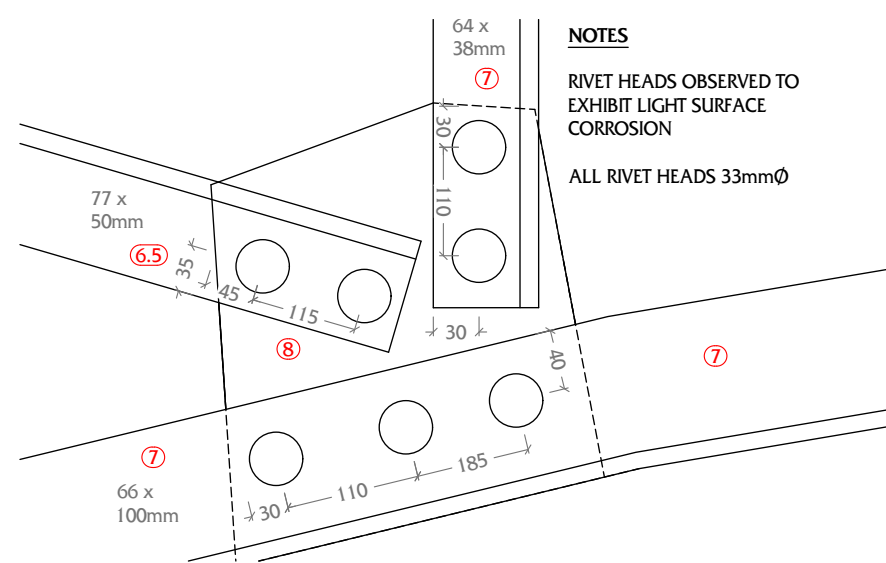


FIG.2a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS D NOT TO SCALE

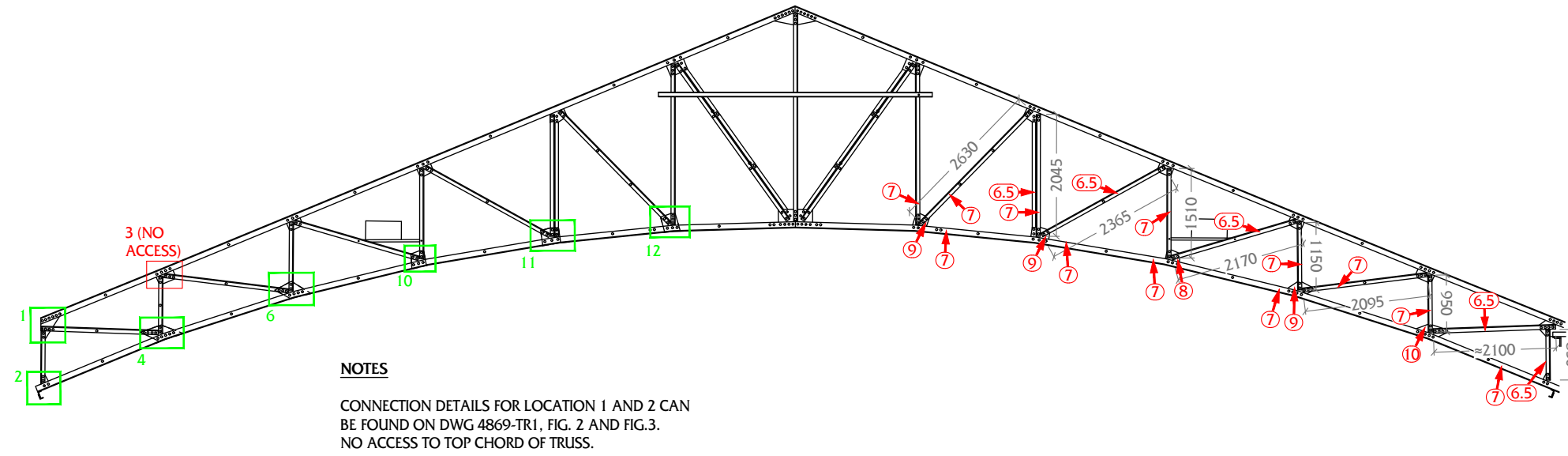
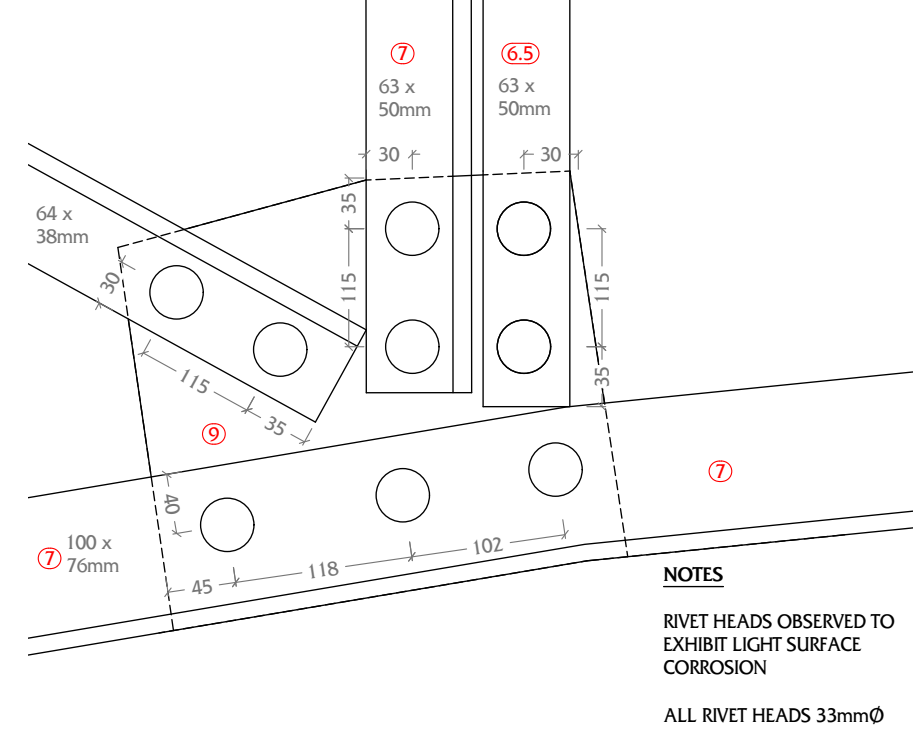
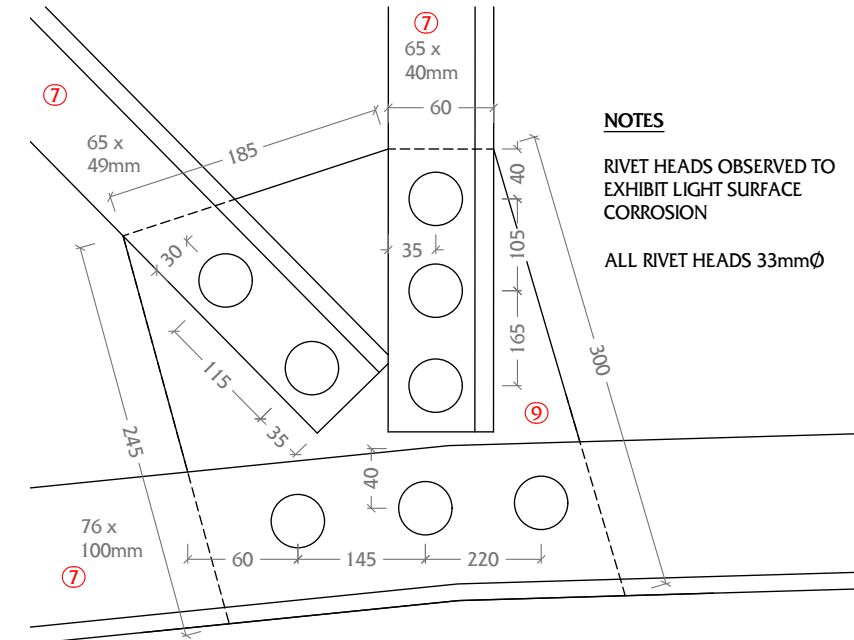


FIG.2d: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 11 ON TRUSS D NOT TO SCALE

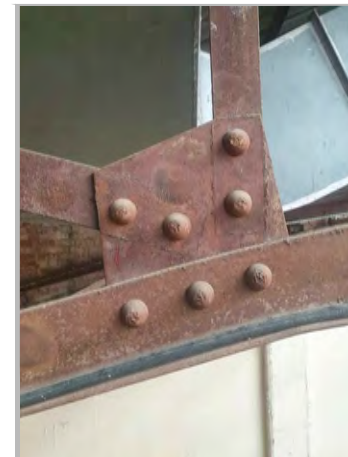


P2c: CONNECTION 11

FIG.2e: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 12 ON TRUSS D NOT TO SCALE



P2a: CONNECTION 6



P2b: CONNECTION 10

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 2 OF 6

Drawn	Date	Scale	Dwg. No. 4689-T2
VC	SEP '20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Widford
Worcestershire
B97 5XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2019 G B Geotechnics Ltd. File 4689

FIG.3: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

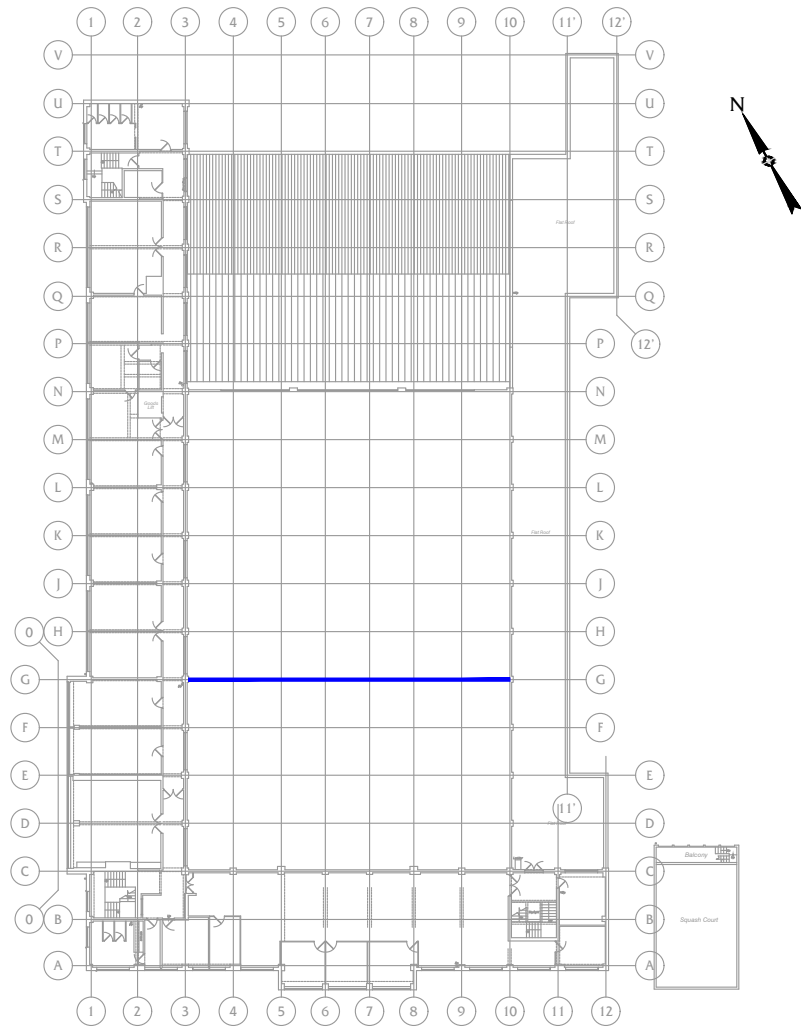


FIG.3a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS G NOT TO SCALE

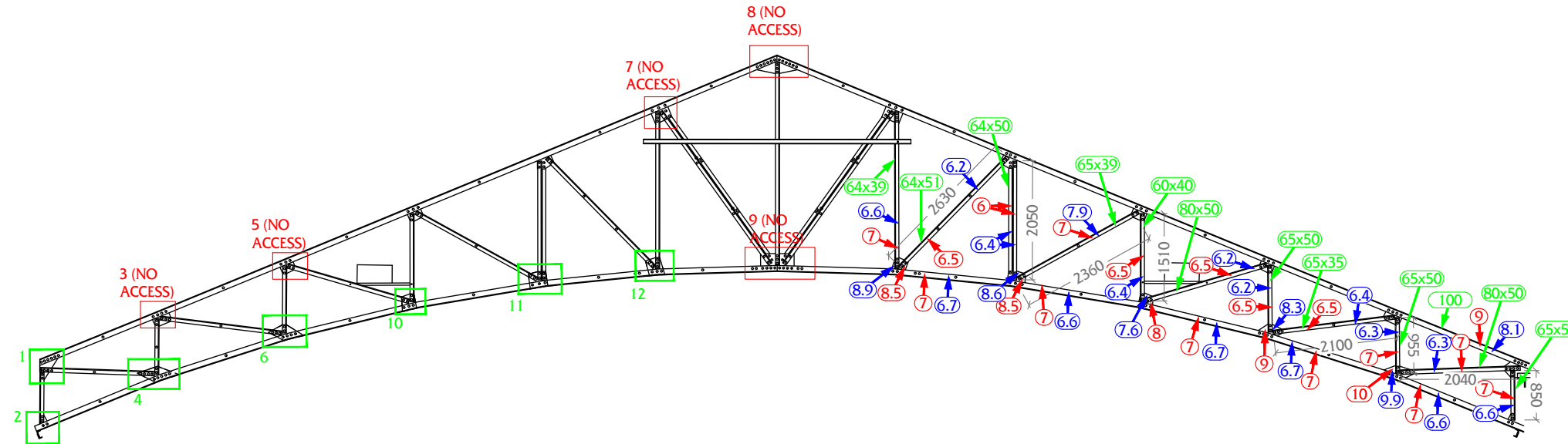


FIG.3b: PART ELEVATION SHOWING RIVET SPACINGS AT LOCATION 1 ON TRUSS G NOT TO SCALE

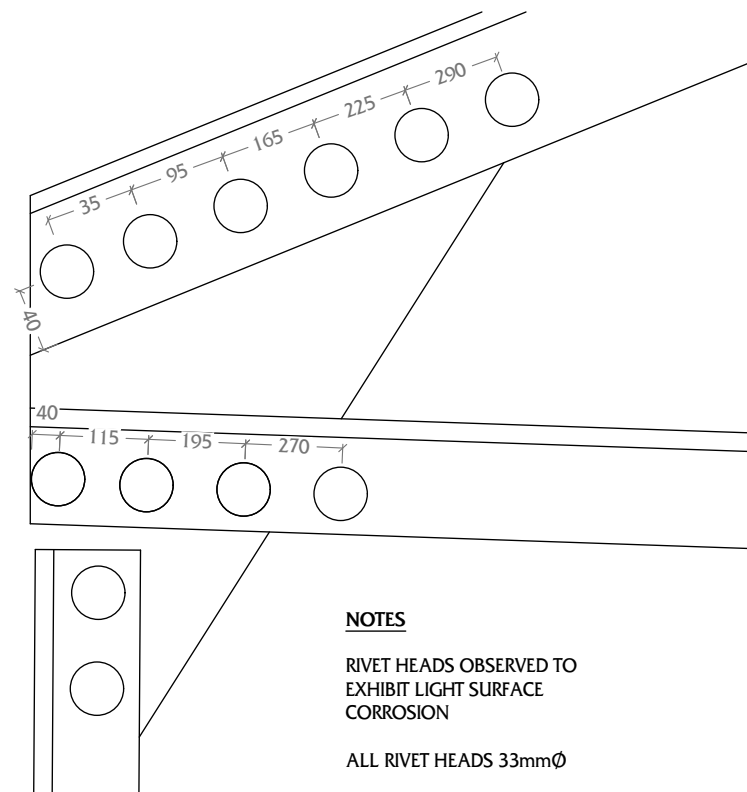


FIG.3c: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 4 ON TRUSS G NOT TO SCALE

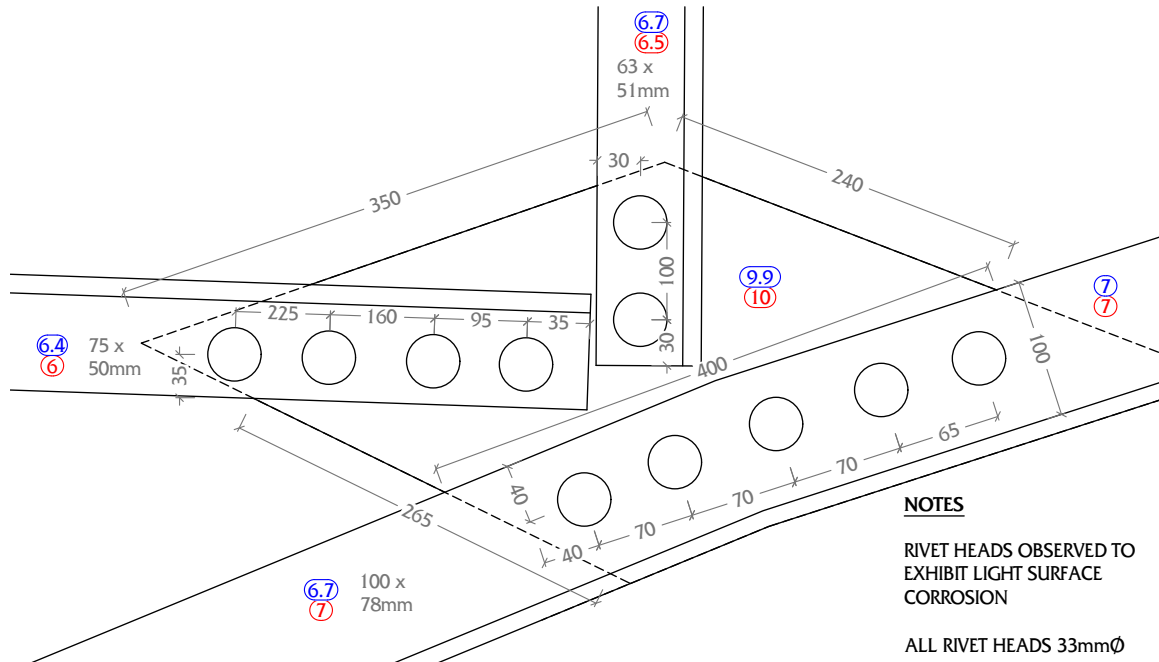
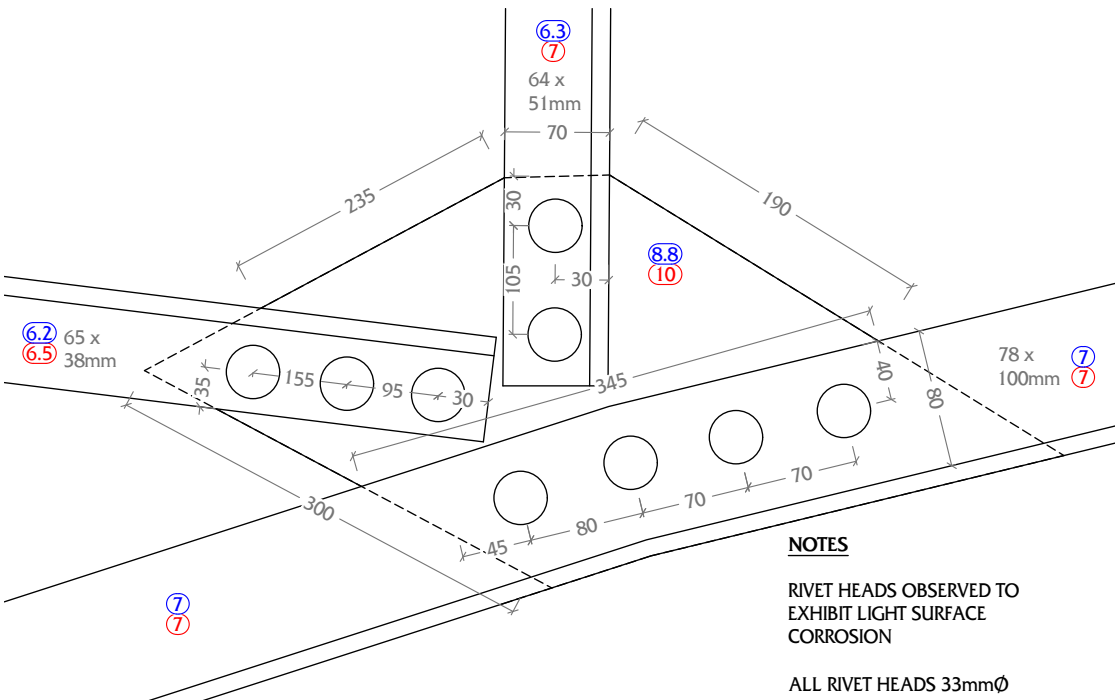


FIG.3d: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 6 ON TRUSS G NOT TO SCALE



AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)
- COMPONENT SIZE IN MILLIMETRES

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

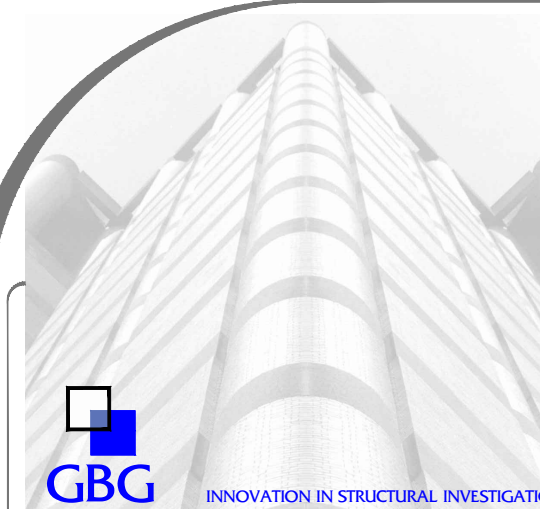
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 3 OF 6

Drawn VC CAD Date SEP '20 PM Scale AS SHOWN APP **Dwg. No. 4689-T3**



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Wotton Bassett
Wiltshire BA9 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2019 G B Geotechnics Ltd. File 4689

FIG.4: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

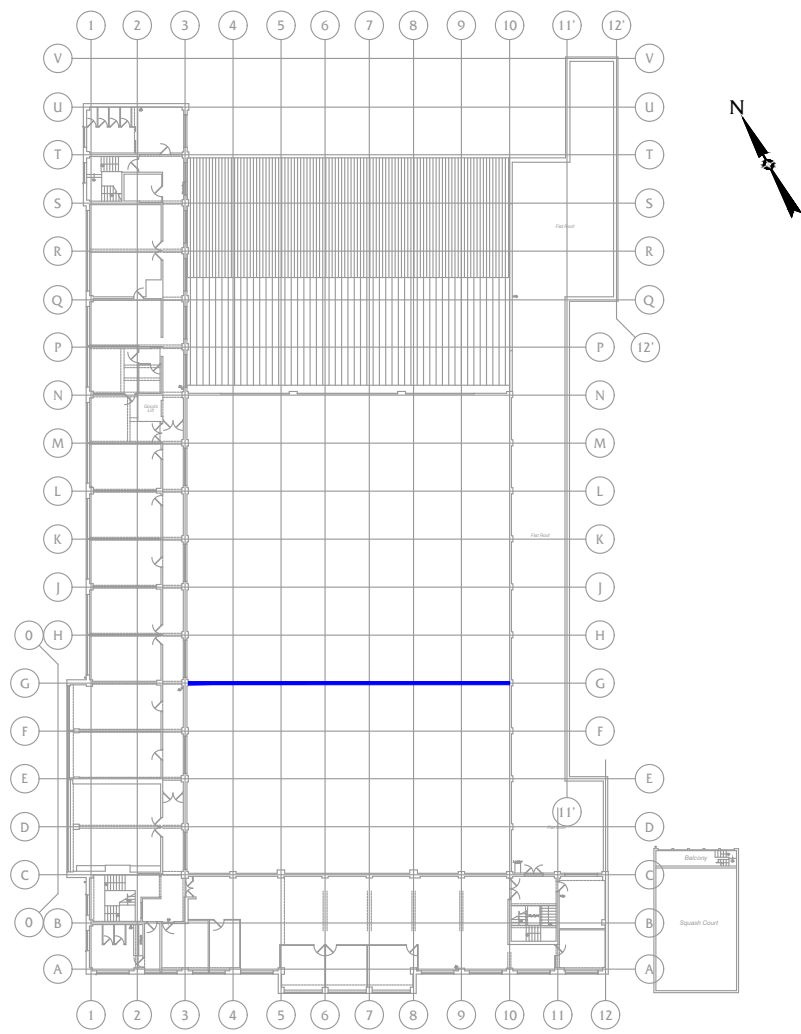


FIG.4a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS G NOT TO SCALE

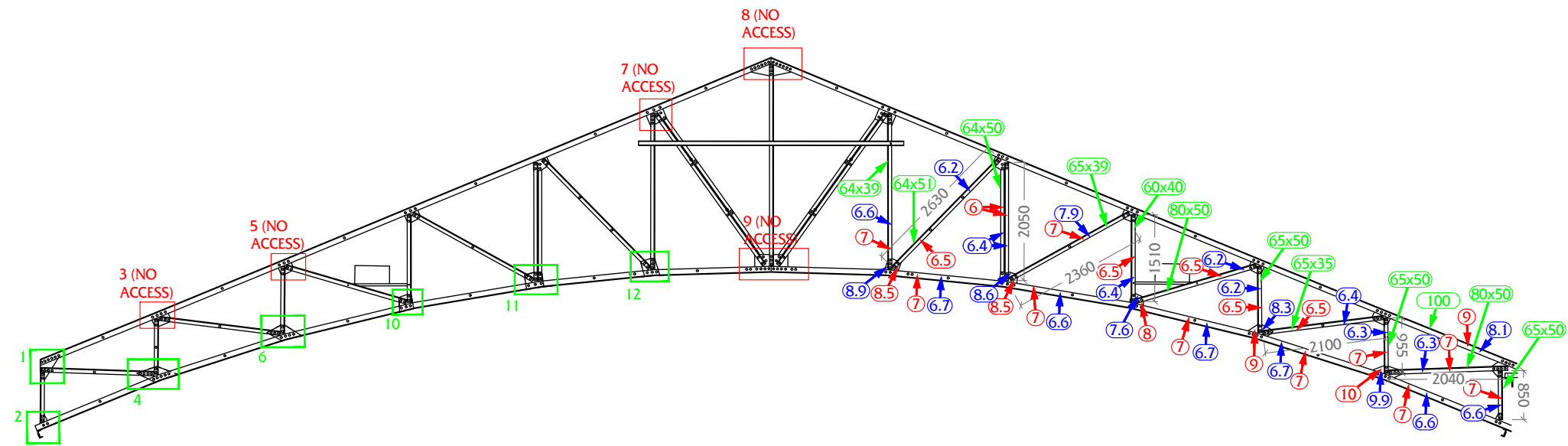


FIG.4b: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 10 ON TRUSS G NOT TO SCALE

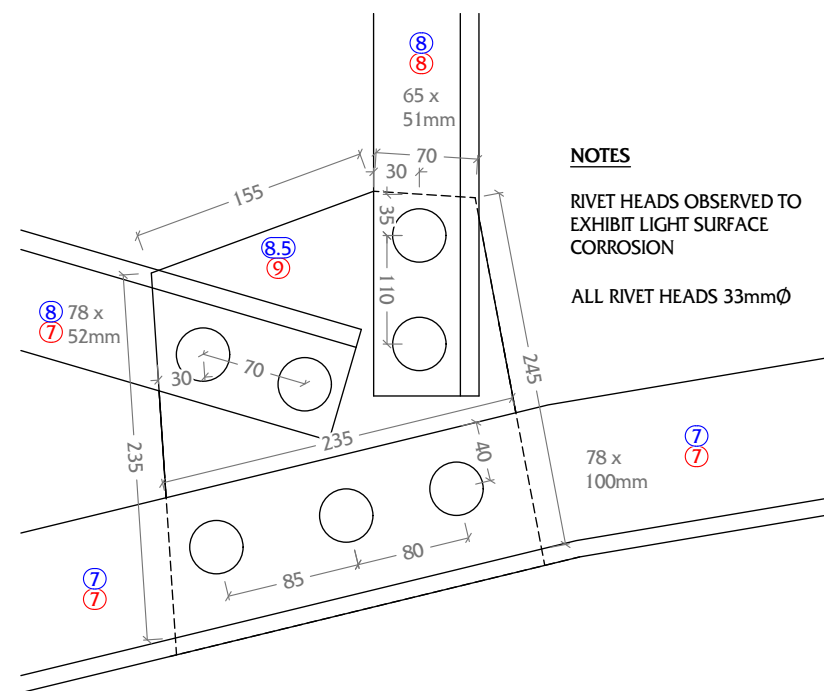


FIG.4c: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 11 ON TRUSS G NOT TO SCALE

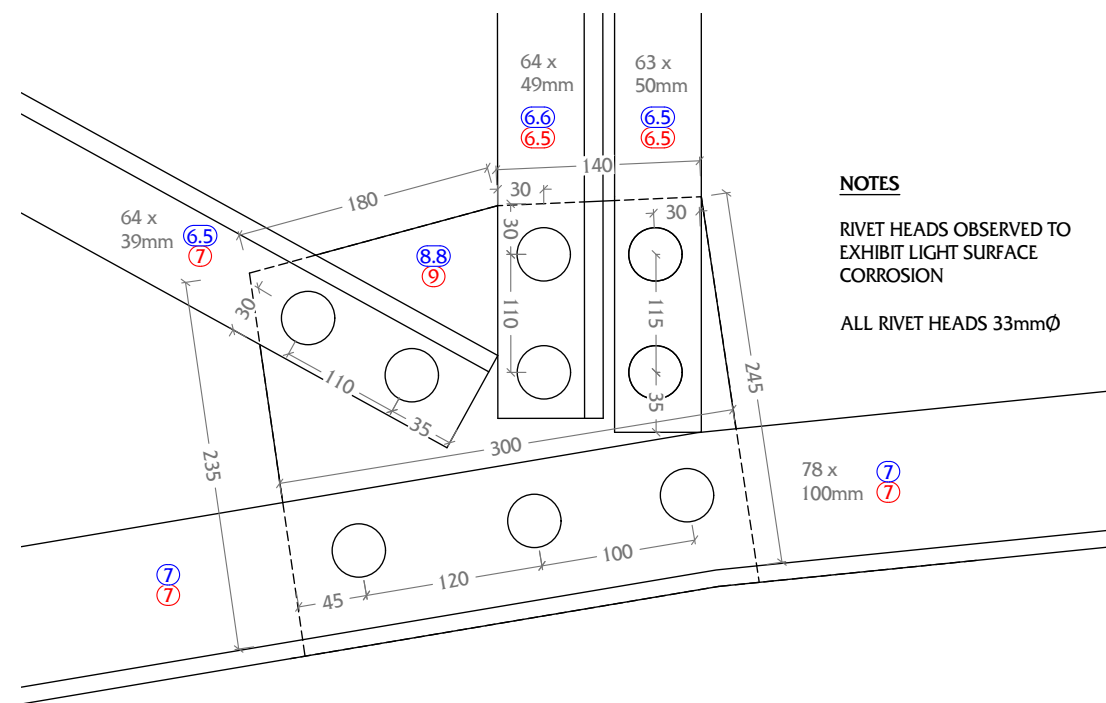
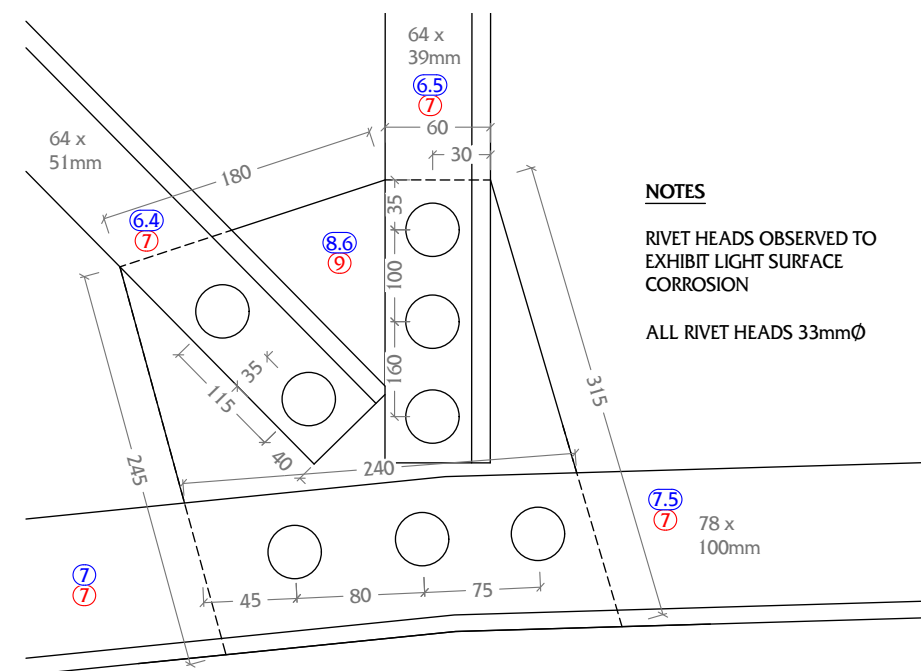


FIG.4d: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 12 ON TRUSS G NOT TO SCALE



P4a: TRUSS 11



P4b: TRUSS 12

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- 7 CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- 7 THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)
- 64x39 COMPONENT SIZE IN MILLIMETRES

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 4 OF 6

Drawn VC Date SEP '20 Scale AS SHOWN APP Dwg. No. 4689-T4



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Welford, Northamptonshire, NN25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2019 G B Geotechnics Ltd. File 4689

FIG.5: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

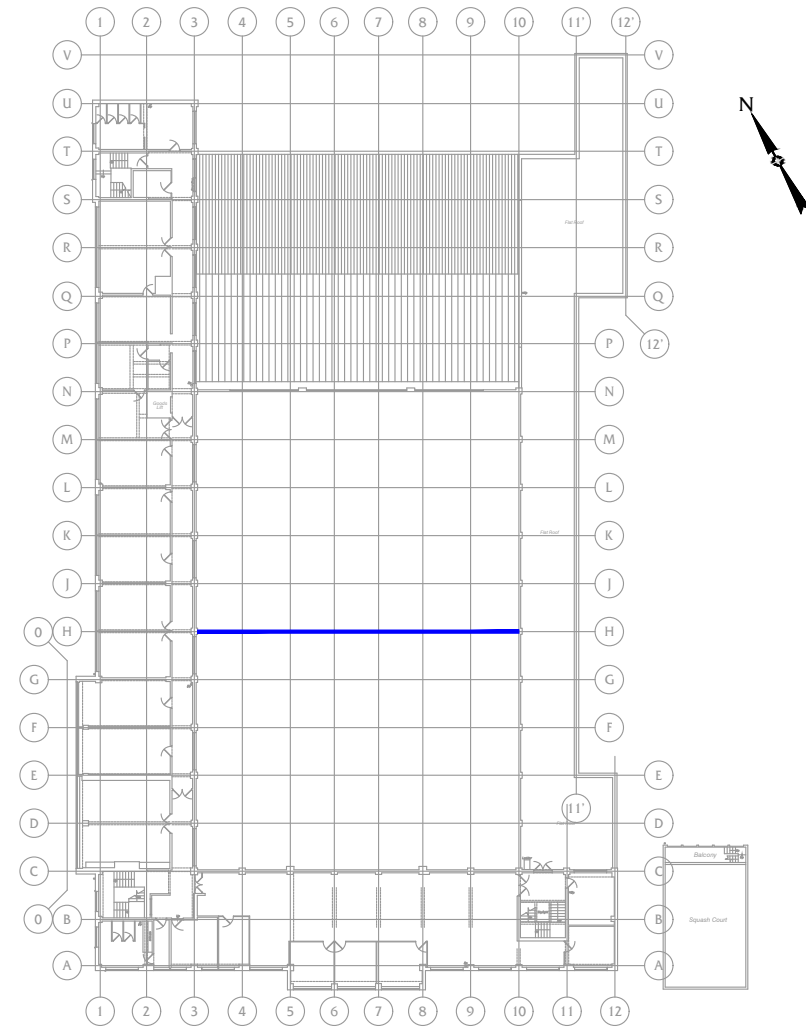
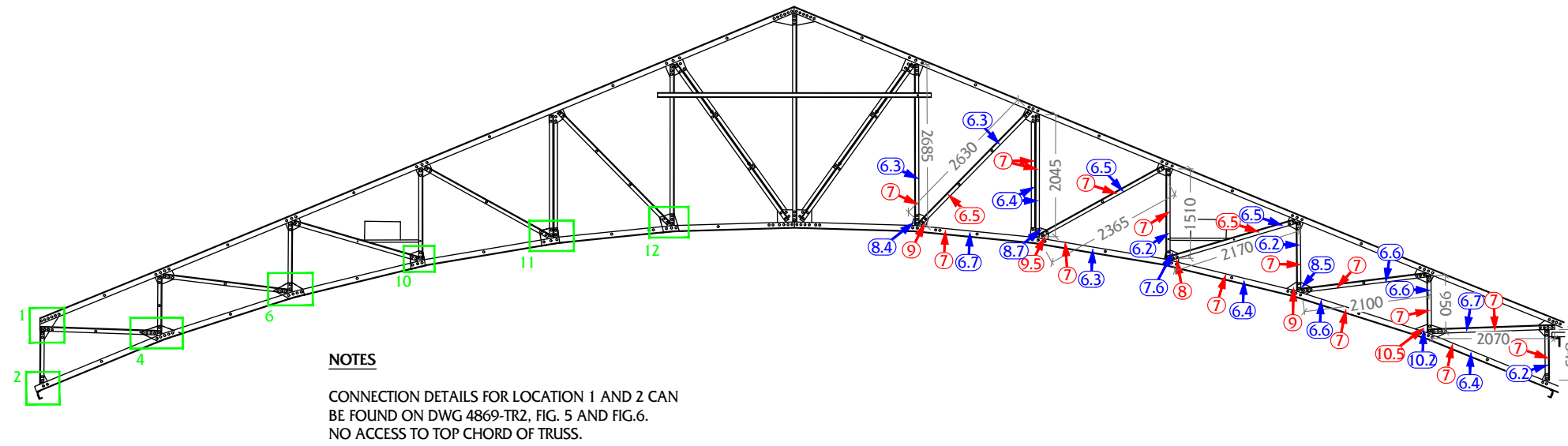


FIG.5a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS H NOT TO SCALE



AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

FIG.5b: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 4 ON TRUSS H NOT TO SCALE

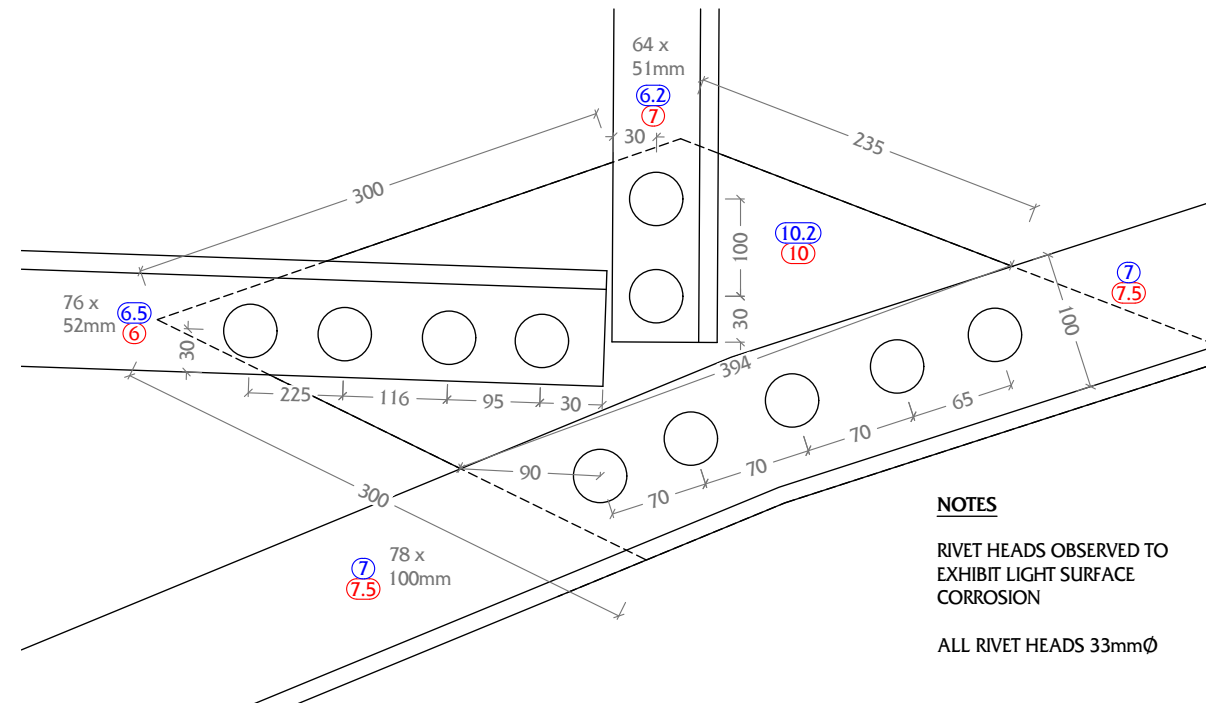


FIG.5c: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 6 ON TRUSS H NOT TO SCALE

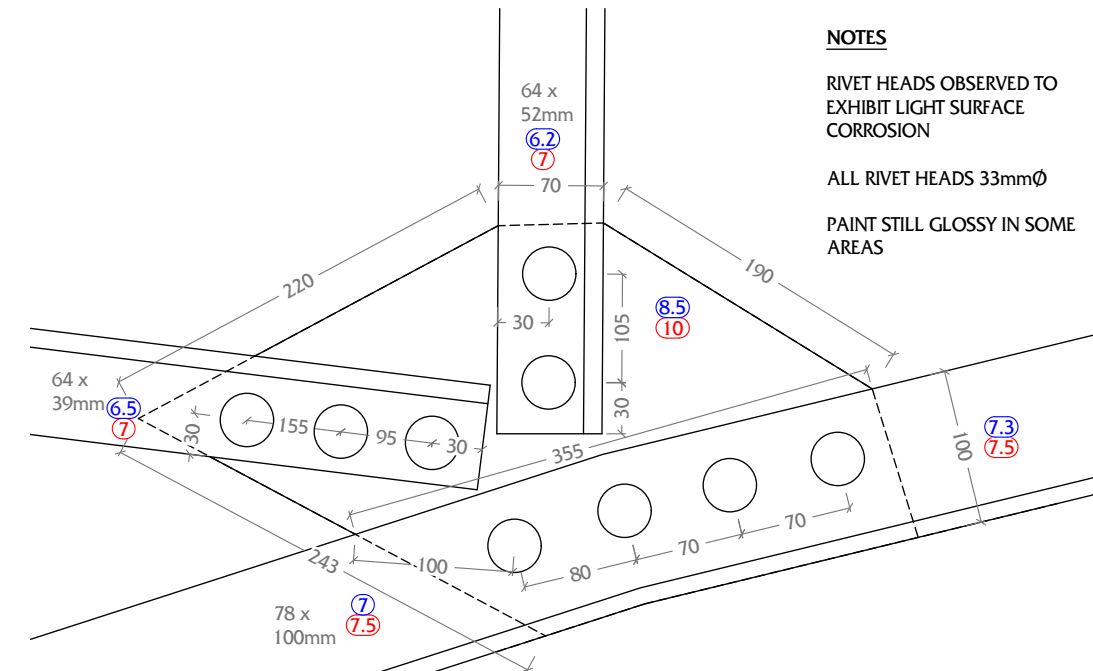
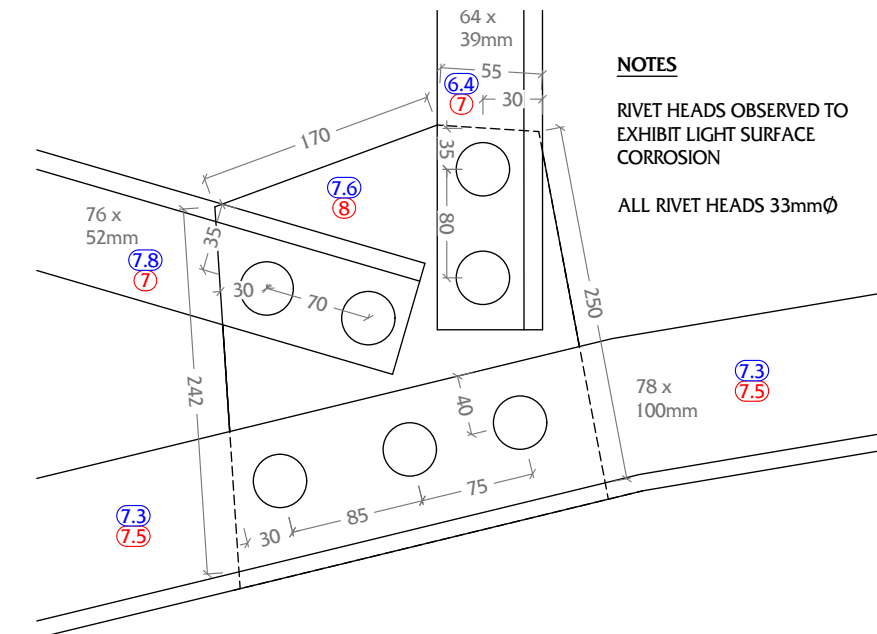


FIG.5d: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 10 ON TRUSS H NOT TO SCALE



THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 5 OF 6

Drawn VC Date SEP '20 Scale AS SHOWN
CAD PM APP

Dwg. No. 4689-T5

FIG.6: FLOOR PLAN SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

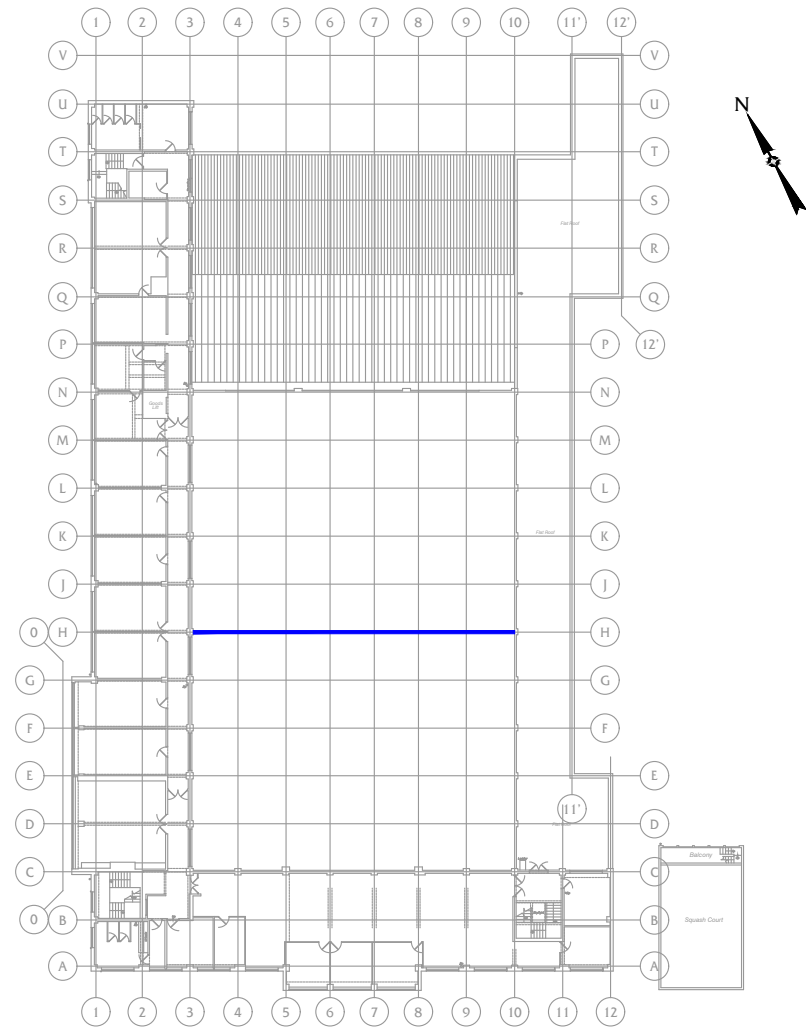


FIG.6a: ELEVATION LOOKING SOUTH SHOWING LOCATIONS OF TRUSS CONNECTIONS SURVEYED AND ARRANGEMENT OF TRUSS H NOT TO SCALE

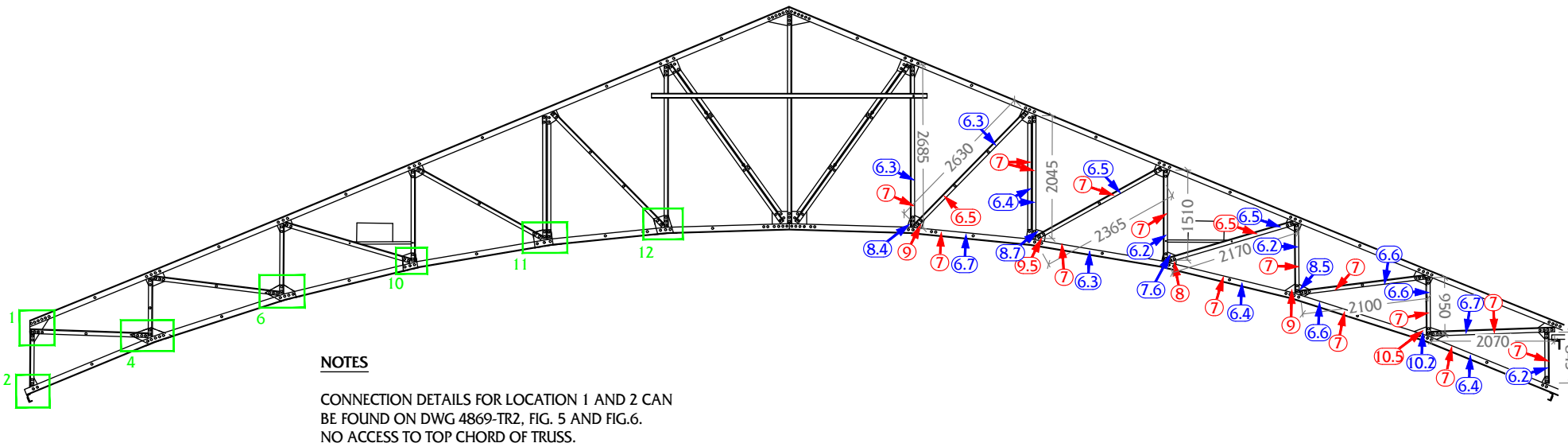


FIG.6b: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 11 ON TRUSS H NOT TO SCALE

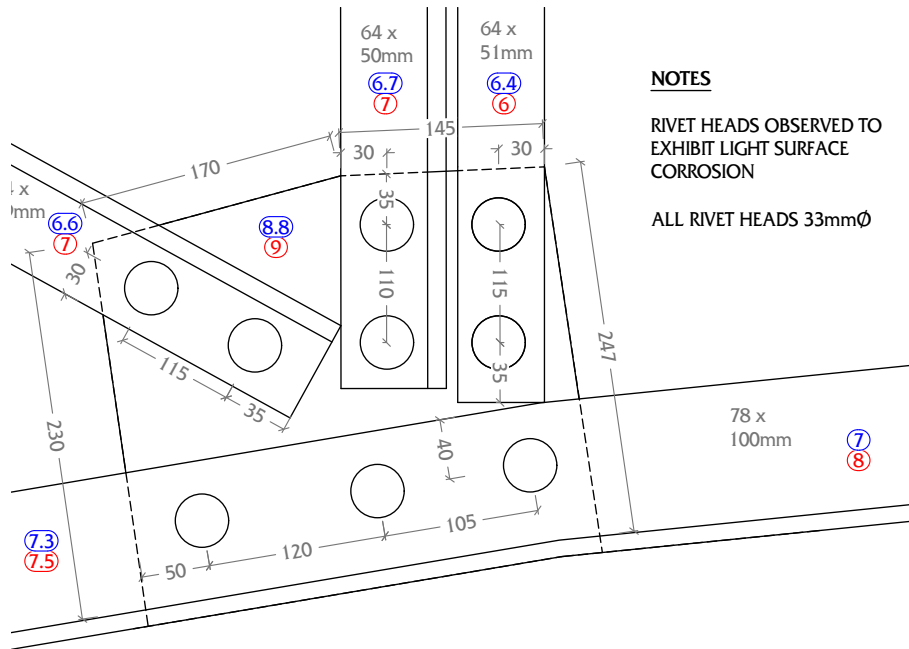
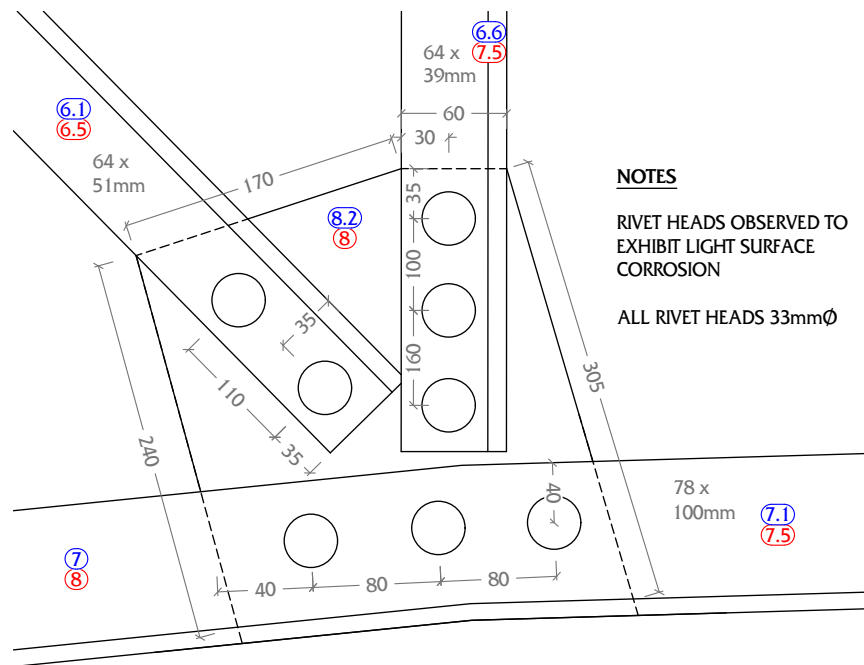


FIG.6c: PART ELEVATION SHOWING RIVET SPACINGS AND ELEMENT SIZES AT LOCATION 12 ON TRUSS H NOT TO SCALE



AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- LOCATION OF TRUSS SURVEYED
- LOCATION OF AREA SURVEYED
- CALLIPER READING (COMPONENT THICKNESS IN MILLIMETRES)
- THICKNESS GAUGE READING (ESTIMATED COMPONENT THICKNESS IN MILLIMETRES)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONSTRUCTION
SHEET 6 OF 6

Drawn VC CAD Date SEP '20 PM Scale AS SHOWN APP Dwg. No. 4689-T6



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2019 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

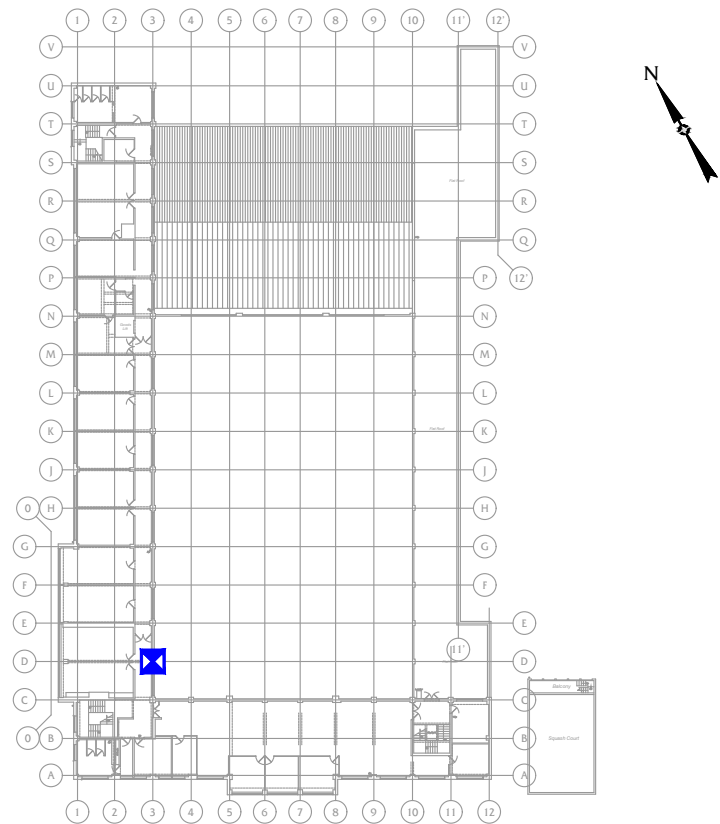


FIG.3: PART ELEVATION LOOKING WEST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA D3 SCALE 1:10

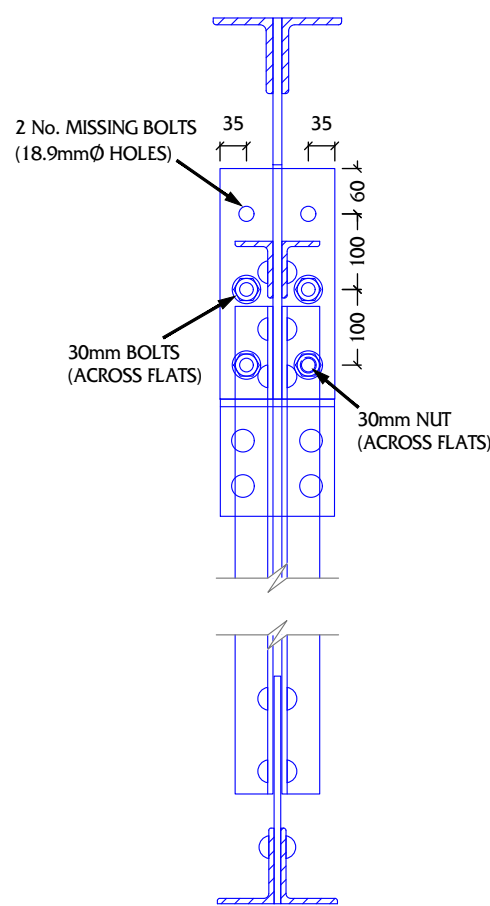
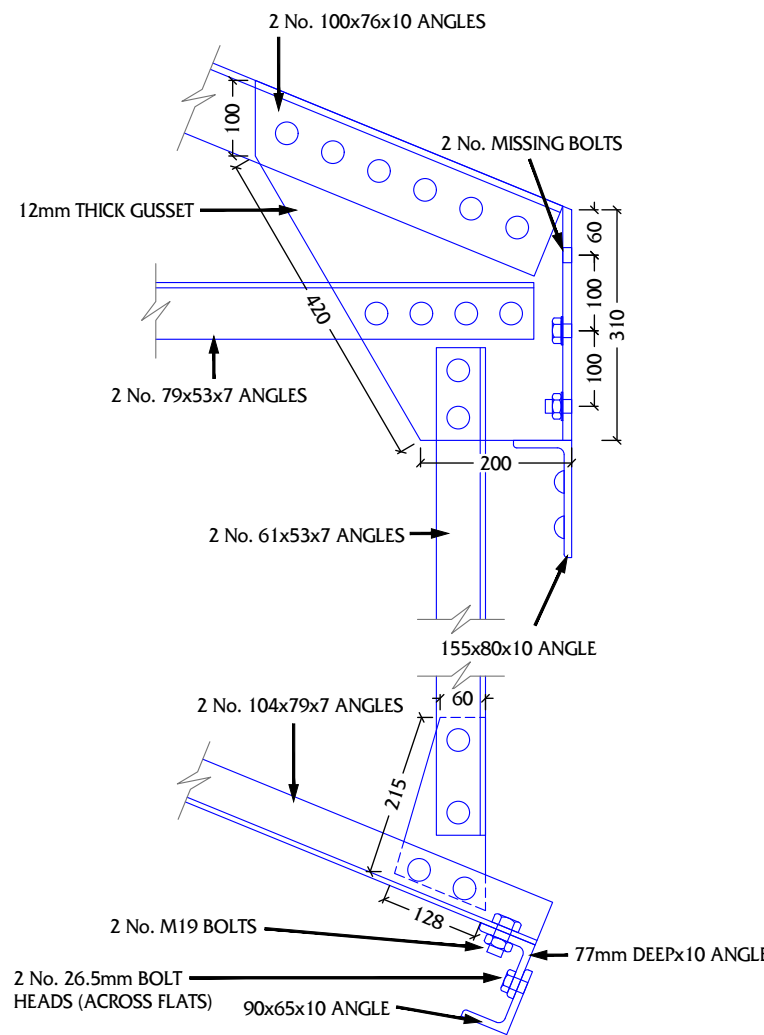


FIG.2: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA D3 SCALE 1:10



NOTES

STEELWORK GENERALLY EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED. GUSSET PLATE BELOW TOP CHORD EXHIBITS MODERATE SURFACE CORROSION WHERE EXPOSED. RIVETS APPEAR TO BE IN POOR CONDITION COMPARED TO ELSEWHERE. LOSS OF SECTION TO ANGLE SUPPORTING TOP GUSSET. LOTS OF VEGETATION GROWING THROUGH BRICKWORK. BRICKWORK MORTAR IS SOFT AND EASILY BROKEN OUT.



P2a: TRUSS D3 END CONNECTION

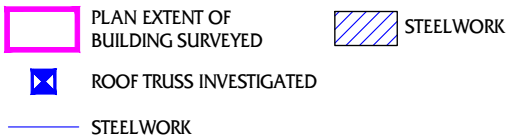


P2b: CLOSER VIEW OF TOP CONNECTION AT TRUSS D3

AERIAL VIEW OF SITE



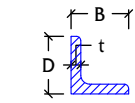
SYMBOLS USED



MATERIAL TYPES



STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF. REVISION DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 1 OF 8

Drawn HW SEP 20 PM CAD AS SHOWN APP Dwg. No. 4689-TR1



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

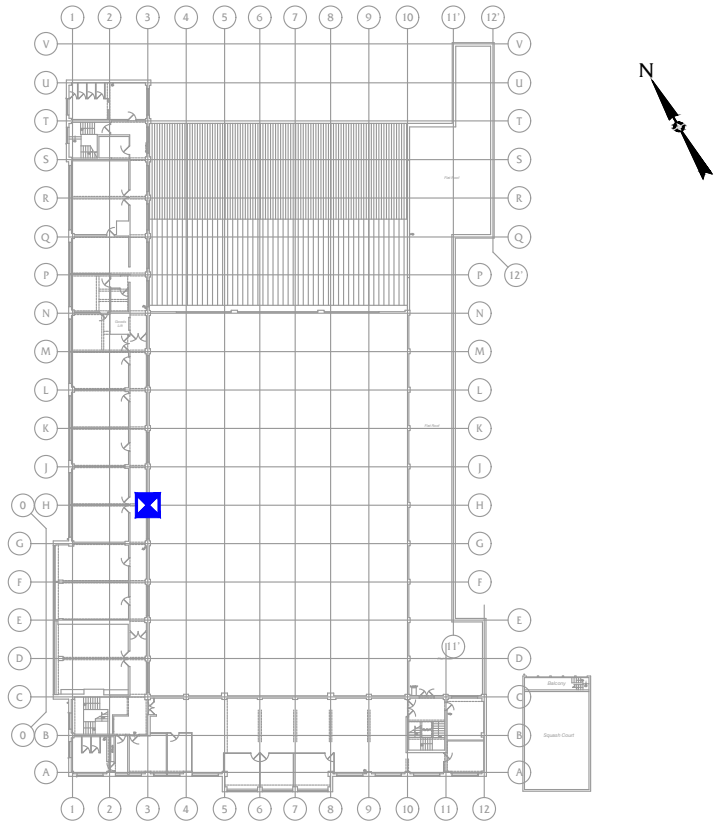


FIG.6: PART ELEVATION LOOKING WEST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA H3 SCALE 1:10

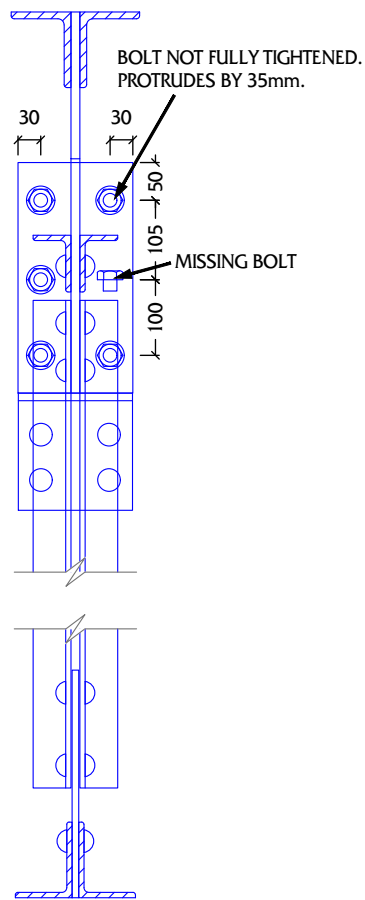
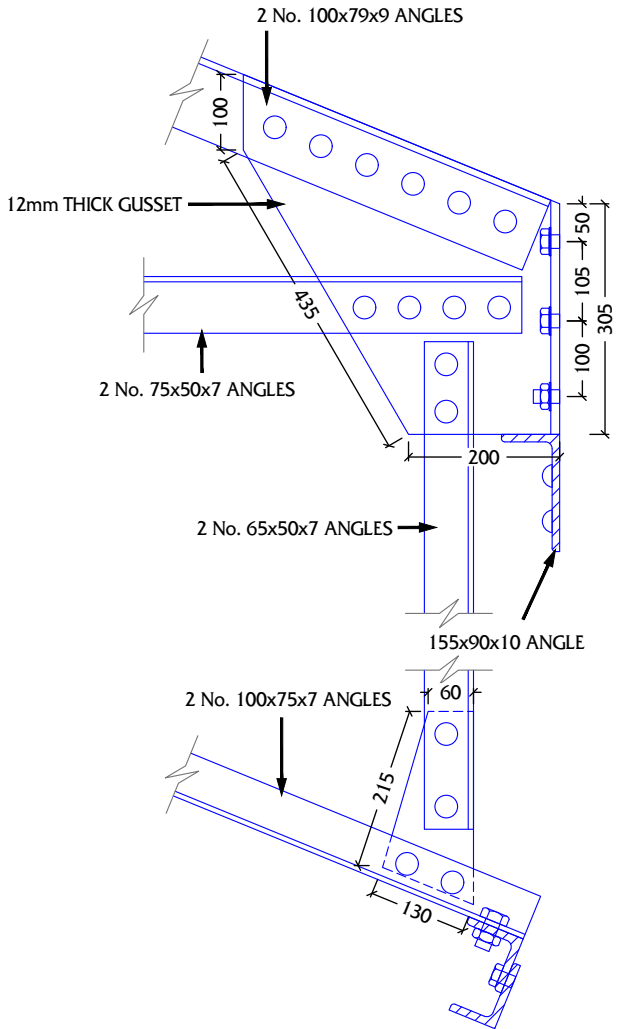


FIG.5: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA H3 SCALE 1:10



NOTES
M16 BOLTS.
STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.
SOME AREAS OF ORIGINAL PAINT STILL PRESENT.
NUTS AND BOLTS ARE MORE MODERATELY CORRODED ON GUSSET
AND BRACKET ON BOTTOM CHORD.



P5a: BOTTOM OF TRUSS H3 END CONNECTION



P5b: CLOSER VIEW OF TOP CONNECTION AT TRUSS H3

AERIAL VIEW OF SITE



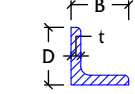
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- ROOF TRUSS INVESTIGATED
- STEELWORK

MATERIAL TYPES

- STEELWORK

STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 2 OF 8

Drawn HW SEP 20 CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TR2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

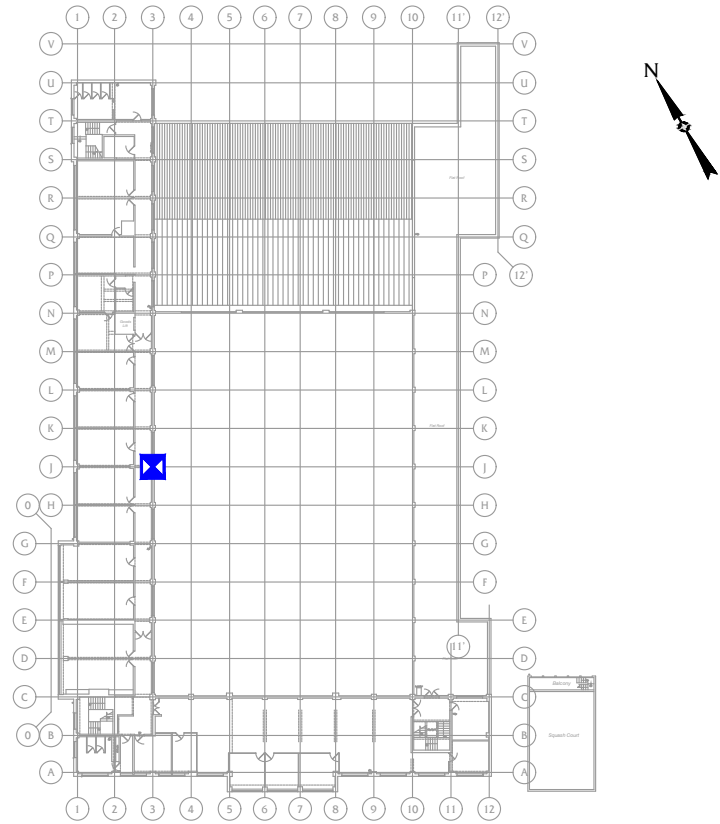


FIG.9: PART ELEVATION LOOKING WEST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA J3 SCALE 1:10

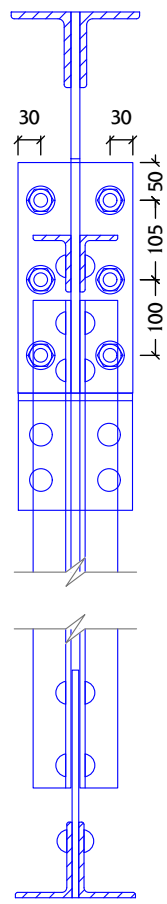
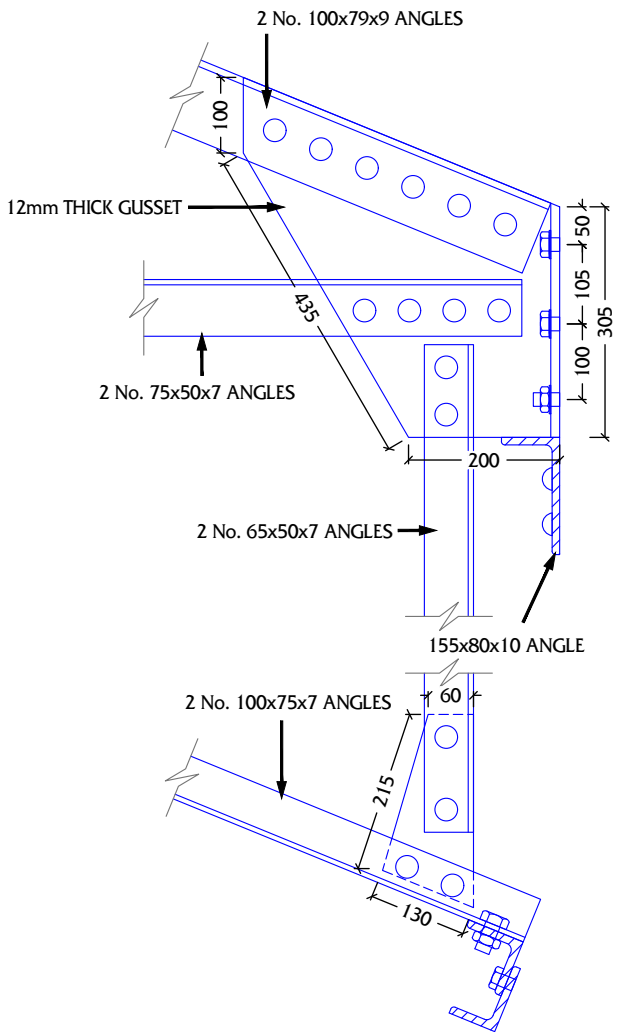


FIG.8: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA J3 SCALE 1:10



NOTES
M16 BOLTS.
STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.
SOME AREAS OF ORIGINAL PAINT STILL PRESENT.
NUTS AND BOLTS ARE MORE MODERATELY CORRODED ON GUSSET
AND BRACKET ON BOTTOM CHORD.



P8a: BOTTOM CONNECTION OF TRUSS J3



P8b: TOP CONNECTION AT TRUSS J3

AERIAL VIEW OF SITE



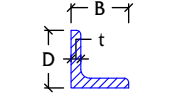
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
ROOF TRUSS INVESTIGATED
STEELWORK

MATERIAL TYPES

- STEELWORK

STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 3 OF 8

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TR3



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 10: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

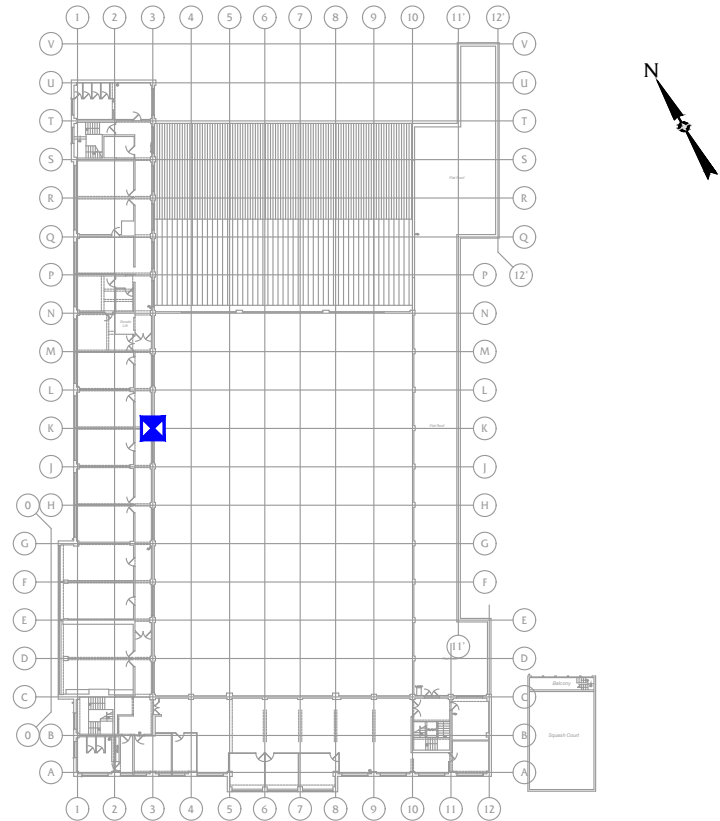


FIG. 12: PART ELEVATION LOOKING WEST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA K3 SCALE 1:10

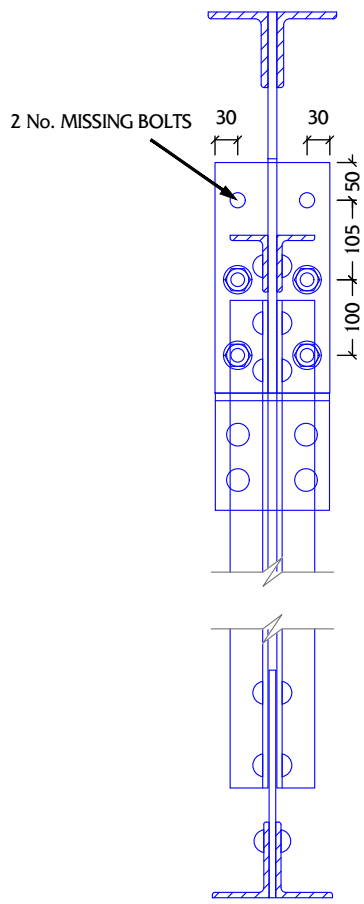
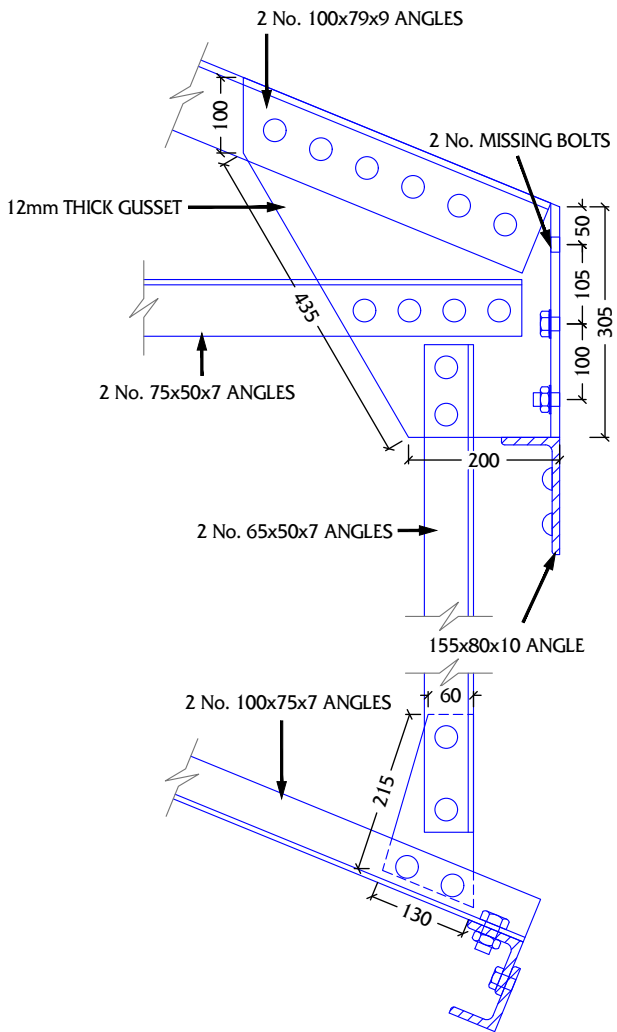


FIG. 11: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA K3 SCALE 1:10



NOTES

STEELWORK GENERALLY EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.
GUSSET PLATE BELOW TOP CHORD EXHIBITS MODERATE SURFACE CORROSION WHERE EXPOSED.
RIVETS APPEAR TO BE IN POOR CONDITION COMPARED TO ELSEWHERE.
LOSS OF SECTION TO ANGLE SUPPORTING TOP GUSSET.
LOTS OF VEGETATION GROWING THROUGH BRICKWORK.
BRICKWORK MORTAR IS SOFT AND EASILY BROKEN OUT.



P11a: BOTTOM CONNECTION OF TRUSS K3



P11b: TOP CONNECTION AT TRUSS K3

AERIAL VIEW OF SITE



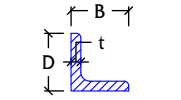
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- ROOF TRUSS INVESTIGATED
- STEELWORK

MATERIAL TYPES

- STEELWORK

STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 4 OF 8

Drawn HW SEP 20 CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TR4



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 13: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

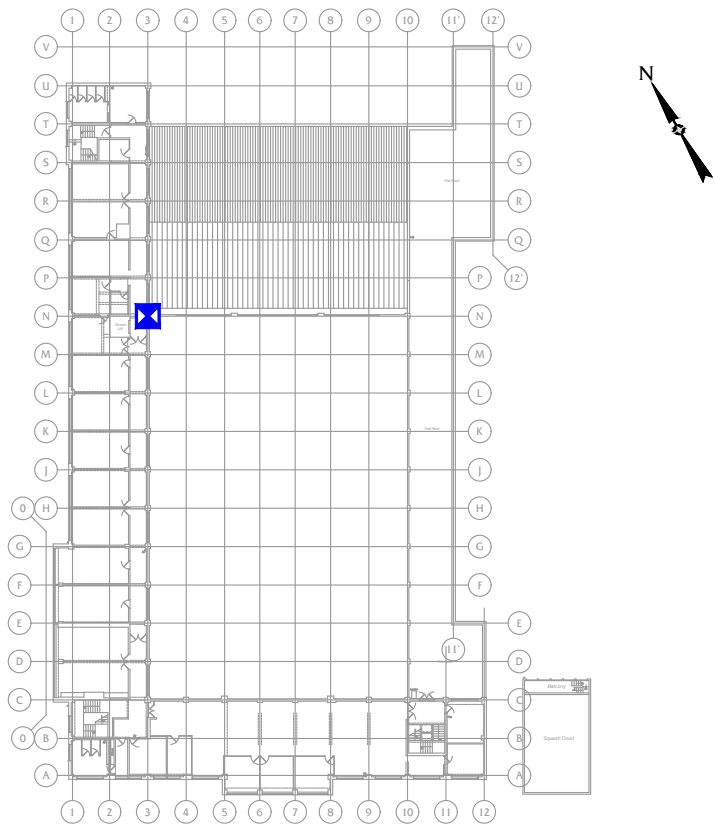


FIG. 14: SCHEMATIC ELEVATION SHOWING BEAM / CHANNEL LAYOUT - SURVEY AREA N3 NOT TO SCALE

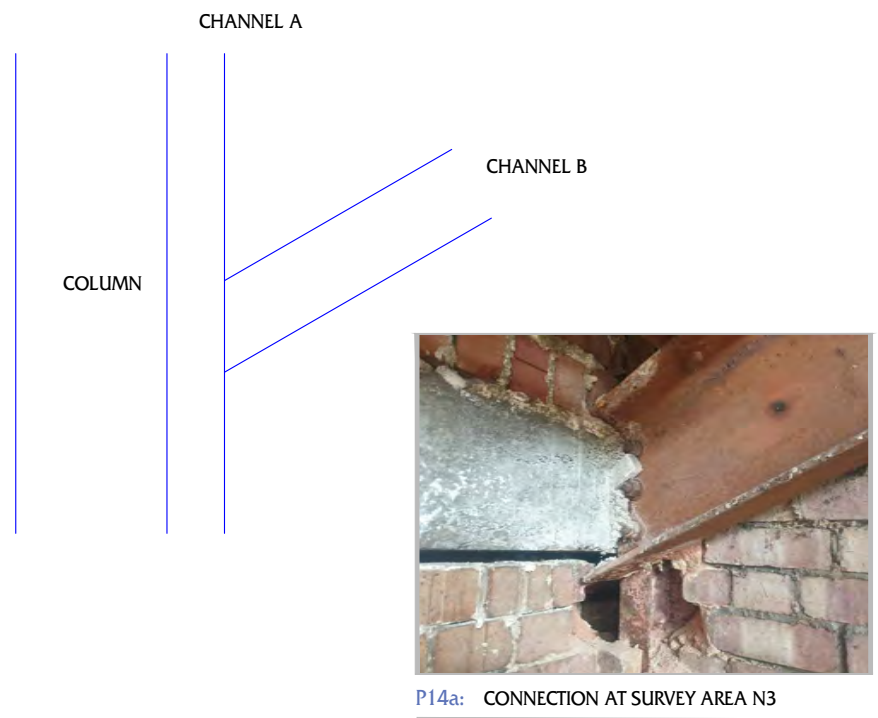


FIG. 15: PART PLAN SHOWING SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS ELEMENTS SURVEYED - SURVEY AREA N3 SCALE 1:10

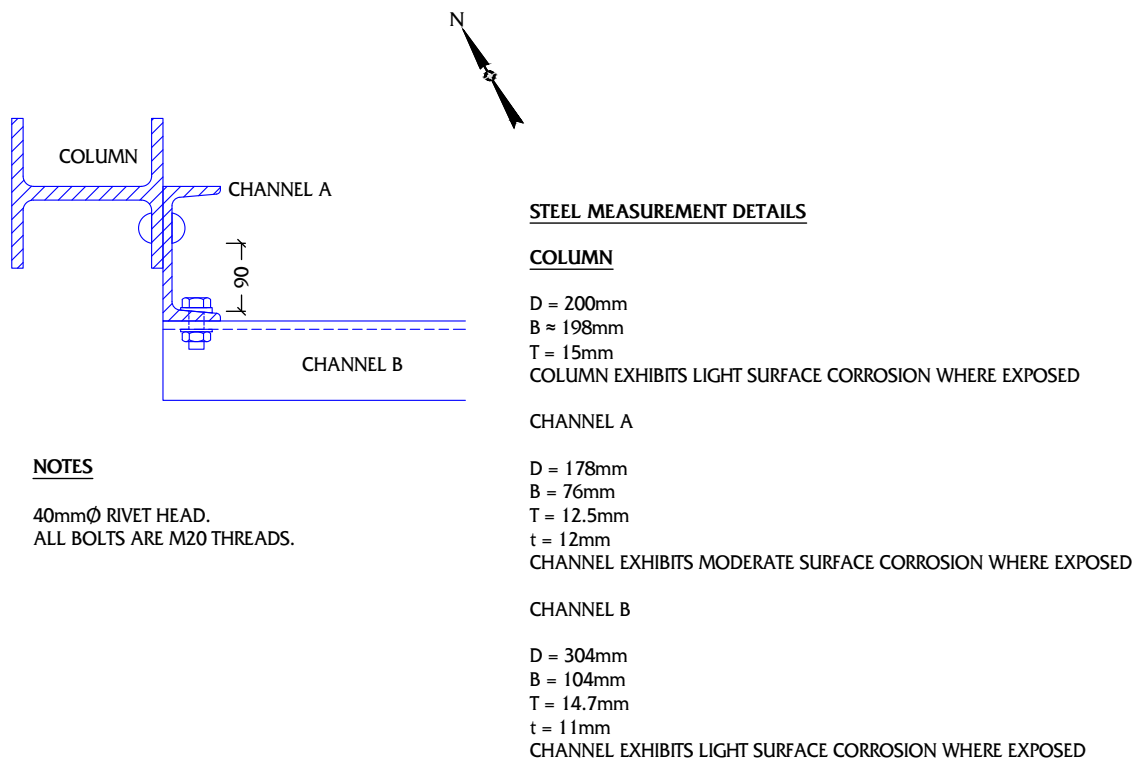
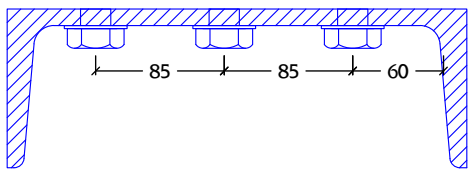


FIG. 16: PART SECTION THROUGH CHANNEL B SHOWING BOLT SPACINGS - SURVEY AREA N3 SCALE 1:5



AERIAL VIEW OF SITE



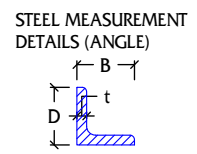
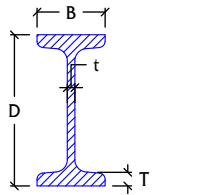
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- ROOF TRUSS INVESTIGATED
- STEELWORK

MATERIAL TYPES

- STEELWORK

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

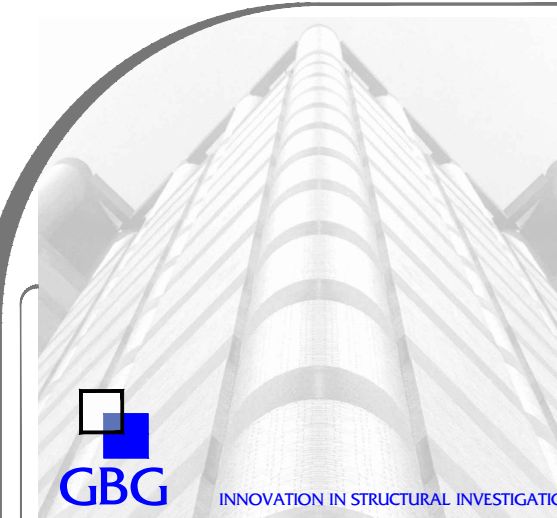
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 5 OF 8

Drawn HW SEP 20 PM
CAD APP
Scale AS SHOWN
Date
Dwg. No. 4689-TR5



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Widford
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 17: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

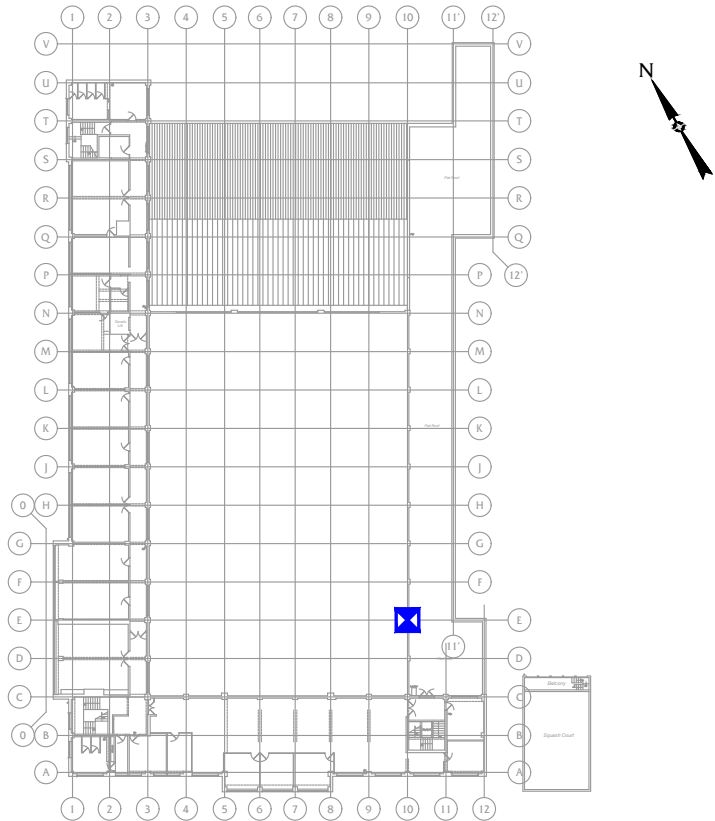


FIG. 19: PART ELEVATION LOOKING EAST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA E10 SCALE 1:10

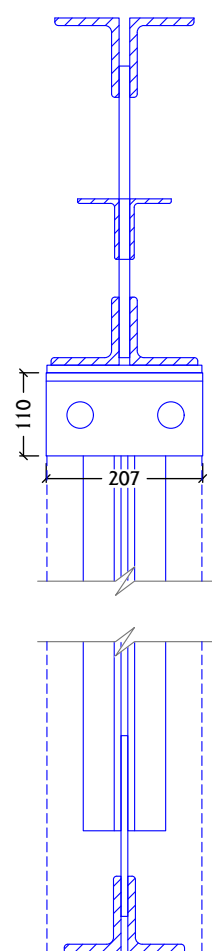
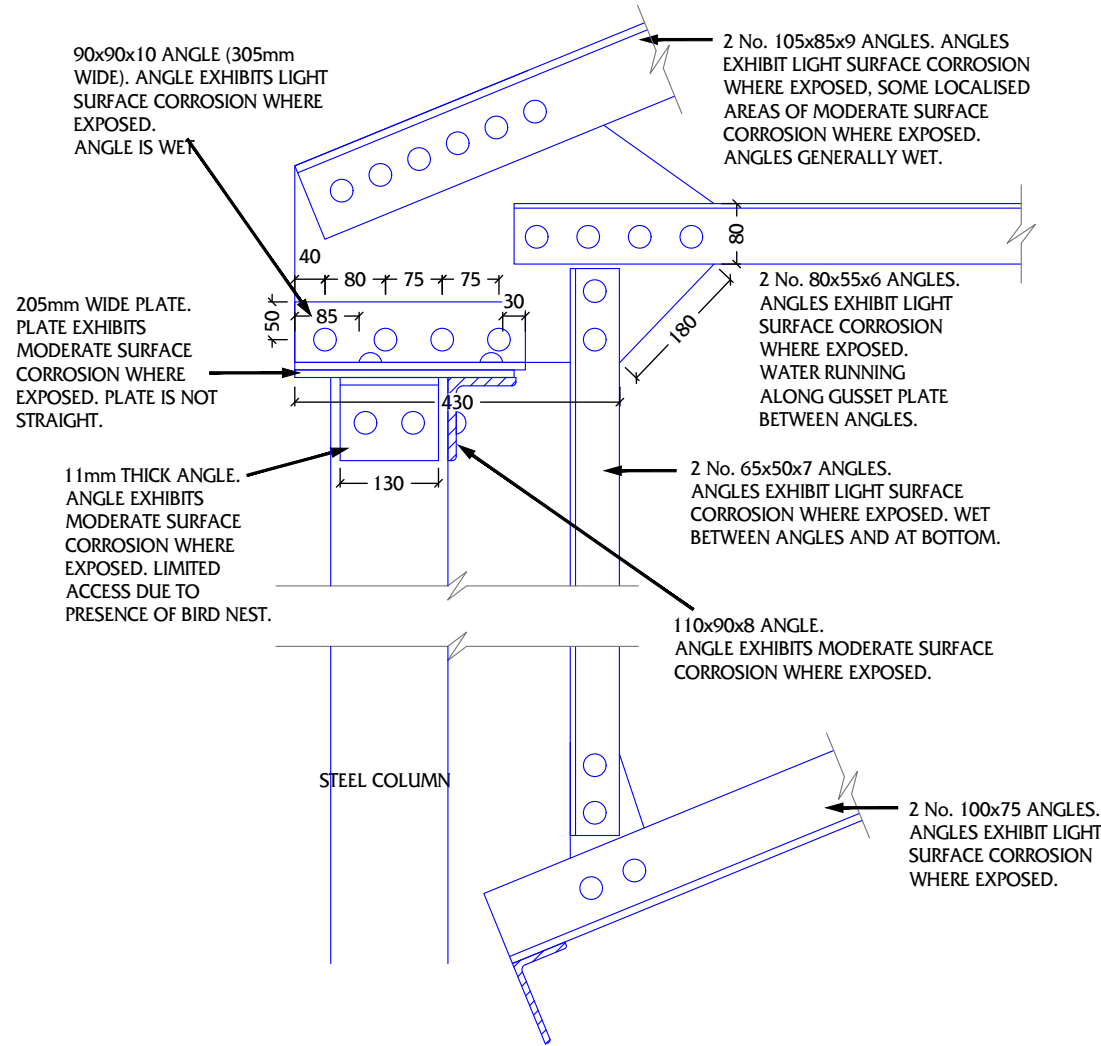


FIG. 18: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA E10 SCALE 1:10



P18a: TRUSS E10



P18b: BOTTOM CONNECTION OF TRUSS E10

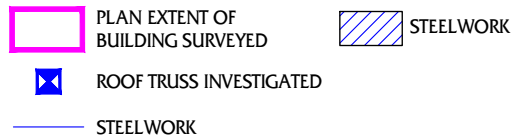


P18c: TOP CONNECTION AT TRUSS E10

AERIAL VIEW OF SITE



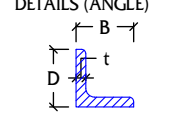
SYMBOLS USED



MATERIAL TYPES



STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

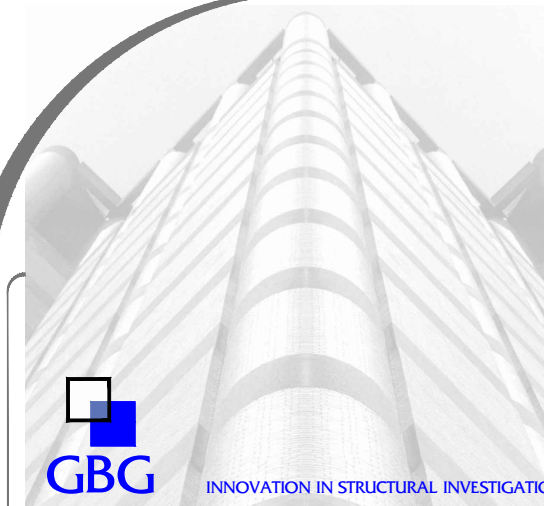
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 6 OF 8

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TR6



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.20: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

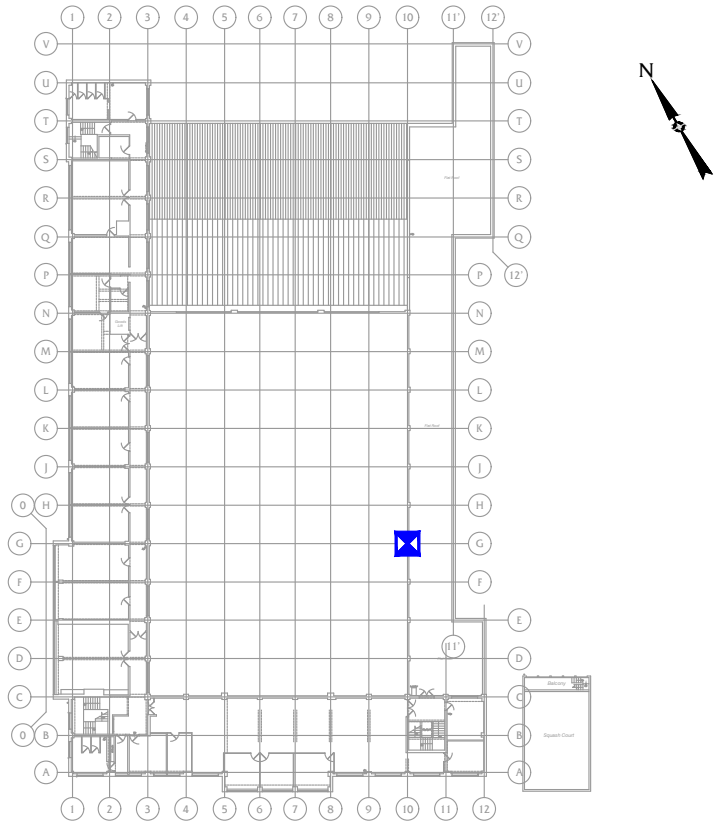


FIG.22: PART ELEVATION LOOKING EAST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA G10 SCALE 1:10

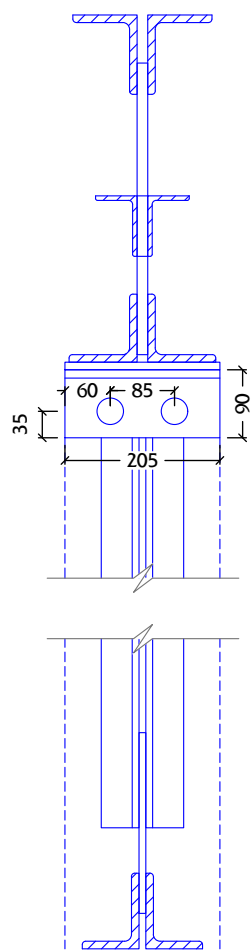
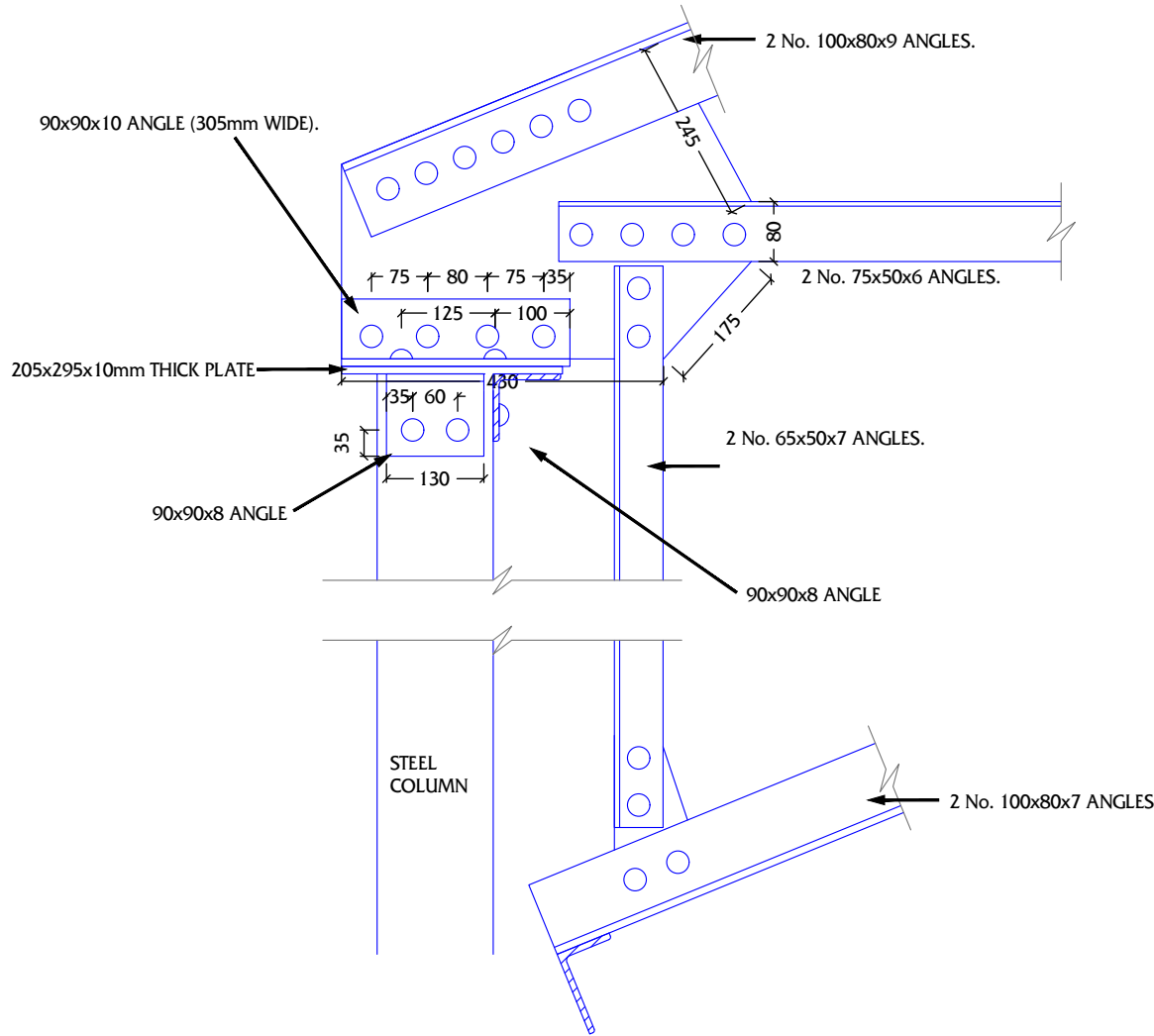


FIG.21: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA G10 SCALE 1:10



NOTES

STEELWORK GENERALLY EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.
EVIDENCE OF WATER INGRESS.
CORROSION WHERE EXPOSED IS HEAVIER ALONG TOP OF TOP CHORD AND EDGES OF GUSSET.
EVIDENCE OF PREVIOUS BOLT WITH CORROSION WHERE EXPOSED AROUND WASHER.



P21a: TRUSS G10



P21b: BOTTOM CONNECTION OF TRUSS G10

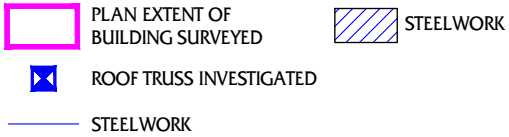


P21c: TOP CONNECTION AT TRUSS G10

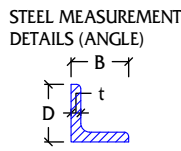
AERIAL VIEW OF SITE



SYMBOLS USED



MATERIAL TYPES



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 7 OF 8

Drawn HW **Date** SEP 20 **Scale** AS SHOWN **Dwg. No.** 4689-TR7
CAD **PM** **APP**



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Welford
Northamptonshire
NN25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.23: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF TRUSS SURVEYED NOT TO SCALE

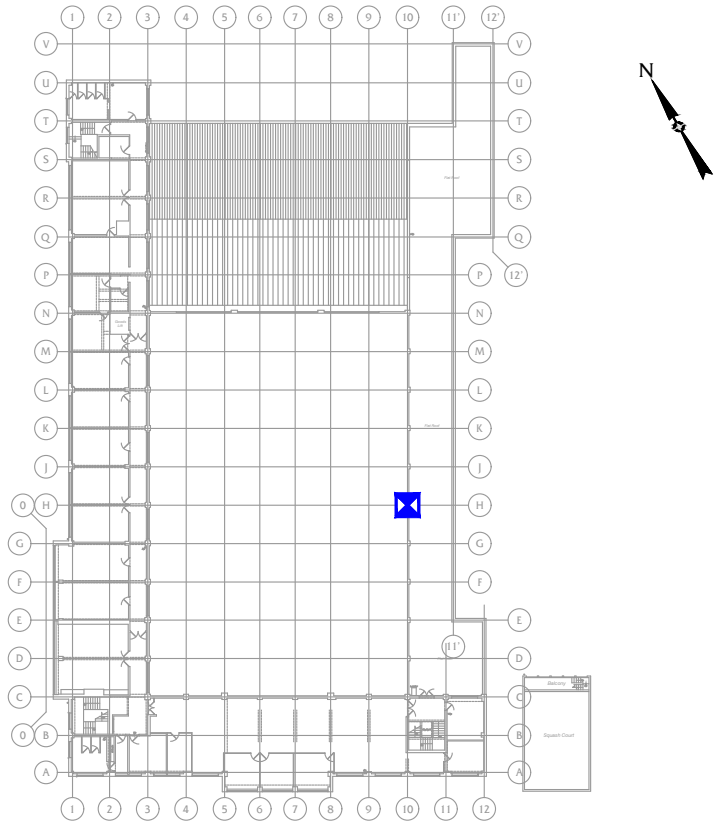


FIG.25: PART ELEVATION LOOKING EAST SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA H10 SCALE 1:10

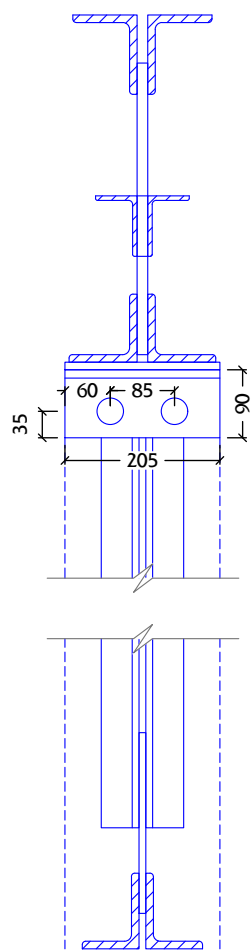
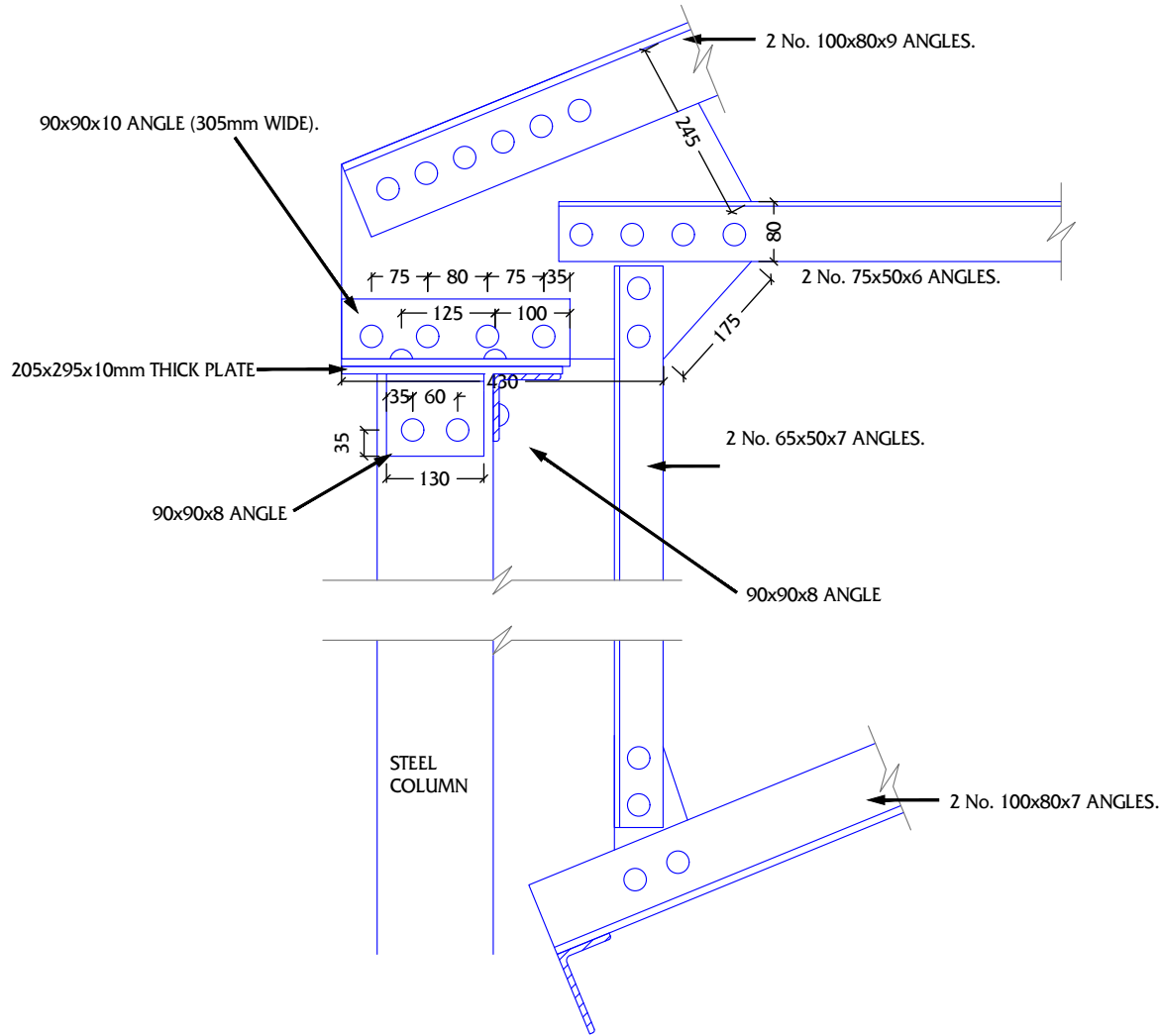


FIG.24: PART ELEVATION LOOKING SOUTH SHOWING DETAILS OF PARTIALLY EXPOSED ROOF TRUSS END CONNECTION - SURVEY AREA H10 SCALE 1:10



NOTES
STEELWORK GENERALLY EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.
SOME AREAS OF ORIGINAL PAINT STILL PRESENT.



P24a: BOTTOM CONNECTION OF TRUSS H10



P24c: TOP CONNECTION AT TRUSS H10

AERIAL VIEW OF SITE



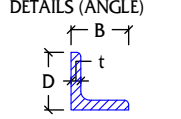
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- ROOF TRUSS INVESTIGATED
- STEELWORK

MATERIAL TYPES

- STEELWORK

STEEL MEASUREMENT DETAILS (ANGLE)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF TRUSS CONNECTIONS
SHEET 8 OF 8

Drawn HW SEP 20 CAD Date PM Scale AS SHOWN APP Dwg. No. 4689-TR8



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

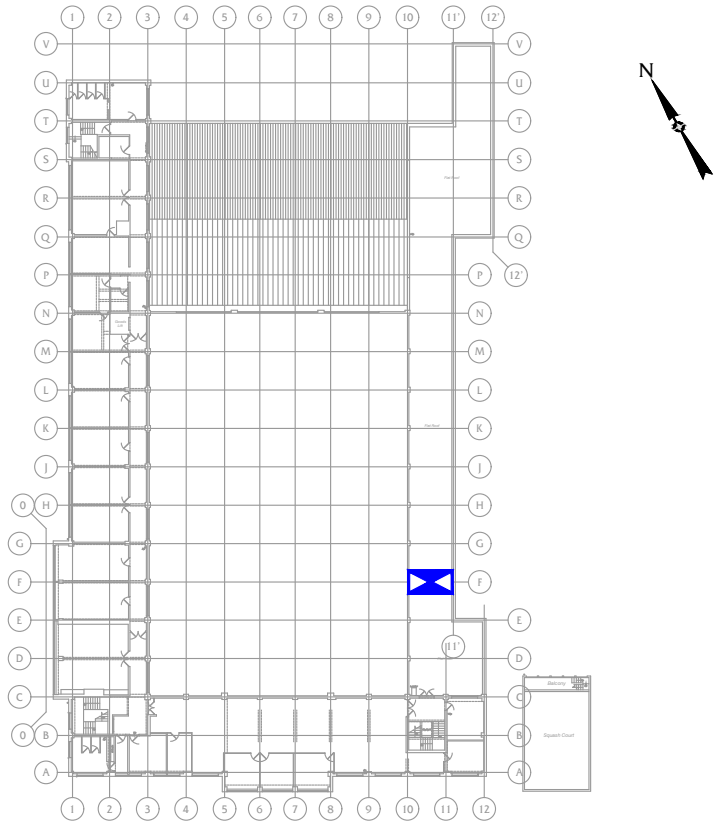


FIG.2: PART REFLECTED 1ST FLOOR SLAB SOFFIT PLAN SHOWING DETAILS OF BEAM AND PRECAST CONCRETE PLANK - SURVEY AREA F/10-11 SCALE 1:10

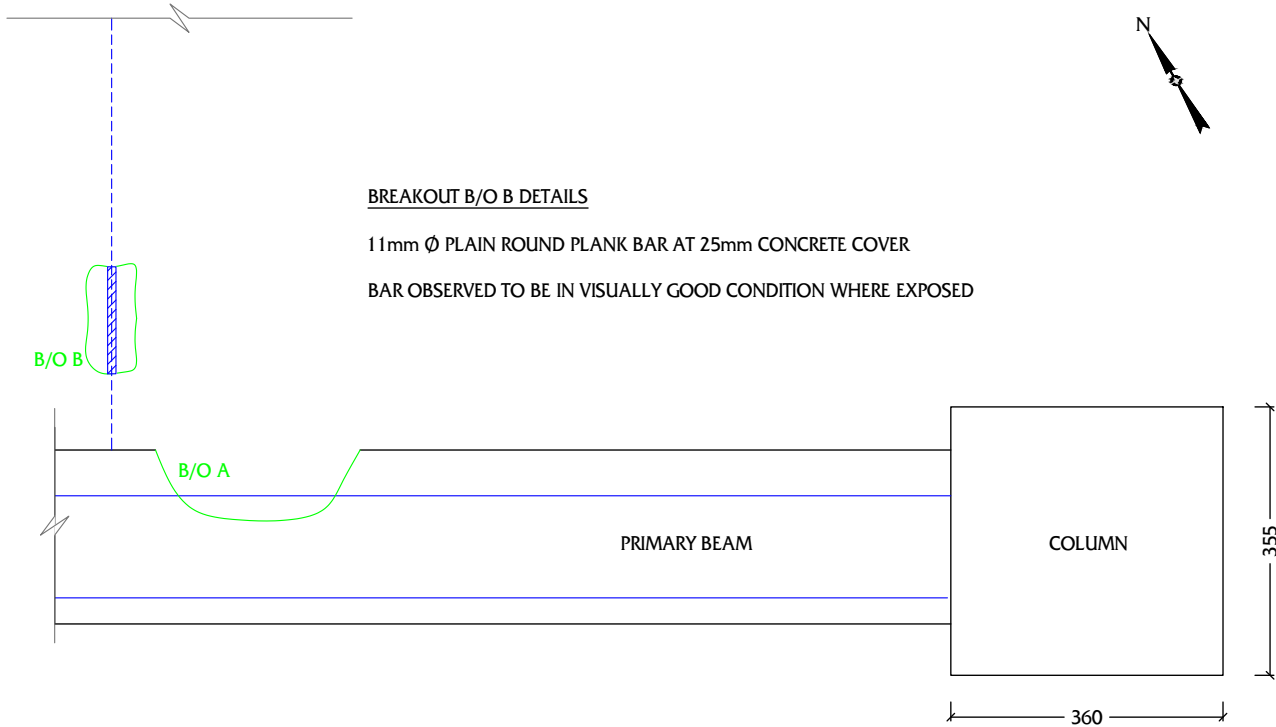
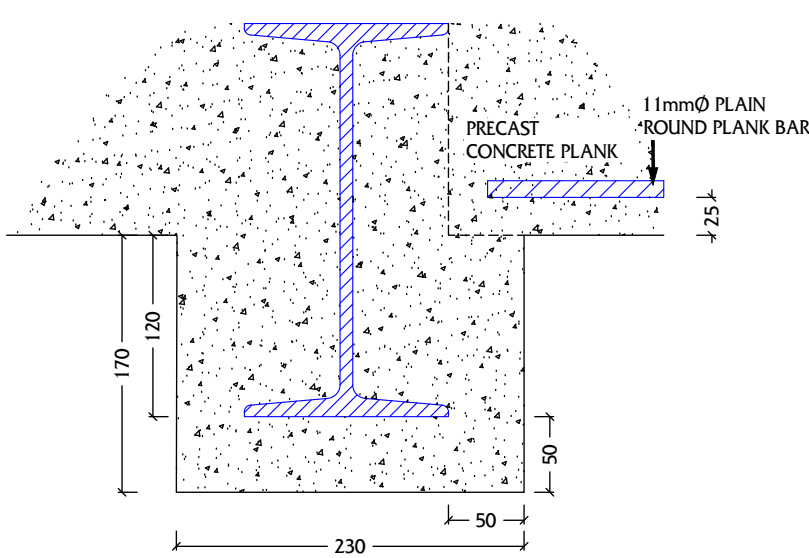
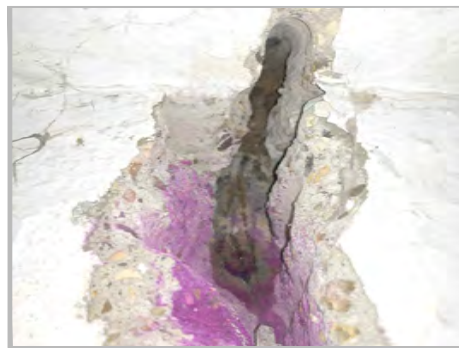


FIG.3: PART SECTION LOOKING WEST THROUGH 1ST FLOOR PRIMARY BEAM - SURVEY AREA F/10-11 SCALE 1:5



P2a: SURVEY AREA F/10-11



P2b: CLOSE UP VIEW OF BREAKOUT B/O A TO SURVEY AREA F/10-11

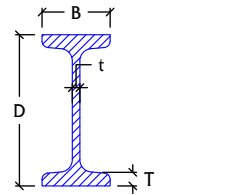
AERIAL VIEW OF SITE



SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	STEELWORK
APPROXIMATE EXTENT OF BREAKOUT	
STEELWORK	
REINFORCEMENT	
EXPOSED REINFORCEMENT	

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION SHEET 1 OF 6

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP **Dwg. No. 4689-FS1**



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

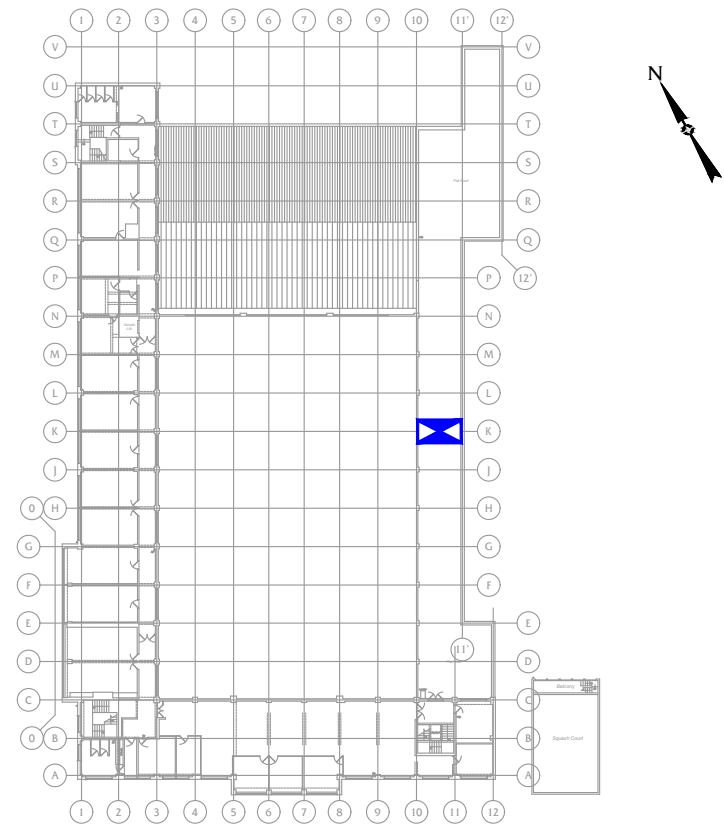


FIG.5: PART REFLECTED 1ST FLOOR SLAB SOFFIT PLAN SHOWING DETAILS OF BEAM AND PRECAST CONCRETE PLANK - SURVEY AREA K/10-11 SCALE 1:10

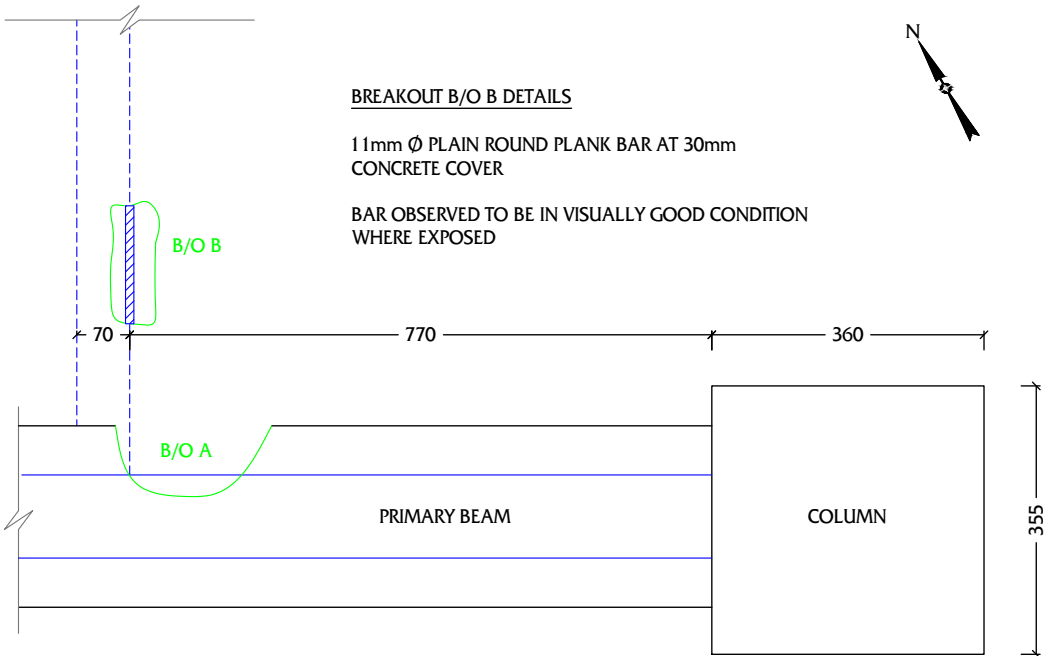
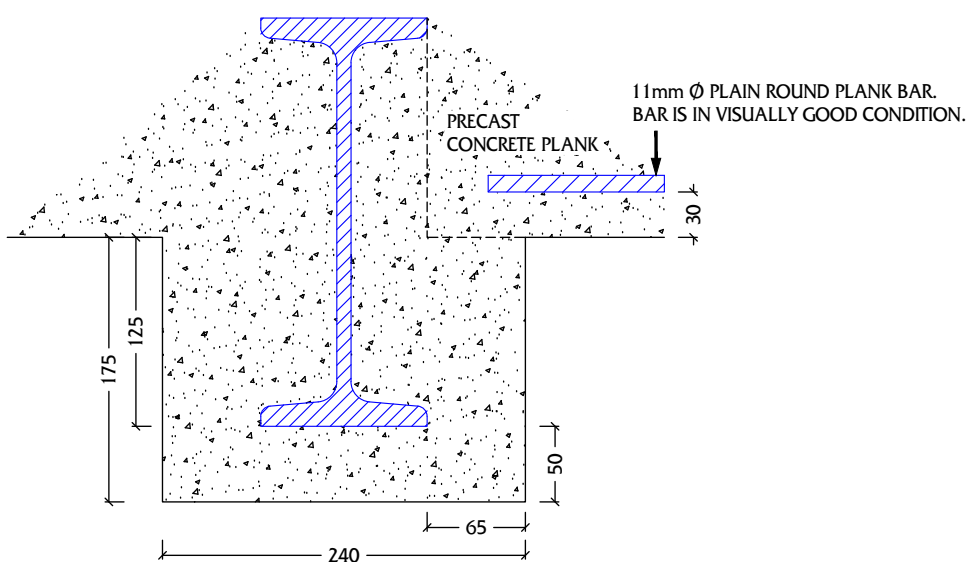


FIG.6: PART SECTION LOOKING WEST THROUGH 1ST FLOOR PRIMARY BEAM - SURVEY AREA K/10-11 SCALE 1:5



BEAM DETAILS

D = 270mm
B = 110mm
T = 15mm
t = 9.4mm

STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED

NOTES

FINISHES OMITTED FROM SKETCH FOR CLARITY

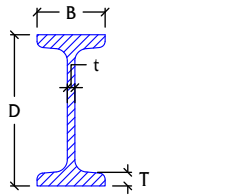
AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	STEELWORK
APPROXIMATE EXTENT OF BREAKOUT	
STEELWORK	
REINFORCEMENT	
EXPOSED REINFORCEMENT	

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION SHEET 2 OF 6

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-FS2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

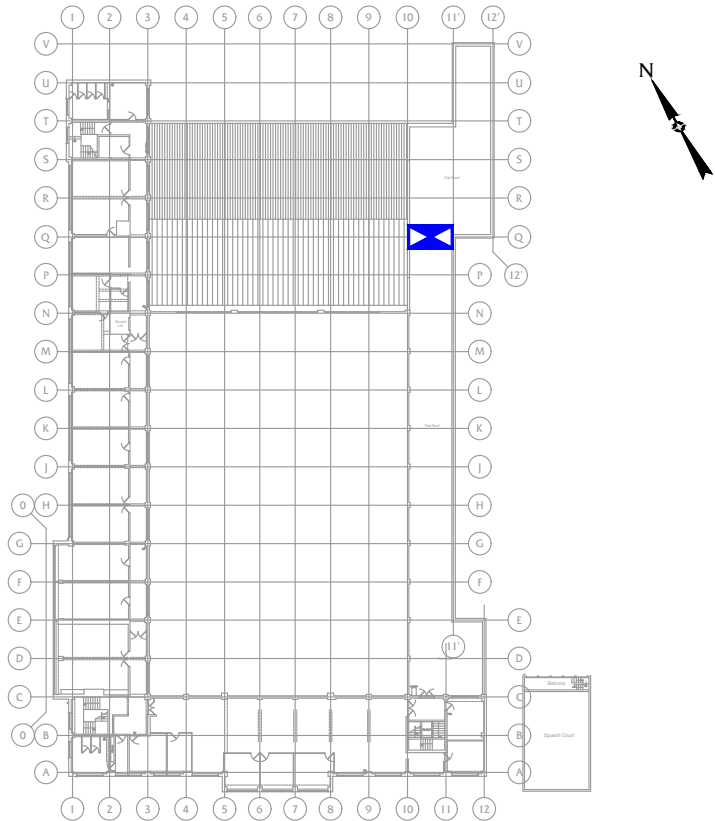


FIG.8: PART REFLECTED 1ST FLOOR SLAB SOFFIT PLAN SHOWING DETAILS OF BEAM AND PRECAST CONCRETE PLANK - SURVEY AREA Q/10-11 SCALE 1:10

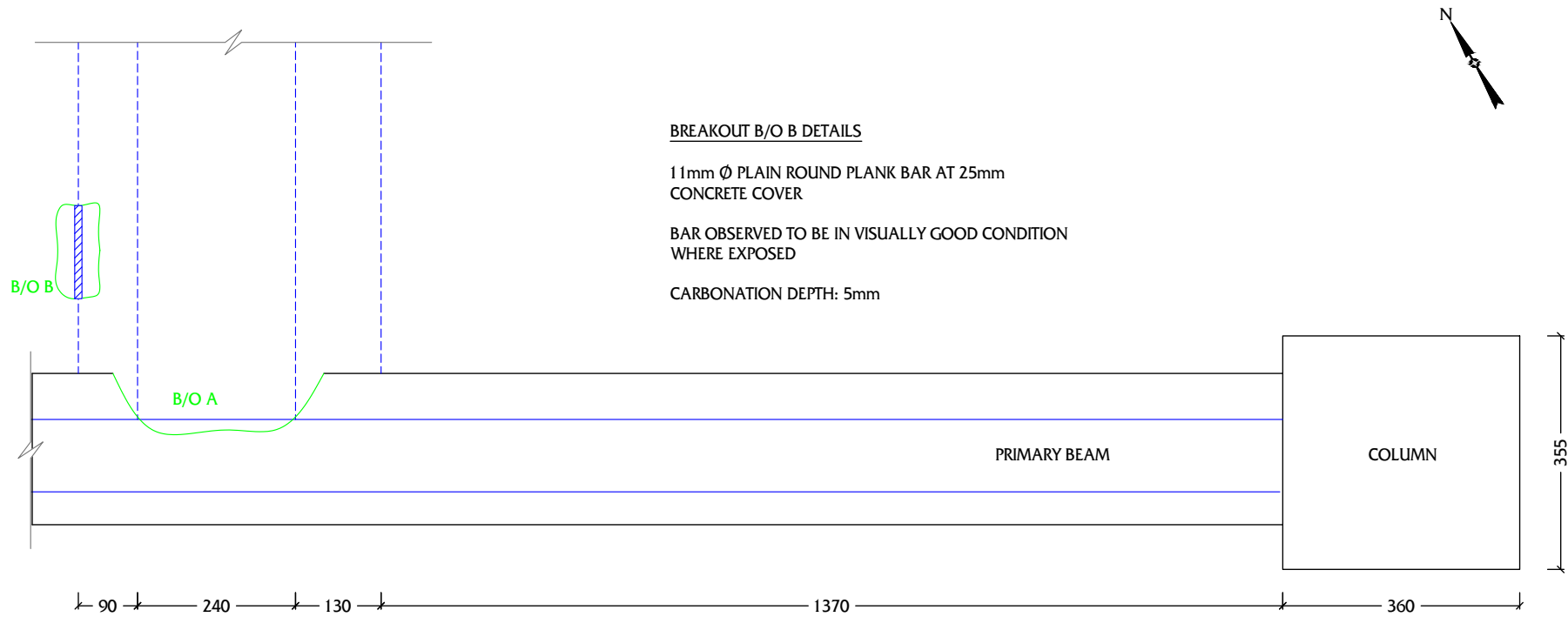
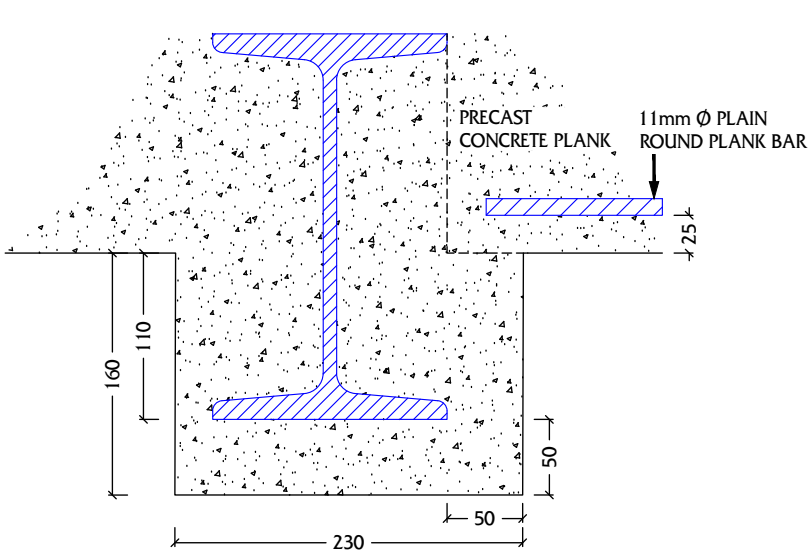


FIG.9: PART SECTION LOOKING WEST THROUGH 1ST FLOOR PRIMARY BEAM - SURVEY AREA Q/10-11 SCALE 1:5



BEAM DETAILS

D = 255mm
B = 155mm
T = 15mm
t = 8.9mm

STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED

NOTES

FINISHES OMITTED FROM SKETCH FOR CLARITY.
CONCRETE ENCASUREMENT TO BEAM AND PLANKS IN VISIBLY POOR CONDITION.
RUST STAINS, MOSS, HISTORIC STAINING AND SPALLING PRESENT.



P8a: SURVEY AREA Q/10-11



P8b: CLOSE UP VIEW OF BREAKOUT B/O A TO BEAM AT SURVEY AREA Q/10-11

AERIAL VIEW OF SITE



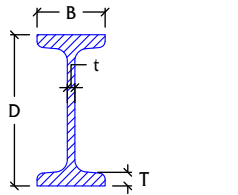
SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- SLAB INVESTIGATED
- APPROXIMATE EXTENT OF BREAKOUT
- STEELWORK
- REINFORCEMENT
- EXPOSED REINFORCEMENT

MATERIAL TYPES

- CONCRETE
- STEELWORK

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION SHEET 3 OF 6

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-FS3



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 10: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

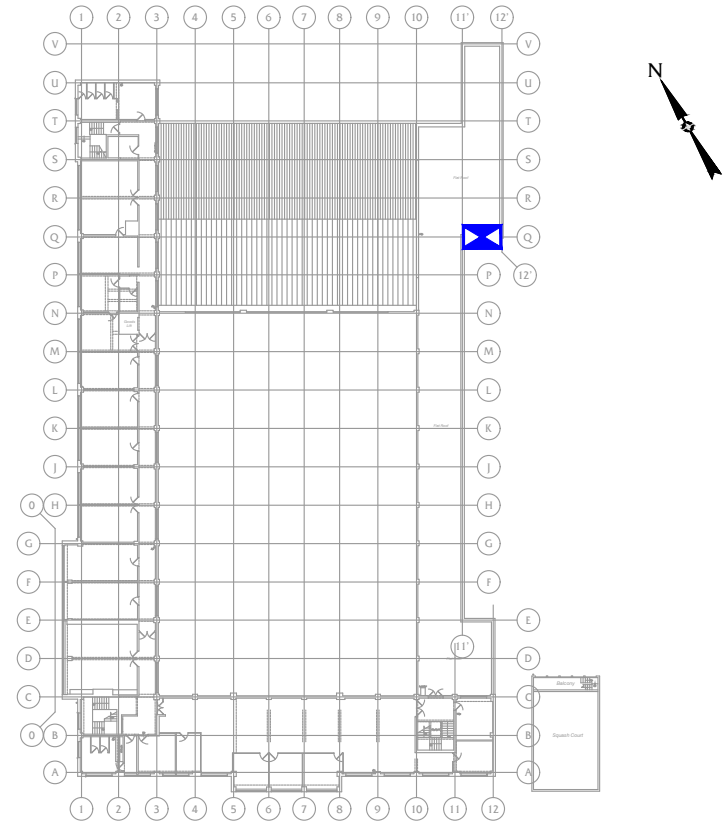


FIG. 11: PART REFLECTED 1ST FLOOR SLAB SOFFIT PLAN SHOWING DETAILS OF BEAM AND PRECAST CONCRETE PLANK - SURVEY AREA Q/11-12 SCALE 1:10

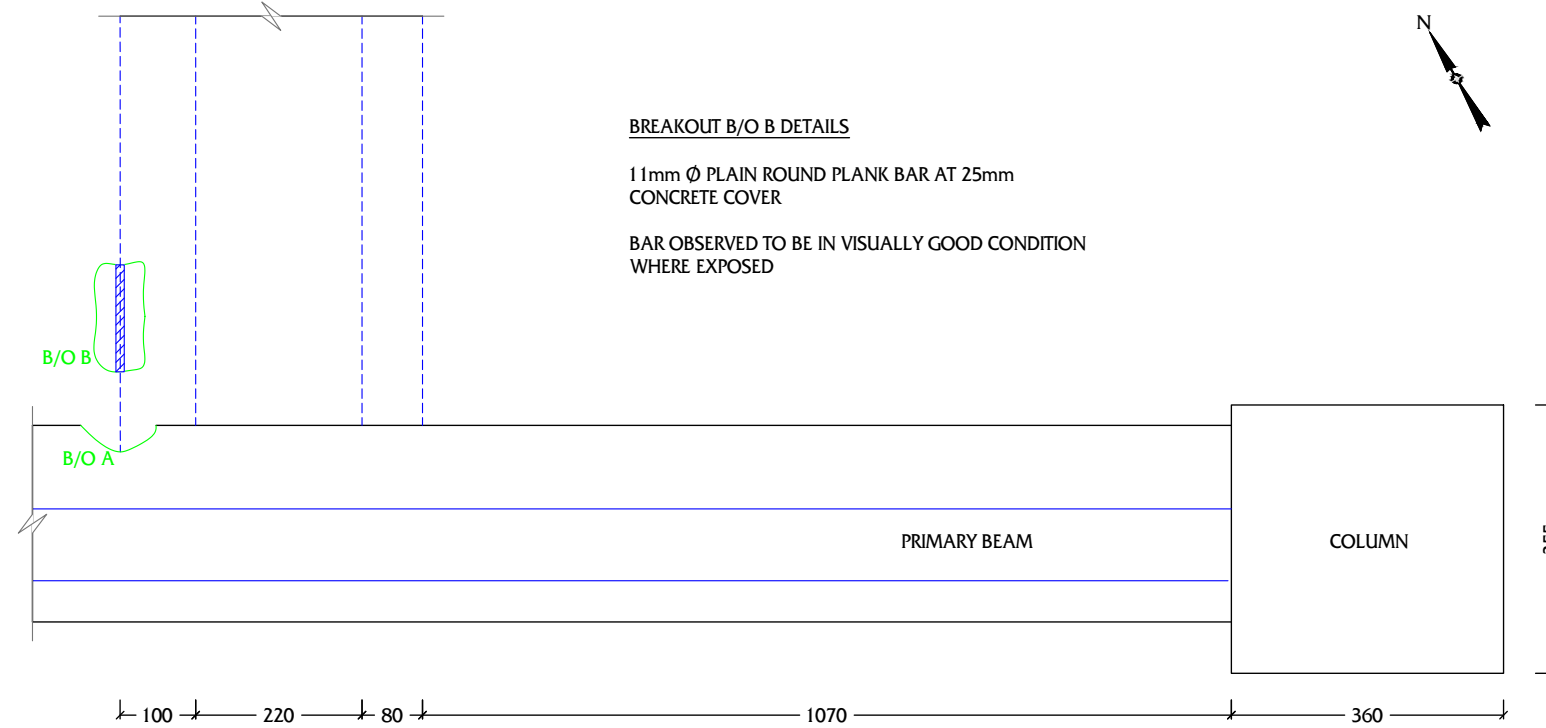
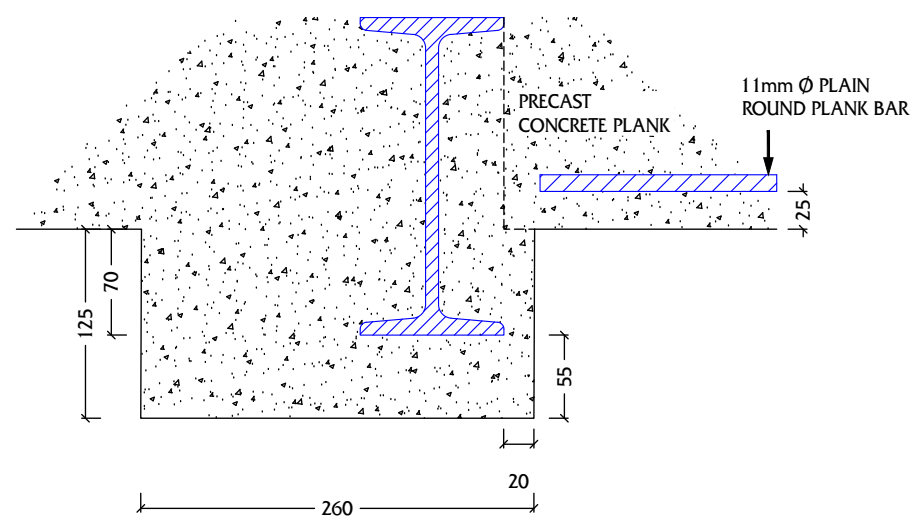


FIG. 12: PART SECTION LOOKING WEST THROUGH 1ST FLOOR PRIMARY BEAM - SURVEY AREA Q/11-12 SCALE 1:5



BEAM DETAILS

D = 210mm
B = 95mm
T = 10mm
t = 8.6mm

STEELWORK EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED

NOTES

FINISHES OMITTED FROM SKETCH FOR CLAI

AERIAL VIEW OF SITE



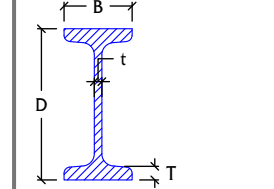
SYMBOLS USED

PLAN EXTENT OF BUILDING SURVEYED	SLAB INVESTIGATED	APPROXIMATE EXTENT OF BREAKOUT	STEELWORK	REINFORCEMENT	EXPOSED REINFORCEMENT

MATERIAL TYPES

	CONCRETE
	STEELWORK

STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION
SHEET 4 OF 6

Drawn HW SEP 20 PM CAD AS SHOWN APP

Dwg. No. 4689-FS4



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

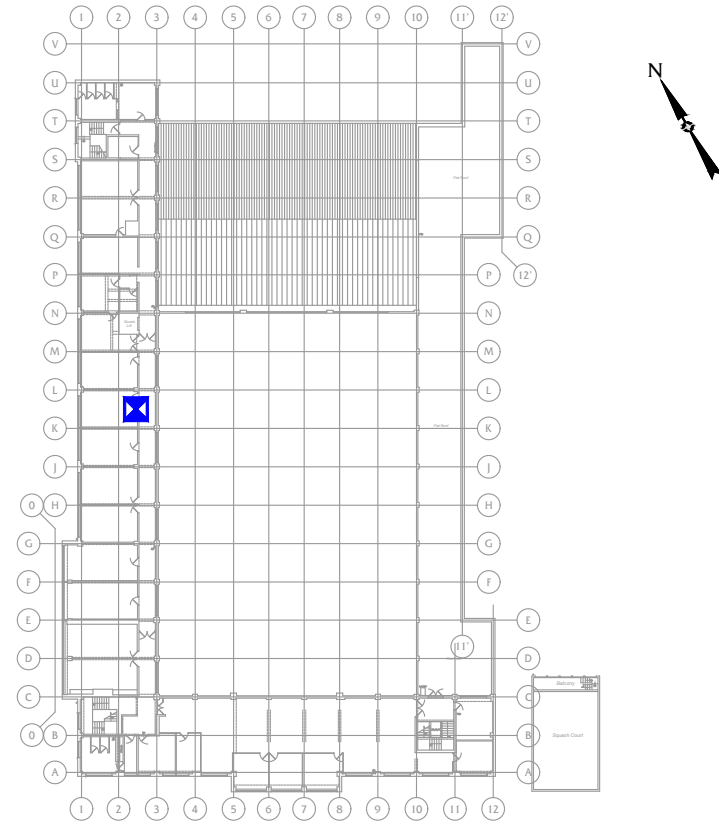


FIG.2: PART SECTION LOOKING SOUTH THROUGH 1ST FLOOR SLAB SHOWING PRECAST CONCRETE PLANK CONSTRUCTION DETAIL - SURVEY AREA L-K/2-3 SCALE 1:20

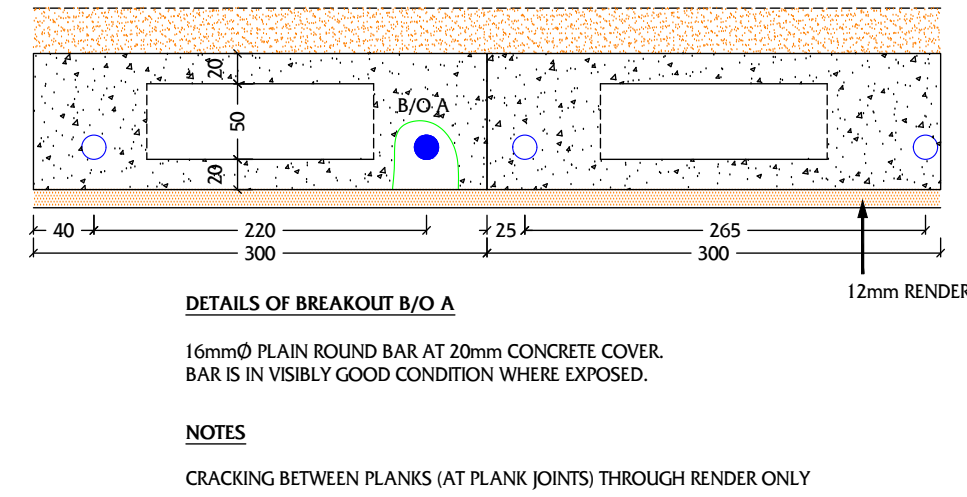


FIG.3: PART SECTION LOOKING EAST THROUGH 1ST FLOOR PRIMARY BEAM - SURVEY AREA L-K/2-3 SCALE 1:5

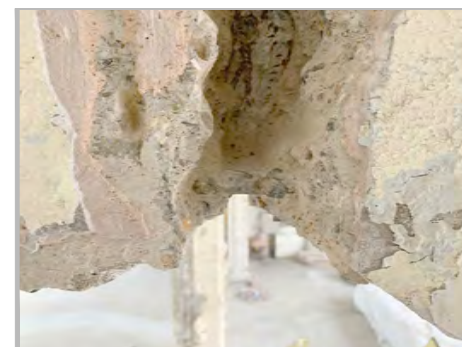
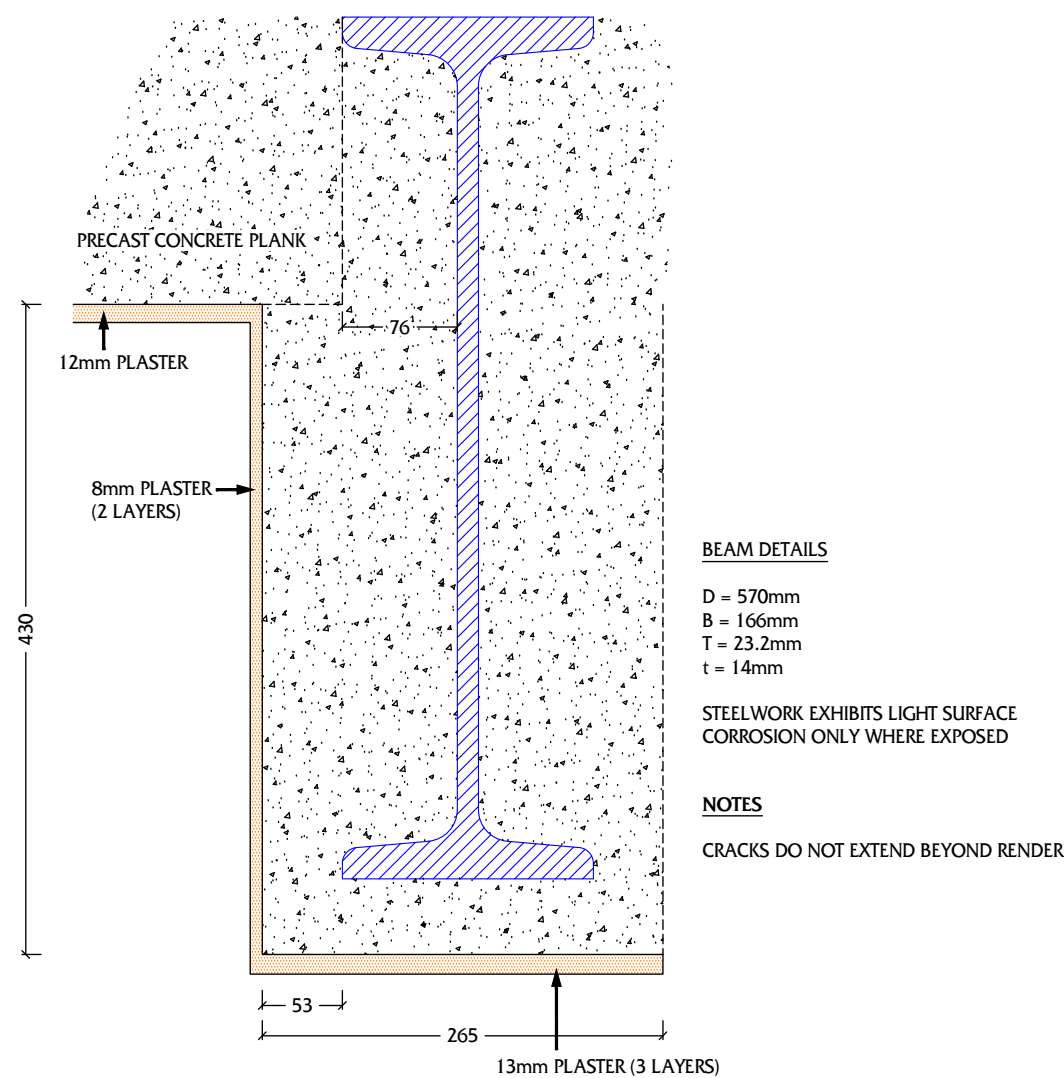
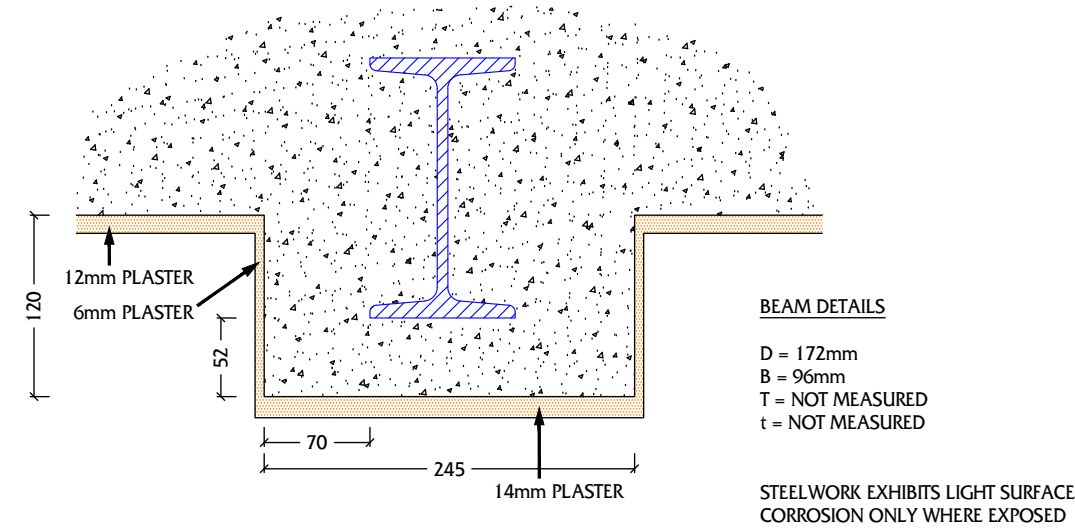


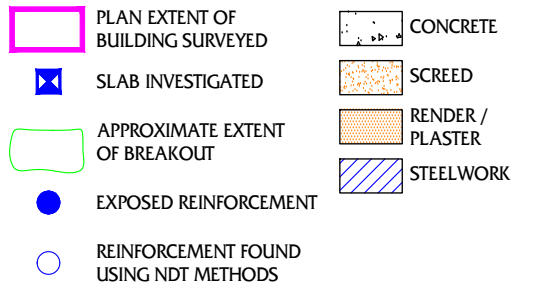
FIG.4: PART SECTION LOOKING NORTH THROUGH 1ST FLOOR SECONDARY BEAM - SURVEY AREA L-K/2-3 SCALE 1:5



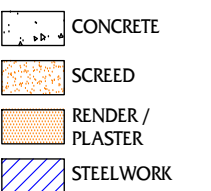
AERIAL VIEW OF SITE



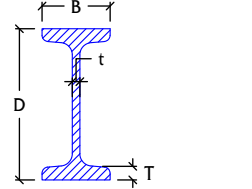
SYMBOLS USED



MATERIAL TYPES



STEEL MEASUREMENT DETAILS (BEAM / COLUMN)



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION SHEET 5 OF 6

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-FS5



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England. Telephone: +44 (0)1923 678800, Fax: +44 (0)1923 678500, Email: struct@gbg.co.uk, Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF SLAB AND BEAM SURVEYED NOT TO SCALE

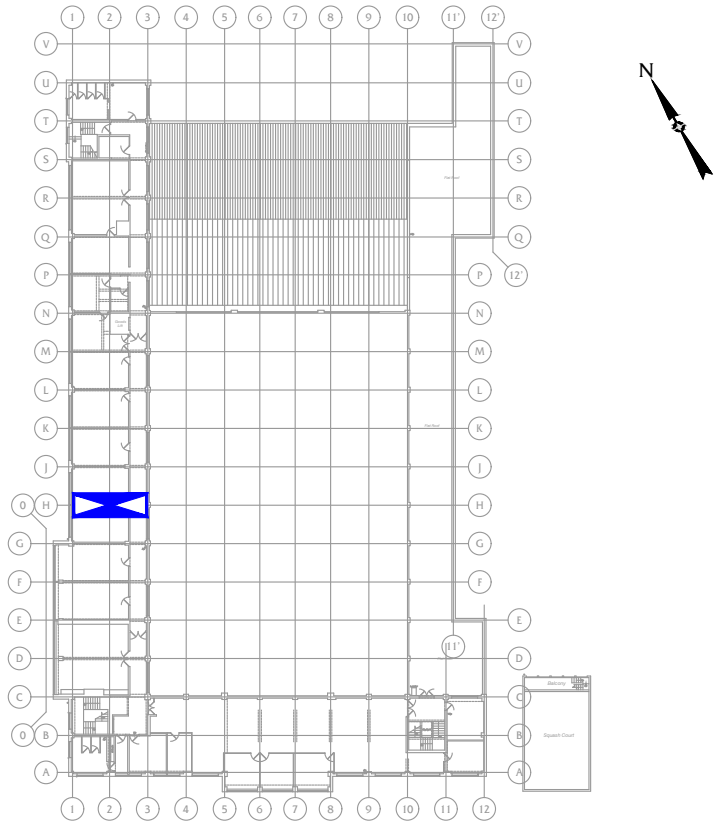
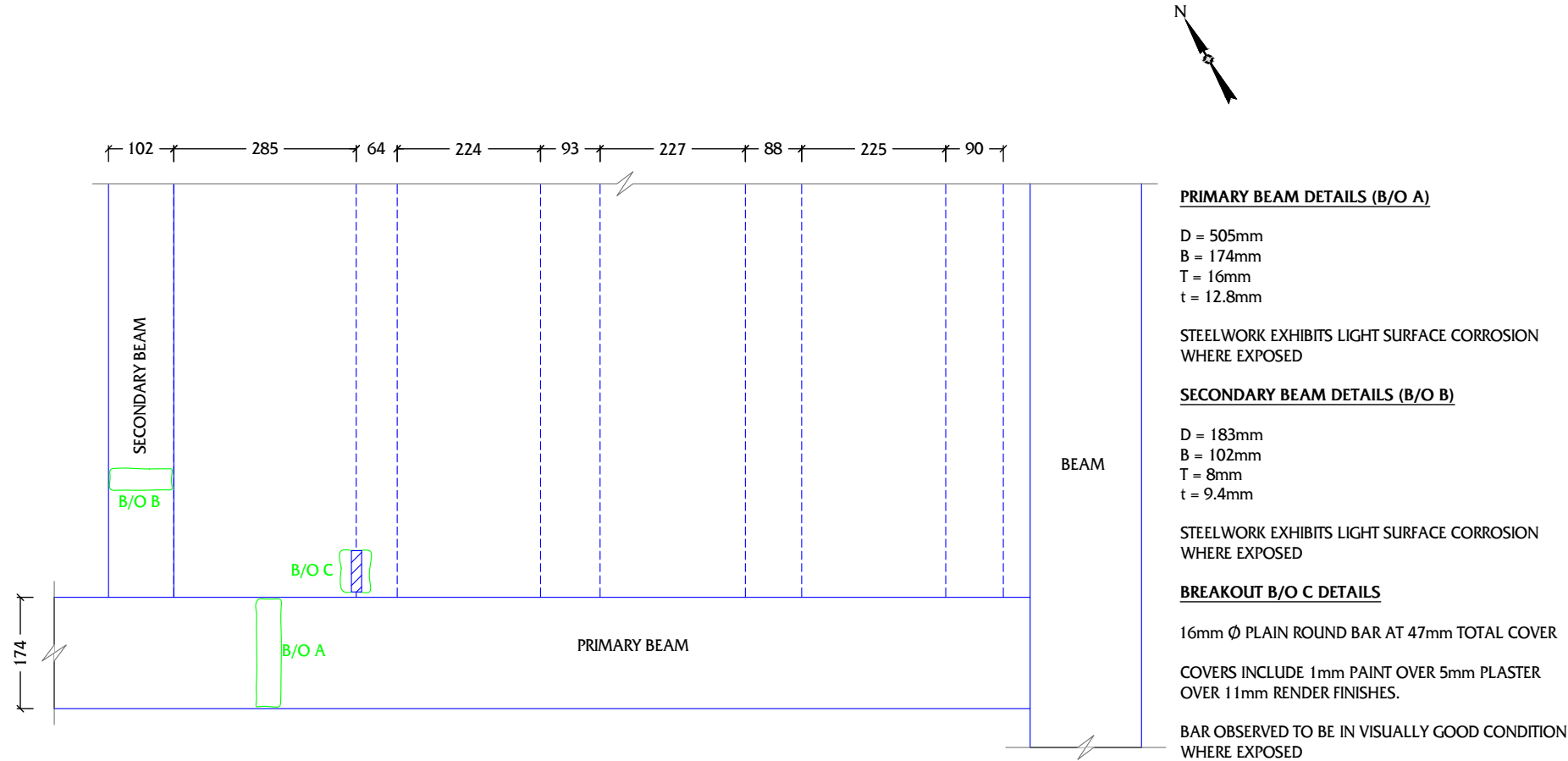


FIG.2: PART REFLECTED 1ST FLOOR SLAB SOFFIT PLAN SHOWING DETAILS OF BEAM AND PRECAST CONCRETE PLANKS - SURVEY AREA H/1-3 SCALE 1:10

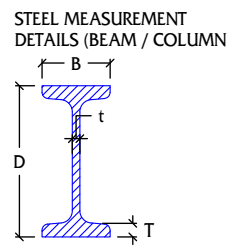


AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- SLAB INVESTIGATED
- APPROXIMATE EXTENT OF BREAKOUT
- STEELWORK
- EXPOSED REINFORCEMENT



PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR SLAB CONSTRUCTION
SHEET 6 OF 6

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-FS6
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Widford
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF SLAB SURVEYED OVER NOT TO SCALE

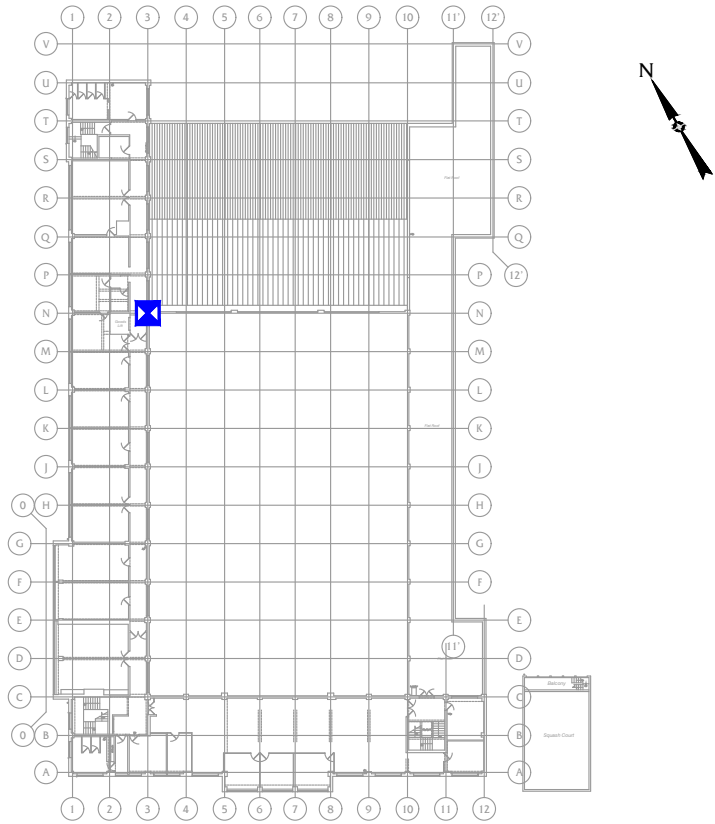


FIG.2: PART REFLECTED SOFFIT PLAN OF ROOF SLAB SHOWING DOWNSTAND BEAM, PRECAST CONCRETE PLANK AND LOCALISED DEFECTS - SURVEY AREA RS1 SCALE 1:20

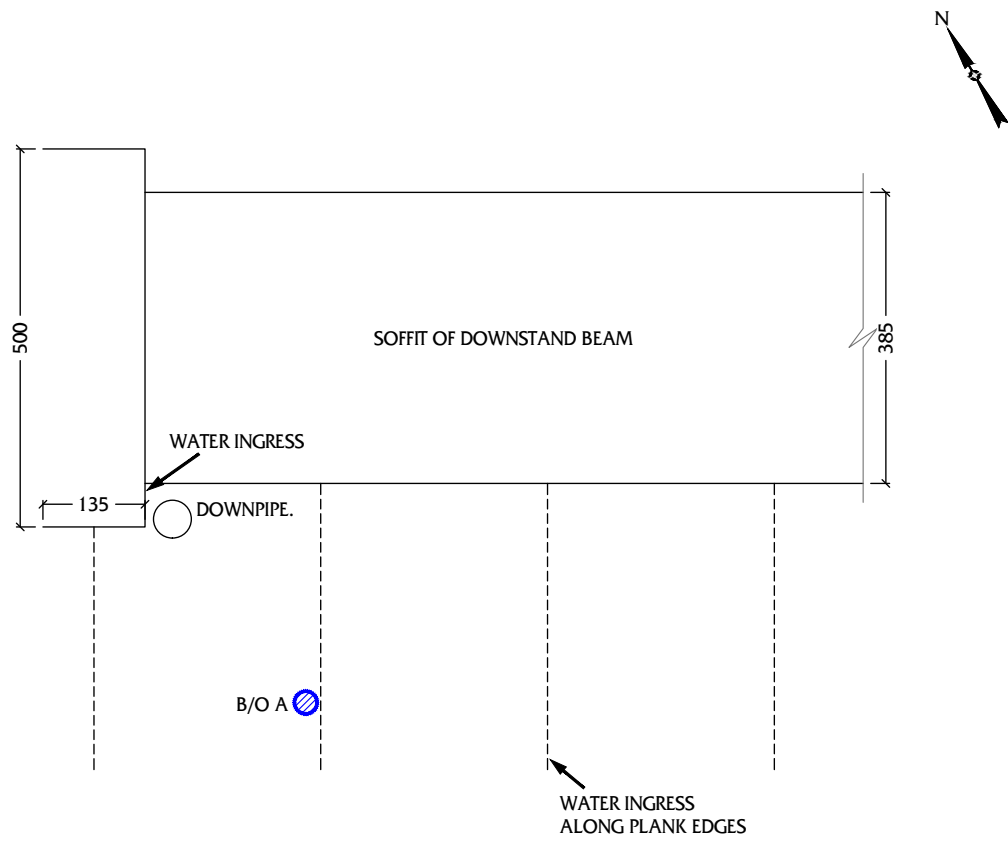
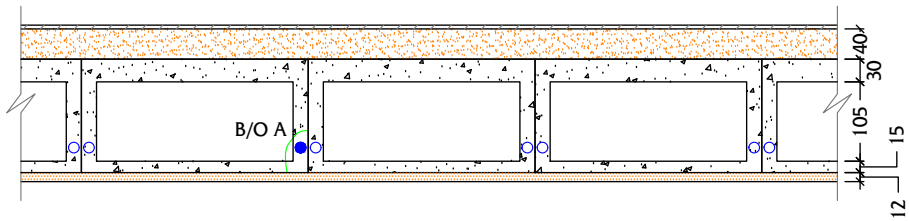


FIG.3: PART SECTION LOOKING SOUTH THROUGH ROOF SLAB SHOWING DETAILS OF PRECAST CONCRETE PLANK - SURVEY AREA RS1 SCALE 1:5



DETAILS OF BREAKOUT BREAKOUT B/O A
14mmØ PLAIN ROUND BAR AT 26mm CONCRETE COVER.
BAR EXHIBITS VERY LIGHT SURFACE CORROSION WHERE EXPOSED.



AERIAL VIEW OF SITE



SYMBOLS USED

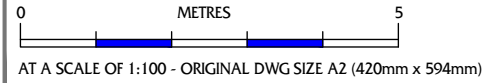
SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	SCREED
BREAKOUT LOCATION	RENDER / PLASTER
APPROXIMATE EXTENT OF BREAKOUT	WATERPROOFING
EXPOSED REINFORCEMENT	
ASSUMED REINFORCEMENT	

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF SLAB CONSTRUCTION
SHEET 1 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RS1
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Watford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
---	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.4: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF SLAB SURVEYED OVER NOT TO SCALE

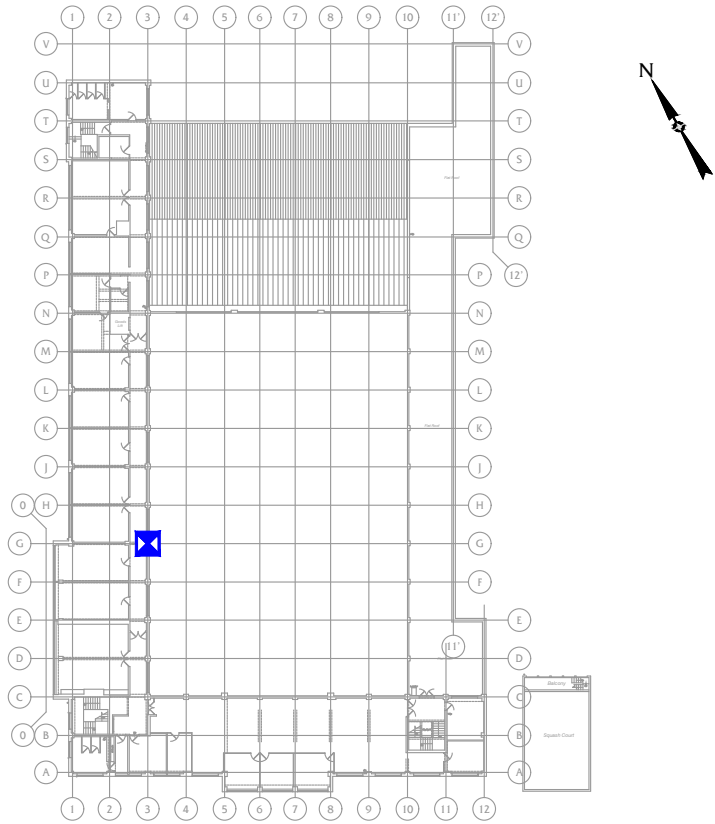


FIG.5: PART REFLECTED SOFFIT PLAN OF ROOF SLAB SHOWING DOWNSTAND BEAM AND PRECAST CONCRETE PLANK - SURVEY AREA RS2 SCALE 1:20

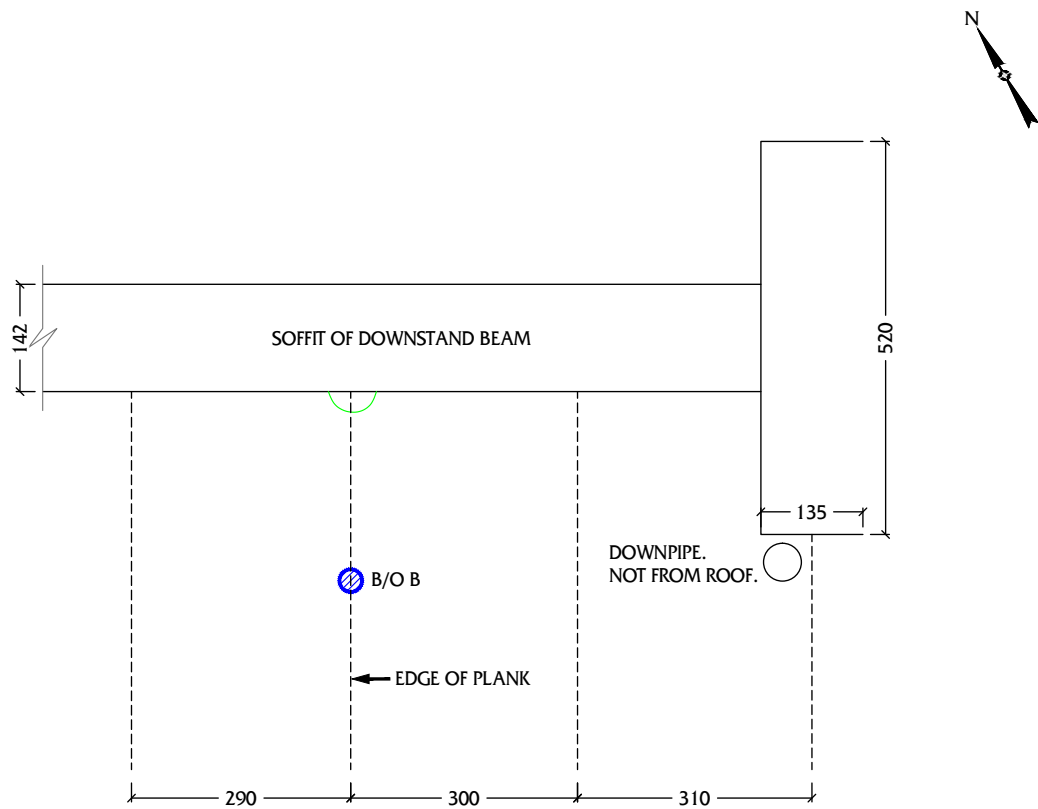
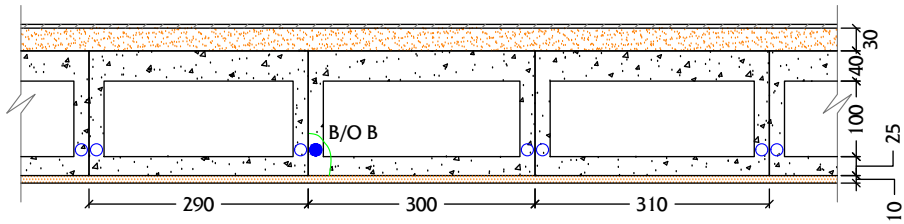


FIG.6: PART SECTION LOOKING EAST THROUGH ROOF SLAB SHOWING DETAILS OF PRECAST CONCRETE PLANK - SURVEY AREA RS2 SCALE 1:5



DETAILS OF BREAKOUT B/O B
16mmØ PLAIN ROUND BAR AT 26mm CONCRETE COVER.
BAR EXHIBITS VERY LIGHT SURFACE CORROSION WHERE EXPOSED.

AERIAL VIEW OF SITE



SYMBOLS USED

- | | |
|----------------------------------|------------------|
| PLAN EXTENT OF BUILDING SURVEYED | CONCRETE |
| SLAB INVESTIGATED | SCREED |
| BREAKOUT LOCATION | RENDER / PLASTER |
| APPROXIMATE EXTENT OF BREAKOUT | WATERPROOFING |
| EXPOSED REINFORCEMENT | |
| ASSUMED REINFORCEMENT | |

PROJECT DETAILS
GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 5 METRES

AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE
------	----------	------

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF SLAB CONSTRUCTION
SHEET 2 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RS2
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Watford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
---	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.7: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF SLAB SURVEYED OVER NOT TO SCALE

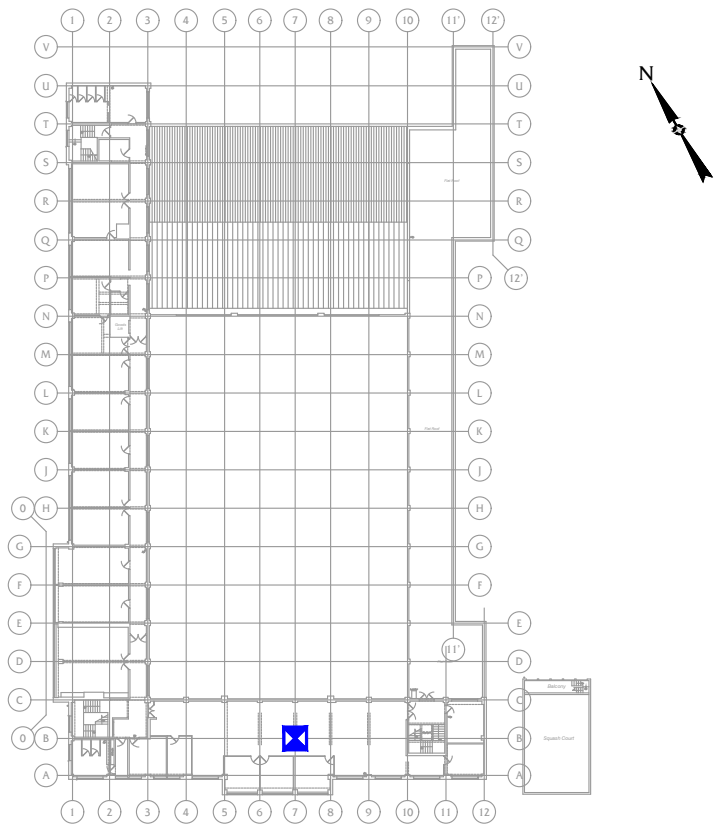
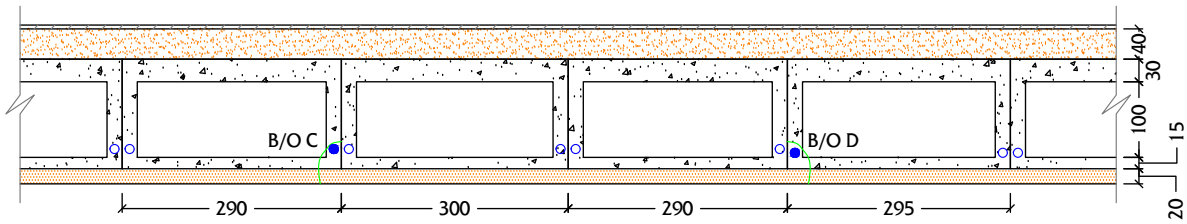


FIG.9: PART SECTION LOOKING EAST THROUGH ROOF SLAB SHOWING DETAILS OF PRECAST CONCRETE PLANK - SURVEY AREA RS3 SCALE 1:5



DETAILS OF BREAKOUTS

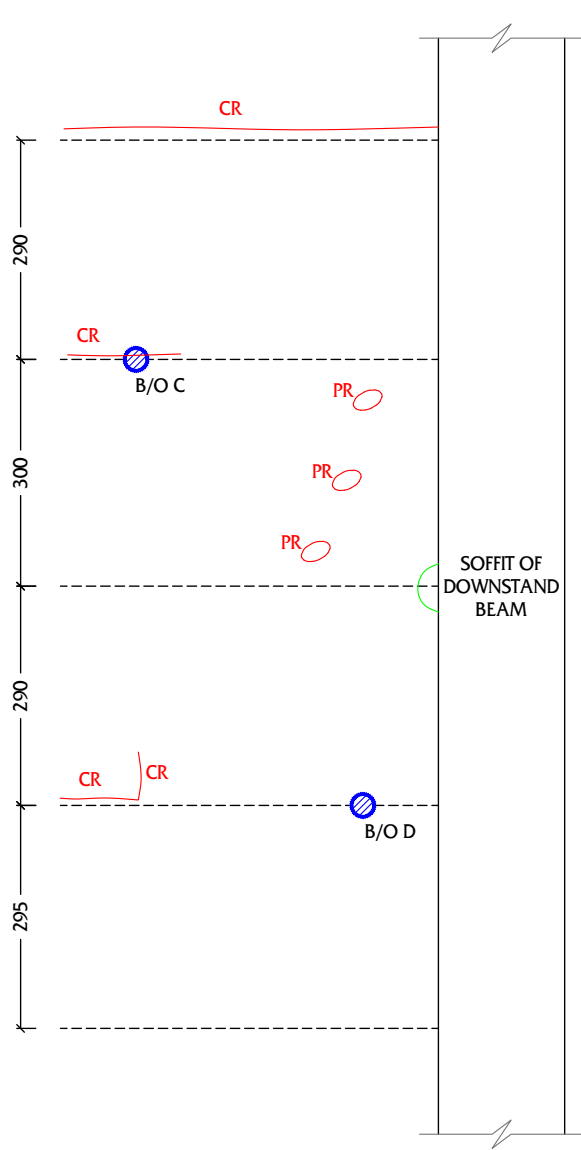
BREAKOUT B/O C

12mmØ PLAIN ROUND BAR AT 20mm CONCRETE COVER.
BAR EXHIBITS MODERATE TO HEAVY SURFACE CORROSION WHERE LOCALLY EXPOSED.

BREAKOUT B/O D

12mmØ PLAIN ROUND BAR AT 15mm CONCRETE COVER.
BAR EXHIBITS LIGHT SURFACE CORROSION WHERE EXPOSED.

FIG.8: PART REFLECTED SOFFIT PLAN OF ROOF SLAB SHOWING DOWNSTAND BEAM, PRECAST CONCRETE PLANK AND LOCALISED DEFECTS - SURVEY AREA RS3 SCALE 1:20



P8a: SURVEY AREA RS3



P8b: BAR EXPOSED AT BREAKOUT B/O C

AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	SCREED
BREAKOUT LOCATION	RENDER / PLASTER
APPROXIMATE EXTENT OF BREAKOUT	WATERPROOFING
EXPOSED REINFORCEMENT	
ASSUMED REINFORCEMENT	
DEFECT LOCATION	
CRACK	
PATCH REPAIR	

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

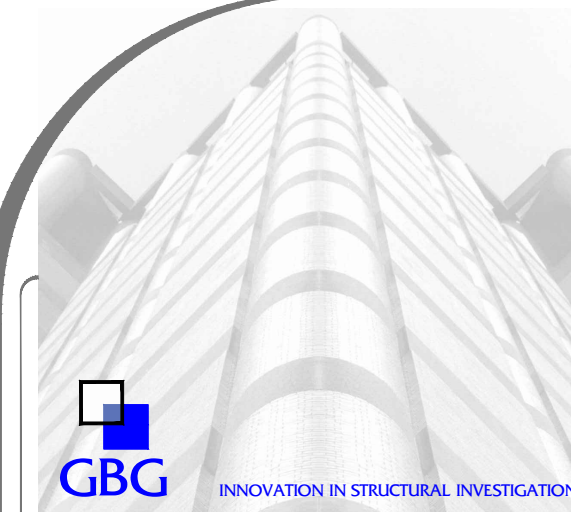
ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF SLAB CONSTRUCTION
SHEET 3 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RS3
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 10: PLAN OF 1ST FLOOR SHOWING LOCATION OF ROOF SLAB SURVEYED OVER NOT TO SCALE

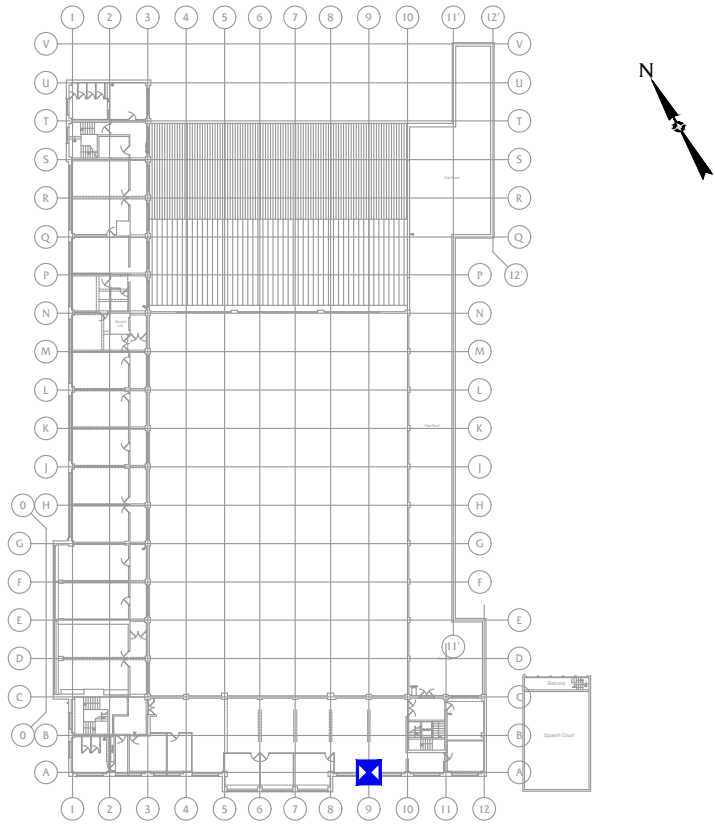
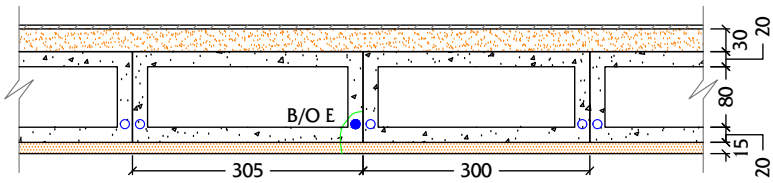
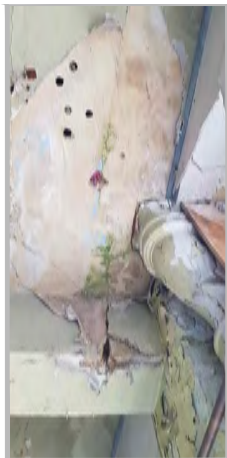
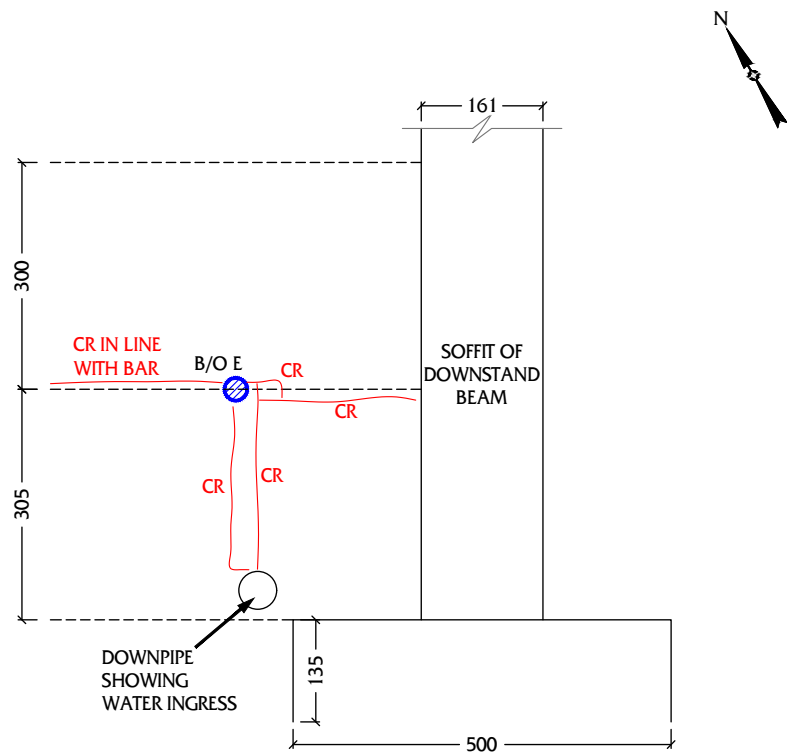


FIG. 12: PART SECTION LOOKING EAST THROUGH ROOF SLAB SHOWING DETAILS OF PRECAST CONCRETE PLANK - SURVEY AREA RS4 SCALE 1:5



DETAILS OF BREAKOUT B/O E
12mmØ PLAIN ROUND BAR AT 18mm CONCRETE COVER.
BAR EXHIBITS VERY LIGHT SURFACE CORROSION WHERE LOCALLY EXPOSED.

FIG. 11: PART REFLECTED SOFFIT PLAN OF ROOF SLAB SHOWING DOWNSTAND BEAM, PRECAST CONCRETE PLANK AND LOCALISED DEFECTS - SURVEY AREA RS4 SCALE 1:20



P11a: SURVEY AREA RS4



P11b: BAR EXPOSED AT BREAKOUT B/O D

AERIAL VIEW OF SITE



SYMBOLS USED

SYMBOLS USED	MATERIAL TYPES
PLAN EXTENT OF BUILDING SURVEYED	CONCRETE
SLAB INVESTIGATED	SCREED
BREAKOUT LOCATION	RENDER / PLASTER
APPROXIMATE EXTENT OF BREAKOUT	WATERPROOFING
EXPOSED REINFORCEMENT	
ASSUMED REINFORCEMENT	
DEFECT LOCATION	
CRACK	

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF ROOF SLAB CONSTRUCTION
SHEET 4 OF 4

Drawn HW CAD	Date SEP 20 PM	Scale AS SHOWN APP	Dwg. No. 4689-RS4
--------------------	----------------------	--------------------------	-------------------



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Wotton Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: struct@gbg.co.uk Website: www.gbg.co.uk
--	--	---

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG. 1: PLAN OF 1ST FLOOR SHOWING LOCATION OF STAIR CORE SURVEYED NOT TO SCALE

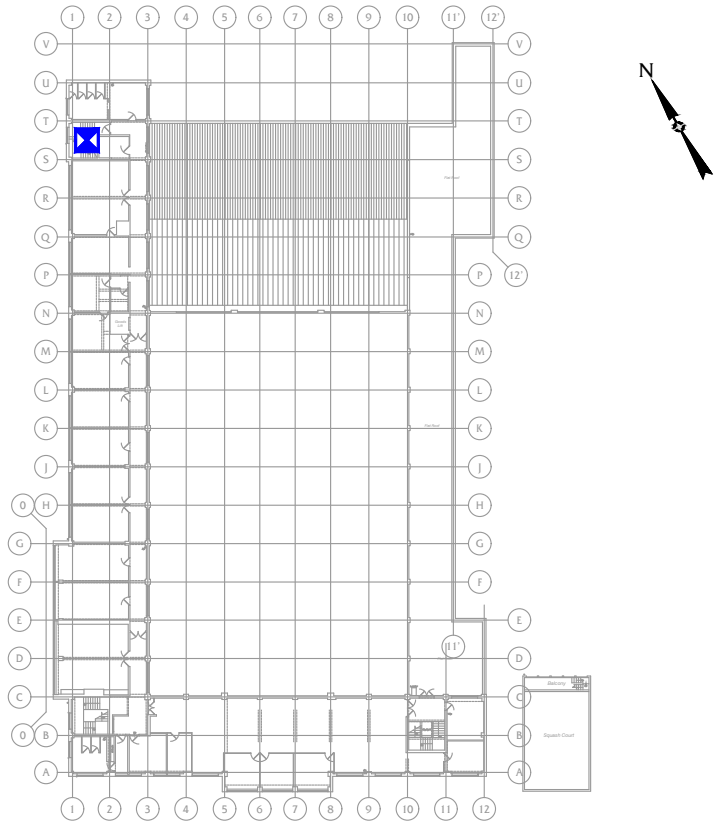
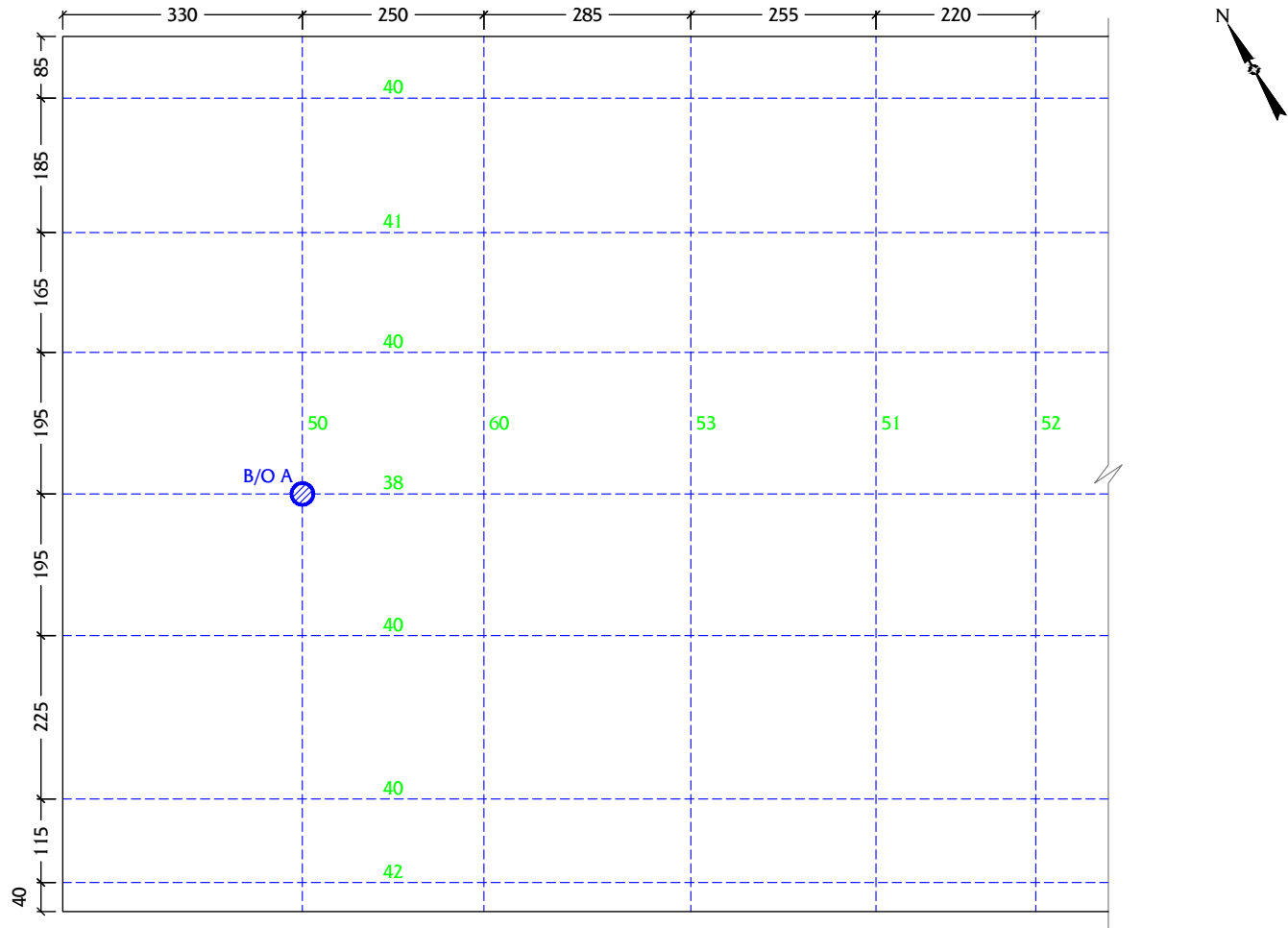


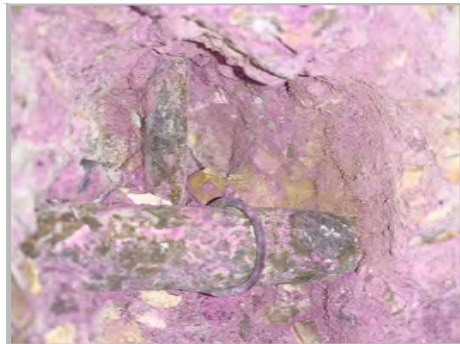
FIG.2: PART REFLECTED SOFFIT PLAN OF 1ST FLOOR STAIR LANDING SHOWING BREAKOUT AND NEAR SURFACE STEEL REINFORCEMENT ARRANGEMENT - SURVEY AREA S-T/1-2 SCALE 1:20



DETAILS OF BREAKOUT B/O A
10mmØ N-S BAR AT 36mm CONCRETE COVER.
16mmØ E-W BAR AT 20mm CONCRETE COVER.
BOTH BARS EXHIBIT LIGHT SURFACE CORROSION ONLY.



P2a: SURVEY AREA S-T/1-2



P2b: BREAKOUT B/O A

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- SLAB INVESTIGATED
- BREAKOUT LOCATION
- COVERMETER READING (mm)
- REINFORCEMENT POSITION, DETERMINED VIA ADT METHODS (MAY COMPRISE OF MORE THAN 1 ADJACENT BARS)

PROJECT DETAILS
GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5

AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF 1ST FLOOR STAIR CORE CONSTRUCTION

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-SC1



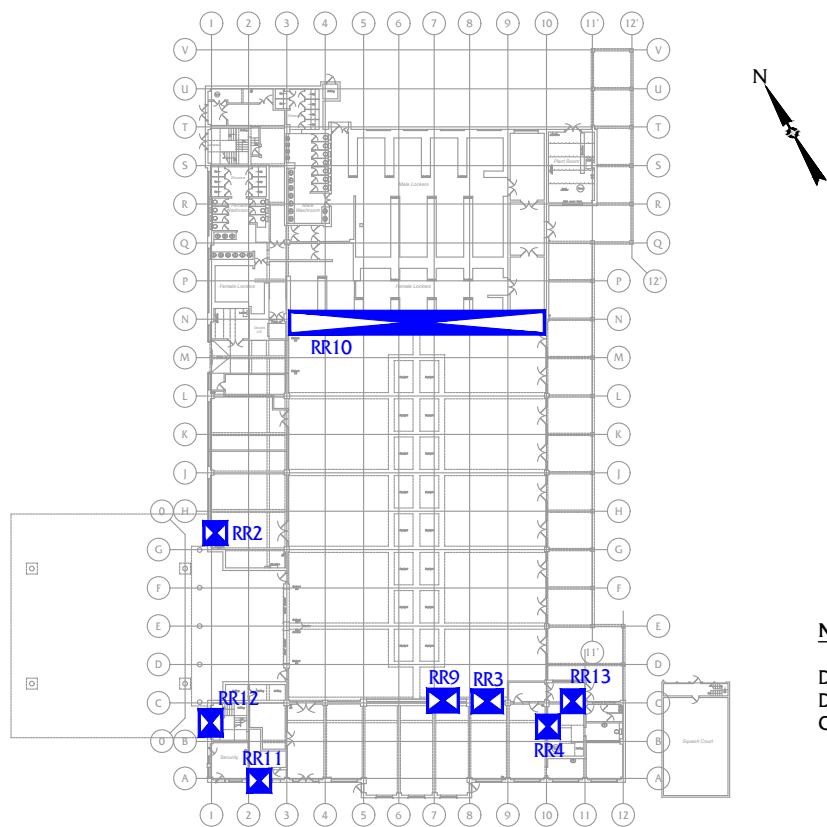
GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

LOCATIONS OF GROUND FLOOR WALL DAMP PROOF COURSE (DPC) AND CRACK SURVEYS
NESTLE FORMER CANTEN BUILDING, HAYES

FIG. 1: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF SURVEY AREAS NOT TO SCALE



NOTES

DAMP PROOF COURSE WAS LOCATED AT SURVEY AREAS RR9 AND RR12 AT LOW LEVEL. NO OTHER DAMP PROOF COURSE WAS FOUND AT THE REMAINING GROUND FLOOR SURVEY AREAS. CRACKS TO WALL FINISHES DID NOT EXTEND INTO THE BRICKWORK MASONRY WHERE INVESTIGATED.



P1a: DPC INVESTIGATION - SURVEY AREA RR2



P1b: DPC INVESTIGATION - SURVEY AREA RR10



P1c: DPC INVESTIGATION - SURVEY AREA RR11



P1d: DPC INVESTIGATION - SURVEY AREA RR12



P1e: DPC INVESTIGATION - SURVEY AREA RR13



P1f: CRACK INVESTIGATION - SURVEY AREA RR3



P1g: CRACK INVESTIGATION - SURVEY AREA RR4



P1h: CRACK INVESTIGATION - SURVEY AREA RR9

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- WALL SURVEY AREA
- 8.8 MOISTURE METER READING (SURFACE FINISH)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: LOCATIONS OF GROUND FLOOR WALL DAMP PROOF COURSE (DPC) AND CRACK SURVEYS

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-W1



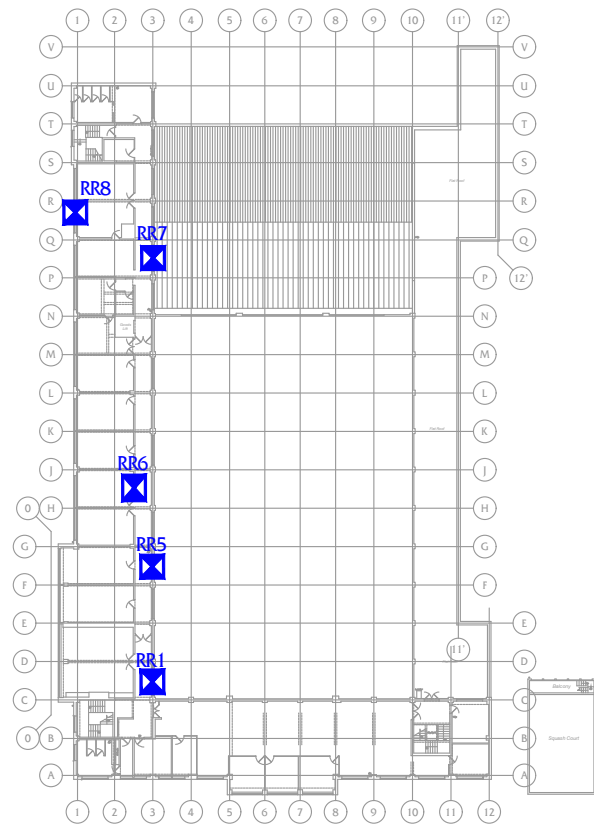
GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

LOCATIONS OF 1ST FLOOR WALL CRACK SURVEYS
NESTLE FORMER CANTEEN BUILDING, HAYES

FIG.2: PLAN OF 1ST FLOOR SHOWING LOCATIONS OF WALLS SURVEYED NOT TO SCALE



NOTES
CRACKS TO WALL FINISHES DID NOT EXTEND INTO THE BRICKWORK MASONRY WHERE INVESTIGATED.



P2a: CRACK INVESTIGATION - SURVEY AREA RR1



P2b: CRACK INVESTIGATION - SURVEY AREA RR5



P2c: CRACK INVESTIGATION - SURVEY AREA RR6



P2d: CRACK INVESTIGATION - SURVEY AREA RR7



P2e: CRACK INVESTIGATION - SURVEY AREA RR8

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- WALL SURVEY AREA
- 8.8 MOISTURE METER READING (SURFACE FINISH)

PROJECT DETAILS
GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: LOCATIONS OF 1ST FLOOR WALL CRACK SURVEYS

Drawn: HW Date: SEP 20 Scale: AS SHOWN
CAD: PM APP
Dwg. No. 4689-W2



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane
Wotton
Hertfordshire
WD25 9XX
England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.1: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF THERMAL SURVEYS NOT TO SCALE

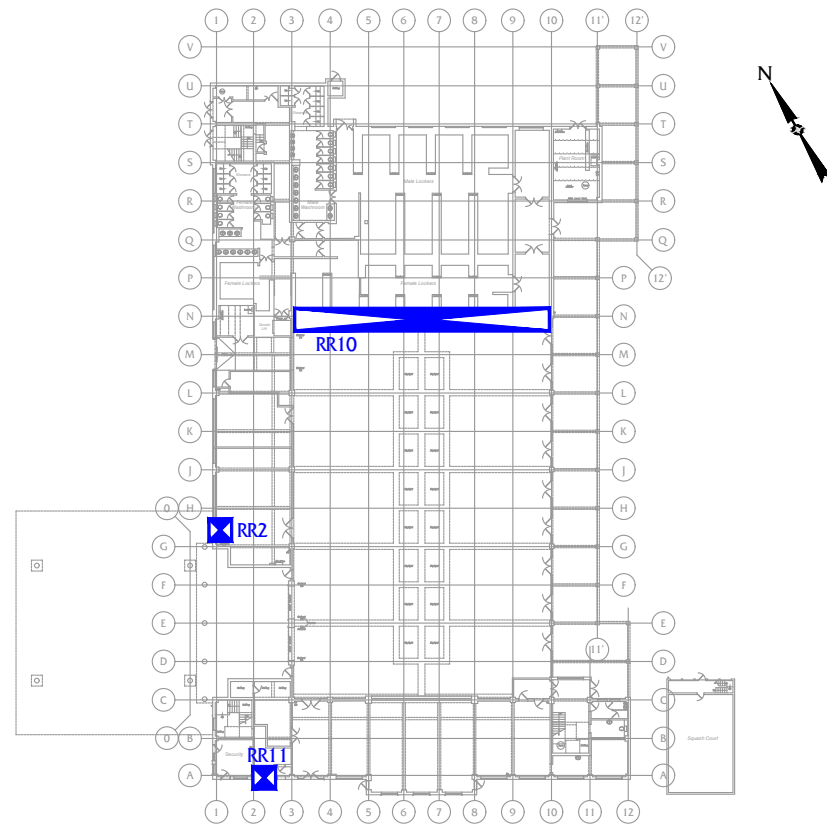


FIG.2: RESULTS OF THERMAL SURVEY - AREA RR2



FIG.3: RESULTS OF THERMAL SURVEY - AREA RR10



FIG.4: RESULTS OF THERMAL SURVEY - AREA RR11



SYMBOLS USED

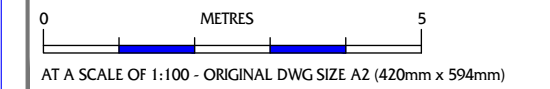
- | | |
|---|---|
|  | PLAN EXTENT OF BUILDING SURVEYED |
|  | WALL SURVEY AREA |
| 8.8 | MOISTURE METER READING (SURFACE FINISH) |

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.



REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: LOCATIONS AND DETAILS OF DAMP SURVEYS TO
GROUND FLOOR WALLS - SHEET 1 OF 2

Drawn	Date	Scale	Dwg. No. 4689-TS1
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane Watford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: structs@gbg.co.uk Website: www.gbg.co.uk
---	--	--

© Copyright 2020 G B Geotechnics Ltd. File 4689

FIG.5: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF THERMAL SURVEYS NOT TO SCALE

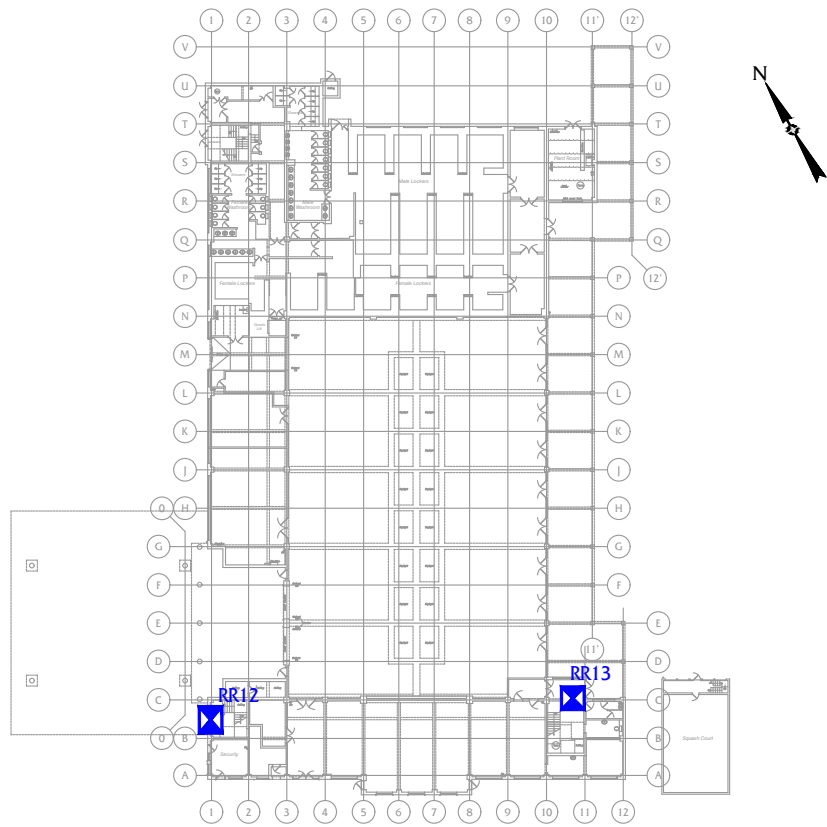


FIG.6: RESULTS OF THERMAL SURVEY - AREA RR12

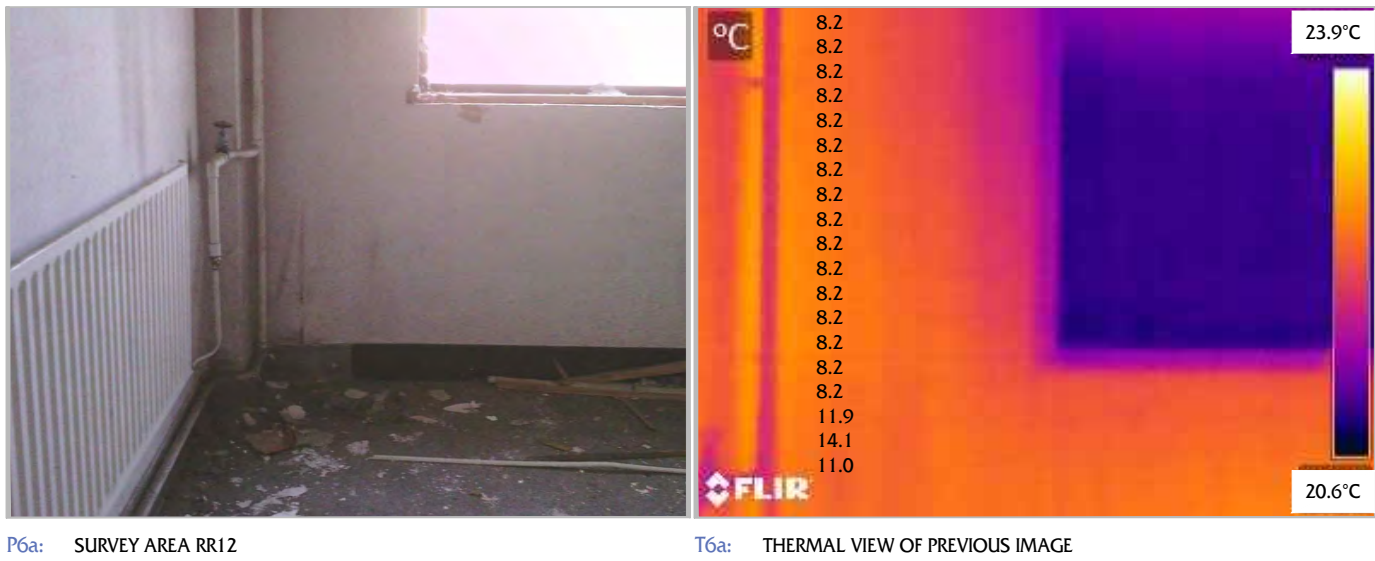
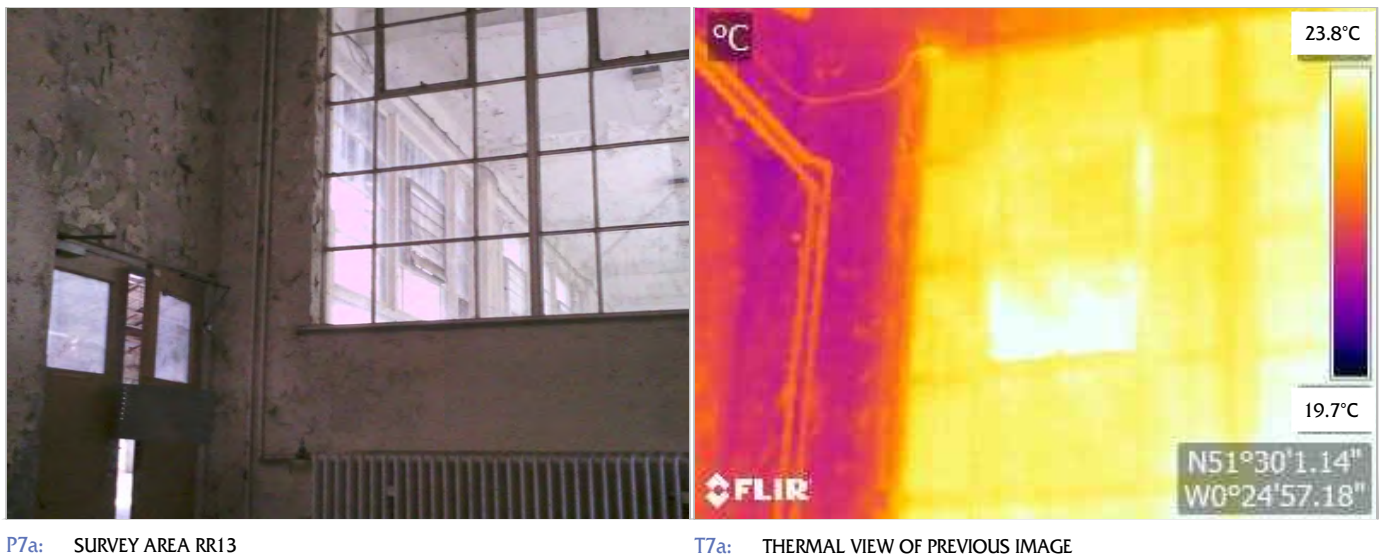


FIG.7: RESULTS OF THERMAL SURVEY - AREA RR13



AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF BUILDING SURVEYED
- WALL SURVEY AREA
- 8.8 MOISTURE METER READING (SURFACE FINISH)

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED	TWO STOREY STEEL FRAMED FORMER CANTEEN BUILDING
LOCATION	NORTH HYDE GARDENS, HAYES, UB3 4RF
PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEEN BUILDING, HAYES

Client: BARRATT LONDON

Title: LOCATIONS AND DETAILS OF DAMP SURVEYS TO GROUND FLOOR - SHEET 2 OF 2

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-TS2



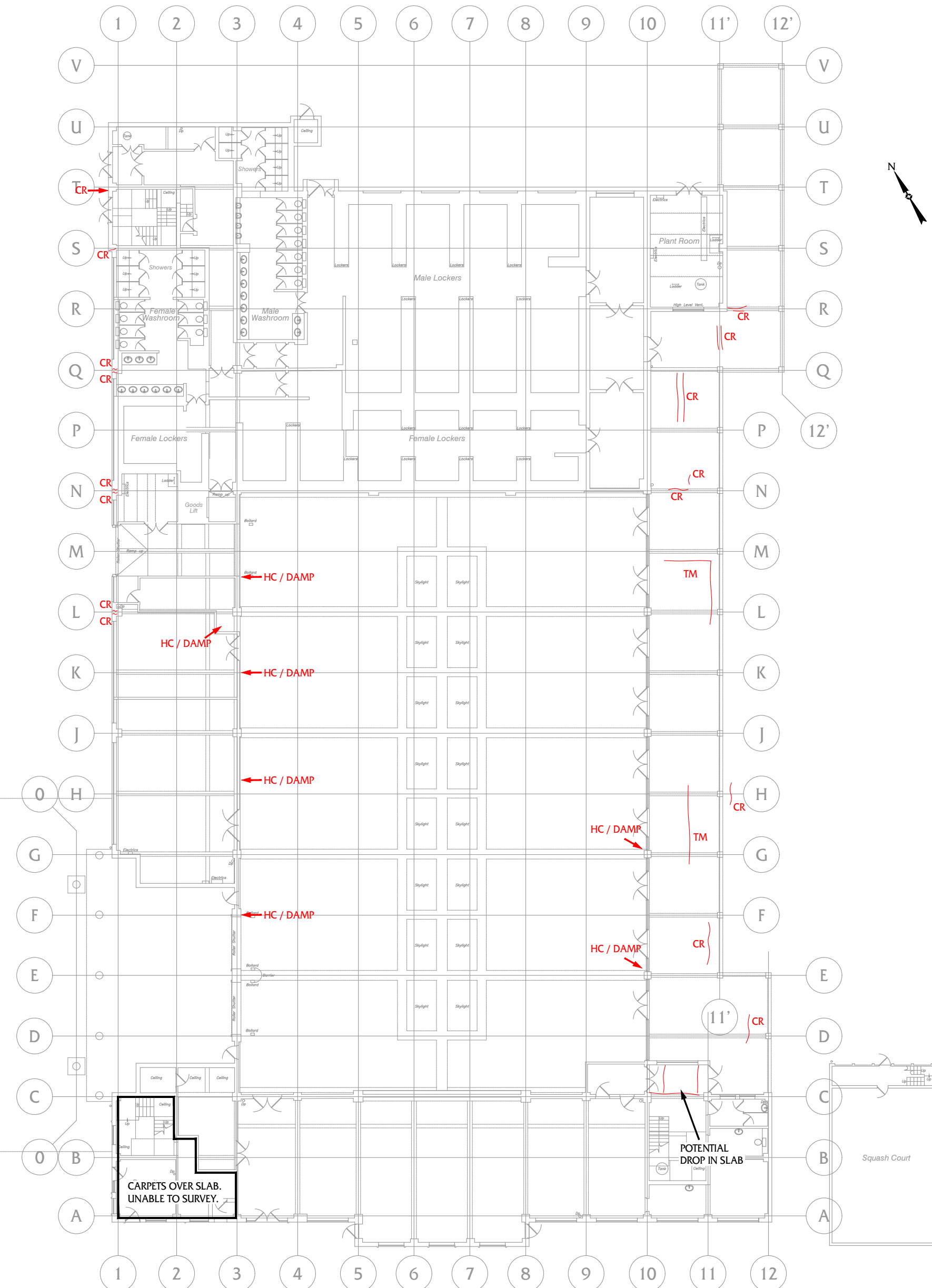
GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

DETAILS OF GROUND FLOOR DEFECT OBSERVATIONS IN VICINITY OF SURVEY AREAS NESTLE FORMER CANTEN BUILDING, HAYES

FIG. 1: PLAN OF GROUND FLOOR SHOWING LOCATIONS OF DEFECT OBSERVATIONS IN VICINITY OF SURVEY AREAS NOT TO SCALE



P1a: GENERAL VIEW OF SOUTH WESTERN FACE OF BUILDING



P1b: GENERAL VIEW OF SOUTH EASTERN FACE OF BUILDING



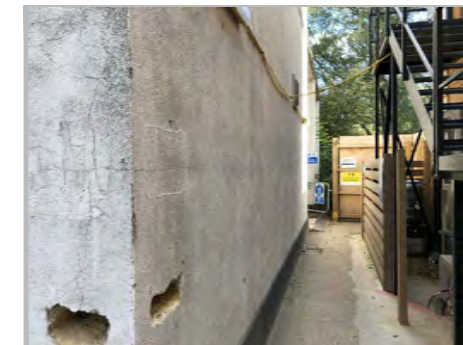
P1c: GENERAL VIEW OF COLONNADE



P1d: WATER SEEPAGE, CRACK AND MOSS GROWTH - GRID Q-P/10-11



P1e: VERTICAL CRACK TO EXTERNAL COLUMN AB



P1f: FINE CRACKS TO COLUMN A12



P1g: CRACK AND WATER INGRESS TO WALL R/10-11



P1h: GENERAL VIEW OF NORTH WESTERN FACE OF BUILDING



P1j: GENERAL VIEW OF WESTERN FACE OF BUILDING



P1k: SPALLING TO WINDOW STRUCTURE AT WESTERN FACE OF BUILDING

AERIAL VIEW OF SITE



SYMBOLS USED

- PLAN EXTENT OF AREA SURVEYED
- CR CRACK
- HC HONEYCOMBING
- WD WATER DAMAGE
- PR PATCH REPAIR
- TM TILE MOVEMENT
- RF EXPOSED REINFORCEMENT
- SP SPALLED CONCRETE
- RS RUST STAINING

PROJECT DETAILS

GBG REPORT No. 4698 ACCOMPANIES THIS DRAWING.

STRUCTURE INVESTIGATED TWO STOREY STEEL FRAMED FORMER CANTEN BUILDING

LOCATION NORTH HYDE GARDENS, HAYES, UB3 4RF

PURPOSE OF INVESTIGATION TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM

THIS DRAWING HAS BEEN PREPARED USING EXISTING DRAWINGS AND/OR PRINTS OF DRAWINGS AS SUPPLIED BY THE CLIENT AND SUPPLEMENTED BY MEASUREMENTS TAKEN ON SITE. ALL DIMENSIONS THEREFORE ARE TO BE CHECKED ON SITE PRIOR TO PREPARING DRAWINGS OR COMMENCING ANY WORK.

0 METRES 5
AT A SCALE OF 1:100 - ORIGINAL DWG SIZE A2 (420mm x 594mm)

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Project: NESTLE FORMER CANTEN BUILDING, HAYES

Client: BARRATT LONDON

Title: DETAILS OF GROUND FLOOR DEFECT OBSERVATIONS IN VICINITY OF SURVEY AREAS

Drawn HW CAD Date SEP 20 PM Scale AS SHOWN APP Dwg. No. 4689-V1



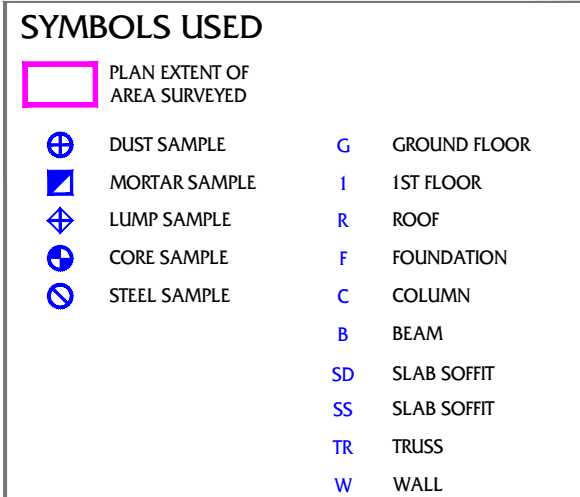
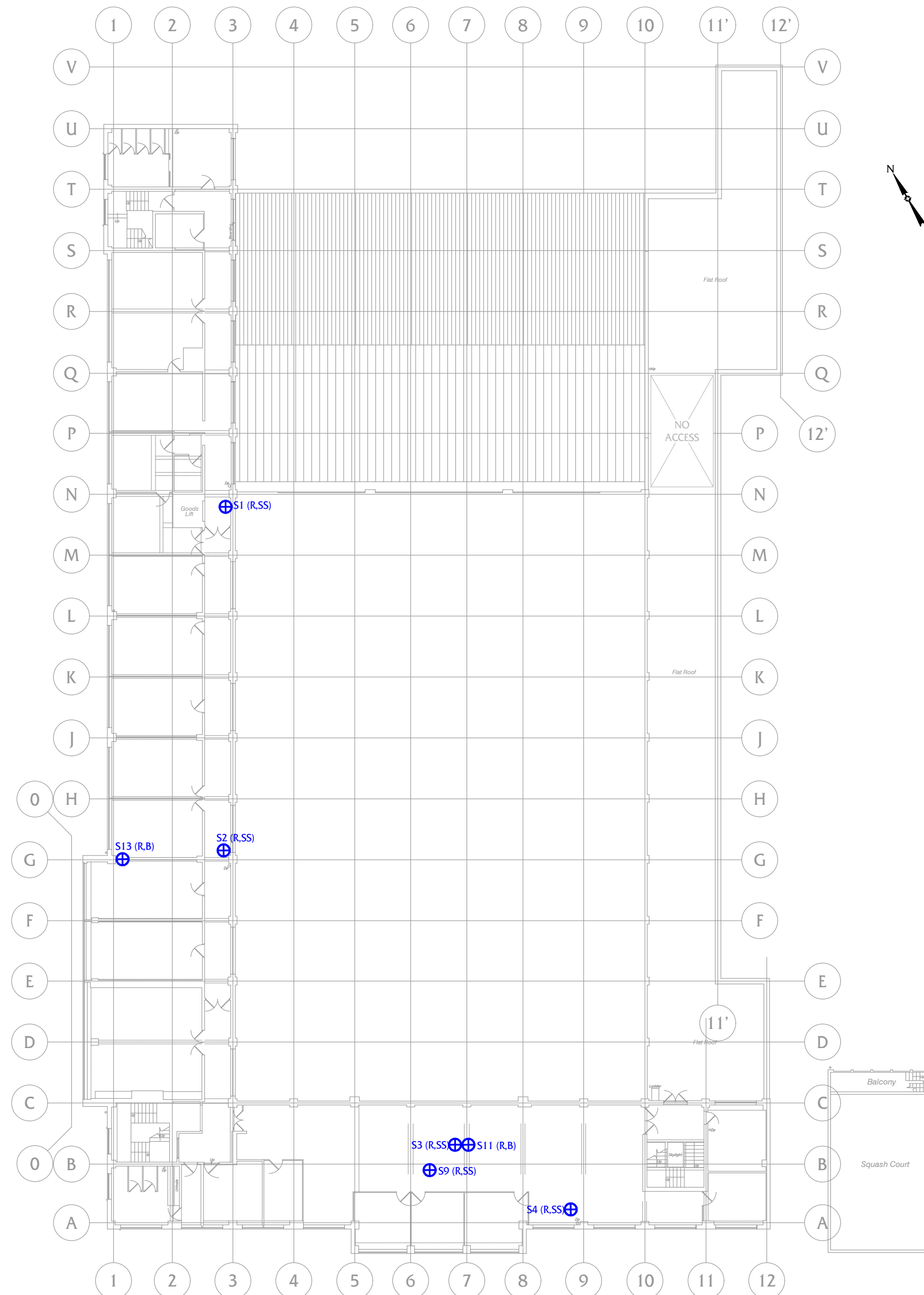
GB Geotechnics Limited is a Quality Management Company certified to ISO9001:2015

Bucknalls Lane, Watford, Hertfordshire, WD25 9XX, England
Telephone: +44 (0)1923 678800
Fax: +44 (0)1923 678500
Email: struct@gbg.co.uk
Website: www.gbg.co.uk

© Copyright 2020 G B Geotechnics Ltd. File 4689

[illegible]

FIG.2: PLAN OF 1ST FLOOR SHOWING LOCATIONS OF SAMPLES TO ROOF SOFFIT OVER NOT TO SCALE



PURPOSE OF INVESTIGATION	TO DETERMINE CERTAIN STRUCTURAL DETAILS AND MATERIAL PROPERTIES AS REQUIRED BY THE CLIENT'S DESIGN TEAM
--------------------------	---

REF.	REVISION	DATE

ALL ORIGINAL DRAWINGS ARE PRODUCED IN COLOUR

Title: LOCATIONS OF SAMPLES

Drawn	Date	Scale	Dwg. No. 4689-S1
HW	SEP 20	AS SHOWN	
CAD	PM	APP	



Bucknalls Lane Watford Hertfordshire WD25 9XX England	Telephone: +44 (0)1923 678800 Fax: +44 (0)1923 678500	Email: structs@gbg.co.uk Website: www.gbg.co.uk
---	--	--

APPENDIX 2

SAMPLE DESCRIPTIONS AND PHOTOGRAPHS



Plate: SD1 (D7730_001)

Site Reference: C1

Laboratory Ref: 7452

Location: Slab Survey Area GS1: Ground Floor Level – Main Hall

A core extracted in one piece with a diameter of 97mm, including a 10mm thick granolithic screed layer bonded to an underlying 195mm thick concrete layer. The overall length of the sample was 205mm.

The concrete contained approximately 45-55% mixed flint-gravel as the coarse aggregate, which was sub-rounded to sub-angular and equant to elongate in shape, generally well graded and evenly distributed, with a maximum nominal size of 20mm. The cement paste within the core sample was light grey in colour and apparently of good compaction, with excess voidage judged at 0.5% and a maximum void size of 4mm x 3mm x 6mm deep.

The surface of the core was dry on receipt and the voids were empty. There were no cracks cutting the core. There was 1No. 8mm diameter steel bar present within the core at 25mm from the top surface of the core.

Other Information: The top surface of the screed has a smooth surface finish. The bottom surface of the core was uneven but smooth, with the impression of a damp proof membrane.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No.
4689

Fig.
A2.1

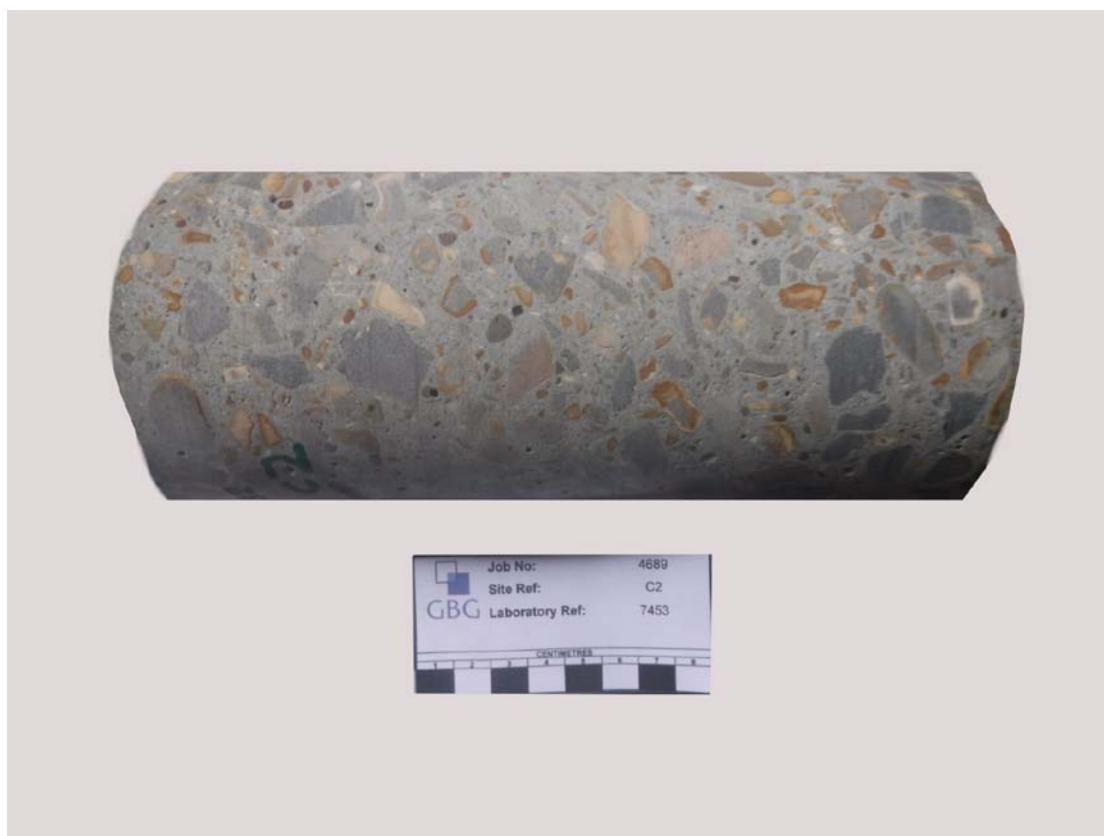


Plate: SD2 (D7730_014)

Site Reference: C2

Laboratory Ref: 7453

Location: Slab Survey Area GS2: Ground Floor Level – Main Hall

A concrete core extracted in one piece with a diameter of 97mm. The overall length of the sample was 220mm.

The concrete contained approximately 45-55% mixed flint-gravel as the coarse aggregate, which was sub-rounded to sub-angular and equant to elongate in shape, generally well graded and evenly distributed, with a maximum nominal size of 20mm. The cement paste within the core sample was grey in colour and apparently of good compaction, with excess voidage judged at 0.5% and a maximum void size of 1mm x 2mm x 2mm deep.

The surface of the core was dry on receipt and the voids were empty. There were no cracks cutting the core. There were no steel bars present in the core.

Other Information: The top surface of the concrete has a smooth surface finish. The bottom surface of the core was uneven but smooth, with the impression of a damp proof membrane.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No.

4689

Fig.

A2.2



Plate: SD3 (D7730_049)

Site Reference: C3

Laboratory Ref: 7454

Location: Slab Survey Area GS3: Ground Floor Level – Main Hall

A core extracted in two pieces, including a 35mm thick granolithic screed layer and a 210mm thick concrete layer, each with a diameter of 97mm. The overall length of the sample was 245mm.

The concrete contained approximately 45-55% mixed flint-gravel as the coarse aggregate, which was sub-rounded to sub-angular and equant to elongate in shape, generally well graded and evenly distributed, with a maximum nominal size of 20mm. The cement paste within the core sample was light grey in colour and apparently of good compaction, with excess voidage judged at 1.5% and a maximum void size of 5mm x 5mm x 5mm deep.

The surface of the core was dry on receipt and the voids were empty. There were no cracks cutting the core. There were no steel bars present in the core. Minor honeycombing was observed at the bottom of the core.

Other Information: The top surface of the screed had a roughly cast surface finish and the screed had become detached from the underlying concrete. The bottom surface of the core was uneven but smooth, with the impression of a damp proof membrane.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No. **4689**

Fig. **A2.3**

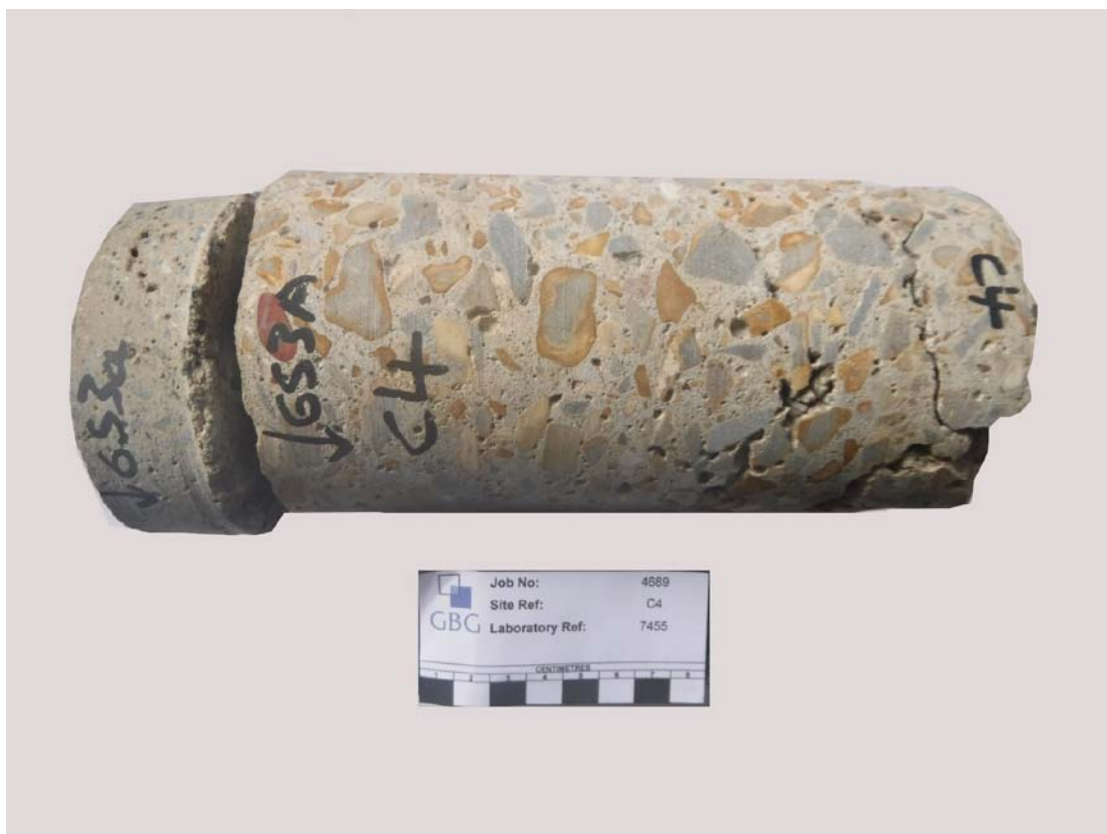


Plate: SD4 (D7730_062)

Site Reference: C4

Laboratory Ref: 7455

Location: Slab Survey Area GS3: Ground Floor Level – Main Hall

A concrete core extracted in two pieces, including a 35mm thick granolithic screed layer and a 165-209mm thick concrete layer, each with a diameter of 97mm. The overall length of the sample was 200-244mm.

The concrete contained approximately 45-55% mixed flint-gravel as the coarse aggregate, which was sub-rounded to sub-angular and equant to elongate in shape, generally well graded and evenly distributed, with a maximum nominal size of 20mm. The cement paste within the core sample was light grey in colour and generally of good compaction, with excess voidage judged at 1.5%. However, honeycombing was evident towards the bottom of the core and the maximum void size observed was 8mm x 9mm x 6mm deep (honeycombed area).

The surface of the core was dry on receipt and the voids were empty. A cracks was observed cutting a portion of the bottom of the core within the honeycombed area. There were no steel bars present in the core.

Other Information: The top surface of the concrete has a roughly cast surface finish. The bottom surface of the core was roughly cast and uneven. There was no damp proof membrane at the bottom of the core.

SAMPLE DESCRIPTIONS

NESTLE CANTEEN, HAYES

Job No.

4689

Fig.

A2.4



Plate: SD5 (D7736_003)

Site Reference: SS1

Laboratory Ref: 7572

Location: Grid Q/11 – Steel Column – Ground Floor Level

A 150mm long x 25mm wide steel coupon sample cut from the steel column web.

SAMPLE DESCRIPTIONS	Job No. 4689
NESTLE FORMER CANTEEN BUILDING, HAYES	Fig. A2.5



Plate: SD6 (D7736_005)

Site Reference: SS2
Laboratory Ref: 7573

Location: Grid N/11 – Steel Column – Ground Floor Level

A 150mm long x 25mm wide steel coupon sample cut from the steel column web.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No.

4689

Fig.

A2.6



Plate: SD7 (D7736_007)
Site Reference: SS3
Laboratory Ref: 7574
Location: Grid A-B/9 – Steel Beam – First Floor Level

A 150mm long x 25mm wide steel coupon sample cut from the steel beam flange.

SAMPLE DESCRIPTIONS	Job No. 4689
NESTLE FORMER CANTEEN BUILDING, HAYES	Fig. A2.7



Plate: SD8 (D7736_009)

Site Reference: SS4

Laboratory Ref: 7575

Location: Grid G/1-2 – Steel Beam – First Floor Level

A 150mm long x 25mm wide steel coupon sample cut from the steel beam flange.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No. **4689**

Fig. **A2.8**



Plate: SD9 (D7729_001)

Site Reference: L1

Laboratory Ref: 7475

Location: Grid J/3 – Column Encasement - Ground Floor level

A very firm concrete containing natural fine and coarse aggregates set in a grey coloured binding paste.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No. **4689**

Fig. **A2.9**

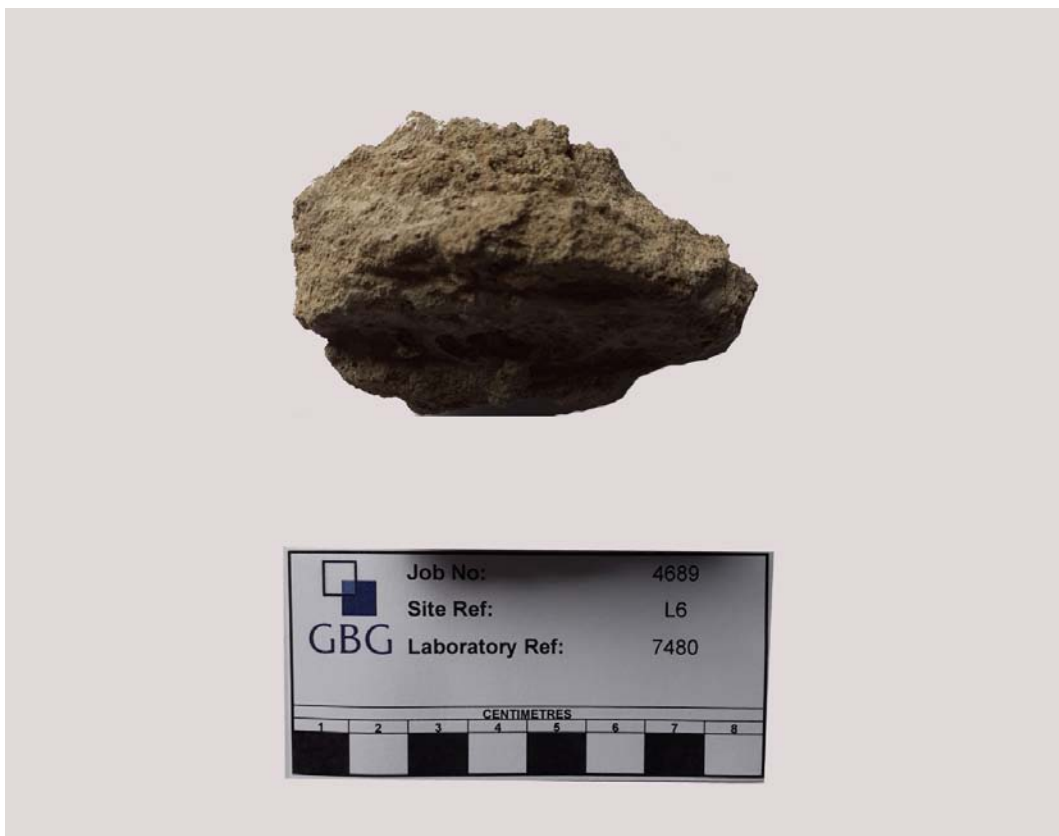


Plate: SD10 (D7729_014)

Site Reference: L6

Laboratory Ref: 7480

Location: L/1 – Column Encasement - Ground Floor level

A firm but brittle mortar containing natural fine aggregates set in a light buff coloured binding paste.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No. **4689**

Fig. **A2.10**

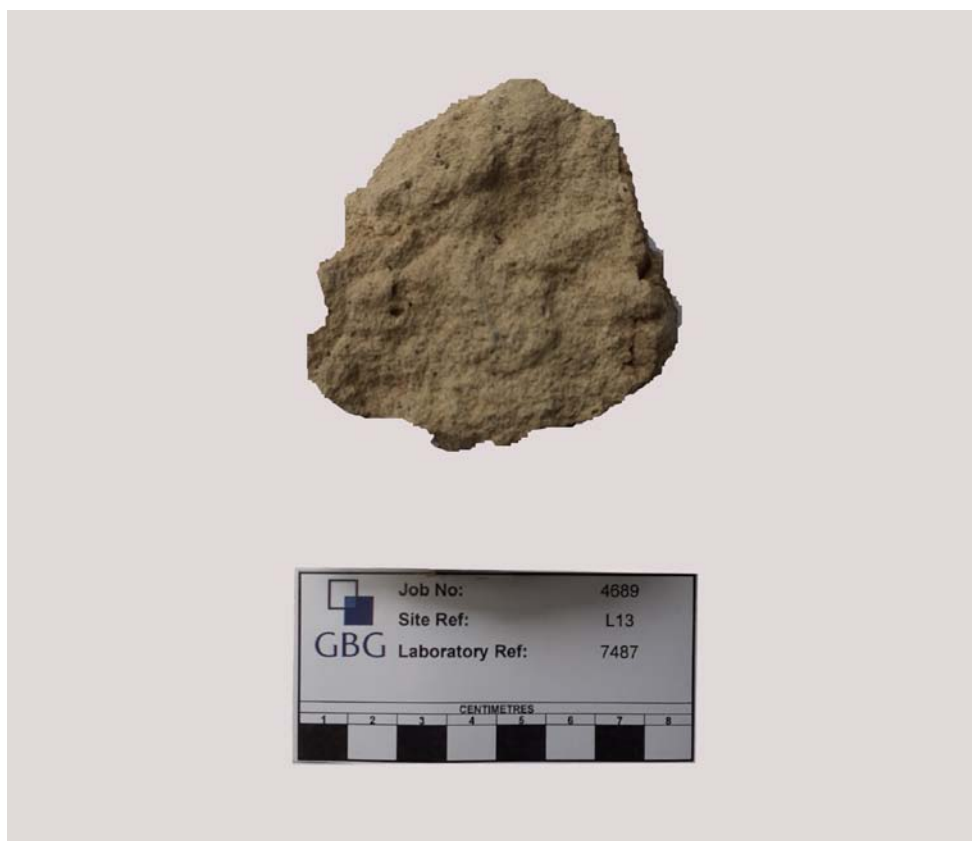


Plate: SD11 (D7729_031)

Site Reference: L13

Laboratory Ref: 7487

Location: C/10 – Column Encasement - Ground Floor level

A firm but brittle mortar containing natural fine aggregates set in a light buff coloured binding paste.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No.

4689

Fig.

A2.11



Plate: SD12 (D7736_001)

Site Reference: L18

Laboratory Ref: 7556

Location: A/5 – Column Encasement - Ground Floor level

A firm but brittle mortar containing natural fine aggregates set in a light buff to grey coloured binding paste.

SAMPLE DESCRIPTIONS

NESTLE FORMER CANTEEN BUILDING, HAYES

Job No. **4689**

Fig. **A2.12**

APPENDIX 3

SITE AND LABORATORY TEST RESULTS SUMMARY

Site Ref.	Depth/Dia.	Location/Element	Min. Depth of Concrete Cover	Depth of Carb'n	Density	Core Compressive Strength	Estimated in-situ Cube Strength	Presence of HAC	Sulfate Content*	Chloride Content*
	mm		mm	mm	kg/m ³	MPa	MPa		%	%
<u>R.C. Ground Bearing Slab</u>										
C1	100 dia.	Grid F-G/4-5 – GS1			2310	62.6	64.2			
C2	100 dia.	Grid G-H/2-3 – GS2			2310	60.9	61.6			
C3	100 dia.	Grid B-C/10-11 – GS3			2320	55.9	57.1			
C4	100 dia.	Grid B-C/10-11 – GS3								
Average					2310	59.8	61.0			
<u>Concrete Foundations</u>										
S17	5-30	Trial Pit 1 at Grid J/3							1.97	
S18	5-30	Trial Pit 2 at Grid N/8							2.29	
S19	5-30	Trial Pit 2 at Grid E/10							2.06	
Average									2.11	
<u>R.C. Pre-cast Concrete Planks</u>										
S1	5-30	Roof at Grid N/3						Not present		0.11
S2	5-30	Roof at Grid G/3						Not present		0.27
S3	5-30	Roof at Grid B/7						Not present		0.58
S4	5-30	Roof at Grid A/9						Not present		0.13
S9	5-30	Roof at Grid B/7						Not present		0.07
S5	5-30	First Floor at Grid L-K/3	20	5				Not present		0.05
S15	5-30	First Floor at Grid H/3						Not present		0.40
S23	5-30	First Floor at Grid Q/11	25	5						0.27
B/O		First Floor at Grid Q/12	25	5						
S27	5-30	First Floor at Grid K/11	30	5						0.41
S29	5-30	First Floor at Grid F/11	25	15				Not present		0.25
Average			25	7						0.25

KEY:
C1 – Core Sample, S1 – Dust Sample, B/O – Breakout
***An assumed cement content of 14% was used to express the chloride and sulfate contents of the concrete samples.**

Site Ref.	Depth/Dia.	Location/Element	Min. Depth of Concrete Cover	Depth of Carb'n	Presence of HAC	Sulfate Content*	Chloride Content*
	mm		mm	mm		%	%
<u>Steel Beam Concrete Encasement</u>							
S11	5-30	Roof Beam at Grid B/7					0.09
S13	5-30	Roof Beam at Grid G/1-2					0.01
B/O		Roof Beam at Grid A-C/7	41	15			
B/O		Roof Beam at Grid C/10-11	90	20			
S6	5-30	First Floor at Grid K/3	55	70			0.01
S7	5-30	First Floor at Grid L-K/2-3					0.01
S14	5-30	First Floor Beam at Grid H3					0.01
S16	5-30	First Floor Beam at Grid J-H/2-3	55	90			0.01
S20	5-30	First Floor Beam at Grid G/10	45	25	Not present		0.01
S21	5-30	First Floor Beam at Grid K/3					0.01
S28	5-30	First Floor Beam at Grid F/10-11	50	15			
B/O		First Floor Beam at Grid K/11	50	20			
B/O		First Floor Beam at Grid Q/11	50	25			
B/O		First Floor Beam at Grid Q/12	55	30			
Average			55	34			0.02
<u>Steel Column Masonry/Concrete Encasement</u>							
L1	5-30	Ground Floor Column at Grid J/3					0.01
L6	5-30	Ground Floor Column at Grid L/1					0.01
L13	5-30	Ground Floor Column at Grid C/10					0.01
L18	5-30	Ground Floor Column at Grid A/5					0.01
Average							0.01

KEY:

L1 – Lump Sample, S1 – Dust Sample, B/O – Breakout

*An assumed cement content of 14% was used to express the chloride contents of the concrete samples.

70 – Carbonation front has reached or exceeded the concrete depth of cover to the embedded steel.

SITE AND LABORATORY TEST RESULTS SUMMARY	Job No. 4689
NESTLE FORMER CANTEEN BUILDING, HAYES	Fig No. A3. 2

Site Ref.	Location/Element	Lead (aqua regia extractable in "other")	Cadmium (aqua regia extractable in "other")	Tensile strength	
				Yield (0.2%rp) Stress	Maximum Stress
		mg/kg	mg/kg	MPa	MPa
<u>Steel Beams and Columns</u>					
SS1	Ground Floor Column at Grid Q/11			271	412
SS2	Ground Floor Column at Grid N/11			276	460
SS3	First Floor Beam at Grid A-B/9			234	435
SS4	First Floor Beam at Grid G/1-2			263	459
	Average			261	442
<u>Paint Samples (Steel Trusses)</u>					
M1	Truss at Grid D	2100	<0.2		
M2	Truss at Grid G	1600	<0.2		
M3	Truss at Grid H	1000	<0.2		
M6	Truss at Grid D/10	7400	<0.2		
M7	Truss at Grid G/10	8200	<0.2		
M8	Truss at Grid H/10	17000	0.3		
	Average	6200	<0.2		

KEY:
SS1 – Steel Sample, M1 – Paint Sample

Site Ref.	Location/Element	Probable Mix Proportions By Volume		Equivalent Mortar Grade (BS 4551:2005+A2:2013)
		cement: sand	cement: lime: sand	
<u>Masonry Wall</u>				
M4	Ground Floor - RR2 at Grid G/1	1:7 to 8 or 1:5 to 6	1:1:5 to 6	iv or iii
M5	Ground Floor - RR4 at Grid B/10	1:8 or 1:7 to 8	1:2:8 to 9	v or iv

KEY:
M1 – Mortar Sample

Methods of Mortar Testing

The mix proportions were determined by the method described in B.S. 4551:2005+A2:2013. The ground sample was extracted with acid and alkali. The silica and calcium oxide contents were determined by atomic absorption spectrophotometric/titrimetric method from the extract. The insolubles were determined by drying at 105 °C. The cement, lime and sand contents were calculated using the following assumptions:

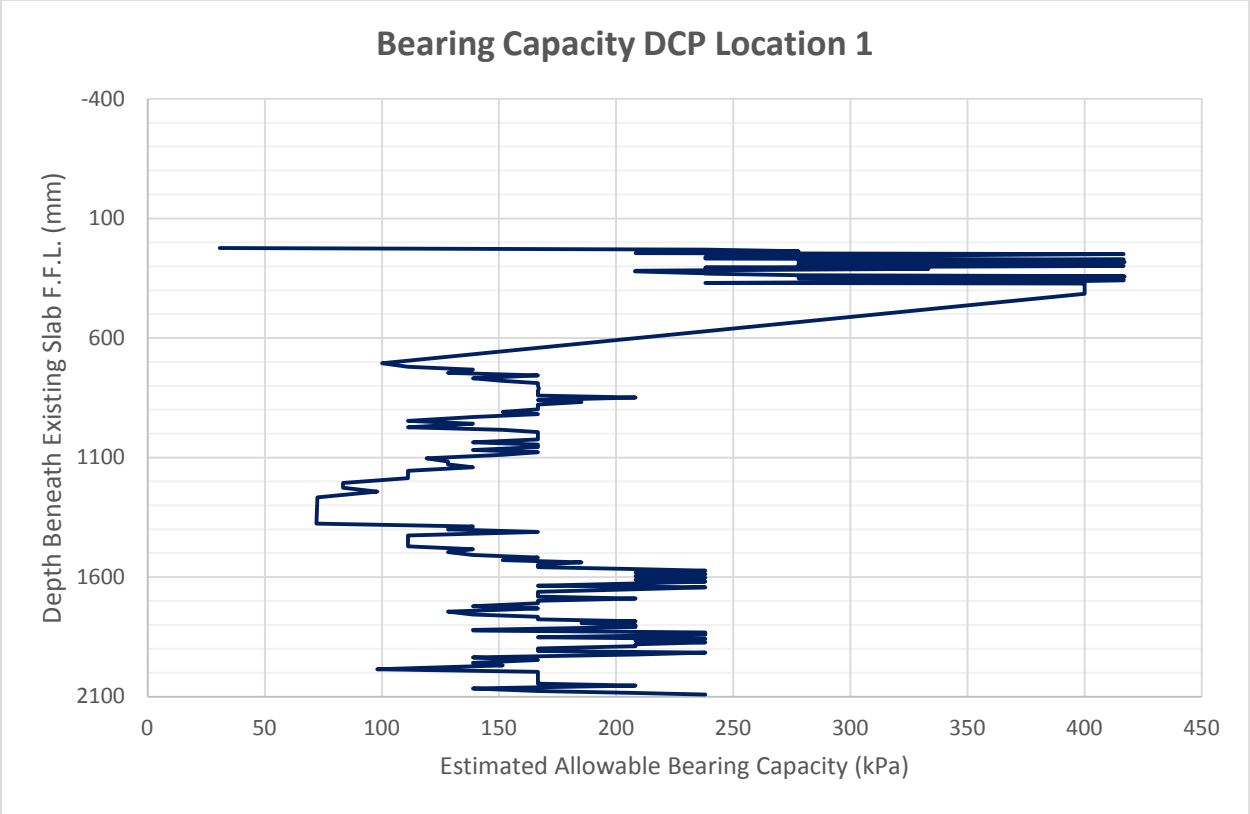
silica content of cement (CEM I) =	0.202	bulk density of sand =	1675 kg/m ³
calcium oxide content of cement (CEM I) =	64.50%	bulk density of cement =	1450 kg/m ³
soluble silica content of sand =	0.20%	bulk density of lime =	575 kg/m ³
calcium oxide content of lime =	72.70%		

The traditional mix proportions were then chosen based on the cement content from Table 4 and 7 of the above standard. Based on the standard chemical analysis, visual observations and experience of the laboratory, the most likely mix proportions are highlighted in bold in the above results table.

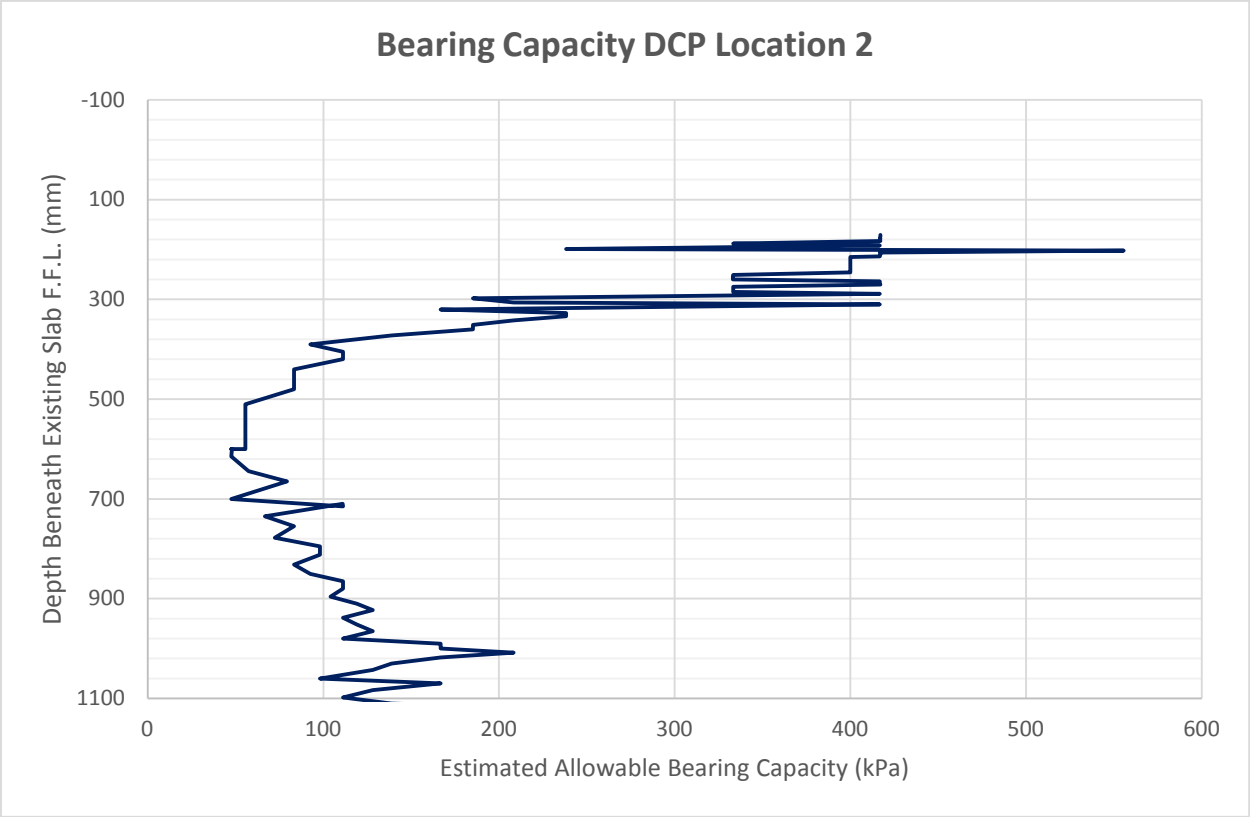
SITE AND LABORATORY TEST RESULTS SUMMARY NESTLE FORMER CANTEEN BUILDING, HAYES	Job No. 4689
	Fig No. A3. 4

APPENDIX 4

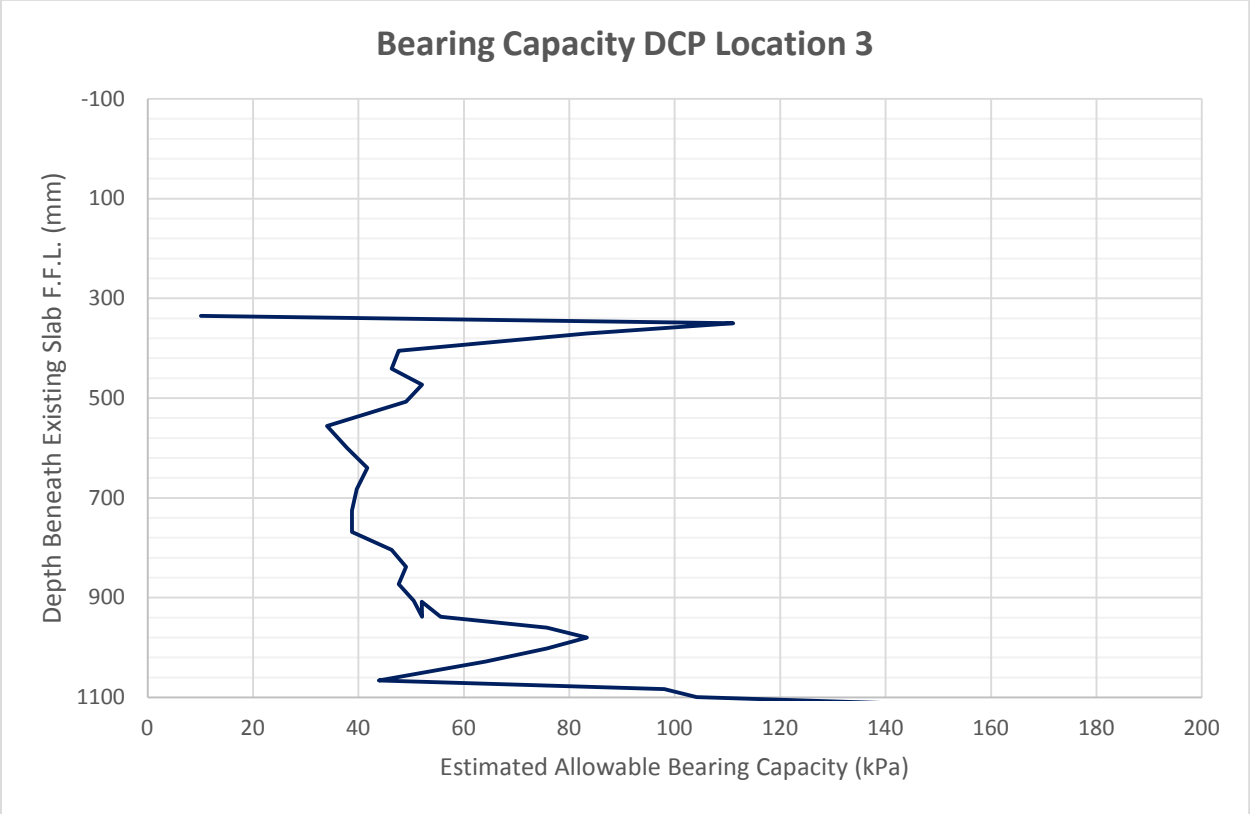
DCP TEST RESULTS GRAPHS



DCP TEST RESULTS	Job No.
NESTLE FORMER CANTEEN BUILDING, HAYES	4689
	Fig No.
	A4.1



DCP TEST RESULTS	
NESTLE FORMER CANTEEN BUILDING, HAYES	
Job No.	4689
Fig No.	A4.2



DCP TEST RESULTS		Job No.	4689
NESTLE FORMER CANTEEN BUILDING, HAYES		Fig No.	A4.3