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Station Road Care Home
Station Road
Hampton
Addendum Structural Report

Date: July 2024
Project No. 303423
Report Reference: 303423-SWH-ZZ-01-S-RP-0001
Revision: 1

Prepared by: .....
Ian Llewellyn MEng CEng MICE MIStructE

Issue and Amendment Record:

Revision	Comment/Amendment	Prepared	Reviewed	Approved	Date
1	Issued for S73 submission	IL	RH	IL	09.07.24

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1.0 Introduction

1.1 The purpose of this report is to act as an addendum to the original Structural Report On Existing Police Station prepared by CWA ref CWA/19/207 dated August 2019.

1.2 This CWA report concluded that "*although the inspection was limited to areas of the building that are currently visible no structural defects were noted.*"

1.3 It was recommended that following vacant possession, that a more detailed structural inspection can be undertaken.

1.4 At the request of Meedhurst Project Management, Scott White and Hookins visited the Old Police Station on 4th October 2021, to inspect the condition of the existing building that is to be retained as part of the development of a residential care home for Cinnamon Care Collection.

1.5 The purpose of the intrusive survey was to establish the integrity of the building and the loading requirements that are to be assumed for the design of the new development and new structural elements required to support existing superstructure and substructure.

1.6 For the purposes of this report, the terms front, rear, left and right, infers the reader is facing the building stood in Station Road. A rough layout of this building has been prepared, so any areas of noted defect can be pin-pointed on the plan.

1.7 This report should not be copied to, in whole or in part, or relied upon by any other third party for any use whatsoever without our written permission.

1.8 We have not inspected parts of the structure which are covered, unexposed or inaccessible and are therefore unable to report that any such part is free from defect; neither have we inspected any part of the building which is not mentioned in this report. This letter report must not be assumed to be a full structural survey, such as that defined by the Royal Institution of Chartered Surveyors.

2.0 Background

2.1 The proposed site is located at 60-68 Station Road in Hampton. The subject building has freehold title owned by Hampton Care Home Limited. At the time of the inspection the subject building was occupied by Live-in guardians.

2.2 The building is assumed to have been constructed in the early 1900's and comprises of typical reinforced concrete upper floor slabs on load bearing masonry walls structure, with a timber cut roof.

2.3 Up until 2022 the adjacent forecourt and building was being leased by an auto repair shop. The previous use of the building and forecourt was a police station and part of the original structure has already been demolished.

2.4 The demolition/retention floor plans show that the ground floor party wall shared between 68 and 70 Station Road is to be retained. Planning conditions require that the façade and structural frame of the existing building is retained as far as practicable for the development of the new residential care home. It is proposed that the majority of load bearing walls be retained, with internal stud partitions being removed and replaced to suit the new care suites layout, as per the Architect's general arrangement drawings. It is proposed that part of the rear of the existing building be demolished and rebuilt.

3.0 Observations

3.1 The building was generally found to be in good condition with defects of individual elements and sections identified below

3.2 Our investigation has confirmed the building is constructed with load bearing masonry with concrete floors. However, the exact construction method has not been determined but could comprise of single spanning reinforced concrete, two way spanning RC, or some form of precast unit or clay pot floor.

3.3 Second floor

3.3.1 In rear left bedroom, a 400x400mm hole in ceiling was cut out to allow for the inspection of the roof structure. Loft and roof structure looks to be in reasonable condition (photograph 1), except for water staining to the front left of the room (photograph 2). Measurements were not taken.

3.3.2 Wall adjacent to back left room exposed. Timber stud wall was noted with measurements 100mm deep @330mm centres, with plaster over. Timbers appeared to be of reasonable condition.

3.3.3 Hatch in front left bedroom was accessed. Loft was boarded out to allow access. Water tanks were observed to be supported off steel beams (photograph3). Roof rafters appeared to be in reasonable condition, although water staining was noted (photograph 4).

3.3.4 Wall adjacent to stair exposed. Timber stud wall was noted with measurements 100mm deep @550mm centres, with plaster over. Timbers appeared to be of reasonable condition.

3.3.5 In room named UTGA, a 400x400mm hole in ceiling was cut out to allow for the inspection of the sloping roof structure. Timber cut roof up to a ridge board noted with measurements 120deep x 50 wide @350mm centres. Rafters appeared to be in reasonable condition.

3.3.6 In rear right bathroom, a 400x400mm hole in ceiling was cut out to allow for the inspection of the sloping roof structure. There were a number of services and tank immediately above the formed hole which made the inspection difficult. All timbers observed appeared in reasonable condition. Timber cut roof up to a ridge board noted with measurements 120deep x 50 wide @350mm centres (photograph 5). Rafters appeared to be in reasonable condition. Rafters appeared to continue from rafters inspected in room named UTGA.

3.3.7 Wall adjacent to front right room exposed. Timber stud wall was noted although measurements were not taken. Contractor found it difficult to cut through the wall, where it was noted that a mortar render was constructed over timber stud wall (photograph 6). The gaps between timber studwork appeared to be filled with mortar. Wall appeared to be in reasonable condition.

3.4 First floor

3.4.1 In rear left bedroom, a loft hatch was identified which afforded access to the loft space. 2No. UB 127x76 beams were located to support a water tank (photograph 7). Steel beams appear to be in reasonable condition. Timber ceiling joists appeared to be spanning width of room (4.4metres). Timbers were measured to be 125dpx50 at 350centres. It is notable, whilst standing in the bedroom, that the ceiling is sagging Timbers were cut in the centre of the span which has resulted in splitting (photograph 8). Steel beam, spanning full width of room, identified, and measured to be 200deep x 133 wide. Beam is supporting the external gable wall at second floor above (photograph 9). It was noted that there was evidence of historic water leaks occurring with damaged plasterboard and staining to the suspended ceiling tiles within the bedroom.

3.4.2 We undertook two cores through the existing floor structure to determine the possible construction. In the landing between rear and front left rooms, a 75mm diameter core allowed a visual inspection of the floor structure. A floating timber floor was identified, which appeared to be supported off a concrete slab (photograph 10). In the store cupboard, adjacent to front right bedroom, a 20mm diameter hole was drilled. The top section appeared to be lighter in colour, becoming darker after 75mm (photograph 11).

At the stair landing, adjacent to left bedrooms, was measured as 300mm thick. It is assumed that the overall floor is typically 300mm thick across the first floor. In places this comprises a timber floating floor constructed off a concrete slab, and in other places there is a concrete screed. We would estimate the typical arrangement would be 225mm slab with a 75mm screed where found.

3.4.3 In central right bedroom, an existing builders work hole was found to allow for inspection of the existing beam. Beam measured as 100mm deep timber spanning onto load bearing wall. Timber appeared to be in reasonable condition.

3.4.4 Access was not gained in rear right bedroom, where this part of the existing building is to be demolished and rebuilt. Safe access to the room has been removed as part of the adjacent demolition.

3.5 Ground floor

3.5.1 In front left room, adjacent to stairs, suspended ceiling tiles were removed to allow for the inspection of the ceiling structure, where solid concrete was identified to the underside, indicating the bottom of the concrete slab.

3.5.2 Wall between front left room and stairs was not inspected but assumed to be load bearing.

3.5.3 In the hallway, adjacent to the front left room suspended ceiling tiles were removed for the inspection of the ceiling structure, where solid concrete was identified to the underside, indicating the bottom of the concrete slab. Crack was noted across the underside of floor.

3.5.4 In central back room, directly behind the ground floor stairs, the existing beam was exposed. This identified 2No. steel beams which were measured as 385 deep x 155mm wide with 20mm thick flange. Beams appear to be bolted together. Bolt dimension and centres were not measured. Steel beams were in poor condition, where both beams were corroded with lamination seen at one end of the beam (photograph 12). The beams are supporting the first floor external masonry wall and assumed to be the first floor slab behind although this was not visible. Top of beams and slab were not visible. End bearings not opened and not surveyed. The centre of the beam was not surveyed as the areas exposed showed poor condition.. Beam end closest to "restricted access room" appeared to be supporting a concrete slab/thickening. Concrete slab/thickening assumed to support above external wall to rear left bedroom. It is deemed that this would be considered an unusual detail. It is not clear why a thickening is required to this area. Concrete slab/thickening appeared to extend from external wall to "restricted access room". Concrete slab appeared to span into the web of the steel beam with end of slab bearing onto a timber packer (photograph 13).

3.5.5 A 400x400mm hole in ceiling was cut out to allow for the inspection of the ceiling structure, adjacent to steel beams. It was identified that flat roof structure, to the rear of

building, is built into wall, formed of 165deep timbers @350mm centres. It is assumed that the 2No. steel beams also support the timber flat roof. It was noted that the ceiling space smelt damp. It was noted that a minimum 2No. rainwater downpipes open onto the flat roof. On day of visit, it was raining, and it was visible that rainwater dispersed onto the flat roof. It was also noted that there was evidence of vegetation and dampness on the flat roof and external brickwork immediately above.

3.5.6 It is assumed that the small rear right rooms were cells during the time the structure was a police station. The wall between the old jail cell (currently storage) and current kitchen was measured to be 225mm in thickness. The ground floor slab was not surveyed, however, felt solid underfoot and was assumed to be concrete slab giving the previous use of the room.

3.5.7 Whilst looking out of the window at the rear left bedroom at first floor, it was noted that a crack was present in the external brickwork façade photograph 11). The crack is located on the inner right hand of the building, between the part of the structure that is notable smaller in height with basement over and the main structure. This suggests that some degree of settlement has occurred. It is noted that this part of the building is to be demolished.

3.6 Basement

3.6.1 It was noted that rainwater had pooled in the basement rooms. It was noted that there was a strong smell, assumed to be petrol/diesel.

3.6.2 The front steel beam appeared to have fire protection material. The access door to the basement identifies the basement contains asbestos materials. Within the basement there are several services and pipe connections with stickers identifying the element contains asbestos. The fire protection material was already broken off in one location which had exposed the front beam, where 2No. 165deepx89mm wide steel beams were identified. The steel beams appeared to be in good condition.

3.6.3 There was no labelling to suggest the fire protection contained asbestos, but the survey works were terminated. It was confirmed that the boxing material to the beams did not contain asbestos due to the material being Vermiculite.

4.0 Conclusions and recommendations

4.1 Overall, the building appeared to be in reasonable condition. The concrete suspended floor (assumed to be reinforced), appeared to be in reasonable condition and for the purpose of load run down information and structural design of the foundation, a 300mm thick concrete slab should be considered. Load bearing walls appeared to be in reasonable condition. For the purpose of load run down information and structural design, internal load bearing walls should be assumed to be timber studwork with plasterboard at second floor and solid walls for the remaining floor, and external load bearing walls should be assumed to be solid masonry construction.

4.2 At first floor, in rear left bedroom, we recommend that an allowance for some timber roof rafters to be replaced, with all ceiling joists to be replaced.

4.3 At first floor, central right bedroom, it is our understanding that the loadbearing wall supporting the timber beam is to be removed. As such, a new steel beam, spanning the full width of the room (As per the Architects' proposals), is to be designed and replace the timber beam.

4.4 At ground floor, central back room, the steel beams are of poor quality and are to be replaced. However, it is our understanding that a new ground floor wall is to be formed directly beneath and in line with the steel beams, as part of the new circulation layout in this location. We propose that the new load bearing wall is constructed to the underside of the roof structure and support the above external walls and floors, such that the steel beams are removed. We suggest that the existing steel beams form part of the temporary works and removed once the load bearing wall is constructed. As per the attached mark up, where assumed load bearing walls are to be removed to suit the proposed layout, new steel beams will need to be introduced, bearing onto existing or new load bearing walls.

4.5 Most of the loft/roof spaces smelt damp. As such, we recommend that the waterproof membrane is replaced to ensure the roof is watertight.

4.6 Prior to demolition and construction works, we recommend that an asbestos R&D survey is carried out in the existing basement and the first floor over.

4.7 We have not inspected parts of the structure which are covered, unexposed or inaccessible and are therefore unable to report that any such part is free from defect; neither have we inspected any part of the building which is not mentioned in this report. This report must not be assumed to be a full structural survey, such as that defined by the Royal Institution of Chartered Surveyors.

4.8 We trust this provides the information you require. If you have any questions or we can be of any further assistance, please do not hesitate in contacting the writer.

5.0 Appendices

A. Photographs
B. Location Plan – markup

Appendix A
Photographs

Photo 1 – Timber members forming roof to be in reasonable condition.

Photo 2 – Timber members forming roof showing water staining.

Photo 3 – Steel beams supporting water tank in loft space.

Photo 4 – Boarded out and staining to loft space and timber members in reasonable conditioning, but showing water damage.

Photo 5 – Hole in ceiling indicating timber roof rafters in reasonable condition.

Photo 6 – Hole in wall indicating mortar render over timber studwork.

Photo 7 – Steel beams supporting water tank in loft space.

Photo 8 – Timber members showing splitting in centre.

Photo 9 -Steel beam supporting above wall.

Photo 10 – Core showing floating timber floor over concrete slab.

Photo 11 – Hole showing screed and concrete slab material.

Photo 12 – Ceiling opened to show corroded steel beams.

Photo 13 – Steel beams supporting concrete slab.

Photo 14 – Flat roof receiving rainwater from downpipes.

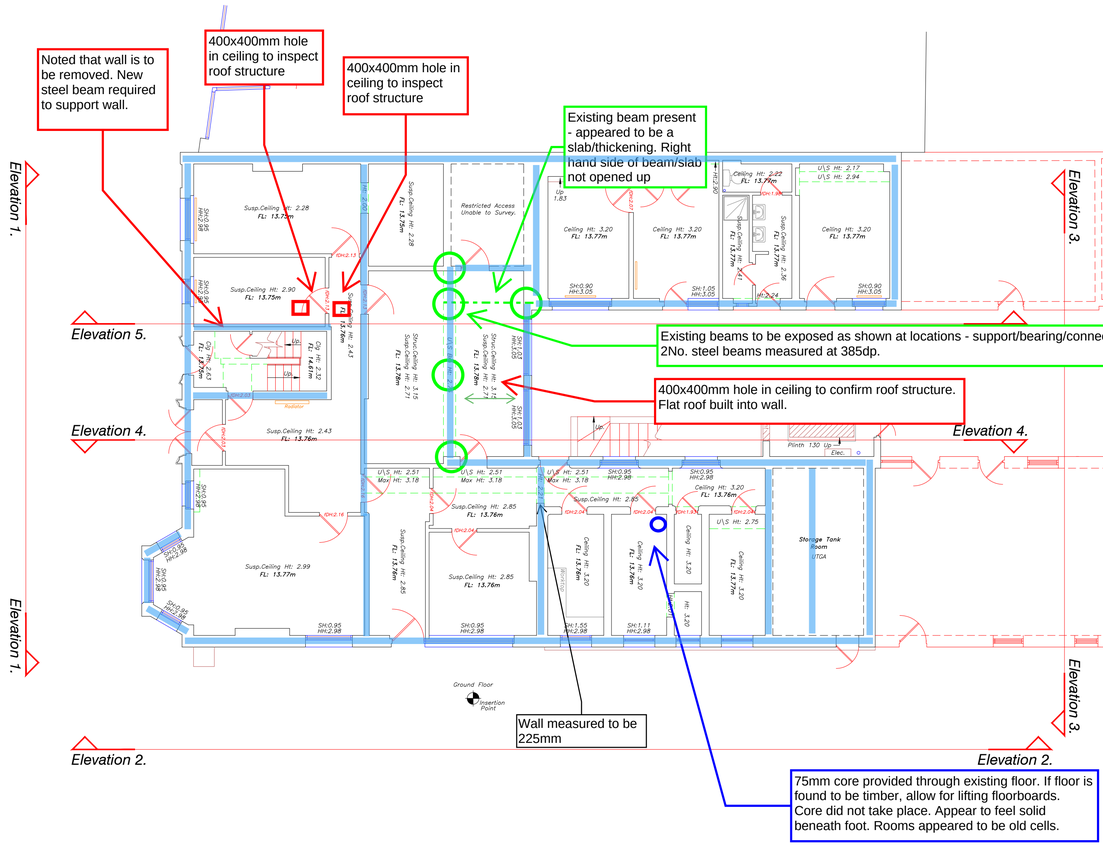
Photo 15 – Down pipe opening onto flat roof.

Photo 16 – Crack in external brick façade.

Appendix B
Location Plan

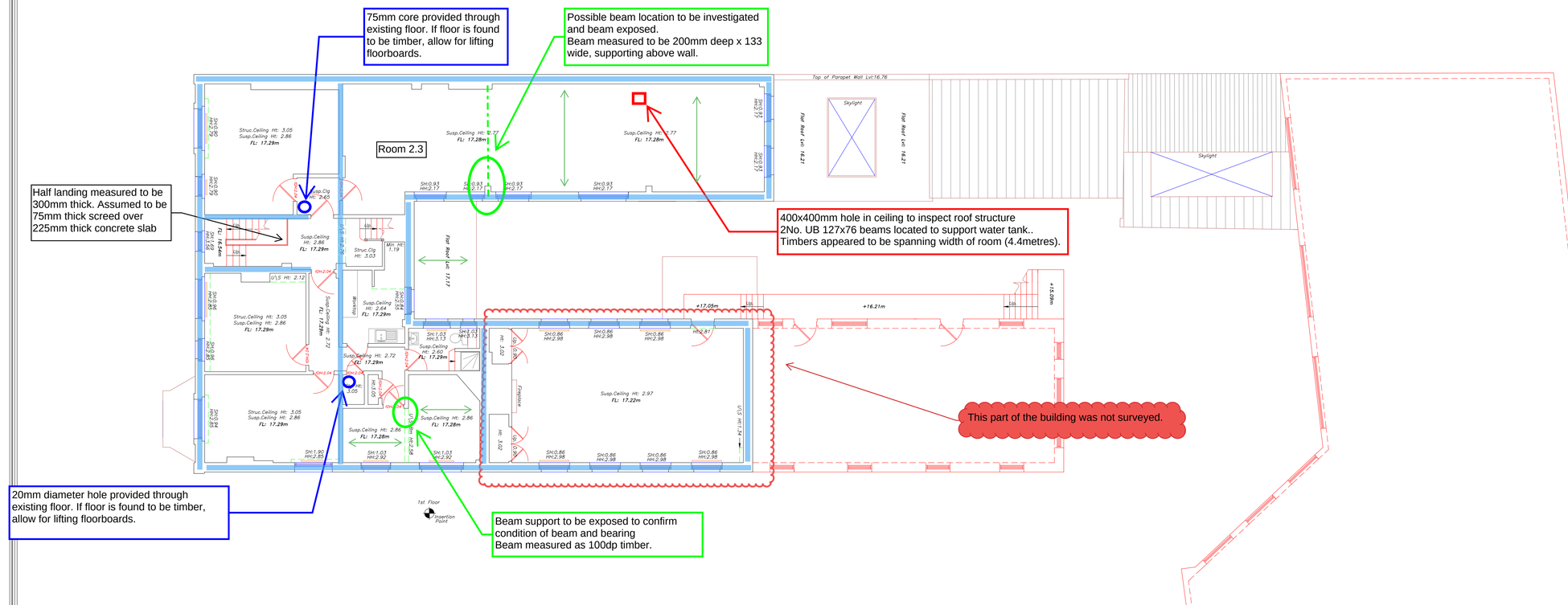
GROUND FLOOR PLAN

Indicates assumed location of load bearing walls

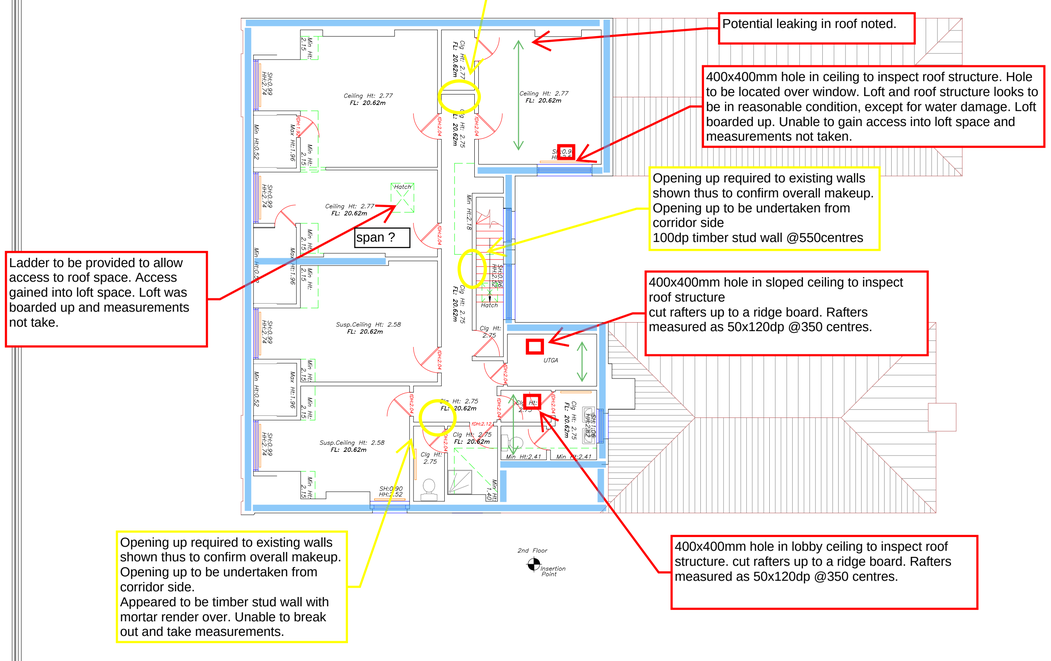

Noted that wall is to be removed. New steel beam required to support wall.
400x400mm hole in ceiling to inspect roof structure
400x400mm hole in ceiling to inspect roof structure
Existing beam present - appeared to be a slab/thickening. Right hand side of beam/slab not opened up
Existing beams to be exposed as shown at locations - support/bearing/connections. 2No. steel beams measured at 385dp.
400x400mm hole in ceiling to confirm roof structure. Flat roof built into wall.
Wall measured to be 225mm
75mm core provided through existing floor. If floor is found to be timber, allow for lifting floorboards. Core did not take place. Appear to feel solid beneath foot. Rooms appeared to be old cells.
Elevation 1.
Elevation 2.
Elevation 3.
Elevation 4.
Elevation 5.
Ground Floor
Insertion Point
Susp.Ceiling Ht: 2.28 FL: 13.77m
Susp.Ceiling Ht: 2.90 FL: 13.75m
Susp.Ceiling Ht: 2.43 FL: 13.76m
Susp.Ceiling Ht: 2.99 FL: 13.77m
Susp.Ceiling Ht: 2.85 FL: 13.76m
Restricted Access Unable to Survey.
Ceiling Ht: 3.20 FL: 13.77m
Ceiling Ht: 2.22 FL: 13.77m
U/S Ht: 2.17
U/S Ht: 2.94
Ceiling Ht: 3.20 FL: 13.77m
Ceiling Ht: 3.20 FL: 13.77m
Ceiling Ht: 3.20 FL: 13.77m
Ceiling Ht: 3.20 FL: 13.76m
Ceiling Ht: 3.20 FL: 13.76m
Ceiling Ht: 3.20 FL: 13.77m
Ceiling Ht: 3.20 FL: 13.76m
Ceiling Ht: 3.20 FL: 13.76m
Ceiling Ht: 3.20 FL: 13.77m
Susp.Ceiling Ht: 2.85 FL: 13.76m
Susp.Ceiling Ht: 2.95
Susp.Ceiling Ht: 2.85 FL: 13.76m
Susp.Ceiling Ht: 2.85 FL: 13.76m
Susp.Ceiling Ht: 3.15 FL: 13.76m
Susp.Ceiling Ht: 3.15 FL: 13.76m
Susp.Ceiling Ht: 2.77 FL: 13.76m
Susp.Ceiling Ht: 2.77 FL: 13.76m
Susp.Ceiling Ht: 2.77 FL: 13.76m
Susp.Ceiling Ht: 2.77 FL: 13.76m
Storage Tank Room UTGA
Plinth 1.30 Up
Elec.
U/S Ht: 2.51 Max Ht: 3.18
U/S Ht: 2.51 Max Ht: 3.18
U/S Ht: 2.51 Max Ht: 3.18
U/S Ht: 2.75
Up 1.83
Up 1.63
Up 1.63
Up 1.63

FIRST FLOOR PLAN

Indicates assumed location of load bearing walls



SECOND FLOOR PLAN



OS Note:

The Ordnance Survey tile is to be used as a guide only.

OS Buildings *Surveyed Buildings*

This survey has been orientated to the Ordnance Survey (O.S) National Grid OSGB36(15) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).

A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15GB & OSGM15GB transformation models.

The survey has been correlated to this point and a further one or more OSGB36(15) points established to create a true O.S. bearing for angle orientation.

No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.

Please refer to Survey Station Table to enable establishment of the on-site grid.

Building Survey Legend:

SHt 1.00 HHt 2.12	Sill Height from FFL. Head Height from FFL.
SL 51.03m HL 52.82m	Sill Level from defined datum. Head Level from defined datum.
Susp CHt: 2.00 Struct CHt: 3.00	Suspended Ceiling Height from FFL. Structural Ceiling Height from FFL.
Susp Ceil: 30.00m Struct Ceil: 31.00m	Suspended Ceiling Level from datum. Structural Ceiling Level from datum.
IFL: 100.00m +100.00m	Internal Floor Level (General). Internal Floor Level (Specific).
Insertion Point	Insertion Point for overlay drawings of other floors or details.

Incoming Services

Elec Gas Water

Topographical Survey Legend:

Buildings; Wall; Kerb line; Line marking, Drop kerb; Centre line; Station and Name; 100.000 Station Level; Tree / Bush / Sapling; Area of Undergrowth; Woodland; R: Ridge Level; E: Eaves Level; F: Flat Roof Level; Gate

Fence types: FW Interwoven; IR Iron Railings; WM Wire Mesh; PR Post & Rail; PW Post & Wire; CL Chain Link; WP Wooden Panels; CP Concrete Panels; SW Steel Palisade

Overhead Cable; Concrete edge; Tarmac edge; Grass verge; Canopy/Overhang; Verge

IC	Inspection chamber	Bollard	
PInv	Pipe invert	IB	Illuminated bollard
Gy	Gully	Bin	Rubbish bin
Bg	Back gully	Yp	Vent pipe
Dp	Down pipe	Grl	Ground light
Pipe	Pipe above ground	Lbox	Letter box
MH	Manhole	Ldr	Ladder
WL	Water level	Sty	Stile
FI	Flood light	FFL	Internal floor level
Lp	Lamp post	THL	Threshold level
Tp	Telegraph post	Sp	Sign post
Ep	Electricity post	TH	Trashole
Tl	Traffic light	BH	Borehole
Bva	Bus stop	ELC	Electric
Sv	Stop valve	BT	British Telecom
St	Stop tap	Ctbox	Control box
Er	Earth rod	TT	Tactile
Wm	Water meter	BP	Brick paved
Gas	Gas valve	CPS	Concrete paving slabs
Av	Air valve	CVR	Cover
ICU	Unidentified inspection	IC	Inspection chamber
Wo	Wash out	RWall	Retaining wall
Re	Rodding eye	UTL	Unable to lift
BB	Belisha beacon	TCL	Tree canopy level
CTV	Cable tv	G	Girth
Mkr	Marker post	MG	Multi girth
Gmkr	Gas marker post	Stmp	Tree Stump
Su	Soffit	CL	Cover level
		IL	Invert level

Rev	Date	Description	Drawn	Q. Ref

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- Topographical Surveys
- Site Engineering
- Utility / CCTV Surveys
- Bathymetric Surveys
- Measured Building Surveys
- 3D Laser Scanning
- 3D Revit & BIM Models
- Area, Lease & Fire Plans

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CLIENT
Meedhurst Project Management Ltd

PROJECT
Former Police Station
66 Station Road
Hampton TW12 2BJ

TITLE
Existing First & Second Floor

SCALE	DATE
A1@ 1: 100	10.07.19
DRAWN	QUALITY REF
LA	GH5432

Level datum	See OS notes above
Grid orientation	See OS notes above
Job number	34025
Drawing No.	Rev.
34025_03_P	0

Comments
This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.

All dimensions should be checked on site prior to design and construction.

Some services may have been omitted due to parked vehicles.

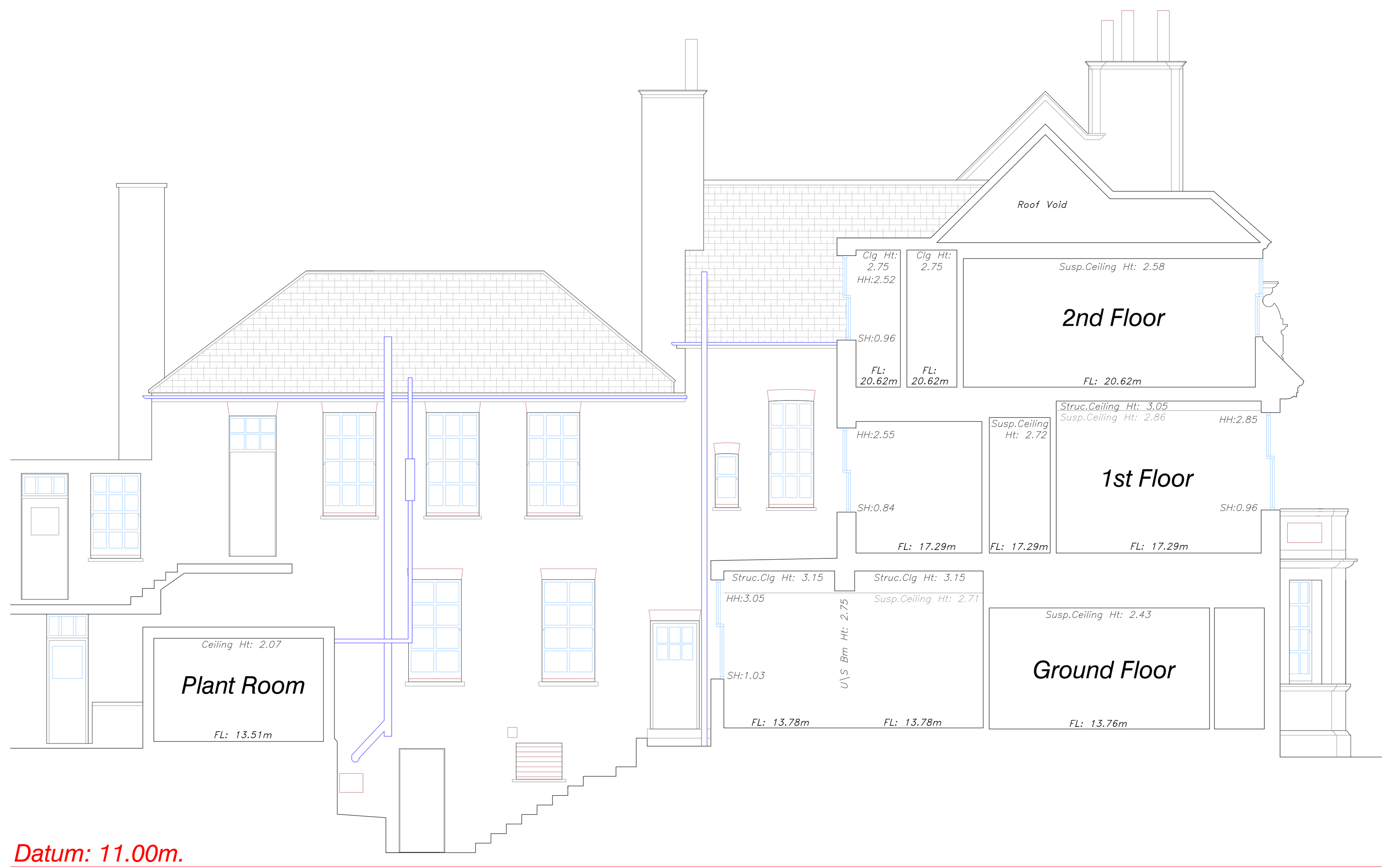
Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

Datum: 11.00m.
Elevation 1.

Datum: 11.00m.
Elevation 2.

Datum: 11.00m.
Elevation 3.



Datum: 11.00m.
Elevation 4.

Datum: 11.00m.
Elevation 5.

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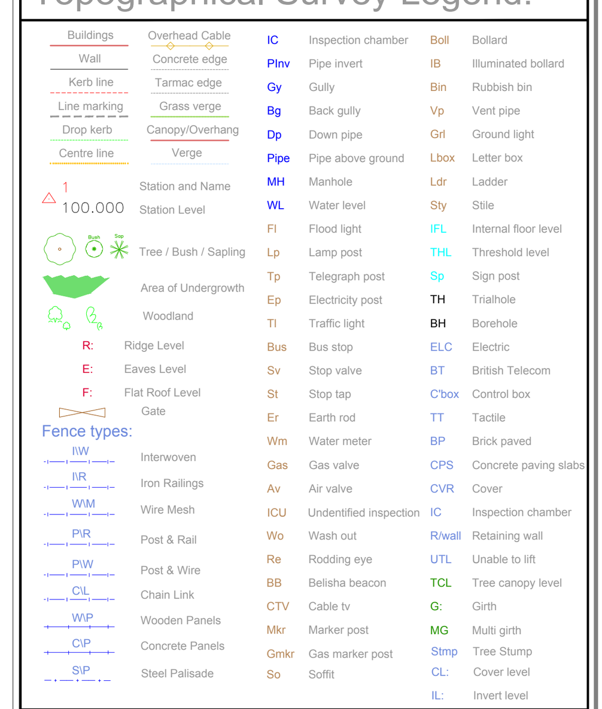

Rev	Date	Description	Drawn	Q. Ref.

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Topographical Surveys
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Utility / CCTV Surveys
Bathymetric Surveys
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3D Laser Scanning
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Area, Lease & Fire Plans

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CLIENT

Meedhurst Project Management Ltd

PROJECT

Former Police Station
66 Station Road
Hampton TW12 2BJ

TITLE

Existing Elevations & Sections

SCALE	DATE
A1@ 1: 200	10.07.19
DRAWN	**QUALITY REF**
LA	GH5432

Level datum	See OS notes above
Grid orientation	See OS notes above
Job number	34025
Drawing No. 34025_04_ES	Rev. 0

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