

# Intrusive Investigations

## 1 Introduction

This document outlines the requirements for the intrusive investigations associated with our project at Victoria House, Bloomsbury Square, WC1B 4DA.

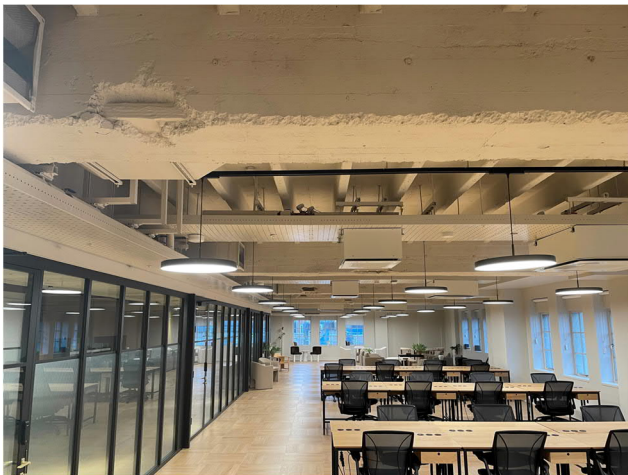
## 2 The Proposed Development

The project will consist of the refurbishment of a Grade II Listed steel framed office building originally constructed between 1926-1932. The building was originally constructed as an office and currently functions as an office space at the upper floors; retail and restaurant operate around the site perimeter at GF and basement levels. The client seeks to convert the existing building to a 'life sciences' use consisting of a mix of lab and office space. This building is of significant historical importance and this needs to be considered throughout the tender process and during the works.

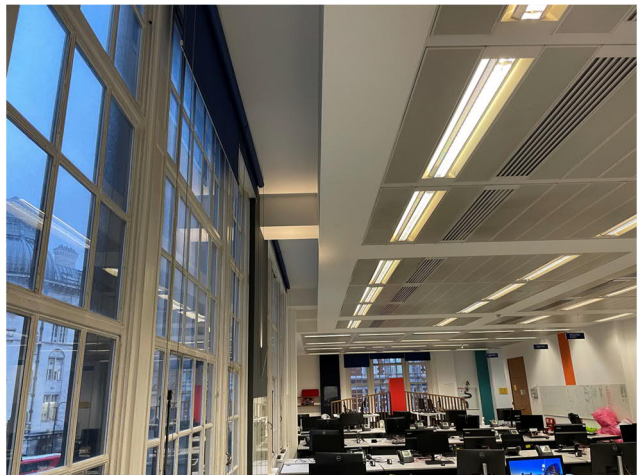
Intrusive investigations and materials testing is required to confirm the existing structural arrangement of the building. Record information has been obtained for the original steelwork frame and investigations aim to demonstrate that record sizes match the existing sizes on site, thereby giving confidence to the historic record information and reducing the number of investigations overall. Weights and densities of floors shall be confirmed for back-checking of load capacities and allow assessment of vibration criteria.

An assessment of Heritage significance has been undertaken by Donald Insall Associates. Investigations have been scoped outside of any areas highlighted as being of significance, which have also been highlighted on HTS investigation drawings.

Works are therefore typically scoped in office and circulation spaces.



4<sup>th</sup> Floor Office



2<sup>nd</sup> Floor Office

## 3 Scope of Investigations

The scope of the intrusive investigations is shown on drawings appended.

Following all opening up investigations, any finishes removed are to be reinstated to the standard of surrounding finishes.

## 4 Information Required at Tender Stage

The contractor shall provide the following information with his tender:-

- A method statement covering the field work to include equipment, access routes, working hours and protection measures.
- A detailed pricing schedule for completing the investigation summarised with a price for the whole of the work.
- A programme for the works from the receipt of the instruction to proceed.

The scope of the field work and material testing will need to be varied in accordance with the actual site conditions and information revealed. Final costs of these investigations may thus vary but should not exceed the above budget without prior written approval from Heyne Tillett Steel Ltd.

Please provide price estimates for in-hours and out-of-hours working.

## 5 Access and Approvals

The contractor shall visit the site to establish access arrangements, working hours and protection measures during the tender period. Access is to be arranged through Heyne Tillett Steel.

The building is Grade II listed and is in very good condition. The access on site is restricted due to the nature of the building. It is currently occupied and used as an office and will continue to be used throughout the investigation works. The Contractor is to take all necessary precautions to ensure the investigation work does not adversely affect the use of the site or the safety of the users.

The Contractor shall make all necessary arrangements for providing all plant, equipment and services required to complete the investigations. He shall also be responsible for obtaining all necessary approvals and provisions to complete the work from the statutory authorities or other relevant bodies.

The Contractor shall take all necessary measures to protect the building and its contents, including that from vibrations and dust, during the site operations in accordance with the Clients requirements.

The Contractor shall be responsible for establishing locations of all services within and below the building and taking all necessary safety and protection measures. The field works will be carried out in accordance with all the relevant Health & Safety regulations including the CDM regulations.

On completion of the field works the site is to be left in a clean and safe manner. Any damage caused during the course of the works must be repaired to the original condition and to the satisfaction of the Client.

The Contractor shall notify Heyne Tillett Steel 48 hours prior to undertaking the investigation works, to allow them the opportunity to visit the site during these operations.

## INVESTIGATION NOTES

These notes are to be read in conjunction with the HTS sketches appended

### Protection

The contractor shall be responsible for protection of the existing environment so that it is returned clean and free of damage.

#### General requirements:

- vertical dust sheet screening with taped joints around all areas of works
- Correx sheeting to protect floor finishes
- Protective dust sheets to protect furniture; ideally locate screening such that furniture is outside of works area.
- Doorways taped and sealed to prevent passage of dust

Where taking cores through floors, provide suitable protection and means of water collection during drilling.

### Disposal and Making Good

The Contractor shall dispose of all excavated material and debris from breaking out and opening up. The site when vacated shall be in a similar condition to its condition prior to commencement of work. All making good shall be agreed with the client and engineer as per the investigations brief.

### Existing Services

It is the responsibility of the Contractor to determine the location of all services. If live services or drainage prevent the investigations where shown, contact the engineer to agree relocation. Any damage to services or drains shall be the responsibility of the Contractor and they shall ensure at the time of tendering that, should precautions be necessary for protection, they are included in the lump sum fee.

### Notification for Inspection by the Engineer


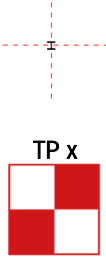
The contractor is to give Heyne Tillett Steel 48 hours' notice of when the fieldwork is to be carried out to allow arrangements to be made for the Engineer to inspect all or part of the fieldwork.

### Site Security, Safety and Nuisance

The Contractor will be responsible for ensuring that the site and the clients' property, affected by the fieldwork, are secure during the works. The work must not cause a safety hazard to users of the site, adjoining owners or the public. The contractor must ensure noise, dust etc. are controlled and do not cause a nuisance to neighbours or the public.

Works Key

Descriptions assume all finishes have been removed locally to the works. The contractor shall allow for removal of finishes with their pricing, in addition to the works listed below.

Reference	Works Description	Supporting Detail
<p>CS-x</p> 	<p>Core Sample no 'x' (Floor Level Investigation)</p> <p>Provide full depth core through existing slab and screed to floor below, retain core sample for inspection by engineer. Core diameter to suit depth of core, Typically 75-100mm diameter, agree in advance with engineer.</p> <p>Inspect slab soffit before coring to avoid ceiling features and downstand beams. Provide pilot holes to avoid beam clashes. Agree position on site with engineer.</p> <p>Arrange for material testing of cores to include material density testing, material composition, chemical analysis and compressive strength testing.</p> <p>Provide suitable protection to works area and floor below.</p> <p>Allow for reinstatement of concrete upon completion.</p>	<p>Refer to example photo appended</p> <p>SK-INV_Core</p>
<p>TP x</p> 	<p>Trial Pit</p> <p>Provide pilot holes ahead of excavation to locate edges and corner of foundation.</p> <p>Trial pit no 'x' – Hand dug trial pit to determine depth and projection of existing foundation and type of ground at foundation level.</p> <p>Arrange inspection with the engineer upon completion of trial pitting. Existing foundations are concrete encased steel grillages and upper levels of steel grillage may need to be exposed for measurement.</p> <p>Logging and recording – Provide drawn details of findings including section sizes, cover/encasement, foundation length, width and depth below existing slab level. Note details of finishes and screeds over existing slab.</p> <p>Making Good - Backfill hole and reinstate finishes as per the investigation brief. Allow for 1.5m deep pit, 800mm square.</p>	<p>Refer to example photo appended</p> <p>SK-INV_Core</p>

Reference	Works Description	Supporting Detail
1	<p>Encased Steel Columns</p> <p>Columns in brick piers– Approximately 1m above floor level, drill pilot holes to confirm presence of steel column. Remove 225-300mm high band of brickwork encasement to expose steel column.</p> <p>Columns encased in concrete – Drill pilot holes to confirm presence of steel column. Approximately 1m above floor level, break-out 250mm high strip of concrete encasement around sides of column to allow measurement of column. If rebar encountered do not cut.</p> <p><u>It is possible that some internal columns may be located behind plasterboard only, where this is found to be the case these locations shall be re-measurable to account to plaster board removal only.</u></p> <p>Logging and recording – Provide drawn details of findings including section sizes and cover/encasement. Contractor to measure column height, width, flange thicknesses, web and flange plate thicknesses. Where section has tapered flanges confirm location of flange measurement to aide section classification against record sizes. Contractor to log thickness of concrete/brickwork cover and encasement to the column. Provide photographic records of openings and making good. Provide each individual investigation with a unique reference/identifier.</p> <p>Making good: Brick - Replace and re-bond brick units following engineer inspection. Concrete - Allow for reinstatement of concrete cover with proprietary concrete repair mortar following inspection by the engineer; Fosroc Renderoc HB40 in accordance with manufacturer's literature.</p>	<p><b>Detail 1 appended</b></p> <p><b>SK-INV-01</b></p>
1 - Mat	<p>In addition to type '1' investigations:</p> <p>Material Testing – Allow for steel sample to be taken from columns section to test for material strength and weldability. Extraction location to be agreed in advance with engineer (position along column height and position within section flange/web). Allow for similar to flange plates where flange plates exist.</p>	
2	<p>Beam Junctions (soffit level investigation) – Drill pilot holes to confirm presence of steel beams. Break-away concrete 250mm width of encasement from each beam to allow measurement of encased steel and inspection of existing steelwork connection. If rebar encountered do not cut.</p> <p>Logging and recording – Provide drawn details of findings including section sizes and cover/encasement. Contractor to measure beam height, width, flange thicknesses, web and flange plate thicknesses. Where section has tapered flanges confirm location of flange measurement to aide section classification against record sizes. Contractor to log thickness of concrete cover and encasement. Provide photographic records of openings and making good. Provide each individual investigation with a unique reference/identifier.</p> <p>Making good - Allow for reinstatement of concrete cover with concrete repair mortar (Fosroc Renderoc HB40) following inspection by the engineer.</p>	<p><b>Detail 2 appended</b></p> <p><b>SK-INV-02</b></p>
2 - Mat	<p>In addition to type '2' investigations:</p> <p>Material Testing – Allow for steel sample to be taken from beam section to test for material strength and weldability. Extraction location to be agreed in advance with engineer (position along beam and position within section flange/web). Allow for similar to flange plates where flange plates exist.</p>	

Reference	Works Description	Supporting Detail
3	<p>Beams (soffit level investigation) – Drill pilot holes to confirm presence of steel beam. Break-away 150mm wide strip of concrete encasement to allow measurement of encased steel. If rebar encountered do not cut.</p> <p>Where compound/multiple beam sections are found consider as one and expose the full compound/multiple beam width.</p> <p>Logging and recording – Provide drawn details of findings including section sizes and cover/encasement. Contractor to measure beam height, width, flange thicknesses, web and flange plate thicknesses. Where section has tapered flanges confirm location of flange measurement to aide section classification against record sizes. Contractor to log thickness of concrete cover and encasement. Provide photographic records of openings and making good. Provide each individual investigation with a unique reference/identifier.</p> <p>Making good - Allow for reinstatement of concrete cover with concrete repair mortar (Fosroc Renderoc HB40) following inspection by the engineer.</p>	<p><b>Detail 3 appended</b></p> <p><b>SK-INV-03</b></p>
3 - Mat	<p>In addition to type '3' investigations:</p> <p>Material Testing – Allow for steel sample to be taken from beam section to test for material strength and weldability. Extraction location to be agreed in advance with engineer (position along beam and position within section flange/web). Allow for similar to flange plates where flange plates exist.</p>	
4	<p>Encased Steel Columns</p> <p>Wall/Pier – Approximately 1m above floor level, drill pilot holes to confirm presence of steel column. Remove 225-300mm high band of brickwork encasement to expose steel column. Identify edge of column and remove brickwork from a single side to allow measurement of column height, width, flange thicknesses, web and flange plate thicknesses.</p> <p>Logging and recording – Provide drawn details of findings including section sizes and cover/encasement. Contractor to measure column height, width, flange thicknesses, web and flange plate thicknesses. Where section has tapered flanges confirm location of flange measurement to aide section classification against record sizes. Contractor to log thickness of concrete/brickwork cover and encasement to the column. Provide photographic records of openings and making good. Provide each individual investigation with a unique reference/identifier..</p> <p>Making good - Replace and re-bond brick units following engineer inspection using matching mortar.</p>	<p><b>Detail 4 appended</b></p> <p><b>SK-INV-04</b></p>
4 - Mat	<p>In addition to type '4' investigations:</p> <p>Material Testing – Allow for steel sample to be taken from columns section to test for material strength and weldability. Extraction location to be agreed in advance with engineer (position along column height and position within section flange/web). Allow for similar to flange plates where flange plates exist.</p>	

Reference	Works Description	Supporting Detail
5	<p>Slabs (Floor Level Investigation)</p> <p>Use 3D ferroskan technique over 1m x 1m area to confirm reinforcement.</p> <p>Break-out over 500x500mm area to confirm depth of concrete cover and size of reinforcing bars. Rebar to remain in place. Do not cut reinforcement.</p> <p>Logging and recording – Provide drawn details of findings including bar sizes, depths and centres. Include concrete cover dimensions and details of any slab toppings. Provide each individual investigation with a unique reference/identifier.</p> <p>Making good - Allow for reinstatement of concrete cover with concrete repair mortar (Fosroc Renderoc HB40) following inspection by the engineer.</p>	<p>Refer to example photo appended</p> <p>SK-INV-05</p>
6	<p>Slabs (Floor Level Investigation)</p> <p>Use 3D ferroskan technique over 1m x 1m area to confirm reinforcement.</p> <p>Provide pilot holes through slabs to confirm overall thickness of slabs</p> <p>Making good - Allow for reinstatement of concrete cover with concrete repair mortar (Fosroc Renderoc HB40) following inspection by the engineer.</p> <p>Provide each individual investigation with a unique reference/identifier.</p>	-
7 - Mat	<p>Masonry (walls)</p> <p>Location - Approximately 1m above floor level</p> <p>Action - Remove single brick stretcher and set aside for material testing. Carefully stitch drill mortar joints around brick unit with 8mm diameter masonry bit to extract unit undamaged. Collect mortar sample.</p> <p>Logging and recording – Contractor to log location of brick and mortar sample with photographic record. Provide each individual investigation with a unique reference/identifier.</p> <p>Material Testing:</p> <p>Brick – confirm brick unit density and compressive strength.</p> <p>Mortar – confirm mortar materiality and strength grade.</p> <p>Making good: Replace and re-bond brick units following engineer inspection, like-for-like to match existing.</p>	<p>Refer to example photo appended</p> <p>SK-INV-05</p>

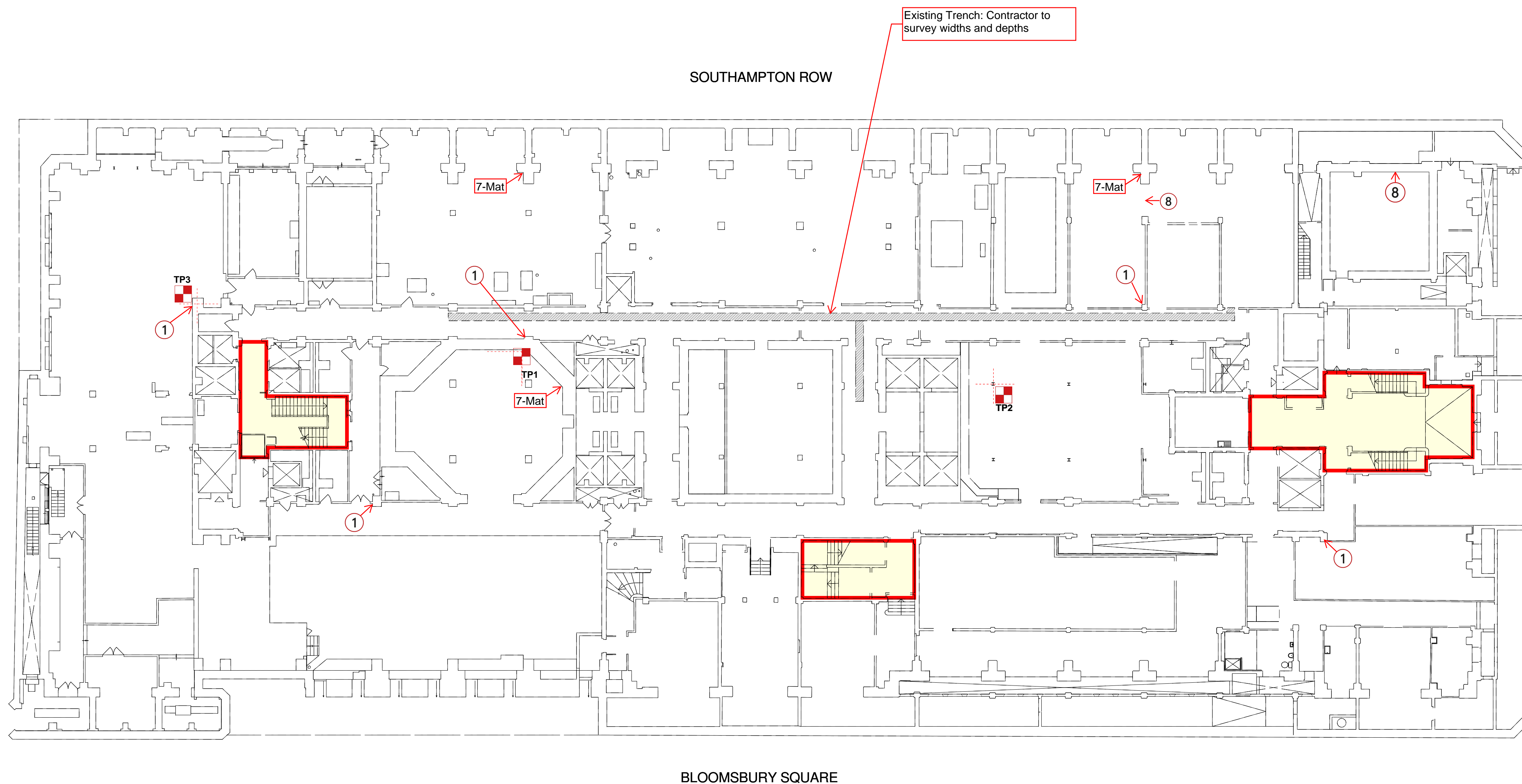
Reference	Works Description	Supporting Detail
8	<p>Ribbed slabs (Soffit level and floor level Investigation)</p> <p><b>NOTE: Where these investigations are referenced on HTS Investigations Plans, investigations apply to the floor level of that floor and the soffit of the floor below.</b></p> <p>Location – Refer to detail. End of bay towards interface with concrete encased steel beams</p> <p>Action:</p> <ul style="list-style-type: none"> <li>• Soffit/rib - Remove concrete cover from 75mm long strip on underside of rib to expose bottom reinforcement.</li> <li>• Floor - 'Chase-out' 50mm wide section of concrete centred on rib. Confirm diameter of top longitudinal bars, diameter of links and centres of links. Confirm length of longitudinal bar from steel beam centreline.</li> </ul> <p>Logging and recording – Contractor to log location of openings with photographic record. Provide each individual investigation with a unique reference/identifier. Provide drawn details of findings including rebar sizes and cover/encasement.</p> <p>Making good - Allow for reinstatement of concrete cover with concrete repair mortar (Fosroc Renderoc HB40) following inspection by the engineer.</p>	<p><b>Detail 8 appended</b></p> <p><b>SK-INV-08</b></p>



Heritage priority Area - No works proposed in these areas. Use alternative means and routes if carrying tools and equipment. Refer to Donald Insall Report for details

Sub-scan to be undertaken in all areas of proposed excavation to confirm no live services within proposed excavation

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4. Victoria House is a Grade II Listed building. All works are subject to listed building consent and approval from the Listed Building Officer. The contractor shall assist in preparing any necessary information in support of the listed building consent, such as but not limited to work specific method statements and details of making good.



**Changes**  
TP1 - relocated

**2812**  
**SK-INV-B2**

Rev	Date	By	Eng	Amendment

**HEYNE TILLET STEEL** STRUCTURAL & CIVIL ENGINEERS  
http://hts.uk.com/

Job Name  
**Victoria House,**  
**Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing**  
**Basement 02 Floor Plan**

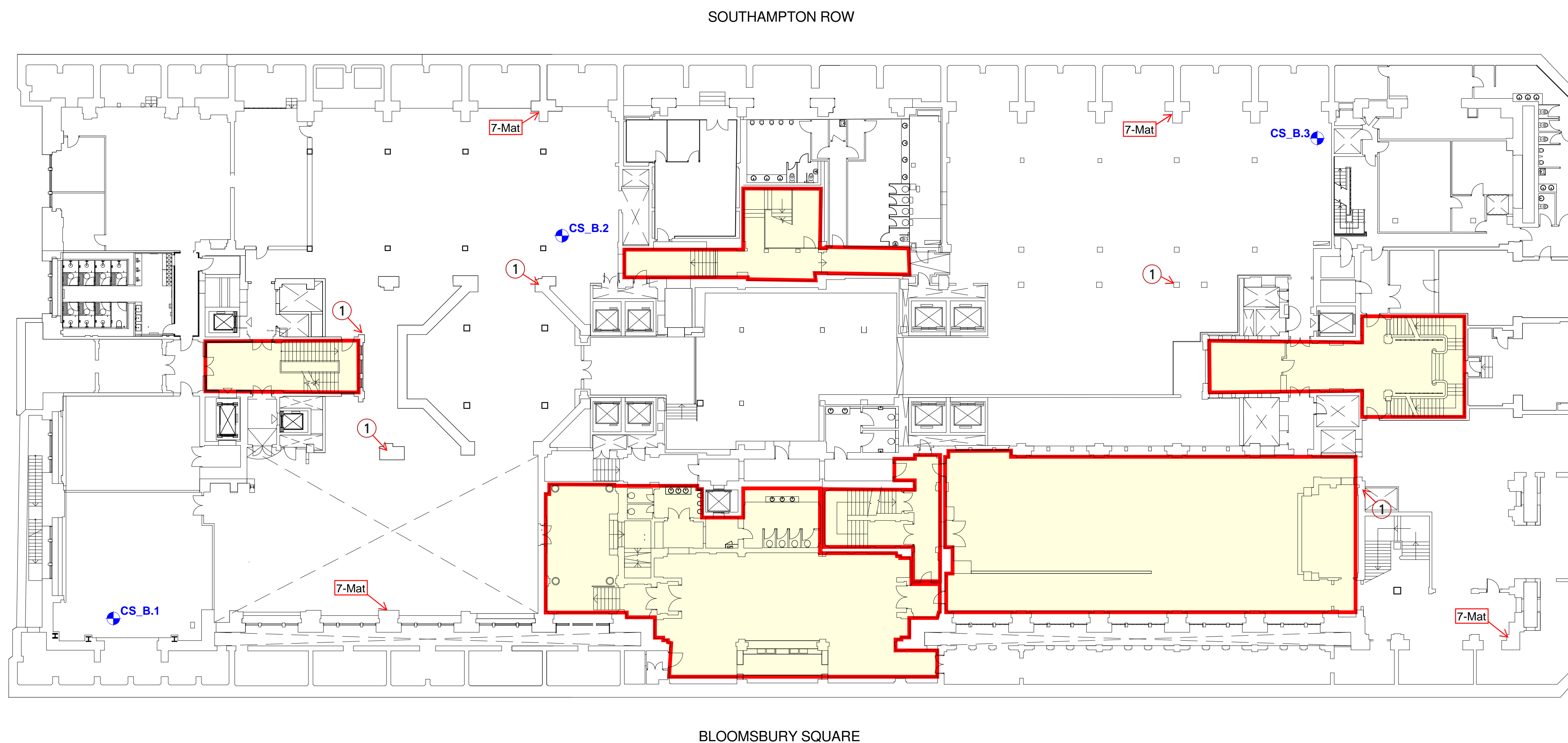
Purpose of Issue  
Scale at A1  
**1 : 200**

Drg No **2812-HTS-XX-B2-DR-S-0080**

HTS Job No Suitability S1 Rev

Heritage priority Area - No works proposed in these areas. Use alternative means and routes if carrying tools and equipment. Refer to Donald Insall Report for details

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**2812 SK-INV-B1**

Rev Date By Eng Amendment

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Basement Floor Plan**

Purpose of Issue Scale at A1 1 : 200

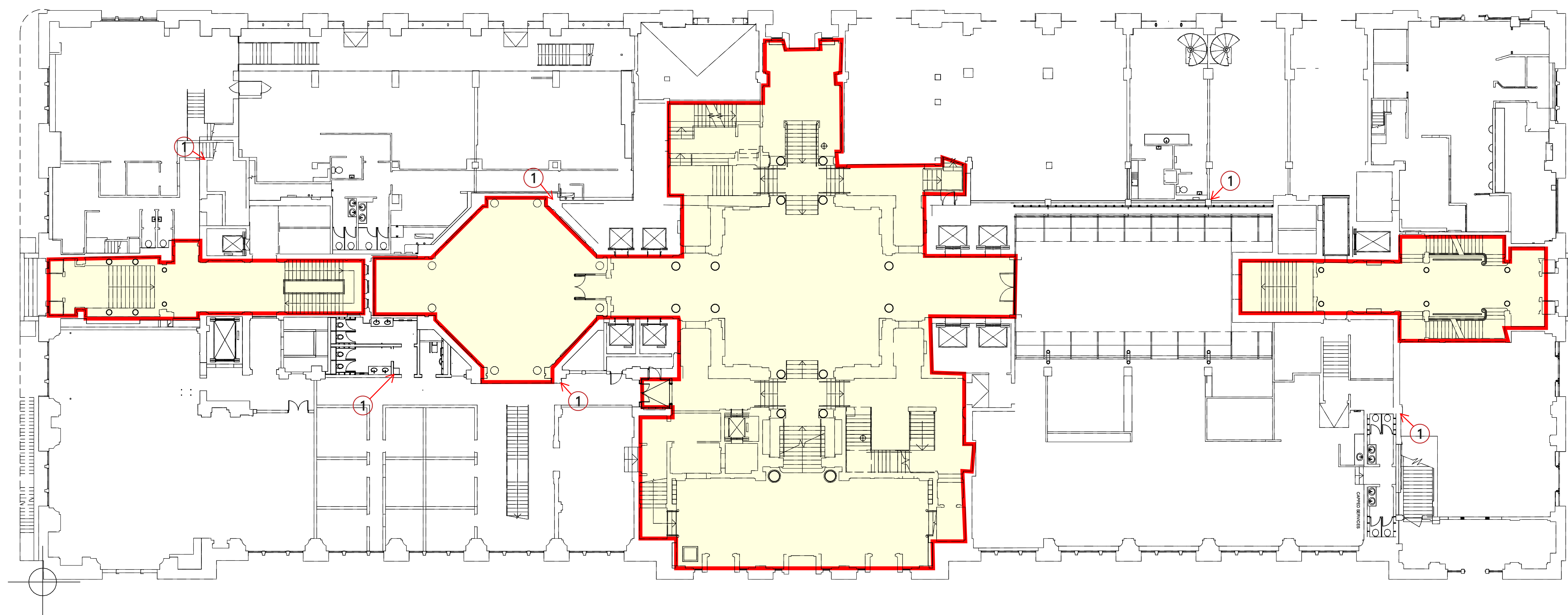
Drg No **2812-HTS-XX-B1-DR-S-0090**

HTS Job No Suitability S1 Rev

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SOUTHAMPTON ROW



BLOOMSBURY SQUARE

**2812  
SK-INV-GF**


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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Ground Floor Plan**

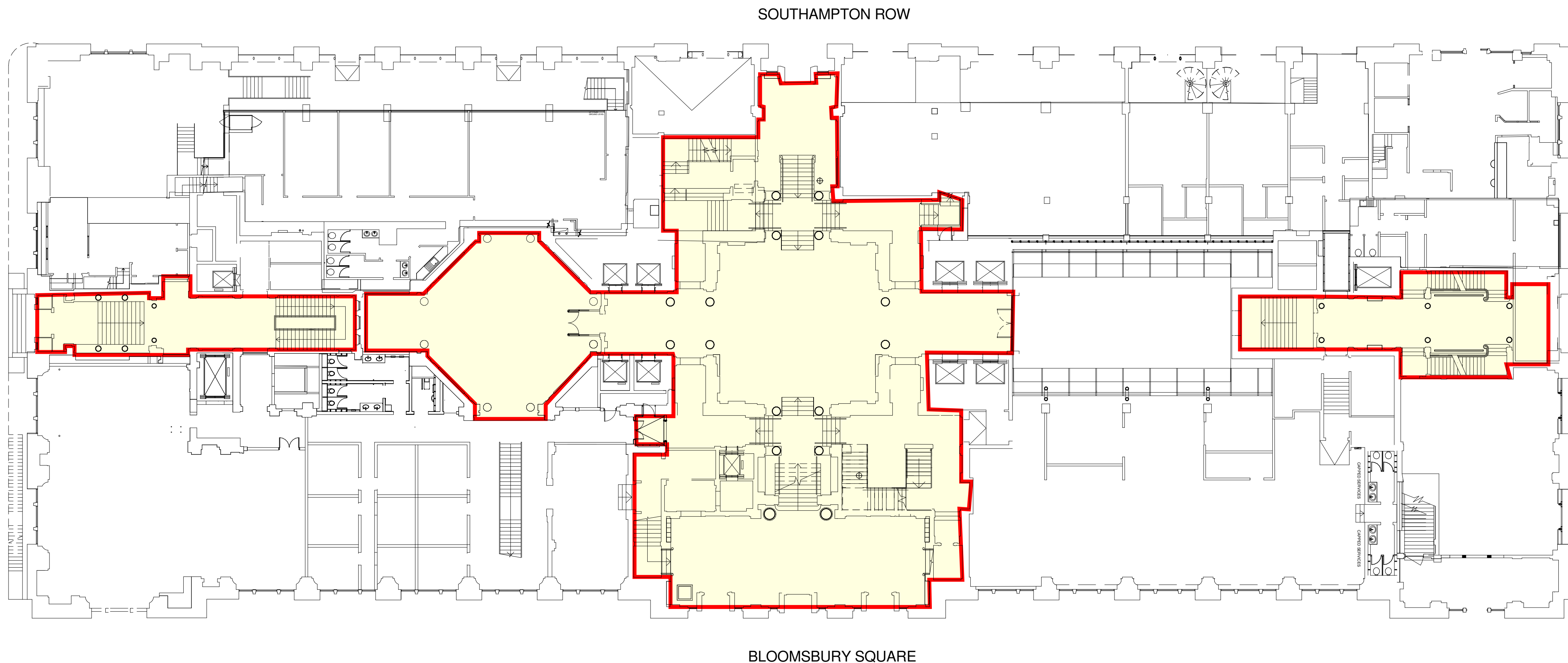
Purpose of Issue Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-00-DR-S-0100**

HTS Job No Suitability S1 Rev

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**2812  
SK-INV-Mezz**

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Mezzanine Floor Plan**

Purpose of Issue Scale at A1 **1 : 200**

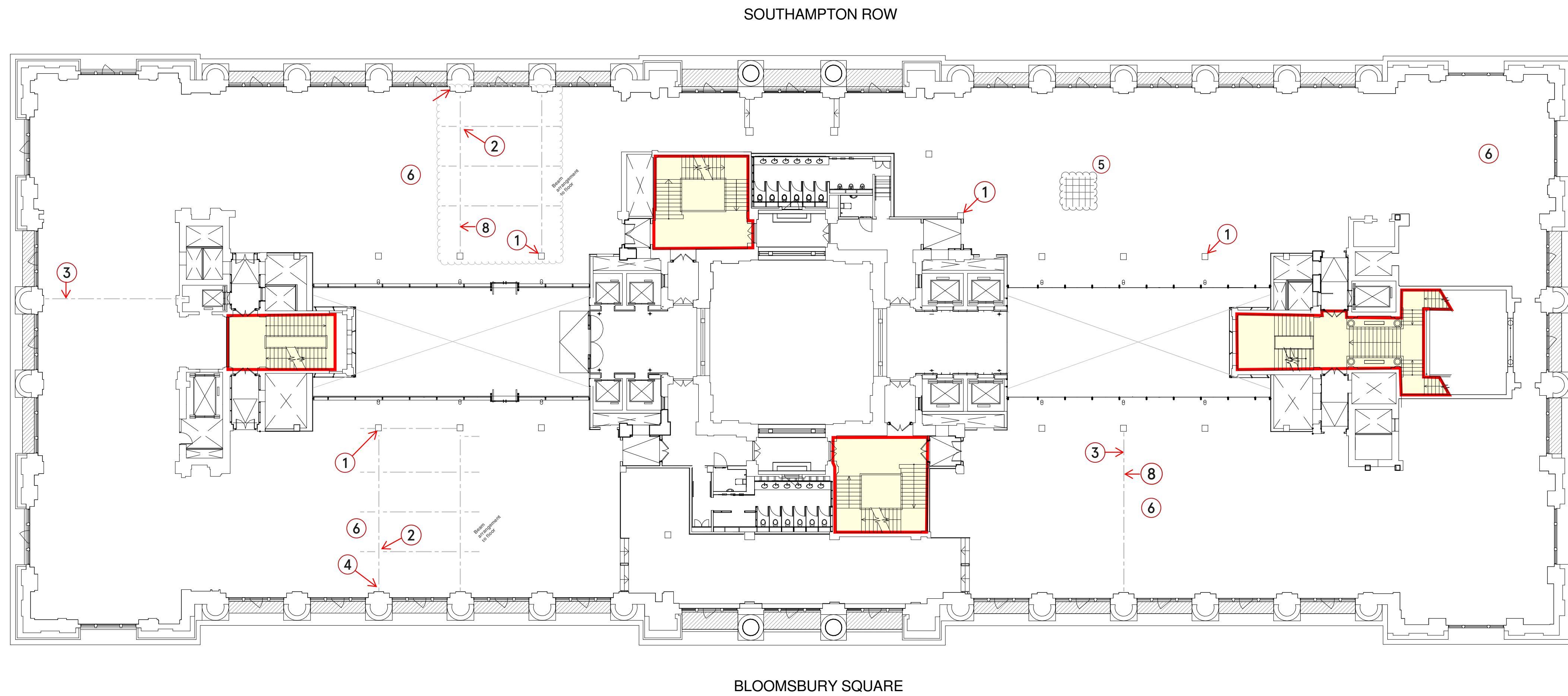
Drg No **2812-HTS-XX-MZ-DR-S-0105**

HTS Job No Suitability S1 Rev



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**2812  
SK-INV-01**

Rev	Date	By	Eng	Amendment

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
First Floor Plan**

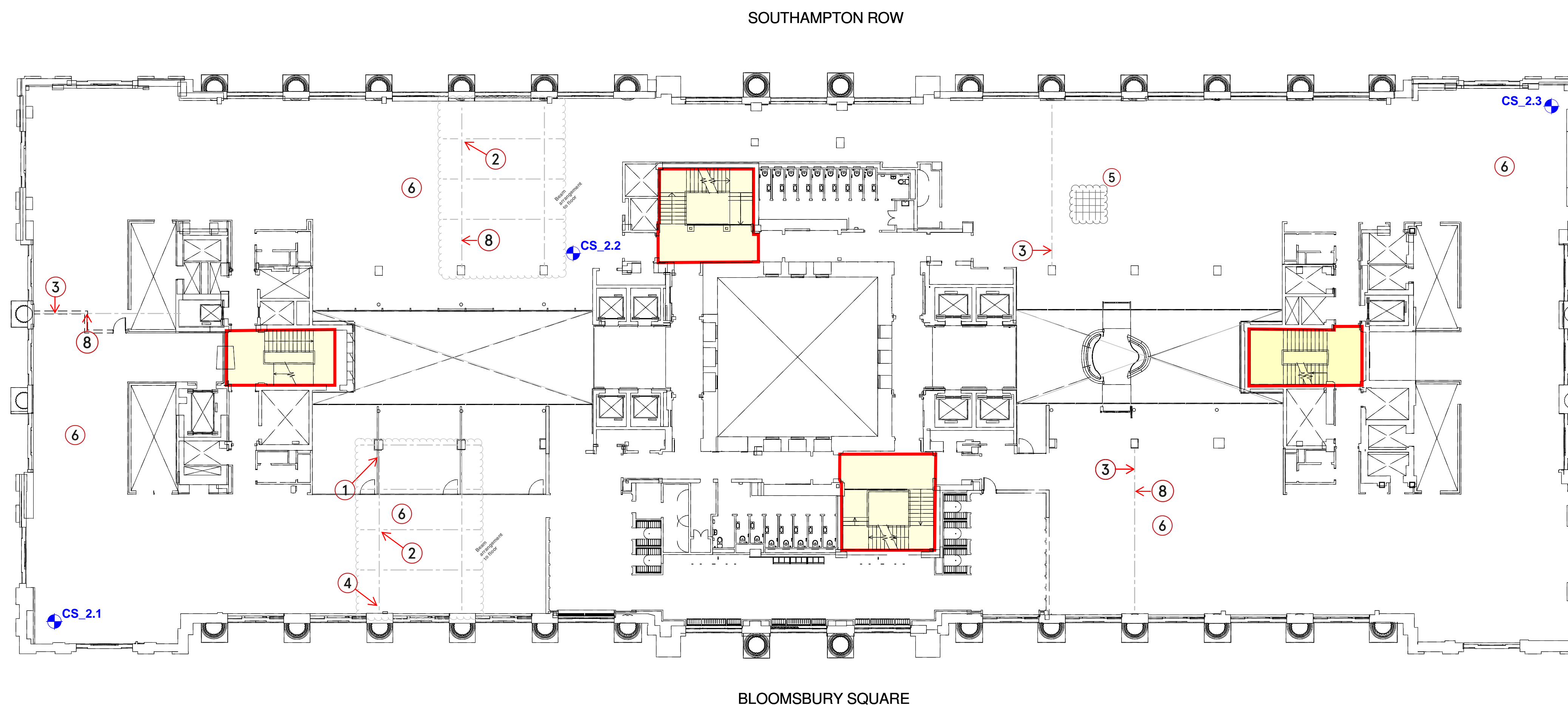
Purpose of Issue  
Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-01-DR-S-0110**

HTS Job No Suitability S1 Rev

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SK-INV-02**

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Second Floor Plan**

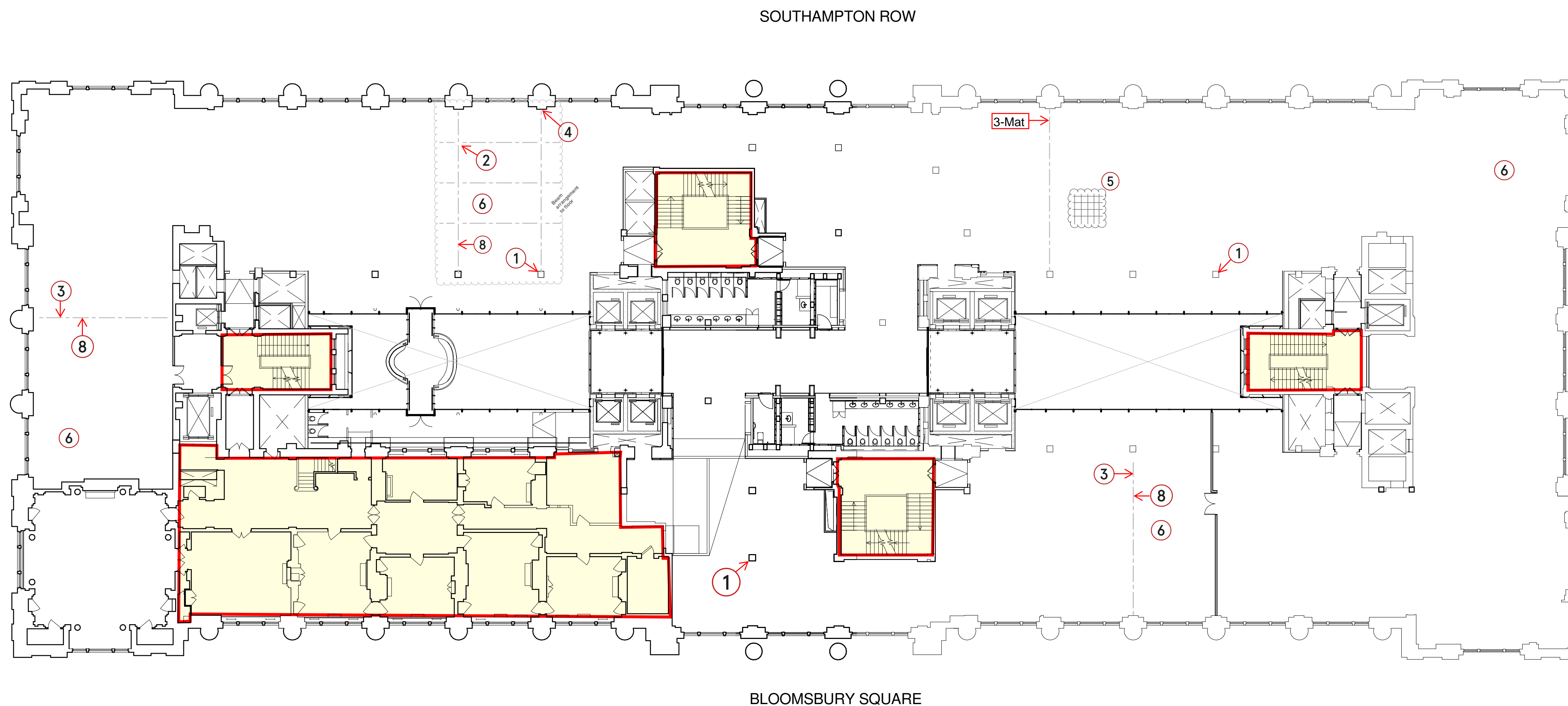
Purpose of Issue Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-02-DR-S-0120**

HTS Job No Suitability S1 Rev

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SK-INV-03**


Rev	Date	By	Eng	Amendment

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

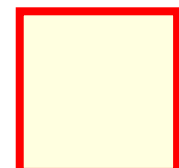
Drawing Title  
**Existing  
Third Floor Plan**

Purpose of Issue      Scale at A1      **1 : 200**

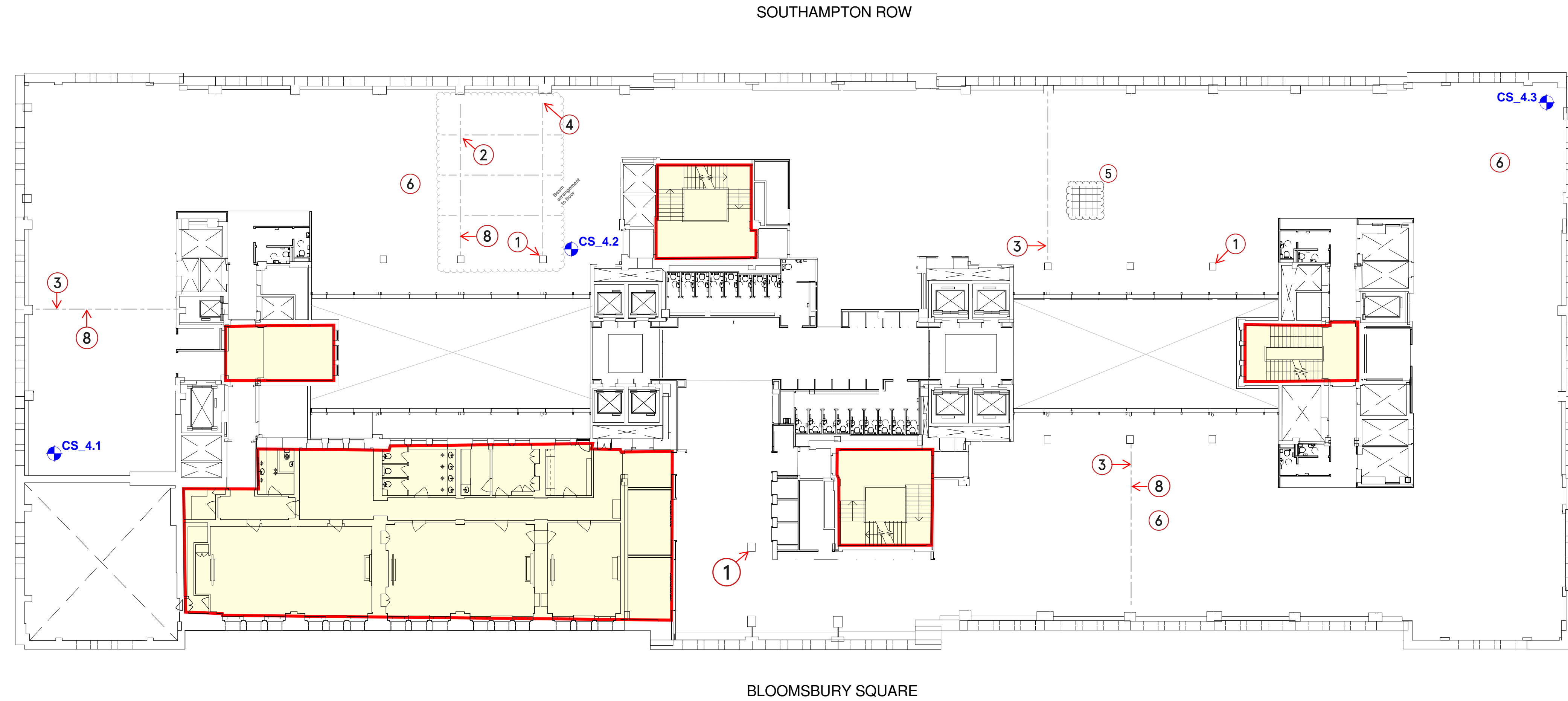
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HTS Job No      Suitability S1      Rev



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SK-INV-04**


Rev	Date	By	Eng	Amendment

**HEYNE  
TILLET  
STEEL**      STRUCTURAL & CIVIL ENGINEERS  
<http://hts.uk.com/>

Job Name  
**Victoria House,  
 Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
 Fourth Floor Plan**

Purpose of Issue      Scale at A1      **1 : 200**

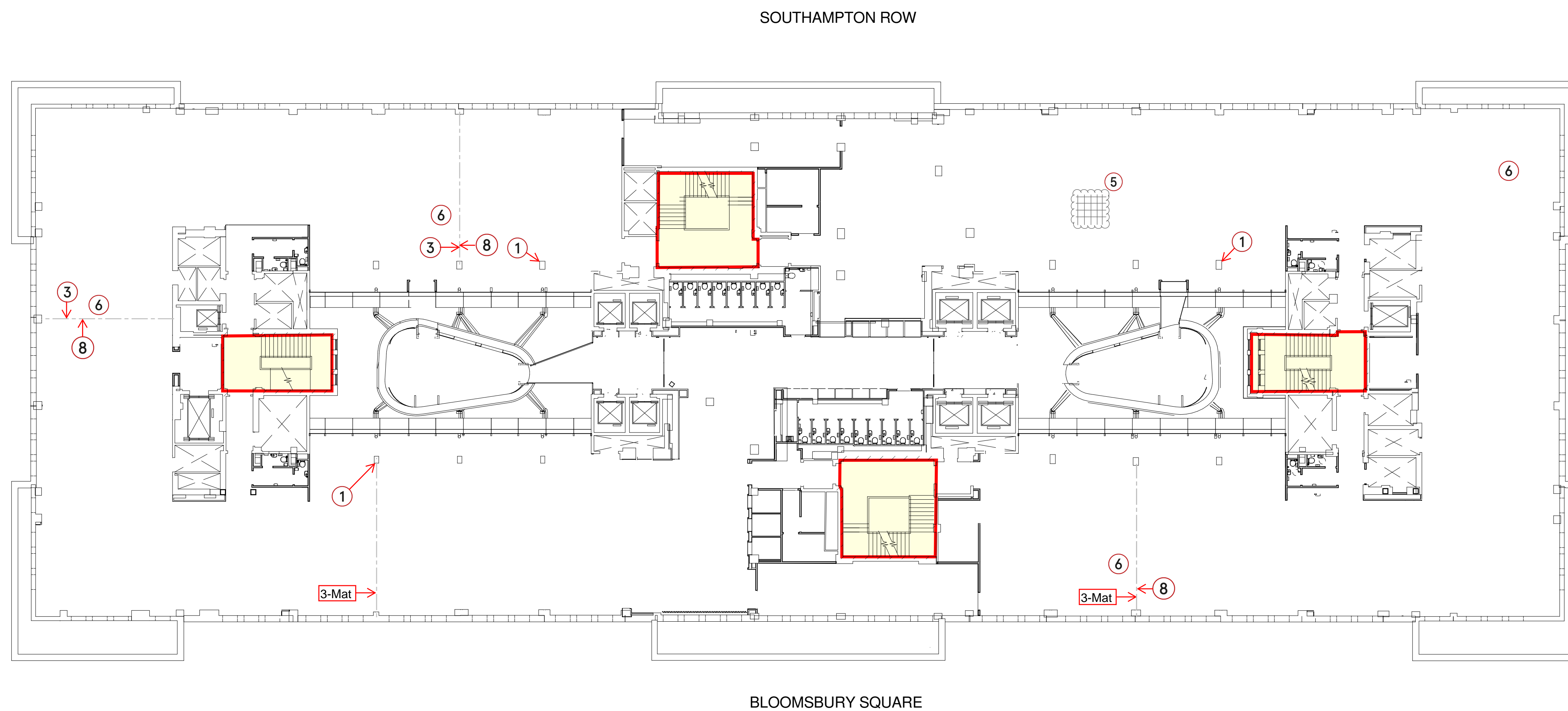
Drg No      **2812-HTS-XX-04-DR-S-0140**

HTS Job No      Suitability **S1**      Rev



**Heritage priority Area - No works proposed in these areas. Use alternative means and routes if carrying tools and equipment. Refer to Donald Insall Report for details**

1. This drawing is to be read in conjunction with all relevant architects, engineers and specialists' drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to the intended scale the above bar should be 100mm long
3. All existing details shown are based on archive drawings and limited opening up works. Assumptions have been made regarding existing construction. Materials, construction, framing and spans of existing slabs and walls to be confirmed by site investigations. Slab levels shown in red have been derived from assumed finishes and are to be confirmed by site investigations.
4. Victoria House is a Grade II Listed building. All works are subject to listed building consent and approval from the Listed Building Officer. The contractor shall assist in preparing any necessary information in support of the listed building consent, such as but not limited to work specific method statements and details of making good.



**2812  
SK-INV-05**

Rev	Date	By	Eng	Amendment

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Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Fifth Floor Plan**

Purpose of Issue Scale at A1 **1 : 200**

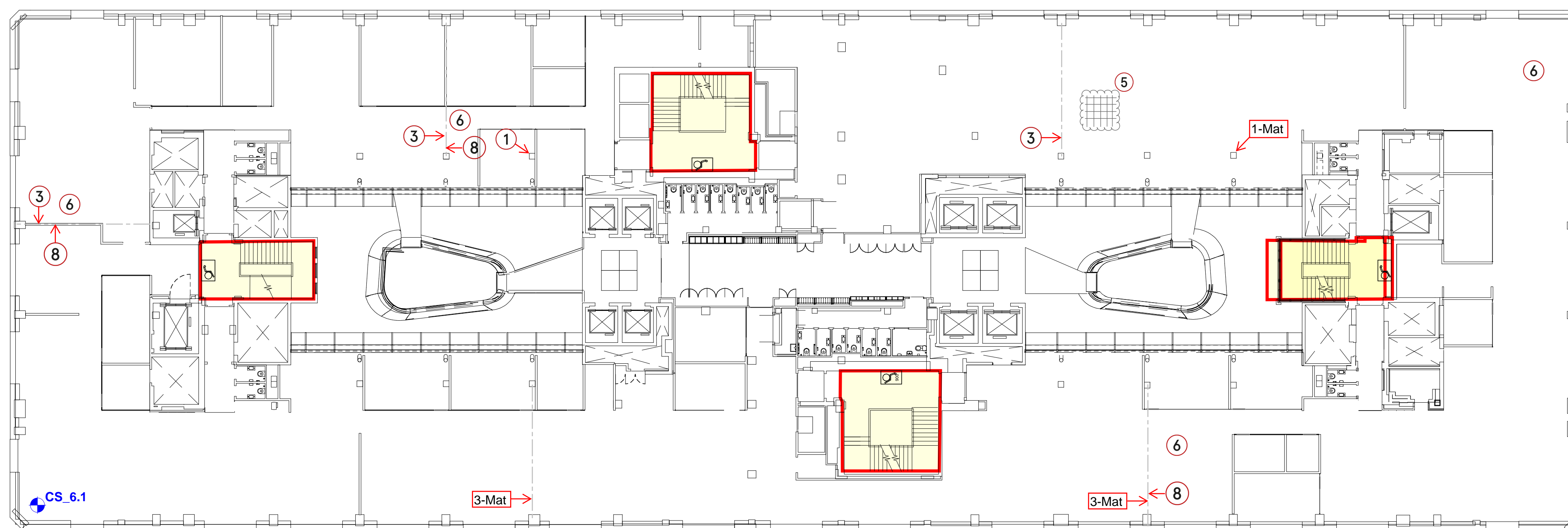
Drg No **2812-HTS-XX-05-DR-S-0150**

HTS Job No Suitability S1 Rev

Heritage priority Area - No works proposed in these areas. Use alternative means and routes if carrying tools and equipment. Refer to Donald Insall Report for details

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- 3. All existing details shown are based on archive drawings and limited opening up works. Assumptions have been made regarding existing construction. Materials, construction, framing and spans of existing slabs and walls to be confirmed by site investigations. Slab levels shown in red have been derived from assumed finishes and are to be confirmed by site investigations.
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SOUTHAMPTON ROW



BLOOMSBURY SQUARE

2812  
SK-INV-06

Rev	Date	By	Eng	Amendment

**HEYNE  
TILLET  
STEEL** STRUCTURAL & CIVIL ENGINEERS  
http://hts.uk.com/

Job Name  
**Victoria House,  
Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing  
Sixth Floor Plan**

Purpose of Issue Scale at A1 **1 : 200**

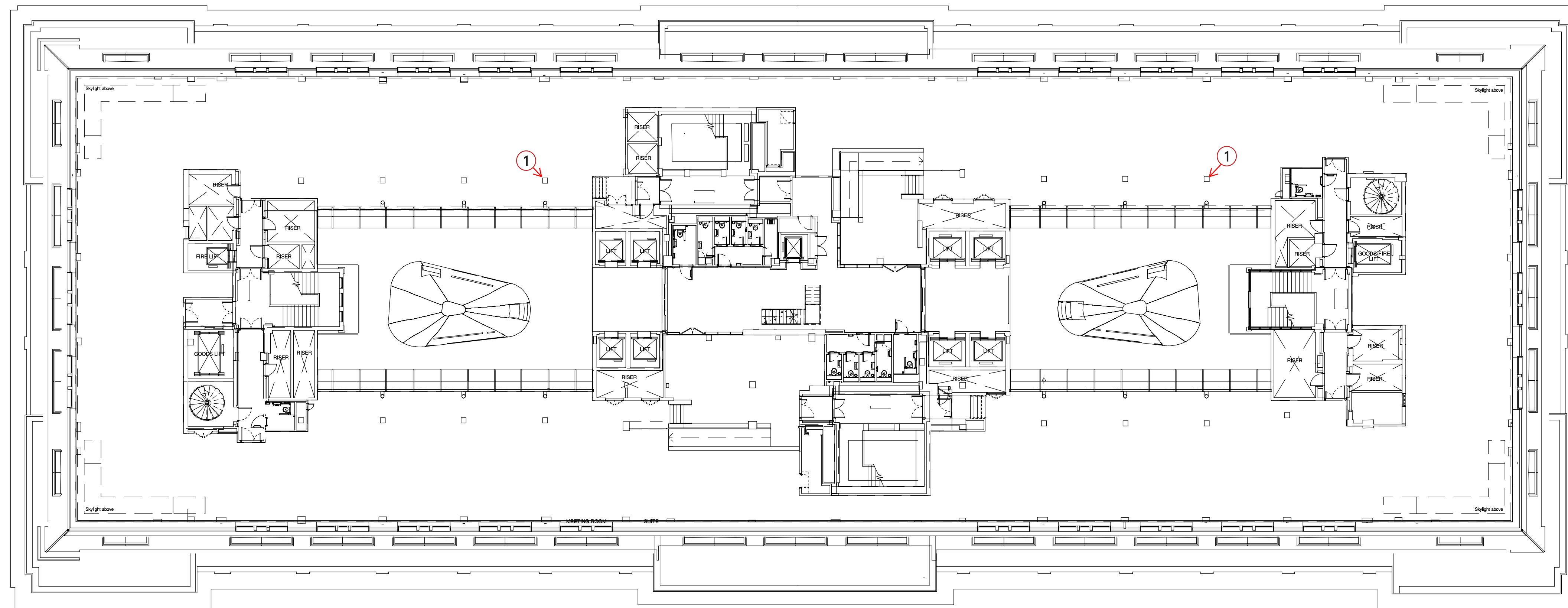
Drg No **2812-HTS-XX-06-DR-S-0160**

HTS Job No Suitability S1 Rev

All perimeter columns shown on this drawing are within the mansard pitch. At locations referenced, in addition to scope noted under detail '1', open up at head and based of each column to exposed existing steelwork connection details.

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4. Victoria House is a Grade II Listed building. All works are subject to listed building consent and approval from the Listed Building Officer. The contractor shall assist in preparing any necessary information in support of the listed building consent, such as but not limited to work specific method statements and details of making good.

SOUTHAMPTON ROW



BLOOMSBURY SQUARE


Rev	Date	By	Eng	Amendment

**HEYNE TILLET STEEL** STRUCTURAL & CIVIL ENGINEERS  
<http://hts.uk.com/>

Job Name  
**Victoria House,**  
**Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing**  
**Seventh Floor Plan**

Purpose of Issue Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-07-DR-S-0170**

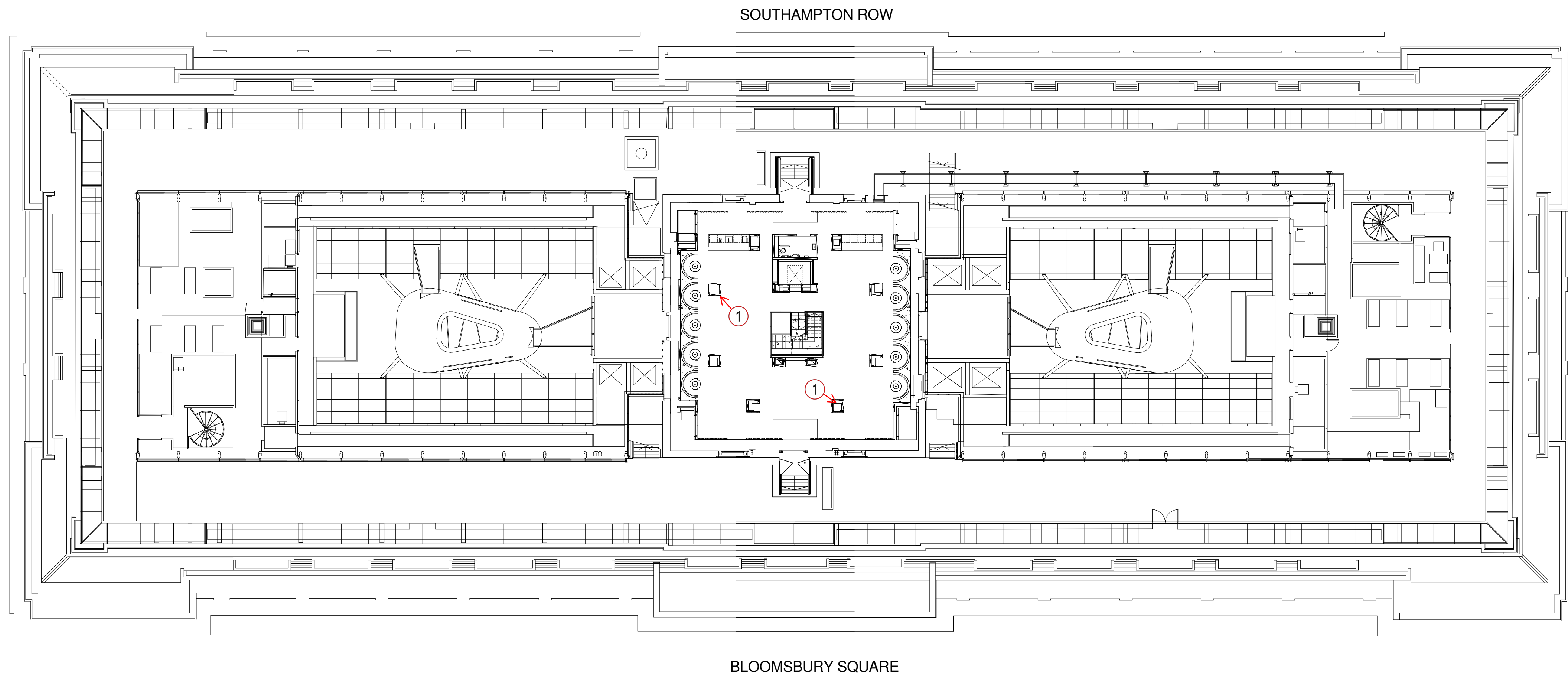
HTS Job No Suitability S1 Rev

1. This drawing is to be read in conjunction with all relevant architects, engineers and specialists' drawings and specifications.

2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to the intended scale the above bar should be 100mm long

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4. Victoria House is a Grade II Listed building. All works are subject to listed building consent and approval from the Listed Building Officer. The contractor shall assist in preparing any necessary information in support of the listed building consent, such as but not limited to work specific method statements and details of making good.



SOUTHAMPTON ROW

BLOOMSBURY SQUARE

**2812**  
**SK-INV-08**


Rev	Date	By	Eng	Amendment

**HEYNE**  
**TILLET**  
**STEEL**

STRUCTURAL & CIVIL ENGINEERS  
<http://hts.uk.com/>

Job Name  
**Victoria House,**  
**Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing**  
**Eighth Floor Plan**

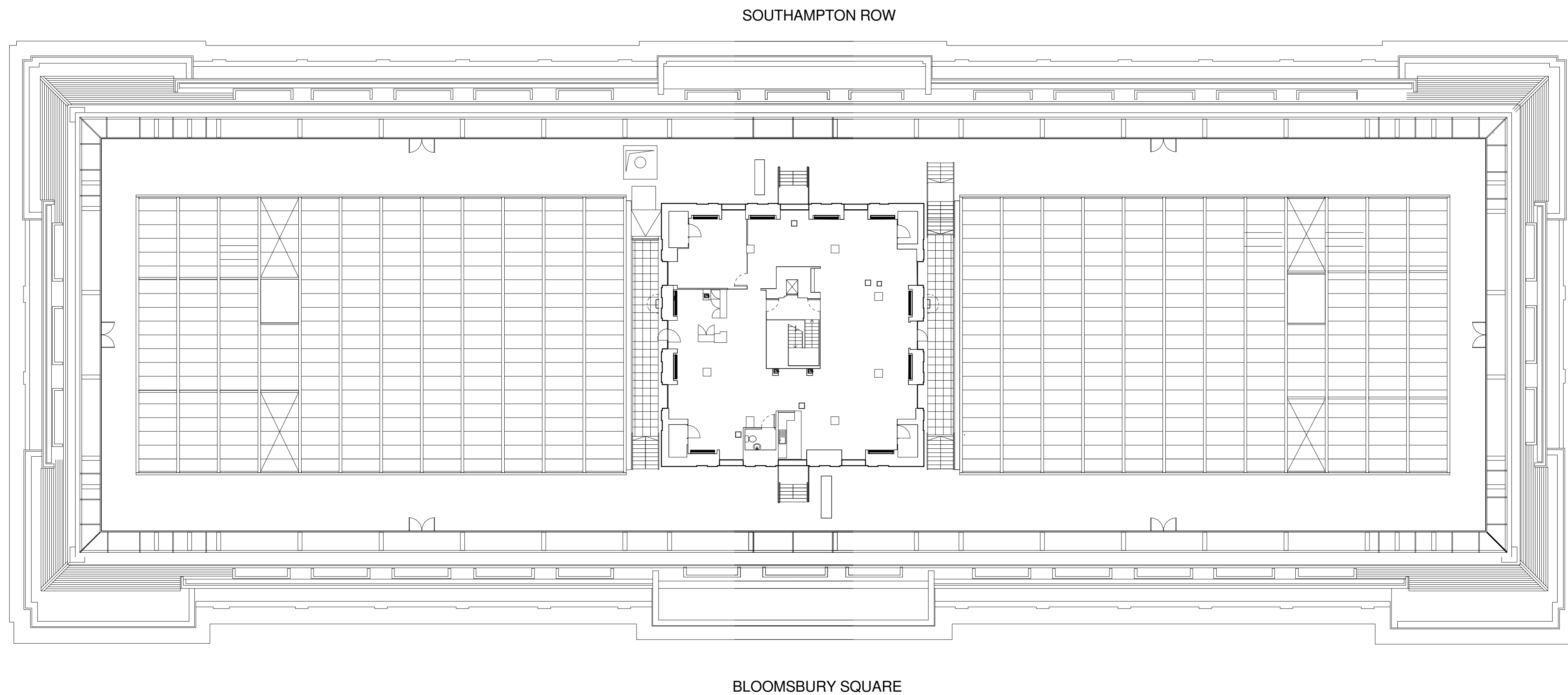
Purpose of Issue Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-08-DR-S-0180**

HTS Job No Suitability S1 Rev



1. This drawing is to be read in conjunction with all relevant architects, engineers and specialists' drawings and specifications.
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3. All existing details shown are based on archive drawings and limited opening up works. Assumptions have been made regarding existing construction. Materials, construction, framing and spans of existing slabs and walls to be confirmed by site investigations. Slab levels shown in red have been derived from assumed finishes and are to be confirmed by site investigations.
4. Victoria House is a Grade II Listed building. All works are subject to listed building consent and approval from the Listed Building Officer. The contractor shall assist in preparing any necessary information in support of the listed building consent, such as but not limited to work specific method statements and details of making good.



**2812**  
**SK-INV-09**

Rev	Date	By	Eng	Amendment

**HEYNE**  
**TILLET**  
**STEEL**

STRUCTURAL & CIVIL ENGINEERS  
<http://hts.uk.com/>

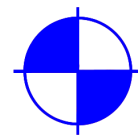
Job Name  
**Victoria House,**  
**Bloomsbury Square, WC1B 4DA**

Drawing Title  
**Existing**  
**Ninth Floor Plan**

Purpose of Issue Scale at A1 **1 : 200**

Drg No **2812-HTS-XX-09-DR-S-0190**

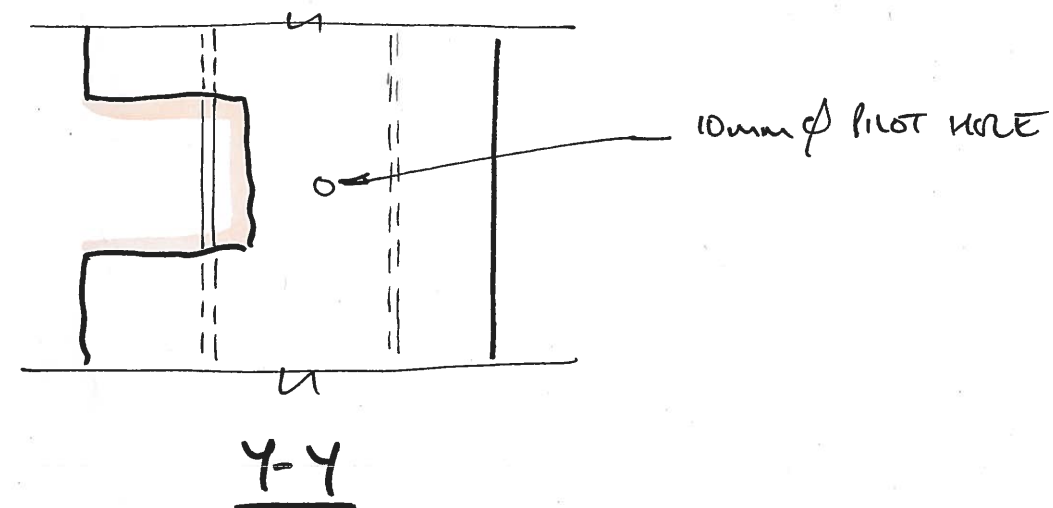
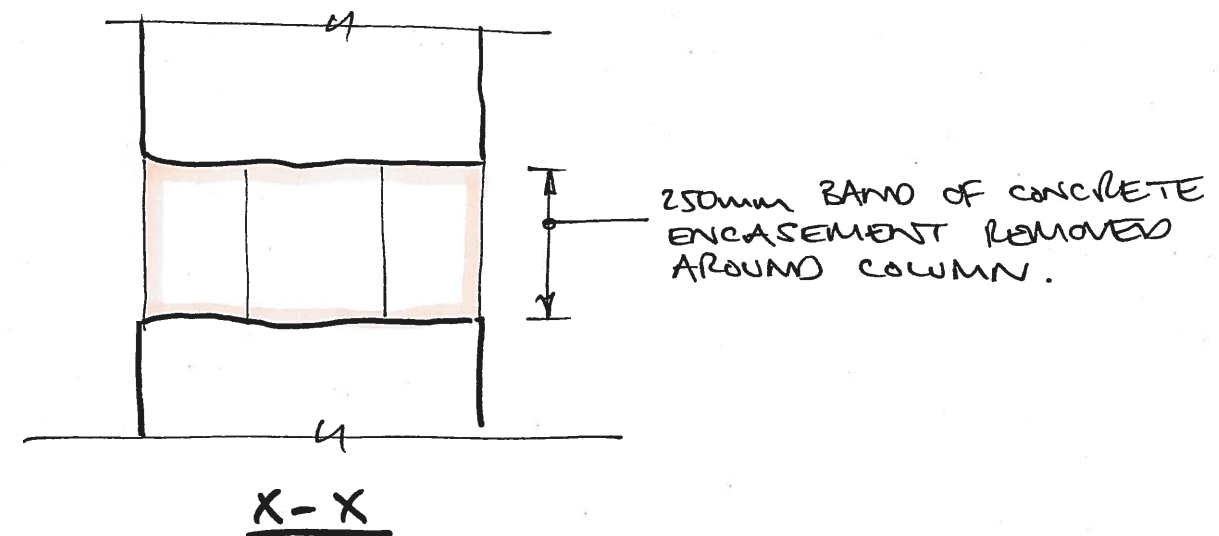
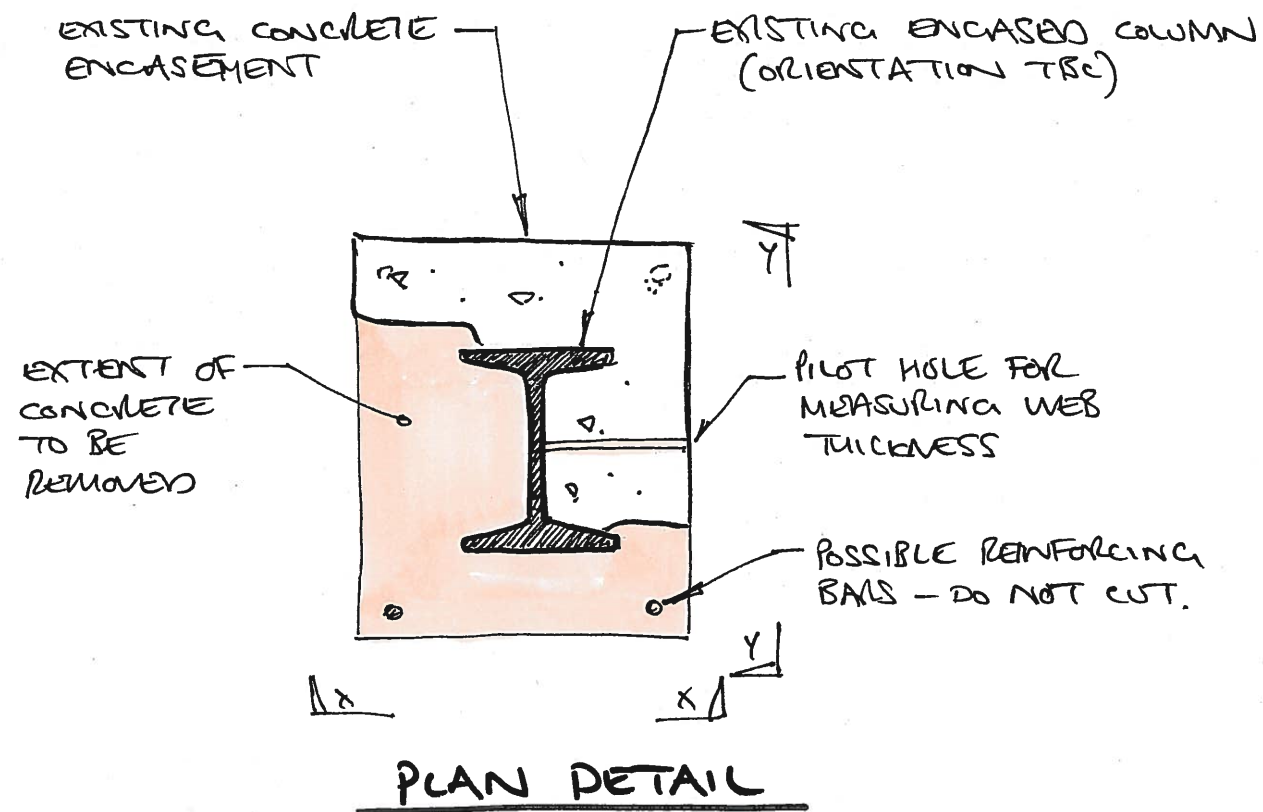
HTS Job No Suitability S1 Rev



Core hole example



Trial Pit Example

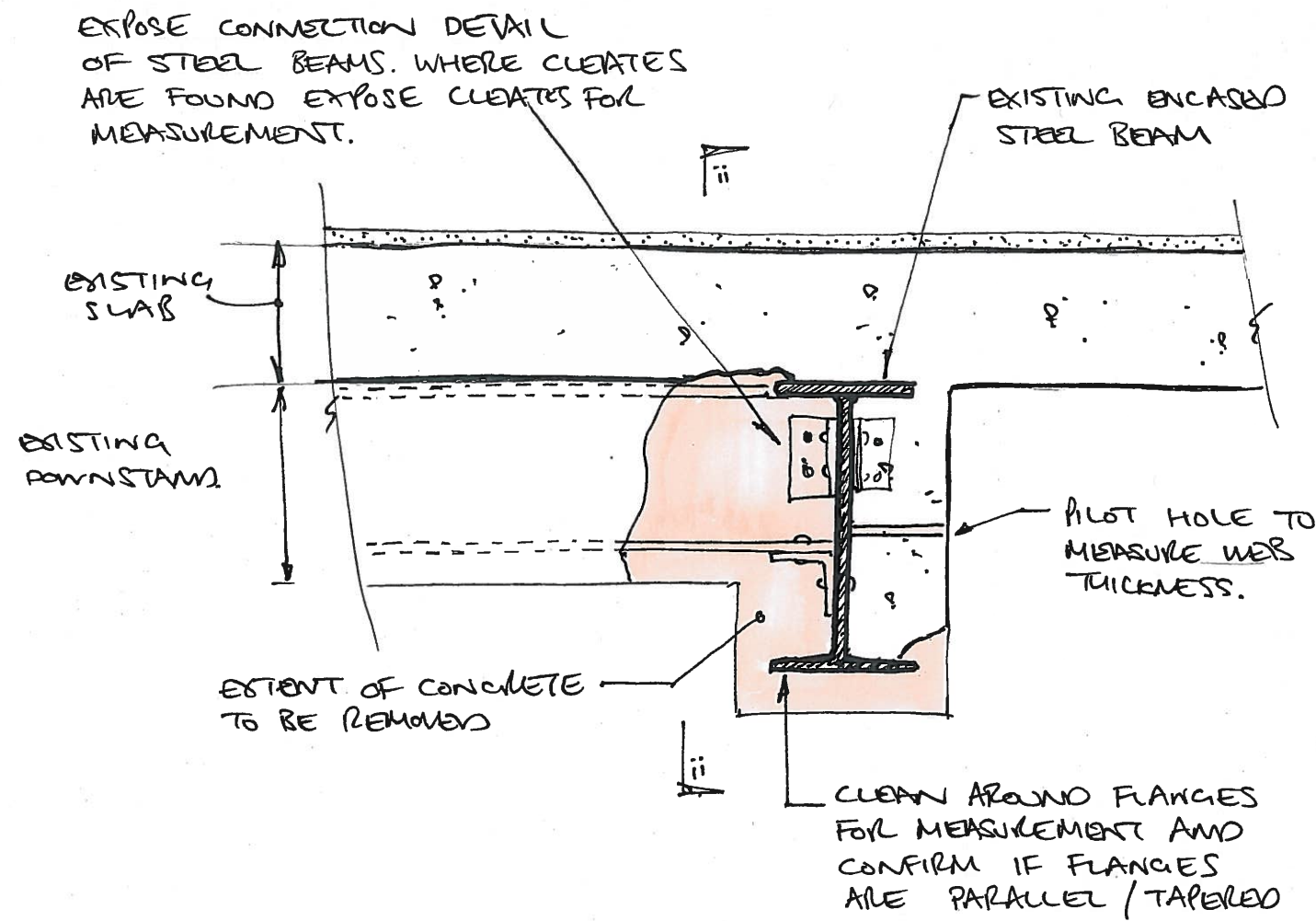


SEQUENCE:

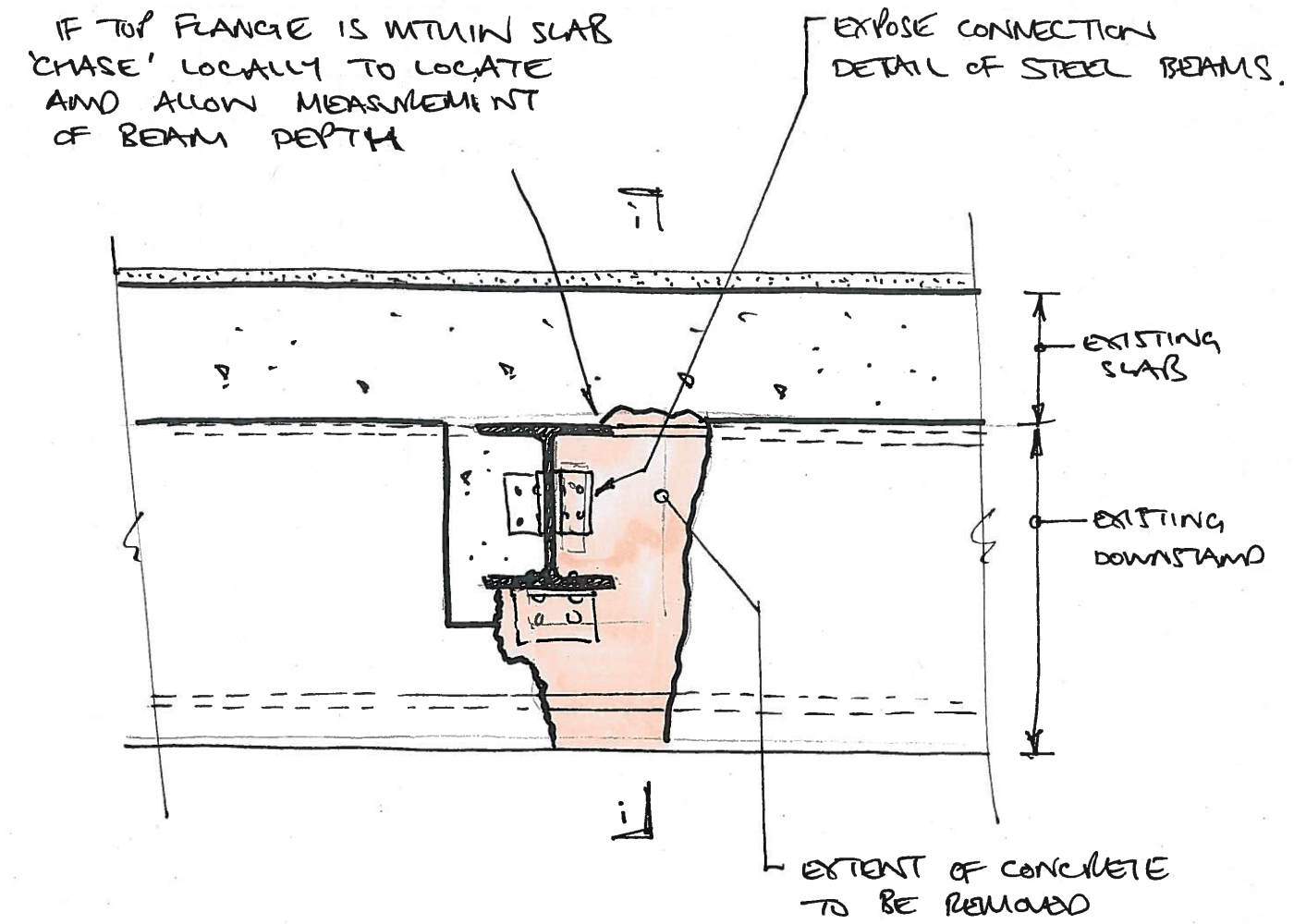
1. DRILL PILOT HOLES TO CONFIRM PRESENCE OF COLUMN AND ORIENTATION. IF NO COLUMN ENCOUNTERED, STOP WORKS AND INFORM ENGINEER.
2. REMOVE CONCRETE ENCASEMENT AS INDICATED TO EXPOSE COLUMN FOR MEASURING.
3. ENGINEER INSPECTION
4. MAKE GOOD CONCRETE ENCASEMENT USING PROPRIETARY REPAIR SYSTEM 'RENDEROC HB' BY FOSROC, IN ACCORDANCE WITH MANUFACTURERS LITERATURE.

TYPICAL OPENING TO CONCRETE ENCASEMENT TO EXPOSE ENCASED STEEL COLUMN.





DETAIL i



DETAIL ii

SEQUENCE:

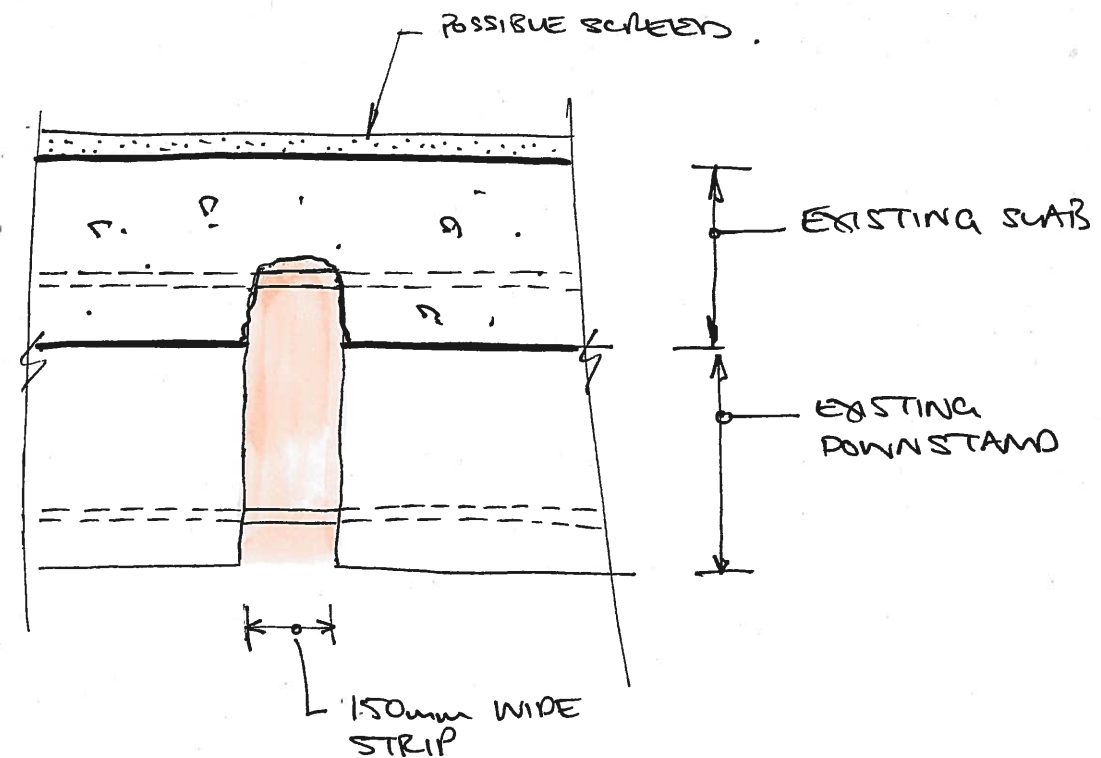
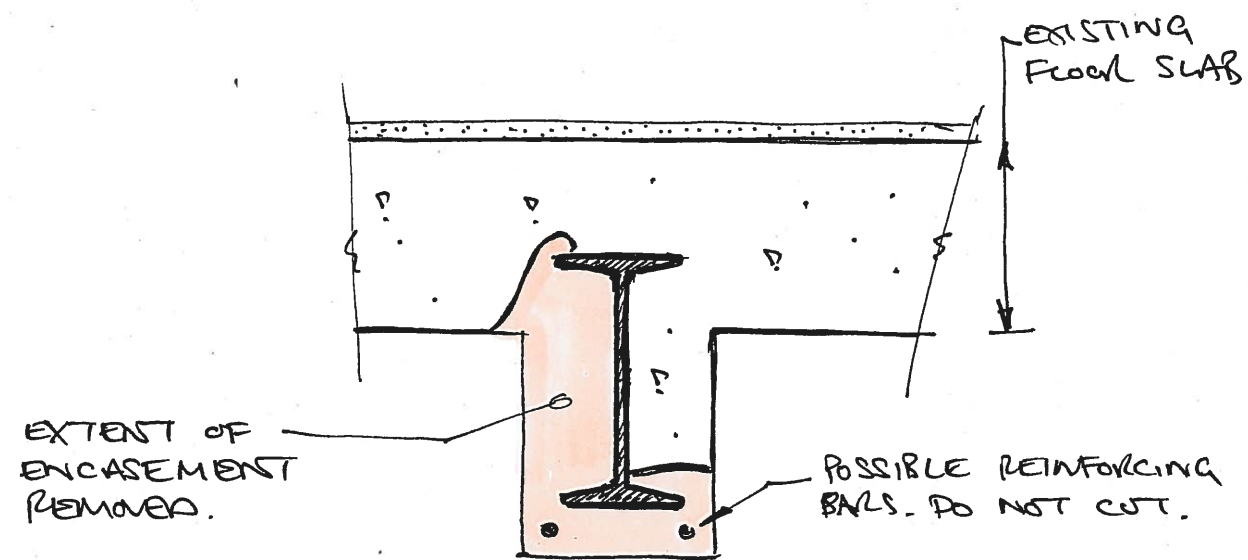
1. DRILL PILOT HOLES AND CONFIRM ENCASED STEEL BEAMS. IF NO BEAMS ENCOUNTERED REPORT TO ENGINEER AND SEE OPENING OF RC BEAMS.
2. REMOVE CONCRETE EXTENT AS INDICATED. REMOVE OVER DOWNSTANDS TO LOCATE BEAMS AND 'CHASE' UPWARDS TO LOCATE TOP FLANGES. REMOVE LOCALLY AROUND TOP FLANGE FOR MEASUREMENT. CONNECTION DETAIL OF STEEL MUST BE EXPOSED. IF CREATES DISCOVERED OPEN AROUND CREATES FOR MEASUREMENT.
3. ENGINEER INSPECTION.
4. MAKE GOOD CONCRETE ENCASUREMENT USING PROPRIETARY REPAIR SYSTEM 'RENDERLOC HB' BY FORROC IN ACCORDANCE WITH MANUFACTURERS LITERATURE.

TYPICAL OPENING AT JUNCTION OF ENCASED DOWNSTAND STEEL BEAMS

Job	Victoria House, Bloomsbury Square	Date	March 22
Title	Concrete encased steel beam investigation	Eng.	DW
Job No.	2812	Rev.	P1
Sheet	SK-INV-D2		



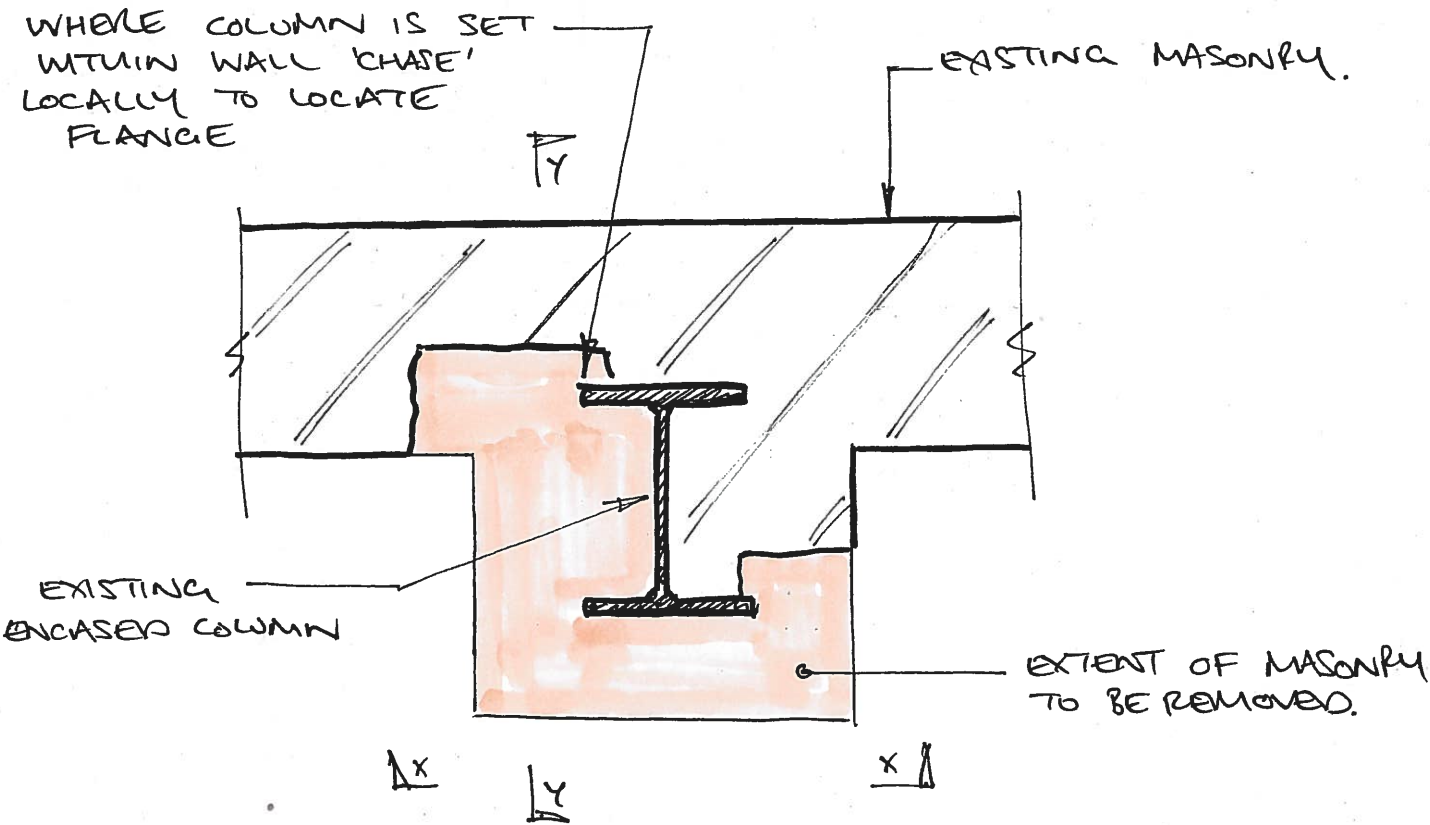




**SEQUENCE:**

1. DRILL PILOT HOLE TO CONFIRM ENCASED STEEL BEAM. IF NO BEAM ENCOUNTERED SEE OPENING UP OF RC BEAMS.
2. REMOVE CONCRETE EXTENT AS INDICATED. REMOVE OVER DOWNSTAND TO LOCATE STEEL BEAM AND 'CHASE' UPWARDS TO LOCATE TOP FLANGE. REMOVE LOCALLY AROUND TOP FLANGE FOR MEASUREMENT.
3. ENGINEER INSPECTION
4. MAKE GOOD CONCRETE ENCASUREMENT USING PROPRIETARY REPAIR SYSTEM 'RENDOLOC HB' BY FOSROC, IN ACCORDANCE WITH MANUFACTURERS LITERATURE.

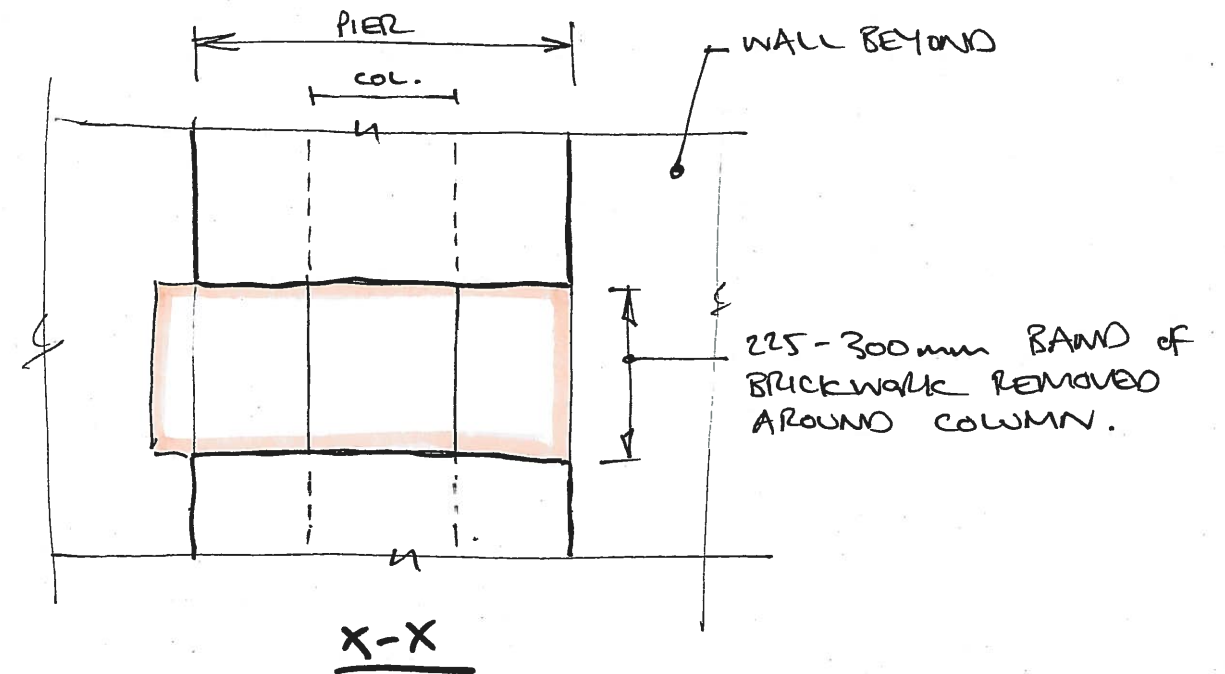
**TYPICAL OPENING TO DOWNSTAND BEAM**  
**ENCASUREMENT TO EXPOSE STEEL BEAM**



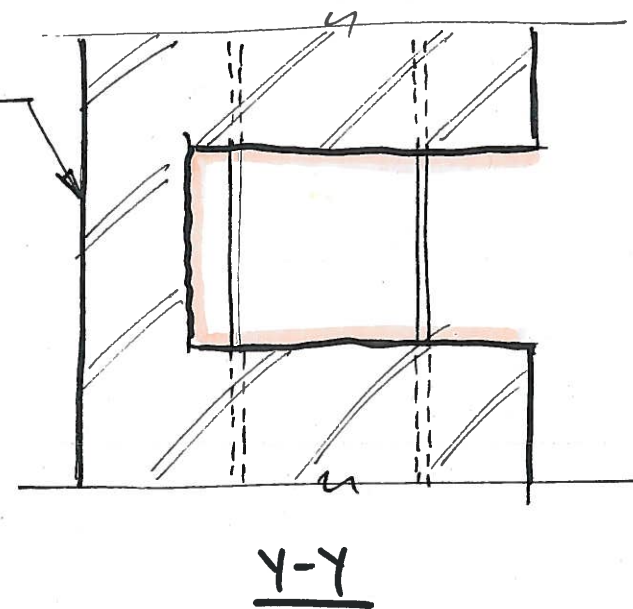
PLAN DETAIL

SEQUENCE:

1. DRILL PILOT HOLES TO CONFIRM PRESENCE OF COLUMN. INFORM ENGINEER IF NO COLUMN FOUND.
2. OPEN UP SECTION OF BRICKWORK INDICATED SETTING ASIDE BRICK UNITS FOR REUSE WHERE POSSIBLE. EXPOSE COLUMN FOR MEASURING.
3. ENGINEER INSPECTION.
4. MAKE GOOD - REPLACE AND REBOND BRICK UNITS IN MATCHING MORTAR, PROVIDE NEW MATCHING BRICK UNITS AS NECESSARY.



WHERE COLUMN IS LOCATED WITHIN EXTERNAL WALL DO NOT REMOVE OUTER/MOST BRICK



OPENING UP OF BRICK PIER WITHIN MASONRY WALL TO EXPOSE STEEL COLUMN.