

TECHNICAL NOTE

Huguenot House - External Elevation Refurbishment

SUBJECT

External Window Validation Survey

PROJECT NO.

5214444

DATE

13 June 2024

AUTHOR

WL

DISTRIBUTION

Malcolm McMichael

REPRESENTING

WCC

Document history

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Client signoff

Client	Westminster City Council
Project	Huguenot House - External Elevation Refurbishment
Client signature / date	Malcolm McMichael – 13/06/2024

Executive Summary

Huguenot House is a high-rise residential tower block that is currently undergoing an extensive external refurbishment. Included within the refurbishment scheme is the proposed replacement to all window units that have reached end of life and/or are no longer fit for purpose. The original design for the replacement of windows was developed based on inspections completed from the safe access that was available during the window design exercise. The safe access provided as part of the original design exercise was to the podium roof areas to both Orange St and Panton St, as well as access to a limited number of residential apartments and external balconies.

Following safe external access being provided, AtkinsRéalis was instructed by Westminster City Council to complete a programme of validation surveys to all external windows of Huguenot House. This excludes the windows to the Whitcomb Street elevation, where access is yet to be provided. The extent of this survey was to:

- Establish the condition of all windows across the tower block.
- Identify the risk profile of the existing windows against a pre-determined risk matrix.
- Provide information to develop and clarify the final extent of the window replacement.

A validation survey has now been completed to all windows that are accessible via the scaffold to the tower block elevations of Huguenot House, with the condition of the windows to each residential apartment reviewed independently. The windows to the common parts and communal areas have also been inspected and are included within the findings of this report. This is with the exception of the windows to the Whitcomb Street elevation. Scaffold access is yet to be made available to this area and as a result a detailed inspection has not been able to be completed.

The windows throughout the building were generally identified to be in a very poor condition, with multiple defects being identified across all elevations and multiple storeys of the building. Generally, the timber sub-frames throughout were identified to be suffering from significantly progressed timber decay. An assessment of the operation of a sample number of aluminium sash windows was completed and multiple windows were identified to be no longer fully operational. There is substantial evidence of oxidation and corrosion to multiple aluminium elements throughout the building, with the glazing bars to the fixed pane aluminium windows appearing to be the worst affected. Corroded and/or missing mechanical fixings were also identified to multiple locations throughout each of the tower block elevations that were able to be inspected. Significant timber decay was also identified to many of the timber sills throughout the building, with a small number of sills missing entirely following their deterioration becoming so significant that they have failed completely. A significant portion of the windows have been categorised as high risk and medium risk following the validation survey exercise.

It should be noted that there were a small number of windows identified to be in a more reasonable condition. These windows were mainly located to the Orange St elevation, where external balconies provide a point of safe access for regular maintenance to the external façade of the building. As a result of the more reasonable condition of these windows, it should be noted that a small minority of validation surveys have concluded that a limited number of external windows are categorised as low risk.

HUGUENOT HOUSE

The findings of this report indicate that 90.20% of the windows have been identified as **HIGH** or **MEDIUM** risk and are recommended to be immediately replaced.

As well as an assessment of the condition of the existing windows, AtkinsRéalis has also completed an assessment of the statutory compliance requirements in association with the proposed window replacement. A review of Approved Document Part L of the Building Regulation 2010 has identified the following requirement:

- *If a thermal element is renovated and one of the following applies, then the whole of the thermal element should be improved.*
 - a) *More than 50% of the surface of the individual thermal element is renovated (see paragraph 11.4).*
 - b) *The work constitutes a major renovation (where more than 25% of the surface area of the external building is renovated).*

Based on the findings of the validation exercise, it is the recommendation that 90.20% of the individual thermal element in question is renovated. As a result, in order to achieve building control compliance, it is the professional opinion of AtkinsRéalis that 100% of the windows to the tower block elevations of Huguenot House will be required to be replaced.

Inspection Methodology

The validation exercise was completed based on an inspection methodology that identified the condition of the existing windows to the tower block elevations and allocated the windows of each property into risk categories. The following risk matrix was used as a classification tool for each category:

1. HIGH RISK

- **Condition of the window has significantly deteriorated, and they are anticipated to reach their performance expiry date in 0 – 1 years. The condition of the window poses an immediate and urgent health and safety concern.**

2. MEDIUM RISK

- **Condition of the window has deteriorated, and they are anticipated to reach their performance expiry date in 2 – 5 years. The condition of the window is anticipated to pose a significant health and safety concern in the short – medium term.**

3. LOW RISK

- **Condition of the window has deteriorated but remains within its effective usable lifespan. They are anticipated to reach their performance expiry date in 5+ years. The condition of the window is not anticipated to cause a significant health and safety concern for 5+ years.**

Following the assessment of the condition of all windows being completed, each window was allocated into a risk category. Please see the below table which summarises the risk classification of each individual property:

HUGUENOT HOUSE

Property Name	Risk Classification
PopHub Office (1 st and 2 nd Floor)	HIGH RISK
Oxendon St Communal Windows (All floors)	HIGH RISK
Panton St Communal Windows (All floors)	HIGH RISK
Flat 1 (3 rd Floor)	HIGH RISK
Flat 2 (3 rd Floor)	HIGH RISK
Flat 3 (3 rd Floor)	HIGH RISK
Flat 4 (3 rd Floor)	HIGH RISK
Flat 5 (3 rd Floor)	MEDIUM RISK
Flat 6 (3 rd Floor)	HIGH RISK
Flat 7 (3 rd Floor)	HIGH RISK
Flat 8 (4 th Floor)	HIGH RISK
Flat 9 (4 th Floor)	HIGH RISK
Flat 10 (4 th Floor)	HIGH RISK
Flat 11 (4 th Floor)	MEDIUM RISK
Flat 12 (4 th Floor)	MEDIUM RISK
Flat 13 (4 th Floor)	HIGH RISK
Flat 14 (4 th Floor)	HIGH RISK
Flat 15 (5 th Floor)	HIGH RISK
Flat 16 (5 th Floor)	HIGH RISK
Flat 17 (5 th Floor)	HIGH RISK
Flat 18 (5 th Floor)	MEDIUM RISK
Flat 19 (5 th Floor)	MEDIUM RISK
Flat 20 (5 th Floor)	MEDIUM RISK
Flat 21 (5 th Floor)	HIGH RISK
Flat 22 (6 th Floor)	HIGH RISK
Flat 23 (6 th Floor)	HIGH RISK
Flat 24 (6 th Floor)	HIGH RISK
Flat 25 (6 th Floor)	MEDIUM RISK
Flat 26 – Flat 28 (6 th Floor)	HIGH RISK / LOW RISK
Flat 29 (7 th Floor)	HIGH RISK
Flat 30 (7 th Floor)	HIGH RISK
Flat 31 (7 th Floor)	HIGH RISK
Flat 32 (7 th Floor)	LOW RISK
Flat 33 (7 th Floor)	MEDIUM RISK
Flat 34 (7 th Floor)	MEDIUM RISK
Flat 35 (7 th Floor)	HIGH RISK

Summary of Recommendations

Overall, the aluminium windows and timber sub-frames to the tower block elevations of Huguenot House are generally in a poor condition. Corrosion of the glazing bars to the fixed pane aluminium windows was identified to a large portion of the building. The aluminium sash windows were oxidised throughout, with functionality and operation of sash windows inadequate in many instances. Timber decay was identified to multiple locations throughout the building. Mechanical fixings, particularly to the fixed pane aluminium windows, were generally corroded and in a poor condition. In many instances mechanical fixings were missing entirely.

There were a small number of windows, mainly to the Orange Street elevation, where the timber sub-frames had not deteriorated as significantly. This is due to the balcony access that is available to ensure regular maintenance is able to be completed. Despite this, corrosion to the aluminium was still identified generally to most windows.

It is the recommendation that any window identified as a **MEDIUM** or **HIGH** risk is to be replaced. The allocation of risk has been calculated on the basis of the inspection methodology identified above.

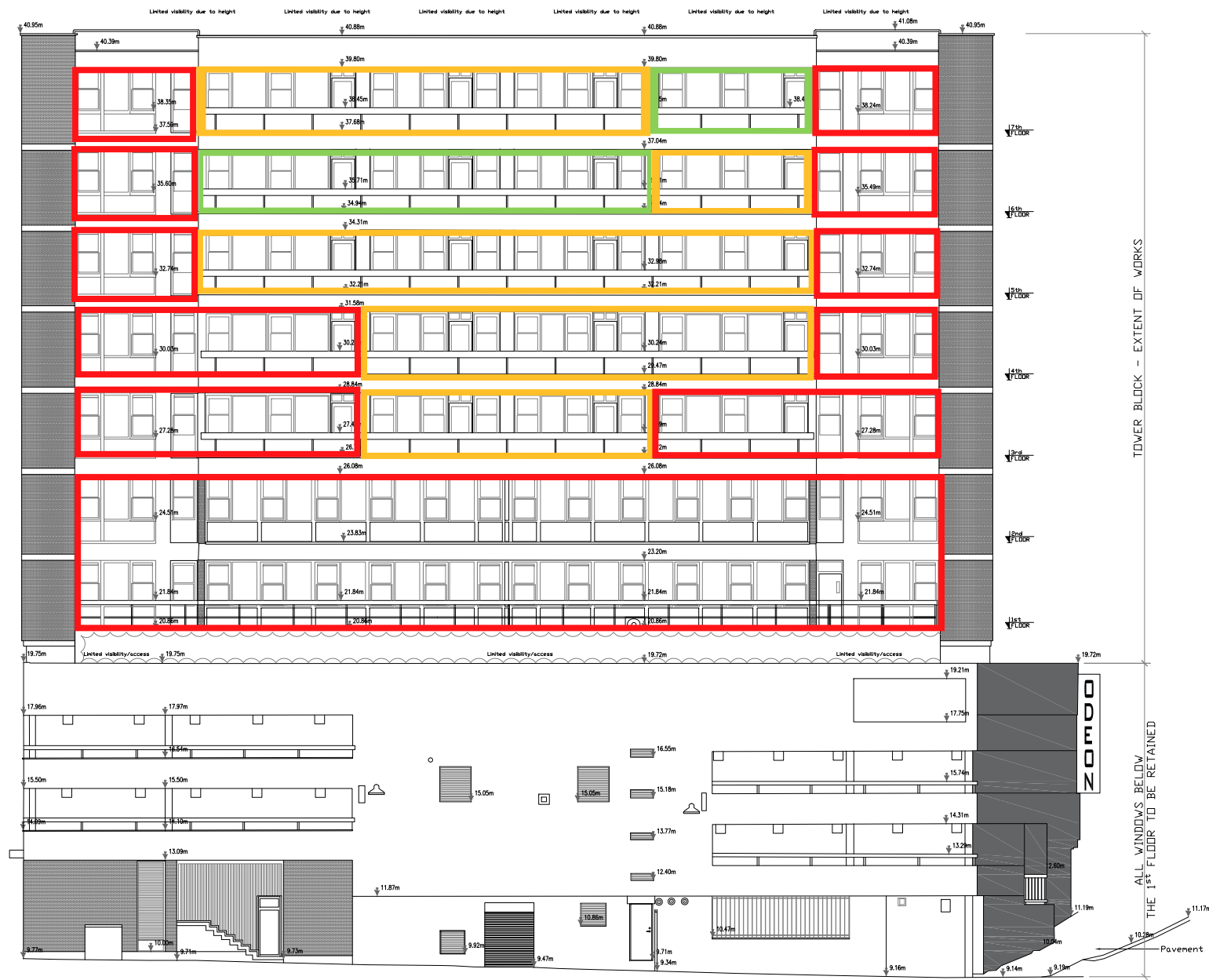
It is recommended that a total of 350 windows are to be replaced to the Huguenot House tower block elevations. As a %, this represents 90.20% of all windows to the tower block elevations, based on a total number of windows of 388. It should be noted that there are 21 windows to Whitcomb Street where safe access is yet to be provided and as a result, they have not been included within the total of 350 windows that are recommended for replacement.

To ensure compliance with Part L of the Building Regulations, the findings of this validation exercise require all windows to be replaced. This is as a result of more than 50% of the individual window thermal element being identified as **MEDIUM** or **HIGH** risk and requiring immediate renovation. This proposal will be shared with Building Control to confirm the understanding of the statutory guidance is correct before any material order for the manufacturing of windows is placed.

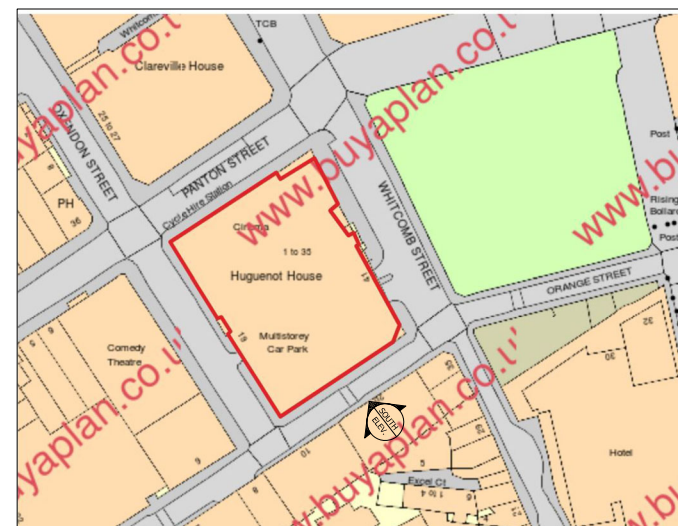
Please note, the total number of windows identified includes 21 additional windows to the Whitcomb Street elevation. These are still required to have a validation survey completed, however, to satisfy the requirements of Building Control, they will need to be renovated regardless of condition to comply with the guidance set out in Part L of the Building Regulations.

Appendix A

Risk categorisation - elevation plans



SOUTH ELEVATION AS EXISTING
(SCALE 1:100@A1; 1:200@A3)



LOCATION PLAN NTS



NOTES

- DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY. ANY ERRORS OR OMISSIONS ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS DRAWINGS, SPECIFICATIONS AND SCHEDULE OF WORKS.

BUILDING LEGEND			
RAINWATER PIPE	RWP	SKYLIGHT	SKL
RAINWATER GUTTER	RWG	AIR BRICK	AB
SOILWATER PIPE	SWP	SOILWATER PIPE	SWP
AIR VENT	AV	CHIMNEY	CH
LEVELS			
↓ 29.82m			

ALL SINGLE GLAZED EXISTING WINDOWS & BALCONY DOORS, TOGETHER WITH EXISTING SPANDREL PANELS, TO NORTH, SOUTH, WEST & EAST ELEVATIONS OF THE TOWER BLOCK TO BE REPLACED LIKE-FOR-LIKE WITH NEW DOUBLE GLAZED WINDOWS, BALCONY DOORS AND SPANDREL PANELS TO MATCH THE EXISTING AS CLOSE AS POSSIBLE.

ALL EXISTING WINDOWS, BALCONY DOORS AND SPANDREL PANELS ARE ACCOMMODATED WITHIN AN OVERALL TIMBER FRAME. THE SLIDING SASH AND PIVOT WINDOWS HAVE AN ALUMINIUM SUB-FRAME. THE FIXED WINDOW PANE WINDOWS HAVE NO ALUMINIUM SUB-FRAME AND FIT DIRECTLY INTO THE OVERALL TIMBER FRAME.

SPANDREL PANELS IN TOTAL:	
x104	- 1700x650mm
x45	- 800x650mm
x9	- 150x650mm
x9	- 150x1300mm
(ALL DIMENSIONS ARE APPROXIMATE)	

REV.	REVISION	DATE	BY
C	GENERAL ALTERATIONS	22.07.21	R.M.
B	SPANDREL PANELS ANNOTATED	22.08.21	R.M.
A	GENERAL ALTERATIONS	04.08.21	R.M.

CLIENT
WCC

JOB TITLE
**HUGENOT HOUSE
19 OXENDON STREET
LONDON
SW1Y 4EE**

DRAWING TITLE
**SOUTH ELEVATION
AS EXISTING.**

BRYAN PACKMAN MARCEL			
CONSULTING CIVIL AND STRUCTURAL ENGINEERS			
21-23 MORRISON STREET, WESTMINSTER, LONDON, SW1Y 2SZ			
TEL: 020 7834-78-00 EMAIL: CONSULTING@BPMARCEL.COM			
SCALE	DATE		
AS SHOWN	DECEMBER '20		
JOB NO	DRAWING NO.	REV.	
20052	S-04	C	
DRAWN	CHECKED	APPROVED	
R.M.	P.A.B.	P.A.B.	

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RAINWATER GUTTER	RWG	AIR BRICK	AB
SOLVENT PIPE	SVP	SOLVENT PIPE	SVP
AIR VENT	AV	CHIMNEY	CH
LEVELS			
↓ 29.82m			

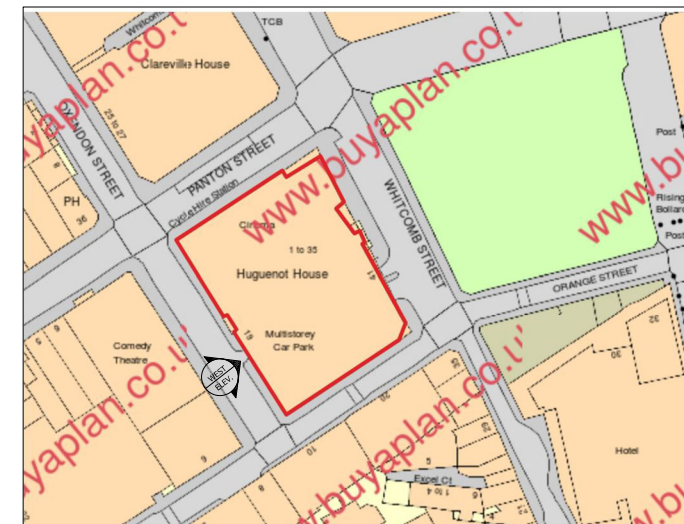
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WEST ELEVATION AS EXISTING
(SCALE 1:100@A1; 1:200@A3)



LOCATION PLAN NTS



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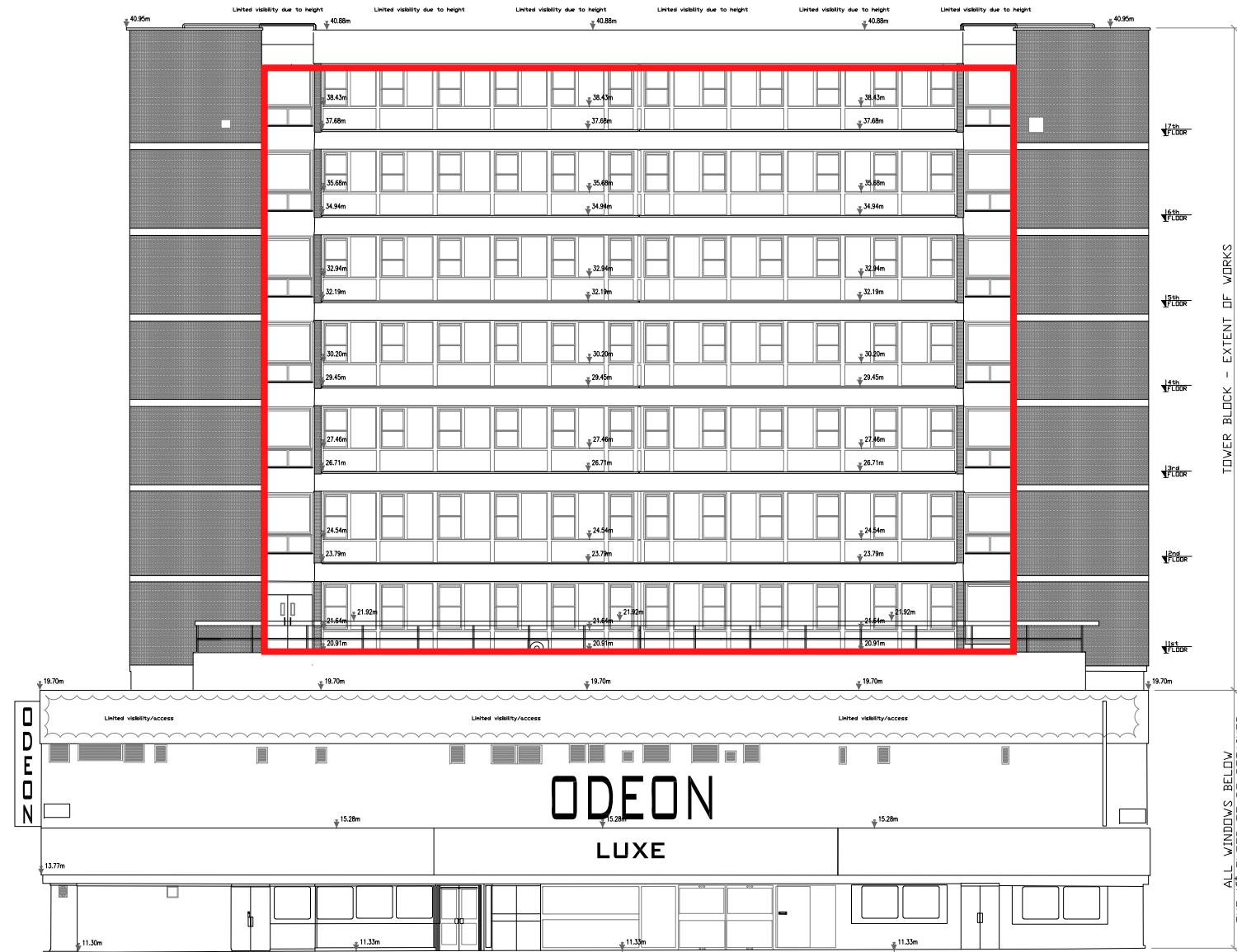
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SW1Y 4EE**

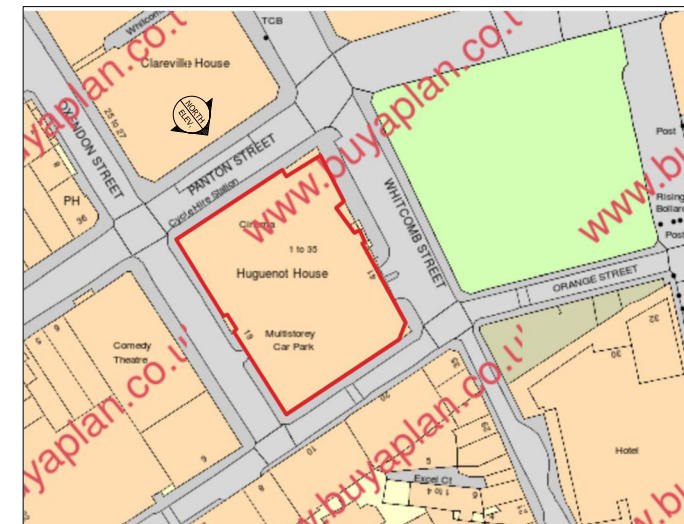
DRAWING TITLE
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BRYAN PACKMAN MARCEL
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TEL: 020 7834-78-00 EMAIL: CONSULTING@BPMMLUX.COM

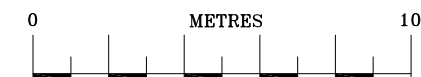
SCALE	DATE
AS SHOWN	DECEMBER '20
JOB NO	DRAWING NO.
20052	S-03
DRAWN	CHECKED
R.M.	P.A.B.
APPROVED	P.A.B.



NORTH ELEVATION AS EXISTING
(SCALE 1:100@A1; 1:200@A3)



LOCATION PLAN NTS



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AIR VENT	AB		
LEVELS		↓ 29.82m	

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BRYAN PACKMAN MARCEL
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
21-23 MORRYSON STREET, WESTMINSTER, LONDON, SW1Y 5NZ
TEL: 020 7854-78-99 EMAIL: CONSULTING@BPMARCEL.COM

SCALE	DATE
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20052	S-02
DRN	REV.
R.M.	C
CHECKED	APPROVED
P.A.B.	P.A.B.

Appendix B

General window arrangement



Aluminium fixed pane window

Aluminium fixed pane window glazing bars

Aluminium sash window

Timber sub-frame

Spandrel panel

Aluminium spandrel panel bars

Timber sill

Fixed pane aluminium fan light window

Aluminium louvered vent

Aluminium fixed pane window glazing bars

Timber sub-frame

Typical fixed pane aluminium window



Typical aluminium sash window



Timber sub-frame