# Cleaning Strategy

## Uncommon Holborn (Templar House)

Friday, 06th March 2020 Rev1

## Contents

## 1.0 Introduction

This document contains advice and recommendation for the cleaning of the Uncommon Holborn (Templar House) development.

This Document has been prepared in consideration to the following:

- The Work at Height Regulations 2005
- Construction (Design and Management) Regulations 2015
- BS8560: 2012 (Code of practice for the design of buildings incorporating safe working at Height).
- A safe system of work applying a work at height hierarchy of:
  1. Eliminating the risk of working at height.
  2. Guarding the fall hazard (collective/mechanical protection)
  3. Protecting the worker whilst working at height (Personal Protective Equipment)
- Practicability of approach

We ask that should there be questions in any respect that you please contact the undersigned.

Yours sincerely
ORSA Projects Limited

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**Director**

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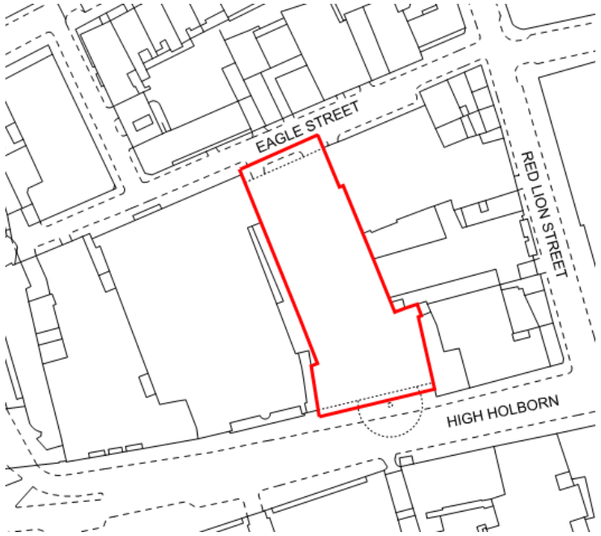
## 2.0 The Works

- Works are the refurbishment of the existing office building providing high specification multi occupancy workspace with retail space to the ground floor of the South (High Holborn) Elevation.

## 3.0 Location

- Templar House, High Holborn, Holborn, London WC1V 6NU.




- To the South is the busy transport route of High Holborn (A40).

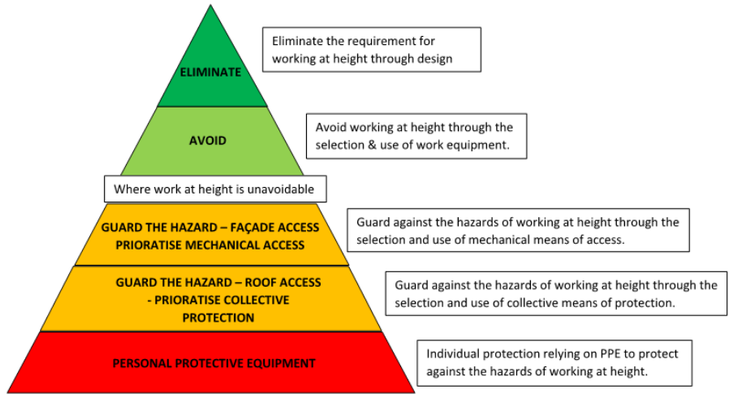
<u>Note: The close proximity of the large tree presents restrcitions in access.</u>

- To the North is Eagle Street.


## 4.0 Access Considerations

- The Work at Height Regulations 2005 and the Construction (Design Management) Regulations 2015 require working at height to be eliminated through design or avoided where possible.

- Where working at height is unavoidable then the hierarchy of risk management requires mechanical means of protection such as Mobile Elevated Work Platforms (MEWPs), Building Maintenance Units (BMU's) or cradles to be prioritised above alternative means of access such as abseil techniques and fall protection systems which rely on the use of personal protective equipment. As with all means of hazard control the use of PPE should be considered only when alternative means have been deemed impossible, impractical or impracticable.




## 4.1 Eliminate

- Due to the presence of glazing and the requirement for cleaning and possible future exchange the associated hazards cannot be eliminated.

- Through the specification of tilt and turn or inward opening window units it is possible to eliminate/minimise the requirement for external cleaning at height.

  <u>Note: Cill height is recommend too be 1100mm high to provide full collective protection whilst cleaning takes place.</u>

- Through the specification of internally glazed/beaded units possible future glass exchange could be carried out internally. It is noted that even internally beaded units may require some external assistance. The requirement for localised internal temporary fall protection should be risk assessed.

- The requirement for roof access could be potentially be eliminated/minimised by the repositioning of plant/ PV equipment from roof level.

## 4.2 Avoid

- To avoid/minimise working at height the use of a reach & wash window cleaning systems can be utilised up to a height of 15m depending on access and obstacles at ground level.

- Reach and wash equipment can utalise fixed water hose points or can be fed via vehicle mounted water tank  Examples of which can be found at: http://www.ionicsystems.com/uk/product/vertigo/


Pro's - Relatively quick and disruption free cleaning.
- PPE Free

Cons's - Limeted reach
- Reduced cleaning quality as reach increases.
- Requires a small exclusion zone to segregate works.

## 4.3 Guard the Hazard - Mechanical Access

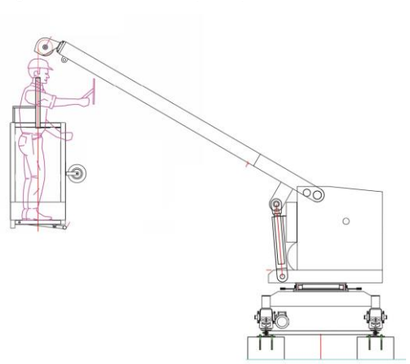
- When glazing/façades are beyond the capabilities of reach & wash window cleaning systems mechanical access should be prioritised where possible.

- Mobile Elevated Work Platforms (MEWP) (Boom Lift/cherry pickers & scissor lifts). Available with working heights up to and beyond 40m.

Pro's
- Quick cleaning/maintenace access.
- Enables hands on direct access.
- PPE Free (excluding restraint harenss)
- Hired equipment with no maintenace cost.

Cons's
- Requires significant ground loading capability.
- Required extensive exclusion zone at ground level.
- Potential for disruption to local transport routes during Delivery/collection and whilst in use.

- Building Maintenance Units (BMU).



Pro's
- Quick cleaning/maintenace access.
- Enables hands on direct access.
- PPE Free (excluding restraint harenss)
- Material lifting capabiltiy can be incorporated in the machine design to allow for glass exchange or roof top plant replacement.
- The machine is desgined and specificed to suit the buildings specific access requirements.

Cons's
- Requires significant building loading capability.
- Requires exclusion zone beneath work area at ground Level.
- Extensive installation and maintenace costs.
- Installation Impacts on use of external space.
- Visual impact on building design.
- The presence of protruding balocnies/façade features disrupts the the effective use of the equipment.

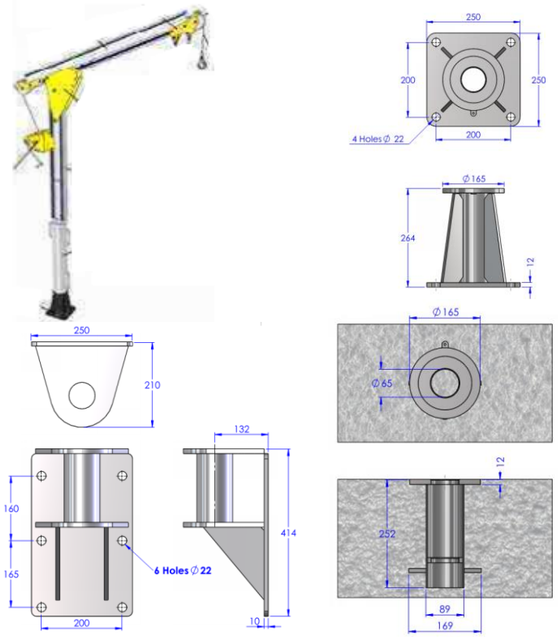
- Permanent/temporary suspended cradles.
A suspension rail(s) is fixed usually around the façade perimeter or where specified within the design capability. A cradle is then suspended from the rail by wire rope enabling both horizontal and vertical access to the façade within the design capability.
Suspended cradles are available with both permanently fixed and demountable cradle options.

Pro's
- Quick cleaning/maintenace access.
- Enables hands on direct access.
- PPE Free (excluding restraint harenss)
- The machine is desgined and specificed to suit the buildings access requirements.

Cons's
- Requires exclusion zone beneath work area at ground Level.
- Installation and maintenace costs.
- Installation Impacts on use of external space.
- Visual impact on building design.
- The presence of protruding balocnies/features disrupt the effective use of the equipment.

- Temporary cradles suspended from davits.

Support provided by demountable Davit arms installed in pairs into pre-installed sockets fixed to the structure of the building. Sockets available in Top mount, side mount and cast in options.




- Davits arms are available in various sizes to allow access over parapets and balustrade. Once davits arms are positioned cradles can be rigged allowing vertical access to the façade. To gain horizontal movement the cradle is derigged, davits repositioned and cradle re-rigged. The full extent of façade access is dictated by design capacity of the system.

Pro's
- Enables hands on direct access.
- PPE Free (excluding restraint harenss)
- The machine is desgined and specificed to suit the buildings access requirements.

Cons's
- Requires exclusion zone beneath work area at ground Level.
- Installation and maintenace costs.
- Slow work rate due to rigging requirement.
- Installation impacts on use of external space.
- The presence of protruding balocnies/façade features disrupts the the effective use of the equipment.

## 4.4 Guard the hazard – Roof Access

- Where roof access (roof areas not accessible to tenants) is unavoidable the use of collective parapet, balustrade or handrail protection at a height of 1100mm should be prioritised.

Pro's
- Enables hands free direct access.
- PPE Free
- Maintenace free

Cons's
- Visual impact on building desgin

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## 4.5 Personal Protective Equipment - Facade

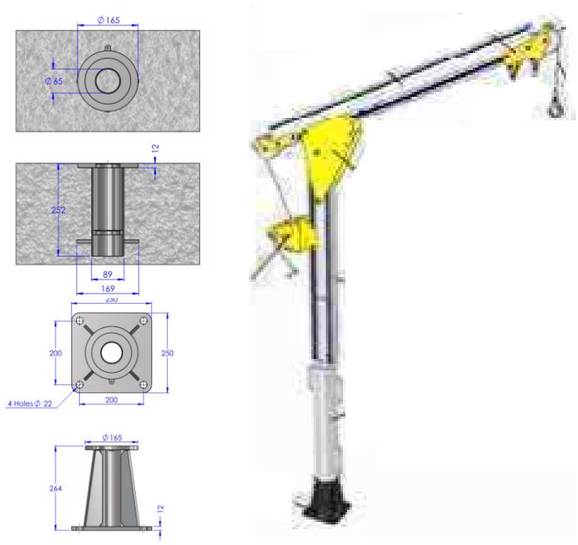
- Where no other forms of access are possible or are deemed impractical or impracticable the use of equipment/techniques relying on the use of Personal Protective Equipment to control the hazards of working at height can be utilised to access the façade area for both cleaning and maintenance.
- Abseil Access/Rope Access
  Utilising techniques from the climbing and caving background rope/abseil access is a versatile means of access relying highly skilled/trained personnel working to a recognised safe system of work set out by the Industrial Rope Access Trade Association (IRATA). Requires suitable purpose designed and installed anchorage to enable ropes to be rigged for decent and ascent around the building façade. Note: temporary anchorage can be utilised where no anchorage is available.

  Available anchorage:

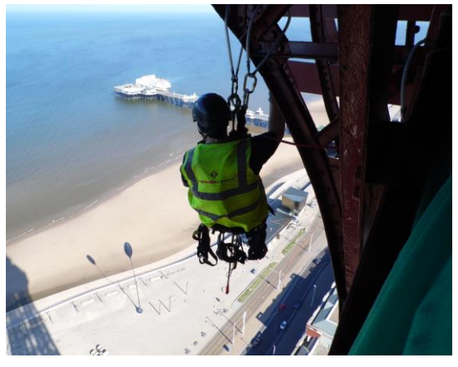
  Abseil post:

  Façade/soffit mounted Abseil Rail:

  Abseil davits:




  Abseil eyebolts:



  Pro's - Relatively quick cleaning/maintenace access.
  - Enables hands on direct access.
  - Highly skilled safety focused personel.
  - Verstile access capabilty within the boundry of available anchorage.
  - Minimal impact on building design.
  - Minimal disruption to building working operations.

  Cons's - Requires exclusion zone beneath work area at ground Level.
  - Multiple extensive anchorage required.
  - Requires exclusive use of Personal Protective Equipment

## 4.6 Personal Protective Equipment – Roof Access

- Where roof access is required but the use of collective parapet, balustrade or handrail protection at a height of 1100mm is not permitted then the use of a suitable EN795 cable system should be provided. Equipment installed in a position assuring fall restraint should be prioritised over equipment installed in fall arrest.

  Pro's - Enables hands on direct access.

  Cons's - Requires exclusive use Personal Protective Equipment.
  - Installation and maintenace costs.

## 5.0 Access Conclusions – South Elevation

- Glazing at ground level should be cleaned using a combination of direct hand access or reach and wash cleaning system.
- The current preference from the design team is to provide window systems throughout the building that can be cleaned from an internal location.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: The current sashed windows will require twin opening sash units to enable both the upper and lower panes to be cleaned internally.

Note: To minimise disruption to tenants caused by internal cleaning access to the 7th and 8th floor glazing could be accessed from terrace accessible to maintenance staff only.

- In the absence of twin sashed windows alternative access via mechanical means of access pose the following issues:

BMU – The installation of BMU equipment at roof level will impact on the current proposal for accessible terrace space at roof level therefore is viewed as unsuitable.

MEWP – The presence of the sizeable tree will prevent access to approximately 40% the façade via MEWP. It should also be noted that the delivery, positioning and collection of a suitable MEWP capable of accessing the façade will cause significant disruption to the busy High Holborn and pedestrian highway, for these reasons the use of MEWP is viewed as unsuitable.

As mechanical access is viewed unfeasible in the event twin sashed windows are not possible cleaning access is recommended to be gained via abseil access.

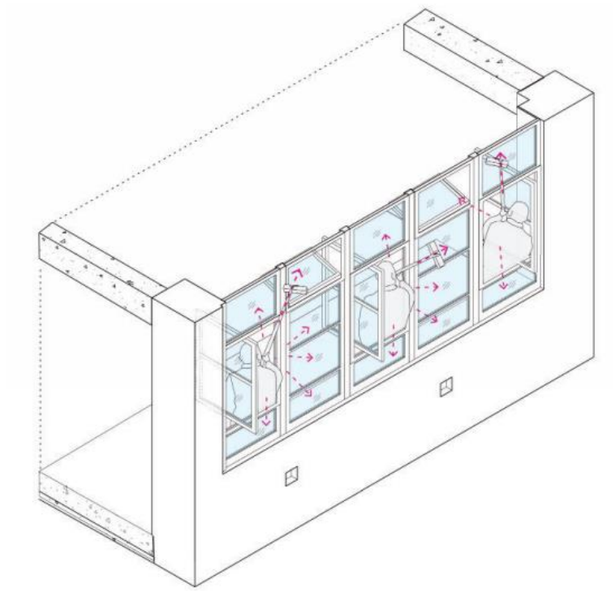
Although as stated in section 4 solutions requiring the use of PPE are least preferred by the work at height hierarchy, hazards associated with the use of abseiling can be controlled/mitigated by using highly trained safety focused operatives working in accordance with a recognised safe system of work set out by the Industrial Rope Access Trade Association (IRATA) using site specific anchorage providing a safe, practical and cost effective means of access. It is recommended that a permanent davit solution is used to provide anchorage to eliminate rope abrasion.

## 5.1 Access Conclusions – North Elevation

- Glazing at ground level should be cleaned using a combination of direct hand access or reach and wash cleaning system.
- The current preference from the design team is to provide a window system throughout the building that can be cleaned from an internal location as per the existing window scheme where cleaning is carried out using a small extendable pole.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: To minimise disruption to tenants caused by internal cleaning access to the 5th and 6th floor glazing could be accessed from the external terraces accessible to maintenance staff only.



## 5.2 Access Conclusions – East Elevation

- Glazing at ground level should be cleaned using a combination of direct hand access or reach and wash cleaning system.
- Located at first floor level are plans for a glazed roof system made up of Class 1 walkable glazing. Cleaning of the glazed roof is to be carried out from roof level with safe access provided by suitable EN795 cable system.

Note: To minimise disruption to tenants caused by internal cleaning access to the 1st floor window glazing could be accessed from glazed roof.

- The current preference from the design team is to provide window systems throughout the building that can be cleaned from an internal location as per the existing window scheme where cleaning is carried out using a small extendable pole as noted in section 5.1.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: To minimise disruption to tenants caused by internal cleaning access the 6th and 7th floor glazing could be accessed from terraces accessible to maintenance staff only.

- The glazing systems used for the stair core windows cannot be made to enable internal cleaning. In the absence of internally cleaned windows alternative access via mechanical means of access pose the following issues:

BMU – The costs associated with the installation and on-going maintenance of BMU equipment to access a minimal amount of glazing is viewed as impracticable.

Cradle - The costs associated with the installation and on-going maintenance of cradle equipment to access a minimal amount of glazing is viewed as impracticable.

MEWP – The positioning of MEWP equipment capable of access the full height of the stair core glazing is not possible.

As mechanical access is viewed unfeasible cleaning access is recommended to be gained via abseil access.

Although as stated in section 4 solutions requiring the use of PPE are least preferred by the work at height hierarchy, hazards associated with the use of abseiling can be controlled/mitigated by using highly trained safety focused operatives working in accordance with a recognised safe system of work set out by the Industrial Rope Access Trade Association (IRATA) using site specific anchorage providing a safe, practical and cost effective means of access. It is recommended that a permanent davit solution is used to provide anchorage to eliminate rope abrasion.

## 5.3 Access Conclusions – West Elevation

- Glazing at ground level should be cleaned using a combination of direct hand access or reach and wash cleaning system.
- Located at first floor roof level are plans for roof lights assumed to be class 2 glazing. Cleaning of the roof lights is to be carried out from roof level with safe access provided by suitable EN795 cable system.

Note: To minimise disruption to tenants caused by internal cleaning access to the 1st floor window glazing could be accessed from 1st floor roof level.

- The current preference from the design team is to provide window systems throughout the building that can be cleaned from an internal location as per the existing window scheme where cleaning is carried out using a small extendable pole as noted in section 5.1.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: To minimise disruption to tenants caused by internal cleaning access the 6th and 7th floor glazing could be accessed from terrace accessible to maintenance staff only.

- The current glazing system used for the stair core windows cannot be made to enable internal cleaning. In the absence of internally cleaned windows alternative access via mechanical means of access pose the following issues:

BMU – The costs associated with the installation and on-going maintenance of BMU equipment to access a minimal amount of glazing is viewed as impracticable.

Cradle - The costs associated with the installation and on-going maintenance of cradle equipment to access a minimal amount of glazing is viewed as impracticable.

MEWP – The positioning of MEWP equipment capable of access the full height of the stair core glazing is not possible.

As mechanical access is viewed unfeasible cleaning access is recommended to be gained via abseil access.

Although as stated in section 4 solutions requiring the use of PPE are least preferred by the work at height hierarchy, hazards associated with the use of abseiling can be controlled/mitigated using highly trained safety focused operatives working in accordance with a recognised safe system of work set out by the Industrial Rope Access Trade Association (IRATA) using site specific anchorage providing a safe, practical and cost effective means of access. It is recommended that a permanent davit solution is used to provide anchorage to eliminate rope abrasion.

## 5.4 Access Conclusions – Section B-B

- The current preference from the design team is to provide window systems throughout the building that can be cleaned from an internal location as per the existing window scheme where cleaning is carried out using a small extendable pole as noted in section 5.1.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: To minimise disruption to tenants caused by internal cleaning access to the 1st floor window glazing could be accessed from the 1st floor roof.

## 5.4 Access Conclusions – Section C-C

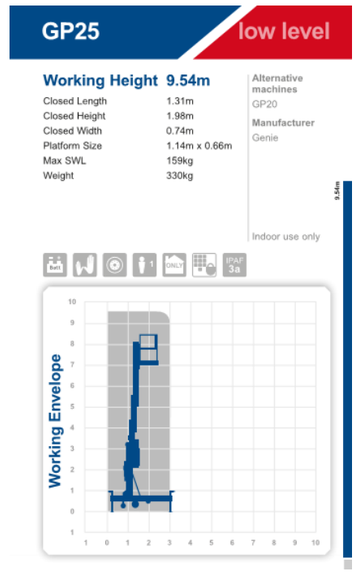
- The current preference from the design team is to provide window systems throughout the building that can be cleaned from an internal location as per the existing window scheme where cleaning is carried out using a small extendable pole as noted in section 5.1.

Note: The cleaning of windows internally will require authorised contractor access to tenant occupied locations. The positioning of office furniture and fittings should be considered against cleaning access requirements. The requirement for access should be stipulated in lease agreements.

Note: To minimise disruption to tenants caused by internal cleaning access to the 1st floor window glazing could be accessed from the 1st floor roof.

## 5.6 Access Conclusions – Internal

- Internal cleaning is to be carried out via combination of direct hand access, long reach equipment and where more detailed cleaning is required the use temporary alloy scaffold or small MEWP suitable for internal use should be utilised.
- A suitable MEWP for internal access is the GP25. The GP25 is designed for internal use and can be easily transported throughout standard internal doorways and raised/lowered to the various floor level via the site elevators.



## 6.0 Elevations

- Each elevation is marked up with an accompanying identification key highlighting the cleaning method required with any accompanying recommendations noted.

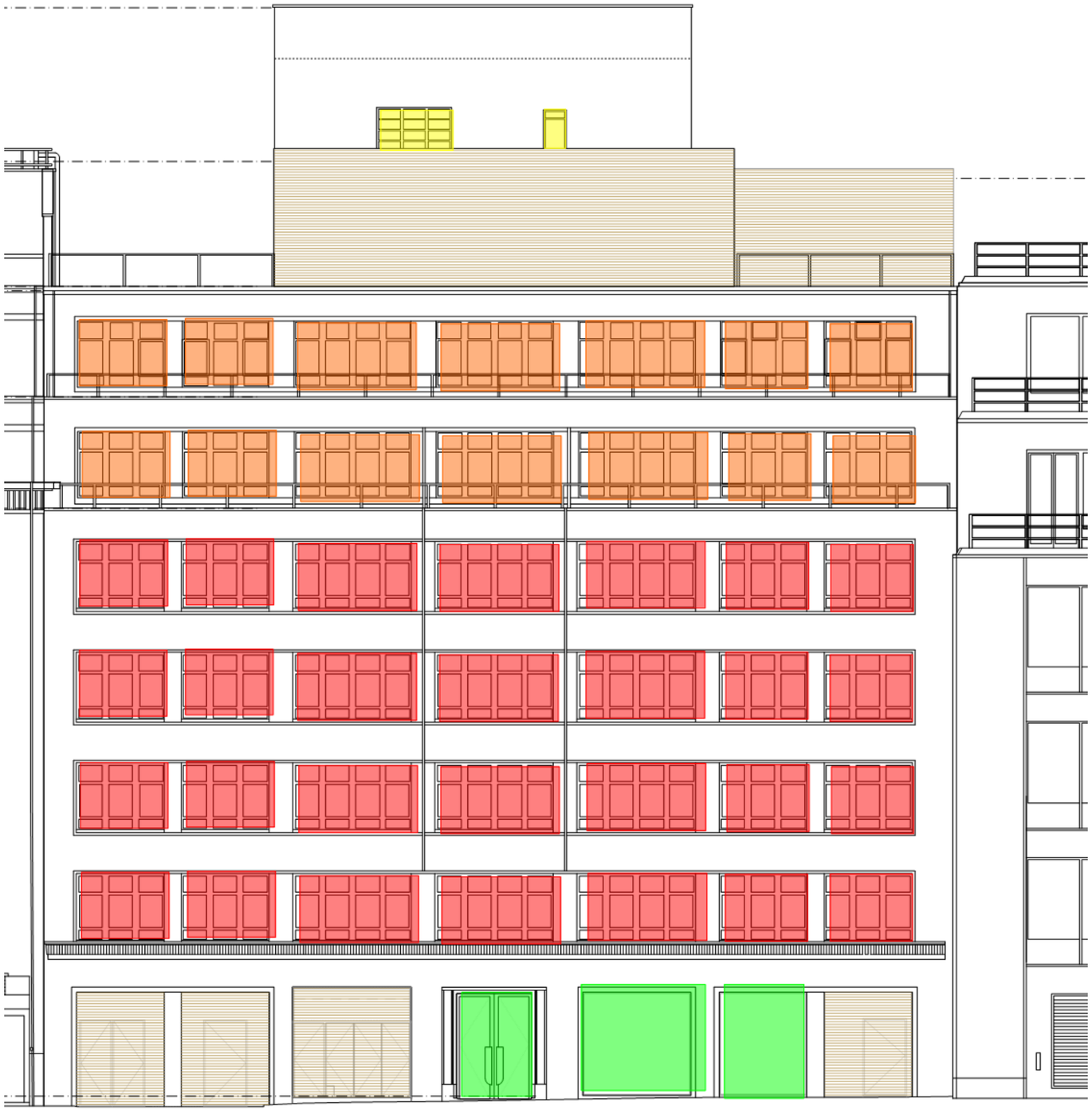
## 6.1 North

- Cleaned via a combination of direct hand access and reach & wash window cleaning system from ground level.
- Cleaned from an internal location.
- Cleaned from an internal location – Cleaning coud be carried out from terrace level to minimise distruption internally.

Note: In the absence of twin sahsed windows glazing not accessable from the ground or 7th & 8Th floor terrace access via abseil would be the most practicable method of cleaning.

## 6.2 South

- Cleaned via a combination of direct hand access and reach & wash window cleaning system from ground level.
- Cleaned from an internal location.
- Cleaned from an internal location – Cleaning could be carried out from terrace level to minimise distruption internally.
- Window system is currnelty under discussion. Windows are assumed to be cleaned internally.



## 6.3 East

- Cleaned via a combination of direct hand access and reach & wash window cleaning system from ground level.
- Cleaned from an internal location.
- Cleaned from an internal location – Cleaning coud be carried out from terrace level to minimise distruption internally.
- Glazed roof cleaning direct from roof level.
- Cleaned from an internal location – Cleaning coud be carried out from 1st floor roof level to minimise distruption internally.
- Cleaned via abseil access.

## 6.4 West

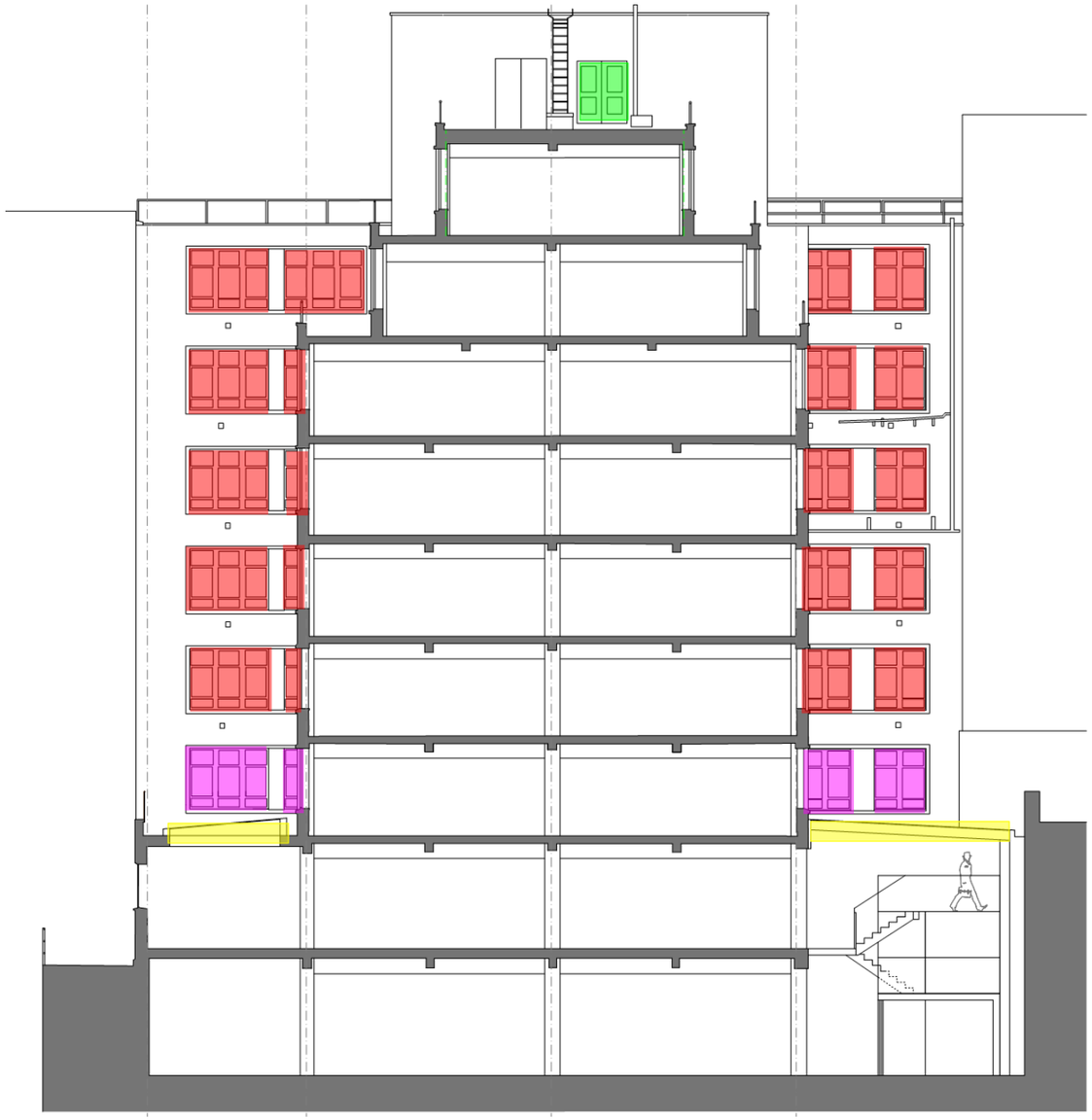
- Cleaned via a combination of direct hand access and reach & wash window cleaning system from ground level.
- Cleaned from an internal location.
- Cleaned from an internal location – Cleaning coud be carried out from terrace level to minimise distruption internally.
- Glazed roof cleaning direct from roof level.
- Cleaned from an internal location – Cleaning coud be carried out from 1st floor roof level to minimise distruption internally.
- Cleaned via abseil access.

## 6.5 Section B-B

- Cleaned via a combination of direct hand access and reach & wash window cleaning system from 8th floor roof level.
- Cleaned from an internal location.
- Glazed roof cleaning direct from roof level.
- Cleaned from an internal location – Cleaning coud be carried out from 1st floor roof level to minimise distruption internally.

## 6.6 Section C-C

- Cleaned via a combination of direct hand access and reach & wash window cleaning system from 8th floor roof level.
- Cleaned from an internal location.
- Glazed roof cleaning direct from roof level.
- Cleaned from an internal location – Cleaning coud be carried out from 1st floor roof level to minimise distruption internally.



**ORSA**
\o-rsa, or-sa\ ***noun.*** [Latin: orsorum]
**1.**beginning, start, undertaking **2.** a little she-bear **3.** a girl's name.



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