



## 2.1 RESIDUAL HAZARDS & PROVISION FOR SAFE ACCESS

### Introduction

All the residual hazards noted below are considered high risk. In all cases the End User is responsible for managing any health and safety risks associated with the hazards. People whose health and safety can be adversely affected by the hazards include members of the workforce and visitors to the facility.

The End User must ensure the following:

- 1. All members of the workforce must be fully trained, competent, and qualified for all cleaning and maintenance activities on the building. Appropriate reference must have been made to the Building Manuals and all personnel must have received an induction prior to commencing any works on site. The User of the building must ensure written method statements are prepared for specific activities and incorporated into the induction procedure.
- 2. Undertake risk assessments for activities, as noted above, in accordance with the Management at Work Regulations 1999 (the Management Regs).
  - a. Every employer shall make a suitable and sufficient assessment of the risks to the health and safety of his employees to which they are exposed whilst they are at work; and
  - b. the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking,
- 3. Undertake COSHH assessments for activities, as noted above, in accordance with the Control of Substances Hazardous to Health Regulations 2002 (COSHH). End Users should note:

Using chemicals or other hazardous substances at work can put people's health at risk, so the law requires employers to control exposure to hazardous substances to prevent ill health. They have to protect both employees and others who may be exposed by complying with the Control of Substances Hazardous to Health Regulations 2002 (COSHH) (as amended).

## Ensure that you are familiar with the whole of sections 1.3 of this manual prior to any maintenance work being carried out.







### 2.1.1 Structure and Fabric

#### Information provided by Glen Howells Architects, the Architects

To be completed by Steven Barnsley Associates (Principal Designer)

#### Information provided by Hexa Consulting Ltd, the Civil and Structural Engineers

Potential Hazard	Design response	Residual Risk & Action
Overloading of upper floor slabs	The upper floor slabs are designed to	The stated design loads for the slabs
when the building is in service,	support variable loads as defined in current	should not be exceeded.
for example due to the later	design codes. These loads will be included	
addition of heavy mechanical	within the building O&M manual.	
plant.		
Accidental or deliberate removal	The building is designed to satisfy the	The frame should not be altered
of load bearing member within	requirements of Type 2B (Blocks B, C, D) and	without first consulting an
the structural resulting in partial	Type 3 (Block A) structures in accordance	appropriately qualified structural
or complete collapse.	with Building Regulations Part A3, with	engineer.
	reinforcement detailed to accommodate the	
	appropriate tie forces in order to prevent	
	disproportionate collapse.	
Introduction of openings in the	Slabs are designed to accommodate the	No allowance is made for any future
slab near to columns, resulting in	drainage connections as shown on the	drainage therefore under no
punching shear failure	architect's drawings.	circumstances should cores be
		formed in the slab near to columns







### 2.1.2 Building Services

#### Information provided by WM Building Services, the Mechanical Services

#### **Mechanical Services**

#### All Apartments

- 1. Cleaning of air valves
- 2. Fall from height
- 3. All step ladders used to be in good condition and prolonged use to be avoided where possible

#### General

- 1. Domestic water services
- 2. Legionella exposure
- 3. Cleaning & maintenance regime & frequencies to be followed as detailed in operation & maintenance manual
- 4. Sterilisation of water services to be carried out annually

#### **Basement Comms Room**

- 1. Cleaning of wall mounted unit facia & cleaning / removal and replacement of filters
- 2. Fall from height
- 3. All step ladders used to be in good condition and prolonged use to be avoided where possible







#### Information provided by Skerritt Electrical Ltd, the Electrical Services

During the electrical design phase, consideration is given to any physical restrictions that might have an impact on the on the available footprint of switch rooms and plantrooms or any other areas identified for the installation of services.

To enable all equipment to fit into the designated space available, some items of equipment may have been installed at high level. If this is the case Skerrett's has identified any plant or equipment that requires limited maintenance or access.

Adopting this method reduces risks and delivers a safer working environment.

#### WORKING ON ELECTRICAL EQUIPMENT CAN BE DANGEROUS

All equipment that operates under automatic control can start at any time without warning.

A high proportion of the plant and equipment is of a specialist nature and will require the services of suitably qualified personnel.

It should always be remembered that no person should work or operate a piece of equipment unless they have been given specific training in doing so. Failure to respect this basic rule can result in serious accidents and injuries.

Before commencing maintenance work on any item of plant, it is imperative that all plant is mechanically isolated from the system and that electrical supply has been isolated and locked off. Where electrical isolation is remote or hidden view from the operative, warning notices should be fixed to the isolators advising that they should not be switched on without checking that it is safe to do so. If possible, isolators should be locked off to prevent unauthorised operation.

Personnel should acquaint themselves with the safety requirements as stipulated under:

- Health & Safety at Work Act
- The Management of Health & Safety at Work Regulations
- The Electricity at Work Regulations
- Pressure Systems Safety Regulations 2000
- The Electrical Equipment [Safety] Regulations
- Provision & Use of Work Equipment Regulations

#### EXTRACTS FROM REGULATIONS & APPROVED CODE OF PRACTICE FOR GUIDANCE

#### The Electricity at Work Regulations 1989

The majority of the regulations are directed at hardware requirements. Installations are required to be of proper construction; conductors must be insulated, or other precautions take; there must be mean of cutting of the power and means for electrical isolation. The hardware requirements are complemented by a group of regulations stating principles of safe work practice. Regulation 14, which covers live working, is of particular importance.

Other important regulations along with regulation 14 are detailed on the following pages.







#### Adverse or Hazardous Environments [Regulation 6]

The construction and/or protection of the electrical equipment must prevent, so far as reasonably practicable, any danger arising from foreseeable adverse exposure[s]. Such exposures may include; mechanical damage; weather effects and other natural hazards, i.e. temperature or pressure; wet, dirty, dusty or corrosive conditions and flammable or explosive substances.

#### Means for cutting off the supply and for isolation [Regulation 12]

Suitable means for cutting off the electrical energy supply to equipment and for the isolation of any electrical equipment must be available. For clarity 'cutting off' the electrical energy supply is taken to mean 'switching off', while 'isolation' means switch off the equipment and the prevention of inadvertent reconnection.

In situations where equipment cannot be switched off or isolated all precautions must be taken, so far as reasonably practicable to prevent danger. They may apply to live working [see Regulation 14]. The defence provision applies to this requirement.

Precautions for Work on Equipment Made Dead [Regulation 14]

Adequate precautions must be taken to prevent 'dead' equipment from becoming 'live', if this gives rise to danger.

Note: Isolation from the normal electricity energy source may not be sufficient in all cases to prevent the equipment becoming live by accident, the isolators should be locked off using a personal lock system. All conductors should be proved 'dead' at the point of work before work commences.

Written procedures, such as permits may be used to formalise these types of work activities.

The defence provision applies to this regulation.

#### Work on or Near Live Conductors [Regulation 14]

No work activity may be carried out on or near any live conductor which gives rise to danger other than ones which are suitably insulated unless:

- It is unreasonable in all circumstances for the conductor to be dead
- It is reasonable in all circumstances for the work to be carried out on or near the conductor when it is live
- Suitable precautions are taken to prevent injury including protective equipment

The memorandum of guidance states that work on live conductors is only permitted where all three of the above conditions are satisfied and applies to situations where the danger is not prevented by the precautions specified in Regulation 7 [conductors to be suitably insulated]

Work on or near live conductors should be carried out by competent authorised personal and should be subject to permit-to-work systems within strictly defined limits.

This regulation will often apply to the testing of live conductors to determine whether they are dead or live. Conductors should always be assumed live until proven otherwise and the work carried out accordingly.

The defence provision applies to this regulation.







#### Working Space, Access and Lighting [Regulation 15]

Adequate working space means of access and lighting must be provided at all electrical equipment on or near which work is being carried out which may give rise to danger.

Work involving live conductors should provide adequate working space to allow the worker to stand back from the conductor without hazard, and where necessary allow persons to pass each other without risk.

Natural light is preferable to artificial light but in cases must be adequate to prevent injury.

This regulation is subject to the defence provision.

#### Persons to be Competent to Prevent Danger & Injury [Regulation 16]

No person may be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or injury unless they possess such knowledge or experience or are under adequate supervision, as appropriate.

The memorandum of guidance states that technical knowledge or experience may include:

- Adequate knowledge of electricity
- Adequate experience of electrical work
- Adequate understand od the system and practical experience of the class of system
- Understanding the hazards and their precautions and the ability to recognise at all times whether it is safe to continue

This regulation is subject to the defence provision.

#### **Electrical Equipment [Safety] Regulation 1994**

The Electrical Equipment [Safety] Regulations 1994 revoke and replace, with minor amendments the Low Voltage Electrical Equipment [Safety] Regulations 1989. The 1994 regulations came into effect on 9th January 1995, although they apply to electrical equipment put on the market prior to 1<sup>st</sup> January 1997 providing the equipment complies with the provisions of the 1989 regulations.

The 1989 regulations applied to electrical equipment operating in a voltage range of 50 to 1000 volts for alternating current and 75 to 1500 volts for direct current, which was 'safe' and constructed in accordance with good engineering practice. Electrical equipment which satisfied harmonised standards, or international safety provisions, or as a last resort, national safety provisions, was deemed to satisfy the safety and construction requirements above. The 1994 regulations add the proviso of 'unless there are reasonable grounds for suspecting that the equipment does not comply with harmonised standards and international safety provision, etc.'

The 1994 regulations re-enact all of the provisions mentioned above with minor amendments. The requirement for electrical equipment to be safe includes protection against riser of death or injury to humans or domestic animals, and damage to property. In addition, such equipment must meet certain general conditions and protect against hazards arising from the equipment itself and from external influences on the electrical equipment, as detailed in Schedule 3 of the 1994 regulations.

Electrical equipment that satisfies the requirement of the 1994 regulations must have the 'CE marking' affixed to it, or its packaging, information sheet etc. A written declaration of conformity containing specified information and certain technical documentation concerning the electrical







equipment must be compiled and kept available for 10 years after manufacture after that particular equipment has ceased.

The regulations also require second hand electrical equipment, or electrical equipment hired out to be safe, although it does not have to comply with the requirements of the regulations relating to the 'CE Marking', EC conformity declarations and internal production controls.

Although the 1994 regulations were made under the Consumer Protection Act 1987, special provision is made where such electrical equipment is used in the workplace, for Health and Safety Executive to make arrangements for enforcing the regulations, as if the regulations were made under the Health and Safety at Work Act 1974.

#### **General Electrical Safety Checklist**

General rule whilst using electrical or mechanical equipment.

Electrical:

When using Portable Electrical Equipment check daily that:

- The equipment being used carried a current PAT test label
- There are no bare wires visible form any portable appliances being used and the socket they are plugged into is in good operational condition
- The insulation over the cables is not damaged and is free from cuts and abrasions
- The cable or flex is not trapped under other equipment
- The plug is in good condition
- If any residual current devices [RCD] are fitted, ensure that these are tested daily before use by pressing the test button and watching the marker change colours or light comes on
- That there are no cables obstructing doorways or access routes which may cause a trip hazard
- If an appliance is found to be faulty, notify the building manager and arrange for the equipment to be taken out of use and repaired or replaced. During the time that it is out of use, place a warning sign on it displaying:

WARNING!

EQUIPMENT FAULTY

#### Maintenance

Electrical faults can be rectified by competent, qualified, experience personnel.

If any faults re found, report them immediately to the building manager and take the appliance out of actions=.

Record of Maintenances activities must be kept.







#### Main Residual Risks

Lighting/Emergency Lighting/External Lighting Systems

- Falls from height
- Electrocution

Electrical Installation & Installed Equipment

- Falls from height
- Electrocution
- Auto start of equipment

Plant & Equipment Installed at High Level

• Significant risks if adequate controls are not implemented Lamp/LED Replacement

- Falls from height
- Electrocution

Work on Live Equipment

- Electrocution
- DBs, emergency lighting, fire alarm panel [due to internal batteries]

General Electrical Hazards

- Electrocution
- Burns
- Cut and strains
- Eye injuries
- Back strain
- Minor physical injuries
- Tools
- Fire

#### Significant Risks

- Falls from height
- Back strain
- Burns and scalds
- Electrical hazards
- Eye injuries
- Minor physical injuries [Tools]
- Noise [Confined, reverberant spaces]
- Fire

#### **Details of Control Measures**

# ONLY COMPETENT, TRAINED & QUALIFIED STAFF SHOULD CARRY OUT MAINTENANCE & REPAIR WORKS

Staff should be aware of their duties under the following regulations;

- Health & Safety at Work Act
- The 18<sup>th</sup> Edition of IEE Regulations
- Health & Safety [First Aid] Regulations
- Working at Height Regulations
- PPE Regulations
- COSHH Regulations







- Manual Handling Regulations
- LOLER & PUWER Regulations

Staff carrying our work on the building services and equipment must be aware of the risks of injury from;

- Electrical hazards
- Falls from height
- Trips and slips
- Handling heavy equipment & spares

#### Access

Access may be awkward in places and will require some pre-planning to ensure that the appropriate access equipment is available. This will be essential for the maintenance and replacement of the lighting systems.

Whoever is employed by the building occupier to carry out this task must be a competent trained tradesperson experienced in this type of work.

Use of mobile towers and podium steps are preferable and safer than working from steps or ladder. Mobile towers should only be constructed by trained qualified staff.

Mechanical aids must be used for the movement of heavy equipment or spares. If it is impossible to use the aids, suitable labour shall be made available to ensure the equipment is moved safely.

#### **Other Procedures**

Ensure the correct isolation of services is carried out before commencing repairs or maintenance. An electrical lock-off system and permit to work should be adopted to prevent any equipment being accidently energised.

Visually inspect the condition of the installation whilst carrying out the work.

#### **General Information**

On arrival to carry out repair or maintenance task, contract staff should make contact with client's nominate representative.

At this point, a site induction should take place and all the required permits to work filled out. The site should be prepared and any protective work on the building fabric or furnishings should be carried out. On completion of the works the site will be cleared and left in a clean safe state.

Electrical and mechanical maintenance should be integrated into a managed PPM [Planned Preventative Maintenance] scheme.

#### Records of maintenance activities must be kept.







### 2.1.3 Site Works and Infrastructure

#### Information provided by Glenn Howells Architects, the Architects

To be completed by Steven Barnsley Associates (Principal Designer)

#### Information provided by Hexa Consulting Ltd, the Civil and Structural Engineers

Not provided for this project

#### Information provided by WM Building Services, the Mechanical Services

#### Water Utilities

A new 63mm protectaline MDPE cold water main enters the boundary on Bromsgrove Street and runs below ground where it enters the building within the Basement Plant Room, adapts to 54mm copper with stopcock, double check valve & draincock

#### <u>Firefighting</u> DRY RISER

To facilitate a reliable and immediately available distribution of water for Fire Brigade firefighting purposes, a dry riser system has been supplied and installed serving Block A Staircore 2 where it rises to Level 7.

The dry riser system ensures water is available at each level of the stair core A2 to satisfy the local Fire Authority's requirements. Dry riser landing valves are fitted on each level from Ground to Level 6.

The inlet breach valves serving the dry riser is located on the ground floor lobby internal façade of Block A on the courtyard side (red steel inlet box 'Dry Riser Inlet').

#### WET RISER

To facilitate a reliable and immediately available distribution of water for Fire Brigade firefighting purposes, a wet riser system has been supplied and installed serving Block A Basement to Level 18.

The wet riser system ensures water is available at each designated level of Block A stair core 1, at a flow rate of 750 litres per minute at 8bar pressure to satisfy the local Fire Authority's requirements. High pressure wet riser landing valves incorporating a pressure regulating valve to control the discharge water pressure are fitted at each level.

The wet riser system comprises of a 42mm mains cold water supply, fed from the incoming 63mm water supply in basement plantroom A.

The mains cold water runs at high level through the basement plantroom A, into the bin store where it enters the Wet Riser Tank Room. the pipework continues to run at high level through the tank room and serves the incoming supplies of the dedicated 67,500l wet riser tank.

The GRP hot pressed moulded sectional wet riser tank comes complete with 2no 1 1/4" equilibrium incoming water ball valves, 65mm overflows, 1" warning pipes, 6" vortex inhibitors and 2no emergency inlets. The 2no 150mm outlets branch together and serve the dedicated Grundfos HYRISE 16 VSD Pump Set.

An emergency infill pipe has been installed which feeds the wet riser tank for Hydrant Top Up used







by the local fire authority. The Emergency infill inlet breach valve is located in the Courtyard on Block A Ground Floor and is labelled 'Emergency Infill'.

The dedicated wet riser pump set comes complete with Duty and Standby Pump each of which is supplied with electricity from separate sources (2no dedicated incoming electrical supplies from different feeds). Each pump has its own dedicated mains power supply. The wet riser pump set is capable of supplying 1500 litres of water per minute when in operation. The pump set is fitted to a skid mounted system incorporating both hydrant pumps, jockey pump, all test lines and controls. Each pump is fitted with non return valves, strainers & isolation valves.

#### Information provided by Skerritt Electrical Ltd, the Electrical Services

The installation of electrical utilities for this building have been carried out by HVSS, please refer to their drawings and O&M's for more information.

A number of electrical & communications ducts have been provided to bring services into the building and take services out of the building to supply the external lighting and power circuits & equipment.

Refer to external duct work drawings for external ductwork routes & infrastructure.

Within the building, high level containment has been installed to route cabling from the distribution equipment such as main panels, sub-distribution board and comms cabinets to serve final circuits and equipment







### 2.1.4 Demolition

#### Information provided by Hexa Consulting Ltd, the Civil and Structural Engineers

Regulation 20 Demolition or dismantling

"The demolition or dismantling of a structure must be planned and carried out in such a manner as to prevent danger or, where it is not practicable to prevent it to reduce danger to as a low a level as is reasonably practicable"

#### Information provided by WM Building Services, the Mechanical Services

Prior to any demolition works be undertaken, please familiarise yourself with the mechanical installation. Items to take into consideration: -

Water – Ensure the main cold water is isolated to the building. External Incoming mcws is located from Bromsgrove Street to the basement plant room. Additional incoming isolation is located in within Block A plantroom. Ensure the systems is drained down across the apartments.

Gas – there is no gas on this project.

Refrigerants – there is a refrigerant ac system within the first floor comms room & condenser, which will need the gas recovering prior to removal of the systems. Seek a specialist contractor for these works.







### 2.1.5 Access Statement

#### Information provided by Glen Howells Architects, the Architects

To be completed by Steven Barnsley Associates (Principal Designer)

Information provided by WM Building Services, the Mechanical Services

Please see attached Scheduled Residual Maintenance Risks Procedures







### 2.1.6 Any Hazards Associated with Materials Used

#### Information provided by Hexa Consulting Ltd, the Civil and Structural Engineers

No information provided for this project







### 2.1.7 Removal or Dismantling of Installed Plant and Equipment

Information provided by Skerritt Electrical Ltd, the Electrical Services No information provided for this project

Information provided by WM Building Services, the Mechanical Services No information provided for this project



## Schedule of Residual Maintenance Risks Procedures



Project:	<b>M2167 - Kent Street Baths</b>	Birmingham			
Ref:	Location	Description	Risks	Mitigation of Risk	Notes
1	Basment Refuse Store	Servicing of high level mounted fan	Fall from height	All step ladders used to be in good	
				condition and prolonged use to be	
				avoided where possible.	
2	Basement Comms Room	Removal of DX air conditioning	Fall from height	All step ladders used to be in good	
		Indoor wall mount unit		condition and prolonged use to be	
				avoided where possible.	
			Back injury	Two people at a minimum to be used to	
				remove fan coils to ground level.	
			Refrigerant leaks	Specialist contractors only to be used	
			i tomgorant roano	to pump down refrigeration system &	
				confirm safe to work on	
			Electrocution	Registered electrician to ensure items	
				to be removed are isolated and locked	
				off & marked accordingly	
3	All Apartments	Removal of wall mounted ventilation	Back injury	Two people at a minimum to be used to	
		units		remove fan coils to ground level.	
			Electrocution	Registered electrician to ensure items	
				to be removed are isolated and locked	
				off & marked accordingly	
4	All Apartments	Cleaning of air valves	Fall from height	All step ladders used to be in good	
				condition and prolonged use to be	
				avoided where possible.	
5	General	Domestic water services	Legionella exposure	Cleaning & maintenance regime &	
				frequencies to be followed as detailed	
				in operation & maintenance manual	
				Regular checks to be carried out on	
				water temperatures throughout system	
				to ensure a minimum circulation of	
				oo uegree Ceisius	
				Ensure hot water secondary pump is	
		1		properly maintained & out of operation	1

		for a minimum period of time only	
		Sterilisation of water services to be	
		carried out annually	
		to move and lift equipment	



### SIGNIFICANT HAZARD IDENTIFICATION AND RISK REGISTER FROM INCEPTION TO HANDOVER

This Design Risk Register unless otherwise stated relates to Building Construction Elements only, and will be updated periodically during the project and at the following review stages:

Project Review PR1 - Feasibility Stage Project Review PR2 - Detailed Design Stage Project Review PR3 - Tender/Construction Stage Project Review PR4 - Handover Stage

Job Title: Kent Street Baths - Plot 1

Client: EdR

Revision Ref: PR3 - R18

Revision Date: 18 January 2024

Principal Designer/ Risk Register Co-ordinator: Ben Mabbett

### THIS DESIGN RISK REGISTER IS A CO-ORDINATED DOCUMENT INCORPORATING DESIGN TEAM MEMBERS INDIVIDUAL RISK REVIEWS COLLATED AT CDM WORKSHOPS HELD TO DATE

	Activity/ Significant Hazard	Project Lifecycle Stage H&S Risk	Env Risk	Prog	Other Dersons at Risk	S (1-1)	D) (1-1	. R .0) (Sa	R1 xL)	Action taken to eliminate or control/ mitigate risk by design or procedure	S (1-10)	L (1-10)	R2 (1-10)	Reference Documents	Suggested guidance provided to Contractor for controlling significant residual risks	Residual hazards or maintenance risks remaining for the Client
	GENERAL SITE WIDE															
G1	General site works - Unauthorised Access. Site is within nightlife area, so risk from intoxicated adults attempting access.	CF	I			X 5	5	. 2	( t	Hoarding erected to surround the project, close monitoring of any unauthorised activity. 03/05/2022: Hoarding to Bromsgrove Street requires moving back in towards site for Commonwealth Games marathon.	2	2	4	CPP G100 Subcontractor Minimum Standards	Hoarding erected to surround the project, close monitoring of any unauthorised activity. 03/05/2022: Hoarding to Bromsgrove Street requires moving back in towards site for Commonwealth Games Marathon. 02/08/2022: Additional security measures provided inc. fencing to tower crane, CCTV, security guards on site. Discussing with BCC to gate off part of Henstead Street to improve security. 14/03/2023: Most of Henstead Street now absorbed into site hoarding with pedestrian access maintained for public.	ONGOING SITE MANAGEMENT
G2	General site activities: Vehicle Movement, Site Access and Deliveries.	CF	1		A	X 7	4	. 2	28 S	Site set up location as detailed in PCIP Appendix B - Final arrangements to be discussed with Principal Contractor.	6	2	12	Appendix B - Site Constraints Drawing CPP G100 Subcontractor Minimum Standards	Principal Contractor to continue liaison with building users throughout contract. Safe access to neighbouring properties and construction sites to be maintained at all times. Plan delivery times to avoid peak traffic times (school start and leave times, rush hour etc). Sequence and coordinate deliveries to avoid waiting and unloading vehicles on the highway. Provide designated loading area off the public highway.	ONGOING SITE MANAGEMENT

G3	Removals - Environmental:- Noise/Dust/Vibration	C	Н	E		C	5	8	40	Damping down to minimise dust.	5	6	30		RAMS required to minimise disturbance and nuisance from noise, vibration, dust etc. Damping down to minimise dust.	CLOSED
G4	General Site Activities - Danger to users of access roads and pavements. Motorists, cyclists and pedestrians due to site works onto back of public highway including designated cycle path.	С	Н			A	. 5	5	25	Site set up location as detailed in PCIP Appendix B. Cycle path to be temporarily relocated to opposite side of Kent Street. Final arrangements to be discussed with Principal Contractor. 14/06/2022: Main contractor to develop a safe sequence of works.	5	4	20	Appendix B - Site Constraints Drawing CPP G100 Subcontractor Minimum Standards	Main delivery times to be co-ordinated. Use of site hoarding, temporary barriers and signage required. To be in accordance with Local Authority requirements. To include vehicle crash protection around scaffolding. 14/06/2022: Main contractor to develop a safe sequence of works.	ONGOING SITE MANAGEMENT
G5	General Site Activities - Adjacent Land Use:- Danger to users of adjacent sites due to proximity of site boundaries, including nearby residential properties at Bromsgrove House, Madison House, and student accommodation on Bristol Street/Henstead Street.	С	Н			A	. 5	5	25	Site set up location as detailed in PCIP Appendix B. Final arrangements to be discussed with Principal Contractor.	<b>4</b>	2	8	Appendix B - Site Constraints Drawing CPP	Works to be segregated from neighbouring land owner activities.	ONGOING SITE MANAGEMENT
G6	Ground Works - Buried Services:- Subtronics Survey highlights buried services both within site and public footpaths surrounding the site, including LV &HV electricity, water, telecoms, CCTV plus gas connection into site.	С	н			С	8	3	24	Stepping back of retaining structure from public highways. BT assets now removed from within site. 14/06/2022: The presence of live services remains. All site personnel to be aware and appropriate methods of work implemented.	8	3	24	Appendix E - Site & Subtronics Surveys. Appendix G - Utilities CPP G100 Subcontractor Minimum Standards	Contractor to take appropriate precautions. 14/06/2022: The presence of live services remains. All site personnel to be aware and appropriate methods of work implemented.	ONGOING SITE MANAGEMENT
G7	Construction - Crane Use:- Siting of crane on public highway.	С	Н	]	P	A	7	5	35	Highway closure required to position mobile crane for erection and removal of tower crane.	6	3	18	СРР	Highway closure required to position crane. Time restrictions in place by Birmingham City Council Highways. Appropriate temporary barriers, signage and traffic management to be implemented.	ONGOING SITE MANAGEMENT
G8	Working in confined spaces - Substation:- Existing substation is designated as confined space working due to single point of access/egress.		Н			C	6	6	36	Plot 1 substation not part of Plot 2 works due to provision of new substatio within Plot 2. If access is required, then provision of information/training. Confined space working practices.	n 6	2	12	CPP G100 Subcontractor Minimum Standards	Works in accordance with WPD site rules. Safe system of work to include no lone working.	CLOSED
G9	Ground Works - Asbestos contamination:- Ground investigation indicates risk of asbestos contaminated land, creating risks to operatives, public and future occupants. Risk of identifying unforeseen contamination during ground works.	С	Н	E		A	6	5	30	<ul> <li>Minimum 600mm clean cover &amp; hi-visibility geotextile marker layer to soft landscaped areas.</li> <li>14/06/2022: The capping layer is to be maintained throughout the lifetime of the development. Should areas of soft landscaping be introduced a minimum 600mm clean topsoil must be imported in accordance with the remediation strategy. All construction workers are to wear PPE.</li> <li>The risk of encountering further contamination remains. Appropriate diligence and PPE to be adopted during ground works.</li> </ul>	3	2	6	CPP G100 Subcontractor Minimum Standards	Contractor to manage with procedures, PPE and sanitary facilities. If specific suspected materials are identified, the works shall be suspended immediately within the locality and the CA and PD shall be informed. Asbestos awareness training required for all operatives. Works shall only recommence on instruction and proof of safe entry. 14/06/2022: The capping layer is to be maintained throughout the lifetime of the development. Should areas of soft landscaping be introduced a minimum 600nm clean topsoil must be imported in accordance with the remediation strategy. All construction workers are to wear PPE. The risk of encountering further contamination remains. Appropriate diligence and PPE to be adopted during ground works.	Reference to significance of hi-visibility geotextile marker layer included in Building Manual & H&S File. All hazardous waste tickets to be added into H&S File for records.

G10	Ground Works - Contaminated Land:- Ground investigation indicates risk of contaminated land, inc. elevated levels of PAH, Lead, Mercury, Cyanide, creating risks to operatives, public and future occupants. Risk of identifying unforeseen contamination during ground works.	С	Н	E			A	6	5		80	Minimum 600mm clean cover & hi-visibility geotextile marker layer to soft landscaped areas. 22/09/2021: Buried fuel tank discovered on site and removed. 14/06/2022: The capping layer is to be maintained throughout the lifetime of the development. Should areas of soft landscaping be introduced a minimum 600mm clean topsoil must be imported in accordance with the remediation strategy. All construction workers are to wear PPE.	3	2	6	CPP G100 Subcontractor Minimum Standards	Contractor to manage with procedures, sanitary facilities. 22/09/2021: Buried fuel tank discovered removed. 14/06/2022: The capping layer is to be a throughout the lifetime of the developn areas of soft landscaping be introduced 600mm clean topsoil must be imported with the remediation strategy. All const are to wear PPE.
G11	Ground Works - Ground Gas:- Ground investigation indicates risk of ground gases, creating risks to future occupants.	0	Н				R	5	5	4	25	Incorporation of CS2 level gas protection measures.	2	1	2	Appendix F - Ground Investigation Surveys	
G12	Ground Works - Ground Stability:- Uncontrolled deposition of made ground of a variable nature from previously demolished buildings, obstructions encountered in Made Ground expected to relate to buried structures.	С	н				С	5	4	2	20	Additional ground investigations carried out. 14/06/2022: The risk of encountering further obstructions remains and hence appropriate diligence required during ground works. Any voids and/or obstructions encountered should be removed/filled in line with the Earthworks specification.	4	3	12	Appendix F - Ground Investigation Surveys CPP	Contractor to manage with procedures. 14/06/2022: The risk of encountering fr obstructions remains and hence approp required during ground works. Any voi obstructions encountered should be rer line with the Earthworks specification.
G13	Ground Works - Ground Water Contamination:- Sandstone substrata makes for high contamination risk of ground & groundwater	С	Н	E			A	2	5	]	10	Contractor to carry out pollution control procedures.	2	3	6	Appendix F - Ground Investigation Surveys CPP G100 Subcontractor Minimum Standards	Contractor to carry out pollution contro
G14	Ground Works - UXO:- UXO study & ground investigation classifies site as high risk for presence of UXOs, creating risks to operatives, public and property.	С	Н		Р	0	A	6	4		24	Operational UXO Risk Management Plan; EOD Engineer Support & non- intrusive geophysical UXO survey; UXO Safety & Awareness Briefings to site operatives; Intrusive Magnetometer Survey across site and/or full supervision by EOD Engineer of excavations.	6	1	6	Appendix H - UXO Reports. Appendix F - Ground Investigation Surveys	Operational UXO Risk Management P Engineer Support & non-intrusive geop survey; UXO Safety & Awareness Brief operatives; Intrusive Magnetometer Sur and/or full supervision by EOD Engine excavations. Unsupervised dig limited t existing basements where present, or 1r ground.
G15	Site Access & Works - Adjacent Undertakings:- Risks associated with vehicle movements, works and utilities.	C	Н				С	4	5		20	Contractor to liaise with contractors on neighbouring sites.	3	3	9	Appendix B - Site Constraints Drawing CPP	Contractor to liaise with contractors on sites.
G16	Aviation Safeguarding to Block A Tower: Risks to aircraft from tall tower and tower crane used for its construction.	C	H				C	6	4		24	Aviation safeguarding report carried out. Low risk identified to building. Minimal marker lights to be provided. Aviation marker lights to be provided to specialist design on construction cranes where required. Appropriate Permits to be obtained prior to construction in line with aviation safeguarding report recommendations. 18/01/2024: Navigation lights not required on building as aviation safeguarding report.	6	1	6	Appendix I - Aviation Safeguarding Report	Aviation marker lights to be provided to design on construction cranes where rec Appropriate Permits to be obtained prior construction in line with aviation safegua recommendations. Appropriate Permits to be obtained prior construction in line with aviation safegua recommendations. 18/01/2024: Tower crane removed from

s, PPE and	Reference to significance of hi-visibility geotextile marker layer included in Building Manual & H&S File.
ed on site and	All hazardous waste tickets to be added into H&S File for records. 22/09/2021: Include fuel tank removal.
e maintained ment. Should d a minimum d in accordance struction workers	
	Reference to inclusion of CS2 level gas protection in Building Manual & H&S File.
s. further priate diligence pids and/or emoved/filled in	CLOSED
rol procedures.	CLOSED
Plan; EOD physical UXO fings to site urvey across site eer of to depth of m on virgin	All UXO works records to be added into H&S File.
1 neighbouring	ONGOING SITE MANAGEMENT
to specialist equired.	CLOSED
rior to uarding report	
rior to uarding report	
m site.	

G17	Affects on wind due to large and tall blocks: Risks to users and passers by during operation, and to contractors from excessive wind gusts. Risks to materials/partially complete construction being lifted or moved by excessive wind gusts.	0	Н		0	A	5	5	25	5 ] s ] ] ] ] ]	Desktop wind assessment completed at planning stage. Indicates no significant issues. Further computer modelling and wind tunnel testing being considered. Further investigations to be carried out to inform construction phase. 14/06/2022: Wind study completed and deems all safe. 17/08/2023: Gates to fire access route behind Block A adjusted to have	2	3	6	Wind Study Report	Desktop wind assessment completed at Indicates no significant issues. Further investigations to be carried out t construction phase. 14/06/2022: Wind study completed and
										1 1 1	correct amount of solid to void ratio as requireding wind report. 17/11/2023: 50% solid to void gates and railings between blocks to reduce wind risk issues.					
	MECHANICAL, ELECTRICAL & PUBLIC HEALTH															
MEP1	Flashover risk from LV & HV substation equipment:- Flashover risk.	С	Н			С	8	4	32		Existing substation to be relocated in Plot 1 to allow switch, with removal of existing after. No live working on existing switchboard. Safe working practices to be in place (HSG85 Electricity at Work - Safe Working Practices to be consulted). Approach boundaries to be identified and defined on site. Contractor to review use of physical barriers around equipment. Correct PPE to be used/worn.	8	1	8	Appendix G - Utilities CPP G100 Subcontractor Minimum Standards	Adherence to WPD site rules. Operativ, properly trained and only allowed to ent with a fully approved method statement account of all relevant H&S guidelines fe activities. A permit to work managemen should be used in such areas. Means of escape should be enhanced wherever pc carrying out the necessary additional civi Further information/instruction and train 18/01/2024: Substations complete and h statutory authorities.
MEP2	Ground Works - Contaminated Land:- Ground investigation indicates risk of contaminated land, creating risks to operatives, public and future occupants to water supply.	0	Н			R	5	5	25	5 1	Mains water supply pipes within ground to be upgraded to barrier pipe.	2	1	2	Appendix F - Ground Investigation Surveys	CLOSED
MEP3	Fire & Explosion Risk: New substation within building.	0	Н			R	8	5	40	) 2 ] 1 5	2 hour fire resistant construction around new substation, to WPD and BS:9991 requirements. Reinforced concrete construction to be blast resistant to WPD standards. Relocation of doors and vents to maximise safe zone between substation access doors and staircase escape door.	2	1	2		CLOSED
MEP4	Fire Alarm: Alarm inaudible to those with hearing impairments - Risk to resident escape.	0	Н			R	7	3	21	1 ] ( ; ; ;	Fire alarm to include visual alerts in addition to audio alerts. 06/12/2022: Visual alerts only included in amenity areas. Not required elsewhere under regulations. Apartment alarms have ability to attach an optional module which turns the alarm into a wireless capable alarm, which in turn can be connected to personal devices providing visual or vibrating alerts.	3	1	3		CLOSED
MEP5	Fire Evacuation: Unfamiliarity of residents with fire alarm and escape procedures.	0	H			R	7	3	21		Inclusion of fire alarm and escape procedures within residents' handbook. Consider training sessions for residents to inform about fire alarm and escape procedures.	4	2	8		Inclusion of fire alarm and escape proce residents' handbook. Consider training s residents to inform about fire alarm and procedures. CLOSED

lanning stage.	14/06/2022: Wind studies to be included in O&M Manual.
inform	
looms all safe	
icentis all sale.	
s should be	CLOSED
r these areas aving taken	
such	
procedure ccess and	
sible by	
works. ng.	
nded over to	
	Manual.
	18/01/2024: Information to be included in Building
	Manual.
	06/12/2022: Building manager to consider fitting of
	wireless module to fire alarms and issue of compatible visual and/or vibrating alert devices to apartments of any
	deaf residents.
ures within ssions for	14/06/2022: Inclusion of fire alarm and escape procedures within residents' handbook. Consider training sessions for
escape	residents to inform about fire alarm and escape
	procedures.

MFP6	Access for maintenance and replacement of MVHR uni	t M	н			иГ	4	4	16	22/00/2021 Consider specification of larger door opening	1	1	1		CLOSED	CLOSED
MEPO	in 3 bed units, as unit is larger than door aperture.		п				4	4	10	22/09/2021: Consider specification of larger door opening. Consider alternative of MVHR unit above cooker as part of extract hood. 02/08/2022: Alternative smaller unit specified.	1	1	1			CLOSED
MEP7	Standardisation of apartment utility cupboards.	C	H	P			4	4	16	22/09/2021: Opportunity to consider use of pre-labricated utility cupboards to reduce risks from confined spaces working, hot works, etc. 14/06/2022: Prefabrication not being considered now.	4	4	16		CLOSED	CLOSED
MEP8	Potential increase in required electrical supply requirements for commercial units given decarbonisation agenda and switching from gas to electrical heating and cooking - Risks with later installation of new/larger power supplies.	С	Н	P(	5		6	4	24	03/11/2021: Client to consider increasing electrical supplies to commercial units. 03/11/2021: Consider installation of additional ducts to facilitate later installation of additional electricity supplies in lieu of increased supplies. 17/11/2023: Additional ducts added.	6	4	24		CLOSED	14/03/2023: Tenant packs to make clear current utility provision, restrictions, and options for upgrades including additional ducts provided. 17/08/2023: Any additional ducts to be marked on as built drawings.
MEP9	Lightning protection.	0	Η			3	6	3	18	03/05/2022: Details for lightning protection to be provided, inc. roof and connections to piles. 14/06/2022: Lightening protection strips to be fitted to highest section of parapet. 02/08/2022: Earthing through reinforcement.	3	1	3			02/08/2022: Test certificates to be provided in Building manual.
MEP10	Installation and maintenance of services at high levels i.e. requiring access equipment above floor level.	C	Η			X	5	5	25	14/06/2022: Where possible, avoid design of services at high levels. Where services are required at high levels, safe access to be considered i.e. avoid stacking of services, provide adequate space for safe access around installed services and equipment for construction phase and future maintenance. Position services near easy fixing positions i.e. steels/purlins etc.	3	3	9	CPP G100 Subcontractor Minimum Standards	14/06/2022: Safe Access equipment needed for installation. Construction Method Statement and Risk Assessments needed accordingly. Suitable access training needed for operatives etc. CLOSED	14/06/2022: Safe Access equipment needed for future maintenance. Suitable access training needed for operatives etc.
MEP11	Safe access for future maintenance and removal.	M	Н			2	5	3	15	14/06/2022: Position equipment that requires access/accessible points for services i.e. access doors/valves in easily accessible positions/oversized doors, preferably without need for access equipment and with no need for enabling work e.g. not behind solid ceilings. Provide suitable access spacings for equipment to manufacturer's guidelines and avoid use of sharp edged services, equipment and fixings. Architect to provide suitably accessible ceilings/boxings/IPS where equipment is concealed/ Architect to design suitable access method for removal of plant both by manual handlin and mechanical means. 02/08/2022: Head of door openings to be left out to ease installation of equipment. Specification of equipment which can be broken down into more managable parts.	3	2	6	CPP G100 Subcontractor Minimum Standards	14/06/2022: Safe Access equipment needed for future maintenance. Client Maintenance Method Statement & Risk Assessments needed accordingly. Suitable access training needed for operatives etc. Construction Phase to follow drawings & manufacturer's guidelines. Where protection can't be provided to sharp edges, warning notices/tape to be applied. CLOSED	14/06/2022: Safe Access equipment needed for future maintenance. Client Maintenance Method Statement & Risk Assessments needed accordingly. Suitable access training needed for operatives etc. Construction Phase to follow drawings & manufacturer's guidelines. Where protection can't be provided to sharp edges, warning notices/tape to be applied.

MEP12	Contact with live services.	C	Η		A	10	5	.50	14/06/2022: Access to live services to be minimised by ensuring all live installations are concealed where possible and where exposed, labelled in accordance with regulations. Accurate drawings (construction and as fittee to be provided so isolation points are easily identified. 02/08/2022: Adequate investigation of existing systems and their means of isolation. Design in adequate means of isolation and zoning of all new plant, equipment and systems. Specify no live working where practicable.	8	2	16	CPP G100 Subcontractor Minimum Standards	14/06/2022: Live services always have some residual risk, training for use of services to be given. All equipment should be isolated prior to being serviced. Only qualified electrical engineers to carry out live testing/inspection of systems. Construction Method Statement and Risk Assessments needed accordingly. CLOSED	14/06/2022: Live services always have some residual risk, training for use of services to be given. All equipment should be isolated prior to being serviced. Only qualified electrical engineers to carry out live testing/inspection of systems. RAMS needed accordingly.
MEP13	Installation of equipment above head height.	С	Н		A	7	5	35	14/06/2022: Where possible heavy equipment (+25kg) to be installed at floor level. Where not possible, the equipment should be installed in an accessible position where mechanical lifting equipment can be used to remove the equipment. Where access equipment is needed to maintain t equipment, sufficient space surrounding the equipment's installed position to be provided for maintenance/removal access. Suitably rated fixings installed to suitably capable structures should be used to fix/hang any suspended equipment in position. Equipment/Material to be broken dow into sections for lifting/hoisting. 02/08/2022: Minimise high level installations. Ensure ease of access to controls, valves, etc. Maximise pre-fabrication and use of simple jointing methods.	4 n	3	12	CPP G100 Subcontractor Minimum Standards	14/06/2022: Safe Access equipment needed for future maintenance. Client Maintenance Method Statement & Risk Assessments needed accordingly. Suitable access training needed for operatives etc. Construction Phase to follow drawings & manufacturer's guidelines. Construction Method Statement and Risk Assessments needed accordingly.	ONGOING SITE MANAGEMENT
MEP14	Welding/Soldering/Cutting Hot Works	С	Н		С	8	4	32	14/06/2022: Use of materials/pipework's/containment systems that require hot works to be avoided or minimised. Where they can't be avoided dedicated hot works are and hot works procedures to be followed.	5	3	15	CPP G100 Subcontractor Minimum Standards	14/06/2022: Contractor advised to wear protective clothing. Fire protection devices to be at hand and amount of welding/hot works limited to dedicated welding/hot works areas. Construction Method Statement and Risk Assessments needed accordingly. 02/08/2022: Hot works permits in place.	ONGOING SITE MANAGEMENT
MEP15	Installation of services in Risers	С	Н			10	5	50	14/06/2022: Operatives advised to use safe working platforms and risers to be sealed rising ducts/voids as works progress. 02/08/2022: Grilles specified for riser voids. Consider early installation where possible.	4	3	12	CPP G100 Subcontractor Minimum Standards	14/06/2022: Construction Method Statement and Risk Assessments needed accordingly. 02/08/2022: Suitable temporary fall protection to be provided.	ONGOING SITE MANAGEMENT

MEP16 Working with other trades		СН			2	4	10	40	14/06/2022: Co-operate with contractor and co-ordinate works to reduce hazards on site.	2	10	3	CPP G100 Subcontractor Minimum Standards	<ul> <li>14/06/2022: Safe Access Equipment needed future maintenance. Client Maintenance Method Statement and Risk Assessments needed accordingly. Suitable access training needed for operatives etc. Construction Phase to follow drawing and manufacturer's guidelines. Construction method Statement and Risk Assessments needed accordingly.</li> <li>02/08/2022: 'Black Hat' supervisors meeting each morning to coordinate between trades.</li> </ul>	14/06/2022: Safe Access Equipment needed future maintenance. Client Maintenance Method Statement and Risk Assessments needed accordingly. Suitable access training needed for operatives etc. ONGOING SITE MANAGEMENT
MEP17 Unvented Equipment Failure		D H			4	6	3	18	14/06/2022: Unvented equipment to be avoided if possible of if needed, installed in location like plantrooms for safety. Where small unvented cylinders are installed in occupied spaces i.e. WCs they re to be protected from image i.e. installed in accessible cupboards/IPS systems. All unvented equipment to be installed complete with correctly sized expansion vessels and safety valve (temperature & pressure) arrangements as per manufacturers recommendations.	3	1	3	CPP G100 Subcontractor Minimum Standards	14/06/2022: All installers/service engineers to be qualified and registered for installation of un-vented equipment and shall follow all regulation requirements. Construction Method Statement and Risks Assessments needed accordingly.	14/06/2022: All installers/service engineers to be qualified and registered for installation of un-vented equipment and shall follow all regulation requirements. Construction Method Statement and Risks Assessments needed accordingly. ONGOING SITE MANAGEMENT
MEP18 Pressure Testing of Pipework Systems	(	н		(	C	6	3	18	14/06/2022: Positioning of Test Points for pressurising systems should be kept to low occupancy areas i.e. risers/plantrooms. Testing works to be carried out during low occupancy periods (i.e. overnight) and all operatives to be aware of testing areas and any exclusion zones.	3	1	3	CPP G100 Subcontractor Minimum Standards	14/06/2022: Construction Method Statement and Risk Assessments needed accordingly.	ONGOING SITE MANAGEMENT
MEP19 Dust/Fumes	(	Н		P	4	5	7	35	14/06/2022: Design services to avoid chasing into concrete structures, ensure early release of Building work requirement so holds can be pre- formed. Petrol and Diesel generator driven equipment to be used in well ventilated areas/externally and use limited to minimums.	3	3	9	CPP G100 Subcontractor Minimum Standards	14/06/2022: Construction Method Statement and Risk Assessments needed accordingly.	ONGOING SITE MANAGEMENT
MEP20 Hazardous Substances Use & Disposal	(	Н		1	4	7	5	35	14/06/2022: Design services to avoid the use of jointing compounds/fluids and treatments that would fall under COSHH requirements. Where use can not be avoided use to be restricted to and disposal of substances to follow guidance from manufacturer COSHH Assessment. PPE to be used as required.	3	3	9	CPP G100 Subcontractor Minimum Standards	14/06/2022: Construction and Maintenance Method Statement and Risk Assessments to contain COSHH information specific to task.	18/01/2024: Materials information included in Building Manual & H&S File. ONGOING SITE MANAGEMENT
MEP21 Filling & Testing.	(	C H			0	5	5	25	14/06/2022: Design services to ensure surge protection and isolating valves are installed to all main incoming locations and branches and follow water management plan on site.	2	2	4	CPP G100 Subcontractor Minimum Standards	14/06/2022: Contractor operatives to be provided with RAMS for filling works.	18/01/2024: Certification to be provided in H&S Manual and Building Manual. ONGOING SITE MANAGEMENT
MEP22 Working at Height		н			3	8	6	48	14/06/2022: Review locations - consider ease of access for installation and maintenance in selecting the location (for example staircase protection or valve set position). Reduce and eliminate where possible Working at Height for both installation and aftercare.	4	4	16	CPP G100 Subcontractor Minimum Standards	14/06/2022: Operatives to works as per RAI and to take WAH e-module or similar training on working at height. Access equipment checked prior to each sue. O&M Manual to specify any exceptional situations.	ONGOING SITE MANAGEMENT
MEP23 Testing or activation	(	н		(	2	5	5	25	14/06/2022: Ensure discharge facilities such as drainage stacks and plant area gulley's are adequate with early co-ordination of services. Seek advice and confirmation where necessary (RFIs). Minimise fire suppression of electrical plant.	2	2	4	CPP G100 Subcontractor Minimum Standards	14/06/2022: Operatives to follow flow testing methodology. O&M Manual to specify flow testing procedures.	ONGOING SITE MANAGEMENT

MEP24	Installation of cabling for pumps and controls.	C	Н			С	8	3		24	14/06/2022: Review location/use of cable trays. Ensure test certificates from others prior to connecting into electrical	3	2	6	CPP G100	14/06/2022: Ensure sufficient space to a and maintain suitable access paths.
											suppiy.				Subcontractor Minimum Standards	Work as per Method Statement.
MEP25	Erection of water tanks.	С	Н			С	7	4		28	14/06/2022: Consider weight bearing capacities of structure and seek advice and confirmation where necessary (RFIs).	4	2	8	CPP G100 Subcontractor Minimum Standards	
	CONSTRUCTION			Γ					Γ							
Cl	Removals - Asbestos Containing Materials (ACM's)	С	Н	E	Р	C	10	2		20	Asbestos present in existing on site building has been removed as part of the demolition. See Demolition H&S File for information. If additional suspected materials are identified, the works shall be suspended immediately within the locality and the CA and PD shall be informed. ACM's identified to be removed by Licenced Asbestos removal contractor as part of the contracted works.	10	1	10	Appendix D - Demolition H&S File	Asbestos present in existing on site buil removed as part of the demolition. See H&S File for information. If additional materials are identified, the works shall immediately within the locality and the be informed. ACM's identified to be re Licenced Asbestos removal contractor a contracted works. Asbestos awareness t for all operatives. Works shall only reco instruction and proof of safe entry.
C2	Construction (General) - Isolations:- Live services	D	н			С	7	3		21	Confirmation of isolation in writing, confirm isolation by testing, issue of permit to work. 02/08/2022: Adequate investigation of existing systems and their means of isolation. Design in adequate means of isolation and zoning of all new plant, equipment and systems. Specify no live working where practicable.	7	1	7	CPP G100 Subcontractor Minimum Standards	
C3	Construction (General) - Noise	D	Н	E		С	3	2		6	Use of offsite manufacturing reduces need for cutting, mixing, etc. Noise levels kept to a minimum through the use of properly maintained plant and equipment - specific noise assessment.	2	1	2	CPP G100 Subcontractor Minimum Standards	02/08/2022: Monitoring being carried o
C4	Construction (General) - Dust	D	H	E		С	7	7		49	Use of offsite manufacturing reduces need for cutting, mixing, etc. SVPs and RWPs to be coordinated and cast into PCUs to reduce on site core drilling. Dust suppression required through netting/mist sprays etc. 02/08/2022: Specify cleaning of existing duct, service voids where these will be disturbed by new works. Avoid need for cutting/chasing where reasonably practicable by alternative routing and early issue of builders work details. Investigating sheathing board option to reduce cutting with saw.	7	3	21	CPP G100 Subcontractor Minimum Standards	
C5	Construction (General) - Vibration	D	Н			С	3	2		6	Use of offsite manufacturing reduces need for cutting, mixing, etc. Specific vibration assessment reducing exposure time to lowest possible levels - well maintain plant and equipment.	2	1	2	CPP G100 Subcontractor Minimum Standards	02/08/2022: Monitoring being carried o

allow installation	ONGOING SITE MANAGEMENT
	14/06/2022: O&M Manual to specify weight of full water
	taliks.
	ONGOING SITE MANAGEMENT
ilding has been	Asbestos present in existing on site building has been
l suspected	File for information.
ll be suspended	
e CA and PD shall removed by	
as part of the	
commence on	
	ONGOING SITE MANAGEMENT
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C6	Unintended Structural Collapse: Risk of collapse of existing basement retaining walls during and after removal of site fill.	C	C H			A	8	5	40	Existing basement walls to be used as temporary retaining support to surrounding public highway. Temporary propping to be used until new permanent retaining structure in place.	6	3	18	CPP G100 Subcontractor Minimum Standards	Existing basement walls to be used as temporary retaining support to surrounding public highway. Contractor to provide temporary propping until new permanent retaining structure in place.	CLOSED
	venicular & Manual Handling: Movement and lifting of materials.		, п				Э	3	23	Use of offsite manufacturing reduces requirements for neavy moving and lifting. Pre cast construction method no longer used, but other items could be off site manufactured.	4	ð	12	G100 Subcontractor Minimum Standards		ONGOING SITE MANAGEMENT
C9	Structural collapse and temporary support.	C	Н			С	8	5	40	Pre cast method of construction removed.	1	1	1		CLOSED	CLOSED
C10	Pre Cast Unit Cast in Lifter Failure	C	H			С	8	3	24	Pre cast method of construction removed.	1	1	1		CLOSED	CLOSED
C11	Pre Cast Unit Failure Under Lifting	C	Н			С	8	3	24	Pre cast method of construction removed.	1	1	1		CLOSED	CLOSED
C12	Means of Escape (During Construction): Risks to operatives due to single staircase means of escape.	C	E H			С	8	5	40	Construction stage fire plans are under development in conjunction with site logistics; to ensure sequence priority of fire resisting walls with temporary fire doors, providing protected cores with regulatory escape distances.	5	4	20	Construction Fire Strategy	Contractor considering requirements for additional temporary escape protection during construction phase, including temporary fire doors. 02/08/2022: Temporary Haki stair being provided to create second means of escape from block A1. Temporary fire doors being installed to critical fire escapes. Temporary sprinkler system being installed to commercial space of Block A.	ONGOING SITE MANAGEMENT
C13	Installation of large floor to ceiling glazing units - manua and mechanical handling risks, and materials dropped from height.	1 C	C H	Р	0	С	8	7	56	Glazing and re-glazing strategy being developed together to inform both construction and maintenance. 02/08/2022: Majority of glazing is internally fitted. Curtain walling to level 17 terrace may require hoisting from exterior of building.	7	6	42	CPP G100 Subcontractor Minimum Standards	Glazing and re-glazing strategy being developed together to inform both construction and maintenance.	ONGOING SITE MANAGEMENT
C14	Voids beneath cores: Risks associated with casting RC structure in enclosed space and removal of formwork.	C	H			С	7	5	35	22/09/2021: Voids to be filled or created with permanent void formers to remove need for temporary formwork and enclosed space working.	1	1	1			ONGOING SITE MANAGEMENT
C15	Falls from height from stairs whilst handrails fitted.	C	Н	Р			7	4	28	15/02/2022: Balustrades to be pre-fitted to pre-cast concrete stairs prior to installation. Provides permanent edge protection to stairs from start.	2	1	2			ONGOING SITE MANAGEMENT
C16	Use of prefabricated internal partitions.	C	T	Р			7	4	28	03/05/2022: Winvic considering use of prefabricated 'Specwall' for some internal walls to reduce onsite work, including cutting, dust & noise generation, etc. 14/06/2022: 'Specwall' no longer being considered.	1	1	1		CLOSED	CLOSED
C17	Contact with fibres, fumes & chemicals: Risks of burns, breathing difficulties, ill health.	C	H			С	7	7	49	02/08/2022: Careful specification of insulation materials. Careful specification of substances and procedures, together with the provision of adequate information.	5	5	25	CPP G100 Subcontractor Minimum Standards	02/08/2022: PC to manage COSHH substances and use suitable collective protection, PPE, and supply operatives with information on COSHH hazards.	ONGOING SITE MANAGEMENT
	MAINTENANCE	Γ			Τ	Τ										

M1	Maintenance - Falls from Height & Slips, Trips & Falls: Flat roof access to maintain green roof, blue roof, rainwater outlets, and PV panels.	м	H			м	9		4	36	6	<ul> <li>Access hatches to main roof together with minimum 1.1m high parapet to roof provided. Consideration being given to removing permanent edge protection, but would require replacement with mansafe and temporary edge protection during construction.</li> <li>15/02/2015: Maximum parapet heights to be reviewed to take account of tapered insulation maximum depths (may result in higher than 1100mm parapet in places).</li> <li>Access requirements for replacement equipment to be considered. (PVs, etc.).</li> <li>22/09/2021: Floor to ceiling balustrade provided at uppermost landing to provide fall protection to roof access hatch ladder. Ladder cage not provided as a result and due to limited amount cage required.</li> <li>Access hatch doubles as vent for staircase smoke ventilation.</li> <li>02/08/2022: Walkways provided around roof perimeters and between PV sections to allow access. To be non slip paving slabs. Steps to be provided where access hatch is elevated to maintain compliance with 'utility stair' under AD K.</li> <li>17/11/2023: Barrier protection installed around access hatches to prevent falls.</li> </ul>	4	2	8	CPP G100 Subcontractor Minimum Standards	Early installation of 1100mm high para construction stage safety.
M2	Maintenance - Falls from Height & Items dropped from height: Window cleaning.	М	H		Ν	М	7	5	5	35	5	Windows to lower blocks to be cleaned from MEWP, with level hard surfaced paving to all facades of the building. 06/12/2022: MEWP access location points and tracking being carried out by GHA/WCL. 14/03/2023: All surfacing within courtyard to be hard surfaced or 'Grasscrete' type material to support MEWP. To be coordinated with landscape design.	3	2	6	GHA Maintenance Drawings	
M3	Maintenance - Falls From Height: Courtyard maintenance and cleaning.	М	H			M	6	6	5	30	0	<ul> <li>MEWP to be utilised for maintenance and cleaning. Adequately sized hard paved MEWP transit route through from courtyard entrances around courtyard to gain access to building frontages. Route to be shown on drawings.</li> <li>03/11/2021: Loading capacity of courtyard deck upgraded to 31 tonnes to suit use of 36m boom MEWPs for construction &amp; maintenance. Consider point loads for MEWP wheels.</li> <li>06/12/2022: MEWP access location points and tracking being carried out by GHA.</li> </ul>	3	2	6	GHA Maintenance Drawings	
M4	Maintenance - Falls From Height: Access to services in ceiling of corridors.	M	H		N	M	6	40	5	30	0	Demountable ceiling provided.	3	2	6		CLOSED

to be included within Building Manual	c sualcy and remote
	l and H&S File.
02/08/2022: FM team to ensure servici properly briefed in the use of any acce equipment in accordance with manufa FM team to ensure building occupiers any cleaning/maintenance activities bei drainage to be inspected and maintaine from roofs and at each floor within rise Maintenance to be carried out in accor facilities management H&S policy and personnel only.	ing personnel are ss and cleaning cturers guidelines. are notified prior to ing carried out. Roof ed. Access to be er distribution zones. rdance with building by trained
02/08/2022: Roof access restricted to m personnel only. 1100mm permanent p provided.	naintenance arapet/guarding
Ladder from landing to roof access hat with removable cover to prevent unaut	tch to be protected horised climbing.
Maintenance strategy and drawings to l Building Manual and H&S File.	be included within
02/08/2022: FM team to ensure appropused. Façade to be cleaned externally high reach pole cleaning system where MEWP where required. FM team to expersonnel are properly briefed in the u in accordance with manufacturer's guid ensure building occupiers are notified cleaning/maintenance activities being cleaning and maintenance strategy for the second strategy for th	priate method is by specialist, using a applicable or msure cleaning ise of any equipment delines. FM team to prior to any arried out. Refer to more information.
Maintenance strategy and drawings, inc included within Building Manual and I	c. loadings, to be H&S File.
02/08/2022: FM team to ensure appropused. Façade to be cleaned externally high reach pole cleaning system where MEWP where required. FM team to epersonnel are properly briefed in the uin accordance with manufacturer's guidensure building occupiers are notified cleaning/maintenance activities being cleaning and maintenance strategy for the second seco	priate method is by specialist, using a applicable or ensure cleaning use of any equipment delines. FM team to prior to any arried out. Refer to more information.
Maintenance strategy to be included w Manual and H&S File.	ithin Building

M5	Maintenance - Maintenance, removal and replacement of plant and equipment: Safe access and handling.	М	Н		D M	[ 5	4	1	20	Spaces to be designed to allow easy maintenance of plant and equipment. Access doors to be suitably sized and positioned to suit equipment, and access route for equipment to be plotted through building and on drawings/BIM model. 14/06/2022: Doors to tank rooms in Blocks B, C & D to be sized to allow passage of largest pieces of equipment.	2	2	4		CLOSED
M6	Cleaning & Maintenance - Surface water attenuation tanks: Working within confined space.	М	Н		М	[ 8	Å	5	40	Attenuation to be flushable crate system to allow cleaning without direct access. Flushing point to be provided.	4	2	8		CLOSED
M7	Cleaning & Maintenance - Block A Tower: Falls from height and items dropped from height.	М	Н		M			5	40	<ul> <li>Access hatches provided for access to roof.</li> <li>Lower area windows to be cleaned from MWP, with level hard surfaced paving to all facades of the building.</li> <li>Upper level terrace windows cleaned from terrace.</li> <li>Abseiling from davit arms being considered for cleaning and light maintenance.</li> <li>03/11/2021: Parapet changed to concrete upstand to increase robustness for abseiling over roof edge.</li> <li>29/11/2021: Aluminium sills to be reinforced to allow for abseiling.</li> <li>02/12/2022: Abseiling now preferred method of cleaning &amp; maintenance tohigh level facade. Latch points to be provided to parapets to allow tying on of abseilers.</li> <li>Step ladder/platform being investigated to provide safe access to high level parapet. Needs to be capable of being left outside on roof. Needs to be capable of being dismantled for future repair/replacement.</li> <li>17/11/2023: Rope access latch points provided and cast into concrete parapets.</li> </ul>	5	2	10	GHA Maintenance Drawings	Early installation of 1100mm high parage construction stage safety.
M8	Maintenance - Falls from Height: - Risks of access to cooling plant on roof of Block E. - Risks accessing green roof of Block E. - Risks of accessing, installing and replacing glazed roof light.	М	H		М	9	4	4	36	Consider location of plant in basement area rather than roof. If on roof, consider access hatches to roof together with mansafe system or 1100mm high parapet. 17/11/2023: Block E now an unheated pavillion type structure so no rooftop plant required. Does have green roof and glazed rooflight. Rooflight reduced in size to 2m diameter to ease installation and replacement, which will need to be via MEWP and davit. Roof to be accessed by MEWP so suitable 'landing area' to be identified, with mansafe latch system provided to access remainder of roof once out of MEWP.	4	2	8		

	Maintenance strategy and access route for equipment to be plotted on As Built drawings, and included within Building Manual and H&S File.
	Maintenance strategy and RAMS to be included within Building Manual and H&S File.
1 parapet to aid with	Maintenance strategy and drawings to be included within Building Manual and H&S File. 02/08/2022: FM team to ensure appropriate method is used. Façade to be cleaned externally by specialist, using a high reach pole cleaning system at lower levels, and abseiling from roof for higher levels. FM team to ensure cleaning personnel are properly briefed in the use of any equipment in accordance with manufacturer's guidelines, and PtW system in place for roof access and abseiling work. FM team to ensure building occupiers are notified prior to any cleaning/maintenance activities being carried out. Refer to cleaning and maintenance strategy for more information. 02/12/2022: Maintenance and tested/certification regime for latch points and step ladder/plaform to be included in H&S File and Building manual.
	All access hatches to be unlocked prior to accessing roof to ensure alternative escape. Maintenance strategy and RAMS to be included within Building Manual and H&S File. 17/11/2023: Mansafe system details and certificates to be included in H&S File and Building Manual.

M9	Maintenance - Falls from Height & Items Dropped from Height: Replacement of glazed units to windows (with	М	Н			М	8	5	4	40	03/11/2021: Internal reglazing strategy confirmed. Route through building to be plotted to allow glazing units to be brought	5	3	15	GHA Maintenance	
	particular regard to Block A).										through building. 03/11/2021: Framing design changed to reduce glass size and allow internal				Drawings	
											reglazing.					
											17/01/2022: Glazing unit tracking drawing to be updated to suit larger lifts & small glazing unit size.					
											02/08/2022: Top floor curtain walling to terrace units are larger and requires strategy for replacement.					
											02/12/2022: Abseiling now preferred method of external manipulation of glazing units to high level facade. Latch points to be provided to parapets to allow tying on of abseilers.					
											17/11/2023: Rope access latch points provided and cast into concrete parapets.					
M10	RWP blockages - Risk of blockages to internal RWPs.	М	Н			M	3	6	1	18	22/09/2021: Rodding points introduced at low level.	2	2	4	GHA Maintenance Drawings	CLOSED
											17/01/2022: Access to RWPs and rodding points behind bath panels.				MEP drawings	
M11	Maintenance of public and private garden areas	M	Н		0	) R	5	3	1	15	02/08/2022: Maintenance strategy required for ongoing maintenance during	5	3	15	Landscape	CLOSED
											occupancy to be agreed with LA.				Architect Specification	
											available and take into account required maintenance regime.					
											17/11/2023: Bib taps added to courtyard for watering soft landscaping.					
M12	Maintenance within risers: Risks of falls from height.	М	Н			M	8	5	4	10	02/08/2022: Riser gratings to be installed within risers to prevent falls or dropped tools down riser shaft.	2	2	4	CPP G100	02/08/2022: Holes in the concrete slal should be adequately signed and prote and after completion, to guard against
															Subcontractor Minimum	CLOSED
	Refuse Collection: Risks to operatives in moving bins to	М	н		_	M	5	5	9	25	02/08/2022. Bins are required to be brought out from basement bin stores	3	5	15	Standards	CLOSED
	street collection point, including collisions with vehicles.	.,1				.,,	U	0			on collection day as dragging distance for collection teams is too long.	0	U	10		
											Appropriate risk assessments to be carried out by FM team in order to avoid collisions between other vehicles cars service personnel, building users etc. Appropriate HV clothing to be worn at all times whilst servicing					
											the site. Collection times to be pre-agreed through CC with FM in advance.					
M14	Bird & bat box maintenance access:	M	Н	E	+	M	8	4	2	32	14/03/2023: Position of bird and bat boxes to be in easily accessible	3	3	9		CLOSED
	- Risks of falls from height.										locations which can be accessed without the need for ladders. Suitable locations could be flat roof areas where 1100nm parapets are present.					

	Maintenance strategy and drawings to be included within Building Manual and H&S File.
	02/08/2022: FM team to ensure appropriate method is used. Glazing to be replaced internally with manipulation externally via abseiling from roof or MEWP from ground level dependent on height. FM team to ensure maintenance personnel are properly briefed in the use of any equipment in accordance with manufacturer's guidelines, and PtW system in place for roof access and abseiling work. FM team to ensure building occupiers are notified prior to any cleaning/maintenance activities being carried out. Refer to cleaning and maintenance strategy for more information.
	02/12/2022: Maintenance and tested/certification regime for latch points and step ladder/plaform to be included in H&S File and Building manual.
	Maintenance strategy and drawings to be included within Building Manual and H&S File.
	02/08/2022: Maintenance strategy required for ongoing maintenance during occupancy to be agreed with LA. FM team to ensure maintenance personnel are properly briefed in the use of any access and equipment in accordance with manufacturers guidelines. FM team to ensure building occupiers are notified prior to any major landscaping alterations (for example tree felling). Safe access required for working at height on roof and podium gardens.
t by MC 1 during fit out ng.	02/08/2022: Holes in the concrete slab left by MC should be adequately signed and protected during fit out and after completion, to guard against falling.
	02/08/2022: Appropriate risk assessments to be carried out by FM team in order to avoid collisions between other vehicles cars service personnel, building users etc. Appropriate HV clothing to be worn at all times whilst servicing the site. Collection times to be pre-agreed through CC with FM in advance.
	14/03/2023: Maintenance requirements for bat and bird boxes to be included in Building Manual.

									0				0			
	ARCHITECTURE															
Al	Access to potential proposed skybar to Block A - Issues and risks associated with personal safety, security (unauthorised access to apartment floors), ownership demises, staffing of ground floor entrance area.	0	Н	(	5 A		4	6	24	03/11/2021: Skybar proposals dropped.	1	1	1		CLOSED	CLOSED
A2	Outward opening doors - Risk of collision with passers by.	0	Н		A	. ,	4	4	16	Landscaping to include barriers and/or planting to shield door swings.	4	4	16		CLOSED	CLOSED
A3	Double opening windows - Risk of falls from height.	0	Н		R	. ;	8	4	32	02/08/2022: All windows inward opening with restrictors.	3	2	6		CLOSED	CLOSED
A4	Car park access ramp edge protection: Risks of errant vehicles crashing off ramp.	0	Н	T	R		6	3	18	22/09/2021: 375mm <b>RC</b> upstand provided, with blockwork wall above.	1	1	1		CLOSED	CLOSED
A5	Car park access ramp width - Ramp reduced to single wide lane only: Risks of collisions between vehicles and/or pedestrians & cyclists due to single lane or confusion over seemingly wider 5.7m space.	0	Н		R		6	33	18	22/09/2021: Consider inclusion of traffic management system to avoid conflicts between vehicles entering and exiting. Consider inclusion of barrier or bollards to create a segregated pedestrian and cycle lane to one side of ramp, leaving standard single lane vehicle lane. 02/08/2022: Concrete barrier upstands to edge of ramps provided. 18/01/2024: Ramp now wide enough for two vehciles to pass.	5	2	10		CLOSED	CLOSED
A6	Apartment utility cupboards accessed from bathrooms - Risk of water ingress to equipment inside.	0	Н		R		5	3	15	03/11/2021: Access to utility cupboards relocated to apartment corridors.	1	1	1		CLOSED	CLOSED
A7	Brick slip cladding system: Risks of brick bonding failure and causing injury to people below, and suitability for high rise buildings.	0	Н		0		8	3	24	15/02/2022: Stofix brick slip system being used. System is mechanically fixed and is fire rated for use on buildings over 18m tall, being tested to A2S1 BSI Fire Standards.	4	2	8		CLOSED	18/01/2024: Product information in Building Manual.
A8	Use of masonry: Risks involving manual handling, especially 140mm blockwork.	С	Н	Р	C		5	5	25	02/08/2022: Masomy use significantly reduced by use of SFS walling and brick slip system to vast majority of building facades. Replacement of 140mm blockwork with 100mm block, dual skins, blockwork laid flat, where possible.	4	2	8	CPP G100 Subcontractor Minimum Standards	02/08/2022: Contractor to make plans for dealing with heavy masonry and cutting to minimise risks; 2 person handling, dust extraction, etc. CLOSED	CLOSED
A9	Potential unauthorised access to Block A2 flat roof area from apartment gable windows: Risks of falls, trips, damage to equipment by residents accessing the flat roof service area.	0	Н	(	O R	. (	6	4	24	02/08/2022: Architect to consider means of access prevention onto roof. 06/12/2022: Inward opening windows with fixed lourve externally prevents access from window but allows ventilation.	1	1	1			
A10	Fall protection below area of former glazed link: Risks of falls from height.	0	Н		R		9	6	54	02/08/2022: 1100mm barrier now provided.	7	1	7			
A11	Falls from height from ground floor elevated windows which have 600mm high sill level. Sill potentially allows climbing on negating 1100mm barrier to opening.	0	H		R		8	5	40	02/12/2022: Acivico accepting of proposal to install restrictors on these windows so that they cannot be accidentally opened and someone fall out. Restrictors will need to be unlocked on purpose to open up window to full size.	4	2	8	Winvic Email - 09/11/2022	CLOSED	02/12/2022: Risk of opening unrestricted window to be made clear in the resident handbook.

A12	Changing light bulb/fitting to external lights on balconies. Risks: - Risks of falls from height over balcony rail whilst using ladder to change bulb/fitting.	М	Н		М	10	2	20	<ul> <li>11/01/2023: Location in soffit of balcony rejected due to risks of fall over balcony rail whilst using ladder. Design considering walls mounted light fitting with access direct from balcony without need for ladder.</li> <li>17/08/2023: Wall mounted light fitting confirmed. To be installed at height which avoids need for a ladder to negate risks of falls.</li> </ul>	4	1	4		CLOSED
A13	Basement car park access: - Access control system (potentially ANPR or fob access) to car park holding up vehicles entering, causing traffic to back up on public highway blocking road and cycle path. - Risks to personal safety of people hiding in or anti social behaviour in car park access recess.	0	Н		0	5	5	25	<ul> <li>14/03/2023: Consider moving shutter/gates further into vehicle entrance to allow space for vehicle to wait off public highway. May have management issues related to creating a covered recessed space for antisocial behaviour, so CCTV and on site management to be considered.</li> <li>17/08/2023: Gates set back from public highway as required by BCC Highways to allow car to pull off road whilst car park gates open.</li> <li>17/11/2023: CCTV cameras to be installed in car park recess to monitor area. Gaps between gate bars widened to allow greater visibility through gates.</li> </ul>	5	5	25		CLOSED
A14	Changing light bulb/fitting to staircases of duplex stairs in Block A1. Risks: - Risks of falls from height down stairs whilst using ladder to change bulb/fitting.	0	H		M	8	2	16	17/08/2023: Light fittings moved to being wall lights so as to remove working at height risk.	4	2	8		CLOSED
								0				0		
	FIRE			$ \rightarrow$	_	-		10				0.1		
FI	Fire Escape Block A: Emergency escape from tower element of building whilst under construction due to single means of escape.	0	H		к	8	5	40	Construction stage fire plans are under development in conjunction with site logistics; to ensure sequence priority of fire resisting walls with temporary fire doors, providing protected cores with regulatory escape distances.	6	4	24	BB/ Detailed Fire Strategy Construction Fire Strategy	Contractor considering requirements for temporary escape protection during con- including temporary fire doors. 02/08/2022: Temporary Haki stair bein create second means of escape from bl- Temporary fire doors being installed to escapes. Temporary sprinkler system b commercial space of Block A.
F2	Fire classification of basement car park space and fire alarm & sprinkler requirement.	0	Н		R	8	5	40	Consideration of fire alarm classification of basement car park to be considered. Possible upgrade from Class L2 to L3. 11/01/2023: <b>BB7</b> to confirm requirements for fire rated ductwork in basement. EV charging spaces require sprinklers directly over and automatic power cut to EV chargers when alarm activated. Category L3 fire alarm provided in basement. Includes heat & smoke detection to EV spaces. 14/03/2023: Dry sprinkler system being proposed for basement area.	3	2	6	BB7 Detailed Fire Strategy	CLOSED

	10/01/000 ( D 1 C 1 1 1
	18/01/2024: Product miormation to be included in
	Building Manual.
	14/03/2023: On site management of area to be considered
	by client going forward.
	CLOSED
or additional	ONGOING SITE MANAGEMENT
onstruction phase,	
ng provided to	
lock A1.	
o critical fire	
peing installed to	
Jenng mistaneet to	
	18/01/9094. Fire strategy and relevant information to be
	16/01/2024: File strategy and relevant information to be
	included in Duilding Manual.

F3	Fire service access to courtyard and required area of façade for firefighting.	0	Н		R	10	2	2	20	<ul> <li>Design for fire tender access to courtyard to be finalised and agreed.</li> <li>02/08/2022: Route via rear of Block A. Width agreed. Is tracking required to access gates on public highway? Are double yellow lines being installed on public highway to ensure access to gates are kept free?</li> <li>06/12/2022: New bellmouth and drop kerb being installed to ends of fire tender access lane to create dedicated access as part of \$278 works.</li> <li>22/12/2022: The access provisions specified in the fire strategy should be complied with.</li> <li>14/03/2023: Fire tender tracking completed by Hexa to confirm route through courtyard at rear of Block A.</li> <li>17/08/2023: Fire tender tracking via courtyard side of Block A complete and included on Hexa drawings.</li> </ul>	4	2	8	BB7 Detailed Fire Strategy 600326-HEX-00- 00-DR-C- 9520_P01-Fire Tender Tracking 2325-GHA-01-00- DR-A-(07)0180	CLOSED
F4	Fire hydrant access for fire service within distance proscribed under regulations.	0	Η		R	10	2	2	20	Fire hydrants to be added to drawings and distances confirmed. 22/12/2022: M&E Engineer to confirm fire hydrant locations are within 90m of the fire main inlet points. 17/08/2023: Fire hydrants indicated on GHA Fire Strategy drawings.	10	2	20	BB7 Detailed Fire Strategy 2325-GHA-01-00- DR-A- (07)0180_C02 - L00 - Fire Strategy Plan 2325-GHA-01-B0- DR-A- (07)0179_C02 - B01 - Fire Strategy Plan	CLOSED
F5	Need for fire fighting core in Block C - safe access for fire service.	0	Н		R	10	2	2	20	Clarification to be sought from Building Control. 02/08/2022: All blocks have fire fighting core.	4	2	8	BB7 Detailed Fire Strategy	CLOSED
F6	Cavity barriers to metal bands in brick slip façade cladding - Risk of aluminium burn out during fire and breach of cavity barrier allowing surface spread of flame to façade.	0	Н		R	10	2		20	<ul> <li>BB7 have stated they are not concerned with this item from a fire safety perspective, as fire and smoke will vent to atmosphere.</li> <li>02/08/2022: Galvanised steel cavity barrier to be installed. Can opinion and analysis be added to BB7 Fire Report?</li> <li>06/12/2022: Acivico &amp; BB7 accepting of this - Awaiting email from WCL.</li> <li>22/12/2022: BB7 currently completing a full Technical Design Review of all external wall details, after which we will update the report to include more specific detail on cavity barrier provision and similar.</li> </ul>	4	2	8	BB7 Detailed Fire Strategy GHA Details	

17/08/2023: Fire tender access route to be kept clear at all
times by FM team.
18/01/2024: Fire strategy and relevant information to be
included in Building Manual.
18/01/2024: Fire strategy and relevant information to be
included in Building Manual.
18/01/2024: Fire strategy and relevant information to be
included in Building Manual.

F7	Compliance with requirements and recommendations of BB7 fire report - Risks of not implementing actions results in non-compliance of buildings for fire regulations and consequent safety risks to occupants.	0	H		R	10	4	4	<ul> <li>BB7 report outlines actions to be taken to achieve fire compliance. Actions to be implemented, recorded, and certified.</li> <li>Sign off of fire strategy required from WMFS.</li> <li>07/12/2022: NSP to confirm any further deviation from the BB7 Fire Strategy and CFD, following the rejection of Block's C &amp; D using double-swing doors and concerns raised over the Block A2 CFD and potential use of double-swing doors to the core.</li> <li>Further to the fire workshop held on 1st November, BB7 to update Fire Strategy to confirm all changes made.</li> <li>Written confirmation that commercial sprinkler pipework can route though residential (amenity) space (verbally agreed).</li> <li>Confirm if all fire barriers can be changed to 30mins.</li> <li>Confirm if Block A1 / A2 compartment can be changed to 60mins.</li> <li>Confirm NSP Block A2 proposal with potential double swing doors.</li> <li>Confirm NSP Block A2 proposal and datasheet.</li> <li>Confirm NSP damper size.</li> <li>Confirm NSP damper size.</li> <li>Confirm mitigations for fire rated ceiling in residential corridors.</li> <li>NSP to issue updated design for Block C &amp; D to use the inlet shaft as per BB7 CFD analysis.</li> <li>Block A confirmed as having 60 minute duration sprinklers, with 30 minut duration sprinklers to all other blocks of residential use.</li> </ul>	2	2	20	BB7 Detailed Fire Strategy	Contractor to implement, record, and have strategy requirements and recommendation
F8	Short flight of 3 steps prevents level escape for wheelchair users - Risk of wheelchair user being trapped in event of fire.	0	Н		R	10	3	3	03/11/2021: Disabled refuge provided, together with refuge call point. 02/08/2022: Included in fire strategy report.	5	2	10	BB7 Detailed Fire Strategy	02/08/2022: Disabled refuge point included strategy report. CLOSED
F9	Need for sprinklers in utility cupboards as a result of changing fire regulations - <b>R</b> isk of requirement for additional sprinkler heads and additional tank capacity.	0	Н		R	6	3	1	<ul> <li>03/11/2021: Additional sprinklers and tank capacity to be considered.</li> <li>02/08/2022: No longer required as these are an exception under regulations. Detailing in Fire Strategy.</li> <li>22/12/2022: This will be detailed in the fire strategy report once BB7 have completed their Technical Design Review</li> </ul>	6	3	18	BB7 Detailed Fire Strategy	

d have certified fire	18/01/2024: Fire strategy and relevant information to be
ndations.	included in Building Manual.
cluded in fire	18/01/2024: Fire strategy and relevant information to be
	included in Building Manual.

F10	Fire stopping specification & installation: - Risks of fire stopping material being incompatible with sprinkler pipework and other services materials. - Risks of inappropriate detailing and installation which match certified detailing.	0	H	Γ		R	10	4	4	40	<ul> <li>29/11/2021: Fire stopping materials to be checked against sprinkler pipework and other services, and confirmation made they are compatible.</li> <li>Standard certified fire stopping details to be obtained from manufacturer and identified on drawings for installers.</li> <li>17/01/2022: RWPs kept wholly within single demise to ensure no crossing of compartment walls.</li> <li>02/08/2022: Significant amount of plastic pipework replaced with steel pipework, which reduces risks of reactions between materials.</li> <li>06/12/2022: WCL to provide confirmation of product compatibility checking.</li> <li>14/03/2023: Pyrotech carrying out selection process for fire stopping. WCL to prove copy and ensure materials compatibility check is included.</li> </ul>	5	4	20	WCL	<ul> <li>29/11/2021: Standard certified fire stoppin obtained from manufacturer and identified for installers.</li> <li>Installations to be monitored to ensure ful with certified details. Sign off schedule to 1 showing as installed situation compared to detail.</li> <li>02/08/2022: Fire stopping to be fully tagged and certified.</li> <li>07/12/2022: Cast in fire collars have been 1 ventilation ducts. These are incorrect for th SVPs only). To be removed and replaced surface fitted fire collar.</li> </ul>
F11	Green roof build up & arrangement of fire breaks: Risk of fire spread over roof due to: - Inadequate depth of growing medium. - Excess of organic material in growing medium. - Inadequate fire breaks to green roof area.	0	H			R	8	4	ę	32	Bauder guidance states: The growing medium should be a minimum 80mm thick, certified for use on green roofs and, where there is no permanent irrigation, organic content should be <50% and peat free. (Bauder Growing Medium organic content is less than 20% and peat free). Fire breaks 300mm wide should be a minimum of 50mm thick 20-40mm rounded pebbles; or a minimum of 40mm thick concrete ; or stone paving slabs around perimeters. 15/02/2022: Fire breaks to be provided as Bauder & BB7 advice. To double as access walkways to service roof area.	3	2	6	Confirmation emails from Acivico, BB7, & Build Zone.	<ul> <li>15/02/2022: Awaiting response from Warr &amp; client insurer on suitability.</li> <li>03/05/2022: Green roof areas build up and acceptable with Building Control, Fire Eng Warranty Provider.</li> <li>CLOSED</li> </ul>
F12	Roof insulation specification: Risks of fire spread from use of insulation classed as 'limited combustibility'.	0	Н			R	10	4	4	40	<ul> <li>17/01/2022: Roof deck is A2-s3-d2 rated as reinforced concrete.</li> <li>Compartment/junction firestopping details should follow the guidance of sections 6 and 7 of ADB Vol.2 or sections 17 and 18 of BS9991.</li> <li>Building Control have advised there is no BR requirement for non-combustible insulation.</li> <li>15/02/2022: All roof coverings to comply with Table 16 of the Fire Strategy.</li> <li>Requirements being checked with Warranty Provider &amp; client insurer.</li> <li>03/05/2022: Green roof areas build up and materials acceptable with Building Control, Fire Engineer, and Warranty Provider. Client will not approach insurers at this stage, but confirmed that they expect PC to provide solution which is acceptable to Building Control and Warranty Provider.</li> </ul>	3	2	6	Confirmation emails from Acivico, BB7, & Build Zone.	15/02/2022: Awaiting response from Warr & client insurer on suitability. 03/05/2022: Green roof areas build up and acceptable with Building Control, Fire Eng Warranty Provider. CLOSED
F13	Brick slip cladding system: Risks related to fire safety and suitability for high rise buildings.	0	H			R	8	3	2	24	<ul> <li>15/02/2022: Stofix brick slip system being used. System is mechanically fixed and is fire rated for use on buildings over 18m tall, being tested to A2S1 BSI Fire Standards.</li> <li>02/08/2022: Fire stopping detail to head of windows being considered.</li> <li>22/12/2022: External wall materials should achieve fire classification A2-s1,d0 or better in accordance with BS EN 13501-1</li> </ul>	4	2	8		CLOSED
F14	Corner steel pier bracketing projects beyond the fire barrier line: Risks of structural failure from fire.	0	Н			R	8	4	c.	32	03/05/2022: Detailing to be considered to provide fire protection to bracketing. 02/08/2022: BB7 confirmed fire protection is not required.	4	2	8		CLOSED

pping details to be ified on drawings	29/11/2021: Sign off schedule to be provided showing as installed situation compared to certified detail, and included in H&S File.
e full compliance to be provided	Fire stopping certificates to be included in H&S File.
d to certified	02/08/2022: Fire stopping records to be included within H&S File.
agged, recorded,	
een fitted for or this use (for ced with correct	
Varranty Provider	18/01/2024: Fire strategy and relevant information to be
	included in Building Manual.
and materials Engineer, and	
Varranty Provider	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
and materials Engineer, and	
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.

F15	Electrical supplies to Blocks B, C & D require diverse supplies, but are located in same room. Need 2 hours fire resistance between supplies: Risks of fire spread removing both supplies.	0	Н		0	8		4	32	<ul> <li><sup>12</sup> 03/05/2022: Considering use of 2 hour rated fire shutters between supplies due to lack of space within room. Issues with automatic shutters which require linking to fire alarm, possibilities for failure inc getting stick on iten left in way, or trapping maintenance operative within line of shutter. Designers to consider more passive protection, such as putting one supply within 2 hour enclosure which stays closed unless being maintained.</li> <li>14/06/2022: Rooms to be redesigned to be fire walls with standard fire doors. Block B design to be developed.</li> <li>02/08/2022: Masonry walls provided around secondary supplies to 2 hour rating.</li> <li>22/12/2022: BB7 in agreement that an imporforate line of passive fire resistance should be provided achieving REI120.</li> </ul>	4	2	8		CLOSED
F16	Unknown uses of commercial spaces. Class and extent of sprinklers and fire alarm to be determined: Risks that if increased sprinkler requirements needed, then tanks will not be large enough.	0	H		0	) 10	0	4	40	<ul> <li>03/05/2022: Potential commercial uses to be ascertained from client, including limits on uses, to inform sprinkler and tank design.</li> <li>02/08/2022: Block A to have full OH2 sprinklers to commercial areas. Block B to be capped and left as shell &amp; core for later installation during front.</li> <li>11/01/2023: BB7 consider it unlikely that the use of such a space would warrant an increase to OH3 system, however, we agree that the use of the space should be confirmed as early as possible. L2 fire alarm provided. Fir alarm and sprinkler system will require redesign and alteration to accommodate final uses and tenants at fit-out stage.</li> <li>Other ancillary areas provided with L3 fire alarm system.</li> <li>14/03/2023: Tanks adequately sized to allow residential amenity areas to be converted to commercial space and have consequential upgrade of sprinkler category.</li> </ul>	e e	3	15		CLOSED
F17	Site accommodation moving into base of Block A in June 2022: Risks of fire compartmenting, fire spread, and compromise of escape from tower portion of building.	0	Н		0	9 8	3	4	32	<ul> <li>03/05/2022: Fire strategy and CPP to be updated to suit proposed site setup.</li> <li>02/08/2022: Temporary sprinklers being installed to commercial space of Block A. Temporary fire doors to critical escape routes throughout Block A.</li> <li>22/12/2022: BB7 are currently producing fire strategy mark-ups for the temporary office accommodation within Block A. This will be issued early in the new year and can be incorporated into the Contractor's fire safety plan.</li> </ul>	4	2	8	Construction Fire Strategy CPP G100 Subcontractor Minimum Standards	02/08/2022: Construction fire strategy updated to suit proposed site setup. 18/01/2024: Site accommodation mov when Section 1 handover happens.
F18	Requirement for Evacuation Alert Control & Indicating Equipment (EACIE) for fire evacuation: Risks of fire service not being able to easily trigger a phased building evacuation.	0	Н		R	. 8	3	4	32	<ul> <li><sup>32</sup> 03/05/2022: Looking at whether Block A needs Evacuation Alert Control &amp; Indicating Equipment (EACIE) for fire evacuation. Other blocks are 'stay put' policy.</li> <li>02/08/2022: EACIE system provided for Block A.</li> <li>22/12/2022: BB7 in agreement with this approach and this is specified in the fire strategy.</li> </ul>	× 4	2	8	Fire Strategy	CLOSED
F19	Floor & Apartment Numbers: Risks of confusion during an emergency situation due to varying external ground floor levels and omission of no.13 apartments and floors.	0	Н		R	8	3	3	24	24 14/06/2022: Apartments numbered sequentially in blocks of 100.	4	2	8		CLOSED

	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
	02/08/2022: Information for later connection of sprinkler system in Block B commercial unit to be included in Building Manual.
	<ul> <li>11/01/2023: Fire alarm and sprinkler system will require redesign and alteration to accommodate final uses and tenants at fit-out stage.</li> <li>14/03/2023: Additional sprinkler tank capacity to be detailed in H&amp;S File and O&amp;M Manual, including any individual unit information packs.</li> </ul>
CPP to be	
to Block B	
	02/08/2022: Details of EACIE system to be inculded in Building Manual. Instructions for use to be displayed at
	fire control point for use by fire service.
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.

F20	Smoke Shaft Specification: Change of materials - Risks of not providing adequate fire compartmentation.	0	н		R	. 8	3	4	32	<ul> <li>14/06/2022: Potential change from 'Shaftwall' to 'Weather Defence' and 'Fireline' board. Building Control to advise if acceptable.</li> <li>02/08/2022: Changed to Siniat system to equivelant specification. Building Control &amp; BB7 to sign off.</li> <li>06/12/2022: Approved by Acivico &amp; BB7. WCL to provide confirming email.</li> <li>22/12/2022: BB7 are currently completing a full Technical Design Review including wall types/details and the Siniat project pack.</li> </ul>	6	3	18		<ul> <li>14/06/2022: Building Control to advise if acceptable.</li> <li>06/12/2022: Approved by Acivico &amp; BB7. WCL to provide confirming email.</li> <li>22/12/2022: BB7 are currently completing a full Technical Design Review including wall types/details and the Siniat project pack.</li> </ul>	
F21	Fire Door Exit Widths: Exits to be suitible clear width - Risks to escaping people during emergency.	0	Н		R	. 7	7	3	21	14/06/2022: 1100mm clear opening required. Further investigation and confirmation required. 02/08/2022: BB7 have agreed design widths.	4	2	8		CLOSED	18/01/2024: Fire included in Build
F22	Use of same main supply for feeding domestic water and sprinkler tank supply	0	Н		R	. 7	7	3	21	02/08/2022: Situation under review. Tanks upgraded to achieve required capacity. 14/03/2023: Tanks adequately sized to allow residential amenity areas to be converted to commercial space and have consequential upgrade of sprinkler category.	7	3	21		CLOSED	14/03/2023: Add detailed in H&S individual unit in
F23	Hot works: Risks of fire spread.	С	Η		С	7	7	4	28	02/08/2022: Consider use of crimped pipework joints or use of plastic piping where possible to minimise hot works.	7	4	28	CPP G100 Subcontractor Minimum Standards		ONG
F24	Blocks A & B height in excess of 30m in height - Risks of fire spread due to inadequate sprinkler & alarm system.	С	Н		R	. 10	0	4	40	06/12/2022: Block B requires additional sprinklers due to being over 30m in height. Retail spaces require 60m duration commercial grade sprinklers. WCL to provide mark up for Ecotect of additional sprinklers to allow full design. Is EACIE system required for Block B? Alarm details TBC. 11/01/2023: Block A & B ancillary areas provided with Cat 3 sprinkler system, residential areas with Cat 2.	4	2	8	Fire Strategy	CLOSED	18/01/2024: Fire included in Build
F25	Fire strategy split of Block A to A1 & A2 elements - Risks of fire spread between two portions of Block A.	С	Н		R	. 10	0	4	40	06/12/2022: Block A to be split into two spearate blocks for purposes of fire. Being Block A1 & A2. To be separated with 120 minute fire separation. Still requires confirmation from BB7 and requirements for fire barriers/stopping.			0	Fire Strategy GHA Fire Drawings		18/01/2024: Fire included in Build
F26	Sprinkler requirement to Comms Rooms and LV Switch Rooms. Risks: - Risks of fire spread without sprinklers. - Risks of creating or exacerbating fire/explosion with water mixing with electricity.	0	Н	•	O R	. 10	0	4	40	07/12/2022: BB7 to confirm requirement for sprinklers in these areas, together with any risks and mitigations.			0			18/01/2024: Fire included in Build
F27	Escape distance in Block C co-working/aminity area for those in a wheelchair is 28m due to secondary escape being via stairs. Risks: - Risk of wheelchair users becoming trapped.	0	H		R	. 10	0	4	40	11/01/2023: Level access to Stair Core C1 lift lobby being provided to achieve secondary means of escape.	5	1	5	Fire Strategy GHA Fire Drawings	CLOSED	18/01/2024: Fire included in Build

advise if acceptable.	
o & BB7. WCL to	
ompleting a full ing wall types/details	
)	18/01/2024: Fire strategy and relevant information to be
	included in Building Manual.
)	14/03/2023: Additional sprinkler tank capacity to be detailed in H&S File and O&M Manual, including any individual unit information packs.
	ONGOING SITE MANAGEMENT
)	18/01/2024: Fire strategy and relevant information to be
	included in Building Manual.
	included in Building Manual.
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
)	18/01/2024: Fire strategy and relevant information to be included in Building Manual.

F28	<ul><li>Retail units and ancillary areas occupances affected due to number of escape doors and inward opening doors.</li><li>Risks:</li><li>Risks to staff and customers due to limits on occupancy if numbers not managed.</li></ul>	0	Н			V	10	4	40	11/01/2023: Occupances limited in some retail units and amenity areas, so will require management by end user/tenant to keep within these limitations.	5	1	5	Fire Strategy (table 3 & 4 in particular) GHA Fire Drawings	CLOSED
F29	Block E amenity hub building has single stair means of escape so is limited to 60 persons. Risks: - Risks of larger amount of people using Block E and compromising escape from building.	0	Н			R	10	4	40	11/01/2023: Building management team to impliment process to manage numbers of people using Block E amenity hub. 18/01/2024: Block E design change to single storvey open pavillion structure.	5	1	5	Fire Strategy GHA Fire Drawings	CLOSED
F30	Use of double swing doors to cores and fire compartments. Risks: - Risks of fire spread through fire compartments.	0	H			R	10	5	50	11/01/2023: BB7 have rejected use of double swing doors in Block C & D. To be reviewed in Block A2 as concerns also raised. 18/01/2024: Double swing doors in fire compartments removed.	10	5	50	Fire Strategy GHA Fire Drawings	CLOSED
F31	Fire spread over terrace of penthouse duplex apartment terraces.	0	Н			R	10	4	40	14/03/2023: Penthouse balconies classed as part of façade and issues with compartment crossing terrace mean the terrace materials need to be completely non combustible. GHA specifying suitable insulation and roof build up.	10	4	40	Fire Strategy GHA Fire Drawings	CLOSED
F32	Requirements of The Fire Safety Order (England) 2022: - Requirement for floor & apartment number directional signage to be visible in dark & smoky conditions. - Requirement for emergency information box at Fire Service access points.	0	Н	Р	0	R	8	4	32	<ul> <li>14/03/2023: Design to take into account new requirements as part of The Fire Safety Order (England) 2022, which are enforced regardless of the Building Regulations version being complied with.</li> <li>17/08/2023: Location of fire service Property Information Boxes included on GHA drawings. Signage proposals provided and comment received from BB7. To be checked with WMFS and Building Control.</li> <li>17/11/2023: Awaiting final check of wayfining signage.</li> <li>18/01/2024: Acivico to review on site prior to competion.</li> </ul>	8	4	32	GHA Drawings	
F33	Question about fire resistance of stairs to duplex as underside of stairs is in lobby compartment below. Need to support fire lining beneath staircase.	0	Н			R	8	3	24	17/08/2023: BB7 to confirm requirement. 18/01/2024: Fire protection to stairs provided.	1	1	1	GHA Fire Strategy Drawings	CLOSED
									0				0		
Tl	TEMPORARY WORKS Poor ground conditions: Piling Mat; Excavations; Crane Mat/Working Platform.	0	Н			R	8	6	48	Ground conditions have been assessed from the Site Investigation Report provided. The type of ground on which the design is based is stated in the design, ensure the ground at formation level matches this description. If local soft spots are found excavate out and backfill as specification.	8	2	16	Rubix Consulting: Design & Check Certificates	If local soft spots are found excavate of specification.
T2	Stability Of Surrounding Retaining Walls: Piling Matt.	0	Н			R	6	4	24	Assessment has been made of the stability of the existing retaining walls and measures put in place to ensure that these are not overloaded.	2	2	4	Rubix Consulting: Design & Check Certificates	CLOSED

	11/01/2023: Fire Strategy drawings to clearly indicate maximum occupancies in retail and ancillary units.
	14/03/2023: Tenant packs to make clear maximum occupancies and other restrictions
	11/01/2023: Building management team to impliment process to manage numbers of people using Block E amenity hub. Fire Strategy drawings to clearly indicate maximum occupancies in retail and ancillary units.
	CLOSED
	19/01/0004 E
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
	17/08/2023: FM team to provide Emergency Response Packs and to be placed in Property Information Boxes prior to occupation.
	18/01/2024: Fire strategy and relevant information to be included in Building Manual.
nd backfill as	CLOSED
ng backhil as	CLOSED
	CLOSED

T3	Stability Of Existing Structures: Excavation.	I	H	]	<b>R</b> 6	4	24	TW Engineer has assessed the effects of the excavation on retained existin structures. Contractor to monitor all retained structures to ensure that then is no movement.	g 5	2	10	Rubix Consulting: Design & Check Certificates	Contractor to monitor all retained structures to ensure that there is no movement. CLOSED	CLOSED
T4	Change Of Plant & Equipment: Piling Plant; Crane Mat/Working Platform.	I	H	]	<b>R</b> 6	4	24	The plant loading is determined through the suppliers design information (Lift Plan) and is considered as the worst case unless otherwise informed l the contractor. Should there be a change to the Lift Plan the contractor must inform BPL for a reassessment.	y 4	1	4	Rubix Consulting: Design & Check Certificates	Should there be a change to the Lift Plan the contractor must inform BPL for a reassessment.	CLOSED
T5	Incorrect Crane & Crane Loads: Tower Crane Base.	I	H		R 8	4	32	Crane loads provided by supplier. Loads listed on design. Certificate refer to crane loading information. Crane erection certificate to be cross checke with crane reference. Crane limiters in place to prevent overload. Crane base designed for worst case, generally out of service loading, so overloading of crane will not include failure in foundation base.	; 4 l	1	4	Rubix Consulting: Design & Check Certificates	CLOSED	CLOSED
T6	Ground Water: Excavation.	I	H	]	<b>R</b> 6	4	24	Groundwater to be addressed via local sumps and pumping if identified in SI report. If not identified and found works to stop and TW Engineer to I advised.	e 3	1	3	Rubix Consulting: Design & Check Certificates	Groundwater to be addressed via local sumps and pumping if identified in SI report. If not identified and found works to stop and TW Engineer to be advised.	CLOSED
Τ7	Hoists: Structural support.	I	H	]	R 7	3	21	02/08/2022: Bases in place and restrained back to structure.	3	3	9	Rubix Consulting: Design & Check Certificates	02/08/2022: Bases in place and restrained back to structure. CLOSED	CLOSED
Τ8	The site is underlain by Made Ground of a variable nature. Risk of cranes, piling rigs etc. overturning.	CI	H		A 8	5	40	14/06/2022: A suitable working platform must be designed and installed. The platform must be maintained throughout the duration of the project.	3	3	9	Risk G12	14/06/2022: A suitable working platform must be designed and installed. The platform must be maintained throughout the duration of the project.	CLOSED
T9	Temporary loading of proposed MEWP on Block A level 17: Risks of structural failure or damage due to overloading.	CH	H	0 (	C 5	5	25	02/08/2022: Structural Engineer has confirmed loadings are acceptable.	3	3	9		02/08/2022: PC to work within loading limits given by Structural Engineer. CLOSED	CLOSED
T10	Temporary floor loadings for loading out of materials onto floor slabs: Risk of structural failure or damage due to overloading.	CI	H	0 (	C 5	5	25	02/08/2022: Structural Engineer to confirm loading limits and requiremen Plan being developed. Blocks A & D signed off.	s. 3	3	9		02/08/2022: Structural Engineer to confirm loading limits and requirements. Plan being developed. Blocks A & D signed off. CLOSED	CLOSED
ST1	STRUCTURES Connections of insulated balcony connectors: Risk of structural failure if distance of connection too great. Juliet balcony restraint - Risk of structural failure due to overturning loads.	0 1	H		R 8	6	48	03/05/2022: Balcony connectors within PCC slab to be checked by balcon supplier due to distance from fixing to balcony. 02/08/2022: Cast in anchors provided for projecting balconies. Restraint to juliet balconies to be developed. 06/12/2022: To be fixed back to SFS which has been designed to accept required loadings.	7 1	1	1	Hexa & Balcony Connector Supplier drawings	CLOSED	18/01/2024: Structural calculations and product information
ST2	Piling subcontractor has gone into administration: Risks of a lack of certification of piles and lack of as built information.	O I	H	0 1	R 8	8	64	03/05/2022: Winvic have testing and information. Hexa and Build Zone to check as built information.	4	4	16	Hexa & Balcony Connector Supplier drawings	CLOSED	03/05/2022: Winvic have testing and information. Hexa and Build Zone to check as built information. Information to be included in H&S File and Building Manual.

ST9	The lower ground floors to Blocks A and C are below street level. Risk of undermining of the public highway during construction.	0	H		A	8	5	40	14/06/2022: The substructure design has been amended to minimise excavation near the highway, including the reduction of ground beam depths and with the use of cantilevered foundations.	4	3	12		CLOSED	CLOSED
ST10	The Site Investigation identified shallow ground water. Risk of inundation of excavations.	0	H		А	6	4	24	14/06/2022: Excavation depths have been kept to a minimum by the use of piled foundations.	4	2	8		CLOSED	CLOSED
ST11	Overloading of retaining walls by locating heavy plant behind.	0	H		C	8	4	32	14/06/2022: Retaining walls are designed for a minimum surcharge of 10kN/m <sup>2</sup> .	6	2	12		CLOSED	CLOSED
ST12	Collapse of shear cores during slip forming.	0	H		C		4	32	14/06/2022: The cores are designed to free stand during slip forming, prior to construction of the upper floors.	6	3	18		CLOSED	CLOSED
ST13	Overloading of upper floor slabs when the building is in service, for example due to the later addition of heavy mechanical plant.	0	H		R	8	5	40	14/06/2022: The upper floor slabs are designed to support variable loads a defined in current design codes. These loads will be included within the building O&M manual.	\$ 5	3	15		14/06/2022: The stated design loads for the slabs should not be exceeded. CLOSED	14/06/2022: Loads to be included within H&S File and Buidling manual.
ST14	Accidental or deliberate removal of load bearing member within the structure resulting in partial or complete collapse.	0	H		R	8	4	32	14/06/2022: The building is designed to satisfy the requirements of Type 2B (Blocks B, C, D) and Type 3 (Block A) structures in accordance with Building Regulations Part A3 with reinforcement detailed to accommodate tie forces in order to prevent disproportionate collapse.	2	2	4		14/06/2022: The frame should not be altered without first consulting an appropriately qualified structural engineer. CLOSED	18/01/2024: Loads to be included within H&S File and Buidling manual.
ST15	Introduction of openings in the slab near to columns resulting in punching shear failure.	0	H		R	8	4	32	14/06/2022: Slabs are designed to accommodate the drainage connections as shown on the architects drawings.	2	2	4		14/06/2022: No allowance is made for any future drainage therefore under no circumstances should cores be formed in the slab near to columns. CLOSED	18/01/2024: Loads to be included within H&S File and Buidling manual.
	LANDSCAPE ARCHITECT			Π											
LA1	Installation of hard landscaping items, inc. kerbs, large paving slabs, seating units, etc. Risks: - Heavy lifting and manual handling.	C	Η		C	5	5	25	18/11/2022: Use of smaller format paving where possible. Use of mechanical handling for large items which cannot be broken down into smaller components.	3	3	9	193-LYR-XX-XX- DWG-L-0002 Designer's Risk Register 193-LYR-XX-ZZ- SCH-L-0001-00 Stage 04 Designer's Risk Register	18/11/2022: Obtain weights from manufacturer, ensure operatives are aware prior to lifting, ensure method statement is compliant with manual handling regulations. Use of mechanical handling for large items which cannot be broken down into smaller components, and those over 20kg.	ONGOING SITE MANAGEMENT
LA2	Soft landscape planting. Risks: - Allergic reactions to plants.	C	H		C	2 5	4	20	18/11/2022: Avoid known common plants which cause severe allergies. Staff training/awareness Well maintained tools & equipment Horticultural knowledge Work instruction/Safety Code of Practice GMWI07	2	2	4	193-LYR-XX-XX- DWG-L-0002 Designer's Risk Register 193-LYR-XX-ZZ- SCH-L-0001-00 Stage 04 Designer's Risk Register	18/11/2022: Staff training/awareness Well maintained tools & equipment Horticultural knowledge Work instruction/Safety Code of Practice GMWI07 ONGOING SITE MANAGEMENT	18/11/2022: Any risks remaining with potential allergies from plants to be recorded in H&S File and Building Manual, especially in relation to maintenance.
LA3	Use of maintenance machinary, such as strimmers, mowers, etc. Risks: - Moving machinary and entanglement - Carrying equipment for long periods of time	М	H		М	1 4	3	12	18/11/2022: No loose clothing to be worn Staff training/awareness Safety guards Deadman's handle operation Work instruction/Safety Code of Practice GMWI01 Safety Boots/Gloves Carry harness Trained staff Regular breaks	3	3	9	193-LYR-XX-XX- DWG-L-0002 Designer's Risk Register 193-LYR-XX-ZZ- SCH-L-0001-00 Stage 04 Designer's Risk Register	18/11/2022: No loose clothing to be worn Staff training/awareness Safety guards Deadman's handle operation Work instruction/Safety Code of Practice GMWI01 Safety Boots/Gloves Carry harness Trained staff Regular breaks ONGOING SITE MANAGEMENT	18/11/2022: No loose clothing to be worn Staff training/awareness Safety guards Deadman's handle operation Work instruction/Safety Code of Practice GMWI01 Safety Boots/Gloves Carry harness Trained staff Regular breaks