CLARENDON

aramark

HORGAN'S QUAY RESIDENTIAL DEVELOPMENT

Horgan's Quay, Cork

BUILDING LIFE CYCLE REPORT

DOCUMENT HISTORY

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1.0. INTRODUCTION

Aramark Property were instructed by Clarendon Properties Limited to provide a Building Lifecycle Report for their proposed residential scheme at Horgan's Quay, Cork.

The purpose of this report is to provide an initial assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered to effectively manage and reduce costs for the benefit of the residents. This is achieved by producing a Building Lifecycle Report.

The Building Lifecycle Report has been developed on foot of newly revised guidelines for Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) under Section 28 of the Planning and Development Act 2000 (as amended). These guidelines supersede the previous 2015 document.

Within the new guidelines, new guidance is being provided on residential schemes.

Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

> *"include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of the residents."*

2.0. DESCRIPTION OF DEVELOPMENT

The subject planning application scheme pertains to the Residential Quarter of the permitted development at Horgan's Quay, Cork.

The proposed residential scheme consists of a single stepped block up to 11 storeys in height, wrapping around three sides of a raised courtyard and a protected structure. The scheme proposes 302 units, comprising 111 no. 1 bedroom apartments and 191 no. 2 bedroom units.
The proposal also incorporates public and private external space, residential tenant facilities, crèche, retail units and car and bicycle parking spaces.

3.0. EXECUTIVE SUMMARY – BUILDING LIFE CYCLE REPORT

Measures to effectively manage and reduce costs for the benefit of residents

The following document reviews the outline specification set out for the Horgan's Quay residential development and explores the practical implementation of the design and material principles which has informed design of building roofs, facades, internal layouts and detailing of the proposed development.

Building materials proposed for use on block elevations and in the public realm achieve a durable standard of quality that will not need regular fabric replacement or maintenance outside general day to day care. The choice of high quality and long-lasting materials such as brick cladding, stone cladding, and render finishes, as well as hardscape in the public, semi-public and private realm will contribute to lower maintenance costs for future residents and occupiers.

Please note that detailed specifications of building fabric and services have not been provided at this stage. This report reflects the outline information available to Aramark Property at the date of this issue. For any elements where information was not available, typical examples have been provided of building materials and services used for schemes of this nature and their associated lifespans and maintenance requirements.

As the building design develops this document will be updated and a schedule will be generated from the items below detailing maintenance and replacement costs over the lifespan of the materials and development constituent parts. This will enable a robust schedule of building component repair and replacement costs which will be available to the property management company so that running and maintenance costs of the development are kept within the agreed Annual operational budget.

4.0. EXTERNAL BUILDING FABRIC SCHEDULE

4.1. Roofing

4.1.1. Green roof

Location	Flat roofs *(specification TBC)*
Description	Extensive green roof system to engineer's specification.
Lifecycle	Average lifecycle of 15-35 years on most green roofs. Lifecycle will be extended with robust proven detailing to adjoining roof elements and appropriate and regular maintenance of the roof materials.
Required maintenance	Quarterly maintenance visits to include inspection of drainage layer and outlets and removal of any blockages to prevent water build up. Inspection of vegetation layer for fungus and decay. Carry out weeding as necessary. No irrigation necessary with sedum blankets.
Year	Quarterly every year
Priority	Medium
Selection process	A green roof will add to the character of the overall scheme, as well as providing attenuation to storm water run-off and less burden on rainwater goods, increased thermal and sound insulation to the building and increased bio-diversity. Natural soft finishes can provide visual amenity for residents where roof areas are visible or accessible from within areas of the scheme. Sedum roofs are a popular and varied choice for green roofs requiring minimal maintenance.
Reference	N/A

4.1.2. Roof terraces

Location	First floor podium terrace / flat roof areas
Description	• Precast concrete / stone paving slabs on support system / sand bedding. • Decorative gravel surfacing / resin bound gravel surfacing.
Lifecycle	• Average lifecycle of 30 years for paving slabs. • Average lifecycle of 10-20 years for gravel surfacing, over 25 years if well maintained.
Required maintenance	Quarterly maintenance visits to include: • Inspection of drainage layer and outlets and removal of any blockages to prevent water build up. • Inspection of all metalwork and fixings for loosening or degradation including railings, planters, flashings, decking, drainage channels and repair/replace as necessary. • Removal of weeds and debris from loose gravel surfaces and replenish gravel as necessary (not required if resin-bonded surface). • Power-washing of hard surfaces.

Year	Annually
Priority	Medium
Selection process	Paving slabs provide a durable and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces.
Reference	N/A

4.1.3. **Fall arrest system for roof maintenance access**

Location	Roofs
Description	• Fall Protection System on approved anchorage device. • Installation in accordance with BS 7883 by the system manufacturer or a contractor approved by the system manufacturer.
Lifecycle	25-30 years dependent on quality of materials. Generally steel finishes to skyward facing elements can be expected to maintain this life expectancy.
Required maintenance	Check and reset tension on the line as per manufacturer's specifications. Check all hardware components for wear (shackles, eye bolts, turn buckles). Check elements for signs of wear and/or weathering. Lubricate all moving parts. Check for structural damage or modifications.
Year	Annually
Priority	High
Selection process	Fall protection systems are a standard life safety system, provided for safe maintenance of roofs and balconies where there is not adequate parapet protection. A FPS must comply with relevant quality standards.
Reference	N/A

4.1.4. **Roof cowls**

Location	Roofs
Description	Roof Cowl System to be supplied with weather apron for flat roofs.
Lifecycle	25-35 years
Required maintenance	Check fixings annually, inspect for onset of leading edge corrosion if epoxy powder coat finish and treat.
Year	Annually
Priority	Low
Selection process	Standard fitting for roof termination of mechanical ventilation system
Reference	N/A

4.1.5. **Flashings**

Location	All flashing locations
Description	Lead / coated aluminium to be used for all flashing and counter flashings.
Lifecycle	Typical life expectancy of 70 years recorded for lead flashings, 40-50 years for aluminium flashings. Recessed joint sealing will require regular inspections.
Required maintenance	Check joint fixings for lead flashing, ground survey annually and close up inspection every 5 years. Re-secure as necessary.
Year	Ground level inspection annually and close up inspection every 5 years
Priority	Medium
Selection process	Lead has longest life expectancy of comparable materials such as copper (65 years), zinc (50 years) and aluminium (40-50 years). Lead is easily formed into the required shapes for effective weathering of building junctions according to Lead Sheet Association details.
Reference	N/A

4.2. **Rainwater drainage**

Location	All roofs
Description	• *Rainwater outlets:* Suitable for specified roof membranes. • *Gutters/Pipework:* Generally concealed, if exposed in local areas all gutters, downpipes and fixings to be aluminium powder coated to selected colour. • *Below ground drainage:* To M&E/ Structural Engineers design and specification. • *Disposal:* To surface water drainage to Structural Engineers design. • *Controls:* To M&E/ Structural Engineers design and specification. • *Accessories:* allow for outlet gradings, spigots, downspout nozzle, hopper heads, balcony and main roof outlets. • Perforated stainless steel porous grating at junction of paving slabs and entrance doors to allow surface water run-off.
Lifecycle	Aluminium gutters and downpipes have an expected life expectancy of 40 years in rural and suburban conditions (25 years in industrial and marine conditions), this is comparable to cast iron of 50 years and plastic, less so at 30 years.
Required maintenance	As with roofing systems routine inspection is key to preserving the lifecycle of rainwater systems. Regular cleaning and rainwater heads and gutters, checking joints and fixings and regularly cleaning polyester coated surfaces (no caustic or abrasive materials).
Year	Annually, cleaning bi-annually
Priority	High
Selection process	As above, aluminium fittings compare well against cast iron (in terms of cost) and plastic (in terms of lifespan and aesthetic)
Reference	N/A

4.3. External walls

4.3.1. Brickwork

Location	Façades
Description	Selected brick cladding
Lifecycle	While bricks have a high embodied energy, they are an extremely durable material. Brickwork in this application is expected to have a lifespan of 50-80 years. The mortar pointing however has a shorter lifespan of 25-50 years.
Required maintenance	In general, given their durability, brickwork finishes require little maintenance. Most maintenance is preventative: checking for hairline cracks, deterioration of mortar, plant growth on walls, or other factors that could signal problems or lead to eventual damage.
Year	Annual
Priority	Low
Selection process	Aesthetic, lightweight, cost-efficient and low maintenance cladding option, indistinguishable from traditional brick construction.
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.3.2. Stone cladding

Location	Façades at ground floor level
Description	Selected stone or reconstituted stone cladding panels on support system on rigid insulation layer with waterproof layer on concrete blockwork/reinforced concrete inner leaf.
Lifecycle	Stone cladding is expected to have a lifespan in the region of 40-60 years.
Required maintenance	In general, given its durability, stone requires little maintenance and weathers well. Most maintenance is preventative; checking for hairline cracks, deterioration of mortar, plant growth on walls, or other factors that could signal problems or lead to eventual damage.
Year	Annual
Priority	Low
Selection process	Stone is a natural and highly durable material offering a robust aesthetic. Reconstituted stone which is a cost-effective and adaptable cladding option when compared to natural stone cladding. It has the high durability associated with natural stone, with similar mechanical properties to precast concrete.
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.3.3. **Metal cladding / screening**

Location	Façades
Description	Selected metal cladding panels mounted on support system on rigid insulation layer with waterproof layer on concrete blockwork/reinforced concrete inner leaf.
Lifecycle	Metal cladding has a typical life expectancy of over 40 years.
Required maintenance	Metal cladding requires little maintenance and is resistant to corrosion. It can contribute to lower ongoing maintenance costs in comparison to exposed porous materials which may be liable to faster deterioration. Long term cleaning requirements should be taken into consideration.
Year	Inspection annually; cleaning 5 yearly.
Priority	Low
Selection process	Metal cladding protects the building's structure from rainwater and weathering. Metal cladding systems are also chosen for their aesthetic impact, durability and weathering properties.
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.3.4. **Render**

Location	Façades facing courtyard
Description	Selected white render finish.
Lifecycle	Renders in general are expected to have a lifecycle of circa 25 years.
Required maintenance	Regular inspections to check for cracking and de-bonding. Most maintenance is preventative. Cleaning of staining is recommended annually, particularly to shaded and north-facing façades.
Year	Annually
Priority	Medium
Selection process	Durable, low maintenance finish. Appropriate detailing will contribute to a long lifespan for this installation.
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.4. **External windows & doors**

Location	Façades
Description	• Selected window system (Aluminium, timber or uPVC - *specification TBC).* • Selected louvres to ground floor window openings *(specification TBC).* • All units to be double/triple-glazed with thermally broken frames. • All opening sections in windows to be fitted with suitable restrictors. Include for all necessary ironmongery; include for all pointing and mastic sealant as necessary; fixed using stainless steel metal straps screwed to masonry reveals; include for all bends, drips, flashings, thermal breaks etc.

Lifecycle	Aluminium has a typical lifespan of 45-60 years in comparison to uPVC which has a typical lifespan of 30-40 years. Timber windows have a typical lifespan of 35-50 years, aluminium cladding can extend this lifespan by 10-15 years.
Required maintenance	Check surface of windows and doors regularly so that damage can be detected. Vertical mouldings can become worn and require more maintenance than other surface areas. Lubricate at least once a year. Ensure regular cleaning regime. Check for condensation on frame from window and ensure ventilation.
Year	Annual
Priority	Medium
Selection process	Aluminium is a durable and low maintenance material with an average lifespan of 45-60 years, exceeding uPVC (30-40 years). Alu-clad timber windows compare favourably when compared to the above, extending timber windows typical lifespan of 35 – 50 years by 10-15 years.
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.5. **Balconies**

4.5.1. **Structure**

Location	Façades
Description	• Selected cantilevered metal balcony system. Steel frame system to engineer's detail, galvanised, primed with painted finish to selected colour. • Thermally-broken farrat plate connections to main structure of building.
Lifecycle	Metal structure has a typical life expectancy of 70 years dependent on maintenance of components
Required maintenance	Relatively low maintenance required. Check balcony system as per manufacturer's specifications. Check all hardware components for wear. Check elements for signs of wear and/or weathering. Check for structural damage or modifications.
Year	Annual
Priority	High
Selection process	Engineered detail; designed for strength and safety.
Reference	OMP Design Statement dated August 2019 & OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

4.5.2. **Balustrades and handrails**

Location	Balconies
Description	• Selected metal balustrades • Approved steel including fixings in accordance with manufacturer's details.
Lifecycle	General metal items have a 25-45 year lifespan.

Required maintenance	Regular visual inspection of connection pieces for impact damage or alterations.
Year	Annual
Priority	High
Selection process	Metal options will have a longer lifespan and require less maintenance than timber options (10-20 years).
Reference	OMP Design Statement dated August 2019 & OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

Location	First floor podium terrace
Description	• Selected glass balustrades • Approved tempered safety glass and steel including fixings in accordance with manufacturer's details
Lifecycle	General glass items have a 25-45 year lifespan
Required maintenance	Regular visual inspection of connection pieces for impact damage or alterations.
Year	Annual
Priority	High
Selection process	Metal and glass options will have a longer lifespan and require less maintenance than timber options (10-20 years).
Reference	OMP elevation drawing nos. HQDRQ-OMP-B0-XX-DR-A-2900 to 2904 dated 08-09-2019.

5.0. INTERNAL BUILDING FABRIC SCHEDULE

5.1. Floors

5.1.1. Common areas

Location	Entrance lobbies / reception areas
Description	• Selected anti-slip porcelain or ceramic floor tile. • Provide for inset matwell.
Lifecycle	Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also
Required maintenance	Visual inspection, intermittent replacement of chipped / loose tiles
Year	Annual
Priority	Low
Selection process	Slip rating required at entrance lobby, few materials provide this and are as hard wearing
Reference	N/A

Location	Lobbies / corridors
Description	Selected carpet inlay on underlay.
Lifecycle	10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also.
Required maintenance	Visual inspection with regular cleaning
Year	Quarterly inspection and cleaning as necessary
Priority	Low
Selection process	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility
Reference	N/A

Location	Stairs
Description	Selected carpet finish on underlay with approved nosings.
Lifecycle	• 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. • 20 year lifespan for aluminium nosings.
Required maintenance	Visual inspection with regular cleaning
Year	Quarterly inspection and cleaning as necessary
Priority	Low

Selection process	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility
Reference	N/A

Location	Lifts
Description	Tiles to match adjacent lobbies
Lifecycle	Lifespan expectation of 20-25 years in heavy wear areas for the tiling.
Required maintenance	Visual inspection, intermittent replacement of chipped / loose tiles.
Year	Annual
Priority	Low
Selection process	Slip rating required for lifts, few materials provide this and are as hard wearing.
Reference	N/A

5.1.2. **Tenant amenity areas**

Location	Residents amenity rooms / business centre / management suite
Description	• Selected carpet finish on underlay, or • Timber laminate / parquet flooring
Lifecycle	• Laminated / parquet timber flooring has a life expectancy of 25-35 years dependent on use. • 10-15 year lifespan for carpet. • Likely requirement to replace for modernisation within this period also.
Required maintenance	Visual inspection. Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
Year	Annual
Priority	Low
Selection process	Materials chosen for aesthetics, durability and low maintenance.
Reference	N/A

Location	Gym
Description	Selected timber flooring with selected underlay, weights area to receive selected raised designated zone, where the flooring can be built-up locally to accommodate this use and reduce potential impact sound with selected rubber matting or similar approved.
Lifecycle	Timber flooring with selected underlay has an expected life expectancy of 10-15 years dependent on use. A gym would be a high-use area which can significantly shorten timber floor lifespan.

Required maintenance	Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
Year	Quarterly
Priority	Medium
Selection process	Appropriate use of timber floors, specifically in gym areas controls acoustic impact.
Reference	N/A

Location	Crèche
Description	Linoleum floor sheeting *(TBC)*. Provide for inset matwell.
Lifecycle	Linoleum has a lifespan expectancy of 15-25 years. Matwell to be replaced every 10 years.
Required maintenance	Regular cleaning as necessary with recommended products as per manufacturer's instructions. Inspect annually for damage/wear.
Year	Annual
Priority	Low
Selection process	Durable, low maintenance floor finish. Slip rating required at entrance lobby.
Reference	N/A

Location	All wet areas (e.g. WCs, changing areas)
Description	Selected anti-slip ceramic floor tile.
Lifecycle	Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also
Required maintenance	Visual inspection, intermittent replacement of chipped / loose tiles
Year	Annual
Priority	Low
Selection process	Slip rating required at entrance lobby, few materials provide this and are as hard wearing
Reference	N/A

5.2. **Walls**

5.2.1. **Common areas**

Location	Entrance lobbies / reception areas
Description	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
Lifecycle	2-10 years for finishes; 40 years for plasterboard

Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

Location	Lobbies / corridors / stairs
Description	Selected contract vinyl wallpaper, class O rated, or Selected paint finish with primer to skimmed plasterboard
Lifecycle	2-10 years for finishes; 40 years for plasterboard
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish
Reference	N/A

5.2.2. **Tenant amenity areas**

Location	Residents amenity rooms / business centre / management suite / crèche
Description	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

Location	Gym
Description	Selected paint finish with primer to skimmed plasterboard.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

Location	Tenant amenity wet areas (e.g. WCs, changing areas)
Description	Selected ceramic wall tile to plasterboard (moisture board to wet areas)
Lifecycle	Typical life expectancy of 35-40 years, less in wet room areas to 20-25 years
Required maintenance	Bi-annual inspection to review damage, local repairs as necessary, particular detailed inspection in wet room areas
Year	Annually
Priority	Medium
Selection process	Wet room application requires moisture board and tiling
Reference	N/A

5.3. **Ceilings**

Location	Common areas & tenant amenity areas
Description	Selected paint finish with primer to skimmed plasterboard ceiling.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

Location	Tenant amenity wet areas
Description	Selected paint finish with primer to skimmed moisture board ceiling.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

5.4. Internal handrails & balustrades

Location	Residential blocks
Description	Proprietary glazed panel system face fixed to stairs stringer / landing slab to manufacturer's details and specifications, or Metal balustrade option *(specification TBC)*
Lifecycle	25-30 years typical lifecycle
Required maintenance	Regular inspections of holding down bolts and joints
Year	Annually
Priority	High
Selection process	Hard wearing long life materials against timber options
Reference	N/A

5.5. Carpentry & joinery

5.5.1. Internal doors & frames

Location	Residential blocks
Description	• Selected white primed and painted/varnished solid internal doors, or hardwood veneered internal doors. • All fire rated doors and joinery items to be manufactured in accordance with B.S. 476. Timber saddle boards. • Brushed aluminium door ironmongery or similar.
Lifecycle	30 years average expected lifespan
Required maintenance	General maintenance in relation to impact damage and general wear and tear
Year	Annual
Priority	Low, unless fire door High
Selection process	Industry standard
Reference	N/A

5.5.2. Skirtings & architraves

Location	Residential blocks
Description	Painted timber/MDF skirtings and architraves.
Lifecycle	30 years average expected lifespan
Required maintenance	General maintenance in relation to impact damage and general wear and tear
Year	Annual
Priority	Low
Selection process	Industry standard
Reference	N/A

5.5.3. **Window boards**

Location	Residential blocks
Description	Painted timber/MDF window boards.
Lifecycle	30 years average expected lifespan
Required maintenance	General maintenance in relation to impact damage and general wear and tear
Year	Annual
Priority	Low
Selection process	Industry standard
Reference	N/A

6.0. BUILDING SERVICES

6.1. Mechanical systems

6.1.1. Mechanical plant

Location	Mechanical Systems - General
Description	Exhaust Air Heat Pump in each apartment. – Specification to be further detailed by M&E Design Consultants.
Lifecycle	Annual Maintenance / Inspection to Exhaust Air Heat Pumps Annual Maintenance / Inspection to Heating and Water Pumps. Annual Maintenance / Inspection to Water Tanks. Annual Maintenance / Inspection to Booster-sets. Annual Maintenance / Inspection to DHS Tanks. Annual Maintenance / Inspection of water services system pipework, valves, accessories and insulation. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage. Replacement of equipment at (End of Life) EOL to be determined at detailed design stage.
Required maintenance	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	Medium
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.1.2. **Soils and Wastes**

Location	All Areas
Description	PVC / Cast iron Soils and Wastes Pipework
Lifecycle	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	Medium
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.1.3. **Water Services**

Location	Apartments, Kitchens, etc
Description	Copper Water Services Pipework and associated fittings and accessories.
Lifecycle	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual Inspections, including legionella testing to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	High
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.1.4. **Heating Services**

Location	Apartment
Description	Exhaust Air Heat Pump Specification to be confirmed at detailed design stage
Lifecycle	Annual Inspection Heat Pump in each unit. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	Medium
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.1.5. **Ventilation Services**

Location	Apartment
Description	Fresh air Through Permanent Opening with Humidity Control.
Lifecycle	Annual visual inspection of openings. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	Medium
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.2. Electrical services

6.2.1. Electrical Infrastructure

Location	Switch rooms / Risers
Description	Maintenance of Electrical Switchgear
Lifecycle	Annual Inspection of Electrical Switchgear and switchboards. Thermographic imagining of switchgear 50% of switchgear every 3 years. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual / Every three years to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	High
Selection process	All equipment to meet and exceed ESB, ETCI, CIBSE recommendations and be code compliant in all cases.
Reference	n/a for this item.

6.2.2. Lighting services internal

Location	All Areas – Internal
Description	Lighting
Lifecycle	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual / Quarterly Inspections certification as required per above remedial works.
Year	Annually / Quarterly
Priority	High
Selection process	All equipment to meet requirements and be in accordance with the current IS3217
Reference	n/a for this item.

6.2.3. **Lighting Services External**

Location	All Areas – Internal
Description	Lighting
Lifecycle	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual / Quarterly Inspections certification as required as per the PPM schedule.
Year	Annually / Quarterly
Priority	High
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A

6.2.4. **Protective Services – Fire Alarm**

Location	All areas – Internal
Description	Fire alarm
Lifecycle	Quarterly Inspection of panels and 25% testing of devices as per IS3218 requirements. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Annual / Quarterly Inspections certification as required as per the PPM schedule.
Year	Annually / Quarterly
Priority	High
Selection process	All equipment to meet requirements and be in accordance with the current IS3218
Reference	N/A

6.2.5. **Protective services – Fire Extinguishers**

Location	All areas – Internal
Description	Fire Extinguishers and Fire Blankets
Lifecycle	Annual Inspection
Required maintenance	Annual with Replacement of all extinguishers at year 10
Year	
Priority	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Selection process	All fire extinguishers must meet the requirements of I.S 291:2015 Selection, commissioning, installation, inspection and maintenance of portable fire extinguishers.
Reference	N/A

6.2.6. **Renewable Services**

Location	Roof
Description	PV Array on roof Supporting the Part L / NZEB requirements in conjunction with the CHP installation in the plantroom
Lifecycle	Quarterly Clean Annual Inspection Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Quarterly / Annual
Year	Annually
Priority	Medium
Selection process	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
Reference	N/A