

THE GRANGE RESIDENTIAL DEVELOPMENT

Stillorgan, Co. Dublin

BUILDING LIFE CYCLE REPORT



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1.0. INTRODUCTION

Aramark Property were instructed by KW PRS ICAV acting for and on behalf of its sub-fund KW PRS Fund 10 to provide a Building Lifecycle Report for their proposed residential scheme at The Grange, Stillorgan, Co. Dublin.

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 development will consist of the demolition (total c.1, 398 sq m GFA) of 'The Grange Select Marketing Suite' (1 storey), 'Oaktree Business Centre' (2 storeys) and 'The Lodge' (2 storeys); and the construction of a new residential scheme of 287 residential units; residential tenant amenity space of c.961.5 sq m; a crèche facility of c.658 sq m; and a substation of c.96.5 sq m in the form of 6 new blocks (Blocks H, J, M, N, P and Q) ranging in height from 1 - 11 storeys as follows:

The residential development provides for 287 no. units (19 no. studio units, 125 no. 1 bed units and 143 no. 2 bed units) in Blocks H, J, M and N as follows:

- Block H (7 - 11 storeys from Brewery Road) comprising 99 no. apartments (6 no. studios, 50 no. 1 bed units and 43 no. 2 beds);
- Block J (5 - 10 storeys from Brewery Road) comprising 75 no. apartments (36 no. 1 bed units and 39 no. 2 bed units);
- Block M (4 - 9 storeys from podium) comprising 73 no. apartments (38 no. 1 bed units and 35 no. 2 bed units); and
- Block N (6 - 7 storeys from Brewery Road) comprising 40 no. apartments (13 no. studios, 1 no. 1 bed units and 26 no. 2 bed units).

Each residential unit has associated private open space in the form of a balcony/terrace/roof terrace.

The following residential tenant amenity space, crèche facility and substation proposals are also delivered:

- Blocks H (7 - 11 storeys) also contains a residential tenant amenity space of c.961.5 sq m. This area includes a gym space, male and female changing areas, accessible changing areas, a cinema room, entrance lobby, lounge areas, kitchen/dining areas, games area, management suite, 4 no. meeting rooms, co-working space, security/parcels area, storage areas, tea station, toilets, letter box area and all associated extraneous areas, all of which are areas dedicated to use by future tenants.
- Block P (3 storeys) provides for a crèche facility of c.658 sq m and associated outdoor play area in the form of a roof terrace of c.222.9 sq m.
- Block Q (1 storey at basement level/level 00) provides for an ESB substation of c.96.5 sq m.

A basement area (total c.3,324.8 sq m) is also proposed below Blocks H, J & M at Level 00. A total of 100 car parking spaces (16 at surface level and 84 at basement level), 596 bicycle spaces (518 at

basement level and 78 at surface level) and 5 motorcycle spaces (all at basement level) are proposed. Waste Management areas and plant areas are also located at basement level.

Public open space is also proposed in the form of external residential amenity spaces, play areas, courtyards, gardens and trim trails (c.10,465 sq m). Provision is also made for pedestrian connections to the adjoining park to the south west, the N11 Stillorgan Road to the north east and the existing 'The Grange' development to the south east.

Nos. 2 and 3 The Grange Cottages (single storey) are retained within the current proposal and works to these residential dwellings relate solely to landscape proposals. No works are proposed to the structure or layout of these units.

The development shall be accessed via the existing vehicular access point from Brewery Road. It is proposed to reconfigure the alignment of this vehicular access point to facilitate the proposed development and provide for improved access and egress for the overall 'The Grange' development.

The associated site and infrastructural works include provision for water services; foul and surface water drainage and connections; attenuation proposals; permeable paving; all landscaping works; boundary treatment; internal roads and footpaths; and electrical services.

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 Grange residential development and explores the practical implementation of the design and material principles which has informed design of building roofs, façades, internal layouts and detailing of the proposed development.

Please note that building fabric and services specifications in this report are based on information provided to Aramark Property at the date of this issue. Information will be updated accordingly as the design develops, 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 provide a 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.

Response to An Bord Pleanála's Notice of Pre-Application Consultation Opinion

"9. A life cycle report shall be submitted in accordance with section 6.3 of the Sustainable Urban Housing: Design Standards for New Apartments (2018). This report should specifically address proposed materials, finishes and detailing which seek to create a distinctive character for the development, avoiding blank façades, dead frontage and render and which provides for active frontages and corners. The documents should also have regard to the long term management and maintenance of the proposed development".

Aramark Property are of the opinion that building materials, finishes and detailing proposed for block elevations and in the public, semi-public and private 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, robust and long-lasting materials such as brick, metal and stone cladding as the predominant façade materials, with contrasting render finishes to smaller and more private areas of the façades has been appropriately specified, and will contribute to lower maintenance costs for future residents and occupiers.

4.0. EXTERNAL BUILDING FABRIC SCHEDULE

4.1. Roofing

4.1.1. Green roof

<i>Location</i>	Flat roofs (maintenance access only)
<i>Description</i>	Extensive green roof system to engineer's specification.
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	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.
<i>Year</i>	Quarterly every year
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	OMP roof plan drawing no. 1818-OMP-00-11-DR-A-XX-1001 dated 8 July 2019

4.1.2. Roof / podium terraces

<i>Location</i>	Flat roof areas
<i>Description</i>	<ul style="list-style-type: none"> • Precast concrete / stone paving slabs on support system / sand bedding. • Decorative gravel surfacing / resin bound gravel surfacing.
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Average lifecycle of 30 years for paving slabs. • Average lifecycle of 10-20 years for gravel surfacing, over 25 years if well maintained.
<i>Required maintenance</i>	<p>Quarterly maintenance visits to include:</p> <ul style="list-style-type: none"> • 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.

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

4.1.3. Fall arrest system for roof maintenance access

<i>Location</i>	Roofs
<i>Description</i>	<ul style="list-style-type: none"> • 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.
<i>Lifecycle</i>	25-30 years dependent on quality of materials. Generally steel finishes to skyward facing elements can be expected to maintain this life expectancy.
<i>Required maintenance</i>	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.
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	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.
<i>Reference</i>	N/A

4.1.4. Roof cowls

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

4.1.5. Flashings

<i>Location</i>	All flashing locations
<i>Description</i>	Lead / coated aluminium to be used for all flashing and counter flashings.
<i>Lifecycle</i>	Typical life expectancy of 70 years recorded for lead flashings, 40-50 years for aluminium flashings. Recessed joint sealing will require regular inspections.
<i>Required maintenance</i>	Check joint fixings for lead flashing, ground survey annually and close up inspection every 5 years. Re-secure as necessary.
<i>Year</i>	Ground level inspection annually and close up inspection every 5 years
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A

4.2. Rainwater drainage

<i>Location</i>	All roofs
<i>Description</i>	<ul style="list-style-type: none"> • <i>Rainwater outlets:</i> Suitable for specified roof membranes. • <i>Gutters/Pipework:</i> Generally concealed, if exposed in local areas all gutters, downpipes and fixings to be aluminium powder coated to selected colour. • <i>Below ground drainage:</i> To M&E/ Structural Engineers design and specification. • <i>Disposal:</i> To surface water drainage to Structural Engineers design. • <i>Controls:</i> To M&E/ Structural Engineers design and specification. • <i>Accessories:</i> 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.
<i>Lifecycle</i>	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
<i>Required maintenance</i>	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).
<i>Year</i>	Annually, cleaning bi-annually
<i>Priority</i>	High
<i>Selection process</i>	As above, aluminium fittings compare well against cast iron (in terms of cost) and plastic (in terms of lifespan and aesthetic)
<i>Reference</i>	N/A

4.3. External walls

4.3.1. Brickwork

<i>Location</i>	Façades
<i>Description</i>	Selected brick cladding
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	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.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Aesthetic, lightweight, cost-efficient and low maintenance cladding option, indistinguishable from traditional brick construction.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.3.2. Stone cladding

<i>Location</i>	Façades
<i>Description</i>	Selected decorative stone cladding panels on support system on rigid insulation layer with waterproof layer on concrete blockwork/reinforced concrete inner leaf.
<i>Lifecycle</i>	Stone cladding is expected to have a lifespan in the region of 40-60 years.
<i>Required maintenance</i>	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.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Stone is a natural and highly durable material offering a robust aesthetic. Options for stone cladding include 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.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.3.3. Metal cladding

<i>Location</i>	Façades
<i>Description</i>	Selected metal cladding panels mounted on support system on rigid insulation layer with waterproof layer on concrete blockwork/reinforced concrete inner leaf.
<i>Lifecycle</i>	Metal cladding has a typical life expectancy of over 40 years.
<i>Required maintenance</i>	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.
<i>Year</i>	Inspection annually; cleaning 5 yearly.
<i>Priority</i>	Low
<i>Selection process</i>	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.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.3.4. Render

<i>Location</i>	Façades
<i>Description</i>	Selected render finish
<i>Lifecycle</i>	Renders in general are expected to have a lifecycle of circa 25 years.
<i>Required maintenance</i>	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.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Durable, low maintenance finish. Appropriate detailing will contribute to a long lifespan for this installation.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.4. External windows & doors

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> Selected window system (Aluminium, timber or uPVC - <i>specification TBC</i>). 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.

<i>Lifecycle</i>	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.
<i>Required maintenance</i>	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.
<i>Year</i>	Annual
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.5. Balconies

4.5.1. Structure

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> Selected 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.
<i>Lifecycle</i>	Metal structure has a typical life expectancy of 70 years dependent on maintenance of components
<i>Required maintenance</i>	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.
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Engineered detail; designed for strength and safety.
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

4.5.2. Balustrades and handrails

<i>Location</i>	Balconies
<i>Description</i>	<ul style="list-style-type: none"> Selected metal balustrades Approved steel including fixings in accordance with manufacturer's details.
<i>Lifecycle</i>	General metal items have a 25-45 year lifespan.

<i>Required maintenance</i>	Regular visual inspection of connection pieces for impact damage or alterations.
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Metal options will have a longer lifespan and require less maintenance than timber options (10-20 years).
<i>Reference</i>	OMP elevation drawing nos. 1818-OMP-00-ZZ-DR-A-XX-20001 to 20004 dated 23 July 2019.

<i>Location</i>	Block P (crèche) roof terrace
<i>Description</i>	<ul style="list-style-type: none"> • Selected glass balustrades • Approved tempered safety glass and steel including fixings in accordance with manufacturer's details
<i>Lifecycle</i>	General glass items have a 25-45 year lifespan
<i>Required maintenance</i>	Regular visual inspection of connection pieces for impact damage or alterations.
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Metal and glass options will have a longer lifespan and require less maintenance than timber options (10-20 years).
<i>Reference</i>	OMP elevation drawing no. 1818-OMP-P0-ZZ-DR-A-XX-20000 dated 23 July 2019.

5.0. INTERNAL BUILDING FABRIC SCHEDULE

5.1. Floors

5.1.1. Common areas

<i>Location</i>	Entrance lobbies / reception areas
<i>Description</i>	<ul style="list-style-type: none"> Selected anti-slip porcelain or ceramic floor tile. Provide for inset matwell.
<i>Lifecycle</i>	Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Slip rating required at entrance lobby, few materials provide this and are as hard wearing
<i>Reference</i>	N/A

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

<i>Location</i>	Stairs
<i>Description</i>	Selected carpet finish on underlay with approved nosings.
<i>Lifecycle</i>	<ul style="list-style-type: none"> 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. 20 year lifespan for aluminium nosings.
<i>Required maintenance</i>	Visual inspection with regular cleaning
<i>Year</i>	Quarterly inspection and cleaning as necessary
<i>Priority</i>	Low

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

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

5.1.2. Tenant amenity areas

<i>Location</i>	Lounges / meeting rooms / co-working area / games room / cinema
<i>Description</i>	<ul style="list-style-type: none"> Selected carpet finish on underlay, or Timber laminate / parquet flooring
<i>Lifecycle</i>	<ul style="list-style-type: none"> 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.
<i>Required maintenance</i>	Visual inspection. Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Materials chosen for aesthetics, durability and low maintenance.
<i>Reference</i>	N/A

<i>Location</i>	Gym
<i>Description</i>	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.
<i>Lifecycle</i>	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.

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

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

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

5.2. Walls

5.2.1. Common areas

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

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

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

5.2.2. Tenant amenity areas

<i>Location</i>	Lounges / meeting rooms / co-working area / games room / cinema / crèche
<i>Description</i>	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

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

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

5.3. Ceilings

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

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

5.4. Internal handrails & balustrades

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

5.5. Carpentry & joinery

5.5.1. Internal doors & frames

<i>Location</i>	All blocks
<i>Description</i>	<ul style="list-style-type: none"> 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.
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low, unless fire door High
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.5.2. Skirtings & architraves

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

5.5.3. Window boards

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

6.0. BUILDING SERVICES**6.1. Mechanical systems****6.1.1. Mechanical plant**

<i>Location</i>	Plant Rooms
<i>Description</i>	Centralised Heating Plant / – Specification to be further detailed by M&E Design Consultants.
<i>Lifecycle</i>	<p>Annual Maintenance / Inspection to Heating System 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 district heating system pipework, valves, accessories and insulation.</p> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p> <p>Replacement of equipment at (End of Life) EOL to be determined at detailed design stage.</p>
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.1.2. Soils and Wastes

<i>Location</i>	All Areas
<i>Description</i>	PVC / Cast iron Soils and Wastes Pipework
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.1.3. Water Services

<i>Location</i>	Apartments, Kitchens, etc
<i>Description</i>	Copper Water Services Pipework and associated fittings and accessories.
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	Annual Inspections, including legionella testing to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.1.4. Gas Services

<i>Location</i>	Plant Room
<i>Description</i>	Gas Detection Systems.
<i>Lifecycle</i>	Annual Maintenance / Inspection Gas detection systems within landlord plant rooms. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections, testing and certification to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.1.5. Heating Services

<i>Location</i>	Apartment
<i>Description</i>	Heat interface Units (HIU) / Heat Pump /Boiler Specification to be confirmed
<i>Lifecycle</i>	Annual Inspection of Heat Interface Unit / Heat Pump / Boiler in each unit. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.1.6. Ventilation Services

<i>Location</i>	Apartment
<i>Description</i>	Heat Recovery Units, Ducting & Grilles
<i>Lifecycle</i>	Annual inspection of extract fan and grilles. Annual Inspection of BMS link and operation of fan and boost / setback facility. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.2. Electrical services

6.2.1. Electrical Infrastructure

<i>Location</i>	Switch rooms / Risers
<i>Description</i>	Maintenance of Electrical Switchgear
<i>Lifecycle</i>	Annual Inspection of Electrical Switchgear and switchboards. Thermographic imaging 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.
<i>Required maintenance</i>	Annual / Every three years to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet and exceed ESB, ETCI, CIBSE recommendations and be code compliant in all cases.
<i>Reference</i>	n/a for this item.

6.2.2. Lighting services internal

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required per above remedial works.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3217
<i>Reference</i>	n/a for this item.

6.2.3. Lighting Services External

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	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.
<i>Reference</i>	N/A

6.2.4. Protective Services – Fire Alarm

<i>Location</i>	All areas – Internal
<i>Description</i>	Fire alarm
<i>Lifecycle</i>	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.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3218
<i>Reference</i>	N/A

6.2.5. Protective services – Fire Extinguishers

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

6.2.6. Renewable Services

<i>Location</i>	Roof / Boilerhouse
<i>Description</i>	PV Array on roof Supporting the Part L requirements in conjunction with the CHP installation in the plantroom
<i>Lifecycle</i>	Quarterly Clean Annual Inspection Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Quarterly / Annual
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	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.
<i>Reference</i>	N/A