

## **MIXED-USE BUILD-TO-RENT STRATEGIC HOUSING DEVELOPMENT -**

On the Former Player Wills Site & Undeveloped Land Owned by DCC at South Circular Road, Dublin 8

### **BUILDING LIFE CYCLE REPORT**



## DOCUMENT HISTORY

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## 1.0. INTRODUCTION

Aramark Property were instructed by DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV, to provide a Building Lifecycle Report for their proposed mixed-use Build-to-Rent Strategic Housing Development at the former 'Player Wills' site and undeveloped land owned by Dublin City Council at South Circular Road, Dublin 8.

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.

This Building Lifecycle Report has been developed on foot of the 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). 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;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
- iii. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
- iv. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
- v. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
- vi. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
- vii. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
- viii. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- ix. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;

- x. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
- xi. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
- xii. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
- xiii. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m. Provision of communal amenity open space in the form of a courtyard 167 sq.m
- xiv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- xv. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- xvi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- xvii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- xviii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- xix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.

- xx. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xxi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xxii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xxiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xxiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xxv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xxvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xxvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.



### 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 proposed mixed-use Build-to-Rent Strategic Housing Development at the former 'Player Wills' site and undeveloped land owned by Dublin City Council at South Circular Road, Dublin 8 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.

Building materials proposed for use on 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, as well as both soft and 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 material descriptions contained within Henry J Lyons Architects' planning drawing pack received December 2020.**

**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. All information is therefore indicative subject to further information at detailed design stage.**

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 in a summary document. 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, this will take the form of a Planned Preventative Maintenance Schedule (PPM)\* at operational commencement of the development.

*\*PPM under separate instruction*



#### 4.0. EXTERNAL BUILDING FABRIC SCHEDULE

##### 4.1. Roofing

###### 4.1.1. Green Roofs (Manufacturer / Supplier TBC)

<i>Location</i>	Selected Flat Roof Areas (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 ponding. Inspection of vegetation layer for fungus and decay. Carry out weeding as necessary. No irrigation necessary with sedum blankets.
<i>Year</i>	Quarterly
<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 biodiversity. 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>	Henry J Lyons Architects' planning drawings & Design Statement.

###### 4.1.2. Roof (Manufacturer / Supplier TBC)

<i>Location</i>	Selected Flat Roof Areas (maintenance access only)
<i>Description</i>	<ul style="list-style-type: none"> <li>• Single layer membrane roof system to engineer's specification.</li> <li>• Selected membrane and pressed metal capping.</li> </ul>
<i>Lifecycle</i>	Average lifecycle of 15-25 years on most membrane 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>	Half-yearly maintenance visits to include inspection of membrane material for puncture / cracks on sheeting; seams and flashing details; around drainage and ventilation outlets and removal of any vegetation/moss blockages to prevent ponding.
<i>Year</i>	Half-Yearly / Annual
<i>Priority</i>	Medium
<i>Selection process</i>	A membrane roof with appropriate built up system will provide durability, lacks water permeability and easily maintain without shutting down building operations during application.
<i>Reference</i>	Henry J Lyons Architects' planning drawings & Design Statement.

#### 4.1.3. Roof Terraces (Manufacturer / Supplier TBC)

<i>Location</i>	Communal Terrace (Penthouse Level)
<i>Description</i>	<ul style="list-style-type: none"> <li>• Paving with light weight slabs on;</li> <li>• Patent pads on;</li> <li>• Cushion layer on;</li> <li>• Roof deck build up to architects' and engineers' instructions.</li> </ul>
<i>Lifecycle</i>	Average lifecycle of 30 years. Generally, tend to be a long-lasting material with robust proven detailing to adjoining roof elements, if well maintained and installed appropriately.
<i>Required maintenance</i>	Regular maintenance visits to include inspection of drainage outlets under decking and removal of any blockages. General repair works, watching out for displacement of slabs, mortar decay and removal of organic matter.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Paving slabs provide a robust and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces.
<i>Reference</i>	N/A

#### 4.1.4. Fall Arrest System for Roof Maintenance Access (Manufacturer / Supplier TBC)

<i>Location</i>	Flat roof areas to all blocks (maintenance access only)
<i>Description</i>	<ul style="list-style-type: none"> <li>• Fall Protection System on approved anchorage device.</li> <li>• Installation in accordance with BS 7883 by the system manufacturer or a contractor approved by the system manufacturer.</li> </ul>
<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. Fall protection systems must comply with relevant quality standards.
<i>Reference</i>	N/A

#### 4.1.5. Roof Cowls (Manufacturer / Supplier TBC)

<i>Location</i>	Roofs ( <i>specific locations TBC</i> )
<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

#### 4.1.6. Flashings (Manufacturer / Supplier TBC)

<i>Location</i>	All flashing locations
<i>Description</i>	Lead to be used for all flashing and counter flashings.
<i>Lifecycle</i>	Typical life expectancy of 70 years recorded for lead 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 (60 years) and zinc (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 (Manufacturer / Supplier TBC)

<i>Location</i>	All Buildings
<i>Description</i>	<ul style="list-style-type: none"> <li>• <i>Rainwater outlets:</i> Suitable for specified roof membranes.</li> <li>• <i>Pipework:</i> Mixture of restored cast iron, new cast aluminium and new uPVC to Structural Engineer's design and specification.</li> <li>• <i>Below ground drainage:</i> To M&amp;E/Structural Engineers design and specification</li> <li>• <i>Disposal:</i> To surface water drainage to Structural Engineers design</li> <li>• <i>Controls:</i> To M&amp;E/ Structural Engineers design and specification</li> <li>• <i>Accessories:</i> allow for outlet gradings, spigots, downspout nozzle, hopper heads, balcony and main roof outlets</li> </ul>
<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. Brick (Manufacturer / Supplier TBC)

<i>Location</i>	Façades
<i>Description</i>	Contrasting light and dark tone brickwork.
<i>Lifecycle</i>	Selected colour 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>	Henry J Lyons Architects' planning drawings & Design Statement.

##### 4.3.2. Metal Cladding (Manufacturer / Supplier TBC)

<i>Location</i>	New Build Façades
<i>Description</i>	<ul style="list-style-type: none"> <li>• Zinc sheeted finish at Penthouse Level and Cores.</li> <li>• Aluminium sheeted finish at Ground Level (Retail Units).</li> </ul>
<i>Lifecycle</i>	Zinc typical life expectancy is over 40 years and aluminium have a typical lifespan of 45-60 years.
<i>Required maintenance</i>	Selected 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>	Selected 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>	Henry J Lyons Architects' planning drawings & Design Statement.

#### 4.3.3. Render (Manufacturer / Supplier TBC)

<i>Location</i>	New Build Façades (Selected Areas)
<i>Description</i>	Low maintenance selected colour acrylic render.
<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. Coloured render requires less maintenance than traditional renders.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Appropriate detailing will contribute to a long lifespan for this installation. Acrylic render is a durable and low-maintenance finish with the added benefit of this product being BBA certified against other render systems.
<i>Reference</i>	Henry J Lyons Architects' planning drawings & Design Statement.

#### 4.3.4. Stone (Original)

<i>Location</i>	Player Wills Factory (PW1)
<i>Description</i>	Original natural (Dry) stone wall cladding.
<i>Lifecycle</i>	Typical life expectancy of over 50 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>	Original stone is a natural and highly durable material offering a robust aesthetic. It has the high durability associated with natural stone, with similar mechanical properties to precast concrete.
<i>Reference</i>	N/A

#### 4.4. External Windows & Doors (Manufacturer / Supplier TBC)

<i>Location</i>	New Build Façades
<i>Description</i>	<ul style="list-style-type: none"> <li>• Aluminium powder-coated window and door frames to approved colour or uPVC to approved colour.</li> <li>• Glazed curtain walling along retail unit shopfront to be aluminium powder coated to selected colour with flush detailing.</li> <li>• All units to be double/triple-glazed with thermally broken frames.</li> <li>• 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.</li> </ul>
<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 durable and low maintenance 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>	Henry J Lyons Architects' planning drawings & Design Statement.

<i>Location</i>	Player Wills Factory Façades
<i>Description</i>	<ul style="list-style-type: none"> <li>• Original steel casement windows to be replicated and reinstated using thermally broken, double glazed steel casement to matching profile, opening and fixed pane configuration.</li> <li>• 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 solid reveals; include for all bends, drips, flashings, thermal breaks etc.</li> </ul>
<i>Lifecycle</i>	Steel has a typical lifespan of 45-60 years in comparison to uPVC which has a typical lifespan of 30-40 years.
<i>Required maintenance</i>	Check surface of windows 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>	Steel is durable and low maintenance with an average lifespan of 45-60 years, exceeding uPVC (30-40 years).
<i>Reference</i>	Henry J Lyons Architects' planning drawings & Design Statement.

## 4.5. Balconies

### 4.5.1. Structure (Manufacturer / Supplier TBC)

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> <li>• Powder-coated steel frame balcony system to engineer's detail or</li> <li>• Precast concrete balcony system to engineer's details.</li> <li>• Thermally broken connections to main structure of building.</li> </ul>
<i>Lifecycle</i>	<p>Metal structure has a typical life expectancy of 70 years dependent on maintenance of components.</p> <p>Precast concrete structures have a high embodied energy; however, it is an extremely durable material. Concrete frame has a typical life expectancy of 80 years.</p>
<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>	N/A

### 4.5.2. Balustrades and Handrails (Manufacturer / Supplier TBC)

<i>Location</i>	Balconies
<i>Description</i>	<ul style="list-style-type: none"> <li>• Structural frameless glass balustrades, or;</li> <li>• Glass supported on framing system positioned behind glass.</li> <li>• Approved tempered safety glass and steel including fixings in accordance with manufacturer's details.</li> <li>• Anthracite-Grey vertical balustrades and railings.</li> <li>• Fixing in accordance with manufacturer's details.</li> </ul>
<i>Lifecycle</i>	General glass and metal items have a lifespan of 25-45 years.
<i>Required maintenance</i>	Annual 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>	N/A



## 5.0. INTERNAL BUILDING FABRIC SCHEDULE

### 5.1. Floors

#### 5.1.1. Common Areas

<i>Location</i>	Entrance lobbies / Reception areas / Common corridors
<i>Description</i>	<ul style="list-style-type: none"> <li>Selected anti-slip porcelain or ceramic floor tile</li> <li>Provide for inset matwell</li> </ul>
<i>Lifecycle</i>	Lifespan expectation of 20-30 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>	Durable, low maintenance floor finish. Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

<i>Location</i>	Stairwells, landings / half landings
<i>Description</i>	Selected carpet covering. Approved anodised aluminium nosings to stairs.
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also.</li> <li>20-year lifespan for aluminium nosings.</li> </ul>
<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 apartment 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>	Co-Working Facility, Amenities, Meeting Rooms and Creche
<i>Description</i>	<ul style="list-style-type: none"> <li>• Timber laminate / parquet flooring, or</li> <li>• Carpet covering</li> <li>• Provide for inset matwell</li> </ul>
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>• Laminated / parquet timber flooring has an expected life expectancy of 25-35 years dependent on use</li> <li>• 10-15 year lifespan for carpet</li> <li>• Likely requirement to replace for modernisation within this period also</li> </ul>
<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>	All wet areas
<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 / Common corridors
<i>Description</i>	Selected contract vinyl wallpaper 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>	Lift 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>	Co-Working Facility, Amenities, Meeting Rooms and Creche
<i>Description</i>	Selected contract vinyl wallpaper 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>	Wet areas
<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 on M/F frame. Acoustic ceiling to lift core and apartment lobbies. Moisture board to wet areas.
<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>	Stairs & landings
<i>Description</i>	Metal balustrade option
<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 and Frames

<i>Location</i>	All buildings
<i>Description</i>	<ul style="list-style-type: none"> <li>• Selected white primed and painted/varnished solid internal doors, or hardwood veneered internal doors</li> <li>• All fire rated doors and joinery items to be manufactured in accordance with B.S. 476. Timber saddle boards.</li> <li>• Brushed aluminium door ironmongery or similar</li> </ul>
<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 buildings
<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>	Residential blocks
<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>	Water Heating plant is proposed to consist primarily of Air Source Heat Pumps with Electric panel heaters for space heating. Full specification to be further details to be provided by the M&E Consultant at detailed design stage.
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>• Annual Maintenance of Centralised Air Source Heat Pumps, CHP, Gas Boilers, Exhaust Air Heat Pumps, Hot Water Heat Pump.</li> <li>• Annual Maintenance / Inspection to Pumps.</li> <li>• Annual Maintenance / Inspection to Water Tanks.</li> <li>• Annual Maintenance / Inspection to Water Booster - sets.</li> <li>• Annual Maintenance / Inspection to DHS Tanks.</li> <li>• Annual Maintenance / Inspections to Electrical Panel Heaters</li> </ul> <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 / kitchens Pods etc
<i>Description</i>	PVC Soils and Wastes Pipework
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>Annual inspections required for all pipework within landlord areas.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment 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

### 6.1.3. Water Services

<i>Location</i>	Apartments
<i>Description</i>	EAHP for domestic Hot Water with Hot Water Storage Cylinder Water Services Pipework and associated fittings and accessories.
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>Annual Inspection of EAHP and Copper Cylinder.</li> <li>Annual inspections required for all pipework within landlord areas.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p>
<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. Ventilation Services

<i>Location</i>	Apartments
<i>Description</i>	Centralised Mechanical Ventilation with Heat Recovery System (MVHR) Ducting & Grilles
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>• Annual inspection of MVHR and grilles.</li> <li>• Annual Inspection of operation of fan and boost / setback facility.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment 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

## 6.2. Electrical / Protective Services

### 6.2.1. Electrical Infrastructure

<i>Location</i>	Switch rooms / Risers
<i>Description</i>	Maintenance of Electrical Switchgear
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>Annual Inspection of Electrical Switchgear and switchboards.</li> <li>Thermographic imaging of switchgear 50% of MV Switchgear Annually and LV switchgear every 3 years.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p>
<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

### 6.2.2. Lighting Services internal

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – LED throughout with Presence detection in circulation areas and locally controlled in apartments.
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>Annual Inspection of All Luminaires.</li> <li>Quarterly Inspection of Emergency Lighting.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p>
<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, Part M and DAC Requirements.
<i>Reference</i>	N/A

### 6.2.3. Lighting Services External

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – All LED with Vandal Resistant Diffusers where exposed.
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>• Annual Inspection of All Luminaires.</li> <li>• Quarterly Inspection of Emergency Lighting</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p>
<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 IS3217, Part M and DAC Requirements.
<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>	<ul style="list-style-type: none"> <li>• Quarterly Inspection of panels and 25% testing of devices as per IS3218 requirements.</li> </ul> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p>
<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 and the Fire Cert
<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>	Annually
<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. Protective Services – Apartment Sprinkler System (Where Applicable by Fire Cert)

<i>Location</i>	Apartment
<i>Description</i>	Apartment Sprinkler System
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Weekly Check of Sprinkler Pumps and plant and annual testing and certification of plant by specialist.
<i>Year</i>	All
<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>	The Apartment sprinkler system shall be installed in accordance with BS 9251:2005 – Sprinkler Systems for Residential and Domestic Occupancies – Code of Practice
<i>Reference</i>	N/A

#### 6.2.7. Protective Services – Dry Risers

<i>Location</i>	Common Area Cores
<i>Description</i>	Dry Risers
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Visual Weekly Checks of Pipework and Landing Valves with Annual testing and certification by specialist.
<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>	The system shall be installed in accordance with BS 5041 & BS 9999
<i>Reference</i>	N/A

#### 6.2.8. Fire Fighting Lobby Ventilation (To Fire Consultants Design and Specification)

<i>Location</i>	Common Area Lobby's
<i>Description</i>	Smoke Extract / Exhaust Systems
<i>Lifecycle</i>	<ul style="list-style-type: none"> <li>• Regular Tests of the system.</li> <li>• Annual inspection of Fans.</li> <li>• Annual inspection of automatic doors and AVOs.</li> <li>• All systems to be backed up by life safety systems.</li> </ul>
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Weekly / 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