

# Watermark Kent – Area A

## Services, Mechanical & Electrical Specification

### Incoming Utilities

For each of the Building Units the following incoming utility provisions are provided:

- Water: 22mm diameter metered mains service into each unit.
- Electricity: Each unit has a **minimum** of a 100Amp 3Ø supply with a **minimum Kva** as detailed below.

A1 - 40.00 Kva	A2 - 40.00 Kva	B1 - 40.00 Kva	B2 - 40.00 Kva
B3 - 40.00 Kva	C1 - 40.00 Kva	C2 - 40.00 Kva	C3 - 40.00 Kva
C4 - 80.00 Kva	D1 - 40.00 Kva	D2 - 40.00 Kva	D3 - 40.00 Kva
- Telecoms: A 100mm diameter smooth bore duct is installed to each unit to facilitate the installation of telecoms services by the purchaser or tenant.
- Comms: A 100mm diameter smooth bore duct is installed to each unit to facilitate the installation of additional data and communication cabling and services by the purchaser or tenant.

### Building Services Systems

The following tested and commissioned services are provided within/for each of the Building Units:

#### Mechanical

##### Heating/Comfort Cooling

- Office Comfort Cooling/Heating: The office areas are provided with comfort cooling and heating by means of a VRV Heat Recovery system comprising
  - All units except B1, B2, B3, D2 and D3 – Concealed chassis type fan coil units mounted in the ceiling void ducted to ceiling grilles
  - Units B1, B2, B3, D2 and D3 – Visible cassette units mounted within the ceiling grid interlinked to outdoor condensing units located in a common compound shared with other Building Units. Each floor of each unit is provided with a wall mounted LCD electronic remote controller providing programmable initiation, temperature control, fan speed control and allow night setback operation over the Comfort Cooling/Heating units in that area. The system has been based on an open plan arrangement for each floor of each unit designed to satisfy the following criteria:
    - External Design Conditions: -3°C Winter; 28°Cdb/20°Cwb Summer
    - Internal Design Conditions: 21°C Winter; 23°C Summer
    - Heat Gains: 30W/m<sup>2</sup> Office Equipment; 12W/m<sup>2</sup> Lighting

Note: If required (and subject to the developer being notified by a specific date during the construction programme) Units B1, B2, B3, D2 and D3 can be upgraded to provide concealed chassis type fan coil units which are available at an additional cost to the purchaser/tenant (details available on request).

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- Circulation Heating: The Circulation areas are heated by electric convector panel heaters with individual controls to allow programmable timer operation and frost/condensation protection for out of hours operation. Based on the external design conditions above, the Circulation areas are designed for an minimum Internal temperature of 19°C.
- Toilet Heating: The toilet areas are heated by electric down flow fan convector heaters provided with individual controls incorporating automatic switch off after an adjustable time period. A minimum 19°C Internal design temperature as for the Circulation areas.

## Ventilation

- Offices Ventilation: The office areas are provided with Mechanical Ventilation by means of Heat Recovery Ventilation Units providing a minimum fresh air requirement to satisfy Building Regulation Part F. The fresh air supply is incorporated with the Comfort Cooling/Heating units and a balanced amount of extract air is exhausted from the space, providing tempering of the incoming air for energy efficient operation. Air is provided at a rate of 10 l/s per person at an occupancy density of 10m<sup>2</sup> per person for the office areas.
- Toilet & Cleaner's Cupboard Ventilation: An individual extraction system is provided for each toilet, disabled toilet and cleaner's cupboard with ceiling mounted extraction grilles and a fan operating in conjunction with the lighting circuit incorporating run on timer for a set adjustable period when the light is switched off.

## Public Health

### Mains Cold Water:

An individually metered Water Company service pipe provides mains cold water to the Unit.

The main enters the unit and has fitted an isolating valve, strainer and draincock. A mains electricity powered electronic water conditioner of the "wraparound" type is fitted to reduce/eliminate scaling in water heating appliances.

Mains pressure cold water services are fed via copper pipework to all appliances in Unisex Toilets, Disabled Toilets, Shower and Cleaner's Cupboard.

### Hot Water:

A mains pressure unvented electric water heater is provided to supply each hot water tap from a central location in the core. A seven day time switch controls the heater power.

The shower is of the instantaneous electric type.

Thermostatic mixing valves are provided on required outlets to eliminate the risk of scalding.

Hot and cold taps on basins are timed, push operated to economise on water usage.

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## Sanitation:

Sanitary and waste pipework, vented as necessary is provided to all sanitaryware and appliances and drains to a separate main drainage foul water system.

## Rainwater:

Rainwater drains to a separate surface water drainage system.

## Electrical

### Small Power

- Offices: Within the open plan office accommodation a raised access floor is installed to enable the distribution of power, data, and telephone services to desk positions. All such installations are within the occupiers fit out works and are not part of the base build. Details of the raised access floor are provided within the building element of this document.
- Circulation Areas: General purpose sockets are provided in all circulation and common areas such that all points are within 6 metres of a socket and, such sockets are flush wall mounted at 400mm above floor level.

### Lighting

- Offices: Lighting in offices complies with CIBSE Guide LG7. All luminaries are linear fluorescent using T5 lamps and of the air handling type.
- Circulation: All circulation areas have compact fluorescent fittings selected in accordance with the CIBSE Code for Interior Lighting and CIBSE Guide LG3.
- Toilets: All toilets areas have compact fluorescent fittings selected in accordance with the CIBSE Code for Interior Lighting and CIBSE Guide LG3.
- Cleaner's Cupboard: All toilets areas have compact fluorescent fittings selected in accordance with the CIBSE Code for Interior Lighting and in CIBSE Guide LG3.
- Lighting Levels have been designed as follows:
 

Offices = 400 lux	Reception/Entrance Lobby = 300 lux
Circulation areas and toilets = 150 lux	Plant areas and lift shaft = 150 lux

Emergency Lighting: A system of Emergency lighting is provided to the whole of each unit. All escape doors and at changes of direction along escape routes are covered by emergency fittings. All other emergency lighting is provided by means of emergency inverter conversion packs fitted within the general lighting fittings.

Emergency fittings also cover a zone extending 3 m from each exterior door. All fittings are self contained self testing emergency lights.

Fire Alarms: A system is provided to each unit consisting of detectors, sounders, and a control panel mounted in the entrance area, and complies fully with the relevant British Standards.

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**Lightning Protection:** A lightning protection system is provided to the building, and complies fully with the relevant British Standards. The system incorporates an air termination network, down conductors and earth electrodes.

**Disabled Help Alarm System:** A disabled alarm is installed in each disabled WC. The system consists of power supply unit, reset unit, ceiling pull and overdoor lamp/tone generator.

**Car Park Lighting:** Column mounted fittings of polycarbonate flat glass type are provided, with an HQI lamp having no upward light component. Light levels around the building perimeters are achieved using building mounted fittings fed from the relevant building units.

	Average	Minimum
General, footpath and car park	20 lux	2 lux
Emergency lighting	-	0.2 lux

### Building Regulations Part L2A Compliance

Compliance with Part L2A (Conservation of Fuel and Power) of the Building Regulations has been validated based on the construction, fabric and installed services and on the assumption of an open plan layout and usage within the offices areas. Modification to the as built installations by reconfiguration or amendment will require revalidation of the revised scheme to ensure compliance is achieved.

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