Appendix 3 – draft policies on Smart Infrastructure and Utilities

The City of London relies on a range of utilities to function as a global financial and business centre and to meet the needs of its businesses, workers and residents. There are challenges to providing the infrastructure required to support existing activity in the City and to provide the infrastructure necessary to deliver the level of growth envisaged in the period to 2036.

Utilities infrastructure comprises the provision of electricity, gas, water, sewerage, sustainable drainage (SuDS), telecommunications, including wired and wireless infrastructure, decentralised energy networks and the pipe subway networks that accommodate such infrastructure.

Core Strategic Policy CS X: Smart Infrastructure and Utilities

To coordinate and facilitate infrastructure planning and delivery all development should;

1. Minimise the demand for power, water and utility services;
2. Incorporate sustainable building design and demand management measures;
3. Connect to existing pipe subways where feasible, particularly where there is pipe and cable congestion under the streets;
4. Seek to provide the latest and best quality utility infrastructure and connections to serve the development;

There should be early engagement between developers and infrastructure providers to ensure that the infrastructure needs arising from new development are addressed through building design, and utility networks and connections are in place in time to serve the development.

Existing essential utilities and telecommunications infrastructure will be protected from development unless it is no longer required, or it will be adequately relocated.

The improvement and extension of utilities infrastructure will be designed and sited to minimise adverse impacts on the visual amenity, character and appearance of the City and its heritage assets.

DM X: Infrastructure provision and connection

Utility infrastructure and connections must be designed into and integrated with the development, unless it can be demonstrated to the satisfaction of the City Corporation that this is not feasible. The following infrastructure requirements should be planned for:

- Electricity, gas and water supply necessary for the operation of the intended use and during the construction period. Account should be taken of the need to conserve resources and deliver energy and water efficient buildings to minimise future demands. Temporary Building Supply for the construction phase should be identified in conjunction with electricity providers including the estimated load capacity, substations and route for supply.
- Heating and cooling demand and viability of provision via decentralised energy networks. Designs must incorporate connections to existing decentralised energy networks where feasible.
- Digital and telecommunications network demand, including wired and wireless infrastructure in line with the Mayor of London's 'Wired Score' connectivity rating or equivalent, planning for dual entry through communal entry chambers and flexibility to address future technological improvements.
- To avoid delays to prospective tenants, developers should consider pre-installing fibre optic and other communications networks into the new development.
- Developers should conduct mobile signal tests within the development and consider the need for in-building mobile solutions where coverage is poor.
- Separate surface and foul water drainage requirements within the proposed building or site, including provision of Sustainable Drainage Systems (SuDS), rainwater harvesting and grey-water recycling, minimising discharge to the combined sewer network.

<u>Reason for the policy</u>

The dense concentration of businesses means that high demand is focused in a restricted geographical area. Electricity, telecommunications, water, gas and heating and cooling via the Combined Cooling Heating and Power (CCHP) network are of particular importance. Congested cable routes traverse the City under its streets. Energy demands are increasing, particularly to provide air conditioning to counter increased warming and the delivery of upgraded ICT networks required by financial and business services.

The City's Infrastructure Delivery Plan will set out in more detail the infrastructure projects that are under construction or required.

How this policy works

It is expected that best practice will be employed to ascertain, assess and improve connectivity within developments. Connection layouts and future proofing should also be considered in the design of the development.

Temporary Building Supplies should be ordered in good time to ensure that development work can begin when needed, avoiding the need for diesel generators to provide electricity if such supplies cannot be offered when required.

Delivery of new infrastructure and improvements to existing networks could result in temporary disruption to businesses, residents and visitors. There should be cooperation with infrastructure providers to minimise disruption to highways and businesses during major infrastructure upgrades and pipe subway construction.

It is important for the City to be digitally connected and responsive to the changing requirements of business, and for buildings to be equipped to meet the needs of current and future occupiers. Therefore developers will be expected to undertake an assessment of the connectivity of major new office buildings or refurbishments, using a wired certification such as WiredScore.

Key to ensuring the delivery of this policy are the strong links the City Corporation has with the various infrastructure providers including Thames Water, UK Power Networks, Cadent Gas, Citigen CCHP and Openreach. Developers, landowners and building occupiers also have a role to play in demand management, early engagement with utility providers and co-operative working to minimise disruption.

The City Corporation will encourage the improvement and extension of utilities networks to ensure that the City is at the forefront of the Smart City agenda and continues to provide good quality services for businesses, residents, students and visitors. The City Corporation's 'City Developer Guidelines for Incoming Utility Services' provides guidance on best practice and should be consulted for advice on utility connections.

DM X: Infrastructure Capacity

Development should not lead to capacity or reliability issues in the surrounding area and capacity projections must take into account the impacts of climate change which may influence future infrastructure demand.

Where potential capacity problems are identified, and no improvements are programmed by the utility company, the City Corporation will require the developer to

facilitate appropriate improvements which may require the provision of space within new developments for on-site infrastructure or off-site infrastructure upgrades.

Developers are required to demonstrate, through effective engagement with providers, that adequate utility infrastructure will be provided, both on and off the site, to serve the development during construction and operation.

Reason for the policy

Early engagement with infrastructure providers is essential to ensure that there is adequate capacity to serve the development during its construction and operational phases.

How this policy works

The Sustainability or Energy Statement submitted as part of the planning application should set out the demand management measures incorporated into the scheme, and may include evidence of engagement with providers.

Infrastructure provision must be completed prior to the occupation of the development.. Development that promotes a low-carbon based economy, through smart buildings and incorporating alternative networks into the design will be encouraged. It may be necessary for developers to establish if the proposal would lead to overloading of the existing infrastructure. This may include studies undertaken by utility providers. Adequate time should be allowed to consider the supply options and to enable utility providers to collate an informed response.

Projections of infrastructure demand should be realistic. Over specification should be avoided as it could result in underutilisation of infrastructure. The cumulative impacts should be considered through discussion with providers, and pre-application meetings with the City Corporation. The co-ordination of infrastructure works is essential to minimise disruption and the impact on existing services.

Developers should submit written evidence from utility providers that effective engagement has been carried out. This could include a joint statement of intent endorsed by the relevant providers. S106 agreements may be used to ensure continuous engagement regarding route planning and confirmation of load demands.

Redundant plant should be removed where possible to enable future infrastructure connections.

DM X: Pipe Subways

Developers and utility providers must provide entry and connection points within the development which relate to the City's established utility infrastructure networks, utilising pipe subway routes where these are available. Sharing of routes with other nearby developments and the provision of new pipe subway facilities adjacent to buildings will be encouraged.

Reason for the policy

Expansion and integration of pipe subway and decentralised energy networks is a long-term aspiration of the City Corporation and will be sought where there is sufficient evidence to demonstrate that services to development would be better integrated within an established pipe subway. Given the cost of installing new pipe subways, it is especially important to make efficient use of the existing network. Developments which are located adjacent to existing pipe subways will normally be expected to install connections.

The provision of additional pipe subways is being considered in order to provide greater capacity for pipes and cables and reducing the need for street works which often cause disruption. Pipe subways accommodate gas and water mains and electricity more effectively with easier access for maintenance, rather than burying pipes which are then inaccessible.