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# PROVISION OF 4 No. ROOF MOUNTED AIR TO AIR COOLING UNITS AND BACK-UP CONVENTIONAL CHILLER PLANT PROVISION OF LOUVRED WALL AND LOUVRED ROOF- TOP ENCLOSURE FOR VENTILATION OF STAND-BY GENERATING PLANT, INSTALLATION OF 2 No. STAND-BY DIESEL POWERED GENERATORS WITHIN BUILDING 5000 ASSOCIATED WITH FITTING OUT TO FORM PHASE I OF A DATA CENTRE

For

**PEER 1**

At

**BUILDING 5000 LANGSTONE TECHNOLOGY PARK**
**HAVANT, PO9 1SA**

## DESIGN AND ACCESS STATEMENT

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## 1. Introduction

This statement provides supplementary information required as part of the application for planning permission made on behalf of Peer 1 in connection with phased alteration and fitting out works to form a data centre and their subsequent occupation of part of Building 5000 at Langstone Technology Park, Langstone Road, Havant.

Building 5000 is a high bay industrial building formerly occupied by a large clean room and associated manufacturing and administrative functions. It has remained only partially occupied for several years. Peer 1 have entered into a lease with Fasset, the management company for Langstone Technology Park, to occupy approximately 5,240m$^2$ of vacant floor space within Building 5000.

It is intended to fit-out the building to provide data storage in a phased manner, with only a quarter of the total data storage capacity being provided in the initial phase. The programme for implementing future phases of the installation is subject to the demand for data storage provided under the initial phase

This application is for permission for development in connection with Phase I of the fitting out which is to include plant and service installation to support 1 no. data room containing approximately 120 frames.

A separate planning application is to be submitted in due course for further phases of the fitting out works.

The key components of the Phase I installation are as follows:

A. Generation of stand-by electricity in the event of grid supply failure.

Ai. Supply of combustion air and exhaust to 2 no. stand-by generators located within Building 5000
This is to be provided via an attenuated louvred external wall to the western end of Building 5000 and an attenuated louvred, roof top housing located above the proposed generator room.

B Cooling & Ventilation Plant

Bi Cooling Plant for Temperature Control Within the Data Rooms
Provided by 4 no. roof mounted low energy air to air heat exchanger cooling units ducted vertically into sub floor and ceiling void plenums.

Bii Supplementary Traditional Chiller Plant

Biii Fresh air supply with heating and cooling function to circulation areas and ancillary rooms via internally housed centralised air handling units with heat recovery function.

Stand-By Generators

In the initial phase of the development it is proposed to install 2 no. diesel powered electrical stand-by generators. These generators are designed to provide electrical power to the computer systems and cooling plant that are to be installed in the first phase of the installation and will only operate in the event of failure of the mains supply. A battery back-up (UPS) is also to be installed in support of the data storage equipment.

By definition the stand-by diesel generators will only come into service during prolonged periods of failure of the mains power supply.

The testing regime is that each generator in turn is to be started up and run for a period of 1 hour once per month.

Cooling and Ventilation Plant

The applicant is keen to utilise a recently developed air-to-air Excool cooling system to control temperatures within the data rooms. Excool units offer a very efficient low energy consumption form of cooling, but as yet are untested in an operational situation. The Phase I fit out for Peer 1 is acting as a test bed for this cooling system, but due to the uncertainty of performance, it is proposed to install back-up cooling plant in the form of a conventional chiller unit with circulation pumps.

Fresh air supplies with heating and cooling functions is to be provided to circulation areas and ancillary rooms via internally housed centralised air handling units with a heat recovery function.

## 2. Use

The proposal is within the existing B1(a)/B1(b) business use of the Langstone Technology Park Site, and as described above involves the provision of cooling and ventilation plant and of stand-by electrical generating plant.

## 3. Amount

The proposal results in a total of 72.5m$^2$ of additional floor space to be incorporated into the stand-by generator hall and approximately 446m$^2$ of plant housing and access deck located at roof level.

## 4. Layout

The proposed louvred wall serving 2 no. (Phase 1) stand-by generators is located centrally on the Western elevation of Building 5000 and will provide an exhaust outlet. The internal area thus formed previously provided loading and off-loading facilities via dock levellers to the Langstone Technology Park campus. These proposals allow for part of the service apron to continue to function as a point for servicing both the existing and new occupiers of Building 5000. The proposed roof top louvred housing located to the western end of Building 5000 provides combustion air and general ventilation to the stand-by generators beneath. We believe that the

proposed location for the emergency power generation plant at the western end of the building is in keeping with the current site strategy which concentrates service activities to this end of the campus. The staff amenity areas serving the proposed data centre are to be located at the eastern end of Building 5000.

## 5. Scale

Building 5000 is some 139 m long, 15.7 m high and 58m wide. The data centre and ancillary supporting functions are eventually to occupy 65% of the total floor space within the unit. Approximately 8.5% of the total roof area is to be occupied by cooling and ventilation plant and access decking. The top of the roof top plant housing is to project some 4.3m above the parapet of the existing building. This represents a 27% height increase over part of the building.

The proposed louvred wall and insulated cladding to the western elevation of the building merely replace a series of roller shutter service doors whilst the roof top ventilation intake housing extends to some 3.3 m above the roof level and is approximately 18.8m in length and 3m wide, but in both cases the proposed structures are entirely appropriate in scale.

## 6. Noise

The applicant has commissioned a noise report by Ian Sharland Ltd. acoustic consultants which forms part of the application documentation.

A noise survey was carried out over a two day period to establish the ambient noise levels and dialogue between Richard Sharland and the Environmental Health Department of Havant Borough Council established that the target Rating Noise level of mechanical plant should not exceed 10 dB above the ambient noise level whilst in the case of stand-by generators used only in the event of mains power failure the authority was prepared to accept a noise level equal to or lower than the ambient noise level.

As a result of a noise modelling exercise the report establishes that noise levels arising for each item of plant selected by the applicant is within the established limit at the residential properties within Brookside Road.

Internal walls separating the generator room from the remainder of the building are to be constructed in a sound reducing stud walling system comprised of metal studs, Rock wool acoustic batts between studs and two layers of plasterboard each side to give a sound reduction of approximately 50dB.

## 7. Landscaping

There is no soft or hard landscaping proposed in connection with this application.

## 8. Appearance

The roof top cooling units and chiller plant are not insignificant in height above existing parapet level, however visibility from public areas is very limited. Building

5000 is screened from view from the north (A27) both by a broad belt of trees and by other buildings within the campus. Likewise from the public areas to the east (Langstone Road) the existing building and proposed plant would be screened from view by other buildings within the campus. The roof top plant will be visible from within the Langstone Technology Park site from the south and west, however the location is very much heartland industrial use and roof top plant is very much a feature of the Langstone Technology Park campus. It is proposed that the plant housings will be coloured in a pale grey to reduce visual impact against the back ground sky.

The louvers proposed for both the louvred wall and the roof top housing are to be pressed metal or extruded aluminium and powder coated in a dark bronze colour to match the exposed metal structures of the existing building and other roof top structures elsewhere within the campus.

## 9. Access

Staff managing and running the Data Centre and visitors will gain access to the eastern end of the building via Buildings 4000 and the main staff entrance and via Building 6000 where passenger lifts are available to provide access for disabled persons.

Service access will continue to be provided via the service apron and a single dock leveller to the western end of the building