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Alexander House - Reading

Mechanical and Electrical Engineering Services

Infrastructure Report

REVISION HISTORY		REF		
REV	AUTHOR	CHECKED	DATE	COMMENTS/STATUS
P1	PL	PW	31/07/18	ISSUED FOR COMMENT
P2	PL	PW	15/01/19	ISSUED FOR PLANNING

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1 INFRASTRUCTURE REPORT

1.1 EXECUTIVE SUMMARY

Wilson Gray Consulting Ltd were requested by pj Alexander Estates Ltd to undertake a non-intrusive assessment of the existing M&E infrastructure in relation to the Alexander house - Reading, With a view to construction of a student residential scheme. The current building is to be demolished and a circa 182 bed scheme is to be built on the site.

It is recommended within this report that the existing electrical supply be retained and reused, existing mains cold water supply would require upgrade although we envisage no anomalies with this cost wise and the existing gas supply is retained.

Wilson Gray have applied for new gas, electric and water quotations based on the information provided , and these returns are summarised as follows : -

- 1) Gas – no upgrade anticipated
- 2) Electric - £32,478.01 for the new LV cut out from the existing substation.
- 3) Water - £73,789.50 for new connection and clean and waste infrastructure charges

The costs above are budget quotations at this stage but stat companies have confirmed that new connections are feasible for the development.

2 MECHANICAL REPORT

2.1 INCOMING MAINS COLD WATER SUPPLY

Looking at the information provided within the Alexander House sales brochure the existing site is a 1198 m² office block across two floors. It is reasonable to assume therefore that the water supply would be insufficient for a 182 bed student scheme given the high level of demand. The intention would be to use a tanked supply to provide domestic cold water storage for the building occupants. A new quotation for upgrade of water supply and associated infrastructure charges was received from Thams Water which indicated the new connection size was feasible and a cost of £73,476.01 inclusive of new cold water supply, associated cold water infrastructure charges and also the foul infrastructure charges.

2.2 INCOMING MAINS GAS SUPPLY

The existing main incoming gas comes into the site into a basement area. It appears that the previous office scheme was heated via a gas central heating system combined with radiators. As the intention would be to utilise electric heaters within the new proposed scheme to reduce capital cost, it is a reasonable assumption that the existing gas supply will be sufficient, which is typically what we have experienced on previous similar schemes. As such we don't envisage any cost for upgrade at this stage subject to receipt of the application response we have made. We have checked the existing gas infrastructure records for the area and the local gas infrastructure appears to be extensive should there be a change in servicing strategy down the line.

2.3 EXISTING HVAC PLANT AND ANCILLARY SERVICES

The existing hot water plant is original from the initial construction and is generally in reasonable condition. Given the change in use of the site however we wouldn't recommend the reuse of any appropriate plant for the future scheme.

2.4 DRAINAGE

We believe that at present the existing pop ups only serve the core areas of the building. As such it is recommended the client employs a civil engineer to assess this further as there will be an increased number of above ground drainage stacks to service studios which will need coordination with the below ground drainage.

3 ELECTRICAL REPORT

3.1 LV DISTRIBUTION

The current building is fed from the 500 kVA '205 Kings Road' substation which is owned and operated by SSE. We have made initial enquiries with SSE who have confirmed that the substation is not heavily loaded, and at present only 120 kVA is being used for the existing site and some small loads for street furniture potentially. A further supply was utilised from the sub onto Rupert Street but this is now redundant and pot ended. We have calculated a maximum demand calculation for our site of 440 kVA and as such we believe the existing sub station will be sufficient for our site.

The new construction would need to take into consideration the construction of a site around an existing substation and during stage 3 and 4 of the design we would suggest we contact SSE to ascertain their requirements in relation to this to allow pricing by the preferred contractor.

A new quotation was received from SSE which indicated a new connection charge of £32,476.01 for a new TP&N connection to the new development.

3.2 EXISTING ELECTRICAL INSTALLATION

The existing electrical services and LV switchgear installations serving the site are in reasonable condition however given the change of use of the scheme we would recommend this is replaced and upgraded.

3.3 DATA / TELECOMS INSTALLATION

It is recommended that a new ISDN telephone system, broadband and associated incoming lines for Redcare and security are installed as part of the works. Costs for this from BT would typically be zero with the use of leased lines on a rolling monthly charge to the client / building operator.

A broadband statement has been provided under separate cover for the planning application.