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Chartered Consulting Engineers

**ENERGY STATEMENT
FOR THE PROPOSED
NEW DECK CAR PARK
AT
CAMPUS WEST,
WELWYN GARDEN CITY**



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1.0 INTRODUCTION

Brinson Staniland Partnership have been commissioned to provide a performance specification for Welwyn Garden City Central Car parks project by Welwyn Hatfield Borough Council to provide a new deck type car park at Campus West, Welwyn Garden City, AL8 6AH.

The existing Campus West Car Park is publically owned by WHBC and currently offers approximately 302 (including 8 disabled bays) spaces on a surface car park with tarmac surface. The car park serves the Campus West Leisure & Library facility, the Town Centre for Shoppers and workers. The car park operates on a mixture of pay & display and Season tickets. The site is generally level and contains general use and accessible parking bays. To the West side of the car park is the Campus West Council owned Cinema, Roller Skating and Library complex and to the East is Woodside House, a Sheltered Housing development.

The project, subject to the outcome of the Councils overall car parking study and strategy is to create a new decked car park with a lifespan of at least 25 years, to accommodate a minimum of 360 spaces.

This Energy Statement for the project has been formulated based on the requirements identified through various communications and meetings with the Client, plus the design and construction teams.

This energy statement report will be used to provide a high level outline of the proposed electrical systems and their energy efficiency to support the planning application.

All designs will be undertaken by the preferred contractor in accordance with the relevant CIBSE Guides, Building Regulations, Water Regulations, Loss Prevention Council and all relevant British/European/International Standards.

2.0 LIGHTING INSTALLATIONS

Careful consideration will be given to reducing obtrusive light during the night and the visual impact of the lighting scheme during the day, whilst maintaining an adequate level of illuminance for its application within both the covered car park and the external parking areas.

The internal car park lighting will take the form of surface mounted linear LED luminaires with a rating of IP65 and at least IK10 and anti-ligature. The scheme will be controlled such that energy efficiency will be promoted. However, anti-panic light (emergency) will be provided in accordance with Secure by Design scheme requirements. Any façade lighting will take the form of a combination of decorative wall mounted weather resistant luminaires with zero upward light component and column mounted luminaires within the open air parking area. The car park and surrounding landscaped area lighting schemes shall be designed to meet the requirements of CIBSE LG 6, Secured by Design standards and TABLE 1 of the ILE Guidance notes for the Reduction of Obtrusive light (2012).

Luminaires and lighting schemes will generally be designed and selected in accordance with BS CIBSE LG6 requirements. The luminaire efficacy will be in excess of 120 luminaire lumens per circuit watt, with a life span over 100,000 hours at L70B50. Lamp colour temperatures will be 4000K; colour rendering will generally be greater than Ra80.

Car park internal lighting will be controlled via a combination of presence sensors and photocell, with the time switch programmed to be automatically dimmed between 2300hrs and 0700hrs. External lighting will be controlled via a combination of time switch and photocell, with the time switch programmed to be automatically dimmed between 2300hrs and 0700hrs. In each case, the photocell shall switch on the luminaires once the ambient light is at such a level that it is necessary to become illuminated.

The lighting installation will also generally incorporate an anti-panic area type emergency lighting scheme to the requirements of BS 5266 and will provide a three hour battery back-up to provide safe egress of the users should the need arise. External emergency illumination beyond the car park centre will be provided.

3.0 ELECTRIC VEHICLE CHARGING SYSTEM

An electric vehicle recharging system will be provided at designated electric vehicle spaces in the car park, comprising twin floor standing recharging stations with universal sockets, located adjacent to the site entrance.

The total electric vehicle outlets will be provided for a minimum of 10 bays provided for at handover, although this is subject to confirmation by the client / planning officer.

4.0 CARPARK CONSTRUCTION

The Contractor, Bourne Parking, has stated that they will be utilising their "Montex" system which they have stated has the lowest material mass of any car park structural form including steel decking systems, hollow-core systems, fully precast concrete systems and in-situ concrete systems. In turn this minimises the size, impact and costs of the foundations.

The Contractor will design the steel frame using standard size steel sections that are manufactured largely from recycled materials and the structure can be recycled at the end of the useful life of the building, with the zinc material from the galvanising being able to be separated as part of the recycling process.

The "Montex" system structure has the lowest life time embodied carbon footprint of any multi storey car park building.

The Contractor has stated they operate a responsible sourcing policy - the key components of the "Montex" system are manufactured in the UK. This minimises transportation and ensures that our clients' investments in their MSCP provides employment and local enterprise within the UK economy.

5.0 LZC TECHNOLOGIES

In accordance with clause 2.25 of Approved Document L2a (Conservation of fuel and power in new buildings other than dwellings), the car park is a low energy demand building and as such except from the requirements of this document.

However, the feasibility for photovoltaic cells has been considered as part of this energy statement. Due to the lack of a roof to the proposed car park and hence a suitable site for mounting the PV cells roof mounted PV cells has been discounted. The vertical east & west facades are such that they are over-shaded by surrounding buildings / trees and again discounted. The southern elevation would be overshadowed by surrounding trees and would be susceptible to damage by the required position.

It is therefore deemed that the installation of photovoltaic cells are not applicable to this project due to the above constraint and capital expenditure against return on investment.