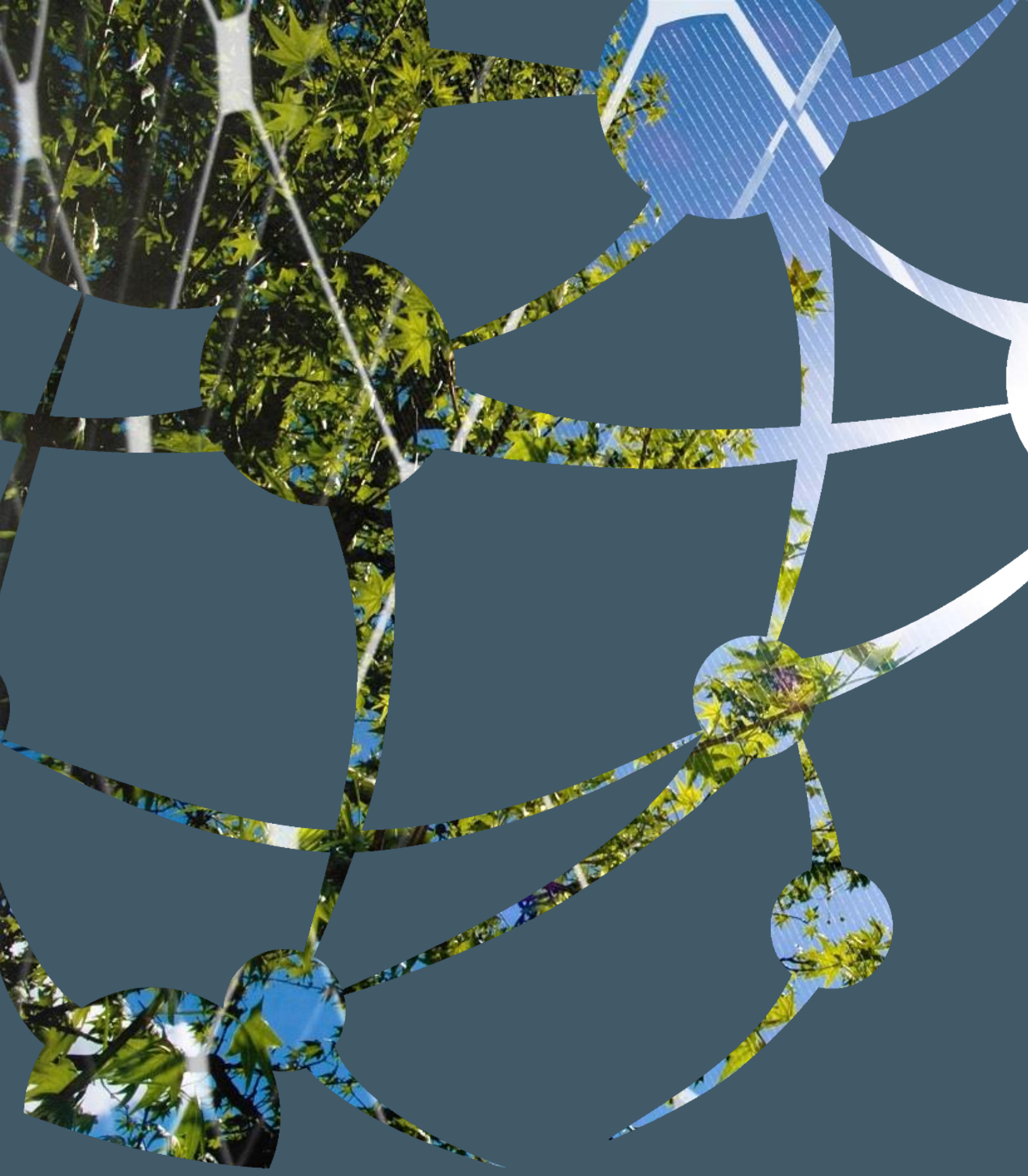

ALTON TOWERS LODGES PHASE 2
SERVICES AND ENERGY STRATEGY
DECEMBER 2015

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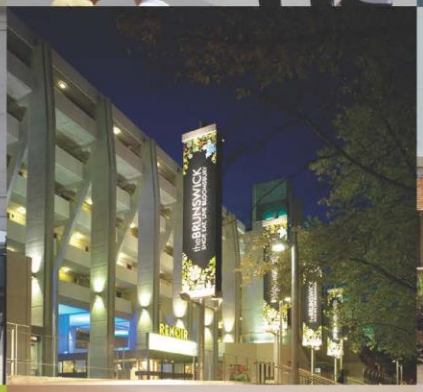
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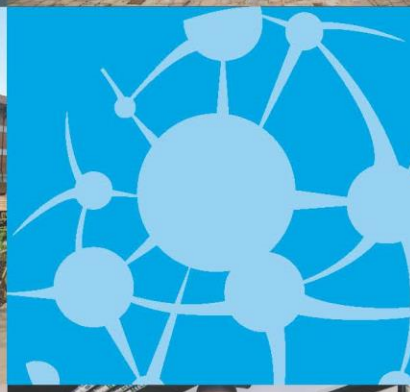


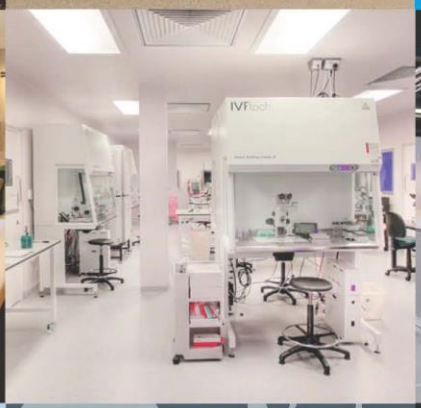
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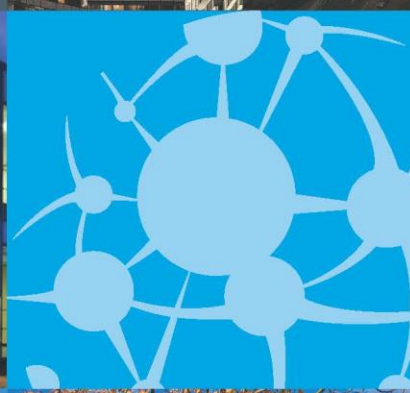



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DOCUMENT CONTROL

Issue	Description	Date	Prepared By	Signed Off
-	Planning Issue	December	DG	DG

1 INTRODUCTION

The project consists of the phase two development of the enchanted village which is proposed to be located on site at Alton Towers. The lodges are proposed to be situated to the north west of to the existing lodges and north east of the hotel. The project will expand the number of lodges as well as some ancillary accommodation, keeping the same theme and developing the servicing strategy.

The following document looks to outline the approach that is been taken towards the energy and resources being used within the development and highlight the steps taken to reduce environmental impact.

2 SUSTAINABILITY AND APPROACH

2.1 ENERGY EFFICIENCY

The first stage in reducing CO_2 emissions from the development is to reduce the energy required to service the building, through the implementation of passive design and energy efficient measures. This can be achieved in a number ways, such as improving the thermal performance of the building fabric, providing energy efficient plant, providing adequate control of building services systems and lighting systems, and through providing training to building users to enable them to utilise the building efficiently.

Whilst the individual lodges fall below the requirements of approved document L2A the project as with Phase 1 of the lodges will still look to the document for minimum fabric u values. Heat loss will be minimised using high efficiency insulating materials in walls, floors and roofs and by providing high efficiency double glazing with associated internal blinds.

2.2 VENTILATION

A balance needs to be struck with natural ventilation to avoid condensation and the build-up of air contaminants, this will be addressed by using mechanical exhaust ventilation in trickle and boost modes. Ventilation is essential but should be balanced against heat loss and air infiltration. For the lodges small exhaust unit for the bathrooms will be used to serve each lodge. This will ensure that the development if compliant with approved document F of the building regulations. This will be supplemented by natural ventilation including purge through openable windows to meet summer vent requirements. Good levels of ventilation will be provided in 'trickle' mode via standard 8000mm2 ventilators where required.

2.3 WATER RESOURCE MANAGEMENT

The development will minimise the use of water reduces the need for water extraction and any associate environmental issues that this causes. This will be achieved by utilising the following water saving features throughout the development;

- Dual flush, low volume toilets
- Low flush and/or closing taps
- Aerated Shower Heads

The use of grey water and rainwater harvesting have been considered for the project however due to the developments low density and need to distribute and collect the systems together in a central location this approach does not appear to be feasible.

2.4 HEATING & HOT WATER GENERATION

In line with the first phase of the project each lodge will be served by a high efficiency combination boiler. The boiler is able to deliver the heating and hot water needs for the lodges whilst reducing storage and infrastructure losses associated with a centrally distributed scheme. This system along with occupancy based controls will ensure that heating and hot water is only used when the lodges are occupied, ensuring the highest efficiencies can be achieved.

2.5 ELECTRICAL EFFICIENCIES

2.5.1 Lighting

The lighting installations play an important part in the sense of wellbeing and comfort. The lighting will be designed to create a calm and welcoming atmosphere. A sustainable energy efficient lighting schemes will be a key part of the design process where automatic controls will be used, with local controls to minimise wastage and utilise the daylight as much as possible.

The lighting installations will be in accordance with the following:

- SLL Lighting Handbook 2012
- CIBSE Lighting Guide 07 “Internal Lighting”
- BS8026: Part 2

All light fittings will contain low energy lamps such as LED or compact fluorescents. The use of such fittings reduces the energy consumption within the lodges as the lighting will form one of the main energy uses within the lodges. Through this we will ensure that the requirements of the building regulations are exceeded by 10% when averaged across the internal fittings in association with the development.

2.5.2 External Lighting

External lighting will be required to light the walk ways and routes through the site during night time periods. It is therefore proposed that lighting columns and bollards will be installed to give sufficient lighting levels for guests during this period. The lighting will be controlled using both a time clock and will be sensitive to ecological constraints.

2.5.3 Occupancy Switch

On entry to the accommodation the key card will need to be inserted into the switch to allow the lighting and selected small power circuits to be operated. On removing the key card the circuits will be isolated after a 10 second period. This ensures that the lighting and the associated small power circuits are not energised whilst the room is unoccupied ensuring that the energy usage is reduced. This will ensure that all lighting is switched off whilst the rooms are unoccupied.

3 MAIN UTILITIES

It is proposed that the lodges make use of the utilities that are already present on the site. This will involve alteration and extension works within the existing vicinity of the development.

3.1.1 GAS

The lodges will be served from the natural gas main which is currently providing a supply to the first phase of the lodges, new gas sub meters will be installed.

3.1.2 Water

The lodges will be served from the parks existing water main which will be extended to suit the proposed development.

3.1.3 Electricity

The development will be served through extending the infrastructure from the existing parks supply. Each of the lodges will be individually served form the local area private distribution.

4 CONCLUSION

The proposed development of Lodges intends to reduce energy consumption through good levels of passive design, electrically efficient lighting and extract ventilation. Whilst the measures outlined will reduce the consumption this is further reduced through the introduction of good levels of control and occupancy detection ensuring that energy is only used when required.

The Lodges will reduce water consumption by installing water saving sanitary ware, as outlined within this report to maximise the reduction of natural resource for the development.

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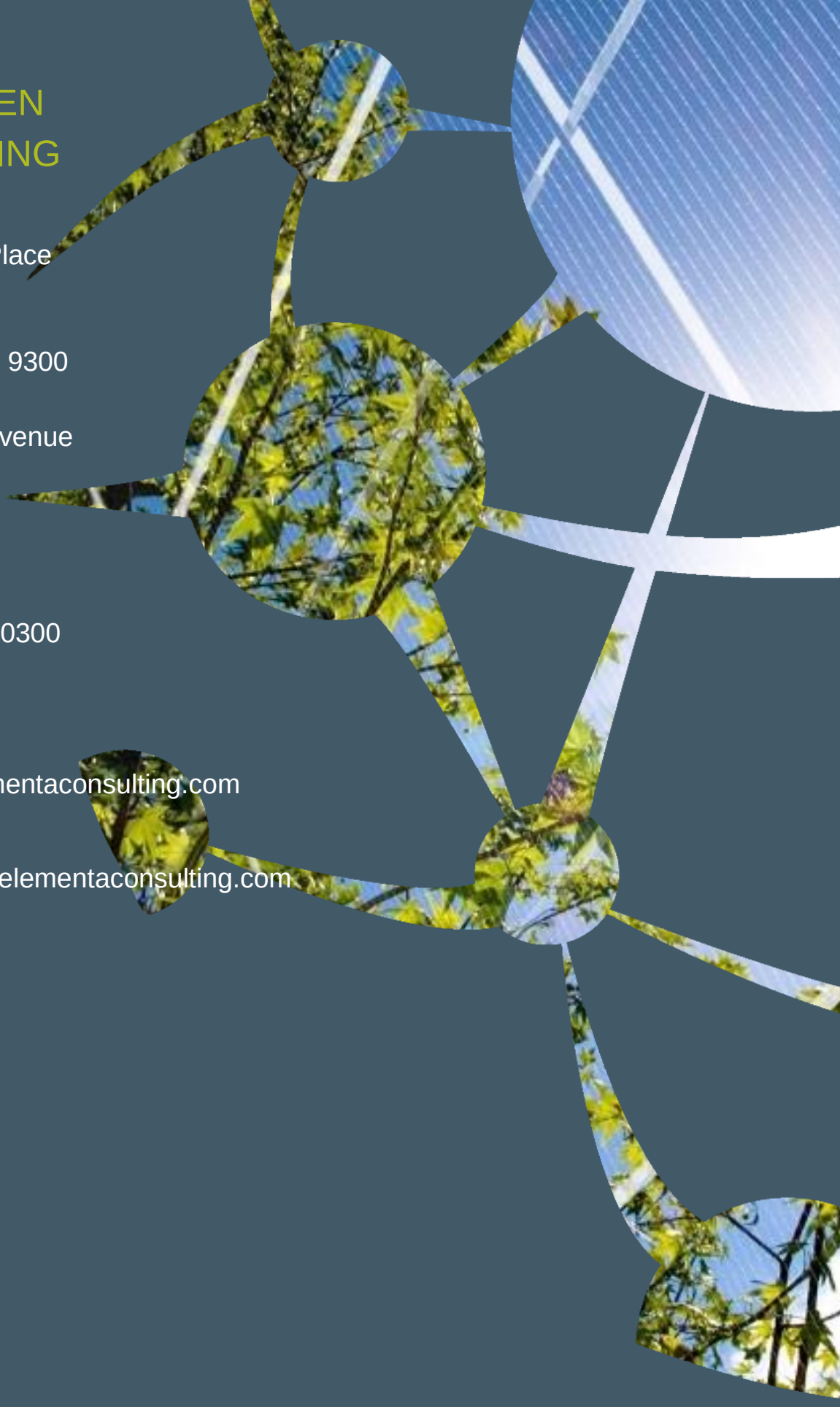

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