ELEMENT SUSTAINABILITY

SANDOWN PARK RACECOURSE, ESHER

SUSTAINABILITY AND ENERGY STATEMENT

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1. INTRODUCTION

Element Sustainability has been commissioned by Jockey Club Racecourses Ltd (JCR) to review the sustainability performance of the proposed developments at Sandown Park Racecourse, Esher, Surrey and support the outline planning application.

The purpose of this Statement is to summarise the relevant planning policy background and requirements of Elmbridge Borough Council (hereafter referred to as the Council) and demonstrate the ways in which the developer has addressed these aims through their planning application, ensuring all practicable measures have been taken in order to secure the delivery of a sustainable development of this site in the future. For the purpose of this statement, the outline element of the hybrid application is considered, as the full element of the proposed scheme does not involve construction of buildings.

Details of the potential design attributes, specifications and characteristics of the scheme are appraised in order to demonstrate how the proposals may contribute to sustainable development in Esher, Surrey and seek to mitigate the environmental impacts of the scheme.

This report supports the following:

Outline planning permission (with all matters reserved except for access to the development) for:

- Enhancement and rationalisation of existing racecourse facilities/infrastructure and car parking;
- Re-location of an upgraded children's nursery (Use Class D1);
- Development of a circa 150 room hotel (Use Class C1), and
- Demolition of existing buildings/structures and residential development of approximately 318 dwellings (Use Class C3).

Full planning permission is sought for:

- Racetrack widening to the southwest and east sections of the existing racecourse track, including associated ground levelling/earthworks to the southwest section, and re-positioning of fencing, and improvements to a section of the existing internal access road from More Lane, and
- New bell mouth accesses serving the development.

2. DEVELOPMENT PROPOSALS

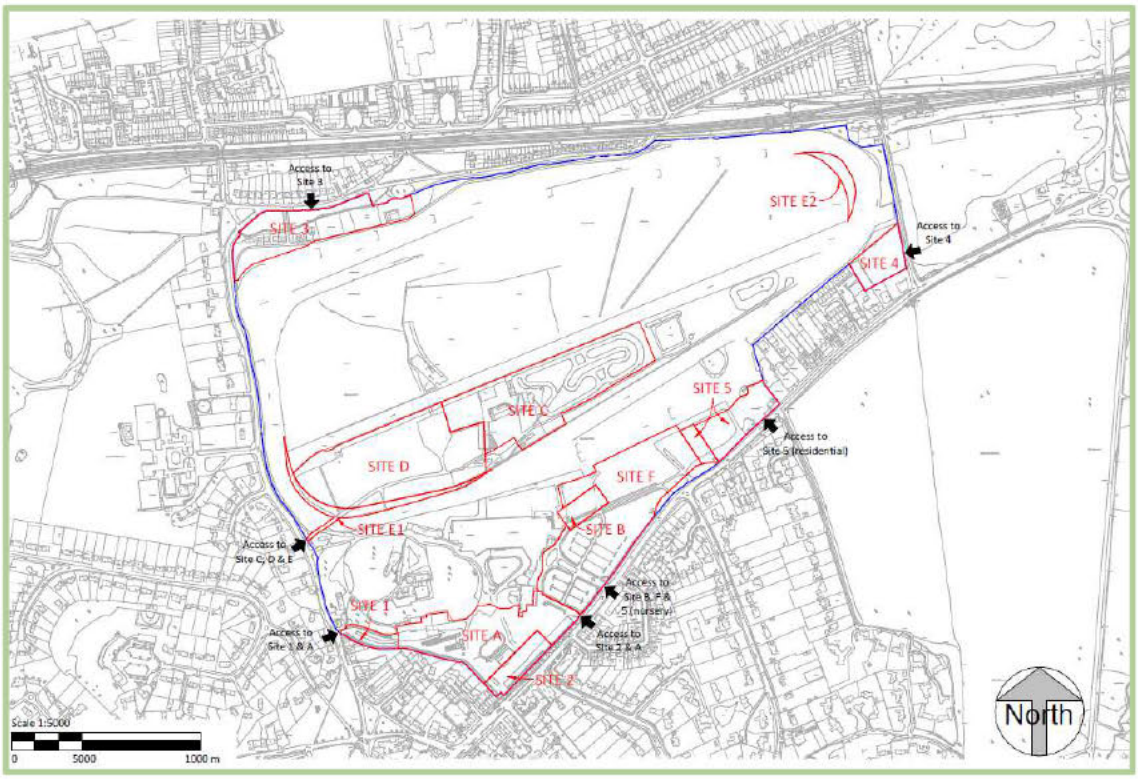
2.1 Development Site Description

The proposed development sites are located within Sandown Park Racecourse site which falls inside Green Belt allocation in the area of Esher, Surrey. The racecourse site is bound by railway lines to the north, More Lane to the west and Station Road to the east. The south of the racecourse is bound by a residential housing estate and Littleworth Common (see Figure 2.1).

The proposed developments are located within a mixture of greenfield, woodland and previously developed land. The development proposals under review within this Statement include for the enhancement and rationalisation of the existing racecourse facilities/infrastructure and car parking, relocation of an upgraded children's nursery (use class D1), development of a hotel (use class C1), the demolition of existing buildings/structures and the residential development of approximately 318 dwellings (Use Class C3). Figure 2.2 presents the proposed illustrative master plan site layout.

Figure 2.1 – Pre-Development Sites

Figure 2.2 – Master Site Plan Layout



2.2 Development Options

In summary, the following developments are proposed in outline:

Site A –

- Redevelopment and rationalisation of the stables, paddock area, pre-parade ring and horse box parking area, while delivering new stable staff accommodation and associated facilities.

Site B –

- A new six-storey, circa. one-hundred-and-fifty-bedroom hotel.

Site C –

- Demolition of the existing building and remodelling of the existing kart track with a new family/community zone including indoor/ outdoor play facilities/ children's cycle track and café.

Site D –

- Improvements of the car parking areas.

Site F –

- Improvements to the existing car parking and amendments to the layout through soft and hard landscaping.

Site 1 –

- Demolition of existing stables and erection of residential units (approx. 15 no. units).

Site 2 –

- Demolition of existing buildings to be replaced with residential units (approx. 49 no. units) with associated car/ cycle parking, landscaping and bin stores.

Site 3 –

- Demolition of existing buildings to be replaced by 9 no. new residential villa developments (approx. 114 no. units); and,

- New access to the racecourse with car/cycle parking, landscaping and bin stores.

Site 4 –

- Development of approx. 72 no. new residential units with associated access, basement car/ cycle parking, landscaping and bin stores.

Site 5 –

- Existing children's nursery to be demolished and replaced with upgraded, two-storey children's nursery with associated amenity space and car parking;

- Development of new residential units (approx. 68 no.) with associated car/cycle parking; and,

- Retention and restoration of the original Tollhouse to be utilised as part of residential development.

In summary, the full element of the proposed scheme comprises:

Sites E1 and E2 –

- Infrastructure improvements including racetrack widening with access for new development sites; and,

- Bell mouth access serves the new development sites.

3. POLICY REVIEW

This section reviews the planning policy requirements and sustainability targets that are relevant to the energy strategy for this scheme.

3.1 Local Planning Policy

3.1.1 Elmbridge Core Strategy

The Elmbridge Core Strategy Development Plan Document sets out a plan for the future development of the Borough in the period 2011 to 2026. The strategic objectives and policies of the Core Strategy have been set within the context of the overarching aim to promote sustainable growth whilst protecting the environment and providing community infrastructure.

The following saved policies of the Core Strategy are considered relevant:

Policy CS17 – Local Character, Density and Design considers the sustainable design as an integral part of the process to provide positive strategic design framework that protects and enhances that environment. The council's forthcoming development management policies and the Design and Character SPD will take into account some of the following key principles:

- Local Character - New development will be required to deliver high quality and inclusive sustainable design, which maximises the efficient use of urban land whilst responding to the positive features of individual locations, integrating sensitively with the locally distinctive townscape, landscape, and heritage assets, and protecting the amenities of those within the area; and,

- Sustainable Design - The Council will support and promote exemplary design, which adopts innovative approaches to address climate change and minimise the Borough's carbon footprint and use of natural resources (see CS27-Sustainable Buildings). New development should be appropriately landscaped, and where appropriate should incorporate biodiversity habitat, and enhance the Borough's green infrastructure network in accordance with policies CS14-Green Infrastructure and CS15-Biodiversity.

Policy CS27 – Sustainable Buildings encourages higher standards in new developments where feasible, including:

- To reduce the carbon foot print of new development the Council will expect, where viable both financially and technically, residential development of 10 or more dwellings to meet level four of the Code for Sustainable Homes[1] in relation to the energy and CO_2 emissions category, or higher as dictated by future legislation and guidance.

- Waste recycling and composting facilities within the design of all new developments;

[1] The Government has withdrawn the Code for Sustainable Homes and removed consideration for energy requirements from national policy and guidance, no weight can be given to matters set out in the first paragraph of Core Strategy Policy CS27 'Sustainable Buildings' - https://www.elmbridge.gov.uk/planning/local-plan/

- The use of sustainable construction techniques that promote the reuse and recycling of building materials;

- Large scale residential or commercial developments (residential development of 200 or more units and non-residential units of greater than 10,000m^2) identified in future Development Plan Documents that address development management and site allocations will be required to consider the use of community based systems for the provision of heat and power;

An Energy Assessment should be submitted with planning applications to demonstrate how the above criteria will be met. In the event that these criteria are not met, robust evidence will need to be submitted to show why they are not technically or financially achievable having regard to the type of development involved and its design.

Policy CS26 – Flooding states that in order to reduce overall and local risk of flooding in the Borough:

- Development must be located, designed and laid out to ensure that it is safe; the risk from flooding is minimised whilst not increasing the risk of flooding elsewhere; and that residual risks are safely managed. Therefore, planning permission will only be granted, or land allocated for development where it can be demonstrated that:

    - Through a sequential test, it is located in the lowest appropriate flood risk zone in accordance with PPS25 and the Elmbridge Strategic Flood Risk Assessment.

    - It would not constrain the natural function of the flood plain, either by impeding flood flow or reducing storage capacity.

    - Where sequential and exceptions tests have been undertaken, any development that takes place where there is a risk of flooding will need to ensure that flood mitigation measures are integrated into the design to minimise the risk to property and life should flooding occur.

- The Council will require flood resistance and resilience measures in line with current Environment Agency advice, and advice included within the Elmbridge SFRA in the event that development takes place in flood zones 2 or 3.

- All development within flood zones 2 and 3 will require surface water runoff to be controlled, as near to its source as possible, and at greenfield rates. Where SuDS have not been used in these areas the applicant should justify these reasons.

- The Council will take account of the recommendations of the most recent Strategic Flood Risk Assessment for the classification of flood zones and reclassify to take account of climate change and the protection of dry islands surrounded by high flood risk areas.

Policy CS25 – Travel and Accessibility promotes improvements to sustainable travel and accessibility to services through a variety of measures by:

- Directing new development that generate a high number of trips to previously developed land in sustainable locations within the urban area. These include town centres and areas with good public transport accessibility as outlined in national policy.

- Applying maximum parking standards to all uses, including the consideration of zero parking for certain town centre developments.

- Requiring a transport assessment and travel plan for all major development proposals, in order to promote the delivery and use of sustainable transport.

- Protecting existing footpaths, cycleways and bridleways; delivering new cycling and walking schemes; and supporting development that increases permeability and connectivity within and outside the urban area.

CS14 – Green Infrastructure will be protected, enhanced and managed by the council by means of:

- Continuing to give a high level of protection to and improving the Borough's green infrastructure assets including Suitable Accessible Natural Greenspace (SANG) and those sites designated for their biodiversity value in accordance with Policy CS15-Biodiversity. Where development of open space is proposed, the scheme will be assessed against Planning Policy Guidance note 17: Planning for Open Space, Sport and Recreation, Planning Policy Guidance note 2: Green Belts, and CS15 - Biodiversity.

- Ensuring new development protects and enhances local landscape character, strategic views and key landmarks as shown on the proposals map, and takes account of their setting, intrinsic character and amenity value.

- Strengthening the network and multi-functional role by:

    - Requiring the provision of facilities for public use on-site as part of development schemes over 50 dwellings, where appropriate;

    - Improving the biodiversity value and function of the network in accordance with CS15-Biodiversity;

    - Safeguarding important trees, woodlands and hedgerows and securing provision of soft landscaping measures in new development, focusing on the use of native species, particularly trees, which are an important feature of the Elmbridge landscape, and taking opportunities to create links with the wider green infrastructure network; and,

CS15 – Biodiversity seeks to avoid loss and contribute to a net gain in biodiversity across the region and the objectives of the Surrey Biodiversity Action Plan (BAP), by:

- Protecting and seeking to improve all sites designated for their biodiversity importance, as identified on the proposals map, in accordance with PPS9: Biodiversity and Geological Conservation.

- Support the implementation of the Regional Forestry and Woodland Framework by:

    - Protecting all woodland, including ancient woodland, as shown on the proposals map, from damaging development and land uses;

    - Promoting the effective management, and where appropriate, extension and creation of new woodland areas including, in association with areas of major development, where this helps to restore and enhance degraded landscapes, screen noise and

pollution, provide recreational opportunities, helps mitigate climate change, and contributes to floodplain management;

- Replacing woodland unavoidably lost through development with new woodland on at least the same scale;
- Promoting and encouraging the economic use of woodlands and wood resources, including wood fuel as a renewable energy source;
- Promoting the growth and procurement of sustainable timber products.

- Managing and maintaining a mosaic of habitats and rich variety of wildlife across the Council's landholdings in accordance with the Elmbridge Countryside Strategy.
- Directing development to previously developed land in accordance with CS1-Spatial Strategy, taking account of its existing biodiversity value.
- Ensuring new development does not result in a net loss of biodiversity and where feasible contributes to a net gain through the incorporation of biodiversity features.

The Elmbridge Local Development Management Plan April 2015 contains the day-to-day policies against which planning applications and enforcement action will be assessed. The following policies will ensure that development contributes to the wider, strategic aims of the Core Strategy:

DM2 – Design and Amenity requires high quality design for all new developments which demonstrates environmental awareness and contributes to climate change mitigation and adaption. Development proposals must take into account the following:

- To preserve or enhance the character of the area;
- Landform, layout, building orientation, massing and landscape to minimise energy and water consumption;
- Development proposals should create safe and secure environments and reduce opportunities for crime; and,
- Proposals should be designed to offer an appropriate outlook and provide adequate daylight, sunlight and privacy.

DM5 – Pollution states that in order to minimise the impact of development and potential sources of pollution, the council will seek appropriate conditions attached to planning permissions to secure mitigation measures.

- Noise, odour and Light - All development that may result in noise or odour emissions or light pollution will be expected to incorporate appropriate attenuation measures to mitigate the effect on existing and future residents. New development located near to existing noise, odour or light generating uses will be expected to demonstrate that the proposal is compatible and will not result in unacceptable living standards, for example through the mitigation measures, the design of the building and its orientation and layout.

- Air Quality - Within designated Air Quality Management Areas, the Council will promote measures to improve air quality and will expect development proposals to avoid introducing additional sources of air pollution. For proposals falling within an Air Quality Management Area and/or where the Council considers that air quality objectives are likely to be prejudiced, applicants will be expected to submit a detailed specialist report which sets out the impact that the proposed development would have upon air quality.

- Water Quality - Development proposals should be designed and/or located to prevent or limit the input of pollutants into water bodies and the groundwater. Sustainable Drainage Systems (SuDS) should be incorporated wherever practical to reduce the discharge of surface water to the sewer network.

DM6 – Landscape and Trees requires development proposals to be designed to include an integral scheme of landscape, tree retention, protection and/or planting that:

- Reflects, conserves or enhances the existing landscape and integrates the development into its surroundings, adding scale, visual interest and amenity;

- Contributes to biodiversity by conserving existing wildlife habitats, creating new habitats and providing links to the green infrastructure network;

- Encourages adaptation to climate change, for instance by incorporating Sustainable Drainage Systems (SuDS), providing areas for flood mitigation, green roofs, green walls, tree planting for shade, shelter and cooling and a balance of hard and soft elements;

- Does not result in loss of, or damage to, trees and hedgerows that are, or are capable of, making a significant contribution to the character or amenity of the area, unless in exceptional circumstances the benefits would outweigh the loss;

- Adequately protects existing trees including their root systems prior to, during and after the construction process;

- Would not result in the loss or deterioration of irreplaceable habitats including ancient woodland and ancient or veteran trees, unless in exceptional circumstances the benefits would outweigh the loss; and,

- Includes proposals for the successful implementation, maintenance and management of landscape and tree planting schemes.

DM17 – Green Belt (development of new buildings) states the following:

- The Green Belt boundary is defined on the Policies Map (set out in the Local Plan). In order to uphold the fundamental aims of the Green Belt to prevent urban sprawl and to keep land within its designation permanently open, inappropriate development will not be approved unless the applicant can demonstrate very special circumstances that will clearly outweigh the harm.

- Built development for outdoor sport, recreation and cemeteries will need to demonstrate that the building's function is ancillary and appropriate to the use and that it would not be practical to re-use or adapt any existing buildings on the site. Proposals should be sited and designed to minimise the impact on the openness of the Green Belt and should include a high quality landscape scheme.

- Proposals for the limited infilling or the partial or complete redevelopment of previously developed sites will be considered in light of the size, height, type, layout and impact of existing buildings, structures and hard standing, together with the degree of dispersal throughout the site of existing and proposed development.

3.2 National Planning Policy

In addition to the local planning policies, the National Planning Policy Framework 2018 is a material consideration. The National Planning Policy Framework (amended 24th July 2018) replaces all previous PPSs and PPGs.

The NPPF states that the planning system should play an active role in guiding development to sustainable solutions. There are three dimensions to sustainable development, as stated within the NPPF: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:

An economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

These roles should not be undertaken in isolation, because they are mutually dependent. Economic growth can secure higher social and environmental standards, and well-designed buildings and places can improve the lives of people and communities. Therefore, to achieve sustainable development, economic, social and environmental gains should be sought jointly and simultaneously through the planning system.

Pursuing sustainable development requires careful attention to viability and costs in plan-making and decision-taking. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, facilitate a deliverable development. At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development - for decision-taking this means approving development proposals that accord with the development plan without delay.

3.3 Regulatory Framework

3.3.1 Building Regulations

Building Regulations, Part L - Conservation of Fuel and Power sets the compliance standards for energy demand and carbon dioxide emissions from buildings.

Approved Document L1A addresses the conservation of fuel and power in new dwellings. The Proposed Development is registered against Building Regulations, Part L (2013) which requires all newly constructed dwellings need to comply with 5 criteria set out in Approved Document L1A unless exempted through the transitional provisions:

I. The predicted rate of carbon dioxide emissions from the dwelling (the Dwellings Emission Rate DER) is not greater than the Target Emissions Rate (TER). Additionally, the Dwelling Fabric Energy Efficiency (DFEE) is not greater than the Target Fabric Energy Efficiency (TFEE);

II. The performance of the building fabric and fixed building services should be no worse than the design limits set out in Table 2 of the Approved Document;

III. The dwelling has appropriate passive control measures to limit the effect of solar gains on indoor temperatures in summer;

IV. The performance of the dwelling as built, is consistent with the DER, including Site checking that the air permeability is within reasonable limits; and

V. The necessary provisions for energy efficient operation of the dwelling are put in place including operating and maintenance instructions aimed at achieving economy in the use of fuel and power in a way that householders can understand.

Approved Document L2A addresses the conservation of fuel and power in new non-domestic buildings. The proposed development will be registered against Building Regulations, Part L (2013) which requires all newly constructed buildings to comply with the 5 criteria set out in Approved Document L2A:

I. Achievement of an acceptable Building CO_2 Emission Rate. i.e. the BER is less than the TER (target emission rate for a notional building);

II. Limits on design flexibility – including U-values, air permeability, air handling plant efficiency, duct leakage, insulation, lighting system efficiency;

III. Limiting solar gains in summer;

IV. Construction quality and commissioning - The BER must be recalculated as constructed; and

V. Provision of information - Information must be provided to the building operator.

3.4 Summary

The above policy review confirms the specifications that the proposed developments must meet in terms of local, national and regional policy requirements. There is no obligation to deliver an improvement upon Building Regulations Part L as confirmed by the Council's planning officer at the pre-application stage.

4. SUSTAINABILITY PERFORMANCE

This section provides an appraisal of the proposed developments and details a potential approach, along with design features and specifications which may contribute to reducing the environmental impact of the scheme. This section suggests various ways in which the applicant may respond to the Council's current policies and examines the following categories:

- Energy efficiency;
- Renewable energy;
- Environmental design;
- Water management and weather resilience;
- Waste management;
- Construction management;
- Biodiversity; and,
- Transport.

The key specifications, site characteristics and design measures of the proposed developments are considered below. These would mitigate the environmental impact of the scheme throughout both the construction stage and the future occupation of the development.

4.1 Energy and Carbon Dioxide Emission Reductions

In order to limit energy demand and CO_2 emissions from the operation of the dwellings and enable the occupants to lead a low impact lifestyle, the following design features could be integrated within the scheme:

4.1.1 Energy Efficiency Strategy

- The energy efficiency of this scheme will be improved through the application of an enhanced material specification, in accordance with Approved Document ADL1A;
- The proposed approach to emissions reduction at this site will be through a fabric led energy strategy, in accordance with the principles of the energy hierarchy and specified to reduce the CO_2 emission rate;
- Highly efficient control systems; and,
- High efficiency heating systems with sophisticated controls will be considered.

Further details of the proposed approach to reducing the energy demand and associated carbon dioxide emissions of these dwellings are presented in the Section 5.

4.1.2 General Principles

- Provision of A and A+ rated white goods (where applicable);
- Provision of EU energy efficiency labelling scheme details to assist in the purchasing of energy efficient white goods;

- Efficient ventilation systems, possibly to include heat recovery, to reduce energy demand and maintain a comfortable, healthy living environment;
- Space and equipment provided for drying of clothes;
- 100% low energy and/or LED internal lighting;
- All external space lighting provided by dedicated energy efficient fittings and controls;
- Individual cycle storage may be provided for each dwelling to promote more sustainable modes of transport;
- The potential provision of electric car charging ports, reducing the reliance on carbon-intense modes of transport; and,
- Provision of home office services and space within each dwelling to reduce the need for commuting to work.

4.2 Water

The new dwellings will be designed to reduce mains/potable water consumption and water efficient devices and equipment will be considered:

- In order to reduce the water demand the sanitary fixtures will be specified to achieve a calculated daily consumption of <125litres/person/day or in line with the prevailing regulatory standard;
- The specification of efficient water fixtures such as low flow taps and showers, dual flush WCs and low volume baths would reduce potable water demand; and,
- Irrigation of private landscaped garden areas with water from individual water butts would further reduce potable water consumption and promote the recycling of rainwater.

4.3 Resource Management and Pollution

4.3.1 Effective Use of Land

- The proposal makes effective use of land in meeting the need for enhancements of Sandown Park and the schemes contributing to meeting the need for homes and other uses while safeguarding and improving the environment, ensuring safe and healthy living conditions;
- Redevelopment of existing hardstanding areas makes for efficient use of land; and,
- There are multiple benefits from urban land including through mixed-use schemes and taking opportunities to achieve net environmental gains such as developments that would enable new habitat creation or improve public access to recreation and leisure facilities.

4.3.2 Pollution Control

- During the construction and demolition phase of construction, site impacts will be minimised through the implementation of Pollution Prevention Guidance in respects of air (dust) and water (ground and surface) pollution;

- Insulating materials that have a Global Warming Potential (GWP) of less than 5 will be considered throughout the development to reduce the construction phase impact of this scheme upon climate change;

- Subject to details to be considered at the reserved matters application stage, external lighting strategy will be controlled through time switches, or daylight sensors, to prevent operation during daylight hours. This will limit the impact of artificial lighting for the development's residents and surrounding environment;

- The impact of sound associated with the occupied development can be mitigated by the design and specification of the dwellings. Sound insulation will be specified to achieve Building Regulation Part E compliance standard (this will be verified by pre-completion testing). This will reduce the impact of sound pollution for the occupants within adjoining dwellings and the surrounding area; and,

- The land use around the proposed residential sites is predominantly in urban character surrounded by existing residential area, town centre with woodland and leisure use within Sandown Park. The proposed residential sites (sites 1-5) benefit from soft landscaping proposals to the boundary which, if implemented, may buffer any noise pollution potentially created by the proposed development and any generated by the surrounding area.

4.3.3 Materials

This development could contribute towards making more efficient use of non-renewable material resources and to reducing the lifecycle impact of materials used in construction. This would be demonstrated by the selection of:

- Materials with low environmental impact throughout their lifecycle;

- Materials responsibly sourced from suppliers operating an Environmental Management System or procuring timber from FSC and PEFC sources, for example would be prioritised;

- Construction materials from local sources/ suppliers where feasible such as; aggregates, masonry products and timber will also be encouraged.

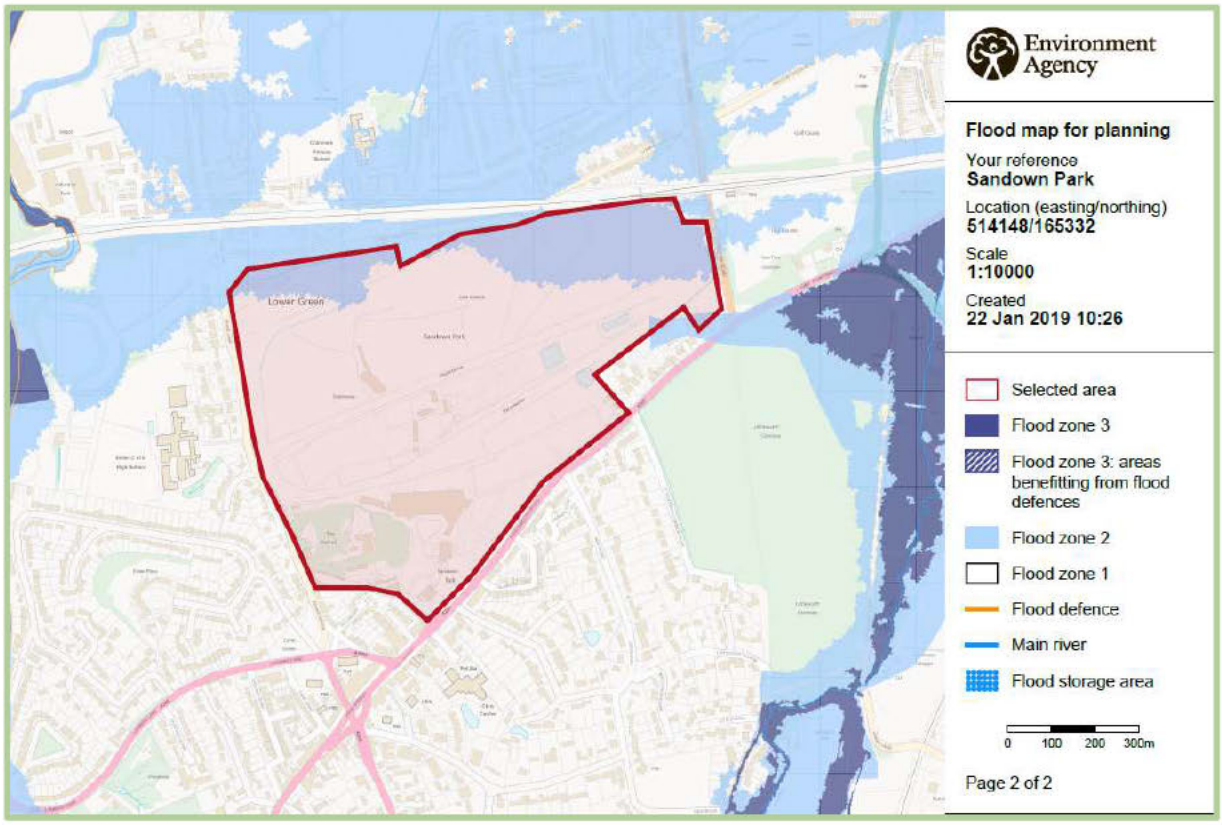
4.4 Surface Water Run-off

4.4.1 Flood Risk

- Based upon review of the illustrative master plan, the development sites are predominately located in flood risk zone one (low flood risk) however, parts of Sites 3 and 4 are located within flood risk zones two (medium risk of flooding) (see Figure 4.1). A flood risk assessment has been produced by Hafren Water Limited for development sites 3 and 4; and,

- Dwellings proposed within flood risk zone two will incorporate appropriate measures for flood resilience and resistance.

Figure 4.1 – Flood Risk Map (Entire Sandown Park Development Site)



4.4.2 On Site Surface Water Management

- A Drainage Report has been completed by Hafren Water Limited to inform the master plan, although it is yet to be fully determined at this early stage of the development cycle. The developer commits to ensuring the peak rate and volume of surface water run-off will be as reduced as practically possible.

- As presented in Figure 4.1, Sites 3 and 4 are located in part within flood risk zone 2. Therefore, in accordance with local planning policy, the developer commits to ensuring the peak rate and volume of surface water run-off will be no greater post-development than pre-development (greenfield run-off rates).

- Sustainable urban drainage systems (SuDS) and/or on-site attenuation will be considered in order to manage the increased surface run-off as a result of the increased impermeable surfacing on the sites and to achieve greenfield run-off rates where appropriate. This in turn will protect the watercourses and will not increase the risk of localised flooding, pollution and other environmental damage within the watershed.

4.5 Waste Management

4.5.1 Construction Waste

Best practice techniques to prevent and minimise waste during the design and construction phases of the development could be adopted, as follows:

- Prior to commencement of the above ground construction phase, a site waste management plan (SWMP) produced by the developer would limit the on and off site environmental impacts of construction. The SWMP would detail:
    - Recycled and secondary materials;
    - Waste reduction;
    - Waste segregation;
    - Waste recovery; and,
    - Waste disposal.
- A site waste management plan would identify opportunities to minimise waste generation and divert at least 85% of construction waste from landfill; and,
- This scheme will promote the minimisation of waste in site development and seek to maximise the use of recycled materials in construction.

4.5.2 Domestic Waste

- The development will provide infrastructure and facilities that meet the needs of residents (applicable to Sites 1-5) and building operators (hotel and improved racecourse facilities) for segregated storage, thereby optimising the ability to recycle waste; and,
- A waste management strategy will ensure that adequately sized bin storage areas for each site are provided, access for collection personnel and vehicles has been established and other aspects of waste management is designed into the development at an early stage of the detailed design. The strategy would allow for storage of recyclable materials in order to optimise the recycling rates achieved by the Council.

4.6 Health and Wellbeing

To enable the occupants and building users of the proposed development to lead lower impact lifestyles and enhance their quality of life, the following measures will be delivered at the proposed development:

- Good levels of natural day lighting within the buildings. This would provide a good quality of life for the occupants/ building users and reduce the need for energy associated with artificial lighting;

- The proposed residential developments are in the locality of the Green Belt, a highly attractive environment in which residents will have direct access to, for outdoor activities and enhancing their quality of life;

- The provision of facilities for public use where appropriate;

- A new family/ community zone will provide access to indoor/ outdoor play areas, open park space and cycle track all year round which enhances the community provision available in Esher; and,

- All dwellings will comply with the National Space Standards to ensure that all dwellings are of a sufficient size and provide more flexibility and comfort for the future occupants.

4.7 Management

In order to minimise the impact of the development during construction and operation whilst providing a safe place to live and visit, the proposals may include for the following provisions:

- Compliance with Secure by Design criteria and adopt crime prevention measures in the design of the developments to assist in reducing the opportunity for, and fear of crime, creating a safer and more secure environment; and,

- Minimise construction site impacts and adopt best practice policies (as detailed in Section 4.3.2) in respect of air and water pollution.

4.8 Biodiversity

4.8.1 General Principles

- Impacts to ecological features should generally be avoided however, mitigation (replanting) and enhancement measures will be employed where impacts are unavoidable;

- The proposed development will not result in a net loss in biodiversity and will increase the ecological value of the sites;

- Use of native or wildlife friendly tree, shrub and herbaceous species in any landscape planting, for example, inclusion of species which provide nectar for invertebrates or berries to provide a food source for birds;

- The planting provision will be designed to provide an enhancement to both the ecological and aesthetic value of the site.

- Appropriate survey timings will be adhered in order to reflect the findings of individual Phase One Habitat Surveys conducted for each development site. A commitment is made to acting upon the findings of the surveys. A Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment has been carried out by Tyler Grange Limited to inform the proposals:

    - The majority of habitats to be lost as a result of the proposed developments are of negligible ecological importance therefore, no mitigation is required.

- Existing habitats will be retained/ enhanced and new habitat created where possible.
- Impacts are limited to roosting bats, great crested newt and reptiles and further surveys/ precautionary mitigation measures are required for these species.

4.9 Transport

A Transport Assessment has been prepared by TPP Limited and appraises the transport accessibly and car parking to assess the likely impacts of the proposed development on the road network. The proposed developments are located in a sustainable location in terms of transport connections with basic facilities all within easy walking distance of the site.

- The impacts of the residential developments on the road networks will be negligible as they are spread across the local road network due to multiple site accesses;
- The proposed parking provisions will be appropriate to the development size and type and electric car charging points will be considered; and,
- The proposals include the provision of cycle storage spaces in accordance with the Parking Standards Document.

Framework Travel Plan -

To further enhance the sustainable credentials of the proposed development, the sites will be underpinned by a Framework Travel Plan.

- The plan would seek to promote existing transport routes, complement the sustainable location of the sites and meet the needs of future residents and visitors.

Disability Access -

- Disabled access provision within the scheme itself will be in accordance with Building Regulation, Part M criteria as far as possible; and,
- Disabled parking standards will be adhered to.

5. ENERGY STRATEGY

Details of the proposed energy strategy for the Sandown Park development, which prioritises an enhanced 'fabric led' solution combined with an efficient servicing provision, are provided below.

An enhanced building fabric specification throughout the various elements of the development proposals, allied to efficient mechanical and electrical servicing and control systems will achieve compliance with the rigorous emission reduction and fabric energy efficiency targets stipulated by the prevailing Building Regulation, Part L1A and L2A for the residential and non-domestic buildings respectively.

5.1 Build Fabric and Thermal Performance

In buildings, heat loss generally occurs through the following main areas and elements of the construction:

- Ground Floor;
- External Walls;
- Roofs;
- Doors and windows;
- Thermal bridging; and
- Uncontrolled ventilation.

The standard measurement of heat transfer through a given building material or construction type is the U-value (W/m^2K). The lower the U-value, the more slowly heat transfers and is lost out of a building.

5.1.1 Build Fabric and Thermal Performance

The appropriate construction method for the various building types which form the proposed master plan is yet to be confirmed. Nonetheless, a commitment is made to deliver high quality buildings incorporating material specification to limit heat loss and ensure efficient operation.

The material specifications and design of the residential and non-domestic buildings will improve significantly upon the building regulation Part L (2013) compliance standards and provide the following benefits:

- High performance thermal insulation will ensure low U-values for all heat loss elements. Energy demand for space heating will be significantly reduced through the provision of an effective thermal envelope. A thermally efficient facade system will minimise heat loss through the building's thermal envelope;

- Thermally efficient, 'A' rated, double glazed windows will be specified with low emissivity and solar control coatings to limit heat loss and excessive solar gains through the pane. The glazing g value will be specified to optimise beneficial solar gains but limit the propensity for the dwellings to overheat. Thermal breaks will be incorporated within the frame to further limit heat loss;

- Building layout and orientation will be considered to ensure the optimal energy performance, within the constraint of the core features;

- Glazing Ratio - The proposed development will employ a 'fabric first' approach to reducing energy demand and CO_2 emissions. An early focus of the design-teams will be the amount of glazing, and how this relates to the total external wall area (i.e. the glazing ratio). The glazing ratio is an important metric to drive efficiency, whilst carefully balancing design and daylight / sunlight requirements.

- Low air permeability through the build fabric will minimise uncontrolled ventilation. This will reduce heat loss and associated energy demand and enhance occupant comfort; and,

- Attention to cold bridging junctions will be a key focus, including the provision of insulation and thermal breaks to limit heat transfer.

5.2 Building Services

A mechanical and electrical specification will be incorporated to ensure efficient operation of the buildings which will deliver a Building Regulation Part L compliant scheme and will provide the following benefits:

- Mechanical ventilation systems will be specified as required to maintain a healthy living environment within the buildings;

- Low energy and LED lighting will be specified throughout both the residential and non-domestic elements of the development in order to maximise operational efficiencies and lifespan of the fittings. LEDs operate with an estimated energy efficiency of up to 90% when compared to traditional lighting and conventional light bulbs. This means that about c.90% of the electrical energy is converted to light, rather than wasted heat as in conventional bulbs;

- High space heating and hot water systems will be specified to reduce energy demand from the systems. The most appropriate solution will be determined depending upon a number of factors including the intended use of the building, load profiles and energy supply; and,

- High efficiency systems will be considered for each element of the scheme as will renewable and low carbon technologies. Where the design team deems such options to be appropriate for the development, these will be integrated.

5.3 Rationale

The energy strategy will provide a number of benefits in terms of energy efficiency, deliverability and viability of the scheme as a whole. The advantages are reviewed below.

5.3.1 Energy Strategy Benefits

- The buildings will improve upon the prevailing Building Regulation Part L criteria in terms of dwelling emission rate and fabric energy efficiency;

- The heating system will be designed to ensure high levels of occupant comfort coupled with low heating energy bills;

- The appropriate energy strategy for each building will support scheme viability by maximising the development yield from each site. This will be accomplished by optimising the use of space

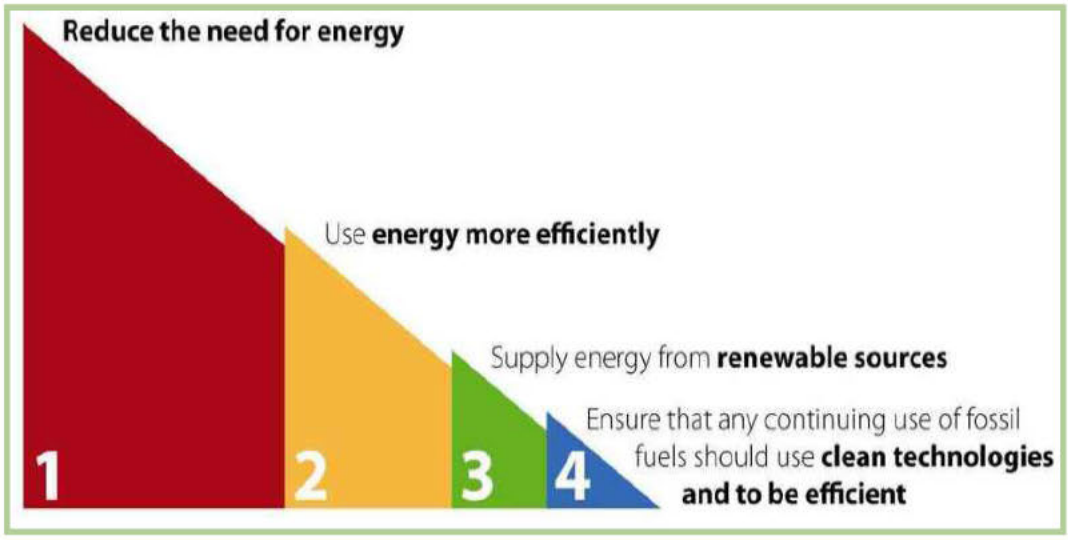
whilst ensuring the mandatory building regulation criteria are achieved and the local planning policy guidance is adhered to.

6. ENERGY HIERARCHY

As discussed in the previous sections of this report, the schemes within the masterplan will incorporate enhanced material specifications along with high quality design and construction standards in order to improve the energy efficiency of the buildings through a 'fabric led' energy strategy. The construction, design and specifications proposed will deliver buildings that are inherently efficient and cost effective during occupation.

The Energy Hierarchy provides a framework to guide energy policy and decision making to achieve practical and cost-effective carbon emission reductions. The hierarchy prioritises demand-side activities to reduce wastage and improve efficiency (see Figure 6.1).

Figure 6.1 – The Energy Hierarchy



First Principle

The following efficiency measures are designed to reduce heat losses and minimise energy demand:

- This 'fabric led' approach to minimising energy demand and associated carbon dioxide emissions is aligned with the first principle of the energy hierarchy which states that reduction in energy demand should be achieved initially by energy efficiency;
- The buildings will be constructed with a material and design specification which exceeds minimum Building Regulation standards and includes numerous efficiency measures designed to reduce heat losses and minimise energy demand;
- Low air permeability targets will assist to limit the heat loss through the structure of the buildings; and,
- Solar control within the building will be optimised to limit excessive gains in the summer months and allow beneficial gains in the winter season so as to minimise the overheating risk and limit the heating energy demand within the properties.

This approach to minimising energy demand and associated carbon dioxide emissions is aligned with the first principle of the energy hierarchy which states that reduction in energy demand should be achieved initially by energy efficiency.

Second Principle

Low energy and LED lighting provision and sophisticated control systems for the space and water heating will ensure that energy consumed by the buildings is used efficiently, as per the second principle of the Energy Hierarchy.

- Heating systems will be provided with zonal, programmable thermostatic controls would allow occupants to control zones within their dwellings independently for maximum flexibility;
- Efficient luminaires allied to sophisticated control systems will be specified as appropriate in order to further improve the efficiency of the lighting systems;
- The buildings will be designed to not require active cooling wherever feasible.

This strategy therefore accords with the second principle of the energy hierarchy.

Third Principle

Renewable and low carbon energy systems will be considered and integrated where appropriate to do so, subject to scheme viability.

Fourth Principle

High efficiency alternative energy systems will be considered for the buildings. The most appropriate energy system will be determined for each individual building and will ensure efficient consumption of resources.

The development proposals will therefore, be aligned with the energy hierarchy.

7. CONCLUSION

This statement has reviewed the environmental performance for the proposed development at Sandown Park against national and local policies.

- Minimising the impacts of climate change is recognised as a key requirement of the proposed building designs. The detailed energy strategies will be fully determined further into the development cycle.

- A commitment is made to incorporate an enhanced 'fabric led' material specification, along with high quality design and construction standards to improve the energy efficiency of the buildings.

- These proposals will deliver a scheme that is inherently energy efficient and cost-effective during the lifetime of the buildings and accords with the requirements of the prevailing building regulation and the requirements of the Elmbridge Core Strategy Policy CS27 – Sustainable Buildings

The key issues of Elmbridge's Local Development Management Plan in accordance with the Core Strategy Development Plan Document could be achieved by the following proposals:

- Water management for the development will align with the prevailing regulatory standard through the specification of efficient water fixtures.

- The proposed development will not result in a net loss in biodiversity and will have the opportunity to increase the ecological value of the sites in accordance with Polices CS15 and CS17.

    - The majority of habitat to be lost in order for the proposed developments to commence are of negligible ecological importance however existing habitats will be retained, enhanced and created where possible.

    - Further surveys and/ or precautionary mitigation measures are required for roosting bats, great crested newts and reptiles.

- Waste arising during construction and occupation/operation could be minimised and a site waste management plan could be adopted during construction. The dwellings/ buildings may be provided with waste facilities and a comprehensive waste management plan for the site would accord with local planning Policy CS27. The provision of suitable space and facilities would allow the occupants/ building users to segregate and store operational recyclable waste.

- The majority of the development site is located within flood risk zone 1. Sites 3 and 4 are partially located within flood risk zone 2 and therefore a flood risk assessment has been carried out. The application of SuDS will be considered in line with Policy DM5 and the site drainage strategy will be designed to manage the surface water runoff to ensure that the peak rate and volume of surface water run-off will be no greater post-development than previous green field run-off rates in accordance with Policy CS26.

- The proposed developments are located in a highly sustainable location in terms of transport connections and local services/facilities and a Travel Plan and Transport Assessment has been produced in line with Policy CS25.
    - The impacts of the residential developments on the road networks will be negligible. The developments will also include the provision of cycle storage spaces and will consider the application of car charging ports, encouraging more sustainable modes of transport.

- In accordance with Policy DM2, the proposed developments will enhance quality of life and enable the future occupants and building users to lead lower impact lifestyles. The locality of the developments in the Green Belt allows future occupants direct access to an attractive outdoor environment and in addition, the new family/community zone will enhance the community provision. The scheme could comply with Secure by Design criteria and adopt crime prevention measures in the design of the developments to assist in reducing the opportunity for, and fear of crime, creating a safer and more secure environment in accordance with Policy DM2.

- Construction site management procedures could minimise adverse impacts on the environment and control pollution generated during the construction phase in accordance with Policy DM5. This would include a waste management strategy to reduce the quantity of waste generated, and to increase re-use and recycling of materials in accordance with CS27.

- Responsibly sourced materials with low environmental impact may be selected and local suppliers prioritised. In combination this procurement strategy would minimise and conserve energy associated with transportation and waste generation in line with Policy CS17.

- In line with Policy CS25, the development could promote improvement to sustainable travel and accessibility to services through the construction of a new pedestrian footpath and the provision of cycle storage spaces.

Furthermore, the proposals accord with the aims of the National Planning Policy Framework. Construction practices will improve upon the regulatory compliance criteria, and the proposed Development will assist in mitigating the impact of climate change.

In conclusion, the proposed development reviewed within this statement for the scheme at Sandown Park, Esher will deliver an efficient and sustainable scheme, providing a quality development that accords with the guidance provided within the Elmbridge Borough Councils adopted policies.