Purpose: **Environmental (or Sustainability) Statement**

Whole Site Energy Efficiency

The scheme has been designed to best meet the heat and power demands of a multi-use public development, within the technical constraints of the site. The demand of the site will be reduced with energy efficient fabric used throughout all buildings and a maximised use of natural light within the entrance and central atrium spaces, as well as the many work, leisure and health spaces.

By making use of available gas infrastructure to generate electricity, the design reduces the need for costly and disruptive electrical infrastructure upgrades. On-site generation systems with battery storage will also allow the Western Way Development to support, rather than apply pressure to, the Bury St Edmunds electrical grid.

Within the whole lifecycle of the building, the generation equipment within the energy centre will be replaced for improved efficiency several times; by providing a centralised heat network, options are left open for these future enhancements as new and emerging technologies become available. SMART objectives for carbon emissions and energy efficiency will be set for Year 1 of the project but also for Year 10; creating a coherent roadmap to further improvements within the first lifecycle of the generation equipment.

Solar power also forms a fundamental component of the site-wide energy strategy, with extensive PV installations on site (mainly occupying roof space) with battery storage also ensuring that power generated is used optimally and not wasted. It will be the schemes intention to use low-carbon electricity generated on site to its maximum, reducing the need for grid supplied energy. Further opportunities for solar expansion, supplying energy to adjacent sites and increased numbers of Electrical Vehicle charging points will be included in the Year 10 objectives.

Travel Plan

A Travel Plan is a strategy for reducing the number of vehicles trips made to a site and encouraging and facilitating the use of sustainable modes of transport.

The development of the site will ensure suitable access and facilities are provided for users of all abilities via all modes of transport - including walking, assisted mobility, cycling and use of public transport. From the outset, the development will include a number of measures to facilitate the use of sustainable modes of travel such as car parking management, cycle parking, electric vehicle parking, showers, changing rooms and lockers, and improved access to bus services.

Other measures will be actioned according to a schedule managed through a site-wide Travel Plan once the development is operational, including:

- Work with public transport operators to further improve accessibility to the site by bus.
- Maintain a strict car parking management strategy and car sharing.
- Review of the use by and availability of cars for staff during the working day.
- Ensure that all staff and visitors are provided with the information required to help them make an informed decision about their choice of mode of transport.
- Offer incentives for staff to use sustainable modes of transport and/or work more flexibly.

An assigned Travel Plan Co-ordinator will ensure the implementation of the Travel Plan, actively promote it and regularly monitor travel behaviour to review progress towards achieving SMART targets.

A site-wide Travel Plan means that all occupiers of the site will sign up to working towards the objectives of the Travel Plan, working with the site Travel Plan Co-ordinator to actively implement, promote and monitor Travel Plan initiatives to their staff and visitors. This overarching approach to Travel Planning across a number of businesses/operations with a common interest significantly increases the prospect of the success of the Travel Plan. The larger numbers of staff and visitors served by the Travel Plan provides greater opportunities to undertake more extensive and impacting initiatives.

Whilst this site-wide Travel Plan is proposed to be submitted as part of the planning process for this development in the short term, it is the expectation that West Suffolk College will join the Travel Plan as it develops and it is the aspiration to offer the opportunity to other businesses in the local area to join the Travel Plan and share in the opportunities it will offer.

A Travel Plan is a live document that will be updated regularly to reflect changing circumstances and the results of actions taken and monitoring, and these updates will take on board the demands and benefits of each new business/operation as it joins the Travel Plan.

Adaptive Re-Use

The re-use of existing building stock and the embodied energy therein is fast becoming a common starting point for environmentally conscious building developments. An instant reduction on environmental impact is achieved by the avoidance of demolition and the avoidance of using new resource. This strategy of re-use supports the objectives of the Kyoto Protocol for global climate protection and emissions reduction. The Hub building will celebrate the re-use of the existing frame by expressing the existing form internally, integrating both new and old and creating a unique sense of place. This sustainable approach not only provides advantages environmentally and architecturally but also financially, with Capital cost savings associated.

BREEAM

Designing within the BREEAM matrix encourages a holistic approach to a sustainable design and ensures a building which not only promotes energy efficiency but considers and mitigates the impact on local air quality, indoor air quality, noise and light pollution, operational waste and wasted water. BREEAM credits also dictate positive change to biodiversity, material efficiency of the building fabric, good internal
acoustic performance, thermal comfort and safe access to healthy, outside spaces.

A desktop study has been undertaken to understand the variations in score and complexity of a BREEAM New Construction assessment and a BREEAM Shell-and-Core Assessment in achieving a BREEAM rating. It was also assessed whether the buildings would be better register under 2018 BREEAM or 2014 BREEAM before the latter assessment is discontinued.

It was agreed that due to the nature of the building, the use of multiple tenants and the varied potential uses of the building, the scheme would be best assessed under 2018 BREEAM 'Shell and Core'. This assessment would be used to demonstrate compliance with the BREEAM planning condition.

The scheme will achieve a minimum overall BREEAM rating of 'Very Good' under a 'Shell and Core' assessment with targets for 'Excellent' in Pollution and 'Very Good' in Transport, Water and Energy. During the pre-application discussions, it was identified that it would be a better investment of limited public funds to invest heavily in a travel plan and energy and renewable energy strategies to reduce fossil-fuel energy needs and carbon emissions rather than seeking an overall achievement of Excellent. Distributing this money into tangible, green technologies – such as the client's aspirations for on-site power production through large arrays of PVs and battery storage, would create a public building clear in its aspirations for a sustainable future. Over £5m for renewables technologies is currently included in the cost plan.

When a 'Shell and Core' assessment has been undertaken, the fit-out process can be
assessed under 'BREEAM Fit Out' to ensure the entire development is covered by the BREEAM Assessment. The 'Fit Out' assessment would be separately assessed and mean that any stakeholder or tenant could achieve a higher rating (such as 'Excellent') if required by their building policies. These assessments cover areas such as core services, local services and interior design. At Western Way it would be possible to adopt this approach because an overall 'Excellent' rating has been proven possible.

If only the minimum project target of 'Very Good' is achieved, this does not affect the aspirations of any BREEAM Fit Out assessment seeking a higher rating. The Fit-Out Assessments can be carried out at a later date for each department, not affecting the issuing of a 'Shell and Core Certificate' and therefore having no adverse effect on planning or programme.

Building Fabric Performance

Building fabric thermal performance is defined by its “U-value”, or the rate at which it allows heat energy to transfer between the internal and external environments. It is also defined by the air leakage rate of the building itself. Current UK Building Regulations are proscriptive to a degree in requiring a standard of performance, however it is expected that the buildings within this development will achieve a higher standard in order to meet the aspirations of the brief and the overall energy strategy.

Solar Performance and Shading

The building elevations will incorporate measures to control excess solar gains through exterior shading elements and solar control glazing. The advantage to this approach is that it allows a cohesive approach to ascetic design, while leaving the design of each façade flexibility to the degree which natural light is mitigated (reducing cooling demand) and allowed to pass through (reducing heating demand and lighting use). It also gives the opportunity to control against glare.

Surface Water Strategy

The initial ground investigation works undertaken on the site indicate the presence of highly permeable chalk. New surface water drainage will be installed to serve the new buildings with surface water flows discharged to soakaways. Permeable surfacing is proposed for the hard-landscaped areas which will discharge directly to the ground. A green roof is proposed for the recycling compound, which in addition to the soakaways, will reduce the need to connect to the public surface water network.

Light Pollution

A lighting design guide for the development will be completed in line with local authority guidance (where available). As a minimum, the lighting design guide will refer to street lighting and any security lighting that will be provided on the site. 100% high efficiency street lighting with limited upward light transmission will be installed.

The lighting design guide for the development will outline how light pollution will be minimised, and the specification of the lighting confirms (where possible) that lighting is low powered and designed/installed to reduce light pollution.

Biodiversity

In order to give full consideration to the ecology on site and take every opportunity to conserve, encourage and enhance biodiversity through the proposals, a variety of ecological appraisals and reports have been carried out and commissioned. Initial assessments conclude that the proposed works will not result in any significant ecological impacts and it is considered that the planning application will comply with the local policies (DM11: Protected Species, DM12: Mitigation, Enhancement, Management and Monitoring or Biodiversity). The ecological value of the site at present is low due to the large areas of car park and buildings. The proposals will enhance this through a number of measures.

Great care and importance will be given to avoid disturbing the existing ecology on site through all stages of demolition, construction and operation of the development. The main considerations for Western Way are birds and bats.

A bat survey will rule out the presence of roosting bats and ensure bats are not harmed – however, Inspection of the buildings reveal no evidence of bats and no evidence of the existing bat boxes on West Suffolk House being utilised. To encourage increased biodiversity in the nearby, protected woodland to the south east (suitable for nesting birds and commuting bats) a lighting plan will be implemented to minimise light spill from the site during construction and operation – these reduced light levels will increase the chances of bats occupying this area. Opportunities will be sought to install bat boxes on the site in appropriate locations.

Any demolition work will be scheduled outside of bird breeding season (March-August) with a bird check strategy in place for any pigeons who may be nesting inside the buildings during winter months. One prevalent species on site are the Herring Gulls and a long term, on-going strategy is in place to ensure the protection of these birds and encourage an alternative location for their breeding and nesting seasons prior to any works to the relevant buildings. The conditions that mean the current depot building is attractive to nesting gulls will not be replicated.

Methods to enhance bio-diversity on site include new tree planting and native species hedging to provide nest sites and food for birds. Tree species will be chosen from those which are already flourishing around the site including birch, hazel, hawthorn, willow, cherry and alder along with additional species to increase biodiversity. Bird boxes will be installed in both the existing trees in the copse to the south of the site and in new trees. The planting scheme will feature diverse species planting of flowering shrubs and perennials to encourage and support pollinating insects. Seed bearing grasses will provide further feeding opportunities for birds. The planting scheme will provide a palette of plants which flower at different times to promote a long pollination period. A diverse mix of tree species will be planted to increase the resilience of the site against changes in climate and harm caused by pests and diseases. Along Western Way, a new planting belt will connect with the existing planting around west Suffolk house, creating a greener corridor along the road.

At the Beetons Way car park site, the existing trees and boundary vegetation will be retained and supplemented with new tree planting to increase the biodiversity on that site.