Fig 20: Illustrative 3D view of the site
Proposed Lambs Technology Park

3.1 Introduction

Over the past four years significant technical work has been undertaken in order to feed in to the site’s development plan promotion and a future planning application. During this time technologies have evolved and new more advanced techniques are now available to ensure maximum efficiency and sustainability. Based on the significant amount of technical work undertaken and feasibility studies, the proposal comprises:

- 2 no. 9,245sq.m data centres (over 2-3 storeys) with associated supplementary energy centre (decentralised CCGT) that meet the highest specifications possible;
- a c.5,418 sq.m combined cycle energy centre (up to 49MWe), incorporating a renewable biofuel production plant;
- the use of the southern most part of the former pit areas as flood alleviation and a nature reserve;
- the intensification and redevelopment of underutilised areas of the Business Park (c.3.03ha) to provide higher-value and more productive employment space; and
- educational/learning opportunities to be explored.
Background

The scheme is based on 2 data centres within the existing Lambs Business Park utilising the area subject of an extant planning permission for B employment uses and the area in need of redevelopment. The scheme also includes the construction of a combined cycle energy centre, with a renewable biofuel production plant, within the former quarry area. Power generated from the combined cycle energy centre would be supplied directly to the data centres and the renewable biofuel production plant. Any residual electrical energy will be sold to the National Grid or provided to other users.

As a bi-product, the heat generated from the electricity production generation will be used:

1. within the combined cycle energy centre to increase the plant’s electrical production efficiency, via the use of a boiler and a secondary turbine;
2. to supply the renewable biofuel pellet production plant with high quality heat to dry refused derived fuel (RDF), via either a water or an air heat exchanger (to produce biofuel pellets);
3. to supply heat and cooling to the data centres; and/or
4. for existing or planned development in the surrounding environs, utilising a heat supply contract.

The biofuel production plant will process 150,000 tonnes of Refuse Derived Fuel (RDF) each year to create biofuel pellets.

WT Lamb are committed to reopening the railway siding to the north of the site. Work undertaken on their behalf has shown the points to be live and Network Rail acknowledges that the siding is a live operation. Where feasible, the railway will be used to import feedstocks for the operation of the renewable fuel production plant and to transport the final recycled fuel product (solid biofuel pellets) and any other bi-products including higher value elements removed from the fuel production process, for onward recycling and recovery, from the site.

Subject to the future success of the proposals, there is potential for additional investment and the further regeneration of the Park, to provide additional high technology uses.

The combined cycle energy centre, the two data centres and the renewable fuel biofuel plant are proposed on c.5.8ha of the site with redevelopment / intensification opportunities identified on a further c.3.03ha
Fig 21: Illustrative master plan

KEY

A  Security & weighbridge
B  Energy Recovery Facility Offices
C  Ash Bunker
   Storage Area: 240 sqm Per Bunker (2,560 sqft)
D1 Data Centre 1
   Data Halls at 3 Storey = 6,600 sqm
   Front of House at 1 Storey = 430 sqm
   Back of House Plant x 3 Storeys = 1,978 sqm
   Circulation Space x 3 Storeys = 837 sqm
   Gross Floor Area: 9,245 sqm (99,513 sqft)
D2 Data Centre 2
   Data Halls at 3 Storey = 6,600 sqm
   Front of House at 1 Storey = 430 sqm
   Back of House Plant x 3 Storeys = 1,978 sqm
   Circulation Space x 3 Storeys = 837 sqm
   Gross Floor Area: 9,245 sqm (99,513 sqft)
E  CCGI Plant & Renewable Richelieu Production Plant
   Plant Footprint: 5,415 sqm (58,319 sqft)
F  Gia: Treatment Works
G  Substation: 120 sqm Per Location
H  Hard Standing Area
   Generators / Chillers / Water Tanks / Loading Dock = 645 sqm Per Data Centre
I  Free Cooling Air Handling Area
   Air Handling Units 300 sqm Per Area
J  Grass and tree planted soft bund
K  Grassland
L  Lake: 2,347 sqm
M  Existing Industrial Buildings
N  Potential Development Area
O  Redevelopment and Intensification Opportunities
Key design principles

A number of key principles have guided the proposals, which include:

- utilising high-tech, sustainable technologies to map out the future of the Park and lead future growth in Tandridge District;
- the incorporation of appropriate, best practice design that will enhance the existing Industrial estate and former quarry. It is envisaged that the proposals would become an exemplar for other high-tech schemes of this type;
- investment and the redevelopment of parts of the site that are otherwise unviable to renew and will become unlettable and redundant over the next few years;
- making use of the area of the Business Park that already has planning permission for an additional 1,920 sq.m of floorspace that has been implemented, but has not been economically feasible to continue;
- enhancing the landscape and amenity potential of the site through minimising the visual impact of the proposal and the provision of on site open space, landscaping and surface water attenuation including through the early restoration of the quarry;
- decreasing the existing visual and amenity impacts upon the local area that arise from the existing uses at the site;
- re-use of one of the very few privately owned railway sidings in the UK to enable a sustainable, low impact supply of material to the site for use within the renewable biofuel production plant and the export of biofuel pellets; and
- maximising opportunities for biodiversity enhancement.
Benefits of co-location

The development of the combined cycle energy centre, a renewable biofuel production plant, data centres and additional employment opportunities on this site has a number of significant sustainability benefits that would be lost if any of the land uses were not taken forward. These include:

- a large proportion of residual otherwise non-recyclable (RDF) with a high biogenic content arising in Surrey is exported out of County to be processed. The development of a renewable fuel production plant on the site would ensure that this material is handled closer to where it is formed;
- there is a proven need for new waste management and processing facilities within Surrey;
- the railway siding provides an unusual opportunity for the renewable fuel production plant to receive residual wastes to the site via a sustainable mode of transport (rail);
- the energy demands of both the renewable fuel production plant and the data centres are ideally suited to the co-location of a decentralised energy centre;
- research has shown that the ICT industry emits around 2% of global CO2 emissions. With the demand for data centres and cloud facilities increasing, without more sustainable solutions this figure will increase; and
- The residual heat from the energy centre could be used to dry RDF material in the renewable biofuel production plant and to heat and cool the data centres. The use of waste heat generated as a bi-product from the energy centre greatly assists in reducing the electrical energy demand from the data centres.
4.1 Introduction

WT Lamb are working with Arup in order to design bespoke Data Centres (Use Class B8).

It is expected that the data centres would meet the exemplar specifications of high end operators. The data centres are proposed within the existing Business Park (the eastern parcel), including the part of the site with extant planning permission for B1, B2 and B8 uses (and identified within the Local Plan evidence base as being suitable for B use) and the degraded existing units.

What is a data Centre?

A data centre is a facility that is used to house computer systems and associated infrastructure, such as storage systems. Typically, a data centre will house a large group of networked computers for the remote storage, processing and distribution of large amounts of personal and corporate data. All cloud-based storage and even banking information is now largely stored within data centres. In some circumstances this data is mirrored in multiple data centres around the world to ensure that the data isn't lost in the event of an unexpected incident.
Over a third of the floor space of a data centre will typically accommodate absorption chillers required to cool the facility, with the remaining floorspace being used to house the ICT equipment and ancillary space. There is a need to ensure that the environment of a data centre is controlled (both in temperature and humidity), both to optimise the performance and the operational integrity of the systems therein.

Data centre operators have industry standard criteria when assessing the suitability of sites for such use. These can be met by the site and include:

- **Accessibility by train**: For sites around London, there is a requirement that they can be accessed by an engineer within a 1-hour travel time of London Bridge.

- **Accessibility by road**: In locations around London, the requirement is for sites to be located within a 15-minute drive time of a junction connected to the M25.

- **Accessibility by helicopters**: For sites around London, this means being within an hour’s commute from London Bridge, via a helicopter.

- **Flood Risk**: To ensure that data centres are not at risk of flooding, the industry standard requirement is for them to be located in Flood Zone 1, with a 1 in 1,000 year risk of flooding.

- **Mains Power Supply**: A large main power source should be available.

- **Duel Power**: To minimise the risk of data centres being off-line for extended periods, data centres should have several sources of power available.

- **Fibre Optic Connections**: It is essential that data centres have access to high quality fibre optic connections from multiple providers.

- **Site Prominence**: The sites should have security fencing, should not be visually prominent and have one access. Sites that are visible from main roads would not pass the assessment criteria.

**How the Data Centre will operate**

Alongside the successful implementation of the combined cycle energy centre and associated electrical import and export grid connection (cost borne by the Developer), WT Lamb would develop the data centres. It is envisaged that these will be leased to a global business and the Council is already aware of the companies who have expressed an interest in occupying them.

The first data centre to be constructed (Unit D1) would be c.9,245 sq.m (over 2-3 storeys) on a footprint of approximately 3,141sq.m. The building could be constructed in a manner which took advantage of the fall of the land in order to minimise landscape impact.

Without the presence of an onsite energy centre, each data centre would consume approximately 20MWe of electricity from the Grid (equivalent to the power to supply c.41,500 homes) and require significant local infrastructure upgrades. However, this proposal, which will see the construction of both facilities and allows for the development of a combined heat and power system, designed by Arup. The necessary chilling of the computer facilities could be provided on the basis of absorption chilling from the low grade surplus heat provided by the energy generation processes.
Fig 25: aerial of the data centres

Fig 26: view of the potential data centres

Fig 27: aerial of the data centres

Fig 28: potential view of the data centre
Suitability of the site for a data centre

WT Lamb have undertaken a significant amount of research into understanding the site requirements for data centre operators. The characteristics that make this so unique and attractive to such operators include:

- the opportunity for the production of electricity on site utilising a connection to the National Gas pipeline and alternatively a combination of a traditional gas connection and a localised gas field, thereby minimising parasitic transmission losses;
- the ability to source adequate power from multiple sources, including the grid and Energy Centre alongside each data centre;
- the use of low grade heat from the energy centre to reduce the power requirements of each data centre;
- the budget estimates for delivering a power supply to the site can be viably achieved at a cost borne to the developer;
- fibre optic providers have confirmed local points of presence that can serve the site. This ensures that the tenant would have a choice of supplier, sufficient capacity and the ability to achieve multiple fibre optic entry points to prevent a disruption of service;
- given the built development in the surrounding area, existing ground conditions are unlikely to pose a constraint to either the construction or the operation of a data centre;
- the site has an extremely low probability of flooding. The existing pit areas could be utilised to create flood attenuation measures;
- there is sufficient space to accommodate the data centres and their ancillary infrastructure;
- close proximity to London by multiple modes of transport, including rail, air and road;
- accessible from M25 (6-10 minutes from Junction 6);
- the site is discrete and secure; and
- flight paths to Gatwick Airport only cross the site in particular and rare conditions.

Given the characteristics presented above, and particularly the co-location of the combined cycle energy centre which will supply heat and power for the data centre in a low carbon manner, the site is considered to provide a unique opportunity. This has been recognised by a number of international technology companies and a notable Silicon Valley investment house.

Illustrative design parameters

Based on the requirements of numerous operators, a number of assumptions have been made in relation to the key design parameters of the buildings.

- Heights: up to between 12 to 15m;
- Data Centre Area (floorspace): c.9,245 sq.m per unit.
Fig 29: the Citi data centre in Frankfurt

Fig 30: the Citi data centre in Frankfurt

Fig 31: the Citi data centre in Frankfurt

Fig 32: internal storage
5.1 Introduction

WT Lamb are currently developing a scheme that incorporates an up to 49MWe combined cycle energy centre. The centre will either be powered via a conventional gas connection or could utilise both the existing and consented gas field to the south of Lambs Business Park and a conventional gas connection.

The promoter and prospective applicant is working with a number of international and local partners to design this facility and are basing the design on a number of proven schemes in both the UK and mainland Europe. The use of combined cycle gas turbines ensures that the overall generation and operating efficiency of the plant is maximised and will create a sector leading decentralised Combined Heat and Power (CHP) facility.

A combined-cycle power plant uses both a gas and a steam turbine together to produce electricity up to 50% more efficiently from the same fuel than a traditional simple-cycle plant. The waste heat from the gas turbine is routed to the nearby steam turbine, which generates extra power. The significant residual heat after this initial process, can be used on the wider site, including other elements of the proposed development.
The production of 49MWe would ensure that all the power needs of the proposed data centres and the renewable biofuel production plant would be met in full, with the potential for any residual power to be supplied to the Grid or other users.

The residual heat (up to 49MWth) produced by the Combined Cycle Energy Centre will be used in one, or a number of the following:

1. supply the renewable biofuel production plant with heat to dry RDF via either a water or an air heat exchanger;

2. heat and cool the proposed data centres; and

3. to heat and cool existing and proposed developments in the surrounding area.

The on-site use of heat and power by the renewable biofuel production plant and the data centres enables very high levels of energy efficiency to be achieved at the site. The provision of heat and power to both uses from the decentralised energy plant minimises electrical parasitic losses (through reduction of transmission distance), minimises heat wastage and reduces the direct and indirect environmental impacts of the Business Park.

All aspects of the operation will be designed to meet the highest emission standards required by the EU Industrial Emission Directive (IED).

Combined Cycle Energy Centre and Renewable Fuel Production Plant
Illustrative Design Parameters

Given the interdependence between the combined cycle energy centre and the renewable fuel production plant, both uses could be located in one building. Based on an initial indication of the requirements of several operators, a number of assumptions have been made in relation to the key design parameters of the buildings:

- Heights: ridge up to 10m from existing ground levels;

- Stack: minimum c.35m. above ground level; and

- Area (footprint): c.5,418 sq.m.

Fig 34: inside an energy recovery facility and example of industry standard plant arrangement for energy production
6.1 Introduction

Pre-prepared and pre-bundled RDF will be brought into the site via Lamb's rail siding. The RDF waste will be treated using excess heat generated from the CCGT Plant and processed to form biofuel pellets that can then be transported from the site via the railway.

WT Lamb are in discussions with a number of third party waste operators, including the Day Group, who own several rail heads in the South East, with their nearest usable railheads being located within Woking and Salfords. The third-party operator will obtain pre-bundled RDF waste material to be supplied to their rail sidings for the onward transportation to WT Lamb's rail siding at Lambs Business.

The renewable biofuel production plant is anticipated to process approximately 150,000 tonnes of RDF material per year (with the ability to take additional quantum's if the need arises).

All incoming material will be pre-processed and sorted to an agreed specification to produce a material of a specific quality that meets the performance requirements of the plant and the products end users. The processed biofuel will be non-hazardous.
The plant contains a number of processing operations to systematically upgrade the RDF material to a finished biofuel product ready for pelletisation. All materials will be supplied by contract to an agreed specification and be processed to form a final fuel product that can be used as a substitute coal alternative to conventional solid fuels.

The production process shall include the following key stages:

- Initial Acceptance and Quality Control;
- Shredding and separation;
- Screening and removal of any recyclable materials;
- Screening and removal of contaminants;
- Drying, with the use of 6-10MWth of residual heat from the energy recovery facility;
- Milling and Pelletising;
- Quality Control and Testing; and
- Onward transportation to end users by rail.

The typical customers for the fuel will be the domestic and European cement, steel and coal fired power sectors. The reprocessing of waste within the renewable fuel production plant constitutes a recycling operation. No RDF will be combusted or gasified on the site.

**Combined Cycle Energy Centre and Renewable Fuel Production Plant Illustrative Design Parameters**

As noted on page 36, given the interdependence between the combined cycle energy centre and the renewable biofuel production plant, both uses could be located in one building. Based on the work undertaken to date the parameters are as follows:

- Heights: ridge up to 10m (above ground floor level);
- Stack: c.35m. above ground level; and
- Area (footprint): c.5,418 sq.m.
7 Redevelopment of Remainder of the Business Park

7.1 Introduction

In preparing the proposals it is clear that there is also an opportunity for the intensification and redevelopment of currently under-utilised areas of the Business Park (c.3.03ha). This provides an opportunity for higher value and more productive employment space. Some of the new employment uses will be required as ancillary space to the data centre uses. These areas are in addition to the c.5.5ha required to accommodate the two data centres, the combined cycle energy centre and the renewable biofuel production plant.

This includes a developable area within the former Quarry area and areas that are suitable for intensification within the Business Park (figure 35).

It is WT Lamb’s ambition to develop these areas for uses which will complement the development proposals set out herein and are necessary ancillary uses.
Fig 35: other areas of the Business Park identified for intensification
Technical Considerations

8.1 Introduction

In order to help shape proposals, a range of background studies and investigations have been undertaken.

This section sets out a summary of the key findings of these assessments and is to be read in association with the various reports that have been prepared. It considers the initial potential impacts of the proposals to give an overview of their acceptability, including:

- National Policy (LRM Planning);
- Socio economic considerations (Hardisty Jones Associations);
- Landscape Impact (Arup);
- Ecology (Arup);
- Transport (Miles White Transport);
- Air Quality (Sol Environment);
- Heritage (Cotswold Archaeology on behalf of Arup);
- Hydrology (Arup); and
- Waste (Sol Environment).
Key Opportunities

Based on the technical work undertaken in respect of the site and proposals, there are a number of key considerations for future development:

SOCIO-ECONOMIC

- The site has the potential to bring significant economic benefits to the County. It will regenerate an element of a business park that will otherwise be lost as an employment resource and provide a modern Technology Park that is fit for future use; and
- When operational the proposal can contribute £35m in net annual GVA at the economic market level.

LANDSCAPE

- The site is very well visually contained within the local area. This is confirmed by the Landscape Assessment that has been undertaken by Arup;
- This reflects the findings of studies undertaken on behalf of Tandridge District Council and Surrey County Council;
- Given the restricted visual catchment area and local tree coverage, it can comfortably accommodate development; and
- The options provide numerous opportunities to enhance the visual amenity of the site.

ECOLOGY

- Given the nature of the site, there is low potential for biodiversity on site. There is however an opportunity through the proposals to include localised enhancements on site; and
- Impacts of the proposals are considered to be negligible.

TRANSPORT

- The Council’s SPG for the site considers that up to 1,264 two way daily trips are acceptable (excluding Minerals consents). Since the SPG was prepared there have been numerous betterments in the local area; and
- It is expected that improvements can be made to the A22/Tilburstow Hill Road Junction to help accommodate development if required.
AIR QUALITY

- The combined cycle energy centre and renewable biofuel production plant will need to be compliant with the Industrial Emissions Directive. Sol Environment have modelled the air quality impacts and consider that there are unlikely to be adverse impacts.

HERITAGE

- Buildings on the site are of insufficient quality or condition to warrant protection and there will be no impact upon any historical asset in the area;

HYDROLOGY

- The site is in flood zone 1. There is a low probability of surface water flooding but this can be improved further through detailed site design and on-site attenuation.

WASTE

- A renewable biofuel production plant will provide capacity to sustainably treat approximately 150,000 tonnes of RDF per annum;

- Currently some 212,000 tonnes are sent outside of Surrey and a further 232,000 tonnes of local authority derived LACW and C&I waste is landfilled each year;

- As such the scheme provides a significant opportunity to treat up to 34% of existing waste within the County;

- Future projection of waste arising within the county indicate an increase of up to 33% of Local Authority Collected Waste (LACW) and Commercial & Industrial (C&I) waste by 2035; and

- The rail siding provides a unique opportunity to bring RDF to site in a uniquely sustainable manner.
Tandridge Local Plan is being examined under the provision of the 2012 version of the National Planning Policy Framework (NPPF) and the Surrey Waste Plan is subject to the 2019 version of the NPPF. As the bulk of the land uses relate to the jurisdiction of Tandridge District Council, this section is based on the 2012 version of the NPPF.

Para. 14 of the NPPF (2012) provides the Government’s core planning principles that the planning system should support. Relevant to this proposal, the principles include:

- proactively drive and support sustainable economic development to deliver inter alia, the business, industrial units and the infrastructure that the country needs;
- promote the vitality of our main areas and protecting the Green Belts around them;
- support the transition to a low carbon future in a changing climate;
- contribute to conserving and enhancing the natural environment and reducing pollution; and
- encourage the effective reuse of land.

Para. 18 identifies that the Government is committed to "securing economic growth in order to create jobs and prosperity, building on the country’s inherent strengths, and to meeting the twin challenges of global competition and of a low carbon future".

Moreover, para. 19 states that the Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Therefore "significant weight should be placed on the need to support economic growth throughout the planning system".

Accordingly, local planning authorities should plan proactively to meet the development needs of business and support an economy fit for the 21st century.

In terms of Green Belt designations, para. 79 of the NPPF outlines that the fundamental aim of Green Belt policy is to "prevent urban sprawl by keeping land permanently open".

In this regard the Green Belt serves 5 purposes:

1. to check the unrestricted sprawl of large built-up areas;
2. to prevent neighbouring towns merging into another;
3. to assist safeguarding the countryside from encroachment;
4. to preserve the setting and special character of historic towns; and
5. to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

Once established, Local Planning Authorities with Green Belts in their area should establish Green Belt boundaries in their Local Plan. These boundaries should only be altered in exceptional circumstances, through the preparation or a review of a Plan.
The development pressures in Tandridge District Council, which cannot be met on non Green Belt sites, provides the exceptional circumstances to warrant an alteration to the Metropolitan Green Belt.

Para. 143 of the NPPF states that in preparing Local Plans, the Local Authority should put in place policies which ensure that worked minerals land is reclaimed at the earliest opportunity. This scheme provides that opportunity.

Whilst Lambs Business Park and the adjacent former quarry is located within the Metropolitan Green Belt as presently defined by the Adopted Development Plan, analysis of Green Belt function confirms that development in this location would not compromise any of the National Planning Policy Green Belt purposes.

In particular:

- the Lambs Business Park constitutes existing built development;
- Proposals to redevelop the Park, which include an extension to the west, would not undermine the primary purpose of the Metropolitan Green Belt, which is to keep land permanently open in the areas surrounding London which is located to the north. Consequently, the proposed development would not reduce the area of open space between the subject site and the metropolitan area of London;
- the subject site cannot be considered as being a large built-up area. Nonetheless, boundaries of the subject site are well defined by built development and natural features. Within the envelope created by these constraints, development of up to 30m can be accommodated with little visual harm. The strong existing boundaries would ensure than any development could not be considered as being unrestricted sprawl;
- the expansion of the subject site is not considered to cause merging of settlements and areas. The distance between the subject site and the surrounding settlements is significant therefore a modest reduction in the gap would not lead to coalescence;
- the site is divided into two character areas, which include built development associated with the existing Business Park and the former quarry. Clearly given the quantum of development within the existing Business Park, the eastern portion of the site cannot be contributing to the purpose of keeping the countryside from encroachment. It is acknowledged that extending the Business Park to the west would technically constitute encroachment into the countryside. However, the alteration will permit development on a site which has land uses currently associated within it, will not be restored until 2047, has a strong defensible boundary and can visually accommodate development of up to 30m. The development proposals could even improve access to recreational areas within the countryside, as well as the site’s visual amenity;
- the proposed development would not impact on the setting or special character of any historic towns; and
- the Green Belt designation on the site has prevented the site from utilising its full potential. Whilst development in the western portion of the site would not constitute development on previously developed land, for the reasons set out above, it must be considered as being more preferable than a site that has had no previous use associated with it.
Hardisty Jones Associates have undertaken a Socio-Economic Impact Assessment of the potential scheme and have considered the potential benefits that the proposals may bring to the local and wider areas.

Tandridge District lies within the county of Surrey in South East England. The District is immediately adjacent to Greater London and straddles the M25 motorway. The District also borders the counties of Kent, West Sussex and East Sussex. The Tandridge Economic and Business Development Strategy (2014) identifies the Functional Economic Market Area (FEMA) for Tandridge District including the London Borough of Croydon, Reigate & Banstead, Crawley, Mid Sussex and Sevenoaks. Less pronounced links with Bromley and Wealden are noted.

As a result of the proximity to London there is a high degree of out-commuting and a low level of self-containment within the District. Only 39% of workplace-based employment in the District is filled by residents of the District, with 77% filled by residents of the FEMA.

Our Local Plan, Issues and Approaches (Tandridge District Council, 2015) notes that Tandridge District has the least competitive economy in Surrey with the second lowest GVA in the wider area (defined as the M3 and Coast to Capital LEP areas).

The population of Tandridge District was estimated at 87,500 in 2018 (ONS, Population Estimates) and has been rising gradually over the last 25 years. Over the ten years between 2008 and 2018 the District’s population has increased by 7.4%, slower than the 8.4% across the South East (SE) as a whole and broadly in line with the 7.5% of Great Britain (GB). 60.4% of the population is aged 16-64 which is slightly below both the South East (SE) and GB averages.

Overall the labour market position appears fairly healthy. Economic activity rates in the District (78.9%) in 2018 are very slightly lower than the SE average, but above GB. This is a result of low rates for females compared to the benchmark areas, with male rates very high.

Employment rates show a similar pattern, currently above both SE and GB averages and have been for the past four years. Time series data shows the Tandridge District rate fluctuating around the SE average, most likely due to normal levels of statistical variation due to smaller sample sizes at the district level.

Tandridge District has a much higher proportion of its workforce that is self-employed relative to both the SE and GB averages. This is potentially a reflection of the rural nature of the District as well as the sectoral mix, including a large construction sector.

Occupational data shows higher proportions of residents employed as managers, directors and senior officials and, in professional and associated/technical occupations as well as skilled trades. These data also reflect the presence of high levels of self-employment (owner managers) and construction sector activity. This may reflect the qualifications profile of the resident workforce, with more qualified to NVQ4 and above (degree level) than the SE average. Resident pay is above SE and GB averages.
ONS Jobs Density data estimates 39,000 jobs within the District (2017). When comparing the number of jobs to residents, a jobs density of 0.73 is estimated, below the GB figure (0.87) and just below the SE (0.86). This figure has been quite volatile in recent years, so some caution should be exercised. Time series data suggests the figure has previously been substantially lower than the benchmarks and rarely above the SE.

Construction is a significant sector – just over double the size of the SE and GB in proportional terms. The construction sector in Tandridge District currently employs 3,500 workers, with a further 22,500 employed in the FEMA (26,000 in total). The local manufacturing sector is small.

**Potential economic impacts**

The impacts of the proposed development have been considered in detail, based on two no. 9,245sq.m data centres with associated supplementary energy centre (decentralised CCGT), a c.5,418 sq.m combined cycle energy centre (up to 49MWe) incorporating a renewable biofuel production plant and the intensification and redevelopment of underutilised areas of the Business Park to provide higher-value and more productive employment space.

The complex and high technology uses which are proposed will support a substantial initial capital investment of £473 million. Such an investment will support a range of activity within the local economy during the construction phase. Detailed economic impact analysis indicates approximately 402 person years of employment to residents of Tandridge District, generating wages of £14 million and GVA of £44 million over the construction period.

When considering benefits across the wider functional economic market area, some 596 person years of employment are anticipated to accrue to residents, generating £20 million in wages. During the operational phase, the proposed development options will support a range of employment which will deliver a net growth in jobs to local residents. The high value of the uses will generate higher wages and GVA than is currently secured on site and contribute a boost to local GVA.

Detailed economic impact analysis indicates 207 FTE net additional jobs to residents of Tandridge District, generating £7 million in annual wages. In GVA terms the proposed development is estimated to deliver c.£14 million in net additional annual GVA in the District.

At the FEMA level, some 465 FTE jobs are estimated to be secured by local residents, supporting £14 million in wages annually, and generating £35 million in annual GVA.
Landscape

A baseline landscape and visual impact assessment (LVIA) has been undertaken by Arup which has fed into the design process. It has assessed a number of key views and concludes that the site is visually contained due to the existing topography and surrounding vegetation. As a result the site is well screened and based on the proposed parameters, the proposed development will be screened from the most important viewpoints within a 10km radius study area.

Topography and Landscape features

The site itself significantly slopes from the northwest towards the south with levels changes and earthworks on the western section as a result of on going quarrying works. Within the western section there is a single body of standing water again related to the quarry and the drainage of the site, with a wetland pond on the south-western corner.

To the north and north-west a dense mature mixed woodland populates the railway embankment and extends 200m beyond to form a larger area designated as Site of Nature Conservation (Maple Wood). The site’s south boundary is also formed by a dense mature mixed woodland which evolves into a tree belt along the south-eastern section. Further west and south, open countryside is largely used for agricultural purposes with scattered properties and large estates related to the farming history of the area. A mature tree belt continues to be present along the site’s eastern boundary with open fields and residences at the end of Terracotta Road and Rushton Avenue. The north eastern section of the site does not feature a tree belt and therefore it is bounded by the existing railway.

Beyond the site area and in the local context there is a network of roadside hedgerows, scattered woodlands and tree groups. Mature tree belts and mixed hedgerows also tend to form strong boundaries to define large open fields within the setting of an undulating topography.

Landscape planning context

There are no international landscape designations relating to the site or its immediate surroundings. The site lies within the Metropolitan Green Belt.

An Area of Great Landscape Value (AGLV) is located immediately to the north of the site and across the railway line embankment and the Surrey Hills Area of Outstanding Natural Beauty (AONB) is located 5km to the north.

Two Registered Parks and Gardens of importance are located within the study area. Titsey Park is located 7km to the northeast and Gatton Park 7km to the northwest of the site. Various Conservation Areas, grade II Listed Buildings and Schedule Monuments are located around the study area. However, none of these have a significant visual connection with the site.

There are no Public Rights of Way (PRoW) crossing or the site.

The Tandridge District Council’s Part 3 Green Belt Assessment indicates that “as a matter of planning judgement, that this site does justify the exceptional circumstances necessary to recommend amendment of the Green Belt boundary”.

Fig 36: actual Visibility Envelope with view points
Extent of visibility

The study area has been defined in accordance with current guidance which advises that it needs to cover “the site itself and its wider landscape context, within which the proposed development may influence landscape character”.

The study area was determined by the Zone of Theoretical Visibility (ZTV). This is generated by computer software which places a 26m high structure at each corner of the application site and then calculates the ZTV based on a 3D topographical terrain map (DTM data). The ZTV is based on topography alone and does not take into account trees, hedgerows and buildings which would provide additional screening.

The Actual Visual Envelope (AVE) (see Figure 36) is then determined during a site visit by a qualified landscape professional, using the ZTV as guidance. The actual area from which the proposed development would be visible is determined by observation from several of the highest points on the application site and then by visiting receptors in the surrounding landscape. It is important to state that although the AVE is more reliable than the ZTV due to it taking account of existing screening elements and actual topography, it is an illustrative tool.
Lambs Technology Park | Section 8

NOTES:

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By Chkd Appd: MVP0 JD BO

Lamb Business Park Photosheets

Figure 04

VP 6. Existing view from Tilburstow Hill Road, approximately 750 South East of the site.

VP 5. Existing view from PRoW, approximately 800m South East of the site.

Birchen Coppice

Telemcommunication Mast

Tilburstow Hill

Tilburstow Farm

Fig 39: existing view from Godstone Railway station approximately 1.2km East of the site.

Fig 40: existing view from Terracotta Road, approximately 250m East of the site.
Landscape Receptors

These are individual elements of the landscape fabric and the area's landscape character that may be affected by the proposed development. Topography and Landscape features are summarised on page 50.

Landscape Character

Landscape character is defined as:

“A distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example settlement and development) in the landscape that makes one landscape different from another, rather than better or worse” (Natural England).

The site and its immediate area of visual envelope lies within National Character Area (NCA) 121 ‘Low Weald’ which is described as follows:

‘The Low Weald National Character Area (NCA) is a broad, low-lying clay vale which largely wraps around the northern, western and southern edges of the High Weald. It is predominantly agricultural, supporting mainly pastoral farming owing to heavy clay soils, with horticulture and some arable on lighter soils in the east, and has many densely wooded areas with a high proportion of ancient woodland. Around 9 per cent of it falls within the adjacent designated landscapes of the Surrey Hills, Kent Downs and High Weald Areas of Outstanding Natural Beauty and the South Downs National Park. Around 23 per cent of the area is identified as greenbelt land.’

Visual Baseline

The site is very well contained within the topography and landscape features described above. Only limited filtered views can be afforded to adjacent farmland to the south.

The site is visually disconnected from nearby settlements such as South Godstone, Lagham Manor or Anglefield Corner

Visual receptors

Arup have identified a number of visual receptors in the local area where it may be possible to gain a full, partial, glimpsed or direct view of the site.

Selected public and private public viewpoints have been identified from the desk study for assessment. These views and their assessments include:

its impermeable clay soil and low-lying nature make many areas prone to localised flooding. Ponds are common, often a legacy of iron and brick-making industries. Gill woodland is a particular feature and a valuable habitat, scarce elsewhere in the south-east of England. Despite its proximity to London and continuing pressure for development, the Low Weald remains essentially rural in character with small-scale villages nestled in woodland and many traditional farm buildings, including oast houses, which are typical in the east.’