

A hub of industrial and energy-related businesses...



**Thames  
Enterprise  
Park**

Project: Thames Enterprise Park  
Client: Thames Enterprise Park  
Job Number: 13.646

Primary author: Matt Clarke Initialled: MC  
Review by: Initialled:

Issue	Date	Status	Checked for issue
1			
2			

# SUMMARY

## i **Executive Summary**

This Final Interim Masterplan sets out the development strategy and planning considerations for creation of Thames Enterprise Park, a site comprising approximately 375 developable acres of previously developed land at the former Coryton refinery in the Borough of Thurrock.

The site possesses substantial strategic and locational advantages and provides considerable opportunities commercially, for inward investment, job creation and the securing of sustainable development in line with relevant planning policies and guidance at national and local levels.

The Final Interim Masterplan notes the potential for energy and other environmental technology schemes that have clear synergies with the Thames Oilport operation that is planned to be established on the former refinery complex, and existing energy-related facilities that are also present. A range of other uses, such as logistics storage and distribution, and complementary ancillary services, will also be considered appropriate, given the scale and location of the site, providing scope to both respond to market demand and to create an attractive environment within which to invest and to work.

This document sets out a vision for creation of Thames Enterprise Park and includes a series of guiding principles to be pursued within development proposals. In addition to setting out relevant background to the site, covering consideration of planning policy context, the Final Interim Masterplan explains the process for further developing the vision, including the relationship with the ongoing Sustainability Assessment (SA) exercise. In connection with this a wide range of organisations have been engaged.

The Final Interim Masterplan sets out the approach that has been taken to key issues such as transport and access, potential development phasing, the implications of COMAH Regulations and initiatives aimed at supporting higher education and skills development. The proposed indicative structure and layout of the scheme is also presented, building upon development scenarios that are also discussed and which have been used for the purpose of informing the SA process.

A Masterplan Opportunities and Scoping Report was submitted to Thurrock Council in May 2014 and formed the basis of a report taken to the Cabinet Meeting on 2<sup>nd</sup> July 2014. At that meeting Thurrock Council resolved:

1. That Joint Venture's emerging vision for the Thames Enterprise Park site be endorsed.
2. That authority to the Planning, Transport and Regeneration Overview and Scrutiny Committee to provide detailed input into the developing Masterplan, as required, be delegated.

Following this the Interim Masterplan and Sustainability Assessment, including associated technical reports, were submitted to Thurrock Council in October/November 2014 and were the subject of consultation with a range of stakeholder groups.

The feedback received through this process has been reviewed and has informed refinement of this Final Interim Masterplan. In some instances further assessment work has also been instructed to address issues raised during the consultation.

## ii Strategic Objectives

A number of strategic objectives, stated as key development “Principles”, are established within this Final Interim Masterplan, which will help to guide development of the Thames Enterprise Park site, as follows:

**Principle 1: The Design Concept:** To provide a framework for development of Thames Enterprise Park in a manner which creates an environment that is attractive to inward investment, as a place to work, and enhances the visual appearance of the site

**Principle 2: The Use of Land and Mix of Uses:** To offer guidance on appropriate land uses and scale of development and to provide an illustrative development framework for an identified range of primary uses compatible with the future Thames Oilport facility, and complementary ancillary support services, having regard to constraints associated with COMAH regulation restrictions;

**Principle 3: Open Space, the Creek and Ecological Mitigation:** To establish key principles and potential land areas for the provision, enhancement and management of open space and ecological resources, including a strategy for the future role of Shellhaven Creek as well as to protect and enhance landscape, ecology and heritage assets;

**Principle 4: Employment, Learning and Skills:** To create the right circumstances for reinstatement of the site as a major employment hub, with associated job opportunities for local people, and access to training and skills development to service the needs of key sectors specified in the developing Masterplan;

**Principle 5: Access, Movement and Transport:** To ensure that the developing Masterplan identifies a strategy for the future transportation infrastructure of the area including provision of appropriate access arrangements in respect of highway capacity, whilst seeking to maximise advantages offered by the availability of multi-modal infrastructure and encourage sustainable modes of travel;

**Principle 6: Sustainable Development:** To ensure an appropriately balanced approach towards the achievement of sustainable development, prioritising the delivery of jobs and economic regeneration, alongside consideration of social and environmental issues.

**Principle 7: Strategy:** To assist the Local Planning Authority in the consideration and determination of future planning applications in the area, through the provision of a clear and usable guidance document.

## Contents

<b>Summary</b> .....	<b>1</b>
i    Executive Summary.....	1
ii   Strategic Objectives.....	2
<b>1. Introduction to the Masterplan</b> .....	<b>1</b>
Introduction.....	1
Masterplan purpose, objectives and structure.....	1
Status of the Thames Enterprise Park Masterplan.....	2
Energy Sector Opportunities.....	3
Document Structure.....	4
<b>2. The Masterplan site and surrounding context</b> .....	<b>6</b>
Site Location and Context.....	6
Location facilities .....	7
General and Planning Site History.....	7
<i>General Site History</i> .....	7
<i>Planning History</i> .....	8
<b>3. Policy Context</b> .....	<b>9</b>
National Policy and Guidance.....	9
Local Policy .....	10
<b>4. Developing the Vision</b> .....	<b>13</b>
Relationship with scenarios appraisal and Sustainability Assessment Framework .....	13
<b>5. The Vision for Thames Enterprise Park</b> .....	<b>14</b>
A Vision for Thames Enterprise Park.....	14
Development Opportunities .....	14
UK Inward Investment .....	16
Sustainable Development.....	17
Higher Education and Skills Development .....	18
<b>6. Supporting Studies</b> .....	<b>20</b>
Sustainability Assessment and topic summaries.....	20
<i>Air Quality</i> .....	20
<i>Noise</i> .....	21
<i>Biodiversity and Green Infrastructure</i> .....	21
<i>Climate Change Mitigation</i> .....	21
<i>Landscape</i> .....	22
<i>Archaeology</i> .....	22
<i>Economy and Employment</i> .....	23
<i>Flooding</i> .....	23
<i>Soil, Contamination and Sustainable Land Use</i> .....	24
<i>Waste</i> .....	24
<i>Water Quality and Water Resources</i> .....	24

<i>Transport</i> .....	25
Other potential validation requirements at application stage .....	26
<b>7. The Masterplan .....</b>	<b>27</b>
Framework Proposals.....	27
Layout principles.....	28
Long Term Change & Phasing of Development.....	29
Transport and Access.....	30
Delivery and Implementation .....	32

## **Figures**

**Figure 1.1 – Site Location Plan**

**Figure 2.1 – Site Context Plan**

**Figure 5.1 – Constraints Plan**

**Figure 6.1 – EIA Process Diagram**

**Figure 7.1 – Illustrative Hybrid Layout and Indicative Land Use Plan**

**Figure 7.2 – HSE Consultation Zones Plan**

## **Appendices**

**Appendix 1 – List of Consultees and Respondents**

# 1. INTRODUCTION TO THE MASTERPLAN

## Introduction

- 1.1 The Morzine Consortium (a joint venture comprising Greenergy, Shell and Vopak) acquired the former Coryton oil refinery site, located within the eastern part of Thurrock Borough, in September 2012 (see site location plan at Figure 1.1). The Masterplan does not include any of the land acquired by Morzine in January 2015 (Lot 5). In addition to the objective of establishing a new fuel import, blending and supply terminal called Thames Oilport (TOP), the three shareholding organisations are aiming to ensure a further 375 acres of developable land at the site are brought forward for development as Thames Enterprise Park. This may be facilitated through the sale of Thames Enterprise Park to a specialist developer.
- 1.2 This Final Interim Masterplan guides development of Thames Enterprise Park, setting out a vision and key principles for creation of a business park maximising advantages offered by the location and existing infrastructure. As well as industrial and logistics uses, it is considered that this may be attractive to energy uses including Energy from Waste (EfW) and other Environmental Technology schemes, plus other complimentary commercial and ancillary uses.
- 1.3 The planning policy context relevant to future developments is presented along with other practical constraints and opportunities. In addition to establishing a range of acceptable uses and the anticipated development phasing, the Final Interim Masterplan document contains illustrative material which shows the form that Thames Enterprise Park could take, including an indicative layout approach, recognising that ultimately this will be determined by the market.
- 1.4 The Masterplan has been devised and will continue to be developed in liaison with Thurrock Council and a number of other key consultees, not least in connection with the undertaking of Sustainability Assessment work that is both appraising and informing the Masterplan.

## Masterplan purpose, objectives and structure

- 1.5 The purpose of the Masterplan is to stimulate, facilitate and ultimately guide development of the Thames Enterprise Park site for energy-related and other appropriate commercial and industrial uses. The Masterplan s gives consideration to the identification of potential cumulative impacts, mitigation where necessary, and of issues relating to the delivery of infrastructure and mitigation. Set out below is the overall vision for Thames Enterprise Park, followed by seven key principles that further explain what the Masterplan and development as a whole are seeking to achieve.
- 1.6 The vision for Thames Enterprise Park is:

***To provide a framework of infrastructure - land, services, utilities, assets - to offer attractive opportunities for investment, business and development primarily within the energy and industrial sectors, including potential environmental technologies, that maximises the value of the location and its available facilities and the connectivity to surrounding businesses on Thames Enterprise Park, Thames Oilport and adjacent areas.***

- 1.7 The following key principles for development of Thames Enterprise Park have been established through the Masterplanning process:

***Principle 1: The Design Concept: To provide a framework for development of Thames Enterprise Park in a manner which creates an environment that is attractive to inward investment, as a place to work, and enhances the visual appearance of the site;***

***Principle 2: The Use of Land and Mix of Uses: To offer guidance on appropriate land uses and scale of development and to provide an illustrative development framework for an identified range of primary uses compatible with the future Thames Oilport facility, and complementary ancillary support services, having regard to constraints associated with COMAH regulation restrictions;***

***Principle 3: Open Space, the Creek and Ecological Mitigation: To establish key principles and potential land areas for the provision, enhancement and management of open space and ecological resources, including a strategy for the future role of Shellhaven Creek as well as to protect and enhance landscape, ecology and heritage assets;***

***Principle 4: Employment, Learning and Skills: To create the right circumstances for reinstatement of the site as a major employment hub, with associated job opportunities for local people, and access to training and skills development to service the needs of key sectors specified in the Masterplan;***

***Principle 5: Access, Movement and Transport: To ensure that the Masterplan identifies a strategy for the provision of future transportation infrastructure of the area including appropriate access arrangements in respect of highway capacity, whilst seeking to maximise advantages offered by the availability of multi-modal infrastructure and encourage sustainable modes of travel;***

***Principle 6: Sustainable Development: To ensure an appropriately balanced approach towards the achievement of sustainable development, prioritising the delivery of jobs and economic regeneration, alongside consideration of social and environmental issues.***

***Principle 7: Strategy: To assist the Local Planning Authority in the consideration and determination of future planning applications in the area, through the provision of a clear and usable guidance document.***

### **Status of the Thames Enterprise Park Masterplan**

- 1.8 The Masterplan document is being developed in liaison with Thurrock Council, in order to ensure their full and crucial support for the regeneration of the former Coryton refinery site, and creation of Thames Enterprise Park in the manner envisaged, and to capitalise on the location's advantages available in support of sustainable economic growth within the borough. Initial presentation of the outline vision for the site was made at the Planning, Transport and Regeneration Overview and Scrutiny Committee on 19th November 2013.
- 1.9 Following this a Masterplan Opportunities and Scoping Report was submitted to Thurrock Council in May 2014 and formed the basis of a report taken to the Cabinet Meeting on 2nd July 2014. At that meeting Thurrock Council resolved:



“1. That Joint Venture’s emerging vision for the Thames Enterprise Park site be endorsed.

2. That authority to the Planning, Transport and Regeneration Overview and Scrutiny Committee to provide detailed input into the developing Masterplan, as required, be delegated.”

- 1.10 It is important to note that the Masterplan itself is not intended to constitute part of the statutory Development Plan for Thurrock, and will not be formally adopted as a Supplementary Planning Document. It is anticipated, however, that upon completion the Masterplan will represent a material consideration in the determination of future planning applications. Furthermore it is intended that the site will proceed to be allocated through the Thurrock Local Plan review that is underway, and that this document, and its associated background studies, will provide an important part of the evidence base for the Local Plan.
- 1.11 Whilst not a statutory requirement for a document of this nature, it was agreed that Sustainability Assessment would be undertaken as an iterative process alongside formulation of the Masterplan. The Sustainability Assessment was duly undertaken and the Interim Masterplan, Sustainability Assessment and supporting technical reports were submitted to Thurrock Council in October/November 2014, and in turn were the subject of consultation towards the end of the year.
- 1.12 Comments received (see Appendix 1 for list of respondents), on all aspects of the submitted material, have been taken into account in the refinement of this Final Interim Masterplan document. In some instances this has resulted in additional work having been instructed to address issues raised. The key findings of the assessment work and explanation of further tasks underway, are summarised within later sections of this Masterplan document.
- 1.13 Through the process of engagement with key consultees and the Sustainability Appraisal exercise undertaken it will be ensured that the Masterplan can be considered a robust document that strives to deliver sustainable development.
- 1.14 The Sustainability Assessment Report will also be made available, whilst the key findings of individual topic studies are also summarised in later sections of the Masterplan. The voluntary Sustainability Assessment process, commencing with preparation of an SA Scoping Report on which a wide range of bodies have been consulted, will ensure that the Masterplan can be considered a robust document that strives to deliver sustainable development.
- 1.15 The Sustainability Appraisal process and the manner in which key findings of this have been, and are continuing to be, fed into development of the Masterplan, is addressed in greater detail within Section 4.

### **Energy Sector Opportunities**

- 1.16 Encouragement for use of renewable energy resources through the development of renewable energy schemes is embedded within the National Planning Policy Framework (NPPF), including reference within one of the Core Planning Principles at Para. 17 in the context of ensuring a transition to a low carbon future in the face of challenges presented by climate change. The National Planning Practice Guidance (NPPG) also recognises the importance of increasing the amount of energy from renewable and low carbon technologies to help ensure that the UK has a secure energy supply, to reduce greenhouse gas emissions to slow down climate change and

stimulate investment in new jobs and businesses. It is noted that planning has a crucial role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable.

- 1.17 In this context the Thames Enterprise Park site is ideally located for renewable and low carbon energy developments, given the general separation from residential receptors, and with clear synergies available with existing and proposed activities on the site and in the surrounding area, with particular opportunities to be found in the Environmental Technology sector.
- 1.18 The site has an extensive Thames waterfront with six jetties (some of which will be reserved for TOP), provides access to the Rotterdam traded fuel market, whilst London itself represents the largest energy market and waste feedstock source in the UK. The site additionally benefits from adjacent high voltage power and high pressure natural gas infrastructure, and extensive transport infrastructure, as well as access to the strategic UK Oil Pipeline (UKOP) and Government Pipelines and Storage System (GPSS). These, combined with a supportive local authority (Thurrock Council) and the historic, current and planned energy operations on site, particularly the planned adjacent Thames Oilport, and other support facilities make Thames Enterprise Park particularly suited to new energy activities, providing opportunities to establish a critical mass of related industries.
- 1.19 This can deliver opportunities for all stakeholders on site to take advantage of mutual transactions around feedstock supply and production offtake and supply. For example many potential waste to energy projects produce bio-gas which generally has a lower calorific value (energy content) than mains natural gas but which has significant value if consumed locally for generation of electricity and heat or upgraded for delivery to the national grid.

## Document Structure

- 1.20 The remainder of this Final Interim Masterplan document is structured as follows:

***Section 2 - Site and Surroundings: Describing the location and form of the site and setting this within the context of the surrounding area;***

***Section 3 - Policy Context: Setting out planning policies and guidance at national and local levels relevant to the site and the form of development proposed within the Masterplan;***

***Section 4 - Developing the Vision: Providing a brief overview of the processes and activities undertaken in formulation of the Masterplan, and its further refinement, including the related Sustainability Assessment exercise;***

***Section 5 - The Vision for Thames Enterprise Park: Setting out in greater detail the vision for development of the Thames Enterprise Park site, including the range of potential uses that would be considered acceptable;***

***Section 6 - Supporting Studies: Providing an overview of the assessments being undertaken to inform preparation of the Masterplan and the associated Sustainability Assessment, and summarising key findings to date;***

***Section 7 - The Masterplan: Explaining the core visual and descriptive element of the Masterplan. This includes the provision of visual illustrations of the potential development***

***framework, and practical considerations such as the appropriate balance of built uses and open space, of complementary ancillary uses and the anticipated phasing of development across the site.***

## 2. THE MASTERPLAN SITE AND SURROUNDING CONTEXT

### Site Location and Context

- 2.1 The Masterplan area lies within and forms part of the site of the former Coryton refinery at the south-eastern tip of Thurrock Borough, within the Thames Gateway regeneration and growth area (as shown within Figure 2.1). Measuring approximately 375 developable acres (152 hectares) in extent, the site is located near to the settlements of Stanford-le Hope and Corringham. By road it is accessed via, and lies at the end of, The Manorway (A1014), linking with the A13 a short distance to the west.
- 2.2 To the west of the site lies the newly established London Gateway port facility with associated consent for development of a “Port-Centric” logistics park, on the site of the former Shell Haven oil refinery.
- 2.3 Aside from the London Gateway site, the surrounding area comprises rough, open marsh and grassland to the north and north-west, with water bodies in the form of the Thames Estuary to the south, and Holehaven Creek to the east. Beyond this, to the east, lies Canvey Island (see Figure 2.1).
- 2.4 The Masterplan site itself comprises previously developed land, including substantial infrastructure associated with the former refinery and other ancillary operations. The northern and eastern tips of the Coryton complex, totalling approximately 100 acres (40 hectares), form the focus for future development and consolidation of the Thames Oilport facility, involving the potential re-use and refurbishment of existing bulk liquid storage tanks and other infrastructure plus new facilities.
- 2.5 The remaining area, which is available for redevelopment in the context of the Thames Enterprise Park, and the subject of the Masterplan, is irregular in shape and has two distinct parts.
- 2.6 The western area of the site (called the West Site) has been largely cleared of previous (former Shell Haven) refinery operations structures, albeit that remnants of tank bases, hard-standings and access roads. The racks relating to a former bitumen plant are planned to be demolished. Areas of this parcel, which measures approximately 105 acres (42 hectares), and is served by a separate jetty to the Thames, have more recently been used for car parking and construction activities which supported the ex-Coryton Refinery and, as a consequence, a significant amount of the site is covered with hard-standing. Around 20 acres of this land, including the Shellhaven Creek and roads, is not considered to be developable.
- 2.7 The bulk of the Masterplan site, lying to the north of the Shellhaven Creek which separates this from the western site, extends up to approximately 310 acres (125 hectares) dependent on the final boundary with Thames Oilport. This area of the site comprises a wide range of buildings, structures, plant and other refinery infrastructure, set upon an entirely hard-surfaced base. A number of clustered large bulk liquid storage tanks of varying sizes are present, in addition to numerous large stacks of varying heights. The site is interspersed with other tall structures and a myriad of pipe-work across the site, whilst a waste water treatment works is located on the north-

eastern side. The site is crossed by a series of internal roads, broadly following a grid structure, plus the former refinery rail sidings. After providing for this infrastructure plus the balance of the Shellhaven Creek, this part of the site comprises around 280 developable acres. It is planned that all the redundant above ground infrastructure, structures and buildings will be demolished and cleared. Demolition of the refinery process units, boilerhouse, stacks and LPG tanks commenced in November 2014.

- 2.8 Towards the western side of the site are a number of office, stores and workshop buildings with associated car parking and security facilities. It is intended that some of these will be retained for future use.
- 2.9 Within the wider complex, but excluded from the area covered by either the Thames Enterprise Park Masterplan or Thames Oilport sites are the Intergen Power Station, Coryton Advanced Fuels and Calor Gas storage facilities (under lease from Thames Enterprise Park), all possessing clear synergy with the historic and proposed uses of the site. Tenants such as Calor, while not part of the Masterplan, do form part of Thames Enterprise Park. The Masterplan does not include any of the land acquired by Morzine in January 2015 (Lot 5).
- 2.10 The above acreages are indicative and subject to final arrangements for Thames Oilport and detailed master planning of Thames Enterprise Park.

### **Location facilities**

- 2.11 In summary, the Thames Enterprise Park site benefits from the following facilities and services:
- Deep water access via jetties to the River Thames, and extensive river frontage;
  - Road access via the Manorway (A1014) with connections to the A13 and M25 in close proximity;
  - Historic rail connection and sidings with scope for reinstatement and shared access to mainline network in collaboration with adjacent London Gateway;
  - On-site liquid fuel infrastructure, such as the UK Oil Pipeline (UKOP), Government Pipelines and Storage System (GPSS) and tank storage;
  - Connection to National Grid, including nearby high and medium voltage power and high and intermediate pressure natural gas transmission and distribution infrastructure.
  - A very high protection from tidal flooding with the risk of tidal flooding therefore considered extremely low. The annual probability of tidal flooding is estimated to be less than 0.1% in any one year, which represents a higher standard of protection than other estuaries and coastal areas in the U.K.

### **General and Planning Site History**

#### *General Site History*

- 2.12 Coryton was first developed as the site of an ammunition factory, opened in the late nineteenth century by the firm Kynoch, alongside an estate for employees known as Kynochtown. It was at this time that the rail connection was established through the construction of the Corringham Light

Railway (CLR). Upon closure of the Kynoch works in 1919 the site was taken over by coal merchants Cory Brothers Ltd who developed an oil storage depot, and renamed the location as Coryton.

- 2.13 In 1950 Coryton and the CLR were sold to the American Vacuum Oil Company, later to become Mobil. The CLR branch from Thames Haven was upgraded to main-line standards.
- 2.14 A new refinery became operational in 1953. Coryton village was demolished and absorbed into the refinery site in the 1970s.
- 2.15 Inputs and outputs associated with the refinery were delivered by road, sea and rail, in addition to connection across the country to Stanlow Refinery in North West England via the UK Oil Pipeline (UKOP), opened in 1969.
- 2.16 Coryton was operated by BP from 1996, when Mobil's fuels operations in Europe were placed into a joint venture with BP. Following the merger in 1999 of Mobil with Exxon, the remaining interest in the refinery was sold to BP in 2000.
- 2.17 In 2007 the plant was sold by BP to Petroplus, and was subsequently acquired by the Consortium from the administrators in September 2012, following announcement that the refinery was to close. The refinery was decommissioned and made safe in 2013.
- 2.18 Adjacent to the site is a 753 MW gas-fired power station, opened in 2002 and run by Coryton Energy Co Ltd, part of Intergen. This lies outside the area covered by the Masterplan, but it is clearly relevant to an understanding of the nature of the site and its immediate surrounding context.

#### *Planning History*

- 2.19 The extensive planning application history of the site naturally reflects the general history set out above. The earliest recorded application (49/00008/FUL) was for a domestic garage, given the presence of residential uses at that time. Since this date, however, applications have essentially charted the growth of the facility over time. These have included erection of staff welfare facilities (49/00115/FUL – medical consulting room; 55/00457/FUL – locker room and lavatory accommodation), and other security and ancillary facilities (59/00427/FUL – operators hut; 63/00825/FUL – patrol office; 79/0047A/FUL – office extension), to select only a few examples.
- 2.20 More substantive applications have related to proposals such as construction of a control house, de-asphalting unit (50/00138H/FUL); extension to oil pump house (67/00679/FUL); improved lighting for railcar loading (70/00984/FUL); erection of blowing gas incinerator with 30.5m stack (72/00340/FUL); new catalytic cracking unit, alkylation unit, sulphur unit, viscosity breaking unit and catalytic hydrodesulphurisation unit (76/00724/OUT).
- 2.21 More recent applications have been connected with extension of the bitumen plant (08/00346/TTGFUL); a new single storey building and footbridge over Shellhaven Creek (11/50322/TTGFUL); new sulphur tail gas treatment unit with 34m column (11/00628/FUL), and a number associated with establishment of the Thames Oilport facility from 2013 onwards.
- 2.22 All applications referred to above, which is by no means an exhaustive list, were granted consent.

## 3. POLICY CONTEXT

### National Policy and Guidance

- 3.1 Government planning policy is contained within the National Planning Policy Framework (NPPF), which was published in March 2012. This represents guidance for local planning authorities in drawing up plans and as a material consideration in determining planning applications. The NPPF reaffirms the importance of seeking to achieve sustainable development, in relation to which three inter-related dimensions are specified, namely economic, social and environmental. This is reflected in the presumption in favour of sustainable development, which is to be seen as a golden thread running through both plan-making and decision-taking.
- 3.2 Twelve core planning principles are identified (at Para 17), which include to:
- ***“proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs” and to “respond positively to wider opportunities for growth”;***
  - ***“secure high quality design”;***
  - ***“support the transition to a low carbon future in a changing climate, encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources”;***
  - ***“contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value”;***
  - ***“encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value.”***
- 3.3 Section 1 of the NPPF addresses the topic of building a strong, competitive economy, representing a particular emphasis of the framework. This requires (at Para. 19) that ***“significant weight should be placed on the need to support economic growth through the planning system.”***
- 3.4 Further policies of the NPPF are relevant to a range of development considerations that are explored within this Final Interim Masterplan and the associated sustainability assessment. These include the promotion of sustainable transport (Section 4), the requirement for good design (Section 7), meeting the challenge of climate change, flooding and coastal change (Section 10), and conserving and enhancing both the natural and historic environment (Sections 11 and 12 respectively).
- 3.5 Government guidance on a wide range of planning issues is set out within the Planning Practice Guidance, published in March 2014.
- 3.6 The National Policy Statement for Waste Water (February 2012) sets out Government policy for the provision of major waste water infrastructure including the construction of and alterations to waste water treatment plants.
- 3.7 The National Planning Policy for Waste (October 2014) sets out the Government’s ambition to work towards a more sustainable and efficient approach to resource use and management and sets out detailed waste planning policies.

3.8 Other documents of relevance are:

- The EU Waste Framework Directive (2008/98/EC);
- The Waste (England and Wales) Regulations 2011;
- Guidance for local planning authorities on implementing planning requirements of the European Union Waste Framework Directive (2008/98/EC) DCLG Dec 2012;
- Waste Management Plan for England. Defra Dec 2013; and
- Energy from Waste – A guide to the debate. Defra Feb 2014.

**Local Policy**

3.9 The Development Plan for Thurrock comprises the following adopted documents with potential relevance to the Thames Enterprise Park scheme:

- Saved policies of the Thurrock Borough Local Plan (Adopted 1997) not yet explicitly replaced by policies of the Local Development Framework (LDF);
- The Thurrock LDF Core Strategy and Policies for Management of Development DPD (Adopted 2011).

3.10 A focussed review of the Core Strategy to ensure consistency with the NPPF is currently well advanced, having recently been through independent examination. Thurrock Council recently took the decision that further focussed reviews that were underway in respect of Broad Locations and Strategic Sites, and Policy CSTP7 (Network of Centres and Arena Essex) would progress in the context of a single consolidated Local Plan (Cabinet Decision 01104276 – 12th February 2014). The Local Plan will also contain policies previously advanced through initial consultations on the Site Allocations and Minerals and Waste DPDs.

3.11 The current Local Development Scheme, active from 1st May 2014, sets out that the Local Plan will be adopted towards the end of 2018, following consultation stages through 2015-2017.

3.12 The 1997 Local Plan designated the Masterplan site as that of an oil refinery (E8A) to which Policy E8 applied, in common with the adjoining Shell Haven refinery (E8B).

3.13 Policy E8, which remains saved by Direction of the Secretary of State, and will fall to be replaced by site allocation policies in the emerging Local Plan, supported proposals for new oil refining activities within these sites or on adjacent land specified for their expansion, subject to avoidance of additional material environmental, safety or health hazards. The expansion area referred to comprised of some 45.3 hectares of land to the north of the Coryton refinery site (under reference E8B (b)).

3.14 This situation remains that reflected on the LDF Adopted Interim Proposals Map (published in 2011 in conjunction with adoption of the Core Strategy), recognising the saved nature of this policy and the intention to update this through the allocation of sites in the Local Plan.

3.15 The current Proposals Map shows that land to the north and north-west of the site is designated as Green Belt, along with a number of nature conservation designations (Local Nature Reserves (LNR) and a Site of Special Scientific Interest (SSSI).

3.16 The Industrial and Occupational structure of the Borough is highlighted as one of several Key Drivers of Change. It is recognised that policies of the LDF must aim to support growth in local



businesses, with the overall aspiration to help secure an additional 26,000 jobs in Thurrock over the period 2001 – 2026.

- 3.17 In the context of Policy CSSP2: Sustainable Employment Growth, it is stated that the Council's approach to sustainable economic development includes:
- Achieving increased prosperity and employment growth;
  - A sustainable balance between housing and jobs growth across the Borough;
  - Supporting indigenous business;
  - Attracting inward investment;
  - Diversifying the economy;
  - Providing improved skills and jobs for local people; and
  - Providing for land and sites of appropriate type and location.
- 3.18 A range of Development Management Policies that will be used as the basis for assessing and determining future planning applications in the Borough are also set out in relation to the following topic areas:
- Built Environment;
  - Natural Environment;
  - Transport and Access;
  - Climate Change;
  - Flood Risk; and
  - Developers Contributions.
- 3.19 Beyond this adopted framework the clear intentions of Thurrock Borough Council for retention of the former Coryton site in active employment use, including both Thames Oilport and Thames Enterprise Park, can be seen within consultation documents associated with the Local Plan.
- 3.20 Specifically it should be noted that the Further Issues and Options Consultation on the Site Allocations DPD (January 2013) proposed allocation of Land at Coryton Oil Refinery (309 ha) as Land for Primary Employment (Site E2v), recognising cessation of the former uses and the appropriateness and importance of seeking to retain the site in employment use.
- 3.21 The draft Core Strategy Focussed Review: Broad Locations and Strategic Sites consultation (January 2013) has proposed to return land that had previously been allocated for expansion of the Coryton Oil Refinery site (as referred to above) to the Green Belt.
- 3.22 Furthermore, a Position Statement on the Core Strategy that was approved by Thurrock Council's Cabinet on 12th February 2014 (Decision 01104276 referred to above) in the context of moving towards preparation of a new Local Plan, made specific reference to the strategy for the Borough being based on the delivery of significant levels of growth at six key locations, including ***"The development of the Thames Enterprise Park on the former Petroplus refinery at Coryton to create a 300 to 400 acre Environmental Technologies and Energy Hub."***
- 3.23 It is also appropriate to have regard to the Local Plans of the adjoining Local Authority areas, not least in view of the location of the site on the eastern edge of the Borough and the strategic nature of the development opportunity.

- 3.24 In this regard it is noted that Basildon Council is currently working on its Local Plan Core Strategy with the Revised Preferred Options report on consultation last year. Further consultations are anticipated before adoption in 2018.
- 3.25 The joint Essex County Council and Southend-on-Sea Borough Council Waste Local Plan (2001) guides waste development and is used as the basis for determining waste-related planning applications within Essex and Southend. The authorities have started work on the production of a replacement waste Local Plan which is due for further consultation in July 2015 and adoption in December 2016.

## 4. DEVELOPING THE VISION

### **Relationship with scenarios appraisal and Sustainability Assessment Framework**

- 4.1 The Masterplan has been developed, revised and will continue to be refined, in close consultation with Thurrock Council, including regular meetings with officers from a range of departments and engagement with members throughout the process.
- 4.2 It was agreed by both parties that the undertaking of sustainability appraisal to both inform the Masterplan and ensure that this is underpinned by an appropriate level of robust assessment of sustainability issues would be beneficial.
- 4.3 It is recognised that the Masterplan is not intended to be formally adopted as part of the statutory development plan at this stage and that sustainability appraisal itself would not therefore be required in a formal sense. The accepted approach to sustainability appraisal has however been broadly followed, although to avoid confusion and to differentiate this from a formal appraisal the process has been referred to as a "sustainability assessment" (SA) in this instance.
- 4.4 An SA Scoping Report was prepared and submitted to Thurrock Council for comment in April 2014, who in turn consulted with a wide range of relevant bodies and organisations, in addition to internal departments within the authority. As a result of comments received a number of sub-objectives have been refined and addressed within the SA.
- 4.5 Through the identification and assessment of a number of topic areas the sustainability issues that could potentially arise in connection with the Thames Enterprise Park development have been explored at an appropriate level of detail, with a limited number of assessments continuing to be undertaken.
- 4.6 The approach taken within the SA process has involved the assessment of two theoretical development scenarios, one assuming the site would be developed entirely for Environmental Technology and Energy uses, and the other that this would comprise entirely B8 warehouse, logistics and distribution uses. This methodology has ensured that the impacts associated with the extremes of both scenarios have been considered.
- 4.7 The findings of the on-going SA process are being used alongside investigation of other constraints and market intelligence to refine the development framework and illustrative layout for the Thames Enterprise Park site. Overviews of the topic assessments undertaken, and of work that is continuing, are set out within Section 7 of this document, along with summaries of their findings, and will provide a good basis for future identification of issues that would potentially need to be included within the scope of Environmental Impact Assessment (EIA) work that is likely to be required in support of individual planning applications. Further consideration of this issue is also contained within Section 7.

## 5. THE VISION FOR THAMES ENTERPRISE PARK

### A Vision for Thames Enterprise Park

5.1 As noted previously, the vision for Thames Enterprise Park is:

***To provide a framework of infrastructure - land, services, utilities, assets - to offer attractive opportunities for investment, business and development primarily within the energy and industrial sectors, including potential environmental technologies, that maximises the value of the location and its available facilities and the connectivity to surrounding businesses on Thames Enterprise Park, Thames Oilport and adjacent areas.***

5.2 The Final Interim Masterplan expands upon this vision for Thames Enterprise Park and gives some substance to, and guidance on, the form that this planned hub of industrial and energy-related businesses, occupying one of the largest industrial sites in the northern Thames Gateway and complementing the neighbouring Thames Oilport and London Gateway operations, could ultimately take.

5.3 The technical approach to sustainability assessment of a range of topic areas has entailed the preparation of two theoretical scenarios based on either Environmental Technology and Energy development or B8 Warehouse and Distribution uses, in order to test these two cases. In reality, however, it is envisaged that the ultimate development driven by the market will comprise a mixture of commercial, energy and industrial uses consistent with the overall vision for creation of an enterprise park compatible with the current and historic activities on the wider site.

5.4 The Final Interim Masterplan shows an illustrative layout which strikes an indicative balance between these uses, in addition to other elements that will contribute to a sustainable enterprise park. This indicative mixed use approach will enable a degree of responsiveness to market demand, within the scope of constraints identified elsewhere in this document and shown on the Constraints Plan attached as Figure 5.1, and the parameters of the Sustainability Assessment, and with regard to the identified list of appropriate uses, in order to ensure that the substantial employment and economic development benefits offered by the site are capitalised upon.

5.5 Within the remainder of this section the range of uses that are currently being considered, and which it is felt would ultimately be acceptable in accordance with the overall vision, is presented, having regard to other policy and sustainability considerations.

### Development Opportunities

5.6 The site's location, infrastructure and history lend it to a wide range of appropriate uses, which are considered compatible with and complementary to, the existing uses on site, and have been considered as part of the supporting studies and Sustainability Assessment including:

Table 5.1: *Appropriate Uses*

Appropriate Uses
Renewable energy, such as solar and wind
Energy from refuse derived fuels (RDF) and other waste feedstocks
Power generation
Combined heat and power (CHP) plants
Fuel storage, processing and trading
Energy supply chain and support activities
Energy research and development centres
Upstream waste processing to provide EfW feedstock on site
Non-energy industrial production
Logistics and storage (B8 Warehouse and Distribution)

- 5.7 In addition to the above mix of core uses, it is considered that a number of further ancillary uses would also be appropriate, subject to acceptable siting relative to application of the COMAH Regulations. Such uses would include facilities and services to meet the needs of a sizeable workforce, which could arguably extend to those on the adjacent London Gateway site, including food and drink outlets and restaurants, small-scale convenience retail, or potentially other support facilities such as vehicle servicing. The scale of any retail offer would need to be such that it would not represent a destination in its own right, so as not to divert trade away from other locations in the established retail hierarchy in Thurrock Borough. Pitched at the right level, however, the inclusion of convenient provision to meet top-up shopping and other similar needs will offer clear sustainability advantages through preventing the need for staff to leave the site to travel to facilities further afield during the course of the working day.
- 5.8 Other compatible uses could also include office space, which may or may not be related to the core activities on the park, as well as training and education facilities (see further discussion of this issue below).
- 5.9 The following table sets out the variety of EfW and Environmental Technologies considered appropriate to the site, including an indication of the feedstock and off-take that would be involved. This list should be considered as indicative of the types of process that may be undertaken, and is not intended to be restrictive, with alternative options being judged on their merits against the Masterplan and Development Plan as a whole, in addition to the provisions of the NPPF, PPG and other material considerations, at the appropriate time.

Table 5.2: Potential EFW and Environmental Technologies

Process	Feedstock	Offtake
Gasification + Fischer Tropsch Synthesis Conversion and Hydrogen Pyrolysis upgrade to liquids	RDF	Bio-liquids - Jet fuel, naphtha & diesel
Pyrolysis	RDF	Bio-gas + carbon
Distillation / Trans- esterification	Food waste + sewage	Bio-diesel
Anaerobic Digestion	Food waste + cattle slurry + manure + agricultural organic waste	Bio-gas + Fertiliser
Thermal cracker / distillation	Shredded tyres	Bio-gas + bio-oil + carbon
Microbe gas fermentation	Bio-mass	Bio-jet fuel + ethanol
Plasma gasification	Commercial & industrial waste	Bio-gas
Reactor-distillation	Plastics	Bio-liquids - Jet fuel, naphtha & diesel

**UK Inward Investment**

5.10 All of the joint venture partners of the business operate in a global environment and Shell and Vopak both have foreign based corporate headquarters with public listed holding companies. In the global business environment of the 21st Century there is increasing competition between the operating companies within each of the joint venture partners’ respective divisions for the limited investment funds available for new developments both within the UK and overseas. Therefore, it is imperative that UK organisations remain competitive in terms of the returns that they deliver and the development risks they incur if they are to secure funding for any such development. Irrespective of the domicile of the holding companies, any investment by the joint venture partners, either solely or collectively, should be viewed as UK inward investment that will be strictly evaluated against global competition for access to that capital. This includes investment in enabling the Thames Enterprise Park (including demolition and clearance) necessary ahead of any redevelopment of the site.

## Sustainable Development

- 5.11 The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development (Para. 6). It goes on to define three roles for planning in pursuit of sustainable development – economic, social and environmental.
- 5.12 The sustainability assessment which has informed preparation of the Masterplan, will ensure that these strands are appropriately reflected within Thames Enterprise Park. The relationship between the SA and the Masterplan is set out at greater length within Section 4 of this report.
- 5.13 In summary, and from the findings of the assessments undertaken and completed to date, it is considered that the Masterplan will clearly facilitate the achievement of sustainable development given the substantial economic development and employment growth opportunities that this will deliver, alongside the ability to mitigate environmental impacts, or even provide enhancements as part of the scheme, and the absence of any direct social aspects, aside from those associated with the benefits of job creation.
- 5.14 In respect of sustainable design and construction Policy PMD12 of the Adopted Thurrock Core Strategy and Policies for Management of Development DPD addresses this issue. The Building Research Establishment Environmental Assessment Method (BREEAM) is the environmental assessment tool used to ensure overall environmental performance of non-residential developments is achieved and carbon emissions are reduced, with mandatory minimum requirements established in 2008. Policy PMD12 sets the following standards for non-residential developments over 1,000 sqm:

*Table 5.3: Thurrock Core Strategy Policy PMD12 BREEAM Requirements*

BREEAM Requirements
BREEAM Very Good up to 2016
BREEAM Excellent from 2016
BREEAM Outstanding from 2019 (in addition to national standards for zero carbon).

- 5.15 The policy states that "these requirements may be relaxed where the developer is able to prove that these requirements will be economically unviable, rendering development of the site undeliverable."
- 5.16 The policy also requires that planning applications for development will be supported by an Energy and Water Statement, covering issues such as water and energy consumption, recycling and use of sustainably sourced materials.
- 5.17 The SA highlighted that for the B8 development scenario the Greenhouse Gas (GHG) emissions performance of buildings would be improved through the application of energy and carbon efficiency measures in construction and operation. To maximise potential GHG emissions benefits, BREEAM or equivalent sustainability standards could be set at a high standard to help offset inevitable GHG emissions consequences arising from construction. The incorporation of renewable energy as an integral part of B8 units (either photovoltaics (PV) or solar water heating) could be considered as an option for individual buildings, as part of the achievement of a high BREEAM

rating. To achieve practical uptake of solar electricity generation across any B8 element of the scheme, design consideration would need to be given to issues such as building orientation, roof structure and area, and the minimisation of obstructions that could over-shadow solar access.

- 5.18 The Environmental Technology development could improve its GHG emissions performance using similar measures to the B8 elements, working to a high BREEAM standard rating. The Environmental Technology units could include benefits beyond this, through new energy generation plant development and associated 'designed-in' energy infrastructure (for example a heat distribution network). This opportunity to gain secondary benefit from new energy generation plant would not exist for a solution based solely on B8 usages. For this reason, the Environmental Technology uses benefit from a greater potential for export of heat or electricity than the B8 scenario, although this potential is only likely to be fully achieved if it explicitly considers spatial layout associated with energy distribution infrastructure. The hybrid approach which is proposed to be facilitated through the Masterplan, would allow these benefits to be captured.
- 5.19 It should be noted that the BREEAM assessment regime recognises the sustainability advantages offered by a wide range of environmental topic areas. For instance credits are available for appropriate approaches to ecological assessment, protection and enhancement, offering scope for such planned measures to contribute to achievement of the above target levels.

### **Higher Education and Skills Development**

- 5.20 The Joint Venture partners share Thurrock Council's desire to ensure that the employment opportunities offered on Thames Enterprise Park are accessible to local people and that skills can be found locally that are required by the specialist sectors that could be accommodated on the site. To achieve this, there may be a need to introduce specific, tailored training programmes locally. Thurrock Council is encouraged to carry out a workforce planning study to identify the opportunities and the support needed to exploit them.
- 5.21 It is known that Thurrock Council has recently investigated this issue in relation to the needs of the expanding port and logistics industry in the Borough, including the preparation of a consultant study into a potential National Skills Academy for Transport, Ports and Logistics. The nature of the sector is expected to change as technological evolution continues, with many new jobs moving away from the traditional low skill opportunities to those requiring a range of technical, ICT and/or managerial skills and qualifications.
- 5.22 The Thames Enterprise Park team, in partnership with officers at Thurrock Council, have additionally been proactively investigating opportunities to secure the delivery of appropriate training and education programmes to support the potential energy and environmental technologies park. The parties are keen to create a centre of excellence that will underpin development of this important growth sector across the borough as a whole, providing an opportunity to up-skill the local workforce and, most importantly, provide some employment-related higher education opportunities within the borough's boundaries.
- 5.23 Following meetings with relevant industry bodies, such as the Chartered Institute of Waste Management (CIWM), Energy & Utilities Skills (EU Skills), and Waste Management Industry Training & Advisory Board (WAMITAB), positive discussions have been undertaken with the University of Northampton, who are leaders in this field, with formal links to CIWM and WAMITAB.



This has led to dialogue between the University and South Essex College, with a view to enabling the local delivery of courses up to degree level and with a learning pathway for those starting at a lower level. The relationship has resulted in a Memorandum of Understanding between the two education providers signed on 2<sup>nd</sup> July 2014.

- 5.24 Opportunities to provide an on-site classroom as part of the Masterplan, to facilitate this arrangement, are being explored. It is envisaged that a "*Skills Hub*" could be incorporated within the area assigned for ancillary uses, given the need for such floorspace to accord with the COMAH regulations.

## 6. SUPPORTING STUDIES

### Sustainability Assessment and topic summaries

- 6.1 As part of the evidence base formulation and sustainability assessment process a number of topic assessments have been carried out, with a limited amount of further assessment also now underway in response to consultee comments. The following table sets out the topic areas covered within the sustainability assessment, along with identification of relevant sub-areas, and confirmation of the consultants responsible for the respective assessments.

*Table 6.1: Sustainability Assessment Topic Areas and Consultants*

SA Topic Area	Sub-Areas / Comments (where relevant)	Consultants
Air Quality & Noise	Noise	Environmental Resources Management Limited (ERM)
	Air Quality	ERM
Biodiversity and Green Infrastructure		Ecology Solutions
Climate Change Mitigation	Renewables (Carbon footprint/reduction issues)	ERM
	Transport	Transport Planning Associates
Landscape and Heritage	Flood Risk	HR Wallingford
	Landscape	Landscape Partnership
Economy and Employment	Archaeology	ERM
		Boyer Planning
Flooding	High level Flood Risk Assessment	HR Wallingford
Soil, Contamination & Sustainable Land Use	Ground Conditions	ERM
	Sustainable land use	Boyer Planning
Waste		ERM
Water Quality & Water Resources		ERM
Transport		Transport Planning Associates

- 6.2 The findings of these assessments are summarised below in order to highlight the issues and opportunities identified by this work, including recommendations for mitigation that have been fed into the final illustrative Masterplan layout. Where additional work is underway or proposed this is also outlined below. It should be noted that the approach adopted within the SA considered two extreme situations, based on potential scenarios, whereas in reality a hybrid approach, comprising a mixture of these uses is envisaged.

#### *Air Quality*

- 6.3 Both scenarios assessed would give rise to increased concentrations of traffic-derived pollutants in the vicinity of the road network (potentially to different extents). The Environmental Technology scenario would in addition cause an increase in concentrations of process-derived pollutants, which could lead to additional impacts over a much larger area including on nature conservation sites.

- 6.4 Emissions from any industrial processes in the Environmental Technology scenario could need to comply with relevant Air Quality Standards and could be subject to the Environmental Permitting Regulations to ensure that the Best Available Techniques to control emissions to air are implemented.
- 6.5 As part of the eventual Transport Assessment of individual planning applications, consideration will be given to measures which can reduce likely road transport emissions. These might include the consideration of a Multi-Modal Freight Strategy and other Sustainable Transport measures. The potential for transportation of materials to the site by rail or river is also a realistic opportunity for the site (particularly in the Environmental Technology scenario where up to 30% of material could be transported by rail or river within ten years), which could help to reduce the impact of traffic on the local road network and associated emissions. Additionally, the voluntary specification by operators of high Euro category vehicles, particularly HDVs, should be considered together with the potential for routing of deliveries to and from the site to avoid the AQMAs.

#### *Noise*

- 6.6 Both scenarios include noisy processes during construction and operation of the site. The construction phase of either scenario is not likely to affect residential areas due to adequate separation distance, if, as expected, construction takes place only during the daytime. During operation, both Masterplan scenarios could produce an increase in traffic on The Manorway compared to baseline levels. The B8 scenario is likely to produce slightly higher flows of traffic than the Environmental Technology scenario, although it is unlikely this increase could be sufficient to cause significant noise impacts on noise sensitive receptors in either scenario.
- 6.7 The operation of Environmental Technology plant could also generate noise, but design measures can be taken to attenuate this to an acceptable level, e.g. appropriate layout and acoustic design of cooling. There could be elevated noise levels on the footpath leading to the site, but this is not considered particularly sensitive to noise impacts.

#### *Biodiversity and Green Infrastructure*

- 6.8 The current biodiversity value of the vast majority of the site is negligible, and the emerging development proposals provide an opportunity to enhance the value of the ecological site over the existing situation. Although there are a number of sensitive ecological receptors both within and adjacent to the site, with the adoption of appropriate avoidance, mitigation and enhancement measures as required, it is considered that adverse impacts may be avoided. This approach is considered to align with the requirements of Para. 118 of the NPPF, which sets out the key principles for the conservation and enhancement of biodiversity that are to be taken into account in the determination of future planning applications. Applicants will therefore need to have regard to these principles when undertaking further more detailed survey and assessment work in relation to individual planning applications.

#### *Climate Change Mitigation*

- 6.9 Both scenarios offer opportunities for greenhouse gas mitigation through application of challenging building standards (e.g. BREEAM ratings) and transportation measures (e.g. logistics efficiency measures and Travel Plans). The inclusion of substantial Environmental Technology development within the Masterplan naturally provides additional advantages through the harnessing of

renewable and environmental technologies and will require a strategic consideration of the opportunities for the use of waste heat and electricity export.

### *Landscape*

- 6.10 Due to the visual prominence of the former oil refinery complex it is likely that redevelopment of the site would constitute a short term noticeable change in the views from surrounding areas during the demolition and construction phases of the project, particularly from the closer proximity views (between 2km-4km away).
- 6.11 The proposed Environmental Technology/Energy and B8 scenarios are likely to be smaller in scale and height compared to the existing structures on the site, however they would be of a similar character (industrial buildings with tall emission stacks, certainly in the case of the energy and environmental technology uses). It is therefore likely that any significant visual change would only be short term, once the development is complete and in operation any visual changes would be considered minor.
- 6.12 Based on the proposals assessed it is considered that the development would not have a significant or a negative impact on the landscape character of the site or surrounding areas. The landscape assessment concluded that the removal of Shellhaven Creek would potentially result in a significant adverse landscape impact upon this local area, although also advised that, through careful design, some reconfiguration of the wider creek area, including a reduction in its size (length and breadth) combined with appropriate enhancement in other areas of the site, could achieve a more sustainable and functional landscape. This would facilitate more effective management of the Creek and other ecological enhancements that would not only benefit biodiversity but also ensure an appropriate balance between the form and function of the Shellhaven Creek. It has been clarified within this Final Interim Masterplan that there is no specific proposal to significantly alter the form and function of the creek area.
- 6.13 The redevelopment provides the opportunity to enhance aspects of the landscape character of the site and surrounds as well as mitigate some of the negative effects on local landscape character arising from this type of development. Recommendations from the landscape report have influenced indicative landscaping approaches, based on consideration of the openness of the surrounding environment, and will be taken forward through more detailed proposals in due course.

### *Archaeology*

- 6.14 A desk-based assessment of archaeology and the historic environment has been undertaken, plotting the history of the site from the development of the first wetland environment around 7-6,000 BC, creation of saltmarsh, salt creeks and mudflats that were likely to have been exploited for salt production within the Bronze Age, Iron Age and Roman periods, to the first industrial development in 1889 and subsequent oil installations from 1916 onwards. This assessment has concluded that most of the site can be considered as being of low heritage sensitivity, although the area around Shellhaven Creek, including the former site of Shellhaven House, is of moderate sensitivity.
- 6.15 The recommendation that a photographic survey of the refinery site be undertaken prior to demolition has been actioned, whilst the deposit modelling of the entire site suggested to be carried out to assist understanding the archaeology of the site and to inform future heritage management decisions, is also in the process of being instructed.

### *Economy and Employment*

- 6.16 Having reviewed both development scenarios from an economic and employment perspective, it can be concluded that each scenario will provide a variety of employment opportunities for local people as well as promoting the economic diversity of the area. The emphasis on delivering training and skills development will ensure that the employment sectors envisaged will be adequately catered for in terms of available, suitably skilled staff. Equally importantly this will also ensure that local communities are able to up-skill in order take advantage of these new employment opportunities.

### *Flooding*

- 6.17 The site is part of a previously developed area that has been provided with a very high standard of protection from tidal flooding. The probability of tidal flooding is therefore considered to be extremely low, whilst the development itself does not affect the probability of tidal flooding. It is acknowledged that individual planning applications may be required to pass the sequential and exceptions tests (where applicable) where vulnerable uses are proposed within Flood Zone 3a, and that care may be required over the siting of uses within the site. The management of risk within the site through development of a Flood Warning and Evacuation Plan, to be devised in consultation with Thurrock Council's Emergency Planners is also recognised.
- 6.18 Whilst surface water flooding is a risk for the site, it is not known to be a significant problem, and should be considered further during the detailed design phase of the project, including the potential impacts of climate change. Attenuation measures could include potential ecological mitigation or habitat creation, in conjunction with SUDs features as part of the surface water drainage works and there will be space to accommodate these features in parts of the site if required.
- 6.19 The temporary storage of runoff in the marsh areas to the north of the site means that storm runoff generated outside the site is not a flooding concern for the site itself.
- 6.20 Groundwater is not considered to present a flood risk to the site or surrounding area. Although the flow rates and volumes of process water discharges can be large they do not represent a risk of flooding to the site. Other than the potential for the local blockage of pipes there is not considered to be a significant risk of foul flooding. Flooding from artificial sources of water is not considered to be a risk at this site.
- 6.21 In respect of issues arising from tidal water levels combined with fluvial flows on Shellhaven Creek, the latter is closed during high tide periods and water is stored in the creek, which is directly connected to the marsh area to the north of the site, effectively providing a huge storage area that would avoid flooding on the site during high tide periods.
- 6.22 The potential culverting of sections of the Shellhaven Creek explored within the Masterplan scenarios would reduce the volume available for the storage of flood water from both tidal and fluvial sources. However the reduction in volume caused by filling would be small compared with the volume of the marshes and the impacts on flood water levels would be minimal, providing that any culverts had sufficient capacity to allow floodwater to pass upstream. Clarification that culverting does not form a specific proposal at this stage is provided within this Final Interim Masterplan document.

### *Soil, Contamination and Sustainable Land Use*

- 6.23 The total amount of land take comprises previously developed land and there is no greenspace land take associated with either Masterplan scenario, with proposed development in both instances located on made ground. The proposed reinstatement of Green Belt land to the north of the site would also be protected in either scenario, as this falls outside of the Masterplan boundary.
- 6.24 Overall, whilst the Environmental Technology Masterplan scenario appears to provide a slightly higher proportion of green space on completion compared to the B8 scenario, there is little difference between the two Masterplan approaches in terms of soils, contamination, ground conditions and sustainable land use. The site or scheme design (building foundations) would be prepared to the appropriate level for the future end use in either scenario.

### *Waste*

- 6.25 The development of the B8 scenario could provide limited opportunities for both the management of waste on-site and the movement of waste up the waste management hierarchy.
- 6.26 The development of an all Environmental Technology/Energy scenario could create significant waste management capacity within the Thurrock area and could be expected to import a large amount of waste into the site. In order for sustainable waste management opportunities to be maximised, it is important that the site is developed in a holistic manner, and that heat and electricity distribution infrastructure is incorporated into the plans at an early stage.
- 6.27 It is noted that consideration will need to be given to waste policies and guidance at national and local levels in relation to some of the potential feedstocks for certain of the energy from waste development technologies, where these would be classed as refuse derived fuel (RDF). Clearly at this stage, with the exact mix and scale of such uses unknown, it would not be possible to identify the quantum or sources of waste. As such, individual applications will need to demonstrate accordance with relevant policy requirements, including application of the tests of self-sufficiency and the proximity principle. Attention is drawn in particular to the Defra Guidance 'Energy from Waste – a guide to the debate' (updated February 2014), which sets out Government's view that waste is to be regarded as a valuable resource that should be reused, recycled or from which energy should be recovered, with benefits in both diverting waste from landfill and generating energy.

### *Water Quality and Water Resources*

- 6.28 There is little to distinguish between the two Masterplan scenarios in terms of water quality and resources. For both scenarios, the natural water quality and water resources associated with the local estuarine environment will be insufficient to meet the standards required for human usage or industrial processes, without significant intervention.
- 6.29 On account of the natural hydrological and hydrogeological processes involved, there are significant overlaps between this topic, regarding water quality and water resources, and those of flooding and soils, contamination, ground conditions and sustainable land use. Resolution of these issues will be progressed collaboratively as part of an integrated approach to drainage, groundwater and ecology. In particular care will be required to ensure that Sustainable Drainage Systems are designed so as not to pose a risk to the water environment, where contaminated ground may be present.

### *Transport*

- 6.30 There are differences between the two Masterplan scenarios in terms of overall trip generation and the potential to use alternative modes to transport material to the site, which it is anticipated could reduce HGV movements by up to 30% for the environmental technology/energy scenario in particular, through use of rail and water-based modes. This scenario also potentially involves the displacement of a significant number of HGV movements across the Borough's highway network. For both Masterplan scenarios the local highway network is likely to have the capacity to accommodate the initial phases of the development, although mitigation measures may be required as the site becomes fully developed.
- 6.31 Overall it is considered that the traffic generated by Thames Enterprise Park will be a small proportion (between 5% and 10%) of that generated by London Gateway, and needs to be viewed in the context of previous levels of activity on the former Coryton refinery site. Scope exists to derive benefit from the site's location adjacent to the Gateway site through measures to secure public transport enhancements and therefore aim to reduce private car journeys.
- 6.32 A Technical Note (1402-08-TN04) has been prepared setting out the potential traffic impact which could result from the development of Thames Enterprise Park, specifically on the Manorway link and A13, following consultee comments.
- 6.33 The impact assessment uses 2023 as the baseline assessment year and as the Masterplan for Thames Enterprise Park is still evolving, uses three different land use scenarios on which to base the calculations:
- 40% Energy and 60% B8;
  - 50% Energy and 50% B8; and
  - 60% Energy and 40% B8.
- 6.34 The Technical Note sets out the trip generation for staff and HGVs, and assesses the potential development impact over three periods of the day, having regard to the approach applied to the adjoining London Gateway facility.
- 6.35 Based on the impact assessment results set out in the note it is likely that the development could be required to provide mitigation measures along The Manorway, although the extent and nature of any such measures would need to be subject to detailed capacity assessments of the individual junctions. The overall impact on the A13 is significantly less than on The Manorway and as such it is less likely that any major mitigation measures will be required.
- 6.36 In terms of mitigation measures, this could be as little as additional flare lengths on approach arms through to an increased number of entry lanes and the widening of the roundabout or the revision of the phasing of the traffic signals to increase capacity while minimising any potential delay. Any improvements to the local junctions would be subject to design and detailed capacity assessments at the individual junctions.
- 6.37 It is considered that the initial phases of development within Thames Enterprise Park are unlikely to require any significant mitigation measures to the local highway network. As the development is built out and occupied then the required mitigation measures will be implemented to ensure that there is sufficient capacity at the key junctions to ensure that there are minimal increases in delays

and queuing. The phasing and the extent of the mitigation measures will be identified through the detailed capacity assessments which will be undertaken as part of the planning application.

- 6.38 It should be noted that the number of HGV movements could be significantly reduced through the use of the rail sidings at Thames Enterprise Park and also through utilising the berths located along the banks of the River Thames. The implementation of a site Travel Plan is also likely to reduce the number of car trips to and from the site which could further reduce the impact along The Manorway, particularly during the London Gateway peak hour.
- 6.39 Further non-physical measures could include altering the working patterns so that the shift patterns differ to those proposed at the London Gateway, further reducing the impact on the local highway network during the assessment periods.
- 6.40 It is acknowledged that the Thames Enterprise Park proposals will have an impact on the local highway network, but that through both physical and non-physical mitigation measures, it is considered that the overall impact can be managed to ensure that local junctions are able to operate within capacity during peak times.

#### **Other potential validation requirements at application stage**

- 6.41 Thurrock Council provides a checklist of validation requirements for planning applications, which includes items such as transport, landscape and visual, and flood impact assessment. In reality however, all future planning applications that come forward for individual developments on the site are likely to require Environmental Impact Assessment which will cover the majority of the assessments required. Each application will therefore need to submit Environmental Statements in support of proposals, notwithstanding that formal screening will be needed to establish this on an application by application basis.
- 6.42 It is considered that the above assessments will be beneficial in identifying topics to be scoped in or out of any future EIA assessments. The diagram at Figure 6.1 sets out the process each individual site would be required to address during the EIA process.



## 7. THE MASTERPLAN

### Framework Proposals

- 7.1 As noted previously, the Final Interim Masterplan presents an illustrative Masterplan layout which shows the form that development could take. This indicatively presents a hybrid mix of uses drawing from those discussed in the preceding section, based broadly on a 60:40 ratio of Environmental Technology/Energy to B8 uses, in addition to other ancillary uses. During its formulation the SA process has assessed two theoretical extreme development scenarios, based on Environmental Technology/Energy and B8 Warehouse and Distribution scenarios respectively. These scenarios are both included within the SA report.
- 7.2 Solena Fuels, in partnership with British Airways, is looking to build the world's first facility to convert landfill waste into jet fuel, in a project named "*GreenSky London*", and has chosen Thames Enterprise Park as its preferred location because of the transport links and infrastructure available, in addition to the clear synergy with the existing and proposed activities at the site. This ground-breaking fuel project will revolutionise the production of sustainable aviation fuel, through the conversion of post-recycled waste, normally destined for landfill or incineration and currently exported through the Thurrock ports of Tilbury and Purfleet, into clean burning liquid fuels using Solena's innovative integrated technology. This represents a significant capital investment underwritten by an 11 year \$550m offtake with British Airways which would secure 150 permanent full-time jobs.
- 7.3 Consideration has also been given to the findings of an assessment of issues relating to the Control of Major Accident Hazards (COMAH) Regulations that has been undertaken, in view of the nature of the current and potential new uses on the site. Specialist risk management consultants DNV has prepared a quantitative risk assessment and consequence modelling of the existing uses and proposed development scenarios to ensure that Masterplanning proceeds on the basis of identified land use constraints within the site, having regard to relevant Health and Safety Executive (HSE) guidance.
- 7.4 The plan at Figure 7.2 shows the HSE consultation zones that have been plotted as part of that assessment in relation to relevant existing facilities in the wider complex, namely Calor Gas Ltd (H0289) and Shell UK Products Ltd (Shell Haven) (H0504 rev 1).
- 7.5 Applying HSE guidance contained within land use planning advice around large-scale petroleum storage sites the careful siting of certain uses (principally around occupied buildings) within the Masterplan has been necessary. This is, however, confined to the following uses regarded as Sensitivity Level 2, which may not be considered acceptable in either the Development Proximity Zone or the Inner Zone:
- Offices with more than 100 occupants or more than 3 storeys;
  - Retail, food and drink or education with floorspace greater than 250 sqm.
- 7.6 It is noted that the consultation response provided by the HSE in relation to the Interim Masterplan highlighted constraints to development in this regard, confirming the principles outlined above. Whilst these issues are therefore recognised it will not be possible to reflect these comments in precise terms at this stage, given that the scope, scale and location of activities at both the Thames

Oilport facility and Thames Enterprise Park are still evolving. It will therefore be necessary to adapt and further develop the detailed layout as matters become more firmly defined, whilst acknowledging the need for proposals for individual schemes within the Thames Enterprise Park site to have due regard to the latest information available as a key determinate of the siting and design of buildings and the location of different land use activities within the site.

- 7.7 Consideration has also been given to other potential constraints, such as the presence of Shellhaven Creek separating the western site from the main part of the site as a whole.
- 7.8 It was previously suggested that the creek could potentially be culverted in parts to assist connectivity between the two sites and to maximise the developable land in a manner which would not harm any drainage function, albeit noting that the Sustainability Assessment had highlighted that it would be desirable to limit the extent and impacts of any such works having regard to ecology, landscape and heritage considerations. Equally it was proposed that substantial areas of the open space associated with the creek would be the focus of ecological enhancement, ensuring net biodiversity benefits.
- 7.9 Following a range of consultee comments on this particular aspect, it is evident that this feature is regarded as being sensitive for the reasons previously acknowledged. As such it is considered that further clarification on the intended approach to the Shellhaven Creek would be of assistance, not least as the theoretical development scenario plans utilised within the SA had perhaps implied a greater degree of impact within this area of the site. Clarification is therefore set out below.
- 7.10 The overriding principle remains that of seeking to protect and enhance the creek and its setting both in landscape and ecological terms, as previously stated, and reflected in the illustrative hybrid layout plan. Culverting is not specifically proposed, and if deemed essential in operational terms, would be required to present full justification and associated mitigation measures to the satisfaction of Thurrock Council, who will have regard to advice from relevant statutory consultees. It is however considered that limited additional bridging of the creek, spanning this area without directly impacting upon it in physical terms, would be acceptable in principle, subject to these same considerations at application stage. It is also noted that care will be required over the siting of buildings close to the creek area, both during the construction and operational phases of development to ensure that disturbance is minimised or appropriately mitigated.

### **Layout principles**

- 7.11 In view of the flexible, non-prescriptive nature of the Masterplan and the illustrative hybrid layout that provides visual representation of this, attention is given to key layout principles of a more general nature that are to be established, in relation to aspects such as the structure of spaces between buildings or parcels or common design features that will serve to provide a sense of place and order to the Thames Enterprise Park.
- 7.12 In order to serve all development parcels, as well as ensuring that appropriate access is provided to the Thames Oilport areas to the north and east, a simple hierarchy of primary and secondary roads has been indicatively presented. A new road connection between the western site and main part of the site may be proposed to ensure enhanced operational efficiency. Where possible, separate access to each plot for staff car parking and for HGVs for loading and unloading is also proposed to secure appropriate segregation and avoid conflicts.

- 7.13 Primary roads will have greater width and provide significant opportunities for greening of the environment, which the secondary roads will also achieve to a lesser extent. It is envisaged that the potential structure that could be created would include bunding and landscape planting, both of which offer potential ecological benefits, including habitat that would support invertebrate interest within the wider area, not least through the corridor effect that this would create in addition to resulting in a pleasant and attractive environment that will assist in attracting commercial occupiers to the site.
- 7.14 In addition to such corridors, areas of the site will also become incidental open space, with either providing opportunities for the incorporation of sustainable drainage features. Specific areas for ecological enhancement, which will be set out and actively managed in order to maximise biodiversity gains, are also specified within the Masterplan layout. These are shown to be located in the area of Shellhaven Creek and to the north-west of the roundabout at the gateway entrance to the complex, providing considerable scope for positive enhancement in visual and ecological terms. It is proposed that the final Masterplan document will include a more detailed specification of the green spaces within the site, both in terms of those associated with the road layout and these other opportunities. This is considered appropriate on the basis that such features will fall to be implemented by Thames Enterprise Park as a key part of the framework for the site as a whole.
- 7.15 It is envisaged that further refinement of the Masterplan document will provide additional guidance for the achievement of a cohesive Thames Enterprise Park so that the eventual development avoids the feel and disjointed visual appearance of a piecemeal approach. It is envisaged that such measures could include the identification of common design elements (materials, colour schemes and unit numbering protocols – based on a grid or defined sub-area approach), although will stop short of the definition of prescriptive requirements or the preparation of design codes, which it is felt would be too restrictive at this stage.
- 7.16 The desirability of incorporating guidance on the overall scale parameters for the Thames Enterprise Park, primarily in respect of maximum building and stack heights, is a further element that has been noted from consultation responses, which would assist in setting a benchmark for consideration of future planning applications, and associated EIAs. This would enable potential zoning within the site to be defined in order to reflect the general openness of the boundaries, which has currently been respected within the landscaping arrangements through the avoidance of screen planting given the relationship with the open marshland environment to the north, highlighted within the landscape assessment work.

### **Long Term Change & Phasing of Development**

- 7.17 Since acquisition of the site by the joint venture partners in September 2012 work has focused on the “make safe” of the refinery processing asset, the reconfiguration and refurbishment of the future Thames Oilport import terminal (previously an integral part of the refinery assets), the development of a vision for Thames Enterprise Park, demolition and clearance of redundant above ground infrastructure and responding to a significant number of un-marketed enquiries for the current and future available land.
- 7.18 The vision for the development of the Thames Enterprise Park was initially significantly influenced by the propensity of enquiries towards the Environmental Technology sector due to the site’s

location in the Essex hinterland, its proximity to the import terminal of Thames Oilport, the industrial symbiosis opportunities and the multi modal links to and from the site. However, since the opening of the London Gateway Port next door and the improvement in the UK economic situation, further significant enquiries have been made from other business sectors, including power generation, R&D and liquid fuel storage and processing, as well as logistics/distribution activities, both independent of and complementary to London Gateway. Each of these business sectors offer sizeable opportunities as well as significant challenges to clear and develop a substantial site in order to create a thriving business hub offering high skilled jobs, sustainable growth potential and industrial symbiosis within a fully integrated and serviced environment.

- 7.19 In terms of development phasing, as a consequence of the previous activity of the site, there are significant constraints to the immediate development of large parts of the site due to the presence of the former refinery plant, in addition to the ongoing development of the Thames Oilport import terminal. As regards the refinery process structures and associated boilerhouse and LPG storage tanks, a demolition contract has been executed and demolition activities have commenced, following the securing of prior approval from Thurrock Council. This contract still enables units and equipment to be dismantled and sold for re-building in new locations subject to this being compatible with the demolition schedule. However, the West Site, which lies to the south west of the former refinery land and adjacent to the London Gateway Port (approximately 105 acres), is largely clear of any major structure and could be delivered to the market much sooner, whilst other parts of the refinery site are also more advanced in terms of site clearance.
- 7.20 It is anticipated that the development of the Thames Enterprise Park site will take place over many years (probably 15 years plus) on a phased basis, recognising the issues outlined above. Indicative timescales are shown in the table below.

*Table 7.1: Indicative Phasing Timescales*

Indicative Phasing
Phase 1 – West Site – 2015/16 onwards
Phase 2 – Refinery and central area – 2017/18 onwards (demolition from 2014)
Phase 3 – Eastern area – 2019/20 onwards

### **Transport and Access**

- 7.21 The site is located in a sustainable location on the northern bank of the Thames Estuary, as noted within Section 2 of this report. In the immediate area, Stanford-le-Hope is located approximately 7km to the west, Corringham is approximately 5km to the north-west and Canvey Island is approximately 4.5km to the east.
- 7.22 The variety of modes of transport that could be used to access the site, emphasising the potential range available, are reviewed below.

#### *Road Links*

- 7.23 The site is located at the eastern end of the Manorway (A1014), which provides access to the A13. The A13 provides access to the M25 to the west, via junction 30, which in turn provides access to the wider motorway network which enables vehicles to travel to all parts of the country. The towns of Grays and Thurrock are also accessible via the A13 to the west.

- 7.24 To the east the A13 provides access to Basildon, Canvey Island and Southend-on-Sea, via the A127, as well as the wider trunk road network which serves Essex and beyond.

*Pedestrian*

- 7.25 Corringham is located beyond the accepted 2km distance for walking from the site. However, there is a shared foot/cycleway from Corringham along the northern side of Manorway, which continues to the entrance roundabout to the site.
- 7.26 Through Corringham there are a series of footways which provide access to the residential areas. These footways also provide access to Stanford-le-Hope and the railway station.

*Cycle*

- 7.27 The site is within an acceptable cycling distance of Corringham, but is slightly beyond the acceptable 5km threshold from Stanford-le-Hope rail station.
- 7.28 The Thurrock Cycle Map suggests a number of road routes for cyclists which also provide access to the shared foot/cycleway which runs along the northern side of the Manorway from Corringham to the site.

*Bus*

- 7.29 Bus route 300 currently serves the site, providing a service from Basildon to London Gateway (Gate 3) via Stanford-le-Hope train station. The service takes approximately 10 minutes from the site to the railway station. There are also a number of other bus services which serve Stanford-le-Hope and Corringham, providing services from Grays, Basildon, Chelmsford and Lakeside Shopping Centre.
- 7.30 The closest bus stops to the site are currently located on Giffords Cross Road and Lampits Hill (B1420), to the north-west of the site.

*Train*

- 7.31 Rail services are available from Stanford-le-Hope train station located approximately 6.5km from the site. Trains from Stanford-le-Hope train station depart to London Fenchurch Street and Southend Central every 30 minutes in both directions. A journey time of 51 minutes can be expected when travelling from Stanford-le-Hope to Fenchurch Street Station, whilst for Southend Central; the journey takes 25 minutes.
- 7.32 Rail sidings are located within the site, which were previously used to transport goods into and liquid fuel out of the refinery site. These have been disused for a number of years, however there is potential for the rail sidings to be reutilised in the future for either the Thames Oilport or Thames Enterprise Park sites, subject to further detailed discussions with Network Rail, DB Schenker and London Gateway as appropriate in respect of use of the rail track to Stanford-le-Hope and Marcroft sidings and any potential impacts on the wider rail network.

*River (via the jetties)*

- 7.33 The site benefits from having wharfs on the Thames Estuary.
- 7.34 A number of the wharfs were used in association with the refinery site as well as a number of wharfs which have not been used recently but could be refurbished and re-utilised. All these

wharfs could be used in the future for either the Thames Oilport or Thames Enterprise Park developments.

#### *Oil Pipelines*

- 7.35 Whilst not a standard mode of transport as such, the availability of access to the UKOP and GPSS facilities does represent a significant opportunity to distribute fuels in a manner which will clearly offset and reduce the need for and reliance upon other less sustainable modes.

### **Delivery and Implementation**

- 7.36 It is anticipated that responsibility for delivery and implementation of common elements of site infrastructure, such as ecological enhancement, mitigation and management, open space, site-wide drainage, the construction of roads and securing of utilities, will be taken in part by the Consortium, but also in part by a specialist property developer. This will ensure that land is brought forward with the benefit of these key services, and also that an element of control is retained over the form and ongoing maintenance of key areas and the general structure of the site. In some cases elements of the above may also be delivered jointly with tenants and occupiers to reflect their specific site needs and/or enhancements.
- 7.37 Aside from the aforementioned infrastructure elements it is envisaged that parcels within the Thames Enterprise Park site will ultimately come forward individually, and will therefore be the subject of separate planning applications.
- 7.38 Assuming its further endorsement by Thurrock Council, it is considered that the Masterplan will form a material consideration against which such applications would be assessed, in addition to the policy provisions of the NPPF and the Thurrock Local Plan, as the starting place for the determination of planning applications.
- 7.39 Given the overall scale of development associated with the site as a whole, and therefore the scope for cumulative impacts associated with the combined effects of the development of individual parcels within the site and with the adjoining London Gateway site, it is likely that all applications will be regarded as EIA development, requiring preparation of an Environmental Statement. Further consideration has been given to this issue within Section 6.

#### *Infrastructure and Mitigation Framework*

- 7.40 Within the preceding sections and through the consultation responses made by various consultees during the preparation of the Masterplan and associated Sustainability Assessment reference has been made to a range of potential infrastructure requirements, mitigation measures and additional assessment work that could be undertaken in due course. Whilst it is not necessarily possible or appropriate to precisely define such measures at this stage it is considered that identification of these items within a summary table would serve as useful acknowledgement that the need for additional investigation of these has been recognised at this high level master planning stage.
- 7.41 The following table therefore sets out these issues in this context:

Table 7.2: Indicative Infrastructure, further Assessment and Mitigation Framework

Item	Comments
Ecology mitigation and enhancement strategy	To focus on Shellhaven Creek, Manorway Fleet Reedbed LWS, area to north of roundabout and scope to incorporate appropriate habitat and species planting within street hierarchy landscaping structure and SUDs
Preparation of Sustainability statements	Showing achievement of BREEAM requirements and specific Energy and Water Statements in accordance with Policy PMD12
Maximise Solar electricity generation	Consideration of building orientation, roof structure etc. to facilitate
Maximise internal energy and heat capture across TEP	Hybrid approach provides opportunities and will be dependent on careful consideration of relationship between uses to facilitate
Training and skills	Workplace planning study to be undertaken in relation to Environmental Technology sector; Opportunities to incorporate on-site class-room within Skills Hub to be explored
Multi-modal Freight Strategy and other sustainable Transport measures	Ensure scope to maximise use of modes other than road, including river and rail for freight, and public transport and cycling for employees, is fully explored and implemented
Potential highway mitigation measures	Consider need for potential works to increase highway junction capacity, such as additional flare lengths on approach arms, increased entry lanes or re-phasing of signals towards latter phases of development
Air Quality mitigation	Routing of deliveries to avoid AQMAs and voluntary use of high Euro category HGVs

Noise mitigation	Investigate need for and nature of potential noise mitigation associated with increased road traffic levels on The Manorway if required, and any necessary design measures relating to on-site processes
Landscaping strategy	To recognise the openness of the site boundaries and ensure appropriateness of planting consistent with this rather than seeking to screen development
Archaeology actions	Ensure that recommendations for a photographic record of the former refinery site and the undertaking of deposit modelling of the site are actioned and appropriately inform future development proposals
Flood risk management	Undertake sequential and exceptions tests in support of future applications as applicable; develop Flood Warning and Evacuation plans in consultation with Emergency Planning team at Thurrock Council; progression of a site-wide SUDs strategy for surface water drainage
Ground conditions actions	Ensure that appropriate further assessment of ground conditions is undertaken to inform individual planning applications, with regard to contamination, remediation measures and appropriate foundation design
Accordance with Waste policies	Individual applications will need to demonstrate accordance with relevant policy requirements depending on the nature of the process proposed and associated waste sources involved
Water Framework Directive Assessment	Ensure that further assessment against the Water Framework Directive is undertaken as necessary
Review and update COMAH Zones	Review the COMAH Zones associated with the

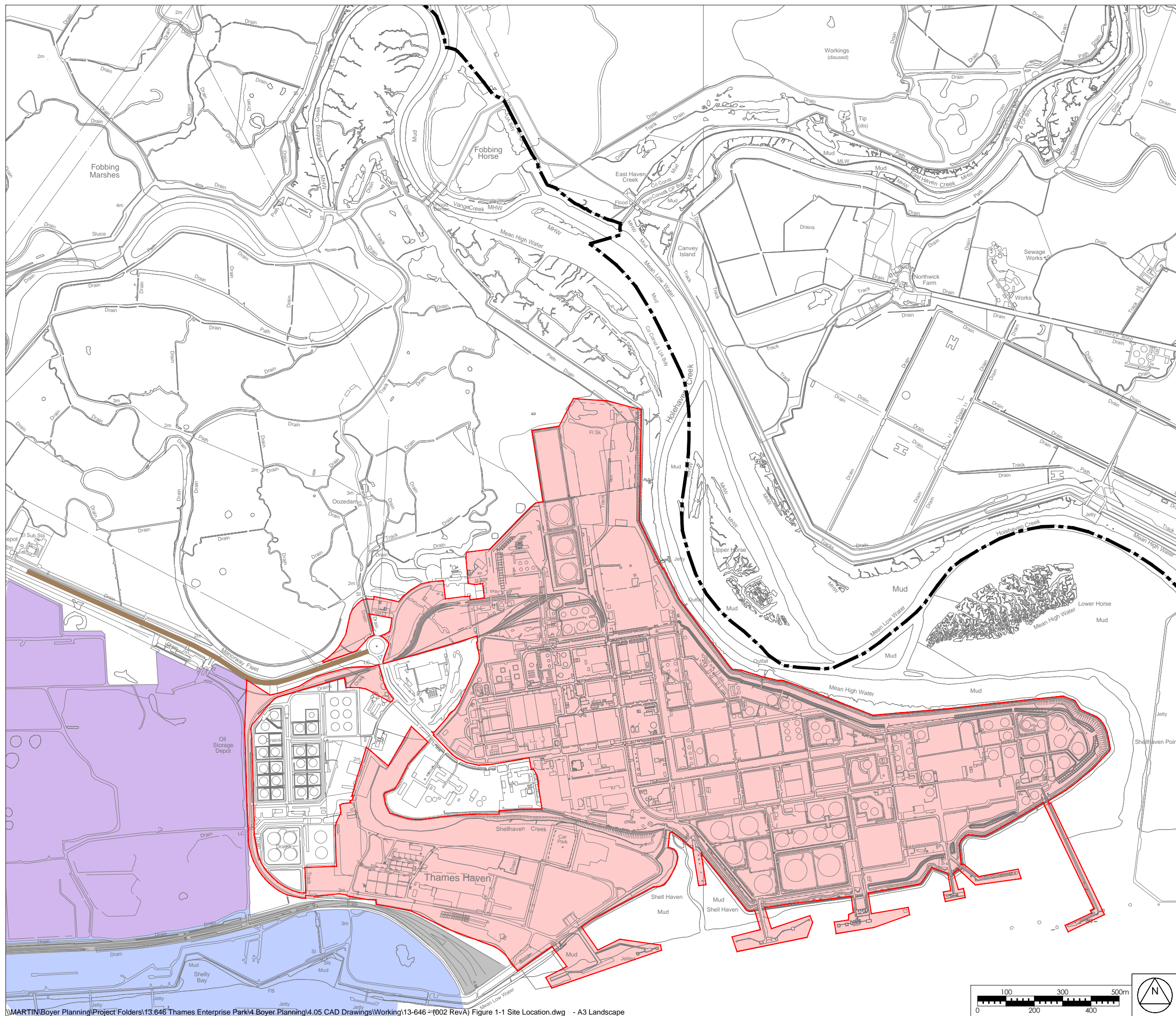


storage of hazardous substances, and the site profile changes over time and consider any required on-site mitigation measures to ensure accordance with HSE guidance









## **FIGURE 1.1 – SITE LOCATION PLAN**





**LEGEND**

-  Site Boundary
-  Thurrock Boundary
-  London Gateway Port
-  London Gateway Logistics Park
-  Thames Haven Branch Railway Link
-  The Manorway (A1014)

Rev	Date	Description	Drawn
A	18/05/15	Site boundary amended	BDC
-	14/05/15	First Issue	BDC

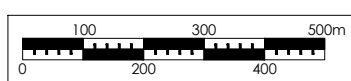
Client  
 -  
 -  
 -

Project Title  
**Thames Enterprise Park,  
 Thurrock**

Drawing Title  
**FIGURE 1:1  
 Site Location Plan**

Date	Drawn	Checked	Authorised
18 May 2015	BDC	SW	SW

Number	Rev.	Scale
14.237/002	A	1:12,500 @ A3

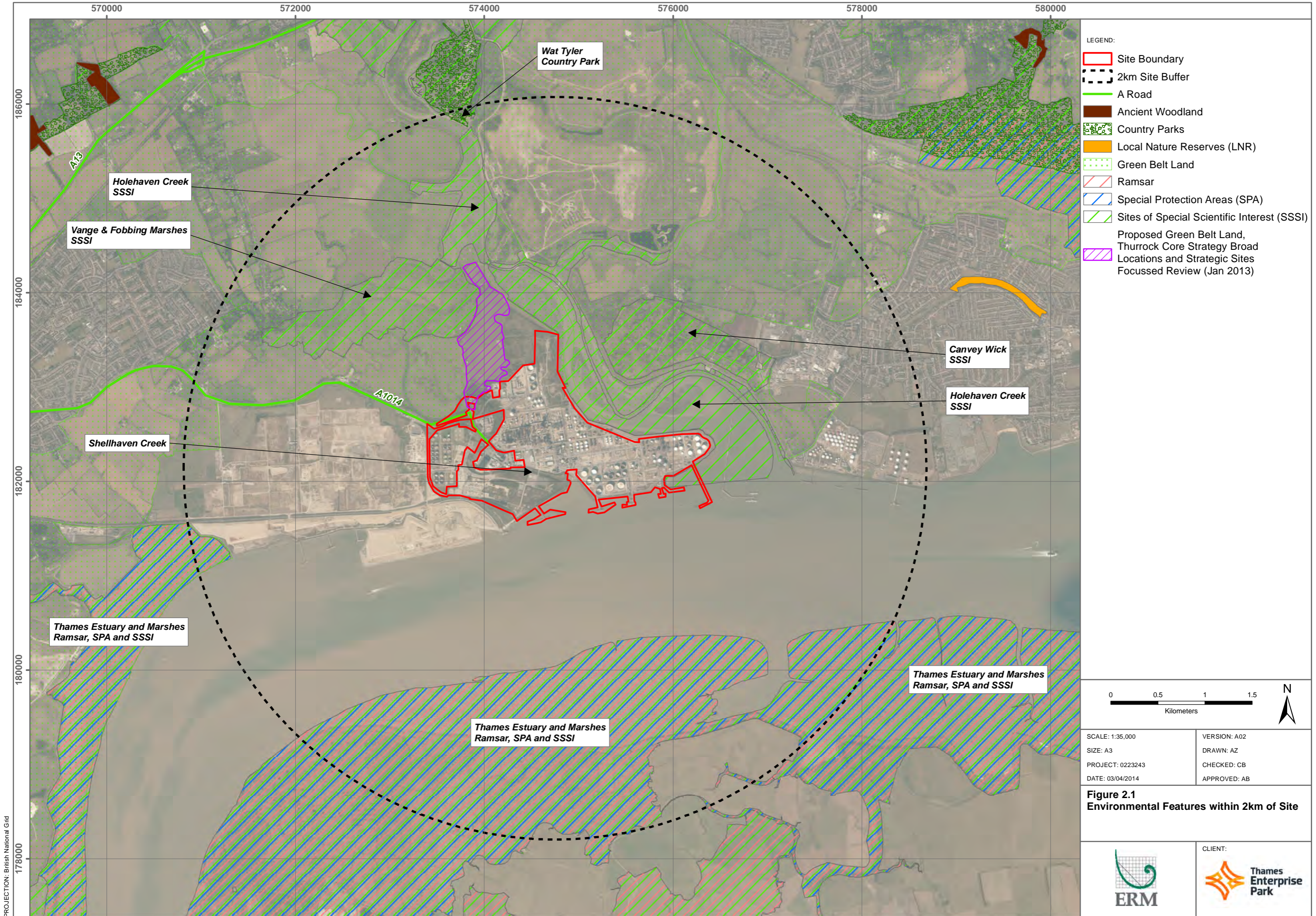




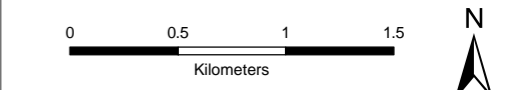
## **FIGURE 2.1 – SITE CONTEXT PLAN**







- LEGEND:
- Site Boundary
  - 2km Site Buffer
  - A Road
  - Ancient Woodland
  - Country Parks
  - Local Nature Reserves (LNR)
  - Green Belt Land
  - Ramsar
  - Special Protection Areas (SPA)
  - Sites of Special Scientific Interest (SSSI)
  - Proposed Green Belt Land, Thurrock Core Strategy Broad Locations and Strategic Sites Focused Review (Jan 2013)



SCALE: 1:35,000	VERSION: A02
SIZE: A3	DRAWN: AZ
PROJECT: 0223243	CHECKED: CB
DATE: 03/04/2014	APPROVED: AB

**Figure 2.1**  
Environmental Features within 2km of Site

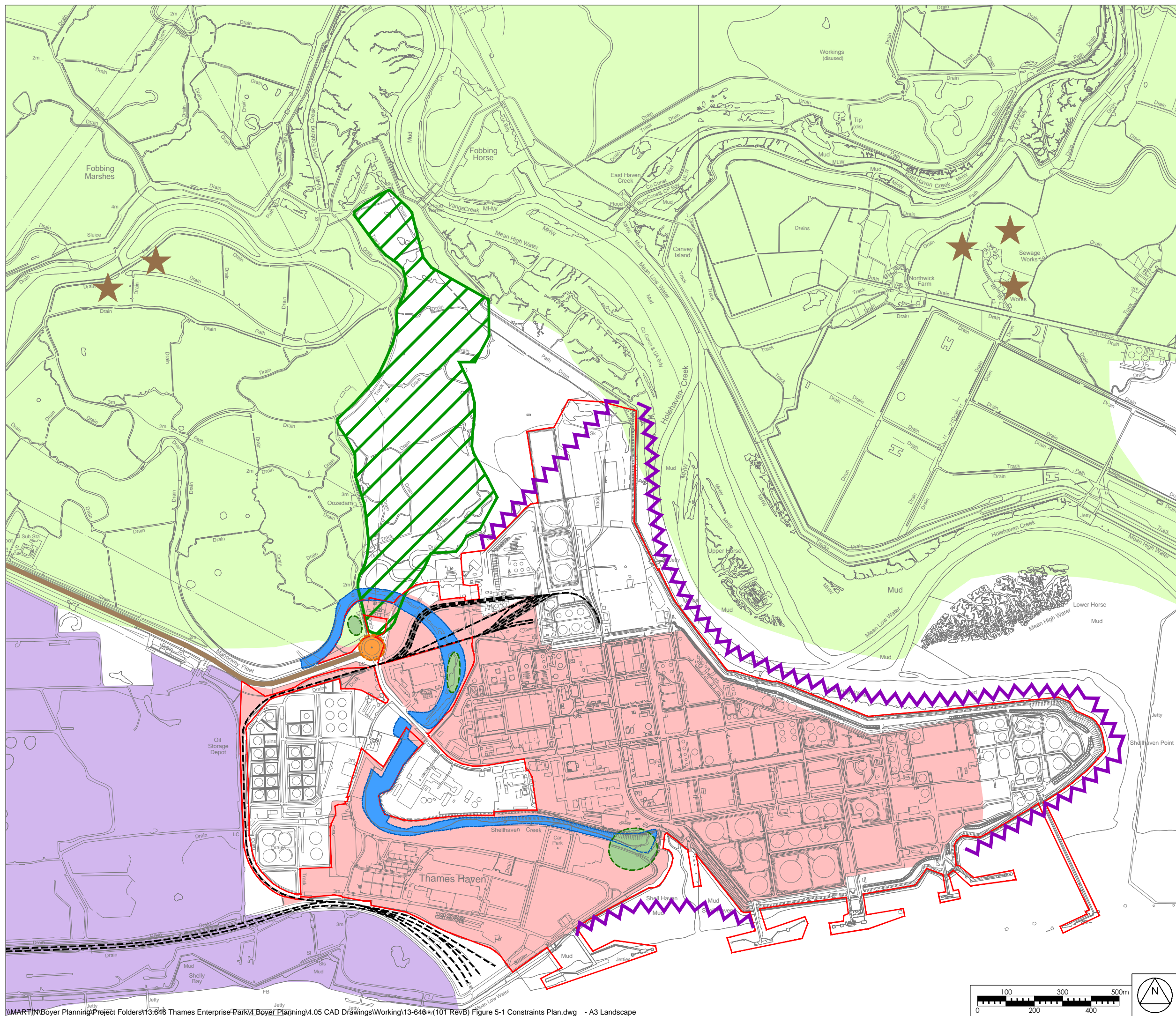
 <b>ERM</b>	CLIENT:  <b>Thames Enterprise Park</b>
---	---

PROJECTION: British National Grid















## **FIGURE 5.1 – CONSTRAINTS PLAN**





**LEGEND**

-  Site Boundary
-  The Manorway
-  Gateway to Site
-  Railway Line
-  London Gateway Port and Logistics Park
-  Heritage Asset - Scheduled Monument
-  Green Belt
-  Proposed Green Belt
-  Environmental Enhancement Opportunities
-  Protection of Shellhaven Creek
-  Openness of Site Boundaries
-  TEP Land

Rev	Date	Description	Drawn
B	18/05/15	Plan amendments	BDC
A	18/05/15	Site boundary amended	BDC
-	14/05/15	First Issue	BDC

Client  
 -  
 -  
 -

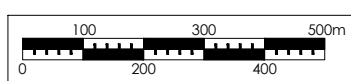
Project Title  
**Thames Enterprise Park,  
 Thurrock**

Drawing Title  
**FIGURE 5:1  
 Constraints Plan**

Date	Drawn	Checked	Authorised
18 May 2015	BDC	CP	MC
Number	Rev.	Scale	
13.646/101	B	1:12,500 @ A3	



Reproduced from the Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown Copyright AR 100007250  
 Boyer Planning Ltd, Crowthorne House, Nine Mile Ride, Wokingham, Berkshire, RG40 3GZ



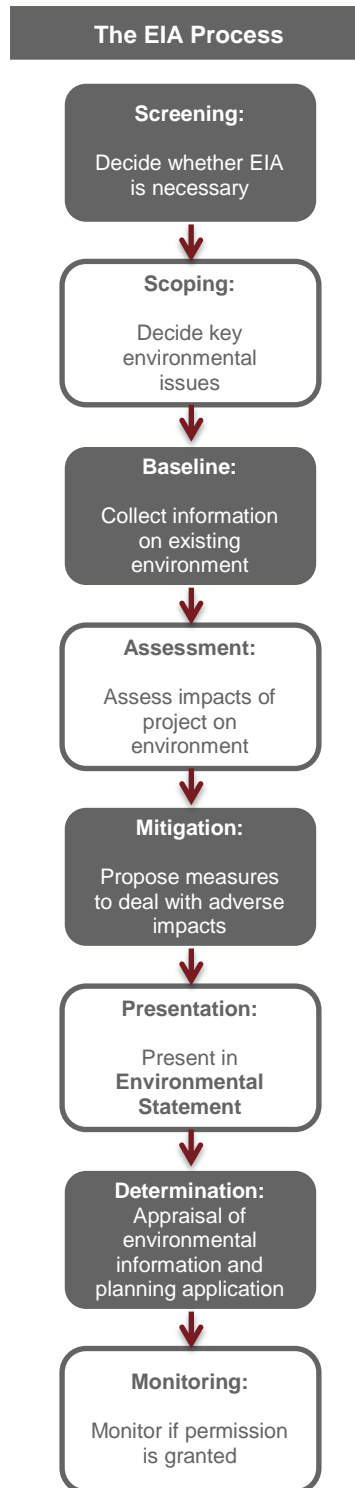


## **FIGURE 6.1 – EIA PROCESS DIAGRAM**





Figure 6.1: EIA Process Diagram






**FIGURE 7.1 – ILLUSTRATIVE HYBRID LAYOUT AND  
INDICATIVE LAND USE PLAN**





**LEGEND**  
 Site Boundary

Rev	Date	Description	Drawn
F	18/05/15	Plan amendments	BDC
E	18/05/15	Site boundary amended	BDC
-	14/05/15	First Issue	BDC

Client  
**Thames Enterprise Park**

Project Title  
**Thames Enterprise Park,  
 Thurrock**

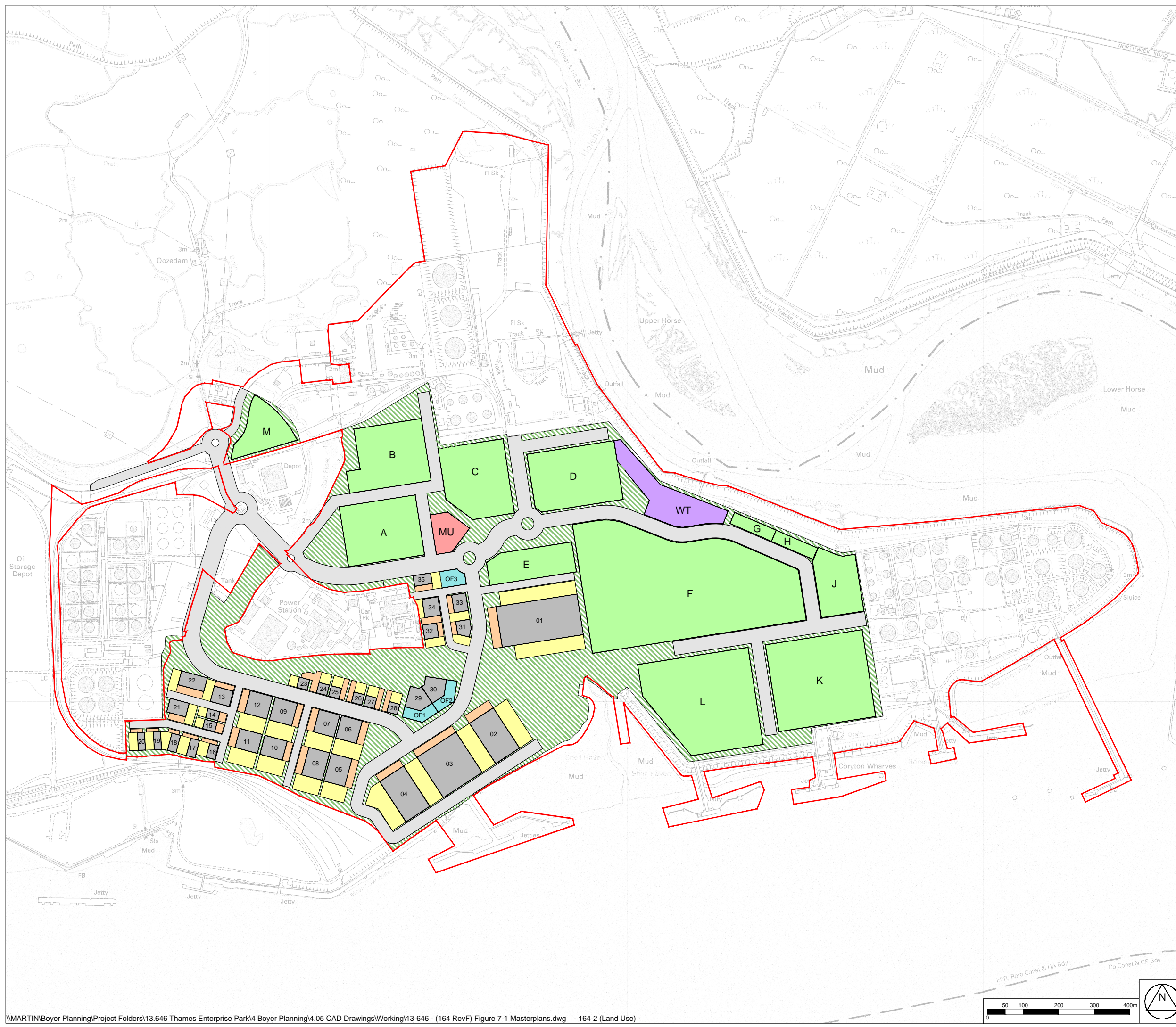
Drawing Title  
**FIGURE 7:1  
 Concept Masterplan - Illustrative**

Date	Drawn	Checked	Authorised
18 May 2015	BDC	SW	SP
Number	Rev.	Scale	
13.646/164-1	F	1:10,000 @ A3	



Reproduced from the Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown Copyright AR 100007250  
 Boyer Planning Ltd, Crowthorne House, Nine Mile Ride, Wokingham, Berkshire, RG40 3GZ





**LEGEND**

- Site Boundary
- B8 Distribution and Storage
- Office Blocks
- Energy From Waste
- Water Treatment Plant
- Retail
- Main Infrastructure
- Car Parking
- HGV Service Yard
- Open Space

Rev	Date	Description	Drawn
F	18/05/15	Plan amendments	BDC
E	18/05/15	Site boundary amended	BDC
-	14/05/15	First Issue	BDC

Client  
**Thames Enterprise Park**

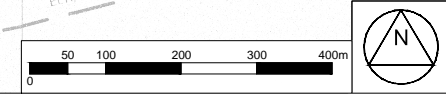
Project Title  
**Thames Enterprise Park, Thurrock**

Drawing Title  
**FIGURE 7:1  
 Concept Masterplan - Land Use**

Date	Drawn	Checked	Authorised
18 May 2015	BDC	SW	SP
Number	Rev.	Scale	
13.646/164-2	F	1:10,000 @ A3	



Reproduced from the Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown Copyright AR 100007250  
 Boyer Planning Ltd, Crowthorne House, Nine Mile Ride, Wokingham, Berkshire, RG40 3GZ







## **FIGURE 7.2 HSE CONSULTATION ZONES PLAN**







## APPENDIX 1 – LIST OF CONSULTEES AND RESPONDENTS

Consultee	Date Response Received
English Heritage	27.11.14
Natural England	19.12.14
Environment Agency	09.12.14
Highways Agency	08.12.14
Anglian Water	08.12.14
Essex And Suffolk Water	18.11.14
British Pipeline Agency	No response to date
Network Rail	08.12.14
Essex Co. Fire/Rescue Consultation	No response to date
Health And Safety Executive	07.01.15
Port Of London Authority	22.12.14
Royal Society for Protection of Birds	No response to date
Essex County Council Archaeology	01.12.14
Castle Point Council	No response to date
Basildon Borough Council	08.12.14
Medway Council	No response to date
Essex County Council	08.12.14
Greater London Authority	No response to date
TC Heritage advice	02.12.14
TC Environmental Health	26.11.14
TC Emergency Planning	05.12.14
TC Highways	24.11.14
TC Public Footpaths	No response to date
TC Landscape and Ecology	08.12.14
TC Flood Risk Manager	03.12.14 + 9.12.14

N.B. TC= Thurrock Council







# Boyer

PLANNING

Boyer Planning

15 De Grey Square • De Grey Road • Colchester • Essex • CO4 5YQ

T 01206 769018 E [colchester@boyerplanning.co.uk](mailto:colchester@boyerplanning.co.uk)