

Kent Minerals and Waste Local Plan

Planning for the future of minerals and waste in Kent

Evidence Base for the Draft Minerals and Waste Plan

Strategic Landscape Assessment



September 2013



1 Context	1
2 Landscape Appraisal: The Process	2
3 Introduction to Landscape	3
4 Landscape Appraisal Method	4
5 Legislation, Policy & Guidance	6
6 Norwood Farm	10
7 Medway Works	24
Appendices	
Appendix A: Glossary	35
Appendix B: Maps	38

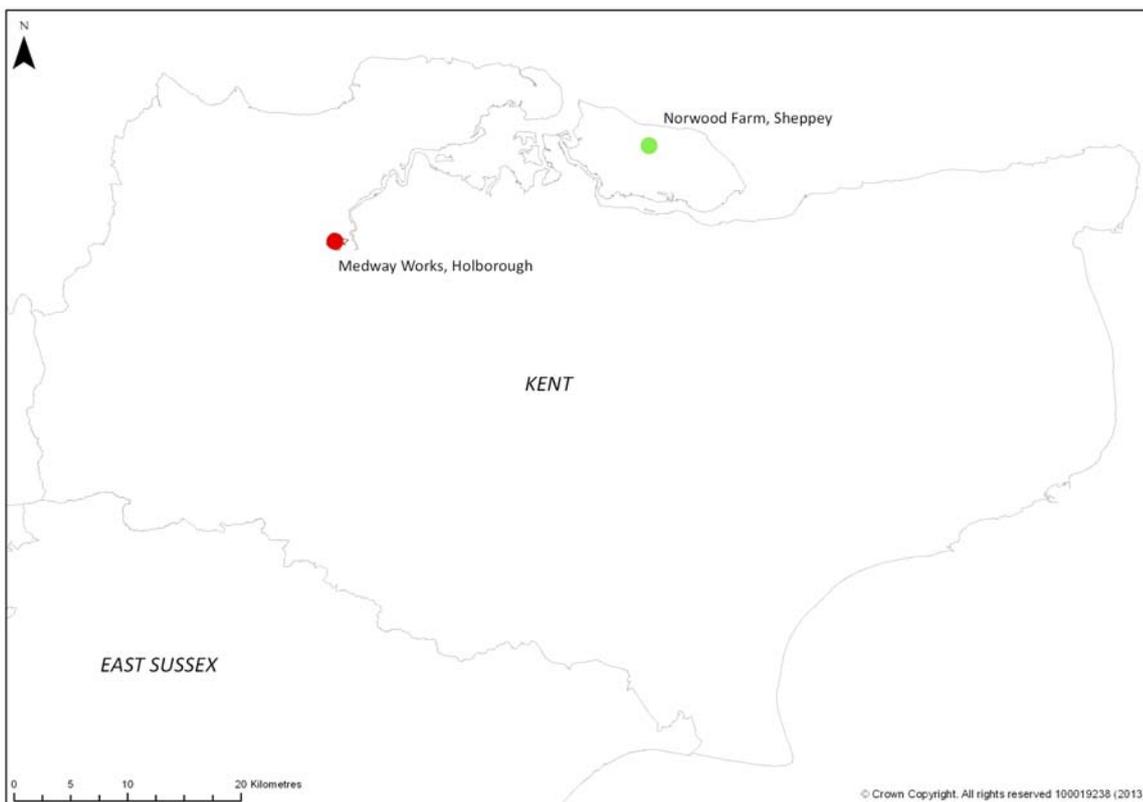
Contents

1 Context

1.0.1 Informing the Kent Minerals & Waste Plan 2013-2030, this landscape appraisal is one of a suite of reports forming the evidence base. It considers two strategic sites, identified in the Plan as a strategic mineral site (Medway Works, Holborough) and a strategic waste site (Norwood Farm).

1.0.2 Minerals extraction and waste disposal activities invariably have an impact upon landscape. Consideration of these significant sites early on, and importantly alongside the Minerals & Waste Plan, will allow for the very best understanding of these sites to be shared. This ensures constraints and opportunities identified through this understanding are included in the earliest stage of development design.

Strategic Site Locations in Kent



2 Landscape Appraisal: The Process

2.0.1 The Landscape Appraisal consists of high-level consideration of landscape at known sites. It is an independent assessment of any potential landscape issues that may require consideration. It is not strategic in the sense that it considers landscape across a wide area, as a means of selecting a suitable site for example. But it is strategic in the sense that whilst considering a specific site, it does not carry out detailed landscape assessment as would normally be required as part of a planning application - it simply provides an overview of possible issues.

3 Introduction to Landscape

3.0.1 Landscape is described in the European Landscape Convention (ELC) as;

"An area, as perceived by people, whose character is the result of the action and interaction of natural and human factors."

This definition reflects the idea that landscapes evolve, and people with nature are at the heart of shaping this evolution.

3.0.2 Understanding landscape; the people-nature interaction and the features they create over time, allows individuals and organisations to make better decisions - ensuring changes support and respect local character. The challenge of understanding landscape is still best described by the Countryside Agency, when Landscape Character Assessments were first introduced.

"...To find ways of identifying the important characteristics of the landscape that assist the process of accommodating change...whilst maintaining the links with the past and the natural environment."

3.0.3 This is true for all sorts of decisions including minerals and waste developments and planning decisions. However, landscape should not be restricted to informing only development decisions; it should also be applied to, for example farming, forestry and nature conservation.

3.0.4 Landscape is ultimately about understanding the pattern of features across an area and their history – which together form its character. Used early on in any decision involving changing land use through development or management, this knowledge becomes the framework within which to select the most appropriate locations, design, scheme layout and materials.

3.0.5 Minerals developments are naturally restricted by geology – so choosing a location based upon landscape capacity is not always feasible. In these instances, having an understanding of landscape can be used to limit impacts during operation and appropriately restore sites afterwards.

4 Landscape Appraisal Method

4.0.1 The method used in this appraisal follows the approach outlined in:

- The Guidelines for Landscape & Visual Impact Assessment (2013), and
- Landscape Character Assessment Guidance for England & Wales (2002)

4.0.2 The appraisal is designed to be high level so whilst it doesn't follow every step outlined in the above guidance, it does adhere to these principles. The method followed is detailed below.

Desk Study

4.0.3 An assessment of existing:

- Policy, legislation and guidance.
- Landscape character assessments.
- Relevant designations.
- The historic landscape forms a key part of Landscape Character Assessment (LCA), and an overview of the two sites is provided here using an approach combining:
- Historic Landscape Characterisation - HLC identifies the ways in which the current landscape reflects how people have exploited and changed it through time.

4.0.4 To carry out:

- Map regression analysis.
- A brief search of secondary sources of evidence – existing research reports for example.

Field Study

4.0.5 Each site was assessed by the Landscape Officer from publicly accessible locations. The site visit seeks to identify:

- Landscape features which contribute to character.
- Key views.
- Visual receptors - locations from where views are most likely to be affected. These could be homes, footpaths or roads for example.

4.0.6 Photography was used to capture wider views of the site and illustrate important features.

Analysis and Results

4.0.7 The information gathered will be used to help identify the following:

- Landscape Character Sensitivity.

- Visual Sensitivity.
- Landscape Value.

Cumulative Effects

4.0.8 Both of the sites being considered as part of this appraisal would form extensions to existing minerals & waste sites. As this is a strategic assessment, consideration has been given to the changes brought about based on the existing landscape. Future site-based assessments should include evidence of the pre-developed landscape as well.

Recommendations & Conclusions

4.0.9 Based upon the results of the site assessments carried out, each site will have constraints, restoration opportunities and mitigation measures suggested. Overall conclusions will then be drawn.

Objective

4.0.10 To carry out two landscape appraisals supporting the development of a Minerals and Waste Plan for Kent.

4.0.11 The resulting information will then be used to make a brief assessment at each site, including suggestions of likely impacts, mitigation opportunities and considerations for restoration.

4.0.12 Considering landscape early on in the development of minerals and waste site proposals, will provide the outline evidence needed to support good site design, appropriate mitigation and high quality restoration.

5 Legislation, Policy & Guidance

5.0.1 Setting out the policy and legislation context of the two sites is important. Just like understanding the sites' physical features and history, it is also vital to get a picture of how they are seen through local policies, strategies and other projects. By doing this we can ensure that any recommendations made, both maximise the potential of each site but also do not run contrary to existing projects, future aspirations or current management occurring close by.

5.0.2 This section provides an overview of the most relevant documents, it isn't an exhaustive list.

European Landscape Convention (ELC) - The Florence Treaty

5.0.3 Overall Aim: To promote landscape protection, management and planning and to organise European cooperation on landscape issues. Importantly recognising that landscape has no borders.

5.0.4 The ELC comprises a framework for implementation. General measures relevant to minerals and waste developments include:

5.0.5 *Article 5 (d) to integrate landscape into regional & town planning policies and into the cultural, environmental, agricultural, social and economic policies as well as in any other areas with direct or indirect impacts on landscape.*

National Planning Policy Framework

5.0.6 Some examples of guidance within the NPPF, which is relevant to landscape.

- **17.** Take account of the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it;
- **109.** The planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests and soils;
- **113.** Local planning authorities should set criteria-based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.
- **170.** Where appropriate, landscape character assessments should also be prepared, integrated with assessment of historic landscape character, and for areas where there are major expansion options assessments of landscape sensitivity.

5.0.7 Section 85 of the Countryside and Rights of Way Act (2000) places a duty on all public bodies and statutory undertakers to 'have regard' to the purposes of designation i.e. to conserve and enhance the natural beauty of the AONB. Kent Downs AONB Policy can be found in their published Management Plan <http://www.kentdowns.org.uk/guidance-management-and-advice/management-plan>

National Guidance

5.0.8 All Landscapes Matter - an approach by Natural England <http://www.naturalengland.org.uk/ourwork/landscape/importance/default.aspx> Natural England are the Government's statutory advisor for landscapes. Their approach states that landscapes should be managed, planned and where appropriate, protected to deliver a full range of ecosystem goods and services. Natural England advocates the use of a landscape character approach, which can be used to underpin local, regional and national policies and actions, ensuring that landscapes remain distinctive and highly valued.

5.0.9 Guidelines for Landscape & Visual Impact Assessment - Landscape Institute & Institute of Environmental Management & Assessment. 3rd Edition (2013). The Guidelines represent the industry standard for the LVIA process, providing detailed advice on the process of assessing the landscape and visual effects of developments. This process can be important for planning decisions and is designed to make the assessment clear, objective and transparent.

Relevant Local Guidance/Planning Documents

5.0.10 Kent Downs: Landscape Design Handbook. A guidance document outlining best practice for development within the Kent Downs AONB. Whilst neither site is within the Kent Downs, the Medway Works site is immediately adjacent to it and careful consideration of any impacts upon the AONB will be required both during and after works are carried out.

5.0.11 Medway Gap: Strategic Landscape Enhancement Plan (2012). This Plan was written as part of the Valley of Visions Landscape Partnership Scheme. The scheme is now complete, and the area it covered includes the local area around the Medway Works Site. The report sums up the the landscape, its key features, their condition and how the overall landscape could be enhanced and improved.

5.0.12 Swale Landscape Character & Biodiversity Appraisal - Supplementary Planning Document (SPD) 2011. The Norwood Farm site is within the Borough of Swale. Swale Borough have produced their own Landscape Character Assessment (LCA). This constitutes a local assessment of the landscape, and the features which together make up Swale's specific character. This is adopted as a Supplementary Planning Document and it is taken into account when Swale make planning decisions. Therefore it should be considered as part of any future plan or aspiration for the site.

5.0.13 Tonbridge & Malling Green Infrastructure (GI) Report (2009). Tonbridge & Malling do not have a LCA, which covers the area around the Medway Works site. However, other policies are relevant to this appraisal, as restoration specifically can offer opportunities to deliver broad local objectives. The area around Medway Works is identified here as an opportunity to deliver GI - so consideration of this will be made when appraising the site.

5.0.14 Medway Landscape Character Assessment (2011). This report, whilst covering Medway recognises the landscape character area of Halling Quarries extends into Tonbridge and Malling. It sets out the key characteristics, condition and issues for the area - and would be relevant for any work carried out at the Medway Works site.

Landscape Character Assessment (LCA)

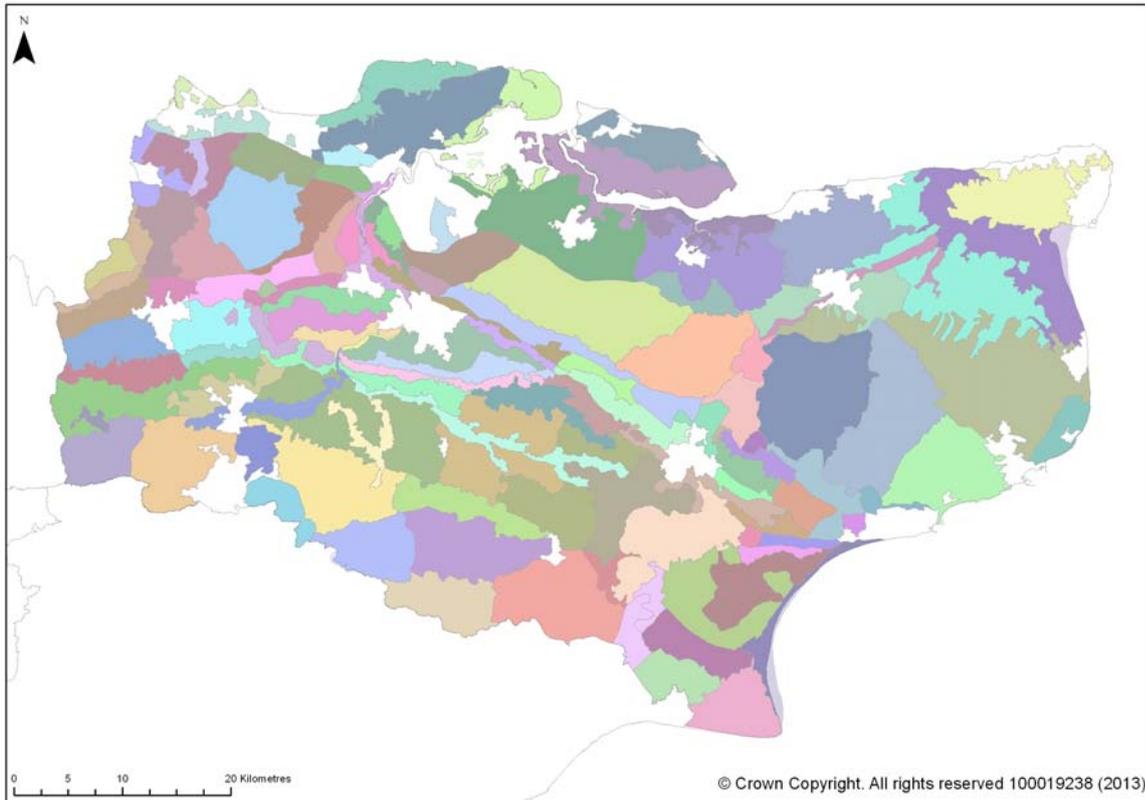
5.0.15 Landscape Character Assessments are a fantastic tool to help understand local character, key features and patterns.

5.0.16 Landscape Character Assessment is a method designed to help us to systematically understand landscape, how it has changed and how we can manage future changes.

5.0.17 "[LCA is] *the tool that is used to help us to understand, and articulate, the character of the landscape. It helps us identify the features that give a locality its 'sense of place' and pinpoints what makes it different from neighbouring areas.*" (Landscape Character Assessment: Guidance for England and Scotland, the Countryside Agency and Scottish Natural Heritage, 2002)

5.0.18 Importantly LCA is **not** about making a judgement, but providing a framework to help us consistently understand landscape.

5.0.19 In Kent, a county-wide assessment was carried out in 2004. The Character Assessment does not include characterising urban areas - so these appear white on the map below. Within Kent, some Districts and Boroughs have carried out their own Assessments, at a finer scale. However, the approach means not all Districts have been assessed and sometimes different approaches have been used making comparisons difficult. But where local LCAs exist, developers are encouraged to make use of them to inform their scheme, through the LVIA Guidelines.

Character Areas in Kent, Kent Landscape Character Assessment 2004 (Babtie).

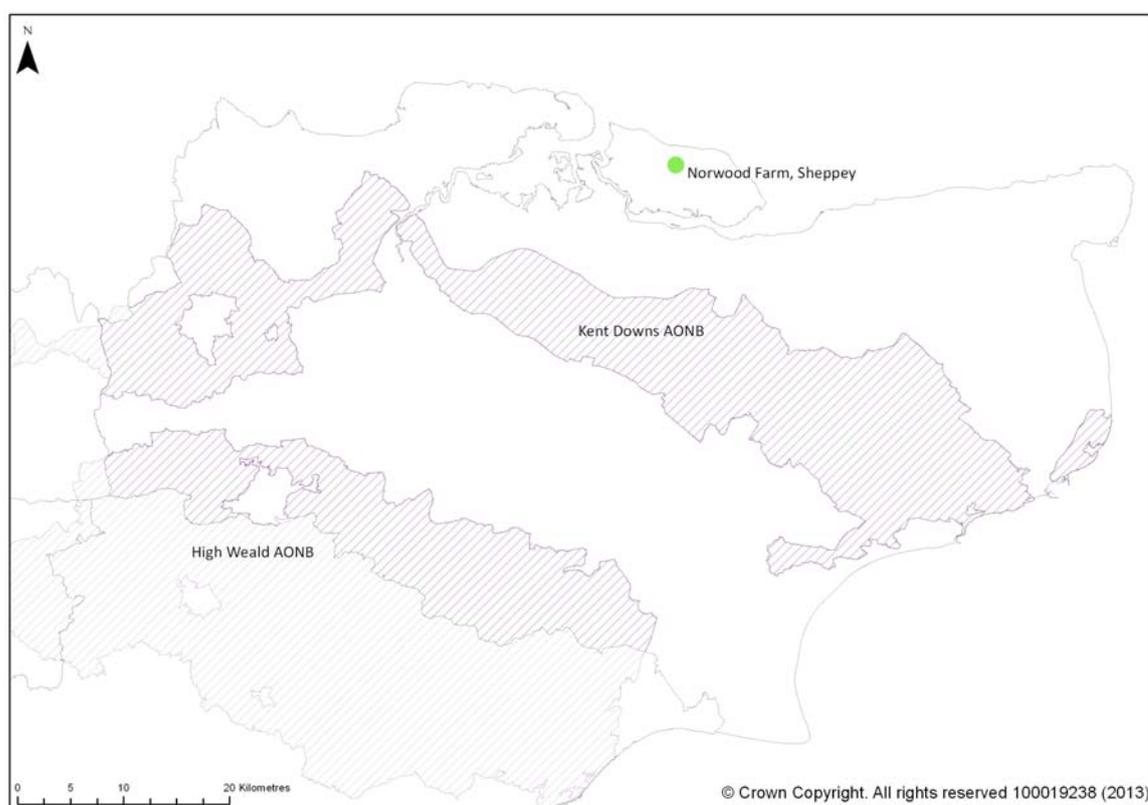
This image is illustrative only to highlight the huge variety in character across Kent. As such the map has no key - each separate area is an individual Landscape Character Area (i.e. An area of different character).

6 Norwood Farm

Landscape Designations

6.0.1 Nationally, in the UK landscapes of national significance are designated as either Areas of Outstanding Natural Beauty (AONB) or National Parks. Local Authorities can also designate Special Landscape Areas, for locally important landscapes.

Norwood Farm and Protected Landscapes (AONB).



6.0.2 Landscapes whose character has remained largely unchanged over a long period of time are often designated. A designated landscape has a long and importantly *readable* history. This is called time-depth. Where huge amounts of history can literally be seen in the landscape features today. Time-depth is reflected in all sorts of features, such as field boundaries, woodlands and tracks. Understanding time-depth and therefore landscape, requires an understanding of the ways in which people have influenced the landscape over time.

6.0.3 These national protected landscapes are designated under the Countryside and Rights of Way Act (2000). Their boundaries show us the extent of the whole landscape, but not the features which contribute to its character.

6.0.4 Protected Landscape specialist teams write Management Plans on behalf of all the local authorities within their boundaries. These Plans are a guide for anyone working within the AONB. The Plans are equally relevant to an individual landowner or a large government agency.

Understanding Landscapes

6.0.5 In order to understand the features within a landscape other information must be included. Ancient woodland, meadows, built and natural heritage features, such as churches and veteran trees all contribute to character – so they have been considered here. Some of these features such as ancient woodland have been mapped, so are also included as ‘landscape designations’.

6.0.6 The messages within All Landscape Matter and the European Landscape Convention are about recognising *all* landscapes equally - their sensitivities, history and character should be taken into account when making decisions. So despite Norwood Farm not being situated within a designated landscape, it is still within a landscape - an understanding of which is required to make informed decisions.

6.0.7 As landscapes represent the coming together of people and nature - so designated sites of any sort (areas important for wildlife or heritage) can help us to understand and determine wider landscape value. All of these designated sites need to be considered as part of understanding landscape following the GLVIA and ultimately becoming part of the planning process.

Please see Appendix B for maps of the heritage and habitat/wildlife designations used in the assessment of Norwood Farm.

Below is a summary of the landscape character and condition taken from existing landscape character assessments for the area around Norwood Farm.

Character area: North Sheppey

Taken from: The Landscape Assessment of Kent. Prepared for Kent County Council by Jacobs Baktie (2004).

6.0.8 Description (summarised)

- Characterised by its coastal location and strongly influenced by the London clay geology. The clay gives a distinctive undulating landform. North Sheppey has a wide open landscape; the area is elevated and exposed.
- Tree cover is limited; with a few remaining shelterbelts - tall dense hedges or trees to protect fruit from prevailing weather, surrounding now lost orchards.
- The character of the northwest is further influenced by urban and industrial developments. The historic small settlements, hamlets and farms have been detracted from by new development. Maritime and naval influences are strong here – and evidence of medieval salt working still remains.

See Appendix B for a map of the County Landscape Character Assessment at Norwood Farm.

6.0.9 *Condition:* “very poor” Attributed to;

- Lost field boundaries and rural heritage features.
- Creeping suburban land uses.
- The loss of ecological features further reduces the condition and coherence of the landscape.

Character Area: Minster & Warden Farmlands

Swale Landscape Character & Biodiversity Appraisal. Prepared for Swale Borough Council by Jacobs Babbie (2011). Adopted as a Supplementary Planning Document September 2011.

6.0.10 Description (summarised)

- Mixed clay geologies are significant in determining other aspects of landscape character.
The area has a rolling topography; the highest point on Sheppey is at ‘the Mount’ close to Norwood Farm.
- Springs commonly rise along the junction between the claygate and bagshot beds.
- Traditional fruit production is noted, as too are the fields bounded by Poplar windbreaks and shelterbelts.
- With a reduction in fruit growing, farmland now is primarily under arable production, this is often intensive with little semi natural habitat.

6.0.11 *Condition:* “poor” Attributed to:

- Urban fringe development.
- Lost field boundaries.
- Intrusive and insensitively located development and tourism.

See Appendix B for a map of the local Landscape Character Assessment at Norwood.

Summary

6.0.12 The condition has only marginally improved and sensitivity of the area remains unchanged, with the identified actions from both assessments being to ‘restore and create’. These assessments provide broad aims for the area; these could be used to inform further site-based characterisation and decisions.

6.0.13 Landscapes in poor condition are not a development opportunity - and poor condition does not mean development becomes more acceptable. The main outcome is the clear opportunity for improvement of landscape condition that these assessments have identified.

The Historic Landscape

6.0.14 The historic evolution of an area has always been fundamental to understanding landscapes. This has become even more important now, as history is recognised in the 3rd edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA). The Guidelines recommend applying historic landscape analysis in professional assessments of landscape impact.

6.0.15 One way to achieve an evidence-led understanding of how landscapes have come to be and look the way they do is using a process called map regression analysis. This analysis uses a time-series of evidence - often maps. Maps are compared, one after the other going back in time identifying changes and similarities - analysis can happen as far back as the evidence will allow.

6.0.16 Historic maps can be a useful source of evidence, but must be interpreted carefully, and preferably by someone with experience. Many maps were made for specific reasons, which need to be understood before firm conclusions can be drawn. In Kent, the historic map resource is rich and we can view back to 1800 with confidence. Before then Estate maps, drawn up by individual landowners can be used.

6.0.17 These old maps are placed into map viewing software alongside modern maps of the area, allowing us to easily see how the mapped landscape has changed. This might include, how settlements were expanded, how field shapes and sizes changed and also changes to woodlands and ponds or lakes.

6.0.18 With a knowledge of social history, farming techniques, and the economy we can use this evidence to build a picture of how the landscape has been exploited in the past. This knowledge becomes vital when making decisions about the future of the landscape.

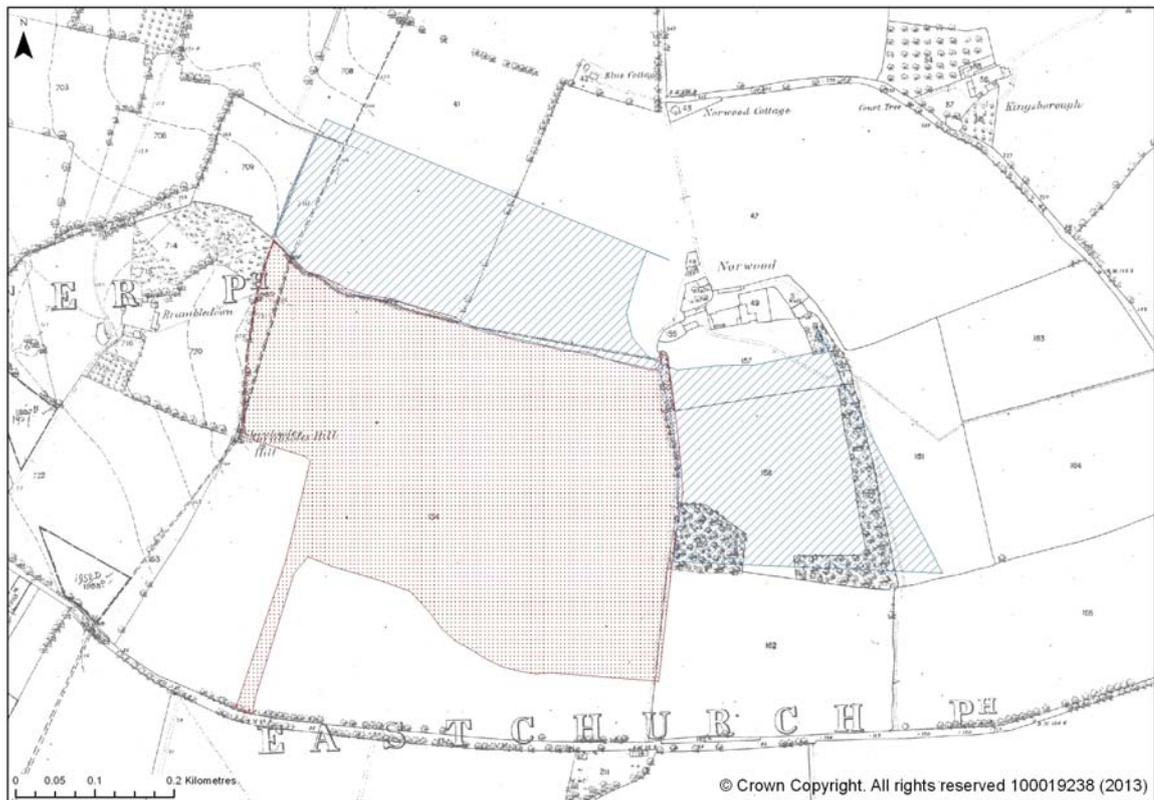
6.0.19 These historic (natural and built) features give us a sense of place and allow us to recognise an area's identity. They also provide us with a framework within which to continue to change and use our landscapes. Respecting key features which contribute to character in any form of development or land management will retain this character and this readable landscape history for the future.

Norwood Farm

6.0.20 Having carried out map regression analysis around the Norwood Farm site, our findings support the results from the LCA, with the loss of field boundaries, especially close to the site. The map below illustrates the site in 1869. It clearly shows smaller fields compared to today, but generally it is possible to see the site still retains the overall field pattern; small fields close to farmsteads, getting larger away from settlements towards the marshes.

6.0.21 The landscape around Norwood Farm does retain some historic features. Sheppey has a rich history spanning 400,000 years of human activity, and evidence of this history can still be seen in the landscape today.

Norwood Farm, existing site (red), potential extension (blue). Ordnance Survey Epoch 1 (1869)



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6.0.22 The character of this landscape has developed primarily through the changes in agricultural practice over the years. The agricultural landscape is ancient and appears unplanned – originating from movements of people and animals between inland woods and coastal pasture. The fields, orchards and woodlands reflect a pattern of considerable antiquity. Settlements are mostly formed around medieval and pre-medieval cores.

6.0.23 A Zone of Visual Influence (ZVI) is a way of understanding the visual impact of a potential development or activity. A ZVI is typically created using specialist software, which makes calculations based upon a location and the contours or topography of the surrounding area.

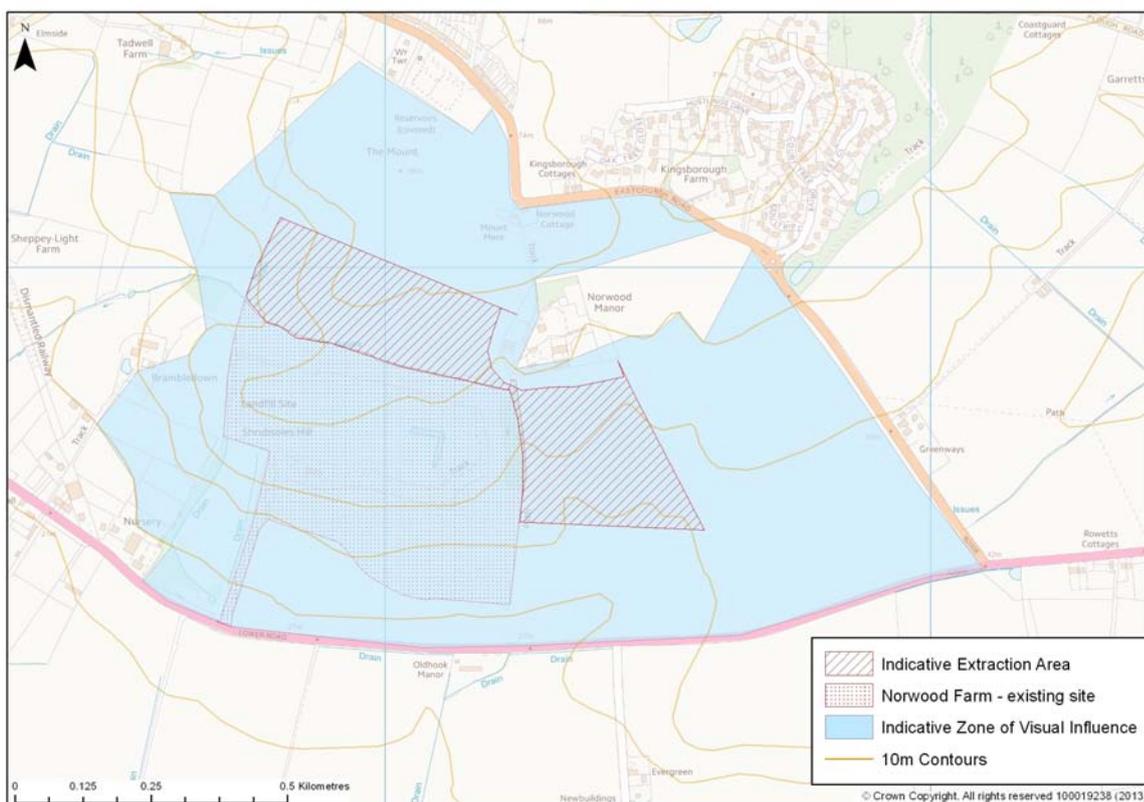
6.0.24 Depending upon the application, ZVIs can be complex and highly accurate or more general. For the purposes of this appraisal we have chosen a general approach. Given that much of the detail will be required for any site which is developed through the planning application process, this appraisal only needs to provide an overview of the viewshed (the area within which the development could be visible).

6.0.25 An indicative zone of visual influence has been generated using a combination approach of:

- Site visit to verify views.
- Contour maps and digital terrain models.
- Google Street view to verify on-road views.

6.0.26 This ZVI is based on the existing and potential (indicative extraction area) site. There may well be further views afforded due to gaps in the hedgerows along the eastern edge of the site to the other side of the road. This detail, and likely increased ZVI, would be considered in the LVIA submitted in support of the planning application.

Indicative Zone of Visual Influence for Norwood Farm, Sheppey



6.0.27 Appreciating the wider landscape context is an important part of getting to know the character of a site. The following section describes the context of Norwood Farm, starting at a large scale, and gradually getting more local.

Regional: Greater Thames Estuary National Character Area (NCA)

6.0.28 National Character Areas (NCA) split the country into areas based upon characteristics such as landscape, geology, biodiversity and cultural activity. This is a huge area of mostly flat, sometimes undulating landform.

6.0.29 Coastal marshes and mudflats are significant in the Greater Thames Estuary NCA – pushing settlements to the higher ground. The whole area is host to numerous geological sites; this geology has produced fertile land – which has been highly productive. Sheppey is characterised by medieval or earlier, irregular-shaped often drained fields.

6.0.30 Major settlements are few in this area, and it remains one of the least developed coastlines in the whole country. Evidence of early (Neolithic) settlements has been found in this NCA, including on Sheppey itself.

Local: North Sheppey

6.0.31 Geology is a key influence on character of the area locally. The ground on Sheppey rises rapidly and falls away steeply on the northern coast. Norwood Farm is close to the highest point on the island.

6.0.32 Scrub and scrub woodland on the hills is common, and the traditional pasture and orchards has been replaced by often intensive arable cultivation.

6.0.33 Loss of tree cover, hedgerows and orchards have combined with Sheppey's coastal location to give it an open and exposed feel.

Local: Minster & Warden Farmlands

6.0.34 Medium scale irregular fields, and narrow enclosed lanes are characteristic features of the local landscape character area. The historic character of the area is visible through surviving historic farms, but intrusive residential development often in a whole mix of non-vernacular styles, intrude upon this character.

The Site

6.0.35 Norwood Farm itself comprises open undulating fields and new planting on slopes of the landfill. The site holds a prominent position. Grown out shelterbelts provide distinctive character to the north of the site along the field boundary.

6.0.36 Long views to the south over the marshes, big skies – and a landscape getting more and more open towards the marsh. Tall evergreen trees surround the only property nearby, limiting the views into and out of the site.

Landscape Features

6.0.37 The character of a landscape is ultimately made up of a pattern of features or landscape elements. Understanding character is about getting to know these elements and the patterns they form which create character. Without managing, or restoring these features, landscape character can be lost.

6.0.38 As part of the survey we identified key landscape features at Norwood Farm.

Table 1 Landscape features at Norwood Farm

Element	Description
Topography	Rolling to gently undulating hills.
Field patterns	Regular enclosure, with some smaller paddocks - usually close to settlement. Fields are large, mostly arable with small margins if any and scarecrows - which together produce a working feel. Smaller fields and paddocks are found close to settlements.
Field boundaries	Hedgerows as field boundaries and along roadsides, often with associated ditches along the lower slopes. Occasional taller windbreaks or shelterbelts.
Drainage	Springs are occasional within and close to the site. Ditches run away from the site to the south, often forming part of the field boundary.
Vegetation patterns	Trees often as small clusters or sometimes linear features along ridges and hilltops. Larger trees are often present within hedgerows. Few woodlands are present. Marshland to the south of Norwood is extensive.
Settlement	Scattered settlements mostly on the higher ground, with distinctive north-south aligned roads. New development, often on ridges with introduced species associated, such as conifer. Functional farm buildings are dispersed around the lower lying land.
Roads & rights of way	North south routes illustrating movements of people and livestock from the coast and marshes up to the higher ground.

6.0.39 Some images of the features which together give Norwood Farm, and Sheppey their character.

Typical roadside hedgerows close to Norwood Farm



View towards Norwood Farm, large arable field in foreground.



Smaller paddocks with post and wire fencing, close to farms and buildings.



Typical pasture to the west of Norwood Farm, some hedgerows - smaller fields than arable.



Undulating topography, large fields, hedgerow trees and wooded valleys



Landscape Value

Determining how much a landscape is valued or is valuable, can in parts be highly subjective. So a set of evidence is often used to inform this part of the appraisal.

Evidence used to determine value:

- Norwood Farms has no designations on the site itself.
- The site is surrounded by a number of designated areas.
- Tranquillity score (positive): 15 – 22 (this corresponds to high tranquillity).
- Scheduled monuments close by and locally registered historic parks and gardens.

Please see Appendix B for maps of this evidence.

Table 2 Landscape Value: Norwood Farm

Site	Value	Explanation
Norwood Farm	Medium	The site represents an 'island' surrounded by highly designated and known sensitive (in terms of landscape and ecology primarily) sites. The role this area plays as a buffer to these designated sites could be considerable. Opportunity for landscape enhancements which can improve or contribute to wider important habitats on Sheppey should be considered. Norwood Farm sits between a Biodiversity Opportunity Area (BOA) and a Nature improvement Area (NIA) - so their aims should be considered in the design of any scheme and subsequent restoration. Despite not being designated the area is agricultural and has a rural feel. It is surrounded by a number of small villages and hamlets and tourism sites, who may well value its open agricultural character.

6.0.40 Before the site becomes active this value score should be recalculated by incorporating local opinion through consultation as part of any planning application. This process is advocated in the LVIA Guidelines.

Landscape Sensitivity

This approach is primarily based upon ecological and cultural sensitivities. Importantly, as this is a strategic appraisal, we consider inherent landscape sensitivity, rather than sensitivity to a particular force or change.

Judgements formed take account of;

- Natural factors.
- Cultural factors – including archaeological evidence.
- Quality/condition.
- Aesthetic factors.

Table 3 Landscape Sensitivity: Norwood Farm

Site	Sensitivity	Explanation
Norwood Farm	Low	The key features which together form the character of the area have been considerably altered. The few features left, such as field boundaries are in poor condition. There is known archaeology on or nearby the site - potential is high and we know clay soils can mask archaeological features (reference Landscape History of the Thames Estuary. Chris Blandford Associates on behalf of English Heritage KCC and Essex County Council). The existing

Site	Sensitivity	Explanation
		land use is newly regenerated grass and intensive agriculture, presenting limited opportunities for wildlife.

Visual Sensitivity

6.0.41 Judgements formed take account of:

- **Visibility (site visit evidence and ZVI)**
- **Population**
- **Mitigation potential**

Table 4 Visual Sensitivity: Norwood Farm

Site	Sensitivity	Explanation
Norwood Farm	Medium	The big, open landscape means views are wide and long, with limited tree cover. Where views are restricted it is usually by topography and small clusters of trees. The site itself is only seen by limited populations - the most obvious viewpoints are Norwood Manor and the main road as people are passing.

Constraints

6.0.42 Based upon the assessments of existing evidence along with site visits, the primary constraints at Norwood Farm are likely to be visual. The large scale of the landscape, its big sweeping fields and open aspect with long views is likely to constrain any proposals on this site. Naturally, being the highest point on Sheppey but also due to the lack of cover in terms of vegetation in the area surrounding Norwood. Unlike other sorts of developments, minerals and waste works' opportunities are centred around post-works activity.

Opportunities

6.0.43 As part of the appraisal, the results have been used to identify some opportunities. The integrating framework of landscape for helping make decisions is illustrated well by considering opportunities derived from developments. This section provides some examples of opportunities which could be sought to maximise benefits and ameliorate any impacts.

Mitigation Opportunities

- Following guidance in the Swale Supplementary Planning Document (SPD), a landscape strategy could be created to cover pre-, during and post extraction which would provide an opportunity to monitor and amend if necessary, any landscape issues throughout the life of the site.

- Best practice for excavation and infill should be followed at all times.
- This site offers huge opportunity for landscape and biodiversity enhancement, particularly habitats and features associated with field boundaries.
- Careful site design will be required in order to minimise visual impacts. In particular for those travelling from Eastchurch along the A2500 and B2008.
- On the higher ground of Sheppey overlooking the marshes there is a high potential for finding buried historic landscapes. So best practice <http://www.english.gov.uk/en/consultations/new-guidance-on-landscape-and-archaeology> should be incorporated throughout the life of the site.

Restoration Opportunities

6.0.44 Any site restoration should consider the historic landscape character in scheme design, not necessarily to copy it precisely but to inform designs.

- Topography will be a key issue in any restoration scheme. Currently as the site is, its sides are much steeper than the natural surrounding topography. Careful slope design will be needed for the restoration to ensure the site doesn't look incongruous with its surroundings.
- Hedgerow reinstatement/reinforcement following historic boundaries (many of these have been lost).
- Conserve veteran trees, and those within hedgerows.
- Native tree planting, particularly on higher ground.
- Habitat creation, restoration and connectivity – will also achieve NIA (Nature Improvement Areas) objectives, and improve the lost ecological functioning of the area. The above actions will need to be considered with this wider function in mind.
- Returning the site back to agriculture will be appropriate – it is recommended this agricultural practice should be carried out to the highest quality, to ensure newly created features such as hedgerows are managed appropriately and in the long-term, to allow them to perform the function for which they were created, e.g. ecological connectivity.
- Ongoing and dedicated management will need to be drawn up alongside restoration schemes, which work hard to generate multiple benefits.

Conclusions

6.0.45 This part of north Sheppey is a naturally exposed landscape, with long, occasionally interrupted views. Features which have remained unchanged for a long time provide a landscape with a coherent and often strong character. Much of the connection with the past through these features in the landscape has been lost, primarily with the removal of hedgerows to create large fields. This has, in part led to the result of poor condition in the LCA.

6.0.46 Features such as orchards, shelterbelts and other field boundaries, such as hedgerows have all suffered losses.

6.0.47 These features have been identified through the LCA and map regression exercises as together giving this part of Sheppey its character. When assessing landscape condition it's important to make clear the distinction between poor feature management, and poor landscape condition. If these features have been neglected, or are in poor management, this doesn't detract from their ability to contribute to landscape character. So the landscape condition i.e. its character is not said to be poor, but its management is. Where features have been lost altogether, the character of the landscape becomes less distinct, and therefore landscape condition is considered poor or at least reduced.

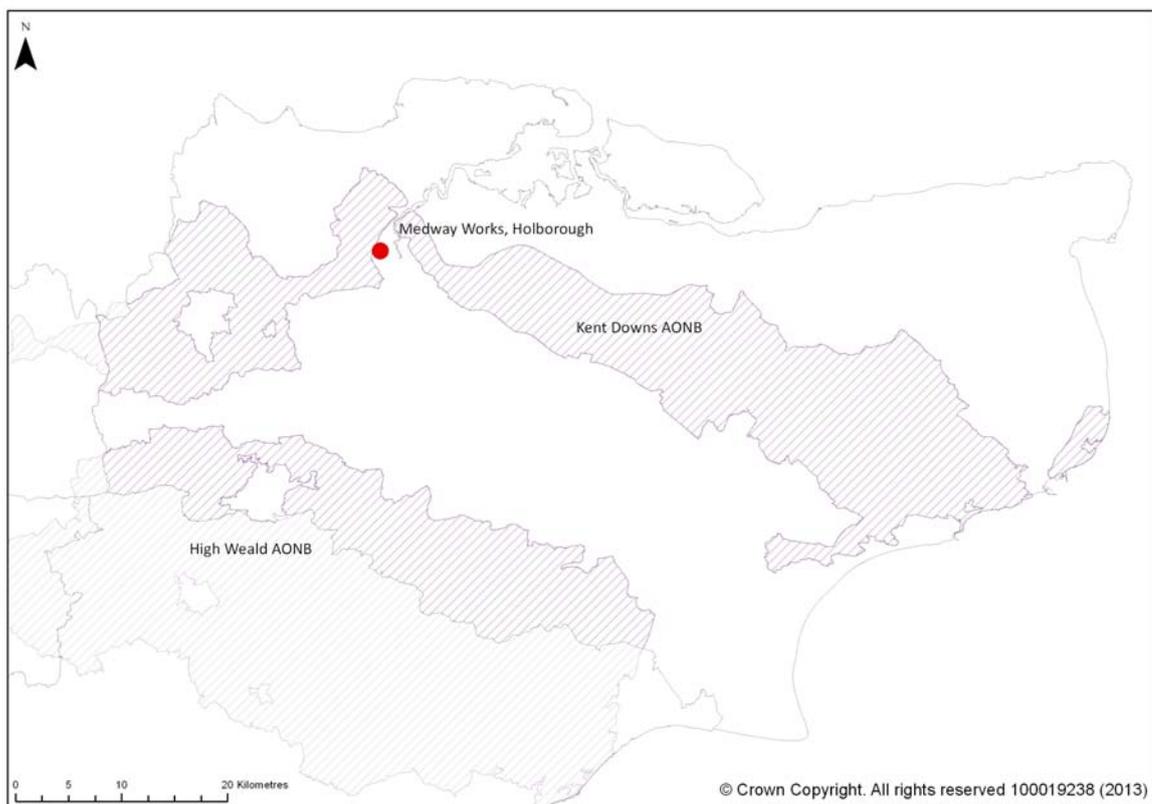
6.0.48 These losses have led to a landscape whose character is not as robust as it could be. These losses could be tackled through the restoration scheme of the site – including the reinstatement of field boundaries and small copses.

7 Medway Works

Landscape Designations

7.0.1 Landscapes of national significance are designated as either Areas of Outstanding Natural Beauty (AONB) or National Parks. Local Authorities can also designate Special Landscape Areas, for locally important landscapes.

Medway Works and protected landscapes (AONB)



7.0.2 Landscapes whose character has remained largely unchanged over a long period of time are often designated. A designated landscape has a long and importantly *readable* history. This is called time-depth. Where huge amounts of history can literally be seen in the landscape features today. Time-depth is reflected in all sorts of features, such as field boundaries, woodlands and tracks. Understanding time-depth and therefore landscape, requires an understanding of the ways in which people have influenced the landscape over time.

7.0.3 These national protected landscapes are designated under the Countryside and Rights of Way Act (2000). Their boundaries show us the extent of the whole landscape, but not the features which contribute to its character.

7.0.4 Protected Landscape specialist teams write Management Plans on behalf of all the local authorities within their boundaries. These Plans are a guide for anyone working within the AONB. The Plans are equally relevant to a landowner or a large government agency.

Understanding Landscapes

7.0.5 In order to understand the features within a landscape other information must be included. Ancient woodland, meadows, built and natural heritage features, such as churches and veteran trees all contribute to character – so they have been considered here. Some of these features such as ancient woodland have been mapped, so are also included as ‘landscape designations’.

7.0.6 Medway Works, is close to the Kent Downs AONB. Despite the lack of designated landscape on the site itself, its proximity to the AONB must be taken into account. Additionally, referring back to All Landscapes Matter and the European Landscape Convention, even when a landscape is not designated - it's sensitivities, history and character should be taken into account when making decisions.

7.0.7 As landscapes represent the coming together of people and nature - so designated sites of any sort (areas important for wildlife or heritage) can help us to understand and determine wider landscape value. All of these designated sites need to be considered as part of understanding landscape following the GLVIA and ultimately becoming part of the planning process.

Please see Appendix B for maps of the heritage and habitat/wildlife designations used in the assessment of Medway Works, Holborough.

7.0.8 Below is a summary of the landscape character and condition taken from existing landscape character assessments for the area around the Medway Works, Holborough.

Character Area: Kent Downs – Medway, Western & Eastern Scarp

Taken from: The Landscape Assessment of Kent. Prepared for Kent County Council by Jacobs Babbie (2004).

7.0.9 *Description*

- The lower slopes of the Kent Downs comprise of gently sloping chalk, overlain by brickearths.
- The wide valley, with its fertile soils has evidence of some of the earliest settlement in Kent.

- Historically these settlements were often along the riverside – doubling up as crossing points for the river. Later on these became hubs for industry. Much of the characteristic small riverside settlements have been modified by 19th and 20th century developments.
- Large open fields with few boundaries, quarrying has changed much of the landscape.

7.0.10 *Condition*

- “very poor” Attributed to;
 - Recent developments are, unconnected to the wider settlement pattern and landscape.
Large-scale losses of hedgerows and woodland.

Summary

7.0.11 Despite being nearly ten years old, much of the site description within this LCA is still accurate today. Losing hedgerows has considerably altered the landscape character, further compounded by developments unsympathetic to historic settlement patterns. Although the newer LCA carried out by Medway Council refers to this area as of moderate condition - so perhaps some improvements have been made in some instances.

7.0.12 Opportunities at this site are considerable and the main actions to ‘create’ remain valid, but care will be needed to ensure existing landscape issues are not further compounded by future developments.

The Historic Landscape

7.0.13 Understanding the historic evolution of an area has always been a fundamental part of understanding landscapes. This has become even more important now, as history is recognised in the 3rd edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA). The Guidelines recommend applying historic landscape analysis in professional assessments of landscape impact.

7.0.14 One way to achieve an evidence-led understanding of how landscapes have come to be and look the way they do is using a process called map regression analysis. This analysis uses a time-series of evidence - often maps. Maps are compared, one after the other going back in time identifying changes and similarities - analysis can happen as far back as the evidence will allow.

7.0.15 Historic maps can be a useful source of evidence, but must be interpreted by someone with experience as many maps were made for specific reasons. In Kent the historic map resource is rich and we can easily view back to 1800 with confidence. Before then, reliance upon Estate Maps drawn up by individual landowners is needed.

7.0.16 These old maps are placed into map viewing software alongside our modern maps of the area, allowing us to easily see how the mapped landscape has changed. This will be things like, how settlements were expanded, how field shapes and sizes changed and also woodlands and ponds or lakes.

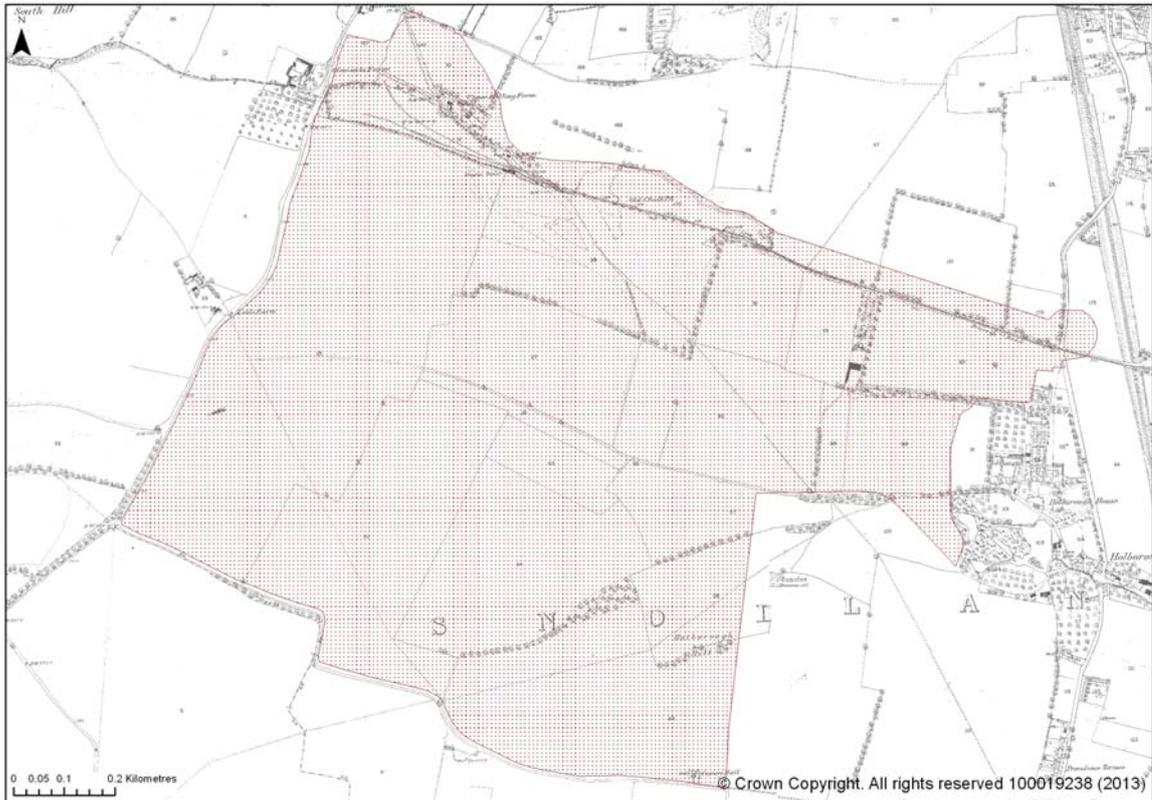
7.0.17 With a knowledge of social history, farming techniques, and the economy we can build a picture of how the landscape has been exploited in the past. This is vital for making decisions about the future of the landscape.

7.0.18 These historic (natural and built) features give us a sense of place, and allow us to recognise an area's identity. They also provide us with a framework within which to continue to change and use our landscapes. Respecting key features which contribute to character in any form of development or land management will retain this character and this readable landscape history for the future.

Medway Works, Holborough

7.0.19 The area around Snodland and Holborough - accessible by a wide stretch of river and with a wealth of natural resources, unsurprisingly has a long history of settlement. Resource use, in the form of quarrying is evident from the historic maps, being recorded as 'old chalk pits' even on some of the earlier maps. Settlements developed along the river, often from ferry or crossing points. The area, particularly within the defined site has undergone considerable loss of field boundaries.

Medway Works, Holborough Ordnance Survey Epoch 1 (1869)



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7.0.20 The Medway Valley is home to the south-eastern most group of megalithic sites in the British Isles. Archaeological evidence dating back to 600BC has been found at the Holborough Quarry site itself, and is testament to this. A number of Roman findings have also been discovered in the area.

Zone of Visual Influence (ZVI)

7.0.21 A Zone of Visual Influence (ZVI) is a way of understanding the visual impact of a potential development or activity. A ZVI is typically created using specialist software, which makes calculations based upon a location and the contours or topography of the surrounding area.

7.0.22 Depending upon the application, ZVIs can be complex and highly accurate or more general. For the purposes of this appraisal we have chosen a general approach. Given that much of the detail will be required for any site which is developed through the planning application process, this appraisal only requires an overview of the viewshed (the area within which the development could be visible).

7.0.23 Generated using a combination approach of:

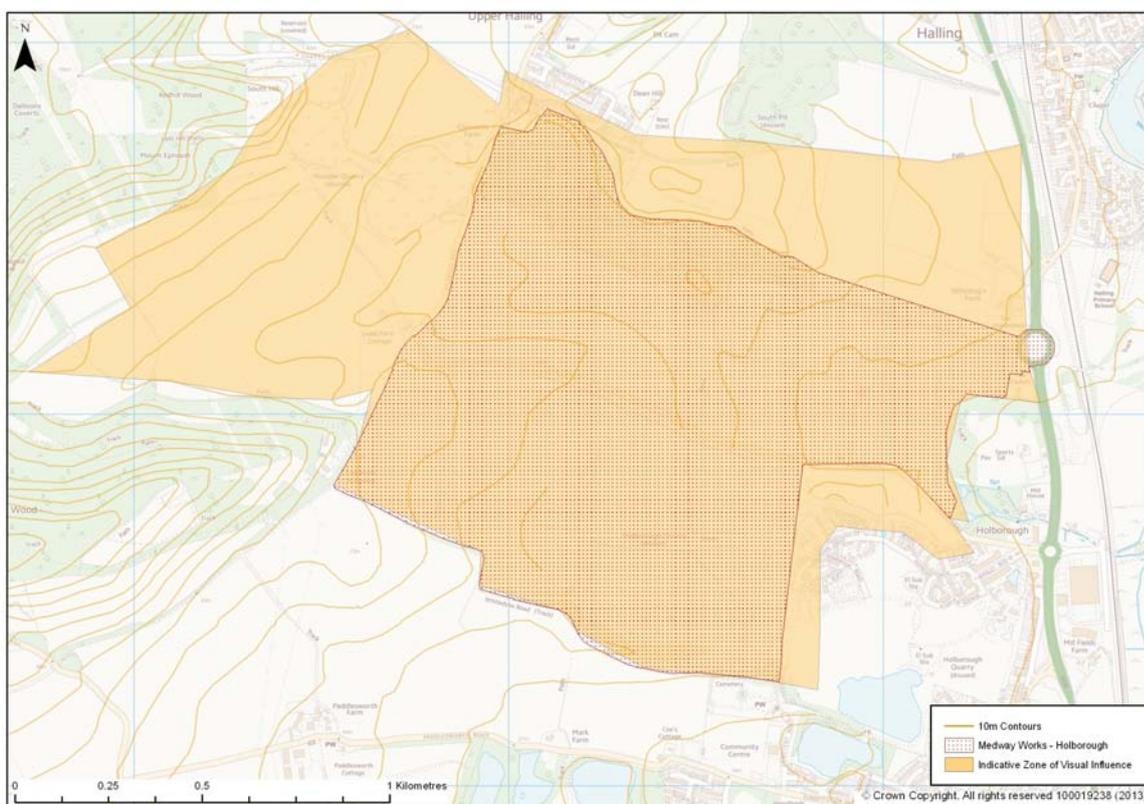
- Site visit to verify views.

- Contour maps and digital terrain models.
- Google Street view to verify on-road views.

7.0.24 ZVI considers features such as buildings or hedgerows which may block views – it does not consider a bare landscape.

7.0.25 This ZVI is based on the existing site if the site is extended or additional homes are built close by, the zone of visual influence may well increase considerably.

Indicative Zone of Visual Influence for Medway Works, Holborough



7.0.26 Appreciating the wider landscape context is an important part of getting to know the character of a site. The following section describes the context of Norwood Farm, starting at a large scale, regional level and gradually getting more local.

Regional: North Downs National Character Area (NCA)

7.0.27 The majority of Holborough Cement Works falls within the North Downs NCA. This area is dominated by and derives its character from the chalk scarp which runs through the area from Surrey to the White Cliffs. An early-settled landscape the drove roads and ancient tracks like the Pilgrim's Way contribute richly to the character of the area. Small nucleated villages and scattered hamlets and farmsteads are the key settlement patterns.

7.0.28 Small and irregular shaped fields are typical – resulting from assarting, as a result many hedgerows are thick, like shaws ⁽¹⁾

Local: Kent Downs – Medway, Western & Eastern Scarp

7.0.29 The landscape described runs either side of the Medway, bordered on both sides by the Kent Downs AONB. Light chalky soils washed down from the scarps create fertile lower slopes, making this part of the valley a productive arable landscape. Hedgerows are sparse throughout the landscape and disused quarries are slowly scrubbing up. Identified actions are to ‘create’ new landscape features.

The Site: Holborough

7.0.30 This site itself - having been exploited significantly in the past, is a mature former quarry, now large arable fields, with few hedgerows; it is split by a lane. Views are wide, up to the wooded scarp. Much of the southern edge of the site is bounded by a thick, tall hedge and trees in some places. The area is gently undulating so views are sometimes obscured, but the lack features gives the area an exposed feel.

Landscape Features

Table 5 Landscape features at Medway Works, Holborough

Element	Description
Topography	Gently undulating landform, surrounded by steep scarp edges and valley floor. Locally distinctive cliff sides and slopes exposed from a history of quarrying.
Field patterns	Large, regular fields, with straight boundaries mostly arable - especially on the slopes.
Field boundaries	Hedgerows, particularly found along lanes, but often gappy or lost altogether between fields.
Drainage	Forming part of the Medway valley, drainage around the site has likely been disturbed through many years of quarrying - a number of ditches and lakes form the main drainage. The A228 and the development along it also act as a barrier between the slopes and the river Medway.
Vegetation patterns	Land is mostly arable, but with some chalk grassland. The upper slopes and ridges are wooded along the scarp overlooking the site. Hedge and tree boundaries exist around parts of the site, and historic quarrying is evident.

1 National Character Area profile: 119 North Downs, Natural England. Further information can be found on Natural England's website by following this link: <http://publications.naturalengland.org.uk/publication/7036466?category=587130>

Element	Description
Settlement	Historic cores are surrounded by new edge developments. New settlements are present in the valley, often poorly screened with unsympathetic choices of materials. In combination these factors increase their impact significantly. The slopes typically have retained their sparse character of scattered farmsteads and tiny hamlets.
Roads and rights of way	Historic small quarries and pits are common alongside smaller lanes, especially on the slopes. Main roads tend north-south, in parallel with the valley. The smaller lanes wind up to the downs.

Landscape Value

7.0.31 Before the site becomes active this value score should be recalculated by incorporating local opinion through a public consultation to ensure the elements of the landscape valued most locally are considered.

Additional evidence used to determine value:

- Holborough lies adjacent to the Kent Downs AONB – a nationally important landscape. It is within the greenbelt.
- Average tranquillity score (negative) –7 (this corresponds to a low tranquillity, but is essentially in the middle of the range.) The scale is from -140 to 148.
- The areas immediately surrounding the site are highly designated for ecology; both species and habitats, including; ancient woodland, marshes and wetlands – local, national and European designations.
- The conservation area of Holborough Mill backs onto the site and is the nearest heritage site.

Table 6 Landscape Value: Medway Works, Holborough

Site	Value	Explanation
Medway Works, Holborough	High	The site sits within the greenbelt. Surrounding areas are highly designated (nationally) for landscape, wildlife and habitat value.

Landscape Sensitivity

7.0.32 An approach based upon ecological and cultural sensitivities primarily. The approach taken considers inherent landscape sensitivity, rather than sensitivity to a particular force or change. As such it is based on the existing landscape.

Judgements formed take account of;

- Natural factors
- Cultural factors – including archaeology, and the built environment
- Quality/condition
- Aesthetic factors

Table 7 Landscape Sensitivity: Medway Works, Holborough

Site	Sensitivity	Explanation
Medway Works, Holborough	Medium	There are significant sensitivities within and close by the site - notably the AONB designation, which recognises the natural and cultural features which together combine to produce a landscape of national importance. The site and area close by has a strong history. Balanced with the condition of the immediate landscape being described as poor condition.

Visual Sensitivity

7.0.33 Parameters used:

- Visibility
- Population
- Mitigation potential

Table 8 Visual Sensitivity: Medway Works, Holborough

Site	Sensitivity	Explanation
Medway Works, Holborough	Medium	The historic nature of quarrying at this site means it has been well screened from immediate local view in many cases. But new development close to the site and longer views from the AONB make it more sensitive.

Constraints

7.0.34 Visual constraints will be primarily from further afield, as the site forms part of the view from both sides in the AONB. The site is locally well screened and the vegetation is well-established. But this screening is very functional and does not help to integrate the quarry into the landscape, nor does it support landscape character.

7.0.35 New developments close by will physically and visually constrain the site working. Views from the developments close to the site, and from Upper Halling and the scarp in the AONB will all need to be carefully considered.

7.0.36 Whilst not a constraint, any application will need to explicitly include an assessment of the cumulative impacts of the quarry as part of a standard Landscape and Visual Impact Assessment, particularly in view of the number of quarries already in the area.

Mitigation Opportunities

- Native planting to screen the operation phase – planting which enhances and restores landscape character is essential. In addition to obscuring or softening views, this screening should also contribute to the long term character of the area; careful thought about the location of screening will therefore be paramount.
- Phased working with consideration of local developments currently or imminently being built.
- If a lake was deemed to be the only means of restoration, this will need to be achieved sensitively. A water body of that size will be a significant feature in the landscape, especially visible from the scarp and screening will be ineffective. Therefore integrating the water body into the landscape will be a key means of mitigating its impact. Given the number of historic quarries in the the area and in some cases the poor integration of these in terms of landscape character, achieving a lake which is well assimilated to the landscape will be crucial.

Restoration Opportunities

7.0.37 There is a need for chalk grassland restoration in this area, to both support BOA targets and restore landscape character. Restoration opportunities may be limited if the site is left and filled with water after extraction. If this is the case, opportunities should be sought for enhancement to be carried out close to the site to both benefit local targets, landscape aspirations and the community.

7.0.38 The suggestions below could potentially be carried out alongside mitigation proposals, whereby some of this restoration is carried out beyond the site itself as a means of mitigating the impact of removing land from the area.

- Chalk grassland creation/enhancement. This is a key feature of the area, contributing to landscape character; it is also a Biodiversity Opportunity Area (BOA) target (part of the site falls within the BOA).
Boundary reinstatement – improvement to existing hedgerows, filling in gaps and recreation of hedgerows to reinstate the field pattern.
- Farming – restoration to arable land would be appropriate, but this should include provision for wildlife, and should be done in combination with the boundary reinstatement.
- Much effort has been made in the surrounding areas to improve access, so continuing to improve access should form part of the restoration scheme – with consideration of these existing efforts. Providing local people with the opportunity to get into the Downs more easily could also be a positive outcome.
- The site at Holborough is complex in terms of its landscape and the designated areas around it. This part of the Medway Valley has a long history of quarrying and has long been an area for industry along the river. It also has unique habitats,

and good agriculture, within and surrounding the site. Any restoration of the site will need to reflect these aspects of the area, along with enhancing its landscape character. The restoration of the site, especially where it involves creating a new landscape, for example lakes, must work exceptionally hard to integrate this landscape into the surrounding area.

- Lakes created from old quarries are not unusual in this part of the Medway Valley, but other landscape improvements would bring much more needed benefits. Ongoing and dedicated management of the site will need to be drawn up alongside restoration schemes.
- Restoration schemes should be designed in close contact with the AONB and other projects or partners working in the area, to ensure the best outcome for the site.
- All restoration, whilst improving landscape character condition will also bring benefits to people and wildlife.
- A lake whilst having the potential to bring multiple benefits this option does not support landscape character in its truest sense. But if properly designed the scheme could deliver multiple benefits, with the inclusion of things like islands and the creation of a variety of habitats alongside.
- Given this, any scheme would need to consider more broadly how they could achieve improvements to landscape character.

Conclusion

7.0.39 The site at Holborough is complex in terms of its landscape and the designated areas around it. This part of the Medway Valley has a long history of quarrying and has long been an area for industry along the river. It also has unique habitats, and good agriculture, within and surrounding the site. Any restoration of the site will need to reflect these aspects of the area, along with enhancing its landscape character. The restoration of the site, especially where it involves creating a new landscape, for example lakes, must work exceptionally hard to integrate this landscape into the surrounding area.

7.0.40 Lakes created from old quarries are not unusual in this part of the Medway Valley, but other landscape improvements would bring many more needed benefits. Long-term and dedicated management of the site will need to be drawn up alongside restoration schemes.

Appendix A: Glossary

Term	Meaning
Ancient Woodland	Woodlands that have remained continuously wooded since 1600.
AONB	Area of Outstanding Natural Beauty.
Biodiversity	The variety of life on earth. "The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems." (Convention on Biodiversity).
Biodiversity Opportunity Area (BOA)	Large areas created in partnership designed to inform and target biodiversity improvements. These areas were often drawn based on a need for improved connectivity between habitats.
Built Heritage Features	Built historical or protected structures, such as pill boxes or medieval farmsteads.
Connectivity	Natural links made between landscape features often designed to support the movement of wildlife through the countryside. The best connectivity also restores or reinforces landscape character.
Digital Terrain Model (DTM)	A digital model of the earth's surface, based upon topography. A DTM removes all surface features such as trees and buildings.
ELC	European Landscape Convention
GLVIA	Guidelines for Landscape & Visual Impact Assessment (GLVIA)
Green Infrastructure (GI)	Networks of green spaces, watercourses and water bodies that connect rural areas, villages and towns. Ideally GI, respects, restores and /or enhances landscape character.
Historic Landscape Characterisation (HLC)	The identification and interpretation of the historic dimension of the present-day landscape in a given area (GLVIA 2013).
Landscape	An area, as perceived by people, whose character is the result of the action and interaction of natural and human factors. (European Landscape Convention).

Appendix A: Glossary

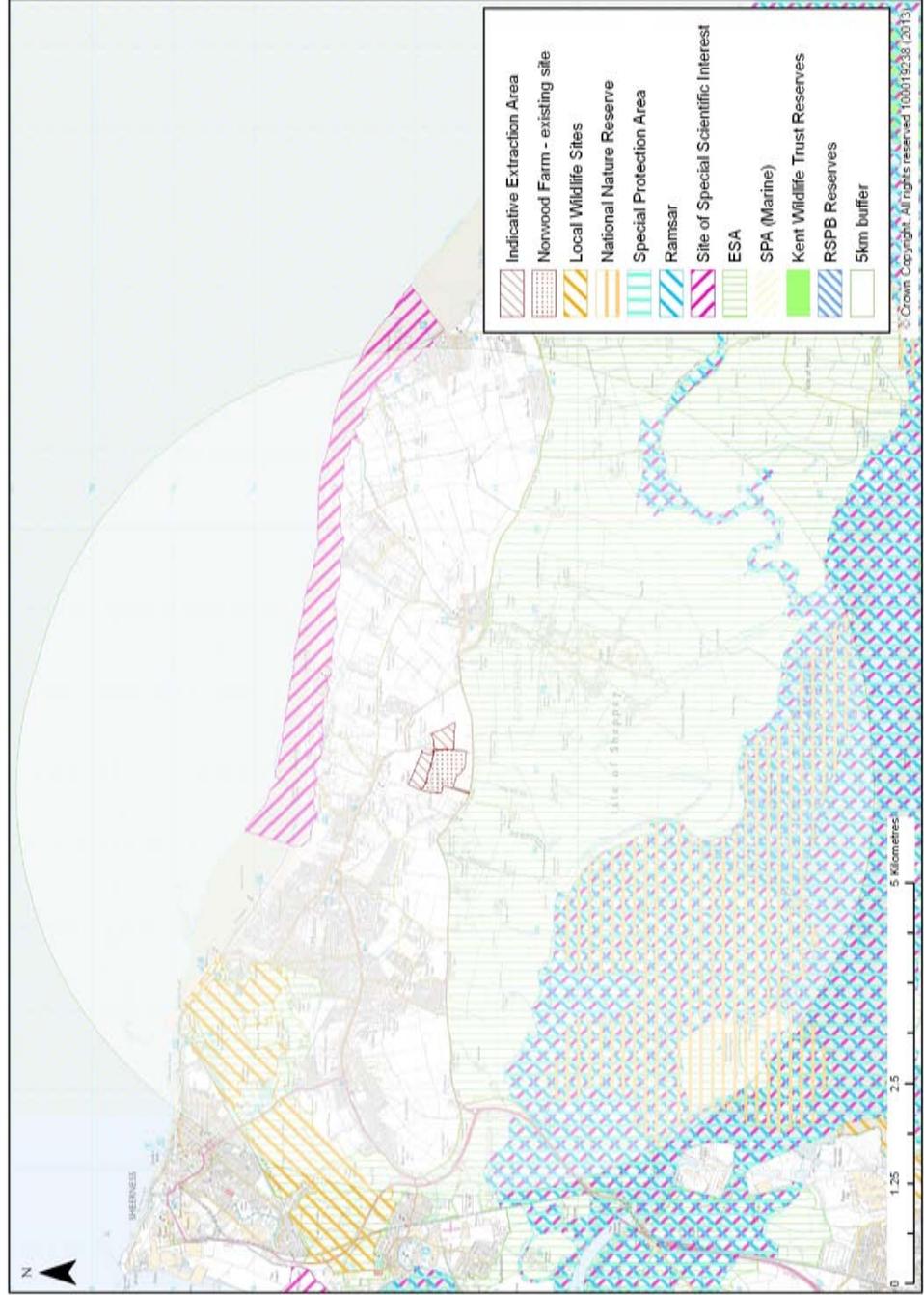
Term	Meaning
Landscape Appraisal	An high-level assessment, designed to provide an overview of potential landscape opportunities and constraints.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Assessments	The process of identifying and describing variation in the character of the landscape, and using this information to assist in managing change in the landscape (GLVIA 2013).
Landscape Features	The features, or elements in the landscape, whose patterns together contribute to the unique character of the landscape. These features will include, field boundaries, settlements, roads and tracks.
Landscape Value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. (GLVIA 2013)
Map Regression Analysis	The comparison of historic maps of different dates in order to determine landscape change. This can now be done digitally in many cases. This is the means in which to begin to understand time-depth.
National Character Areas (NCA)	Large areas of landscape mapped based on areas of similar landscape character. NCAs are mapped by Natural England and cover the whole country.
Natural Heritage Features	Natural features in the landscape which have a long history and exist as the result of man's intervention, such as ancient hedgerows, coppice stools, or veteran marker trees.
Nature Improvement Area (NIA)	An area, often large in size delivering improvements for people and wildlife - they are driven locally, with money from central government. The Greater Thames Marshes in North Kent is an NIA.
Shelterbelt	Shelterbelts or wind breaks are semi-permeable barriers that reduce wind speed and provide shelter for plants. Often used around fruit or orchards.
Time-depth	Explores the historic depth of the present day landscape: researching the extent, integrity and coherence of surviving features. It seeks to understand how people have created the landscape in response to its underlying geology,

Term	Meaning
	landform and the prevailing climate focusing on the historical processes that have created the cultural landscapes we see today.
Topography	The physical features of the earth, including valleys, hills and mountains.
Zone of Visual Influence (ZVI)	A digital map showing areas of land within which a development is theoretically visible. (GLVIA 2013)

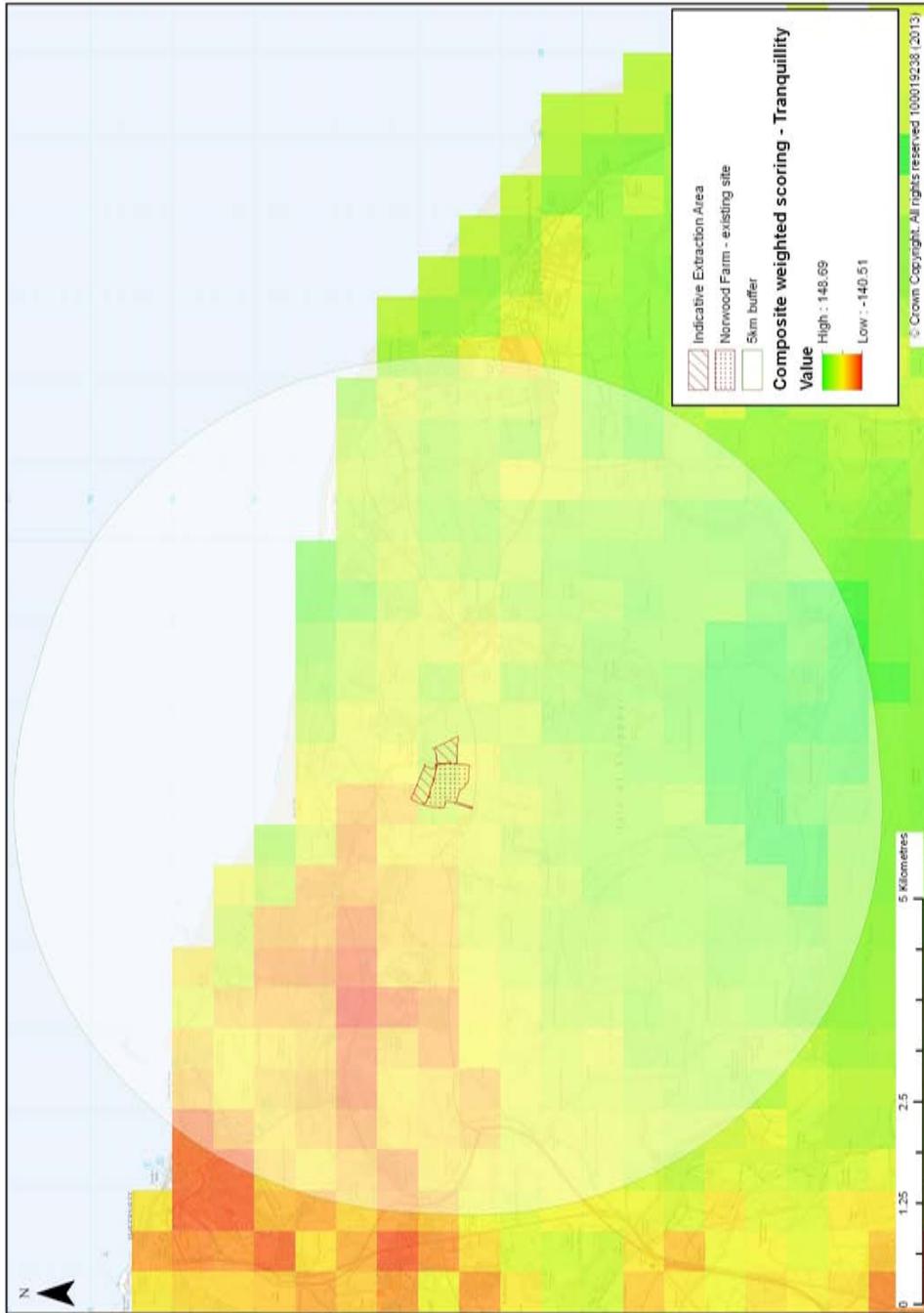
Appendix B: Maps

Appendix B: Maps

Local, National and International Habitat/Biodiversity Designations within 5km of Norwood Farm, Sheppey

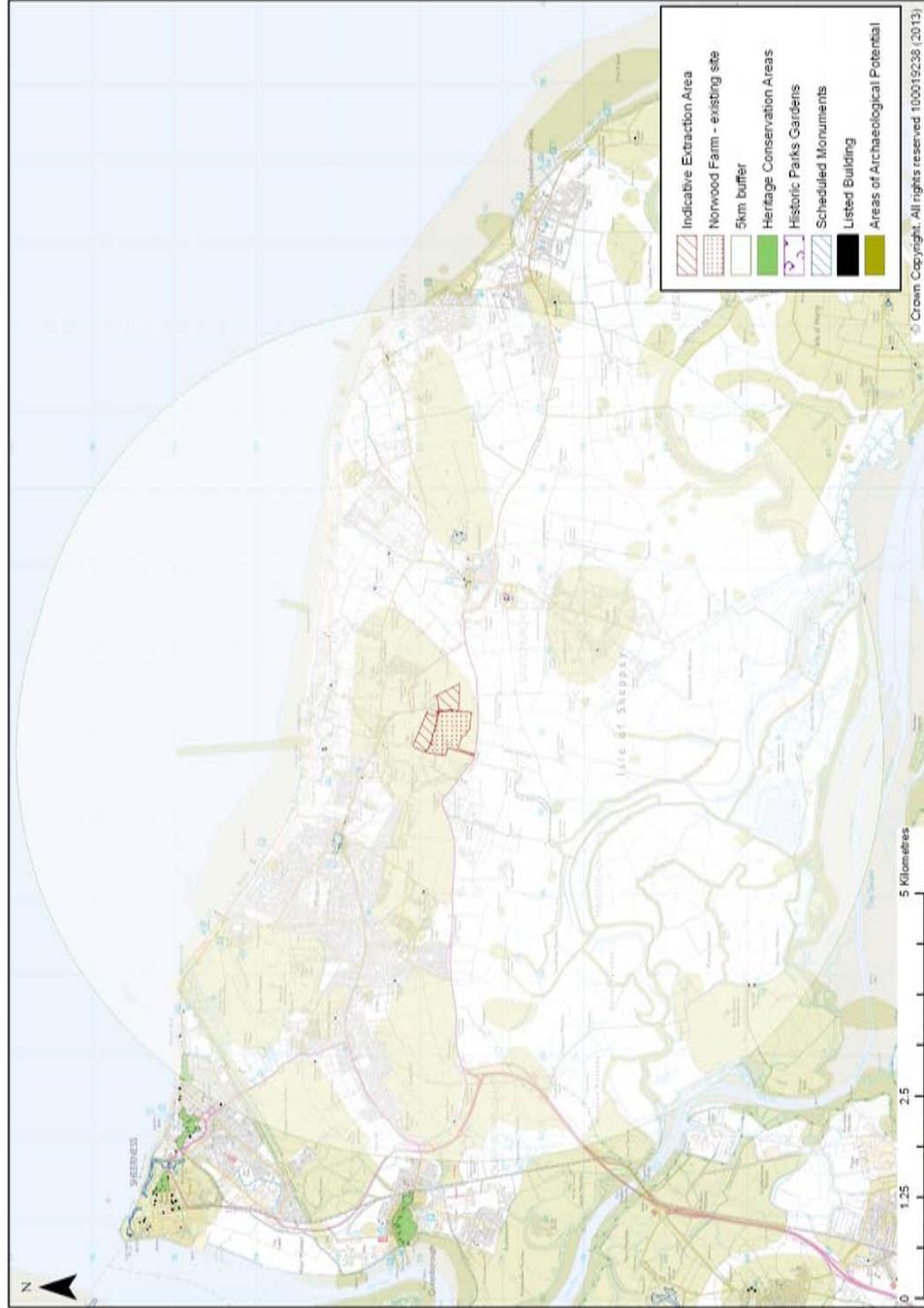


Tranquillity scores within 5km of Norwood Farm, Sheppey. National Tranquillity Mapping Data (2007) developed for the Campaign to Protect Rural England and Natural England by Northumbria University. OS Licence number 100018881.



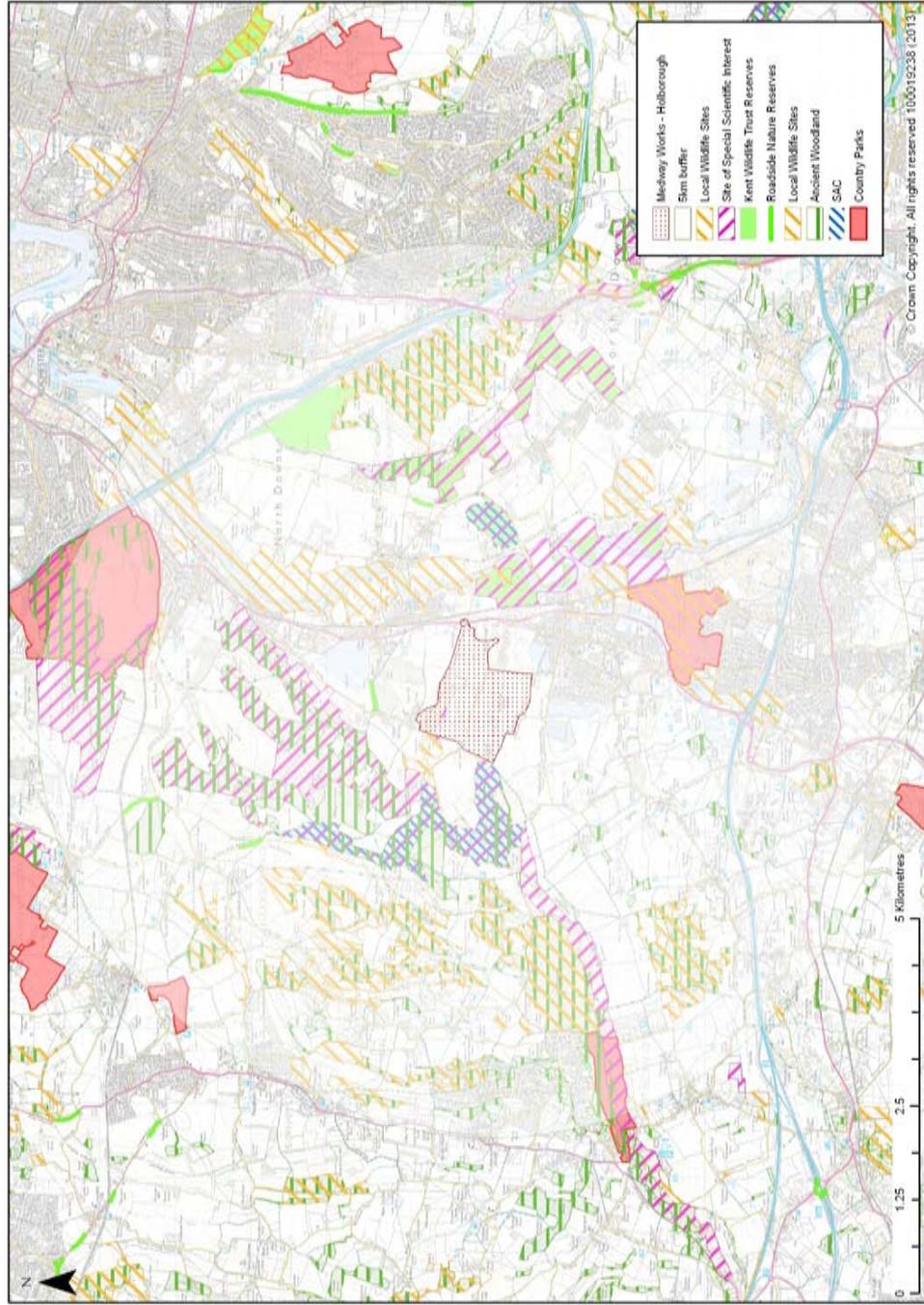
Appendix B: Maps

Heritage Designations and Areas of Archaeological Potential within 5km of Norwood Farm, Sheppey

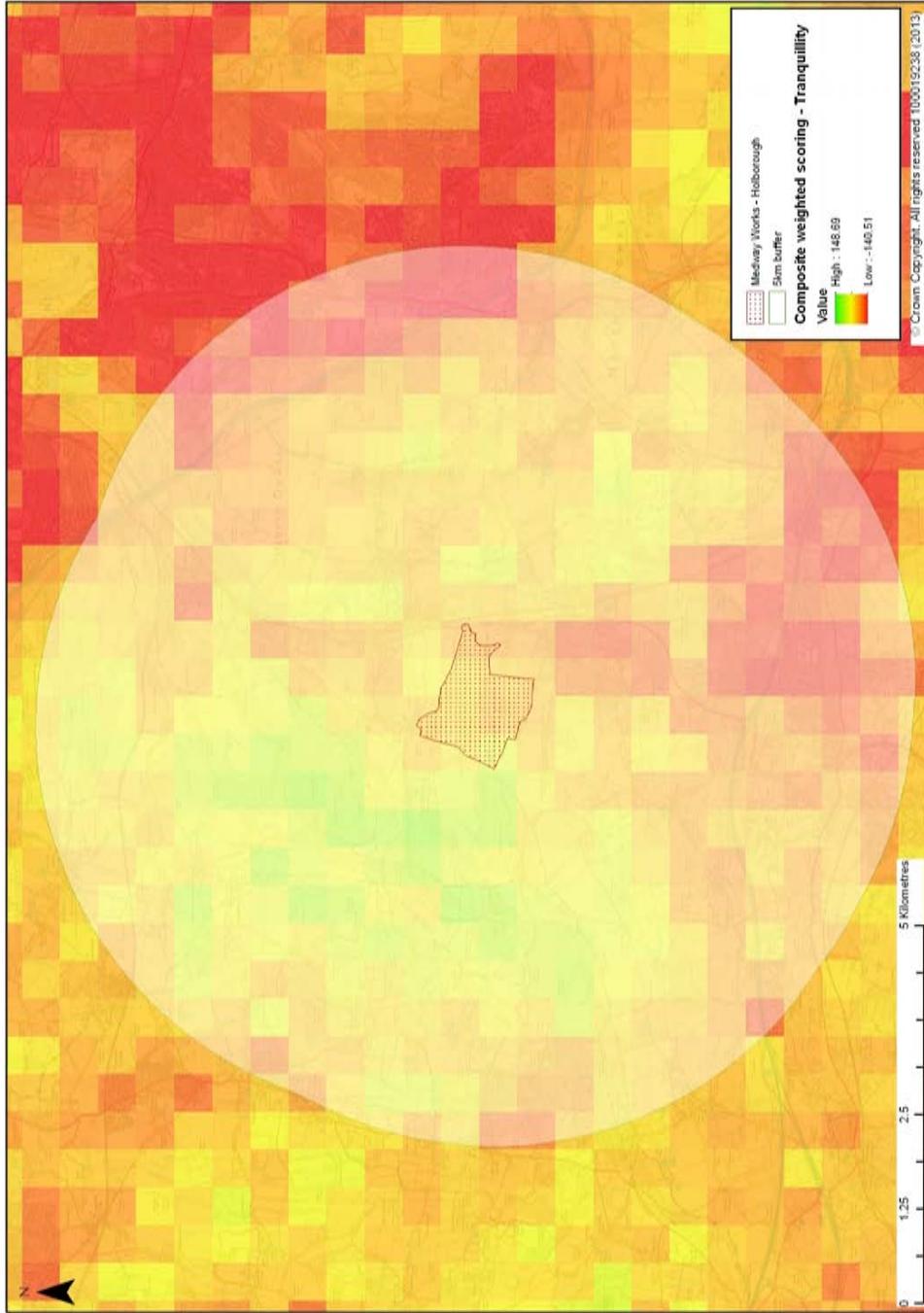


Appendix B: Maps

Local, National and International Habitat/Wildlife Designations within 5km of Medway Works, Holborough

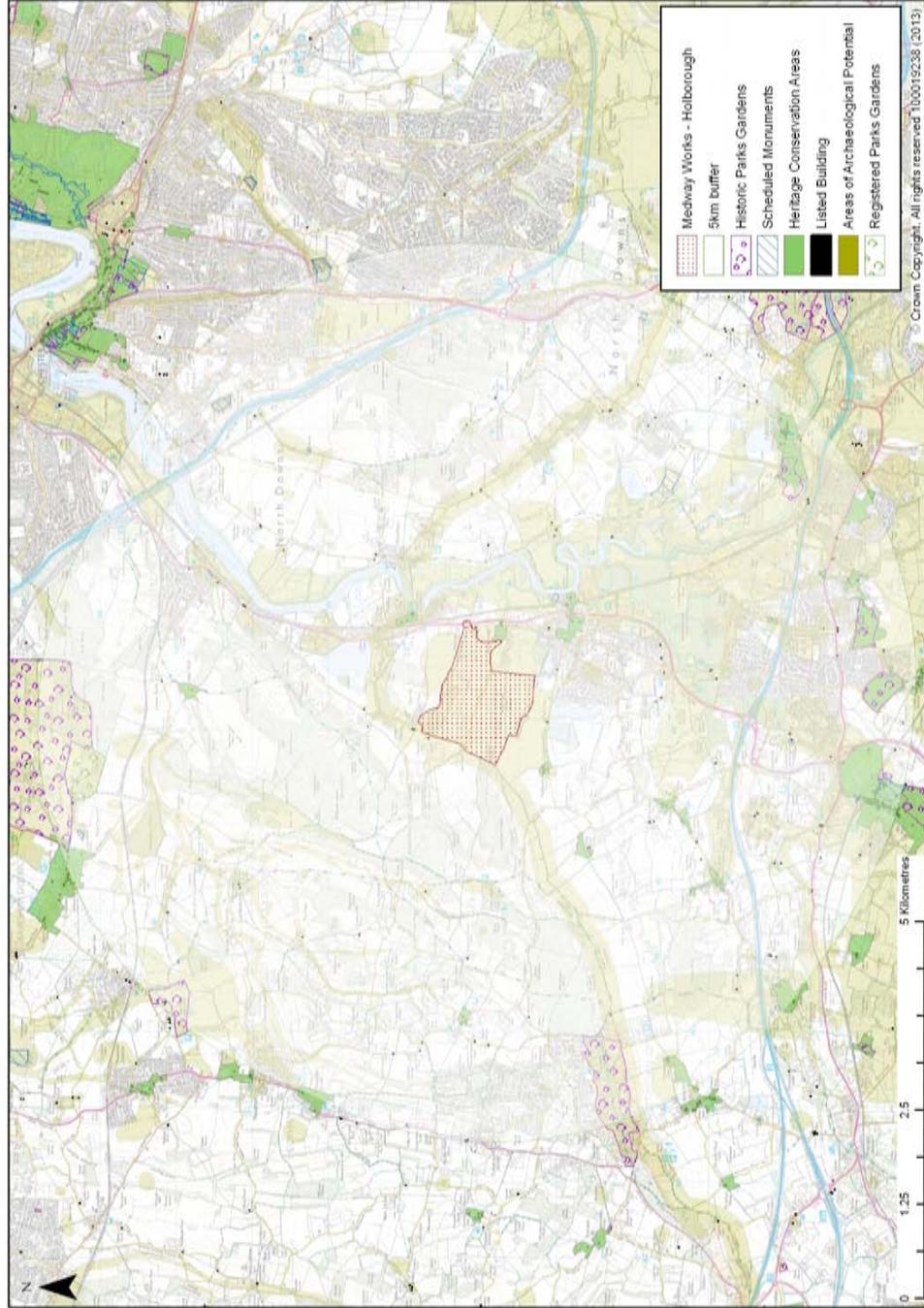


Tranquillity Scores within 5km of Medway Works, Holborough. National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University. OS Licence number 100018881.



Appendix B: Maps

Heritage Designations and Areas of Archaeological Potential within 5km of Medway Works, Holborough



County-wide Landscape Character Areas within 5km of Medway Works, Holborough

