Assessment of the Potential for Mineral Sites on the Island

Site Options Report

October 2010

ISLE of WIGHT COUNCIL

Copyright and Non-Disclosure Notice

Third-Party Disclaimer

Document Revisions

No.	Details	Date
V1	Draft to client	04.10.10
V2	Final draft	14.10.10
V3	Final	26.10.10

Entec

Creating the environment for business

Report for

Ollie Boulter/Chris Mills, Planning Policy
Isle of Wight Council
Seaclose Offices
Fairlee Road, Newport
Isle of Wight PO30 2QS

Main Contributors

Jon Brown
Michael Greslow
Clare Heeley
Tim Perkins

Issued by

.....
Clare Heeley

Approved by

.....
Tim Perkins

Entec UK Limited

Pacific House
Imperial Way
Reading RG2 0TD
England
Tel: +44 (0) 1183 775600
Fax: +44 (0) 1183 775610

Doc Reg No.

h:\projects\24810 iow minerals sites assessment\d040 design\stage 4 report\final report\mineral site report final issued 14.10.10.doc

Isle of Wight Council

Assessment of the Potential for Mineral Sites on the Island

Site Options Report

October 2010

Entec UK Limited

Certificate No. FS 13881 Certificate No. EMS 69090

Executive Summary

In February 2009, the Isle of Wight Council commissioned Entec UK Ltd to undertake an assessment of the potential for mineral sites on the Island.

This assessment has been undertaken in the context of the Isle of Wight Council's requirement under the Planning and Compulsory Purchase Act 2004 (as amended) to replace its Unitary Development Plan with a Local Development Framework (LDF), known as the Island Plan. At the time the assessment was commissioned, the Council was preparing a Core Strategy Development Plan Document (DPD) which included an overarching policy for minerals and it was understood that more detailed minerals policy was to be provided in a separate Minerals and Waste DPD. It is expected to consult on the Core Strategy DPD submission version shortly however it will not now prepare a separate Minerals and Waste DPD. The minerals policies within the Core Strategy will provide the mineral planning framework for the Island together with any further detail or allocations which may be made in the Area Action Plans and the Delivery and Management DPDs which are programmed to be adopted in 2013 and 2014. The report forms part of the evidence base for the Island Plan Core Strategy and other DPDs to be prepared.

This report details the approach and outcomes of a desk based evaluation of potential site options for extraction of sand and gravel or chalk. The Council is required to secure an adequate, steady and viable supply in accordance with national planning policy (Mineral Policy Statement 1: Planning and Minerals 2006). In their emerging Core Strategy, the Council is committed to delivering provision of 0.1million tonnes per annum of land won sand and gravel. There is no specific tonnage provision for other minerals. Interest for the extraction of chalk was made as part of the Council's call for sites in March 2009 and subsequent consultation. There was a lack of interest expressed during the consultation, for the extraction of other minerals such as limestone and therefore site options for these minerals have not been considered.

Based on the assessment findings, the report identifies those sites which comprise the best options for potential land won sand and gravel and chalk extraction. The report also identifies Mineral Safeguarding Areas (MSAs) on the Island for sand and gravel and chalk by considering evidence of current and future need. These areas help prevent unnecessary sterilisation of resources considered to be of sufficient economic value to require protection and ensure that the future need is considered when applications for other forms of development in these areas are brought forward and determined. There is however no presumption that the mineral in MSAs will be worked.

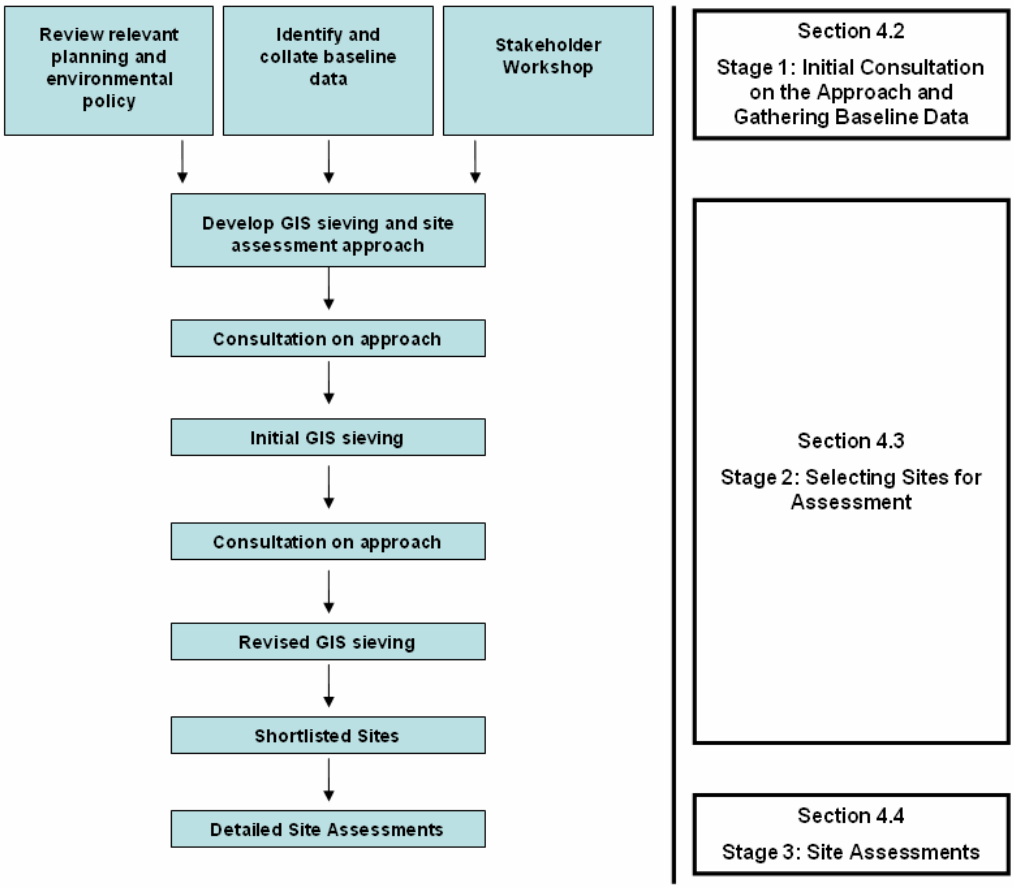
The assessment of the potential for mineral sites on the Island was undertaken between February 2009 and October 2010 and focussed upon identifying and evaluating potential sites for sand and gravel and chalk extraction. The approach has been based upon guidance issued by the Planning Advisory Service[1] which recommends three broad sets of criteria to be considered when developing site options for development plan documents. These are

[1] *Planning Advisory Service- Local Development Options Generation and Appraisal (March 2008)*

deliverability criteria (e.g. land ownership, access); exclusionary criteria (e.g. European sites of biodiversity importance) and discretionary criteria (e.g. local designations).

Changes to the selection of options for detailed assessment have been made as a result of the Area of Outstanding Natural Beauty designation and the Major Aquifer on the Island constraining potential options promoted by the industry and other interested parties coming forward. The approach was revised to ensure that options being considered were deliverable (interest in extraction) in accordance with planning policy. The assessment approach has therefore consisted of the following key stages:

Key stages of the assessment and corresponding sections of the report



A shortlist of 17 sand and gravel sites and 4 chalk sites was agreed with the Council officers. These have all undergone detailed desk based assessments using a defined set of planning and environmental objectives. These were prepared by Entec's development planners with input from the Isle of Wight Council's Highway Officers and Archaeologist. In addition, given the significant number of European nature conservation sites in and around the Island a desk based assessment of the potential effects upon European sites has been undertaken. Using the results of this desk based assessment, the sites have been categorised into 'most preferred', 'preferred' and 'least preferred' according to their potential suitability for allocation within the Development Plan (see tables below).

The report makes a number of recommendations with regards to site options considered as part of this assessment. These include further consultation with the public; key stakeholders; and the industry and further consideration of the restoration options and potential impacts upon protected landscapes of the sites considered in this assessment.

Sand and Gravel Sites
Most Preferred
S1 Crockers Farm
S4 Lavender Farm
Preferred
S5 Cheverton Farm Gravel Pit (extension)
S8 Blackwater Quarry Western Extension
S12 Cheverton Gravel Pit
S21 Blackwater Quarry – Land at Great East Standen Farm including proposed access
Least Preferred
S2 Great Briddlesford Farm North West
S3 Palmers Farm
S10 Knighton Sandpit Extension
S11 Land at Dunsbury Farm
S13 Great Briddlesford Farm West
S14 Great Briddlesford Farm South West
S15 West Billingham Farm
S16 Land at Upper Hyde Farm, (north)
S17 Land at Upper Hyde Farm, (south)
S18 Shorwell Sandpit
S20 Chawton Farm

Chalk Sites
Most Preferred
CS4 Cheverton Chalk Quarry (extraction to greater depth)
Preferred
CS3 Duxmore quarry extension (extraction to a greater depth
Least Preferred
CS4a Cheverton Chalk Quarry - western extension
CS4b Cheverton Chalk Quarry – eastern extension

General Glossary

Term / Acronym	Definition
Airfield Safeguarding Zone	A 13km zone around civil airports. The airport operator must be consulted upon any planning application that falls within the 13km safeguarding zone that may attract birds (ie restoration of mineral sites by landfilling) or be of a certain height.
Ancient Woodland	A woodland habitat which is believed to have been continuous woodland cover since at least 1600 AD
Aquifer	An underground layer of water bearing rock.
Area of Outstanding Natural Beauty (AONB)	An area protected so that the beauty of the landscape is not diminished.
BAP Priority Habitats	Habitats identified as requiring protection under the Local Biodiversity Action Plan.
British Geological Survey	Part of the Natural Environment Research Council. It carries out the geological survey of Great Britain and Northern Ireland and the surrounding continental shelf as well as undertaking research projects.
Communities and Local Government	A Central Government department responsible for six key policy areas including regeneration and economic growth; communities and neighbourhoods; fire and resilience; housing; planning, building and the environment; and local government.
Conservation Area (CA)	An area given statutory protection, in order to preserve and enhance its character and townscape.
Core Strategy	A Development Plan Document setting out the spatial vision and objectives of the planning framework for an area.
Development Plan	The statutory development plan setting out policies and proposals for the development and use of land and buildings on the Island.
Development Plan Document (DPD)	A 'Local Development Document' which forms part of the statutory development plan. These documents are the core strategy, site specific documents, proposals map and area action plans.
Environment Agency (EA)	Public body charged with protecting and improving the environment in England and Wales. Aims to make sure that air, land and water are looked after to help achieve sustainable development and ensure that future generations inherit a cleaner, healthier environment.
Geographical Information System (GIS)	Analysis that represents data outputs in the form of maps.
Government Office for the South East	Government office bringing together the regional operations of key government departments. It seeks to assist the South East region with the delivery of the Government's policies and programmes in the region. (abolished in July 2010)
Groundwater Source Protection Zones (SPZ)	Zones that protect groundwater from developments that may damage its quality.
Habitat Regulation Assessment (HRA)	Assessment of the impacts of implementing a plan or policy on a Natura 2000 Site.
Heavy Goods Vehicles (HGV)	Vehicle carrying over 3,500kg in gross weight.
Heritage Coast	An area of the coastline of special scenic and environmental value from undesirable development. Its protection is also for access and enjoyment of these areas. It is of national importance and should be afforded protection; however it is not a statutory designation.
Historic Environment Record	Records of terrestrial, coastal and marine archaeological sites and finds dating from Palaeolithic to Cold War, historic buildings; fieldwork reports, photographs including aerial photographs and some historic maps.

Term / Acronym	Definition
Land banks	The total in tonnes of all permitted mineral reserves with valid planning permission. It is an indicator required to assess when new permissions should be considered by the Mineral Planning Authority.
Listed Building	Buildings which have been assessed to be of national historic/architectural interest.
Local Development Framework (LDF)	A portfolio of local development documents which sets out the planning policy framework for the district. It also includes: • The Local Development Scheme; • The Statement of Community Involvement; and • The Annual Monitoring Report.
Local Highway Authority (LHA)	The body responsible for the administration of pubic roads.
Local Nature Reserves (LNR)	Non-statutory habitats of local significance designated by local authorities where protection and public understanding of nature conservation is encouraged.
Mineral Planning Authorities	Local authorities with responsibility for planning control over mineral working.
Mineral Products Association	The trade body for the UK's aggregates, cement and concrete industries.
Mineral Safeguarding Areas	Areas of known mineral resources that are considered to be of sufficient economic value to require protection and ensure that the future need is considered when planning applications for other forms of development in these areas come forward. There is no presumption that these areas will be extracted.
Multi Agency Geographic Information for the Countryside (MAGIC)	A governmental website in the United Kingdom which allows for quick and easy access to national information in map form.
National Nature Reserves (NNR)	Areas of national importance for wildlife or geology.
Office of Deputy Prime Minister (ODPM)	A central department responsible for planning policy that is now known as the Department of Communities and Local Government (DCLG).
Planning Policy Statement (PPS)	Statement produced by central government setting out its policies on specific planning topics. Local development frameworks must take account of and conform to national planning policy.
Private Finance Initiative	This is a procurement method which secures private funding for public infrastructure projects in return for part-privatisation.
Ramsar convention sites	Wetlands of international importance, designated under the Ramsar Convention
Regionally Important Geological Sites (RIGS)	Protected sites for geology and geomorphology outside statutorily protected land such as Sites of Special Scientific Interest (SSSI).
Regional Spatial Strategy	Regional Spatial Strategies replaced regional planning guidance notes produced for each English region, The Regional Spatial Strategy for the South East known as the South East Plan set the framework for development plans in the region. The RSS was revoked in July 2010 and no longer forms part of the development plan.
Scheduled Monuments (SM)	Nationally important archaeological site or historic building.
Sites of Importance for Nature Conservation (SINC)	Designated areas of local nature conservation interest.
South East Regional Partnership Board	The Partnership Board bringing together councillors and the Regional Development Agency to prepare, deliver and monitor a regional strategy for the South East. (abolished July 2010)

Term / Acronym	Definition
South East Regional Aggregates Working Party	A group made up of representatives from the mineral planning authorities and aggregates industry. Its role is to get agreement between industry and the MPAs about supply, reserves and landbanks to benefit planning. It carries out annual monitoring of aggregates production and demand.
Special Areas of Conservation (SAC)	Designated sites to protect habitats or species of European importance.
Special Protection Areas (SPA)	International designation to protect the habitats of threatened species of wildlife.
Strategic Road Network (SRN)	A network of key roads on the Island defined by the Council.
Sustainability Appraisal (SA)	The process of assessing and weighing the economic, social and environmental costs and benefits of development proposals, both individually and collectively. All local development documents must be subject to 'Sustainability Appraisal' prior to submission and adoption.
Unitary Development Plan (UDP)	The development plan document that will be superseded by the emerging core strategy.

Geological Glossary

Mineral	Definition
Sand and gravel	Sand is fine material which is coaser than 0.0075mm. Gravel is material that is coarser than 5mm with a maximum size of 40mm. There are two categories of sand and gravel on the Island: • Superficial deposits which consist of river terrace deposits, storm beach gravel and blown sand. • Bedrock deposits which consist of the sandrock formation of the Cretacuous Lower Greensand group.
Chalk	A soft white sedimentary rock which is a form of limestone. The Island has two sub groups of chalk – Grey and White. The White sub group is the thicker and the Grey sub group has a higher clay content and is therefore classified as low purity chalk.
Limestone	A sedimentary rock composed largely of crystal forms of calcium carbonate. The Island has Bembridge limestone which is a freshwater limestone.
Brick Clay	Type of clay which is predominantly used in the manufacture of bricks. The Island has the Weald Clay formation.
Hydrocarbons	Organic compounds of hydrogen and carbon including oil, gas and coal.
Building Stone	Materials used for building. On the Island, local building stone has previously been sourced from Upper Greensand, chalk and Bembridge limestone.

Contents

1. Introduction

1.1 Background and Aims

In February 2009, the Isle of Wight Council commissioned Entec UK Ltd to undertake an assessment of the potential for mineral sites on the Isle of Wight.

This assessment has been carried out in the context of the requirement under the Planning and Compulsory Purchase Act 2004 (as amended) for Local Planning Authorities to replace their Local Plans with a Local Development Framework (LDF). At the time the assessment was commissioned, the Council was preparing a Core Strategy Development Plan Document (DPD) which included an overarching policy for minerals and it was understood that more detailed minerals policy was to be provided in a separate Minerals and Waste DPD. Since February 2009, the Isle of Wight Council has revised their Local Development Scheme. It is expected to consult on the Core Strategy DPD submission version shortly however it will not now prepare a separate Minerals and Waste DPD. The minerals policies within the Core Strategy will provide the mineral planning framework for the Island together with any further detail or allocations which may be made in the Area Action Plans and the Delivery and Management DPDs which are programmed to be adopted in 2013 and 2014.

The assessment provides a desk based evaluation of potential site options for minerals extraction. The Council is required to secure an adequate, steady and viable supply in accordance with national planning policy as set out in Mineral Policy Statement 1: Planning and Minerals (2006). This report is primarily concerned with identifying which sites comprise the best options for potential land won mineral extraction and identifying Mineral Safeguarding Areas. The findings and recommendations of this report form part of the evidence base for the Core Strategy and any subsequent DPDs of relevance to be prepared.

1.2 Scope and Structure of the Report

The scope and structure of the report is as follows:

Section 2: A summary of the Island's mineral resources and relevant minerals and land use planning policy and how this has informed the approach to the site selection and the assessment of site suitability is provided. The need for extraction is also discussed.

Section 3: This section outlines the methodology used to identify and assess the suitability of sites including the Geographic Information System (GIS) modelling and the detailed assessment.

Section 4: This section provides the results of the appraisal of the potential sites. This section draws on the information collected as part of the detailed site assessments undertaken and identifies sites that could make a contribution to sustaining local production on the Island.

Section 5: This section details the approach to defining Mineral Safeguarding Areas.

Section 6: A summary of the main conclusions of the assessment. This section also discusses the recommendations for further work and consultation.

Appendix A provides site plans of those sites assessed;

Appendix B provides a plan showing the Mineral Safeguarding Areas for sand and gravel and chalk on the Island;

Appendix C contains information regarding the workshop held in March 2009;

Appendix D provides a summary of the initial GIS modelling approach and the consultee responses to the revised GIS approach;

Appendix E provides the site assessment matrices; and

Appendix F details comments received from the Isle of Wight Council Highway Officers and the County Archaeologist.

2. Minerals and Policy Context

2.1 Introduction

The approach to identifying and assessing mineral site options has been developed taking into account the geological context, relevant planning policy and the likely need for minerals in the future. The following sections summarise the presence and types of minerals on the Island; relevant policy considered as part of the assessment, in particular, policy that impacts on the allocation of sites for mineral extraction; and the need for identifying sites for future extraction.

2.2 Mineral Resources on the Island

In conjunction with the Office for the Deputy Prime Minister (ODPM), the British Geological Survey (BGS) published a technical report CR/02/130N[2] in 2002 and has prepared mineral resource mapping to provide information regarding mineral resources on the Isle of Wight for planning purposes.

This report identifies the minerals that exist on the Island detailed in Table 2.1 and discusses their previous and current extraction. In addition, information regarding existing extraction has been drawn from:

- The Communities and Local Government (CLG) Aggregate Minerals Survey 2009;
- Consultation with the minerals industry on the need for extraction;
- Landowners and other interested parties were invited by the Isle of Wight Council to submit sites for potential extraction (March 2009).

[2] McEvoy F M, Bloodworth AJ, Cameron D G, Bartlett E L, Hobbs S F. Lott G K, Evans D J, and Spencer N A (2002) Mineral Resource Information in Support of National, Regional and Local Planning : Isle of Wight BGS Commissioned Report CR/02/130N

Table 2.1 Mineral resources on the Island

Mineral	Information regarding extraction and need
Sand and gravel (including superficial deposits such as river terrace deposits, sub-alluvial gravel, storm beach gravel and bedrock sands such as the Cretaceous Lower Greensand Group).	Deposits of sand and gravel can be found across the Island. Resources of gravel can be mainly found in the river valleys whereas construction sand is provided in the bedrock sands which occur east-west across the south of the Island. Currently extraction takes place across the Island at six sites and there have been a number of sites put forward for future extraction.
Brick clay – The Weald Clay Formation	This was previously extracted at Sandown however no brick clay is now produced on the Island.
Chalk - Grey and White Chalk sub groups	The Chalk resource runs across the length of the Island with the majority of extraction in the White Chalk sub group. It is understood there are three active sites extracting chalk for constructional fill and agricultural lime. Extensions to two of these sites have been put forward by the operators.
Limestone – Bembridge Limestone Formation	This resource is located in the west, north and east of the Island. There are substantial permitted reserves of this mineral at Prospect Quarry, Shalcombe. Although permitted this is currently understood to be inactive. Limestone previously extracted has been used for crushed rock aggregate.
Hydrocarbons – oil, gas and coal.	Much of the Island was explored for oil and gas in the 1970s and there is limited oil and gas prospectivity. In terms of coal, there are no recordings of coal measures and there is little or no potential for coal mine methane and coalbed methane development on the Island.
Building Stone	Although local stones have been previously used, the Isle of Wight has no commercially significant building stone resources.

Figure 2.1 illustrates the BGS mineral resource areas for sand and gravel, chalk, limestone and brick clay across the Island.

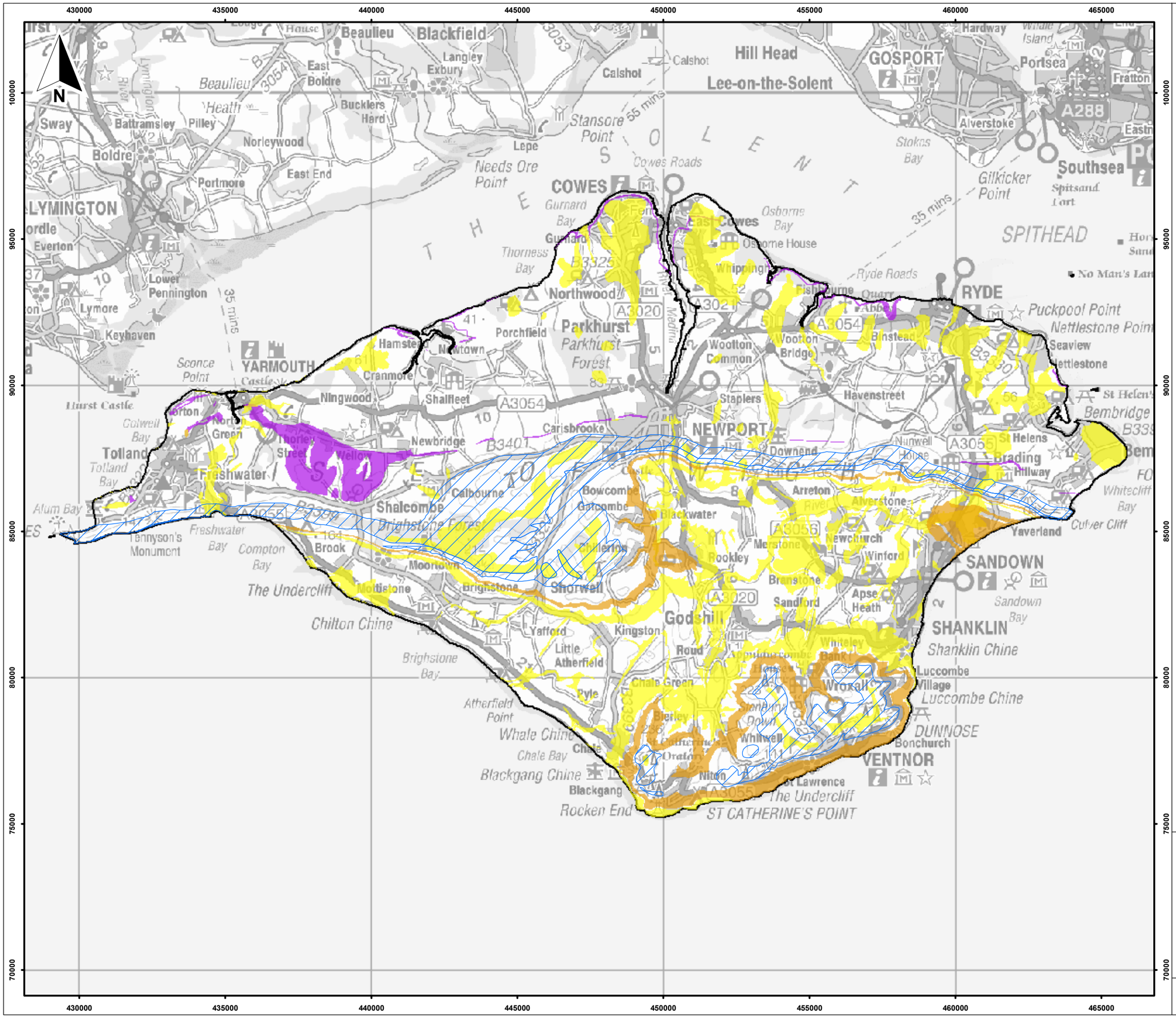
2.3 Planning Policy

2.3.1 National Planning Policy

Minerals Policy Statement 1: Planning and Minerals (2006)

Minerals Policy Statement 1: Planning and Minerals (MPS1) is the overarching planning policy document for minerals development in England. It seeks to ensure that the need for minerals is managed in an integrated way accounting for its impact on the environment and communities.

Paragraph 1 of MPS1 acknowledges that minerals development is different from other forms of development because minerals can only be worked where they naturally occur, and that potential conflict can therefore arise between the benefits to the economy and society that minerals can bring and impacts arising from their extraction



Key:

BGS: Mineral Resource Areas

- Brick Clay
- Sand and Gravel
- Limestone
- Chalk

0 5 km

1:125000 @ A3

Project Path: G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/24810-S40 BGS Mineral Resource Areas.mxd

IoW Minerals Sites Assessment

Figure 2.1
BGS Mineral Resource Areas

October 2010
24810-S40 browj

Entec

and supply. MPS1 indicates that Minerals Planning Authorities (MPAs) should seek to identify sites, preferred areas and/or areas of search as a way of providing greater certainty of where future sustainable mineral working will take place, whilst taking account of environmental considerations. It adds that in preparing their Local Development Documents, MPAs should make provision for the sub-regional apportionment of the current National and Regional Guidelines for land-won aggregate in the approved Regional Spatial Strategy (RSS). Annex 1 Paragraph 3.8 does however state that

> *Sub-regional apportionments should not be regarded as inflexible. The preparation by MPAs of their LDDs provides an important opportunity to test the practicality and environmental acceptability of policy proposals at the local level. The provision to be made in each area will need to be justified in relation to other relevant considerations affecting planning for the area.*

Regional Spatial Strategies have been recently revoked by the Secretary of State for Communities and Local Government and this is discussed further in section 2.4.

The following table provides a summary of guidance outlined within MPS1 in so far as it affects the assessment of mineral site options.

Table 2.2 Summary of Mineral Guidance within MPS1

Topic	Summary of MPS1 Guidance	Implications for the site assessment exercise
European biodiversity sites (potential and classified Special Protection Areas, candidate and classified Special Areas of Conservation and listed Ramsar Convention sites)	Where minerals development is proposed within, adjacent to, or where it is likely to significantly affect a European site MPAs should take account of the advice contained in Planning Policy Statement 9 and the accompanying joint ODPM/ Defra Circular. *'Regulation 48 of the Habitats Regulations restricts the granting of planning permission for development which is likely to significantly affect a European site, and which is not directly connected with or necessary to the management of the site, by requiring that an appropriate assessment is first carried out of the implications of the development for the site's conservation objectives'*[3].	Minerals excavation would not be considered suitable within these international biodiversity sites as a result of the Habitats Regulations and sites within these areas are therefore to be excluded within the site selection and assessment exercise.

[3] ODPM Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

Table 2.2 (continued) Summary of Mineral Guidance within MPS1

Topic	Summary of MPS1 Guidance	Implications for the site assessment exercise
National Parks, Areas of Outstanding Natural Beauty & World Heritage Sites	Major Mineral applications within these areas will not be permitted except in exceptional circumstances. Such applications may have serious impacts on these areas of natural beauty. Such applications should be demonstrated to be in the public interest and include an assessment of: • *The need for the development, including in terms of national considerations of mineral supply and the impact of permitting it, or refusing it, upon the local economy;* • *The cost of, and scope for making available an alternative supply from outside the designated area, or meeting the need for it in some other way; and* • *Any detrimental effect on the environment, the landscape and recreational opportunities and the extent to which that could be moderated (paragraph 14).*	Sites located wholly within these designated areas are to be excluded in the first instance given potential detrimental impacts. However exceptional circumstance may prevail which could allow the consideration of sites within these areas.
Land within or outside a Site of Special Scientific Interest (SSSI)	*'Do not normally grant planning permission for a proposed mineral development on land within or outside a Site of Special Scientific Interest (SSSI), if it is likely to have an adverse effect on a SSSI (either individually or in combination with other developments)' (p7).*	Mineral sites proposed within or in close proximity to SSSIs where they are likely to have detrimental impact would not be permitted. Sites within these designations would be considered unsuitable unless it could be proved that there are no suitable alternatives and there are no detrimental impacts.
Wildlife/European protected species	Ensure that statutory protection is given to individual wildlife species under a range of legislative provision, and special protection afforded to European protected species.	It is not appropriate at this stage to consider individual species which are protected by law. The focus is on spatial constraints and so designated sites.
Listed Buildings & Nationally Important Archaeological Remains (including Scheduled Monuments)	*'Adopt a presumption in favour of the preservation of listed buildings, nationally important archaeological remains (including scheduled ancient monuments) in situ, and their settings, if mineral proposals would cause damage or have a significant impact on them, unless there are overriding reasons of national importance for the development to proceed' (p8).*	Sites within close proximity to these designations are likely to conflict with national policy if they are to have potential significant adverse impacts. The proximity of potential sites to these designations will therefore be considered.
Ancient woodland	*'Do not permit mineral proposals that would result in the loss or deterioration of ancient woodland, not otherwise statutorily protected, unless the need for, and benefits of, the development in that location outweigh the loss of the woodland habitat' (p8).*	Mineral development in ancient woodland is to be avoided unless no alternative option is available. The proximity of potential sites to ancient woodland will also be considered.
Agricultural land	*'Where significant development of agricultural land is unavoidable, seek to use areas of poorer quality land in preference to that of a higher quality, except where this would be inconsistent with other sustainability considerations' (p8).*	Mineral development is to be located on poorer quality agricultural land where possible and therefore site assessment criteria is to support the use of low quality agricultural land for minerals extraction.
Amenity	*'Ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations caused by mineral extraction are in conformity with national guidance and are controlled, mitigated or removed at source, so as to reduce to an acceptable level any potential adverse impacts on neighbouring land and property' (p9)*	The site assessment criteria consider the proximity of potential sites to sensitive receptors and the numbers of receptors close by. For this assessment these are defined as residential properties, schools, hospitals, business premises including farms and tourist accommodation.

Table 2.2 (continued) Summary of Mineral Guidance within MPS1

Topic	Summary of MPS1 Guidance	Implications for the site assessment exercise
Transport	*'Encourage mineral operators to adopt sound working practices to prevent, where feasible, or if not to minimise, environmental impacts to acceptable levels during the preparation, working and restoration stages, including the provision of improved transportation within and from sites'* *'Encourage the establishment of mineral site transport plans in consultation with the local community, dealing with matters including routing, off site parking, considerate driving and complaints procedures' (p9)* *'Seek to promote and enable the bulk movement of minerals by rail, sea or inland waterways to reduce the environmental impact of their transportation' (p9)*	The bulk transportation of minerals using rail, sea or inland waterway is preferable however the Island's rail infrastructure is considered to be very limited and offers very little potential for rail transportation. Furthermore, as the minerals were not to be exported off the Island, proximity to wharves for sustainable transport is considered irrelevant as far as an assessment of indigenous mineral sites is concerned. There is also no realistic scope to transport Island land-won minerals across the Island to their intended destination (processing or end-use) by means (e.g. rail or water) other than road. The site assessment criteria therefore does not consider sites with regards to their proximity to sustainable travel connections. The site assessment criteria consider possible routeing of vehicles and the proximity of sites to the strategic road network to reduce the impacts of HGV traffic on local amenity.

MPS1 acknowledges that potential site allocations should carefully consider the effects upon regional and local sites of biodiversity, geodiversity, landscape, historical and cultural heritage (paragraph 7). The assessment should consider for example, Regionally Important Geological Sites (RIGS), Sites of Importance for Nature Conservation (SINC) and BAP Priority Habitats in addition to those mentioned in the above table.

MPS1 also recognises the benefits of extending existing mineral sites over allocating new sites and states:

> *Consider the benefits, in terms of reduced environmental disturbance and more efficient use of mineral resources including full recovery of minerals, of extensions to existing mineral workings rather than new sites (Paragraph 15).*

The accompanying Planning and Minerals: Practice Guide to MPS1 states:

> *It may sometimes be preferable, as a means of minimising environmental disturbance, to adopt a policy of preference for allowing extensions to existing mineral workings rather than allowing mineral working at greenfield sites. This can secure the utilisation of minerals that might otherwise be sterilised (paragraph 40).*

The set of site assessment criteria has therefore taken into account the benefits of reduced environmental disturbance of allocating existing mineral sites rather than new sites.

Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction in England (2006)

Minerals Policy Statement 2 (MPS2), sets out the policies and considerations that Government expects MPAs to follow when preparing development plans and in considering applications for minerals development. These include:

- *The impacts of mineral working, such as visual intrusion, dewatering, water pollution, noise, dust and fine particulates, blasting and traffic;*
- *The impacts on landscape, agricultural land, soil resources, ecology and wildlife, including severance of landscape and habitat loss, and impacts on sites of nature conservation, archaeological and cultural heritage value;*
- *The benefits such as providing an adequate supply of minerals to the economy and hence for society (including construction materials needed for the development of national infrastructure and the creation of sustainable communities), creating job opportunities, and the scope for landscape, biodiversity and amenity improvements through mineral working and subsequent restoration (paragraph 11).*

The site assessment criteria seek to take into account environmental impacts and also recognise the benefits of developing minerals sites and site opportunities.

Annex 1: Dust of MPS2 recognises that if not managed or controlled, dust from surface mineral operations can have noticeable environmental impact and affect the quality of life of local communities. Naturally these effects are dependent on the form of mineral operation and whether appropriate mitigation is employed. Paragraph 1.1 provides an indication of the distance for which such impacts can be felt:

> *Residents can potentially be affected by dust up to 1km from the source, although concerns about dust are most likely to be experienced near to dust sources, generally within 100 m, depending on site characteristics and in the absence of appropriate mitigation (paragraph 1.1).*

Annex 2: Noise of MPS2 recognises that noise from surface mineral operations can have a noticeable environmental impact and is a common cause of complaint. The Annex recognises that there may be a need for MPAs to use buffer zones around prospective mineral sites to mitigate against noise:

> *In identifying areas of search and/or proposed sites for mineral working, MPAs should take account of any information on the existing local noise climate, particularly in areas of tranquillity that should be preserved as part of the national resource. For existing mineral operations, whether or not currently subject to conditions relating to noise, MPAs should consider whether the introduction of buffer zones to separate the mineral operation from existing and possible future noise-sensitive development could be helpful (paragraph 2.11).*

The site assessment criterion in respect of noise and dust is therefore to consider proximity of proposed sites to sensitive receptors. Sensitive receptors are defined as residential properties, schools, hospitals, business premises

such as farms and tourist accommodation for this assessment in accordance with MPS2 Annex 1 paragraph 1A.2 and MPS2 Annex 2 paragraph 2.2.

Planning Policy Statement 1: Delivering Sustainable Development (2005)

Planning Policy Statement 1 (PPS1) outlines the Government's overarching planning policies for the delivery of sustainable development. The key principles of the national policy statements include the requirement for development plans and decisions taken on planning applications to contribute to the delivery of sustainable development and promote outcomes in which environmental, economic and social objectives are achieved together over time.

In terms of delivering sustainable development on the Isle of Wight, land won mineral extraction can provide a local supply of construction material for housing, infrastructure, coastal defences and other developments. It is important that the Island seeks to be self sufficient by sourcing materials locally from its indigenous supply to help to reduce the environmental costs of importing material. However, this need must be balanced against other sustainability considerations such as the requirement to protect the natural and historic environment of the Island. Mineral extraction can have long term sustainability benefits by providing biodiversity habitats or open space/recreational areas and enhanced landscapes through restoration.

The site assessment criteria chosen cover economic, environmental and social objectives and when considered together should ensure that sites are assessed in terms of their contribution towards achieving sustainable development.

Planning Policy Statement 5: Planning for the Historic Environment (2010)

Planning Policy Statement 5 sets out the Government's aim to conserve the historic environment and heritage assets. To achieve this, the Government sets out a number of objectives for planning for the historic environment including the need to recognise that heritage assets are a non-renewable resource, they have wide ranging benefits and to conserve England's heritage assets appropriate to their significance.

The site assessment criteria consider the proximity of the potential sites to the historic environment and heritage assets such as listed buildings, historic parks and gardens, conservation areas, and archaeological assets of national, regional and local importance.

Planning Policy Statement 7: Sustainable Development in Rural Areas (2004)

Planning Policy Statement 7 (PPS7) sets out the Government's planning policies for rural areas, including country towns and villages and the wider, largely undeveloped countryside up to the fringes of larger urban areas. It refers to nationally designated areas comprising National Parks, the Broads, the New Forest Heritage Area and Areas of Outstanding Natural Beauty (AONB), as having the highest status of protection in relation to landscape and scenic beauty. It states that:

> *Major developments should not take place in these designated areas, except in exceptional circumstances…applications for all such developments should be subject to the most rigorous examination (paragraph 22).*

As discussed in table 2.1 above, this indicates that sites proposed within nationally designated areas, should ideally be excluded from further assessment however there may be exceptional circumstances which require consideration within these designated areas.

PPS7 also considers agricultural land quality and the loss of agricultural land. It states that:

> *The presence of best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification), should be taken into account alongside other sustainability considerations…when determining planning applications. Where significant development of agricultural land is unavoidable, local planning authorities should seek to use areas of poorer quality land (grades 3b, 4 and 5) in preference to that of a higher quality, except where this would be inconsistent with other sustainability considerations. Little weight in agricultural terms should be given to the loss of agricultural land in grades 3b, 4 and 5, except in areas (such as uplands) where particular agricultural practices may themselves contribute in some special way to the quality and character of the environment or the local economy (paragraph 28).*

This indicates that sites proposed within areas of poorer agricultural land should be given preference over best and most versatile land. As discussed in Table 2.1 the site assessment criteria is to support the use of low quality agricultural land for minerals extraction.

Planning Policy Statement 9: Biodiversity and Geological Conservation (2005)

Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation sets out national planning policy for the protection of biodiversity and geological conservation through the planning system. PPS9 states that:

> *in taking decisions, local planning authorities should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; and to biodiversity and geological interests within the wider environment (paragraph 1).*

Designated sites are referred to specifically within PPS9 and Table 2.1 summarises how these designations will be treated in the site assessment. These policies should be considered when potential sites are allocated for mineral extraction.

Planning Policy Statement 12: Local Spatial Planning (2008)

Planning Policy Statement 12 (PPS12): Local Spatial Planning published in 2008 sets out how Local Planning Authorities should prepare core strategies and other Local Development Documents for Local Development Frameworks. The statement also outlines, in addition to the legislative requirements of plan making, the criteria by which an inspector at the examination stage will judge whether a Core Strategy or other type of DPD is 'sound'.

The following definition of soundness is given in PPS12:

> *To be "sound" a core strategy or other DPD should be JUSTIFIED, EFFECTIVE and consistent with NATIONAL POLICY.*
>
> *"Justified" means that the document must be:*
>
> - *Founded on a robust and credible evidence base;*
> - *The most appropriate strategy when considered against the reasonable alternatives.*
>
> *"Effective" means that the document must be:*
>
> - *Deliverable;*
> - *Flexible;*
> - *Able to be monitored.*

Potential site options for mineral extraction need to be deliverable if they are to be allocated in any future planning policy. The site assessment criteria considered information available which would indicate support for the working of mineral at each site. This includes details regarding potential reserves and landownership and operator support.

Planning Policy Statement 25: Planning and Flood Risk (2005)

Planning Policy Statement 25 (PPS25): Planning and Flood Risk outlines Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages of the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Flood risk zones are defined in Annex D to PPS25 with Zone 3 being at greatest risk of flooding. Land use classification zoning is also detailed which states that sand and gravel workings are deemed water-compatible development and therefore are permitted in flood zone 3b. Although mineral development is less vulnerable/water compatible development PPS25 requires MPAs allocating land for development to:

> *apply the Sequential Test to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development or land use proposed.*

The Council has recently updated their Strategic Flood Risk Assessment which projects flood risk to 2115.

Whilst flood risk is not an exclusionary factor for the development of sites for mineral development, it remains preferable for a prospective sand and gravel working site to be located within areas of low flood risk.

Planning Policy Guidance 13: Transport (2001)

Planning Policy Guidance 13 (PPG13) sets out the objectives to integrate planning and transport at the national, regional, strategic and local level and to promote more sustainable transport choices both for carrying people and for moving freight.

Paragraph 45 of PPG13 discusses national policy regarding the transportation of freight. It states that:

> *While road transport is likely to remain the main mode for many freight movements, land use planning can help to promote sustainable distribution, including where feasible, the movement of freight by rail and water. In preparing their development plans and in determining planning applications, local authorities should:*
>
> *2. where possible, locate developments generating substantial freight movements such as distribution and warehousing, particularly of bulk goods, away from congested central areas and residential areas, and ensure adequate access to trunk roads;*
>
> *3. promote opportunities for freight generating development to be served by rail or waterways by influencing the location of development and by identifying and where appropriate protecting realistic opportunities for rail or waterway connections.*

Paragraph 47 of PPG13 appreciates that minerals can only be worked where they are found. It states:

> *Local authorities should seek to enable the carrying of material by rail or water wherever possible, through partnership with extractors and rail and water operators, appropriate planning conditions and obligations, the use of DETR freight grants and promoting facilities for landing of aggregates by sea and distribution by rail or water. Mineral planning authorities should encourage the establishment of voluntary mineral site transport plans in consultation with local communities.*

The site assessment criteria consider the proximity of the potential sites to the strategic road network and also the potential routeing of vehicles via settlements. As discussed in Table 2.1 above the site assessment criteria does not include the location of sites in relation to potential sustainable modes of transport such as rail and water connections as there is limited potential and need to transport Island land-won minerals across the Island to their intended destination (processing or end-use) by means (e.g. rail or water) other than road.

2.3.2 Regional Planning Policy

South East of England Regional Spatial Strategy (2009)

Under the Planning and Compulsory Purchase Act 2004, Regional Spatial Strategies replaced Structure Plans as the strategic planning framework for regions in England. The Regional Spatial Strategy (RSS) for the South East of England (known as the South East Plan) was adopted in May 2009 and provided a regional framework within which Local Planning Authorities have been required to prepare their Local Development Frameworks (LDFs) for the plan period to 2026.

However, during the course of this assessment, Regional Spatial Strategies have been revoked by the Secretary of State for Communities and Local Government in a letter to Chief Planning Officers dated 6th July 2010. The Regional Spatial Strategies have been revoked under section 79(6) of the Local Democracy Economic Development and Construction Act 2009 and no longer form part of the development plan for the purposes of the Planning and Compulsory Purchase Act 2004. In the longer term the legal basis for Regional Strategies will be revoked through the 'Localism Bill', which is being introduced in the current parliamentary session (July 2010).

Policy M3 of the South East Plan (SEP) identified the need for Mineral Planning Authorities to make provision in their plans for the supply of primary aggregates. The policy required MPAs to plan to maintain a landbank of at least seven years of planning permissions for land won sand and gravel and this would be based on the provision of 0.05 million tonnes per annum (mtpa) by the Isle of Wight.

The Secretary of State's letter to Chief Planning Officers on the 6th July 2010 did specify that in planning for the need for minerals without the Regional Spatial Strategy:

> *Planning authorities in the South East should work from the apportionment set out in the Proposed Changes to the revision of policy M3, published on 19 March 2010*

The Revision to Policy M3 expected the Isle of Wight to provide for 0.1mtpa. The Council, in their Core Strategy, are making provision for this amount of land won sand and gravel as this is also supported by historic trends of aggregates sales. The exact provision required to be planned for in the Core Strategy is discussed in section 2.6. Other policies in the South East Plan did not require the Isle of Wight to make specific provision for crushed rock.

South East Plan Policy M5: Safeguarding of Mineral Reserves, Wharves and Rail Depots requires the safeguarding of existing mineral sites, proposed sites and 'areas of search' for aggregates, clay, chalk, silica sand and gypsum in local development documents.

2.4 Relevant Environment Agency Policy

Groundwater is a water resource stored in rocks and helps to maintain the flow of rivers and other water dependent features such as particular biodiversity habitats. Bodies of these rocks are called aquifers and water supply can be provided by abstraction from these areas. It is understood that the Island's water supply is heavily dependent upon abstraction from these resources and therefore protecting water quality is of considerable importance.

Groundwater Source Protection Zones (SPZs) show the risk of contamination from any activities that might cause pollution in the area. The zones relate to the time taken for pollutants to reach groundwater resources. The EA has three main zones; SPZ1 (inner), SPZ2 (outer) and SPZ3 (total catchment). SPZ1 – Inner protection zone has a 50 day travel time from any point below the water table to the source and a minimum radius of 50 metres, SPZ2 a 400 day travel time with a minimum radius of 250 or 500 metres around the source and SPZ3 – total catchment is defined as the area around a source within which all water below the water table is presumed to be discharged at the source. Development sites within SPZ1 are therefore most sensitive for potential pollution to groundwater

resources followed by SPZ2 and SPZ3 and then sites outside Source Protection Zones are considered to be the least sensitive.

EA Groundwater Protection Policy P6-8 states:

> *Within SPZ1 we will normally object in principle to any planning application for a development that may physically disturb an aquifer.*

Furthermore, the Environment Agency's Groundwater Protection Policy (p6-11) states:

> *For any proposal which would physically disturb aquifers, lower groundwater levels or impede or intercept groundwater flow, we will seek to achieve equivalent protection for water resources and the groundwater dependent environment as if the effect were caused by a licensable abstraction.*

It is therefore preferable that potential mineral sites are not located within SPZs but in particular SPZ1 and the site assessment criteria take account of this.

2.5 Need for Mineral Provision

As discussed in the preceding sections, MPS1 requires Minerals Planning Authorities (MPAs) to identify sufficient resources in its area to meet the demand for minerals and provide '*certainty of where future sustainable mineral working will take place*'. To ensure supply, the policy statement expects MPAs to provide for the maintenance of land banks. For land won sand and gravel, this is at least seven years of permitted supply.

As shown in Table 2.1, primary aggregates in the form of land won sand and gravel and crushed rock (chalk and limestone) are present on the Island. The submission of sites for mineral extraction in response to the Isle of Wight Council's request in March 2009 indicates that there is interest in additional extraction of land won sand and gravel with 13 sites having been submitted. Only one submission was received for increased chalk extraction at the time of the request and no interest for further limestone extraction or other minerals. Subsequent consultation revealed there was interest in the potential to the vertical expansion of a chalk quarry.

In their emerging Core Strategy, the Council is committed to delivering provision of 0.1mtpa of land won sand and gravel. This was the sub regional apportionment provision set out in Policy M3 of the now revoked South East Plan and also reflects, on average, the historical trends of land won sand and gravel sales on the Island over the last six years. Table 2.3 shows the land won sand and gravel sales over the last six years.

Table 2.3 Land Won Sand and Gravel Sales

Year	Sales (Tonnage)
2004	144,400
2005	c
2006	117,000
2007	87,997
2008	88,000
2009	62,713.25

Source: Aggregates Monitoring survey to SEERAWP. 'c' refers to the fact that the sales figure was not disclosed due to commercial confidentiality.

The following illustrates the required provision for the Core Strategy plan period 2011-2027 to provide for 0.1mtpa of land won sand and gravel and to maintain a 7 year land bank. It has been assumed that for these calculations the plan period is 16 years with commencement from the January 2012 to December 2027 as the Core Strategy is expected to be adopted in December 2011.

Sand and Gravel Provision
Annual provision for sand and gravel supply = 0.1 million tonnes
Total provision required over the plan period 2011 - 2027 = 0.1 million tonnes per annum (mtpa) x 16 years = 1.6 million tonnes
7 year land bank of sand and gravel supply = 0.1mtpa x 7 = 0.7 million tonnes
Total sand and gravel provision required = 2.3 million tonnes
Permitted reserves for sand and gravel 2009[4] = 0.665 million tonnes
Estimated reserves at end of 2011 based on deducting 2 years of average sales figures of 0.1mt = 0.465 million tonnes
Net sand and gravel provision = 2.3 million tonnes – 0.465 million tonnes = 1.835 million tonnes
Total sand and gravel provision over the Core Strategy plan period = 1.8 million tonnes

The calculations above assume provision would be spread evenly across the plan period and that no permissions are granted between January 2010 and January 2012. Annual monitoring indicators for the Core Strategy will provide the mechanism to review this provision.

[4] Based on returns provided in June 2010 for the CLG Aggregate Minerals Survey 2009 and following consultation with one site operator regarding an error on their return

To help ensure this provision is met, the Council could allocate additional sites for sand and gravel extraction over the plan period to accommodate a possible 1.8 million tonnes of sand and gravel.

For chalk, there is limited demand for increasing chalk extraction as shown through the 'call for sites', informal consultation, and the latest 2009 Aggregate Monitoring Survey. Sales of land won chalk for aggregate use were 5,229 tonnes and non aggregate use 624 tonnes. Interest has been expressed for expanding two existing chalk sites. Other crushed rock reserves extracted on the Island includes limestone. There are permitted reserves at one site on the Island however this is currently inactive with no sales in the last year and no interest has been expressed for future expansion.

The demand for other minerals such as those used in building was also considered with the Council's Conservation and Design team. Although resources such as flint and brick earth have an important role to play in restoration and maintenance of the Island's structures and that quarrying these would reduce the pressure upon reclaimed materials from other buildings, it considered that these are not of strategic importance in terms of demand with quarries of these indigenous resources being redundant and replicas being available.

3. Mineral Safeguarding Areas

3.1 Introduction

The scope of this assessment of potential for minerals sites on the Island also extends to defining Mineral Safeguarding Areas (MSAs). This section details the requirement and context for MSAs and sets out a suggested approach for their definition for resources requiring protection. The MSAs considered in this assessment are based solely on the mineral resources requiring protection.

The approach taken to safeguarding mineral resources on the Island has been based upon the British Geological Survey publication 'A guide to mineral safeguarding in England' October 2007[5]. The approach to determining the MSAs has therefore included determining the best information to show the extent of mineral resources on the Island; deciding which minerals may be or become of economic importance in the future and deciding the extent of the safeguarding area. Although the overall approach for the assessment of potential for mineral sites has been consulted upon with the industry and other key stakeholders, consultation regarding the specific approach to the refinement of the MSAs as recommended by the BGS publication has not yet been undertaken.

3.2 Requirement for Mineral Safeguarding Areas

In accordance with section 13 of MPS1, Local Planning Authorities should define Mineral Safeguarding Areas in Local Development Documents (LDDs).

The aim of MSAs is to help prevent unnecessary sterilisation of minerals resources however with '*no presumption that resources defined in MSAs will be worked' (MPS1 Paragraph 13)'*. They are areas of known mineral resources that are considered to be of sufficient economic value to require protection and ensure that the future need for these resources is considered when applications for other forms of development in these areas are brought forward and determined.

As discussed in section 2.2, mineral resource mapping provided by the BGS has provided information regarding indicative mineral resources on the Isle of Wight for planning purposes. The mapping and its accompanying report indicate that sand and gravel, chalk and limestone have been extracted on the Island. There is continued extraction and considerable interest in the future extraction of sand and gravel as evidenced by:

- Detailed information regarding existing extraction, from the CLG Aggregate Minerals Survey 2009;

[5] McEvoy F M, Cowley J, Hobden K, Bee E and Hannis S, A guide to mineral safeguarding in England, British Geological Survey Open Report OR/07/035

- The submissions of sites for potential mineral extraction provided by the minerals industry; and,
- Submissions from landowners and other interested parties to the Isle of Wight Council in March 2009.

As discussed in section 2.5, there is also a need to provide for 0.1mtpa of sand and gravel and maintain a seven year landbank of sand and gravel permissions. Although chalk is currently extracted, compared with sand and gravel there is less demand or interest in future extraction. The large permitted reserves of limestone are not currently being worked and there are no future interests in extraction of this limited reserve elsewhere. Additional aggregate demand in the future may also come from engineering or building projects on the Island such the Isle of Wight Council Highways Private Finance Initiative (PFI) Project. Although it is understood that this demand is anticipated to be unpredictable it lends support to the need for safeguarding minerals.

As a result of this evidence, the approach to the MSAs has been to safeguard all sand and gravel resources as these resources are considered to be of current and future extraction of economic importance. For chalk, the approach has been to safeguard existing and proposed chalk sites as there does not appear to be a significant need to safeguard the entire chalk resource, which covers a large area running across the length of the Island east to west. It has not been considered necessary to safeguard limestone as there are large permitted reserves with limited future demand and therefore it is not considered to be of economic importance in the future. With regard to other minerals, it is not considered that there is sufficient interest in future extraction, based on current evidence to warrant safeguarding any other mineral resources.

3.3 Approach to Defining the Extent of the MSAs

The minerals baseline data supplied by the BGS has been selected as the best available data to define the Island's MSA for sand and gravel. In addition, sites outside the BGS sand and gravel areas where operators/ landowners/ other interested parties have indicated that mineral can be won have also been identified as areas to be safeguarded.

The chalk MSA consists of existing chalk extraction sites and those which have been put forward for future chalk extraction. Areas of the BGS chalk resource surrounding the sites up to 1000m from the site boundary have also been safeguarded. This approach therefore protects a larger area of the potential extent of the mineral reserves at and surrounding these sites from sterilisation in order to protect future local need.

GIS modelling has then been used to define the MSAs further. This has involved the following criteria as outlined in Table 3.1:

Table 3.1 Further Definition of the MSAs

Definition	Justification
100m buffer for the MSA	This is to ensure that the sterilisation of mineral as a result of incompatible development proposals is considered within 100m from MSAs. 100m has been chosen as a result of the suggested general distance for which dust impacts upon local communities. Minerals Policy Statement 2 Annex 1: Dust recognises that if not managed or controlled, dust from surface mineral operations can have noticeable environmental impact and affect the quality of life of local communities. Naturally these effects are dependent on the form of mineral operation and whether appropriate mitigation is employed. Paragraph 1.1 provides an indication of the distance for which such impacts can be felt: *Residents can potentially be affected by dust up to 1km from the source, although concerns about dust are most likely to be experienced near to dust sources, generally within 100 m, depending on site characteristics and in the absence of appropriate mitigation (paragraph 1.1).*
Exclusion of urban areas which have been buffered by 100m (Council Settlement Boundaries GIS layer)	Existing urban areas will have limited potential for future mineral extraction as any reserves are likely to have already been sterilised and releasing these resources is considered to be unlikely unless regeneration of sites allows for this. A buffer of 100m for urban areas has been provided as a result of the potential for incompatible development to be already present close to mineral reserves which may prejudice their working in the future. 100m has been chosen as a result of MPS2 Annex 1 recommendations discussed above.
Exclusion of roads (taken from OS MasterMap)	Similar to urban areas there is limited potential for future extraction as reserves are already sterilised.
Exclusion of Key International Biodiversity Designations (Special Area of Conservation, Special Protection Area, Ramsar)	Any development proposals for extraction or which may sterilise mineral extraction within these areas of international importance are extremely unlikely to be permitted due to the high level of protection afforded to these areas. These have therefore been removed from the safeguarding areas.

The resulting MSAs for sand and gravel and chalk are shown Island wide on drawing 24810-S41 in **Appendix B**.

4. Site Assessment Methodology

4.1 Introduction

A key part of delivering minerals development is to ensure that site allocations are in locations where mineral can be extracted whilst minimising adverse environmental impacts.

The assessment approach to determine site suitability has been based upon delivering key planning, environmental and sustainability objectives drawn from national planning policy discussed in section 2 and also the recent guidance regarding locational/site options for development plan documents issued by the Planning Advisory Service[6] which recommends three broad sets of criteria to be considered:

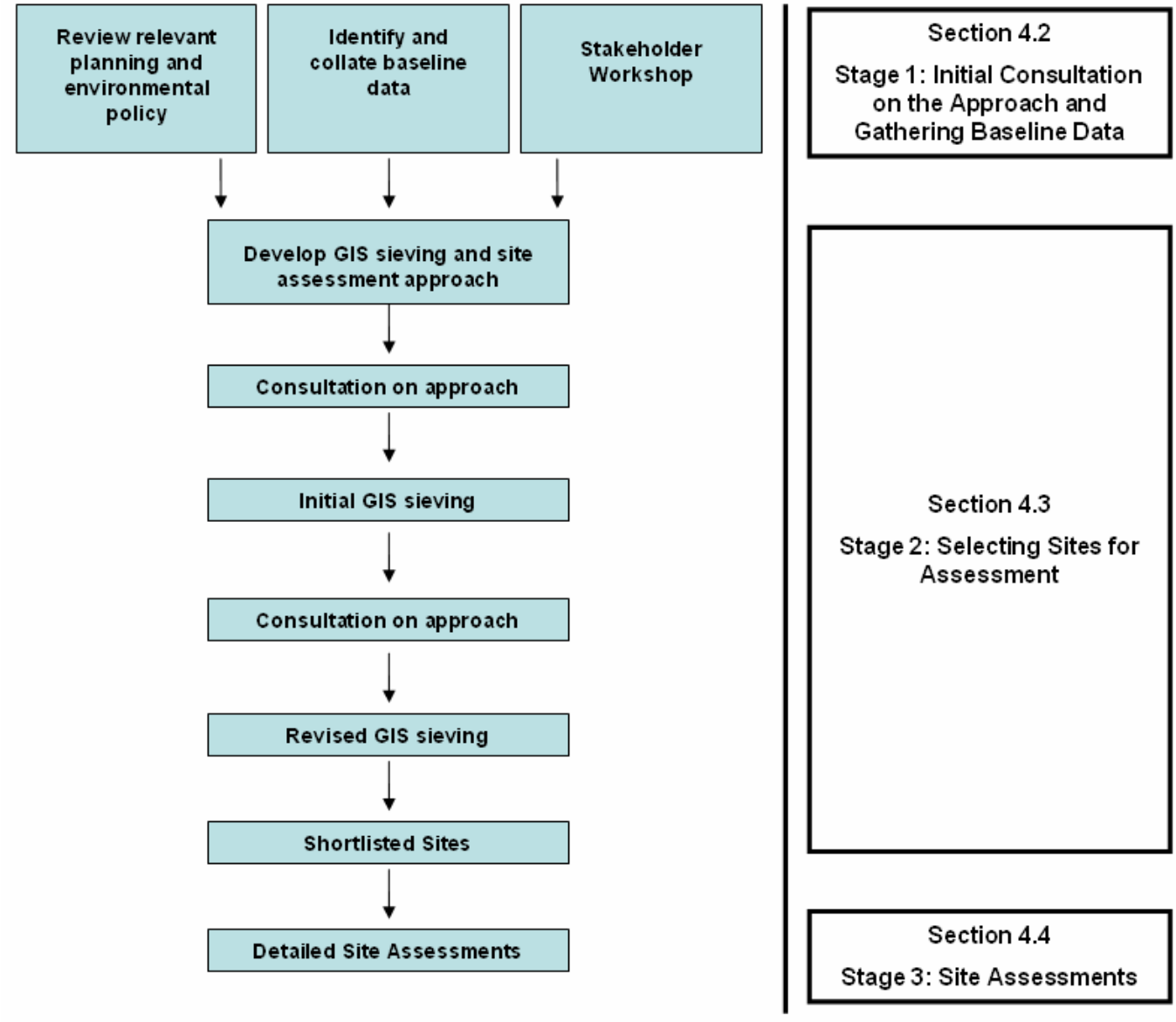
- Deliverability Criteria (e.g. landownership, access, planning history);
- Exclusionary Criteria (e.g.: European sites of biodiversity importance);
- Discretionary Criteria (e.g. local designations).

The approach has been to identify and collate baseline data; undertake GIS modelling to select suitable sites with regards to presence of exclusionary and discretionary constraints; and then undertake detailed assessment to determine performance and site suitability.

This section details the approach which has been taken in selecting and assessing sites potentially suitable for future sand and gravel and chalk extraction on the Island. A summary of the key stages of the approach is provided on the following page.

[6] *Planning Advisory Service- Local Development Options Generation and Appraisal (March 2008)*

Key stages of the assessment and corresponding sections of the report



4.2 Stage 1: Initial Consultation on the Approach and Gathering Baseline Data

Entec and the Council held a workshop with representatives from the industry, the Council and key statutory and non statutory consultees. The key aims of the workshop were:

- To inform stakeholders of the context and approach Entec and the Council proposed to undertake to identify and assess sites for potential mineral development on the Island; and
- To discuss and receive feedback on the methodology in particular the objectives and thresholds to be used for the assessment of sites.

The workshop was held on the 5th March 2009. Representatives from six mineral operators on the Island were present at the workshop. Council officers opened the workshop with a presentation setting out the planning policy and need context for undertaking the assessment including information regarding the Council's Highway PFI project. Entec representatives presented the proposed approach to the assessment which explained the staged approach to selecting and assessing sites.

Those attending the workshop were asked about the economic viability of minerals extraction on the Island however limited discussion was generated. Following this, the attendees were split into groups to discuss the detailed assessment criteria and suggested thresholds. The aim of the breakout sessions was to go through how the methodology would be applied and also to justify the proposed thresholds and determine any amendments subject to them according with relevant planning policy.

Specific feedback received from group discussions and Entec's response to this in terms of changes in approach is provided in **Appendix C**. This was circulated in March 2009. Additional information such as the agenda for the day and an attendance list is also provided.

Following the workshop, the GIS information for the modelling was collected. Baseline data was gathered to form the 'positive criteria' for the assessment, this information included areas where minerals development would be considered suitable and therefore formed the base layer from which to identify new areas or sites. The minerals resource mapping data supplied by the British Geological Survey and data from the Council regarding existing minerals sites, previously allocated sites and proposed mineral sites as a result of a 'call for sites' in March 2009 was proposed to be used as the base layer for the GIS model.

The potential sites are where the minerals industry/landowners have expressed an interest, have knowledge of what they believe to be viable mineral resources, and where planning permission might be sought. The areas identified are where potentially workable mineral may occur, but there is less certainty and interest and therefore more detailed investigation to confirm this would be required.

4.3 Stage 2: Selecting Sites for Assessment

The first stage of the site selection assessment has been to carry out a 'sieving' process of potential sites using GIS modelling. This is an objective approach using data sourced from the Council and other statutory bodies such as the Environment Agency and English Heritage.

The Environment Agency, Natural England, English Heritage, South East Regional Assembly and the Secretary of the South East Regional Aggregates Working Party were consulted regarding the suitability of the GIS modelling approach and broadly agreed with the choice of criteria.

4.3.1 Initial GIS Sieving

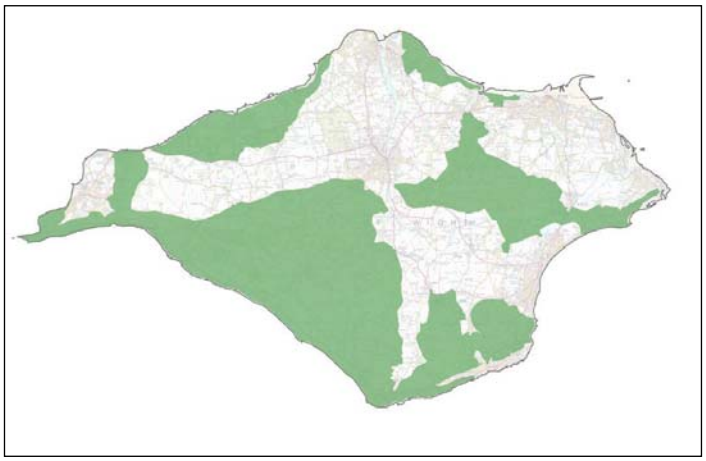
The initial sieving process was carried out in April/May 2009 and involved three phases of mapping different types of locational criteria; positive, exclusionary and discretionary. The agreed GIS criteria are provided in **Appendix D.**

The first phase of the site selection process modelled the positive criteria which were all existing, previously allocated, and potential mineral sites and also the BGS mineral resource areas. The second phase mapped the exclusionary criteria against the 'long list' and ruled out areas considered unacceptable as a matter of national policy constraints. The third phase mapped discretionary criteria which are constraints that could rule out locations as a matter of national policy. A set of refinement criteria was then applied to remove areas considered unsuitable for further assessment such as mineral already worked out and developed areas to produce a long list of potential sites and areas to take forward to the next sieve. The results of the initial sieving exercise were presented to the Council.

For sand and gravel only 4 of the 19 potential sites (drawn from the positive layer of existing permitted, UDP allocated and call for sites submissions) were shortlisted; and a large number of unconstrained areas (drawn from the BGS data) but with no mineral industry interest. None of the shortlisted sites were those promoted for soft sand (building sand) and some of the areas derived from the BGS data were very small.

The principal constraints which prevented a number of existing and industry promoted sites for potential sand and gravel extraction being shortlisted were the Area of Outstanding Natural Beauty (AONB) exclusionary layer and the major aquifer discretionary layer.

Figure 4.1 Isle of Wight Area of Outstanding Natural Beauty



For chalk mineral, once the sieving exercise had been applied, no sites or areas were found. The discretionary layers were also removed and this produced the same results. The principal constraints on chalk sites and areas are the AONB, major aquifer and source protection zones. Nearly all of the chalk resources are within the AONB designation. Figure 4.1 shows the extent of the AONB across the Island.

As a result of the initial sieving a major concern was that very few sites were being shortlisted for further

assessment.

4.3.2 Revisions to the GIS Sieving Methodology

As a consequence of these initial sieving results, adjustments to the original methodology were proposed and agreed with the Council. The amendments included the removal of the AONB and major aquifer layers to enable more sites to come forward for assessment. In addition a sequential approach to selecting site options was agreed whereby all options which had been promoted by the industry/landowners/interested parties would be considered before considering areas which have no interest but are unconstrained. This was due to the need for the site options to meet the required demand for mineral and be deliverable in accordance with PPS12 and MPS1 which emphasises in its Practice Guide 2006 that sites are in general where viable mineral resources are known to exist and where landowners are generally supportive.

The use of the BGS data to determine the location of potentially viable mineral reserves in the form of unconstrained areas has shown that there are a number of discrepancies between this data and data provided by the industry. Some sites put forward by operators and landowners do not correlate with the BGS data on the type of mineral proposed to be extracted and this does suggest potential issues with the data reliability and the fact that it is indicative of potential extraction areas.

The Council requested that the revised approach be consulted upon. This took the form of targeted consultation with the Environment Agency and Isle of Wight AONB Unit in October 2009 and then the South East of England Partnership Board, Government Office for the South East and the Secretary of the South East of England Regional Aggregates Working Party in February 2010. All consultees were generally supportive of the revised approach. Following this consultation, members of the Isle of Wight Environmental Steering Group and the Mineral Products Association (MPA) were consulted in April/May 2010 and were also supportive. Summaries of the responses received are provided in **Appendix D**.

The assessment has therefore considered the site options put forward by operators/landowners and interested parties. It was agreed with the Isle of Wight Council that the assessment should also only consider existing sites and previously allocated sites if interest has been expressed for further expansion of these sites. Operators of existing sites who had not previously expressed interest in expansion were contacted in August 2010 to confirm this status.

4.3.3 Shortlisted Sites

The following tables illustrate the sources and interests relating to the existing sites and sites submitted by the industry/landowners/other parties for potential extraction and those sites taken forward for further assessment in August/September 2010. A lack of response to written consultation requesting further details regarding interests did cause delays to the project, as this had an impact on being able to establish the need for minerals and confirm the potential deliverability of sites so that they could be taken forward for assessment.

Table 4.1 Sites Options Considered for Assessment

Potential sites	Interested parties	Source and Consultation	Potential for sand and gravel extraction	Taken forward for further assessment
Crockers Farm	Mineral Operator	Previous UDP allocation Submitted interest to Council in 2008 Additional consultation response in August 2010	Sand and gravel	Yes –S1
Great Briddlesford sites (3 areas – north west, south west and west of Great Briddlesford farm)	Agent for the landowner	Council Call for Sites March 2009	Sand and gravel west and south west and gravel north west,	Yes – S2 (north west), S13 (west) and S14 (south west)
Palmers Farm, Palmers Road, Wootton	Agent for the landowner	Council Call for Sites March 2009 Additional consultation response regarding landownership and area of working July 2010	Sand and Gravel	Yes - S3
Lavender Farm, Staplers Road, Newport	Agent for the landowner	Council Call for Sites March 2009	Gravel	Yes – S4
Cheverton Farm Gravel Pit vertical and lateral extensions, Shorwell	Mineral operator	Council Call for Sites March 2009	Gravel	Yes – S5 – existing site vertical extension and S12 lateral extension west
Hale Manor Farm	Mineral operator	Allocated mineral site (now active mineral site) Additional consultation response in August 2010	Sand and gravel	No - Planning permission April 2003 – no further interest in expansion
Blackwater quarry Western Extension, St George's Down	Mineral operator	Active mineral site Additional consultation response in August 2010	Sand and gravel	No – permission granted and western extension provided (see S8)
Blackwater Quarry Western Extension, St George's Down	Mineral operator	Submitted interest to Council in 2008 Additional consultation response in July 2009	Sand and gravel	Yes – S8
Knighton Sandpit Northern Extension, Knighton, Newchurch	Mineral operator	Existing site Additional consultation response confirming interest in August/September 2010	Sand	Yes – S10
Land at Dunsbury Farm, Dunsbury	Agent for the landowner	Council Call for Sites March 2009 Additional consultation response September 2009	Sand	Yes – S11

Table 4.1 (continued) Sites Options Considered for Assessment

Potential sites	Interested parties	Source and Consultation	Potential for sand and gravel extraction	Taken forward for further assessment
West Billingham Farm, Billingham	Agent for the landowner	Council Call for Sites March 2009	Sand and gravel	Yes – S15
Land at Upper Hyde Farm, (north and south areas)	Agent for the landowner	Council Call for Sites March 2009 Additional consultation response September 2009	Sand	Yes – S16 and S17
Shorwell Sandpit Extension, Sandy Way, Shorwell	Mineral operator	Council Call for Sites March 2009 Additional consultation response September 2009	Sand	Yes – S18
Chawton Farm, Chawton Lane, Northwood	Landowner	Submitted to the Council April 2010	Gravel	Yes – S20
Land at Woodside, Wootton	Agent for landowner	Council Call for Sites March 2009 Additional consultation response in August 2010	Gravel and stone	No – withdrawn by landowner in August 2010
Blackwater Quarry, St George's Down - Land at Great East Standen Farm	Mineral Operator	Submitted interest to Council in 2008 Additional consultation response July 2010	Sand and gravel	Yes – S21
Downend Chalk Quarry, Arreton	Unknown	Active mineral site although Council confirm this has now been worked	Chalk	No – as the site has been worked and no interest for further expansion has been expressed
Shorwell Chalk Pit, Shorwell Shute, Shorwell	Mineral Operator	Active mineral site – no response received	Chalk	No –no interest for further expansion has been expressed
Duxmore Chalk Pit, Mersley Down, Newport	Mineral Operator	Active mineral site Additional consultation response September 2010	Chalk	Yes – CS3 vertical extension
Cheverton Chalk Quarry, Cheverton Farm, Shorwell – extension areas east and west and vertical extension at existing site	Mineral Operator	Active mineral site Council Call for Sites March 2009 Additional consultation response September 2010	Chalk	Yes - CS4 vertical extension to existing site; CS4a extension area west and CS4b extension area east

Table 4.2 Sites Selected to be Assessed for Potential Sand and Gravel Extraction

Site ref	Site name
S1	Crockers Farm, Northwood
S2	Great Briddlesford Farm North West, Havenstreet
S3	Palmers Farm, Palmers Road, Wootton
S4	Lavender Farm, Staplers Road, Newport
S5	Cheverton Farm Gravel Pit Extension, Shorwell
S8	Blackwater Quarry Western Extension, St George's Down
S10	Knighton Sandpit Northern Extension, Knighton, Newchurch
S11	Land at Dunsbury Farm, Dunsbury
S12	Cheverton Gravel Pit Western Extension, Shorwell
S13	Great Briddlesford Farm West, Havenstreet
S14	Great Briddlesford Farm South West, Havenstreet
S15	West Billingham Farm, Billingham
S16	Land at Upper Hyde Farm, (north), Upper Hyde Farm Lane, Shanklin
S17	Land at Upper Hyde Farm, (south), Upper Hyde Farm Lane, Shanklin
S18	Shorwell Sandpit Extension, Sandy Way, Shorwell
S20	Chawton Farm, Chawton Lane, Northwood
S21	Blackwater Quarry, St George's Down - Land at Great East Standen Farm

Table 4.3 Sites Selected to be Assessed for Potential Chalk Extraction

Site reference	Site name
CS3	Duxmore Chalk Quarry Extension, Mersley Down
CS4	Cheverton Chalk Quarry Extension, Shorwell
CS4a	Cheverton Chalk Quarry Western Extension, Shorwell
CS4b	Cheverton Chalk Quarry Eastern Extension, Shorwell

4.4 Stage 3: Site Assessments

An assessment of the shortlisted sites has been undertaken to establish which are most suitable in terms of planning and environmental objectives. The revised approach to selection means that there has been an assessment of 17 sites for potential sand and gravel extraction and 4 sites for chalk extraction as shown in Tables 4.2 and 4.3.

Objectives have been developed from headline topics chosen through a review of relevant planning and environmental policy discussed in section 2 and by aligning the objectives with the Sustainability Appraisal Framework for the Island Plan Core Strategy. An assessment matrix has been compiled to assess each site's performance against deliverability (positive), exclusionary and discretionary criteria. Table 4.4 provides a summary of the headline criteria and objectives for the assessment and their alignment with the Sustainability Appraisal objectives for the Island Plan Core Strategy.

Table 4.4 Summary of the Assessment Framework

Topic	Objective	SA Related Objective
Positive Objectives		
Land use	To maximise existing infrastructure	Soil, geology and land use
Traffic and Transportation	To ensure site is physically accessible to a standard acceptable to the highway authority To promote sites in locations that avoid access through residential areas and sensitive land-uses To promote development sites with good access to Strategic Road Network (SRN)	Access
Amenity	To minimise potential detrimental impacts of noise/vibration. To minimise potential detrimental impacts of odour To minimise potential detrimental impacts of nuisance (vermin, pests, litter, lighting pollution) To minimise any potential detrimental effects to air quality	Air Quality and Health Population
Deliverability	To allocate available sites To reduce planning risk To identify resources to meet demand	Economic performance
Economic	To increase opportunities for economic development and employment.	Economic performance & Employment

Table 4.4 (continued) Summary of the Assessment Framework

Topic	Objective	SA Related Objective
Exclusionary Objectives		
Land Use	To avoid prejudicing non-industrial designated development plan land uses (e.g. housing, tourism, recreation etc).	Soil, geology and land use
Nature Conservation	To avoid any development that would impact on sites of international biodiversity importance To avoid any development that would impact on sites of national biodiversity importance	Biodiversity, flora and fauna
Landscape and Visual	To prevent development on areas of national importance	Landscape, archaeology and heritage
Local distinctiveness, character and quality of life	To prevent development on sites or structures of national importance	Landscape, archaeology and heritage
Discretionary Objectives		
Land Use	To protect the best and most versatile agricultural land	Soil, geology and land use, Material assets
Nature Conservation	To consider the effect of development on identified sites of county/local importance	Biodiversity, flora and fauna
Landscape and visual	To prevent development on sites of national importance	Landscape, archaeology and heritage
	To prevent adverse impacts on pubic rights of way	Landscape, archaeology and heritage, Access
Local distinctiveness, character and quality of life	To prevent development which would disturb sites/buildings of local historic/archaeological importance	Landscape, archaeology and heritage
Water Environment	To prevent any development in a major floodplain To avoid any potential impacts on groundwaters	Water, Climatic factors
Airfield Safeguarding Zones	To avoid sensitive development that falls within an airfield safeguarding zone	Soil, geology and land use

The assessment matrix includes objectives and indicators, with thresholds set out, allowing each site to be graded according to its performance against each objective. The full assessment matrix can be found in **Appendix E.** The relevant indicators have been drawn from readily available information used to determine the achievement of a particular objective. The thresholds are generally based on the site's proximity to national, regional or local designations. The thresholds include distances and also the site's relationship to defined zones of sensitivity (e.g.

Groundwater Source Protection Zones). In some cases defined distances do not always exist and therefore where there is no national guidance indicative thresholds have been used based on distances which allow for comparison of the sites against each other.

Whilst the proximity of a site to a designated area or sensitive receptor is used as the basis for this assessment, it is acknowledged that is not in itself a direct indicator of whether the impact is likely to be significant or not. This is dependent on the exact nature and location of the site and the specific activities which will take place and how they will impact on receptors. However proximity is a useful initial indicator which can flag up the potential for impacts as part of a largely desk based assessment such as this.

The scale of the effect for the objectives considered has been assessed using the grading system outlined in Table 4.5 below.

Table 4.5 Detailed Assessment Grading System

Grade	Definition
A	A minerals site at this location would move significantly towards an objective
B	A minerals site at this location would move marginally towards an objective
C	A minerals site at this location would have no effect on the objective
D	A minerals site at this location would move marginally away from an objective
E	A minerals site at this location would move significantly away from an objective

Sources of information which have been used for the assessment include both desk based mapping and publications. No visits to the sites have been undertaken as part of this assessment. The desk based information has included:

- Mineral site submission returns from interested parties including mineral operators and landowners;
- Geographic Information Systems using layers supplied by the Council in March 2009 and the Multi Agency Geographic Information for the Countryside website showing key opportunities and environmental constraints;
- Websites such as the Environment Agency's ground water vulnerability mapping;
- Isle of Wight Unitary Development Plan proposals maps and other relevant Council publications/online resources;
- Comments received from the Council's highway authority officers as a result of a desk based review of the sites (see **Appendix F**);

- Historic Environment Record Searches and a letter interpreting this data from the Council's Archaeologist (see **Appendix F**).

In addition, given the significant number of European nature conservation sites in and around the Island and the potential requirement for Habitats Regulation Assessment (HRA), an HRA specialist has undertaken a desk based assessment of likely potential effects and HRA requirements in respect of the potential sites.

As discussed in section 4.4, additional information to support the performance of the site against the positive criteria was also requested from landowners/ operators/interested parties in a formal consultation in September 2009. This included likely tonnages and phasing of extraction. Responses to this consultation varied and therefore some limited additional informal consultation has been undertaken subsequent to this.

The cumulative impacts and restoration options of the sites have not been considered as part of the detailed assessment. However information supplied by operators/landowners regarding their suggested restoration scheme has been captured. This is provided in the site proformas in section 5.4 under site context.

Following the detailed site assessments, an appraisal of the sites has been conducted by Entec's development planners considering carefully the performance of the site against the positive, exclusionary and discretionary criteria and categorising sites as 'most preferred', 'preferred' and 'least preferred'. This appraisal has been based on the guidance in the MPS1 Practice Guide which defines sites as locations where viable mineral resources are known to exist, where landowners are supportive of mineral development; and where planning applications at these locations are likely to be acceptable in planning terms.

5. Assessment Findings

5.1 Introduction

This section provides a summary of the findings of the assessment. The suitability of each of the potential sites considered for future sand and gravel and chalk extraction against the site assessment objectives is outlined. The results of an initial appraisal of each site's potential effects upon European and Ramsar biodiversity sites are also discussed. The site assessment has been based upon grading the sites using the methodology discussed in section 4 and using the professional judgement of Entec's development planners based on the findings presented to determine suitability. Full site assessment matrices can be found in **Appendix E** and plans showing the sites and key planning constraints can be found in **Appendix A.**

The suitability of the sites is considered in relation to their performance against key planning and environmental objectives categorised into positive, exclusionary and discretionary objectives. The sites have been graded against each objective from A to E as detailed in section 4 and the opportunities and constraints of each site have therefore been considered. The preference of potential site options has then been identified, with sites categorised as 'most preferred', 'preferred' or 'least preferred'.

More detail relating to the site context and specific planning issues to address is then provided for the 'most preferred' and 'preferred' site options.

5.2 Summary of Assessment Outcomes

The following tables provide a summary of the each of the sites assessed for potential sand and gravel extraction and chalk extraction against the positive, exclusionary and discretionary objectives.

Table 5.1 Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S1	Crockers Farm, Northwood	• Greenfield site with no existing infrastructure; • Adjacent to Strategic Road Network (SRN) and access likely to be suitable with some upgrading; • Mineral operator and landowner support; • Part of the site allocated in Unitary Development Plan for mineral extraction; • Expected to yield sand and gravel and tonnage confirmed; • Farm and dwellings within 250m.	• International biodiversity designations within close proximity (900m-1.4km); • Dodnor Creek SSSI 900m south east; • Grade I and II listed buildings within 500m of site.	• Site located >2km from Area of Outstanding Natural Beauty (AONB); • Dodnor Creek Local Nature reserve (LNR) 900m south east; • Ridge Copse Site of importance for nature conservation (SINC) and Biodiversity Action Plan (BAP)Habitat 265m west; • Public Right of Way (PRoW) runs through the site; • Within minor aquifer; • Grade 3 agricultural land.
S2	Great Briddlesford Farm North West	• Greenfield site with no existing infrastructure; • Adjacent to SRN; • Access likely to be suitable with potential mitigation required; • Landowner support; • Expected to yield gravel and tonnage confirmed; • Dwelling within site boundary and others within 250m of site boundary.	• International and national biodiversity designations within close proximity (200m nearest); • No nationally important historic assets within 1km except one grade II listed building 869m east.	• Adjacent to AONB south; • Combley Great Wood SINC 180m south; local BAP habitat 165m south west; • Regionally important archaeological asset within site; • PROW adjacent to the south; • Within a minor aquifer.
S3	Palmers Farm	• Greenfield site with no existing infrastructure; • 850m from SRN; • Access likely to be unacceptable due to residential nature of Palmers Road which would need to be used; • Support from the landowner; • Expected to yield sand and gravel and tonnage confirmed; • Several dwellings adjacent to the south eastern boundary and village of Wootton close by.	• International biodiversity designations within close proximity – 60m from SAC, SPA and Ramsar; • Kings Quay Shore SSSI 170m north; • Within 200m of grade II listed building.	• Regionally important archaeological asset within site; • Site is 90m from the AONB; • SINC and BAP habitat 10m north; • Within minor aquifer.

Table 5.1 (continued) Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S4	Lavender Farm	• Greenfield site with no existing infrastructure; • 650m from SRN; • Purpose built access road suitable for HGVs; • Landowner support; • Expected to yield gravel and tonnage confirmed; • Several dwellings within 100m of site.	• Within 700m of UDP housing allocation; • International and national biodiversity designations within close proximity –1.9km west and 1.6km east.	• Adjacent to Staplers Heath SINC; 75m from local BAP habitat; • AONB 1.1km to the south; • Within minor aquifer.
S5	Cheverton Farm Gravel Pit	• Extension of existing site to be extracted to greater depths; • Site is 2.5km from SRN and routeing likely through a number of settlements; • Purpose built access road; • Site is >250m from any sensitive receptors; • Mineral operator and landowner support; • Expected to yield gravel and tonnage confirmed.	• Site is >2km from SAC, SPA and Ramsar designation; • Mottistone Down SSSI 2km west; • 1.3km north west of Northcourt Historic Park and Garden; • Barrow and Bowl Scheduled Monument 250m east.	• Limerstone Down SINC 267m south; • Site is within AONB; • Within major aquifer and total catchment groundwater Source Protection Zone.
S8	Blackwater Quarry Western Extension	• Extension to existing minerals site; • Purpose built access road; • Good proximity and access to SRN; • Mineral operator and landowner support – planning application already submitted; • Expected to yield sand and gravel and tonnage confirmed; • West Standon Farm 150m south of site plus several other dwellings within 250m.	• UDP housing allocation 900m north of site; • International biodiversity designations 2km north; • Shide Chalk Pit SSSI adjacent to southern boundary; • Grade I and II listed buildings within 800m.	• Shide Chalk Pit LNR adjacent to southern boundary; • River Medina SINC 300m west; BAP Habitat 15m north west; • Regionally important archaeological asset within site; • Site is within AONB; • Within major aquifer however not within groundwater SPZ.

Table 5.1 (continued) Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S10	Knighton Sandpit extension	• Extension to existing minerals site; • Good proximity to SRN; • Although substandard access is considered acceptable as there have been no issues. This is subject to there being no increase in current vehicle movements at the site; • Only 1 dwelling within 250m; • Mineral operator and landowner support; • Expected to yield construction sand however likely tonnage not confirmed.	• No international biodiversity designations within 3km; • Alverston Marshes SSSI and Eagleshead & Bloodstone SSSI within 550m north and south; • Several Scheduled Monuments within 700m; • Grade II listed building within 300m.	• Local nature conservation sites within 1km - Alverton Mead LNR 950m south west; Knighton East Wood SINC 300m north; adjacent to BAP Habitat; • Site is within AONB; • Within major aquifer but not within a groundwater SPZ; • Site is grade 4 agricultural land.
S11	Land at Dunsbury Farm	• Greenfield site with no existing infrastructure; • Relatively well located in relation to SRN; • Difficult to create acceptable new access road and likely routeing would pass through a number of settlements; • Landowner support; • Expected to yield sand and gravel and tonnage confirmed; • Several dwellings within 250m of site.	• International biodiversity designations within close proximity – IoW Downs SAC 50m west; • Several Scheduled Monuments within 250m of northern boundary; • Grade II listed building within the site.	• Compton Downs SSSI 100m west; • Brighstone Forest SINC and BAP habitat adjacent to the site; • Regionally important archaeological asset within site; • Site is within AONB; • Site is within Heritage Coast; • Within a major aquifer but not within a groundwater SPZ.
S12	Cheverton Gravel Pit	• Extension to existing minerals site; • 2.5km from SRN and likely routeing would pass through settlements; • Good access to site - could accommodate HGVs; • Site is >250m from any sensitive receptors or dwellings; • Mineral operator and landowner support; • Expected to yield gravel and tonnage confirmed.	• No international biodiversity designations within 2.5km; • Mottistone Down SSSI 1.8km west • Barrow and Bowl Scheduled Monument 300m east of site; • Site is located 900m north east of grade II listed building at Coombe Farm.	• Limerstone Down SINC 140m south; Local BAP Habitat 200m west; • Site is within AONB; • Within major aquifer and total catchment groundwater SPZ3.

Table 5.1 (continued) Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S13	Great Briddlesford Farm West	• Greenfield site with no existing infrastructure; • Within 900m of SRN; • Access is not considered to be acceptable; • Landowner support; • Expected to yield sand and gravel and tonnage confirmed; • Great Briddlesford Farm adjacent to western boundary and several other dwellings within 250m of site.	• International and national biodiversity designations within close proximity – site bounded by Briddlesford SAC and SSSI; • 50m west of Grade II listed building.	• Site is within BAP habitat and Combley Great Wood SINC 225m south; • Regionally importance archaeological asset within site; • Site is bounded on three sides by ancient woodland; • Site is within AONB; • PRoW runs through the site; • Site is grade 4 agricultural land; • Within a minor aquifer.
S14	Great Briddlesford Farm South West	• Greenfield site with no existing infrastructure; • Adjacent to SRN; • Difficult to create new access road – would require mitigation; • Landowner support; • Expected to yield sand and gravel and tonnage confirmed; • Farms and cottages adjacent to site boundary. Several other dwellings within 250m of site.	• International biodiversity designations within close proximity – Eastern and southern boundary located adjacent to Briddlesford Copse SAC and SSSI; • 630m south of Grade II listed building.	• Adjacent to Combley Great Wood SINC; located within BAP Habitat; • Site is within AONB; • Regionally importance archaeological asset within site; • PROW adjacent to the north; • Within minor aquifer.
S15	West Billingham Farm	• Greenfield site with no existing infrastructure; • Site is >3km from SRN; • Creation of access road likely to be unacceptable and routeing would pass through a number of settlements; • Landowner support; • Expected to yield sand and gravel and tonnage provisionally confirmed; • West Billingham Farm within site boundary. Several other dwellings within 100m of southern boundary and others within 250m.	• Site is located >5km from SPA and Ramsar and >3km from SAC designation; • Cridmore Bog SSSI 1.1km south east; • Scheduled Monument 250m north of site; • Grade II listed buildings within the site.	• Adjacent to Berry Copse SINC and within BAP habitat; • Site is within AONB; • Regionally important archaeological asset within site; • Ancient woodland located within site; • Site is within major aquifer but not within SPZ.

Table 5.1 (continued) Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S16	Land at Upper Hyde Farm, (north)	• Greenfield site with no existing infrastructure; • Site adjacent to SRN; • Access road can accommodate HGVs; • Landowner support; • Suggested large amounts of sand although no confirmed tonnage; • Apse New Barn Farm located within the site. Number of other dwellings within 100m of northern boundary and village of Apse Heath within 250m.	• Site is >5km from SPA and Ramsar designations; South White Maritime SAC 2km west; • America Wood SSSI adjacent to site; • UDP housing allocation 950m north of site; • Grade II listed building within 100m.	• 750m north of AONB; • Biodiversity designations within the site - Ninham Withybeds SINC and BAP Habitat; • Regionally important archaeological asset within site; • PRoW runs through the site; • Site is within major aquifer but not within SPZ.
S17	Land at Upper Hyde Farm, (south)	• Greenfield site with no existing infrastructure; • 1.1km from SRN; • Access not suitable for HGVs and is unlikely that satisfactory mitigation can be achieved; • Landowner support; • Suggested large amounts of sand although no confirmed tonnage; • Upper Hyde Farm located within site and Village of Upper Hyde to the South; • Caravan Park 150m east of site.	• Site is >7km from SPA and Ramsar designations; • South Wight Maritime SAC 1.7km east; • Adjacent to America Wood SSSI; • Grade II listed building 380m to the south.	• Local biodiversity designations within close proximity – Sibden Hill & Butts LNR 200m south; Sibden Hill SINC 200m south east; and site is within BAP habitat; • Regionally important archaeological asset within site; • Within 1km of Conservation Area; • Site is 150m from AONB; • Site is grade 4 agricultural land; • PRoW runs through the site; • Site is within major aquifer but not within SPZ.
S18	Shorwell Sandpit	• Extension to existing minerals site; • Site is 4.5km from SRN; • Access likely to be acceptable with some mitigation; • Mineral operator and landowner support; • Expected to yield sand between 2011 up to 2031 and tonnage confirmed; • Haslett Farm 85m south of site. Also a number of dwellings within 200m of western boundary.	• Site is >5km from SPA and Ramsar designation; • South Wight Maritime SAC 3km south; Compton Chime SSSI 2.5km south; • Site located 500m from Open Space allocation; • Scheduled Monument 700m west of site; • Grade I listed building 750m south east; and grade II building 260m north west.	• Biodiversity designations within close proximity –Heath Hill SINC 125m east; BAP Habitat within 500m; • Site is within AONB; • Within 2.5km of Heritage Coast; • Within 1km of Conservation Area; • Regionally important archaeological asset within site; • Site is within major aquifer but not a SPZ;

Table 5.1 (continued) Assessment Outcomes for Potential Sites for Sand and Gravel Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
S20	Chawton Farm	• Greenfield site with no existing infrastructure; • Site is adjacent to SRN although routeing likely to pass through Northwood; • Access likely to be acceptable subject to potential need for mitigation; • Landowner support but no likely tonnage information available; • Number of cottages, farms and a church adjacent to the site.	• International and national biodiversity designations within close proximity – Medina Estuary SAC, SPA, Ramsar and SSSI 130m east; • UDP housing allocation 500m north of site; • Grade I and II listed buildings within 100m of the site; • Nationally important archaeological assets within the site.	• Site is 2.5km from AONB; • Dodnor Creek LNR 1km south; Great Werrar Wood SINC and BAP Habitat within site; • Regionally and locally important archaeological asset swithin site; • PRoW runs through the site; • Within minor aquifer.
S21	Blackwater Quarry – Land at Great East Standen Farm including proposed access	• Greenfield site although close to other mineral workings by same operator; • Located 1.7km from SRN and likely routeing would pass through some settlements; • Purpose built haul road to be provided and access onto road would be via existing site access; • Mineral operator and landowner support; • Expected to yield sand and gravel and tonnage confirmed; • Great Sullens and Great East Standen Farm within 100m of site. Several other dwellings within 250m.	• Southampton & Solent Waters SAC, SPA and Ramsar 2.7km north west; Arreton Down SSSI 1km east; • Grade II listed building 300m west.	• Shide Chalk Pit LNR 750m north west; part of Wroxall Copse SINC and BAP Habitat are within the site; • Small section of Wroxall Bottom Copse Ancient Woodland is within site; • Regionally important archaeological asset within site; • Site is within AONB; • PRoW runs through the site; • Within major aquifer although not within SPZ; • Site is grade 4 agricultural land.

Table 5.2 Assessment Outcomes for Potential Sites for Chalk Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
CS3	Duxmore chalk quarry extension (extraction to greater depth)	• Extension to existing site; • Good proximity to SRN only 200m south; • Purpose built access road and routeing acceptable; • Mineral operator and landowner support; • Yield of chalk not known; • Only 1 dwelling adjacent to northern boundary;	• Site is >5km from SPA and Ramsar designation; • Briddlesford Copse SAC 1.3km north; Arreton Down SSSI 350m south; • A grade II listed building is located approximately 550m south.	• Locally important archaeological asset within site; • Ancient woodland, BAP habitat and Arreton Down SINC adjacent to site; • Site is within AONB; • Within major aquifer and part of the site is within SPZ2 and SPZ3.
CS4	Cheverton Chalk Quarry (extraction to greater depth)	• Vertical extension to existing minerals site; • Site is 3.5km from SRN; • Access is considered acceptable although routeing will not be able to avoid settlements; • Site is >250m from sensitive receptors; • Mineral operator and landowner support; • Expected to yield chalk tonnage confirmed.	• Site is >5km from SPA and Ramsar designations; • Isle of Wight Downs SAC 2.5km west; Rowridge Valley SSSI 1.7km north; • A number of scheduled monuments within 250m of site; • Within 950m of Historic Park and Garden; • Potential for nationally important archaeological assets adjacent to the site.	• Idlecombe Down SINC 300m north; small section of BAP Habitat within site; • Site is within AONB; • Within major aquifer and within total catchment groundwater SPZ3;
CS4a	Cheverton Chalk Quarry - western extension	• Extension to existing minerals site; • Site is 3.5km from SRN; • Access is considered acceptable although routeing will not be able to avoid settlements; • Site is >250m from sensitive receptors; • Mineral operator and landowner support; • Expected to yield chalk tonnage confirmed.	• Site is >5km from SPA and Ramsar designations; • A number of scheduled monuments within 250m of site; • Isle of Wight Downs SAC 2.7km west; Rowridge Valley SSSI 1.7km north; • Within 950m of Historic Park and Garden; • Potential for nationally important archaeological assets within the site.	• Idlecombe Down SINC 300m north; small section of BAP Habitat within site; • Site is within AONB; • Within major aquifer and within total catchment groundwater SPZ3; • Site is grade 4 agricultural land.

Table 5.2 (continued) Assessment Outcomes for Potential Sites for Chalk Extraction

Site ref	Site name	Positive Objectives	Exclusionary Objectives	Discretionary Objectives
CS4b	Cheverton Chalk Quarry – eastern extension	• Extension to existing minerals site; • Site is 3.5km from SRN; • Access is considered acceptable although routeing will not be able to avoid settlements; • Site is >250m from sensitive receptors; • Mineral operator and landowner support; • Expected to yield chalk tonnage confirmed.	• Site is >5km from SPA and Ramsar designations; • Isle of Wight Downs SAC 3km west; Rowridge Valley SSSI 1.7km north; • A number of scheduled monuments within 250m of site; • Within 950m of Historic Park and Garden;	• Idlecombe Down SINC 300m north; small section of BAP Habitat within site; • Site is within AONB; • Within major aquifer and within total catchment groundwater SPZ3; • Regionally important archaeological asset within site; • Site is grade 4 agricultural land.

5.3 Potential Effects of Sites Assessed upon European and Ramsar Biodiversity sites

5.3.1 European and Ramsar Sites and their Vulnerabilities

There are a number of sites on or immediately adjacent to the Isle of Wight which are protected for their international importance to biodiversity[7] which could, potentially, be affected by development of minerals sites on the Island. These European and Ramsar sites and their potential vulnerabilities have been identified through the Habitats Regulations Assessment (HRA) Report carried out for Isle of Wight's Core Strategy (Entec 2010) and this document has been used as the basis for this assessment.

Each of the vulnerabilities identified in the HRA for these European and Ramsar sites was examined to ascertain the likelihood that the allocation of a site for minerals development could have a detrimental effect on them. The vulnerabilities identified that could be associated with minerals development were:

- Direct loss or damage to sites;

[7] As outlined in Office of the Deputy Prime Minister (2005) *Planning Policy Statement 9: Biodiversity and Geological Conservation* paragraph 6, as a matter of policy Listed Ramsar sites should receive the same protection as designated SPAs and SACs (as would potential SPAs and candidate SACs if any were present on the Island).

- Habitat fragmentation/loss of supporting habitat; and
- Disturbance.

It has been assumed in this review that direct loss of a European or Ramsar site will not be supported. If this is not the case an Appropriate Assessment will need to be carried out to ascertain whether the development proposal could go ahead without an adverse effect on the site's integrity. It is also assumed that none of the allocations will result in significant effects on European or Ramsar sites as a result of ancillary development, such as access roads or other supporting infrastructure. Again, where this is not the case Appropriate Assessment will be required.

The remaining vulnerabilities which could be associated with minerals sites that are identified in the Core Strategy HRA for each of the European and Ramsar sites on or adjacent to the Island are shown in Table 5.3.

Table 5.3 Isle of Wight European and Ramsar sites and potential vulnerabilities to minerals development

European Site	Potential vulnerabilities associated with minerals development
Briddlesford Copses SAC	Habitat fragmentation Disturbance to bats Loss of woodland foraging areas (up to 2km from roosts) for Bechstein's bat
Isle of Wight Downs SAC	None identified
Solent & Isle of Wight Lagoons SAC	None identified
Solent Maritime SAC	None identified
South Wight Maritime SAC	None identified
Solent & Southampton Water SPA	Habitat fragmentation Disturbance of qualifying bird species (common tern, little tern, Mediterranean gull, roseate tern and sandwich tern) within and outside the SPA Impact on high water wader roosts
Solent & Southampton Water Ramsar site	Habitat fragmentation Disturbance of birds within the site and habitats (e.g. arable areas) outside the site that support bird species Impact on high water wader roosts

5.3.2 Potential Effects of Sites

Table 5.4 shows the distance of the potential minerals sites from each of the Island's European and Ramsar sites. All of the Island's European and Ramsar sites are included in the table, including those which have no identified vulnerabilities, in order to show how close some of the sites are to protected sites and therefore where extra care will need to be taken during the extraction process if these are taken forward.

In light of the vulnerabilities identified for the biodiversity sites highlighted in the table are those sites that are:

(a) within 2km of Briddlesford Copses SAC;

(b) within 2km of the Southampton Water SPA and Ramsar site; or

(c) within 200m of any other site.

Note that the 2km distance for (b) and 200m distance criteria for (c) is for initial screening purposes only and does not mean that effects are either possible or likely. Sites beyond this distance are considered unlikely to have a direct effect on the European and Ramsar site vulnerabilities that are identified above.

Table 5.4 Distance of potential sites to European and Ramsar sites

Site Name	Site Ref	Area (m2)	Briddlesford Copses SAC	Isle of Wight Downs SAC	Solent and Isle of Wight Lagoons SAC	Solent Maritime SAC	South Wight Maritime SAC	Solent and Southampton Water SPA	Solent and Southampton Water Ramsar
Crockers Farm, Northwood	S1	98,347	5.23	10.25	12.78	1.41	12.49	**1.41**	**0.90**
Great Briddlesford Farm, Briddlesford North West	S2	115,281	**0.20**	11.49	9.73	2.57	8.44	2.01	2.01
Palmers Farm, Palmers Roas, Wootton	S3	589,518	**1.28**	13.94	7.72	0.06	10.52	**0.06**	**0.06**
Lavender Farm, Staplers Road, Newport	S4	54,330	**1.54**	11.17	11.00	1.91	9.15	**1.87**	**1.87**
Cheverton Farm Gravel Pit, Cheverton Farm, Shorwell	S5	12,968	11.08	1.94	14.05	5.97	2.95	5.97	5.97
Blackwater Quarry Western Extension	S8	25,459	3.48	9.18	12.46	2.01	9.49	2.01	2.01
Knighton Sand Pit, Knighton, Newchurch	S10	7,910	3.30	7.74	5.78	7.40	3.58	3.46	3.46
Land at Dunsbury Farm, Brook	S11	194,777	14.98	**0.05**	9.87	4.43	1.12	4.38	4.38
Cheverton Gravel Pit, Cheverton Farm, Shorwell	S12	35,576	11.16	1.78	13.94	5.94	2.79	5.95	5.95
Great Briddlesford Farm, Briddlesford West	S13	119,400	**0.00**	11.27	8.84	2.88	7.80	**1.77**	**1.77**
Great Briddlesford Farm, Briddlesford South West	S14	175,559	**0.00**	10.96	9.38	3.02	7.95	2.23	2.23

Table 5.4 (continued) Distance of potential sites to European and Ramsar sites

Site Name	Site Ref	Area (m2)	Briddlesford Copses SAC	Isle of Wight Downs SAC	Solent and Isle of Wight Lagoons SAC	Solent Maritime SAC	South Wight Maritime SAC	Solent and Southampton Water SPA	Solent and Southampton Water Ramsar
West Billingham Farm	S15	601,093	8.42	5.97	15.82	7.44	3.11	7.44	7.44
Land at Upper Hyde Farm, Upper Hyde Farm Lane, Shanklin	S16	694,692	5.79	3.41	7.74	9.17	2.00	5.48	5.48
Land at Upper Hyde Farm, Upper Hyde Farm Lane, Shanklin	S17	296,953	6.96	2.71	7.97	10.37	1.34	5.79	5.79
Land at Shorwell Sand Pit	S18	1,778	10.32	4.56	16.84	8.27	2.52	8.27	8.27
Chawton Farm, Northwood	S20	574,007	4.35	10.73	11.49	**0.13**	12.96	**0.13**	**0.13**
Blackwater Quarry - Land at Great East Standen Farm	S21	46,261	2.30	9.38	11.16	2.67	8.31	2.67	2.67
Duxmore Chalk Pit, Mersley Down, Newport	CS3	19,919	**1.25**	8.85	8.09	5.31	5.75	4.40	4.40
Cheverton Chalk Quarry, Cheverton Farm, Shorwell	CS4	65,409	9.84	2.62	14.62	6.01	3.26	6.01	6.01
Cheverton Chalk Quarry, Cheverton Farm, Shorwell	CS4a	10,013	10.16	2.78	14.68	6.02	3.52	6.02	6.02
Cheverton Chalk Quarry, Cheverton Farm, Shorwell	CS4b	33,814	9.72	3.02	14.79	6.01	3.78	6.01	6.01

The identified threats to European and Ramsar sites of the potential minerals sites and any subsequent development of them are identified in Table 5.5.

Table 5.5 Potential effects on European and Ramsar sites if mineral site is allocated and subsequently developed

Site Name	Site Ref	Mineral Type	Potential effects on European and Ramsar sites
Crockers Farm, Northwood	S1	Sand and Gravel	The site is located 1.4km from the Solent and Southampton Water SPA and 0.9km from the Solent and Southampton Water Ramsar site and the site does not fragment or isolate the SPA or Ramsar habitats.. The A3020 and Northwood lie between the site and the SPA and Ramsar sites therefore disturbance as a result of the site is unlikely. Given the distance of the site from the SPA and Ramsar site and the urban areas that lie between them it seems unlikely that high water wader roosts are present on the site in any significant numbers although this cannot be confirmed without detailed survey work. In light of the above reasoning it seems unlikely that the site will result in significant effects on European or Ramsar sites.
Great Briddlesford Farm, Briddlesford North Wesr	S2	Gravel	The site is located 200m from Briddlesford Copses SAC. Given the proximity of the site to the SAC there is potential for significant effects relating to disturbance. Although no woodland is shown on the site map there are likely to be hedgerows present on the site which may be used by foraging bats.
Palmers Farm, Palmers Road, Wootton	S3	Gravel	Maps of the site show that woodland may be present on the site and as it is located within 2km of the Briddlesford Copse SAC there is some potential that development on the site could destroy feeding habitat for Bechstein's bat. Given that the site and SAC are some 1.3km at the nearest point, the fact that the larger pockets of the SAC are located further away than this and the fact that the SAC and the site are separated from each other by the A3054 and the settlement of Wootton Bridge it seems unlikely that any effects will be significant. The site is located 60m from the Solent and Southampton Water SPA and Ramsar site and does not fragment or isolate the SPA or Ramsar habitats. Given the distance of the site from the SPA and Ramsar there is potential for significant effects in relation to disturbance of birds. It is not known whether any high water wader roosts are present on the site. In light of the above reasoning more details regarding whether the site is used by Bechstein's bat or as a high water wader roost is required to ascertain whether there will be significant effects on European or Ramsar sites.
Lavender Farm, Staplers Road, Newport	S4	Gravel	Given the location and distance of the site from European and Ramsar sites there is unlikely to be habitat fragmentation as a result of development on the site. Similarly, as the site is located some 1.5km from Briddlesford Copses SAC and 1.9km from the Solent and Southampton Water SPA and Ramsar site disturbance of species is unlikely. No woodland has been identified on the site map therefore it unlikely that foraging habitat for Bechstein's bat will be lost as a result of the site. Given the site is located 1.9km from the Solent and Southampton Water SPA and Ramsar site and is separated from them by the A3054 significant disturbance of high water wader roosts is unlikely but cannot be discounted without further information or survey work.
Cheverton Farm Gravel Pit, Cheverton Farm, Shorwell	S5	Gravel	No significant effects on European or Ramsar sites have been identified.
Blackwater Quarry Western Extension	S8	Sand and Gravel	No significant effects on European or Ramsar sites have been identified.

Table 5.5 (continued) Potential effects on European and Ramsar sites if mineral site is allocated and subsequently developed

Site Name	Site Ref	Mineral Type	Potential effects on European and Ramsar sites
Knighton Sand Pit, Knighton, Newchurch	S10	Sand	No significant effects on European or Ramsar sites have been identified.
Land at Dunsbury Farm, Brook	S11	Sand	Although no likely significant effect as a result of minerals development on the site has been identified it should be noted that it is located within approximately 50m of the Isle of Wight Downs SAC.
Cheverton Gravel Pit, Cheverton Farm, Shorwell	S12	Gravel	No significant effects on European or Ramsar sites have been identified.
Great Briddlesford Farm, Briddlesford (West)	S13	Sand and gravel	The site is located immediately adjacent to Briddlesford Copses SAC. Given the proximity of the site to the SAC there is potential for significant effects relating to disturbance. Although no woodland is shown on the site map there are likely to be hedgerows present on the site which may be used by foraging bats. There is also potential for development on the site to result in increased fragmentation of Briddlesford Copses SAC given that the site is located directly between a number of the SAC components. Given the site is located 1.8km from the Solent and Southampton Water SPA and Ramsar site and is separated from them by the A3054 significant disturbance of high water wader roosts is unlikely but cannot be discounted without further information or survey work.
Great Briddlesford Farm, Briddlesford (South West)	S14	Sand and gravel	The site is located immediately adjacent to Briddlesford Copses SAC. Given the proximity of the site to the SAC there is potential for significant effects relating to disturbance. Although no woodland is shown on the site map there are likely to be hedgerows present on the site which may be used by foraging bats.
West Billingham Farm	S15	Sand and Gravel	No significant effects on European or Ramsar sites have been identified.
Land at Upper Hyde Farm, Upper Hyde Farm Lane, Shanklin	S16	Sand	No significant effects on European or Ramsar sites have been identified.
Land at Upper Hyde Farm, Upper Hyde Farm Lane, Shanklin	S17	Sand	No significant effects on European or Ramsar sites have been identified.
Land at Shorwell Sand Pit	S18	Sand	No significant effects on European or Ramsar sites have been identified.
Chawton Farm, Northwood	S20	Gravel	The site is located 130m from the Solent Maritime SAC and the Solent and Southampton Water SPA and Ramsar site Given the site is located in close proximity to the River Medina there is potential for significant effects in relation to disturbance of birds both on the sites and of roosting wader sites and there is potential for loss of supporting habitat.
Blackwater Quarry - Land at Great East Standen Farm	S21	Sand and Gravel	No significant effects on European or Ramsar sites have been identified.

Table 5.5 (continued) Potential effects on European and Ramsar sites if mineral site is allocated and subsequently developed

Site Name	Site Ref	Mineral Type	Potential effects on European and Ramsar sites
Duxmore Chalk Pit, Mersley Down, Newport	CS3	Chalk	The site is located 1.3km from Briddlesford Copses SAC. If woodland is present on the site this could have a negative effect on Bechstein's bat, however given the distance and the small size of the site it seems unlikely that effects will be significant. The site will not result in habitat fragmentation or disturbance.
Cheverton Chalk Quarry, Cheverton Farm, Shorwell	CS4, 4a and 4b	Chalk	No significant effects on European or Ramsar sites have been identified.

5.4 Preference of Sites for Potential Allocation

Analysis of the assessment findings indicates that they can be grouped into "most preferred", "preferred" and "least preferred for potential allocation.

The approach to categorising sites is intended to reflect the advice in the MPS1 Planning and Minerals: Practice Guide para.38 on identifying sites which states:

> *Specific sites will generally be where viable mineral resources are known to exist, where landowners are supportive of mineral development taking place and where MPAs consider that any planning applications which are made are likely to be acceptable in planning terms.*

5.4.1 Sand and Gravel

'Most Preferred' sites are those which score well against many of the assessment objectives and which are not located within the AONB or SPZ3 designations. 'Preferred sites' are those which perform well against many of the objectives, however they are located within the AONB and/or SPZ3 designations. The 'least preferred' sites have received relatively good grading against a number of the assessment objectives yet have significant identified constraints to their potential development. These include proximity to international biodiversity designations, poor access, and proximity to sensitive receptors. In addition those sites where the extent of mineral yield has not been confirmed by the landowner/operator also fall into this category. Without information on mineral yield it is not possible to confirm what contribution the site may make to the Island's apportionment figure and it does not assist in confirming the viability of the mineral resource.

Tables 5.6 and 5.7 detail the reasoning for each site's preference for potential allocation for sand and gravel extraction or chalk extraction based on the evidence presented in the assessment. Due to commercial confidentiality no yields of mineral for the suggested sites have been provided. Information relating to the reserves includes the type of mineral and whether the yield has been confirmed by the operator or landowner.

Table 5.6 Potential Sand and Gravel Sites for Allocation

Site ref and name	Reserve information	Justification
Most preferred		
S1 Crockers Farm	Sand and gravel – yield known	Although greenfield, this site is located over 2km from the AONB and is adjacent to the SRN. The Highway Authority officers advise that access is likely to be suitable subject to some upgrading. Operator and landowner support and sand and gravel yield confirmed. Grade I and II listed buildings are in close proximity. There are also international biodiversity sites within 2km however it is unlikely there will be significant effects arising.
S4 Lavender Farm	Gravel – yield known	This site is greenfield with landowner support. The site is expected to yield gravel and the Highway Authority officers advise that it already has purpose built access suitable for HGVs with good proximity to the Strategic Road Network. There are international biodiversity sites within 2km and however there are unlikely to be significant effects. There are also local nature conservation sites adjacent.
Preferred		
S5 Cheverton Farm Gravel Pit (extension)	Gravel – yield known	Although the site is within the AONB and SPZ3 total catchment upon the major aquifer it is an existing minerals site with proposed extension to extract to greater depths. There is mineral and landowner support for gravel extraction here and the site is over 2km from international biodiversity designations.
S8 Blackwater Quarry Western Extension	Sand and gravel – yield known	This site would be a lateral extension to an existing mineral site the Highway Authority officers advise that it has a purpose built access and good proximity to the SRN. The site is however within the AONB and is situated upon a major aquifer but is outside SPZs and 2km from international biodiversity designations. There is mineral and landowner support for extraction here. There are a number of receptors within close proximity including dwellings, listed buildings, and national and local nature conservation designations.
S12 Cheverton Gravel Pit	Gravel – yield known	This site is a lateral extension to an existing mineral site with operator and landowner support for extraction of a large amount of sand and gravel. The Highway Authority officers advise that the site is not well located to the SRN however has acceptable access. The site is located within the AONB and upon a major aquifer within SPZ3. It is over 2km from international biodiversity sites and there is a Scheduled monument within 300m. There are no sensitive receptors within 250m.
S21 Blackwater Quarry – Land at Great East Standen Farm including proposed access	Sand and gravel – yield known	Although this is a greenfield site it would be linked with the other mineral working in the area including sharing the same access point. . The Highway Authority officers advise that a purpose built haul road is expected to be provided which would be suitable for HGVs and the site is 1.7km from the SRN. There is operator and landowner support and estimated tonnage is confirmed. However the site is within the AONB and situated upon a major aquifer but outside a SPZ. It is over 2km from international biodiversity designations and a SSSI is 1km east. The site does form part of a SINC and BAP habitat and there is ancient woodland within the site. There are a number of dwellings in close proximity also.

Table 5.6 (continued) Potential Sand and Gravel Sites for Allocation

Site ref and name	Reserve information	Justification
Least preferred		
S2 Great Briddlesford Farm North West	Sand and gravel – yield known	The Highway Authority officers advise that the site is close to the strategic road network and access is likely to be suitable. Yield of sand and gravel is confirmed and there is landowner support. However there are a number of sensitive receptors within 250m including dwellings and international and national biodiversity sites with potential to have significant effects upon biodiversity.
S3 Palmers Farm	Sand and gravel – yield known	This is a greenfield site relatively close to the SRN but the Highway Authority officers advise that it has a constrained access unlikely to be capable of being mitigated. There is support from the landowner and an estimated yield of sand and gravel however the site is in close proximity to sensitive receptors and also international biodiversity designations with potential for significant effects.
S10 Knighton Sandpit Extension	Construction sand – yield not confirmed	This site would be an extension to an existing site which extracts construction sand and there is landowner and operator support for this to occur following exhaustion of permitted reserves. Extent of reserves in extension will need to be confirmed. The site is close to the SRN the Highway Authority officers advise that although access is constrained it is likely to be acceptable. There are no international biodiversity designations within 3km but there are two SSSIs located close by and a number of local nature conservation sites within 1km. The site is located upon the major aquifer but not within a SPZ.
S11 Land at Dunsbury Farm	Sand – yield known	This site is a greenfield site with landowner support for extraction of a relatively small amount of sand and gravel. The site is relatively well located to the SRN the Highway Authority officers advise that acceptable access would be difficult. The site is located within the AONB and heritage coast and it is also adjacent to a Special Area of Conservation however it is unlikely to have significant effects. There are several national historical features close to the site and several dwellings within 250m.
S13 Great Briddlesford Farm West	Sand and gravel – yield known	This site is greenfield, relatively close to the SRN but the Highway Authority officers advise that access is unlikely to be suitable. Yield of sand and gravel is confirmed and there is landowner support, however there are international and national biodiversity sites adjacent to the site and there is potential to have significant effects upon biodiversity and the site is within the AONB.
S14 Great Briddlesford Farm South West	Sand and gravel – yield known	This site is greenfield, adjacent to the strategic road network but the Highway Authority officers advise that access would be difficult and would require mitigation for it to be suitable. Yield of sand and gravel is confirmed and there is landowner support, however there are international and national biodiversity sites adjacent to the site there is potential to have significant effects upon biodiversity and the site is within the AONB.
S15 West Billingham Farm	Sand and gravel – yield known	The site is greenfield and the Highway Authority officers advise that there is poor proximity and access to the strategic road network. Creation of access road likely to be unacceptable and routeing would pass through a number of settlements. There is landowner support but with an initial estimate of a large mount of sand and gravel. Although the site is located over 3km from international biodiversity sites the site is a BAP habitat and adjacent to a Site of Importance for Nature Conservation. There are grade II listed buildings within the site and a Scheduled Monument 250m north.

Table 5.6 (continued) Potential Sand and Gravel Sites for Allocation

Site ref and name	Reserve information	Justification
S16 Land at Upper Hyde Farm, (north)	Sand – yield not confirmed	This site is adjacent to the SRN and the Highway Authority officers advise that access is suitable for HGVs. The site is greenfield and there is landowner support for sand extraction although no confirmed tonnage. The site is very large (69ha) and therefore would be unsuitable to allocate the entire area and would need to be refined. Site is 2km from the nearest international biodiversity site and 750m north of the AONB. There is however a grade II listed building within 100m and a number of dwellings and a village within 250m.
S17 Land at Upper Hyde Farm, (south)	Sand – yield not confirmed	This site is greenfield and is over 1km from the SRN and the Highway Authority officers advise that the access is unlikely to be suitable for HGVs even with mitigation. There is landowner support with suggested large amounts of sand although no confirmed tonnages provided. The site is 1.7km from the nearest Special Area of Conservation and there is a SSSI adjacent. The site is a BAP habitat and there are a number of local nature conservation sites close by. There is a regionally important archaeological asset within the site and grade II listed building within 500m.
S18 Shorwell Sandpit	Sand – yield known	Although the site is an existing minerals site extracting sand, the estimated yield of the extension area is small and the site is located over 4km from the SRN and the Highway Authority officers advise that mitigation to the access is likely to be required. The site is within the AONB and close to a number of local nature conservation designations. The site is situated upon a major aquifer but outside a SPZ. There is a regionally important archaeological asset within the site and a grade II listed building is 260m north west.
S20 Chawton Farm	Gravel - yield not confirmed	The site is greenfield and adjacent to the SRN and the Highway Authority officers advise that the access that is likely to be acceptable subject to mitigation. There is landowner support for extraction but no confirmed tonnage. There are a number of sensitive receptors adjacent to the site including dwellings and a church. There are also nationally important archaeological assets within the site and grade I and II listed buildings within 100m. The site is only 130m from international and national biodiversity designations with the potential for significant effects.

Although specific tonnages of sand and gravel cannot be disclosed, it is expected that from those sites with known yields, approximately 1.8 million tonnes could be potentially extracted from all of the 'most preferred' and 'preferred' sand and gravel sites. For tonnages known for the 'least preferred' sites this is estimated to be 12.1 million tonnes.

5.4.2 Chalk

In the case of chalk sites, there are only 4 short listed for assessment. All sites are within the AONB and SPZ3. The 'Most Preferred' sites are those which perform well against many of the objectives, where the mineral yield has been confirmed by the operator and no additional Greenfield land is required. 'Preferred' sites are those which also perform well against the assessment objectives and no Greenfield land is required. However the site's yield is not confirmed. The 'least preferred' sites perform well against some of the objectives however potentially significant constraints have been identified within or close to the site.

Table 5.7 Potential Chalk Sites for Allocation

Site ref and name	Reserve type and tonnage	Justification
Most preferred		
CS4 Cheverton Chalk Quarry (extraction to greater depth)	Chalk –yield confirmed	This site is a vertical extension to an existing chalk quarry and there is operator support for this site. The site is located over 3km from the SRN however the Highway Authority officers advise that the current access is considered acceptable. The site is within the AONB and it is situated upon a major aquifer and within SPZ3. There are no sensitive receptors within 250m and the site is over 2km from international biodiversity designations. There are several scheduled monuments within 250m of the site although as extraction has already been permitted at the site any impacts upon these receptors should have been mitigated.
Preferred		
CS3 Duxmore quarry extension (extraction to a greater depth	Chalk – yield not confirmed	This site is a vertical extension to an existing chalk quarry and there is operator support for this site although tonnage is yet to be confirmed. The site is well located 200m from the SRN and the Highway Authority officers advise that access is considered acceptable. The site is within the AONB and it is situated upon a major aquifer and within SPZ2 and 3 in terms of groundwater vulnerability. There is 1 sensitive receptor within 250m and Briddlesford Copse SAC is 1.3km north however it is unlikely there will be significant effects upon biodiversity.
Least preferred		
CS4a Cheverton Chalk Quarry - western extension	Chalk – yield confirmed	This site is a lateral extension to the west of an existing chalk quarry and there is operator support for this site with tonnage confirmed. The site is located over 3km from the SRN however the Highway Authority officers advise that current access is considered acceptable. The site is within the AONB and it is situated upon a major aquifer and within SPZ3. There are no sensitive receptors within 250m and the site is over 2km from international biodiversity designations. There are several scheduled monuments within 250m of the site and there is likely to be nationally important archaeological assets within the site and disturbance of these should be avoided. A small section of the site is a BAP priority habitat.
CS4b Cheverton Chalk Quarry – eastern extension	Chalk – yield confirmed	This site is a lateral extension to the east of an existing chalk quarry and there is operator support for this site with tonnage confirmed. The site is located over 3km from the SRN however the Highway Authority officers advise that current access is considered acceptable. The site is within the AONB and it is situated upon a major aquifer and within SPZ3. There are no sensitive receptors within 250m and the site is over 2km from international biodiversity designations. There are several scheduled monuments within 250m of the site and there is likely to be regionally important archaeological assets within the site and disturbance of these should be avoided. A small section of the site is a BAP priority habitat.

Due to commercial confidentiality the likely tonnages of the 'most preferred' and 'preferred' chalk sites combined cannot be disclosed.

Detailed proformas are provided for those sites which are considered 'most preferred' or 'preferred' for potential allocation for sand and gravel and chalk. This includes a description of the site context and specific key planning issues.

S1 Crockers Farm
Grid Reference: 448845, 92569 **Site Size**: 9.8 hectares (ha)
Site Context
This site is located south of Cowes and Northwood and north of Newport adjacent to the A3020. The site has been proposed by a mineral operator and it is understood that the relevant landowner is supportive of its promotion. The site is understood to currently be agricultural land and has no previous history of minerals development, however part of the site was previously allocated in the Isle of Wight Unitary Development Plan for minerals extraction. The type of mineral proposed for extraction at this site is sand and gravel and the estimated yield has been provided. It is expected to be worked over 6 years. The operator has provided details of suggested restoration which includes partial backfilling with mineral waste from Blackwater Quarry and suing limited quantities of inert construction and demolition waste to agriculture.
Key Planning Issues
• **Access –** currently access to the site is via an unmade track. This would require upgrading to facilitate regular HGV usage and the appropriate visibility splays provided; • **Biodiversity –** the site is located close to biodiversity sites including 1.4km from the Solent and Southampton Water SPA, 0.9km from the Solent and Southampton Water Ramsar site and approximately 250m east of Ridge Copse SINC and BAP habitat. Although unlikely to have significant effects upon international biodiversity sites any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Agricultural land quality –** the site is potentially grade 3 agricultural land. The exact grading would need to be determined e.g. 3a, 3b or 3c and an assessment of the impact of its potential loss included as part of any future planning application; • **Groundwater resources** - the site lies on a minor aquifer. Impact upon groundwater resources should be considered as part of any future planning application; • **Local Amenity –** there are properties within 250m of the site and a PROW passes through the site. The impact upon these receptors would need to be determined and any mitigation incorporated including possible diversions for the PROW as part of any future planning application; • **Cultural assets –** there are Grade I and Grade II listed buildings within 500m and regionally important archaeological assets adjacent to the site. Impacts upon their setting and potential disturbance of assets would need to be considered as part of any future planning application and mitigation incorporated as part of the working of the site.

S4 Lavender Farm
Grid Reference: 452220, 89311 **Site Size:** 5.4ha
Site Context
This site is located in east of Newport off Staplers Road. The site is within 650m of the strategic road network and has purpose built access road onto Staplers Road at the junction with Blacklands Lane. This is considered to be suitable for use by HGVs and is already used by vehicles in connection with mineral extraction from other adjacent sites. The site has been proposed by an agent who appears to be acting on behalf of the landowner. The site is understood to be grade 3 agricultural land and has no previous history of minerals development. The type of mineral proposed for extraction at this site is gravel and the estimated yield has been provided. Information regarding the likely phasing of the site working or details of suggested restoration is not known.
Key Planning Issues
• **Biodiversity –** the site is located close to biodiversity sites including 1.5km from Briddlesford Copses SAC and SSSI and 1.9km from the Solent and Southampton Water SPA, Ramsar and SSSI. In addition the site is adjacent to Staplers Heath SINC and 75m from local BAP habitat. Although unlikely to have significant effects upon international biodiversity sites any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Agricultural land quality –** the site is potentially grade 3 agricultural land. The exact grading would need to be determined e.g. 3a, 3b or 3c and an assessment of the impact of its potential loss included as part of any future planning application; • **Groundwater resources** - the site lies on a minor aquifer. Impact upon groundwater resources should be considered as part of any future planning application; • **Local Amenity –** there are properties within 100m of the site. The impact upon these receptors would need to be determined and any mitigation incorporated as part of any future planning application; • **Cultural assets –** there are Grade II listed building 750m from the site and regionally important archaeological assets within 500m of the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any future planning application and any necessary mitigation incorporated as part of the working of the site; • **Airfield Safeguarding Zone –** the site is 8.5km north west of Sandown Airport. The relevant airport operator/s would need to be consulted with regard to bird strike issues if relevant during restoration.

S5 Cheverton Gravel Pit (vertical extension)
Grid Reference: 444036, 84093 **Site Size:** 1.29ha
Site Context
This site is located south west of the Island, west of Shorwell. The site is an existing gravel pit which is proposed to extract to greater depths. Although 2.5km from the strategic road network, the site access is suitable for HGVs. The site has been proposed by a mineral operator and landowner. The type of mineral proposed for extraction at this site is gravel and the estimated yield has been provided. It is expected to be worked following the exhaustion of existing permitted reserves and in conjunction with expansion to the west (S12). The operator has suggested restoration to agricultural land using inert landfilling.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to a local biodiversity site – Limerstone Down SINC which is 267m south. Any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Groundwater resources** - the site lies on a major aquifer and within SPZ3 total catchment groundwater source protection zone. Impact upon groundwater resources should be considered as part of any planning application; • **Cultural assets –** there is a scheduled monument 250 east of the site and regionally important archaeological assets adjacent to the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the increased working of the site.

S8 Blackwater Quarry Western Extension
Grid Reference: 450695, 87797 **Site Size:** 2.5ha
Site Context
This site is located adjacent to the existing Blackwater Quarry at St George's Down near Arreton south of Newport. The site is 120m from the strategic road network and would be linked to the adjacent existing mineral workings. The current quarry access has been designed for HGV traffic. The site has been proposed by a mineral operator and landowner. It is understood that a planning application has already been submitted for the extension. The site is understood to currently be scrub. The type of mineral proposed for extraction at this site is sand and gravel and the estimated yield has been provided. It is expected to be worked over 4 years. The operator has provided details of suggested restoration which includes partial backfilling with mineral waste from Blackwater Quarry and using limited quantities of inert construction and demolition waste to agriculture.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to national and local biodiversity sites including Shide Chalk Pit SSSI and Local Nature Reserve adjacent to the south; the River Medina SINC 300m west and BAP habitat 15m north. Any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Agricultural land quality –** the site is potentially grade 3 agricultural land. The exact grading would need to be determined e.g. 3a, 3b or 3c and an assessment of the impact of its potential loss included as part of any planning application; • **Groundwater resources** - the site lies on a major aquifer although outside groundwater source protection zones. Impact upon groundwater resources should be considered as part of any planning application; • **Local Amenity –** there are properties within 250m of the site. The impact upon these receptors would need to be determined and any mitigation incorporated as part of any planning application; • **Cultural assets –** there are Grade I and II listed buildings within 800m from the site and regionally important archaeological assets within the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the working of the site; • **Airfield Safeguarding Zone –** the site is 8.7km north west of Sandown Airport. The relevant airport operator/s would need to be consulted with regard to bird strike issues if relevant during restoration.

S12 Cheverton Gravel Pit - Western extension
Grid Reference: 443900, 84019 **Site Size**: 3.5ha
Site Context
This site is located south west of the Island , west of Shorwell and would be a lateral extension west of the existing gravel pit at Cheverton Farm. Although 2.5km from the strategic road network, the site would use the existing quarry access which is considered suitable for HGVs. The site has been proposed by a mineral operator and landowner. The type of mineral proposed for extraction at this site is gravel and the estimated yield has been provided. It is expected to be worked following the exhaustion of existing permitted reserves and in conjunction with expansion vertically to the existing pit. The operator has suggested restoration to agricultural land using inert landfilling.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to a local biodiversity sites – Limerstone Down SINC which is 140m south and BAP habitat 200m west. Any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Groundwater resources** - the site lies on a major aquifer and within SPZ3 total catchment groundwater source protection zone. Impact upon groundwater resources should be considered as part of any planning application; • **Cultural assets –** there is a scheduled monument 300m east of the site, grade II listed building 900m to the south and regionally important archaeological assets within 500m of the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the working of the site.

S21 Blackwater Quarry – Land at Great East Standen Farm
Grid Reference: 452035, 87531 **Site Size:** 4.6ha
Site Context
This site is located east of the existing Blackwater Quarry at St George's Down close to Great East Standen Farm. The site would require a haul road to be developed to use the access point for the existing mineral working. The current quarry access has been designed for HGV traffic. The site has been proposed by a mineral operator and it is understood that there is support from the relevant landowner. The site is understood to currently be grade 4 agricultural land. The type of mineral proposed for extraction at this site is sand and gravel and the estimated yield has been provided. It is expected to be worked over 4 years. Restoration would be to agriculture.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to national and local biodiversity sites including Arreton Down SSSI 1km east; and Shide Chalk Pit LNR is 750m northwest. In addition small sections of Wroxall Bottom Copse Ancient Woodland, Wroxall Bottom Copse SINC and a small area of BAP priority habitat are within site. Any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Groundwater resources** - the site lies on a major aquifer although outside groundwater source protection zones. Impact upon groundwater resources should be considered as part of any planning application; • **Local Amenity –** there are properties 100m from the site and a PROW passes through the site. The impact upon these receptors would need to be determined and any mitigation incorporated including possible diversions for the PROW as part of any future planning application; • **Cultural assets –** a Grade II listed building is located 300m west and there are regionally important archaeological assets within the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the working of the site; • **Airfield Safeguarding Zone –** the site is 8km north west of Sandown Airport. The relevant airport operator/s would need to be consulted with regard to bird strike issues if relevant during restoration.

CS3 Duxmore Chalk Quarry – vertical extension
Grid Reference: 455076, 87435 **Site Size**: 1.9ha
Site Context
This site is located south east of Newport and would be a vertical extension to an existing chalk quarry. The site is located 200m north of the strategic road network and already has existing quarry access which is considered suitable for HGVs. The site has been proposed by the current mineral operator who also leases the land. The type of mineral proposed for extraction at this site is chalk however the estimated yield for the extension has not yet been determined. It is expected to be worked following the exhaustion of existing permitted reserves. The operator has not provided any information regarding proposed site restoration.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to a international, national and local biodiversity sites including Briddlesford Copse SAC 1.3km north, Arreton Down SSSI 350m south and adjacent to Arreton Down SINC, Ancient Woodland and a BAP priority habitat. Although unlikely to have significant effects upon international biodiversity sites any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Groundwater resources** - the site lies on a major aquifer and within SPZ3 total catchment groundwater source protection zone. Impact upon groundwater resources should be considered as part of any planning application; • **Local Amenity –** there is one dwelling adjacent to the northern boundary. The impact upon nearby sensitive receptors would need to be determined and any mitigation incorporated as part of any future planning application; • **Cultural assets –** there is a grade II listed building 550m from the site and regionally and locally important archaeological assets within and adjacent to the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the increased working of the site; • **Airfield Safeguarding Zone –** the site is located 6.5km north west of Sandown airport and 9.5km west of Bembridge airport. The relevant airport operator/s would need to be consulted with regard to bird strike issues if relevant during restoration.

CS4 Cheverton Chalk Quarry – vertical extension
Grid Reference: 445110, 84291 **Site Size**: 3.5ha
Site Context
This site is located south west of the Island, west of Shorwell and would be a vertical extension of the existing chalk quarry. Although over 3km from the strategic road network, the site would use the existing quarry access which is considered suitable for HGVs. The site has been proposed by a mineral operator and landowner. The type of mineral proposed for extraction at this site is chalk and the estimated yield has been provided. It is expected to be worked following the exhaustion of existing permitted reserves. The operator has suggested restoration to biodiversity as worked out areas are already developing a calcareous eco system.
Key Planning Issues
• **Landscape and visual –** the site is within the AONB and therefore any planning application should consider the impacts of working the site upon the objectives of this designation and incorporate appropriate mitigation and restoration; • **Biodiversity –** the site is located close to national and local biodiversity sites including Rowridge Valley SSSI 1.7km north; Limerstone Down SINC which is 300m north; and a small section of BAP habitat is within the site. Any planning application will need to consider the potential impacts of working the site upon the these biodiversity habitats and incorporate appropriate mitigation where required; • **Groundwater resources** - the site lies on a major aquifer and within SPZ3 total catchment groundwater source protection zone. Impact upon groundwater resources should be considered as part of any planning application; • **Cultural assets –** there are a number of scheduled monuments within 250m of the site, a historic park and garden is located 950m from the site and there is potential for national and regionally important archaeological assets within the site. Impacts upon setting and potential disturbance of assets would need to be considered as part of any planning application and any necessary mitigation incorporated as part of the increased working of the site;

6. Conclusions and Recommendations

6.1 Summary of Assessment of Sites

The assessment of sites put forward as potential sites for sand and gravel and chalk extraction has shown that they have various opportunities and constraints. The majority of the sites assessed were found to be within the AONB and upon the major aquifer and therefore revisions were made to the site selection approach to ensure sites considered to be deliverable were assessed for potential mineral extraction on the Island.

The shortlisted sites (17 sand and gravel and 4 for chalk) have been assessed against a range of planning and environmental objectives and indicators. Using the results of this assessment the sites have been categorised into 'most preferred', 'preferred' and 'least preferred' as follows according to their potential suitability for allocation within the Development Plan.

Table 6.1 Summary of Site Assessment

Sand and Gravel Sites
Most Preferred
S1 Crockers Farm
S4 Lavender Farm
Preferred
S5 Cheverton Farm Gravel Pit (extension)
S8 Blackwater Quarry Western Extension
S12 Cheverton Gravel Pit
S21 Blackwater Quarry – Land at Great East Standen Farm including proposed access
Least Preferred
S2 Great Briddlesford Farm North West
S3 Palmers Farm
S10 Knighton Sandpit Extension
S11 Land at Dunsbury Farm
S13 Great Briddlesford Farm West
S14 Great Briddlesford Farm South West
S15 West Billingham Farm
S16 Land at Upper Hyde Farm, (north)

Sand and Gravel Sites
S17 Land at Upper Hyde Farm, (south)
S18 Shorwell Sandpit
S20 Chawton Farm

Chalk Sites
Most Preferred
CS4 Cheverton Chalk Quarry (extraction to greater depth)
Preferred
CS3 Duxmore quarry extension (extraction to a greater depth
Least Preferred
CS4a Cheverton Chalk Quarry - western extension
CS4b Cheverton Chalk Quarry – eastern extension

6.2 Recommendations

The results of this minerals site assessment form part of the evidence base for the Core Strategy and any subsequent Development Plan Documents (DPDs) and can assist the Council in the process of allocating sites for mineral development. Based on the findings of the assessment the following recommendations are made which Entec consider should be taken account of in the Development Plan process

This assessment was undertaken in accordance with the scope of work requested by and agreed with the Isle of Wight Council. The results of the assessment indicate that the following recommendations should be considered:

- Further consultation is undertaken with interested parties of the sites to obtain supporting information (i.e.bore hole data/mineral assessment reports) to verify site reserves/yield estimates;
- Further consultation is undertaken with the minerals industry regarding the approach to and extent of the Mineral Safeguarding Areas in order to comply with the British Geological Survey guidance on Mineral Safeguarding;
- In accordance with responses received from key consultees (e.g. Government Office for the South East and South East regional Aggregates Working Party) regarding the revised approach to the assessment, the Council may wish to consider further consultation with the industry to establish the

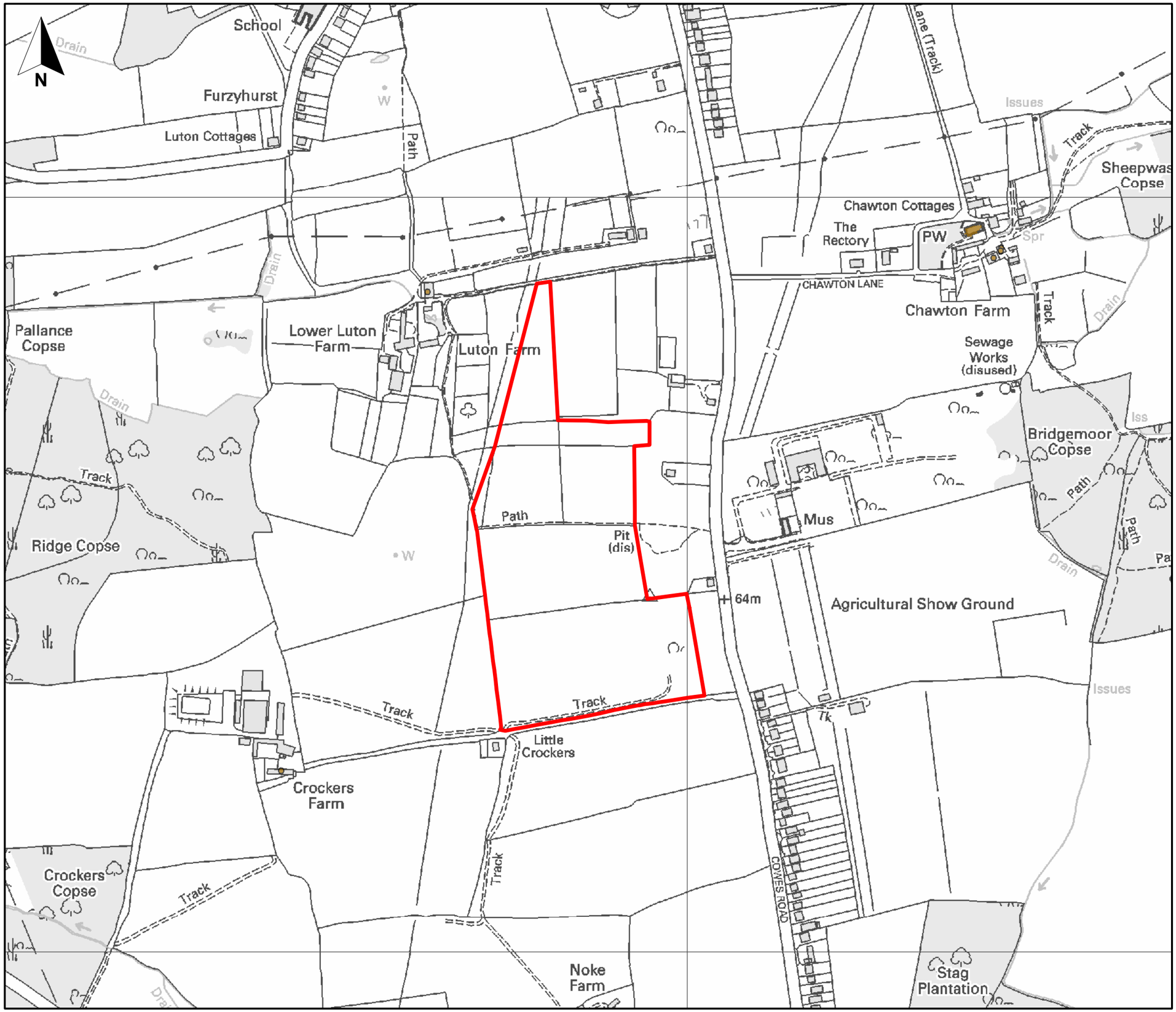
reasons why there is no interest in the unconstrained areas of mineral identified through the GIS sieving process;

- To address comments made by Isle of Wight AONB Partnership and Natural England in their responses to the revised methodology undertake a more detailed appraisal of the potential impacts of the sites upon the AONB and explore further with the industry and these consultees the optimal restoration , remediation and mitigation options for the sites;

- Further consultation is undertaken with the public and key stakeholders regarding the site options presented in this assessment.

Appendix A
Site Plans

Appendix A



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

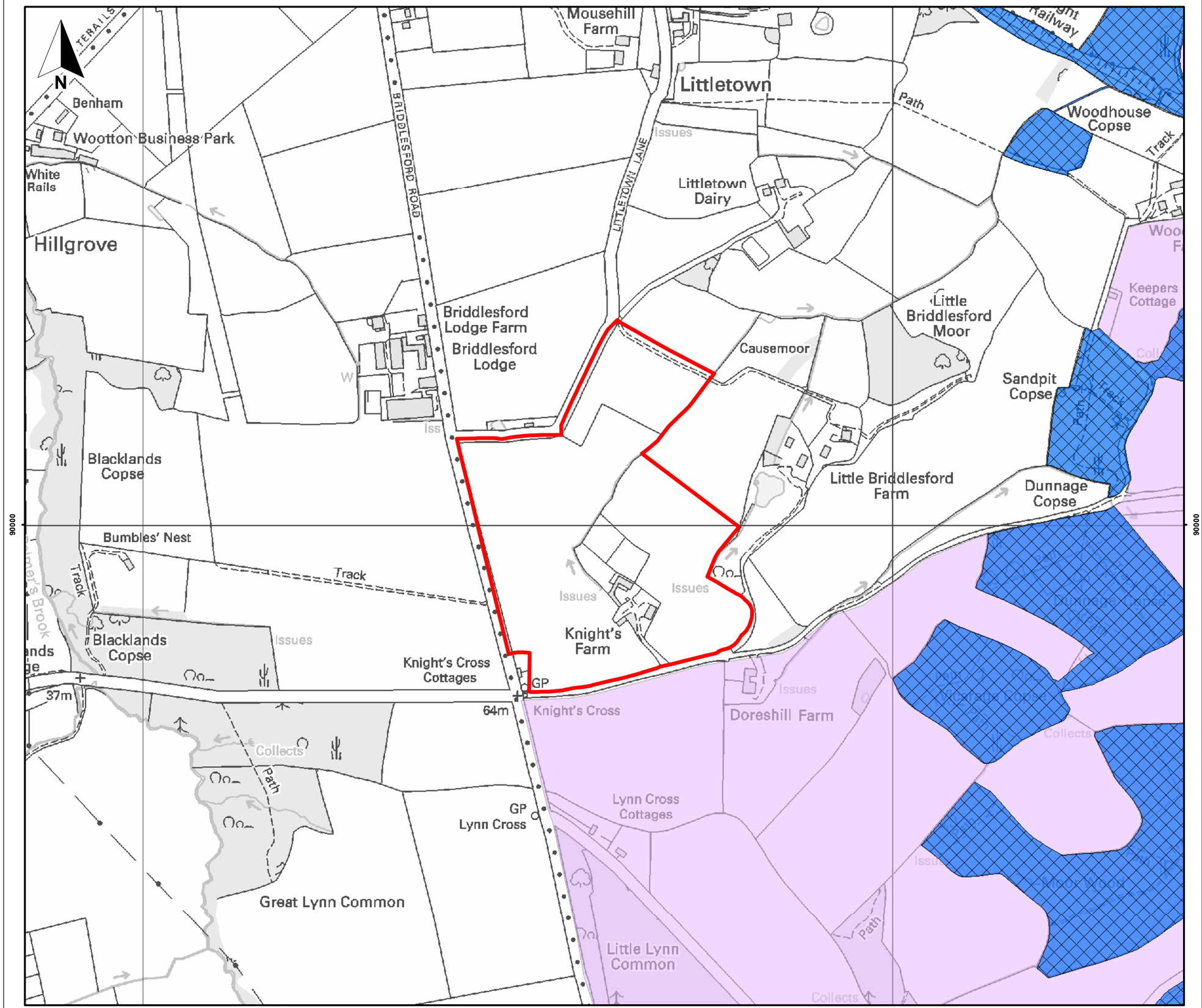
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S1.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S1: Crockers Farm, Northwood

October 2010
24810-S22 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 150 Meters

1:3000 @ A3

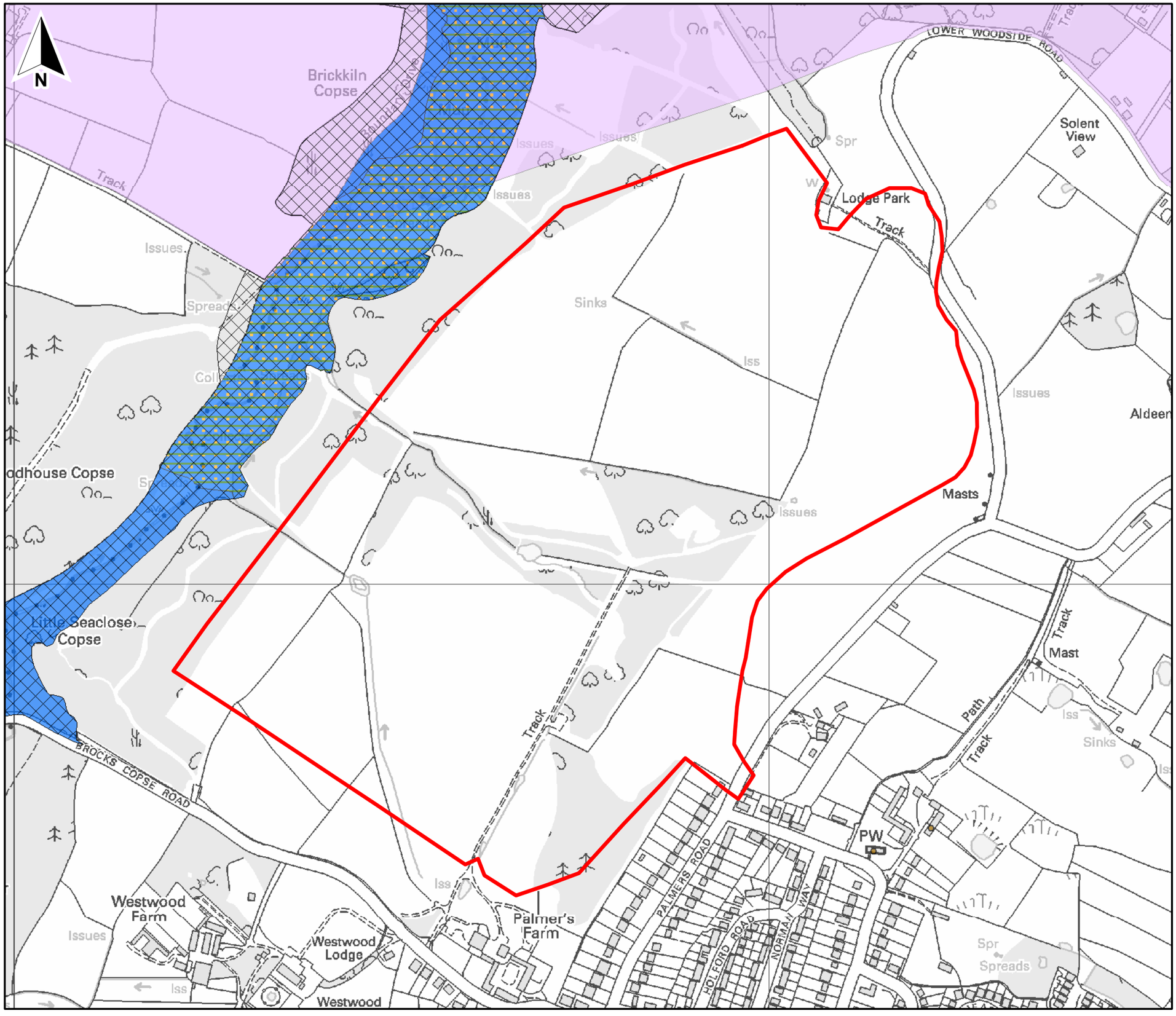
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S5 and S12.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S2: Great Briddlesford Farm North West, Havenstreet

October 2010
24810-S23 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

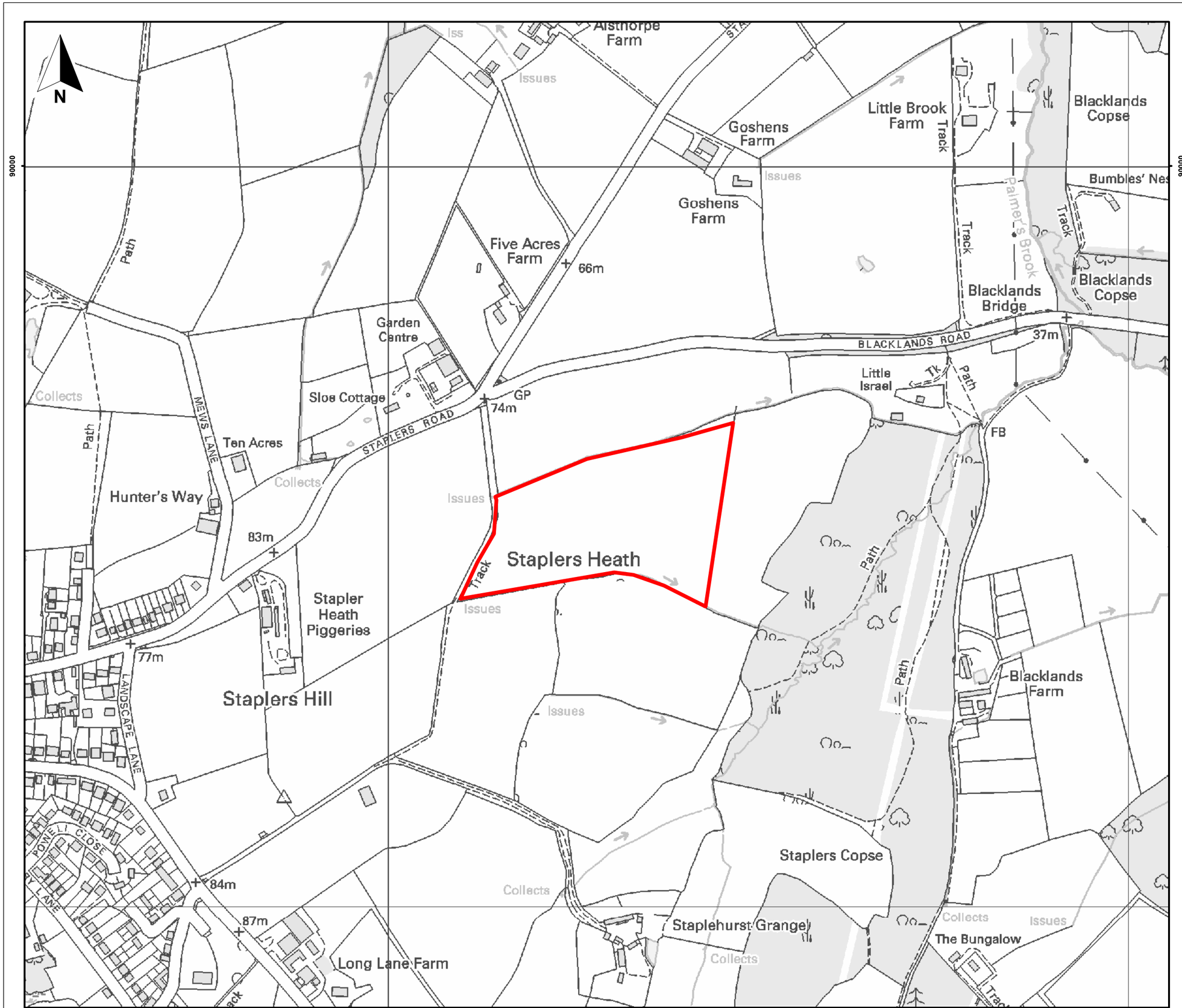
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S3.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S3: Palmers Farm, Palmers Road, Wootton

October 2010
24810-S24 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 300 Meters

1:2000 @ A3

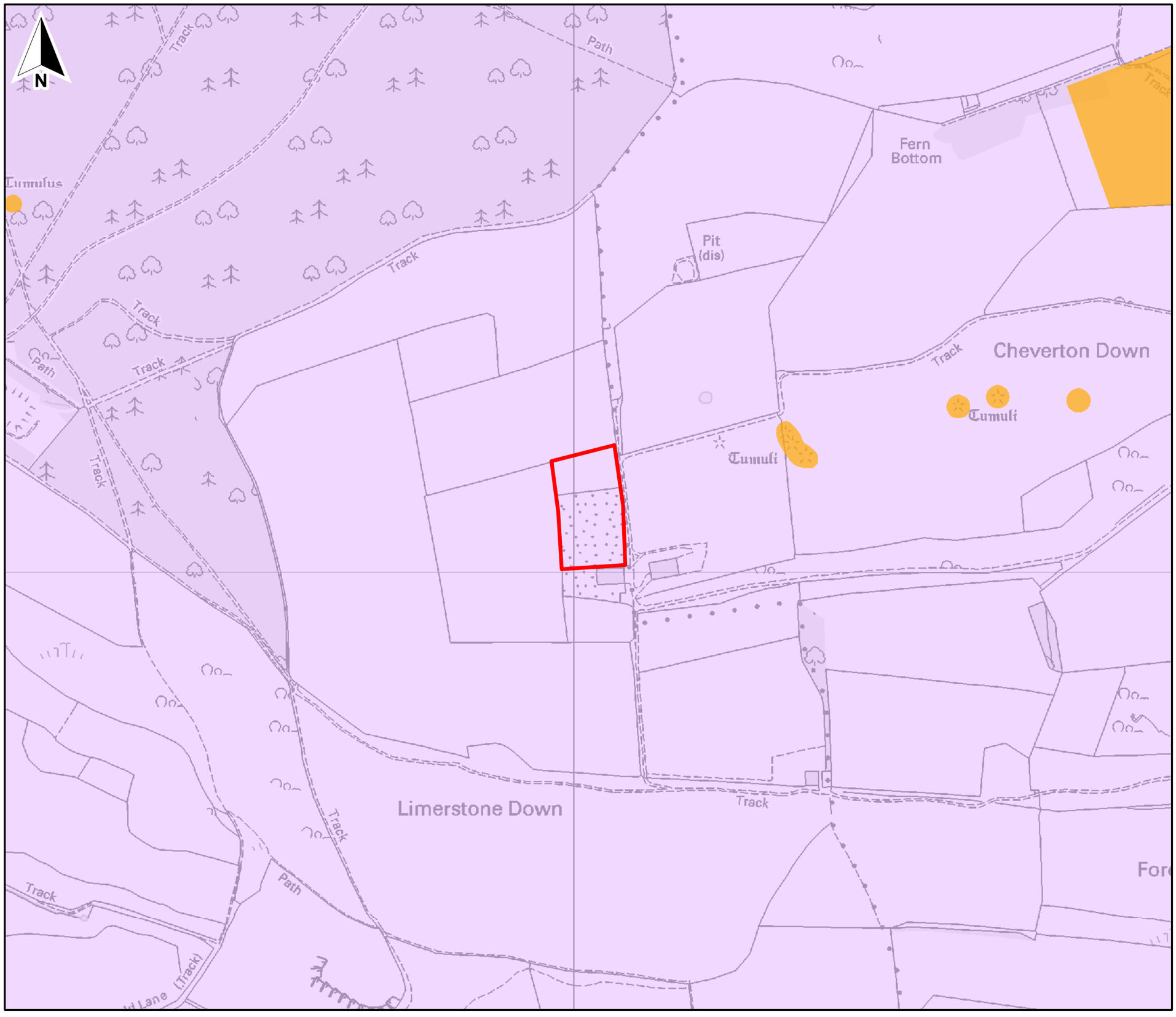
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S4.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S4: Lavender Farm, Staplers Road, Newport

October 2010
24810-S25 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:5000 @ A3

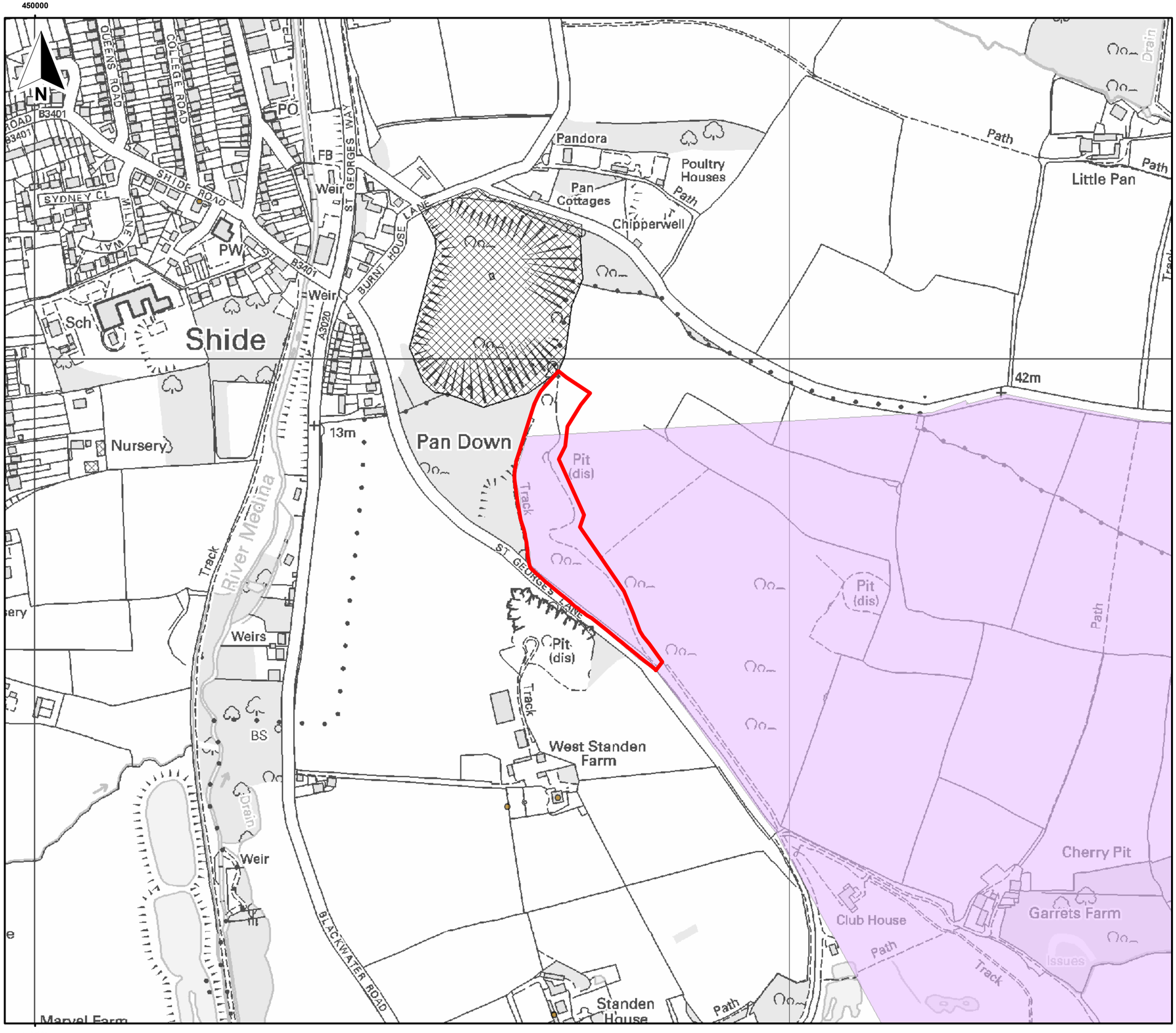
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S5 and S12.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S5: Cheverton Farm Gravel Pit Extension, Shorwell

October 2010
24810-S26 browj

Entec



Based upon the Ordnance Survey Map with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. AL100001776

Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:2000 @ A3

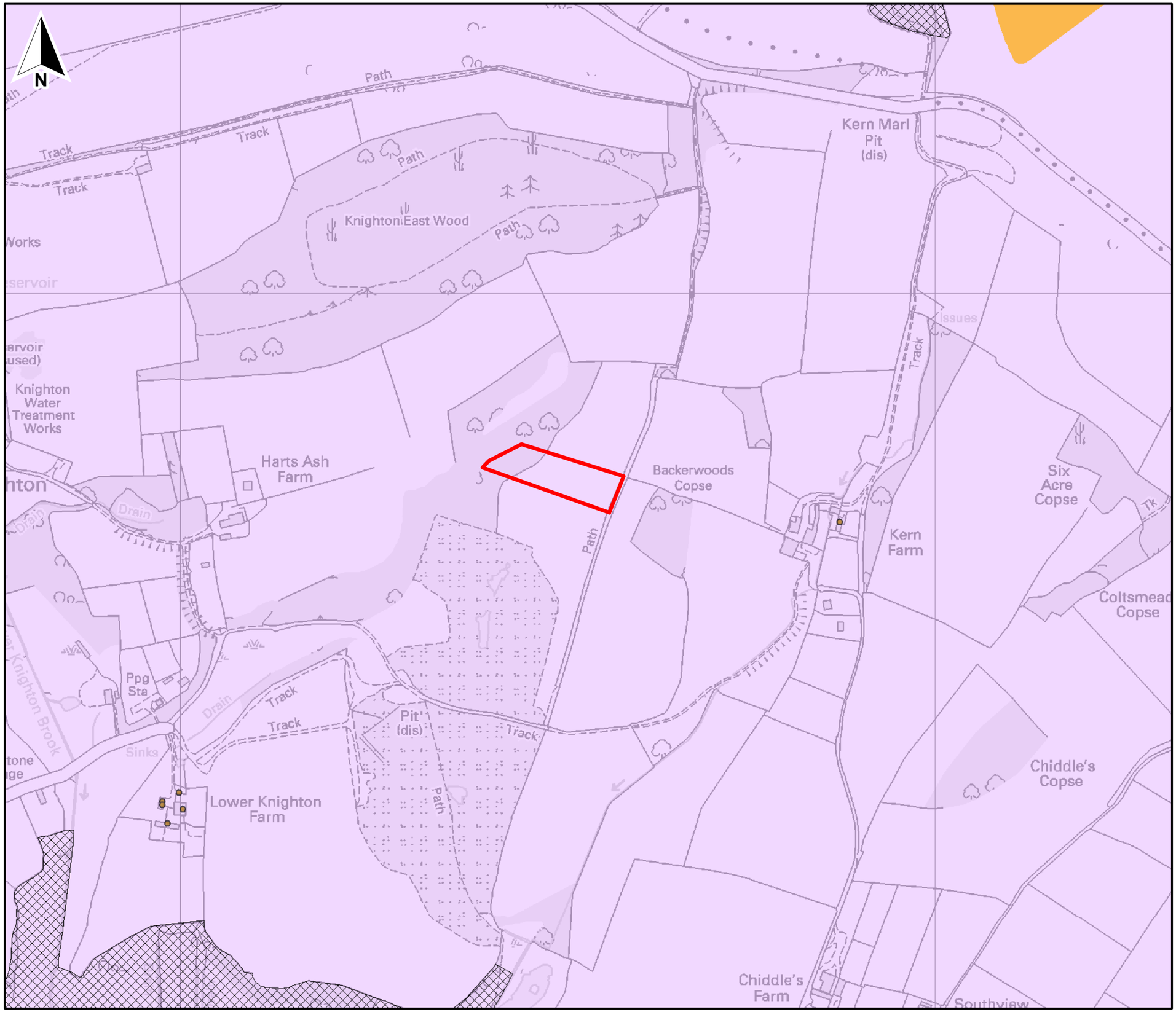
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S8.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S8: Blackwater Quarry Western Extension, St George's Down

October 2010
24810-S27 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 250 Metres

1:2500 @ A3

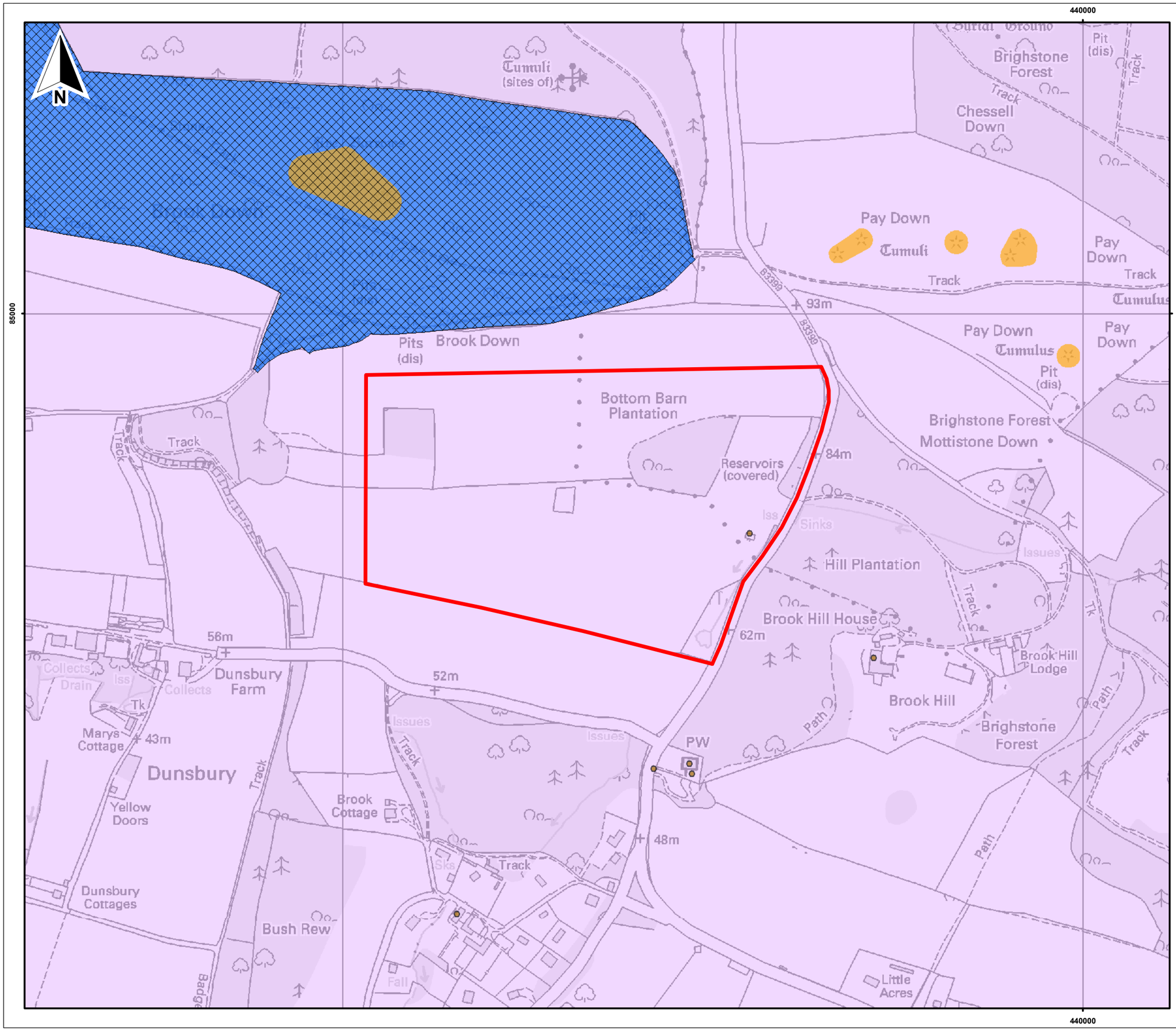
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S10.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S10: Knighton Sandpit Northern Extension, Knighton, Newchurch

October 2010
24810-S39 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:5000 @ A3

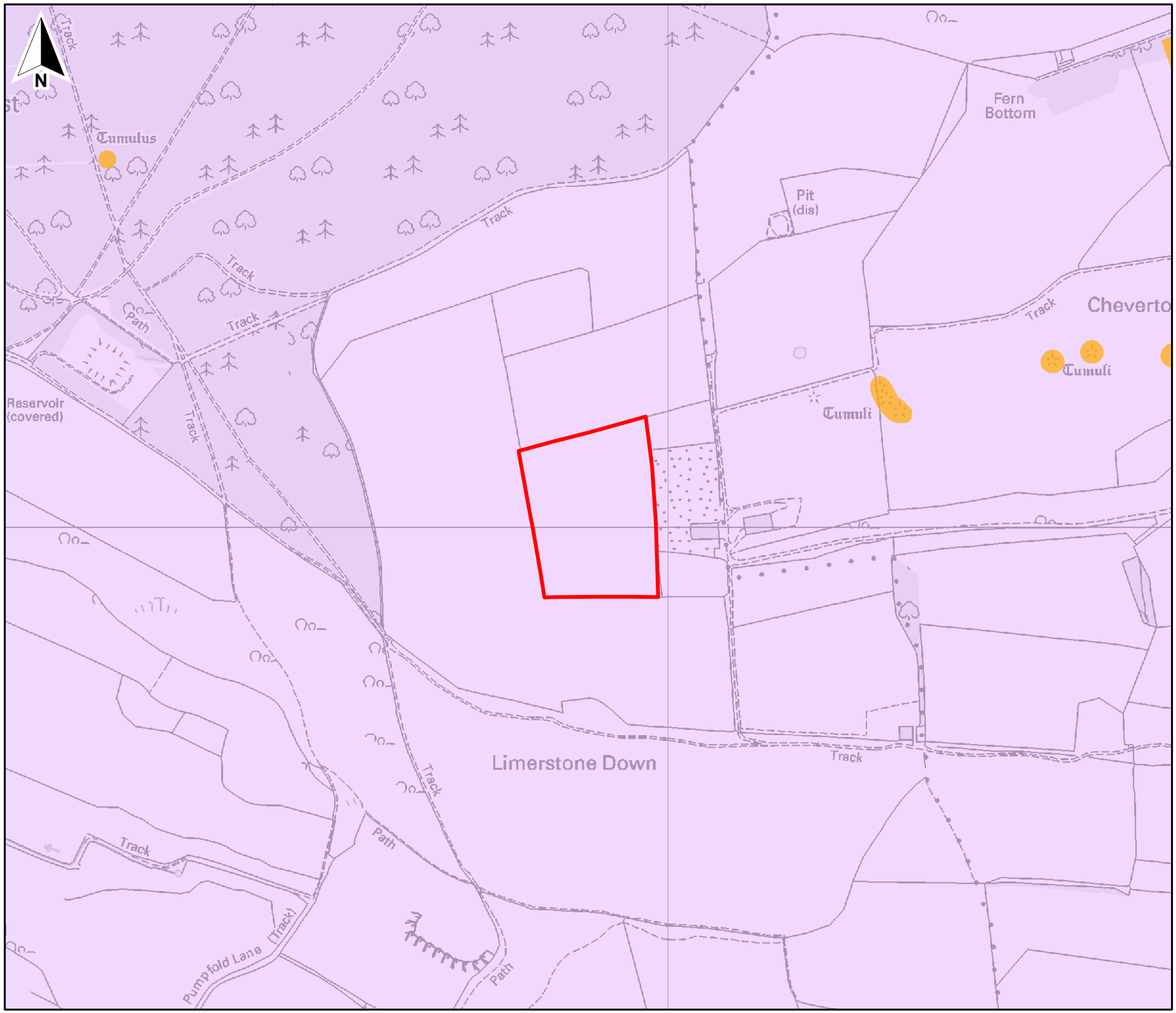
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S11.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S11: Land at Dunsbury Farm, Dunsbury

October 2010
24810-S28 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

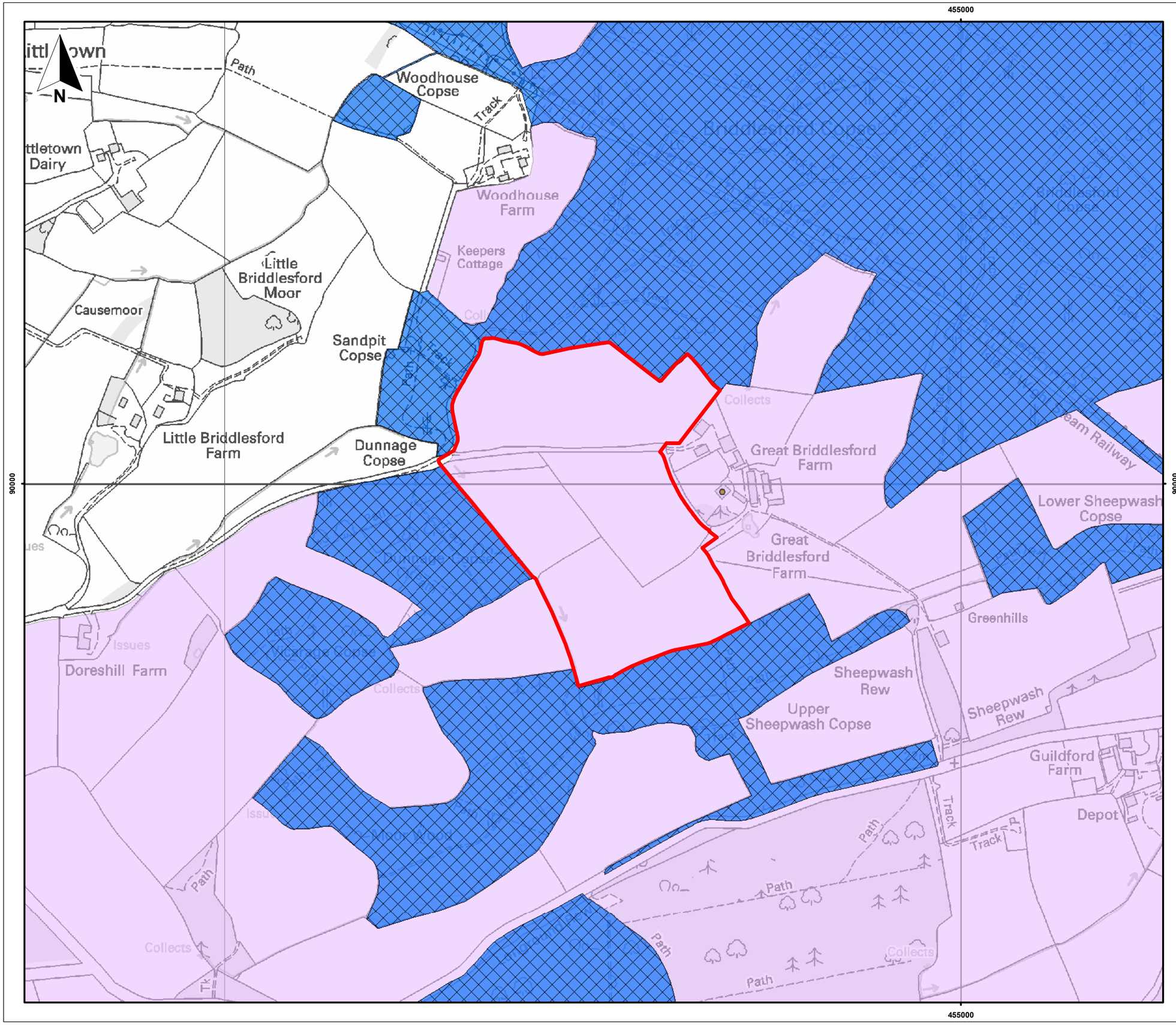
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S12.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S12: Cheverton Gravel Pit Western Extension, Shorwell

October 2010
24810-S46 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

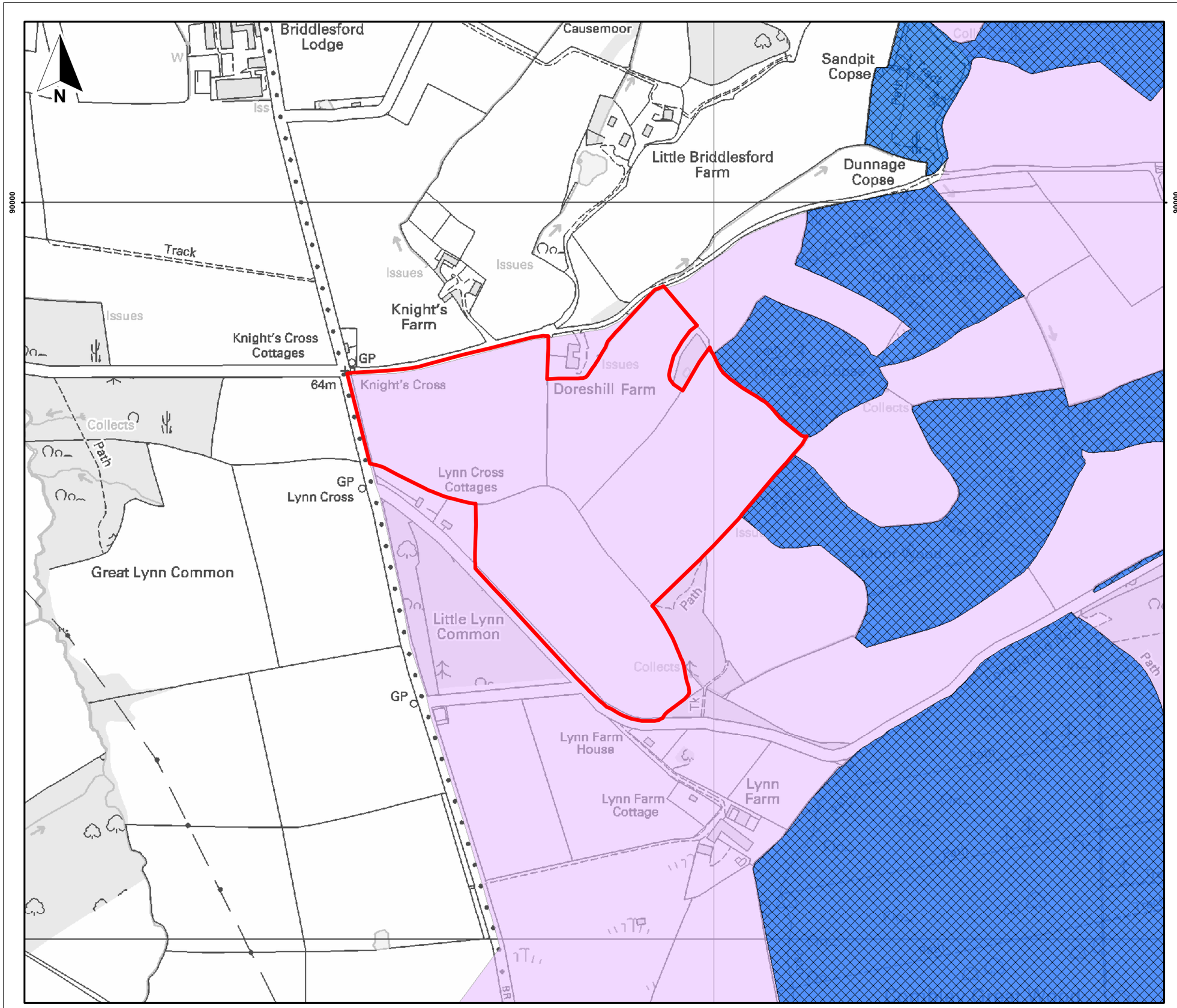
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S13.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S13: Great Briddlesford Farm West, Havenstreet

October 2010
24810-S29 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:2500 @ A3

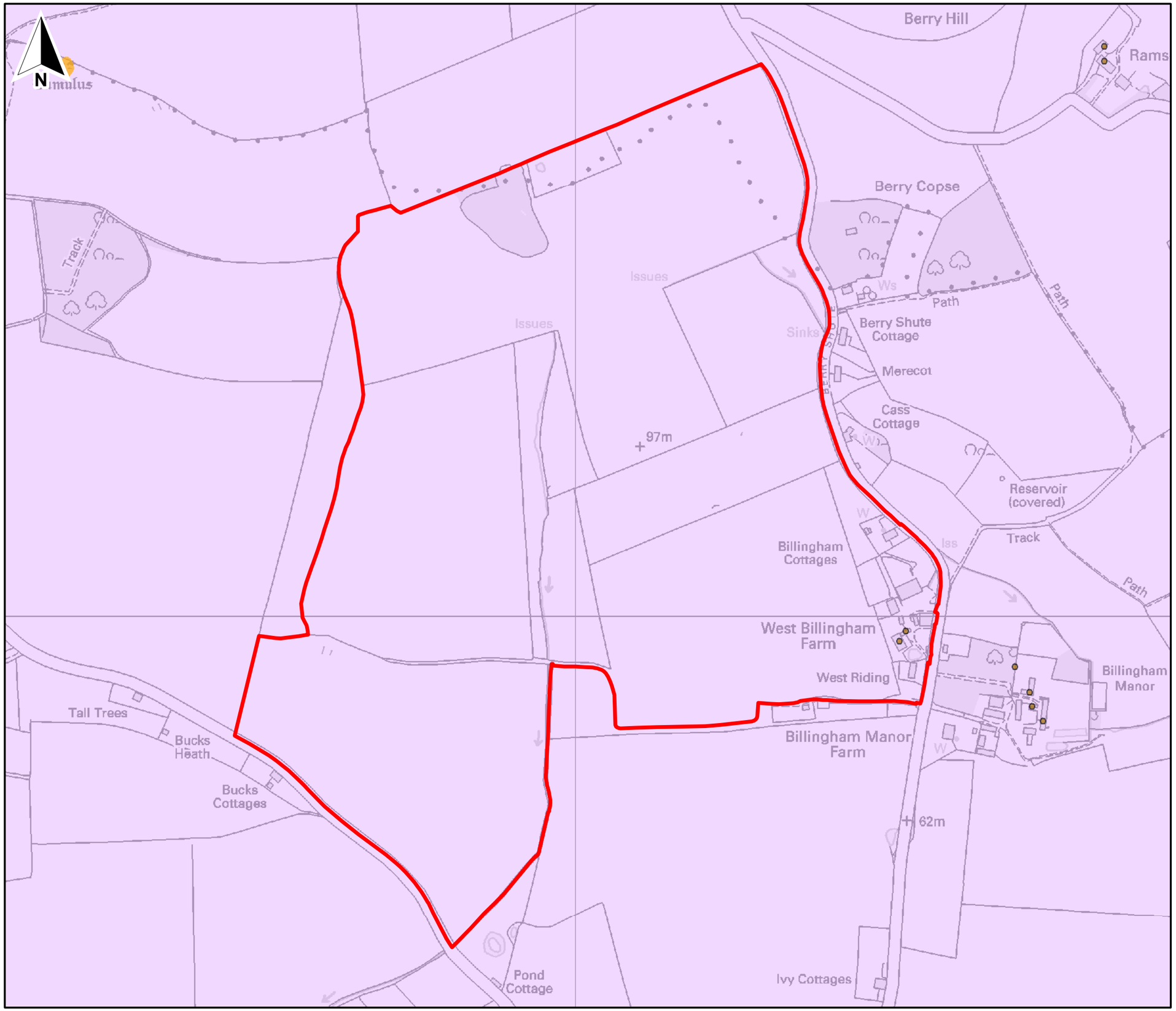
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S14.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S14: Great Briddlesford Farm South West, Havenstreet

August 2010
24810-S30 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:5000 @ A3

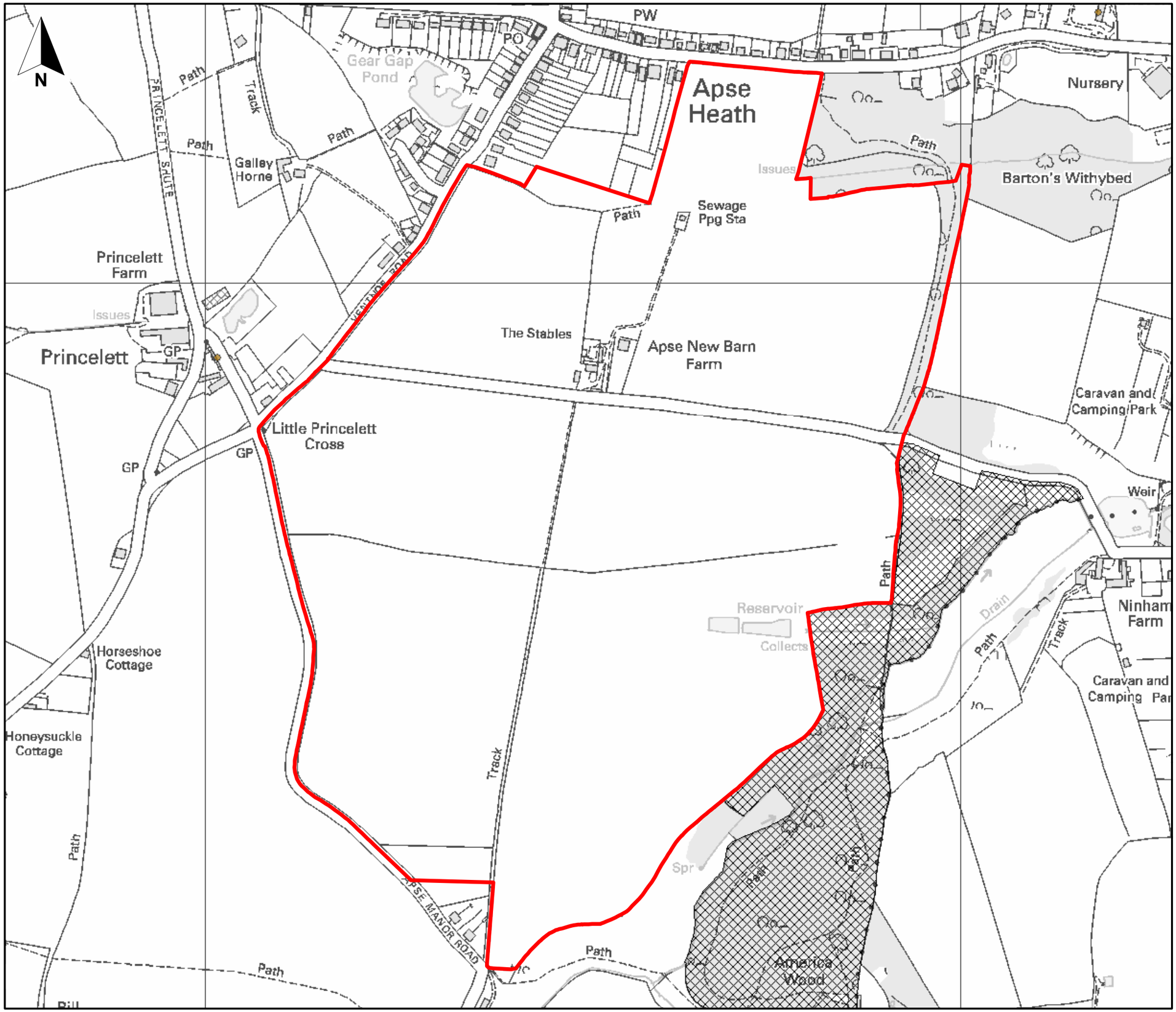
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S15.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S15: West Billingham Farm, Billingham

October 2010
24810-S31 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:5000 @ A3

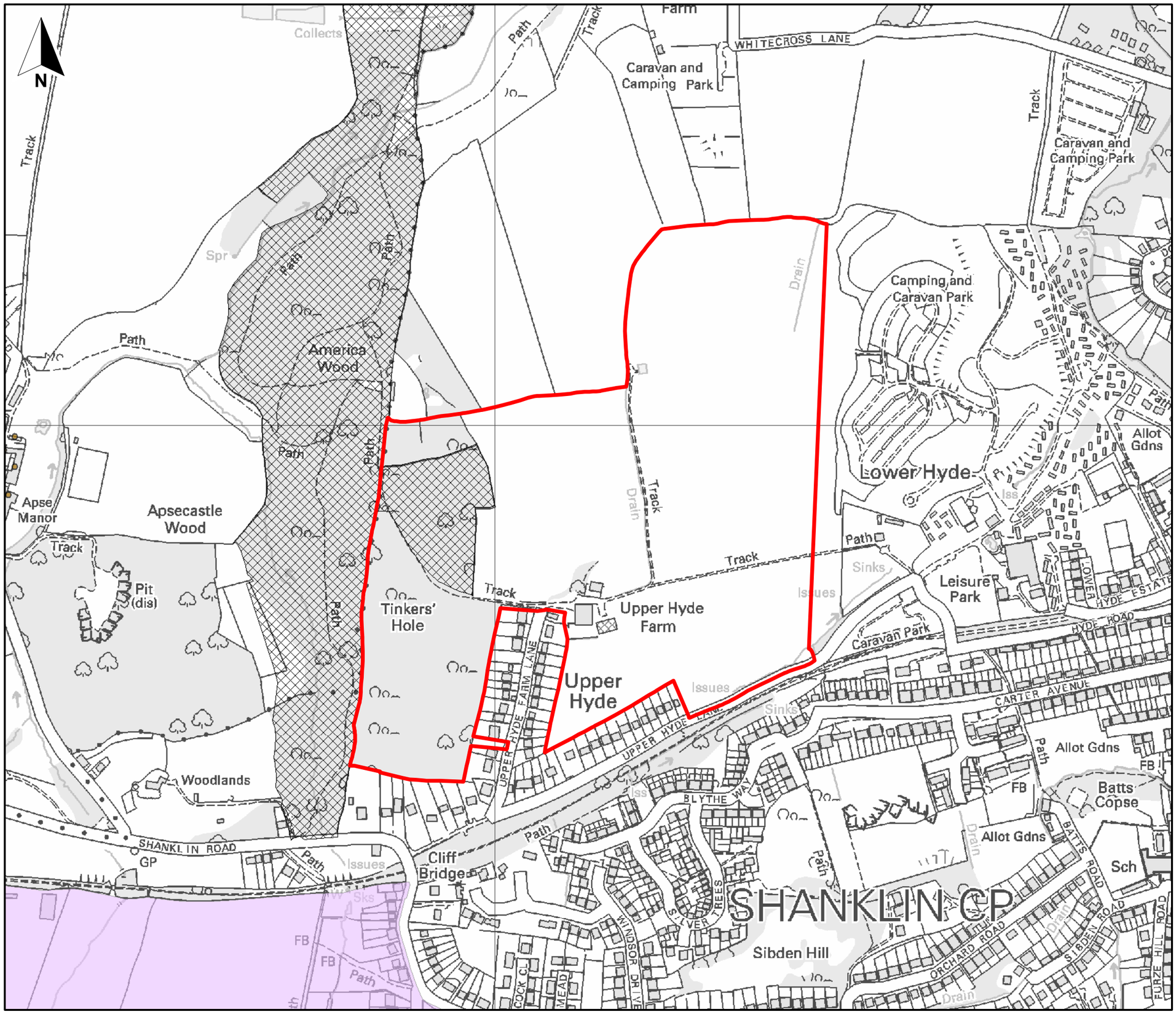
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S16.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S16: Land at Upper Hyde Farm, (North), Upper Hyde Farm Lane, Shanklin

October 2010
24810-S32 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:3000 @ A3

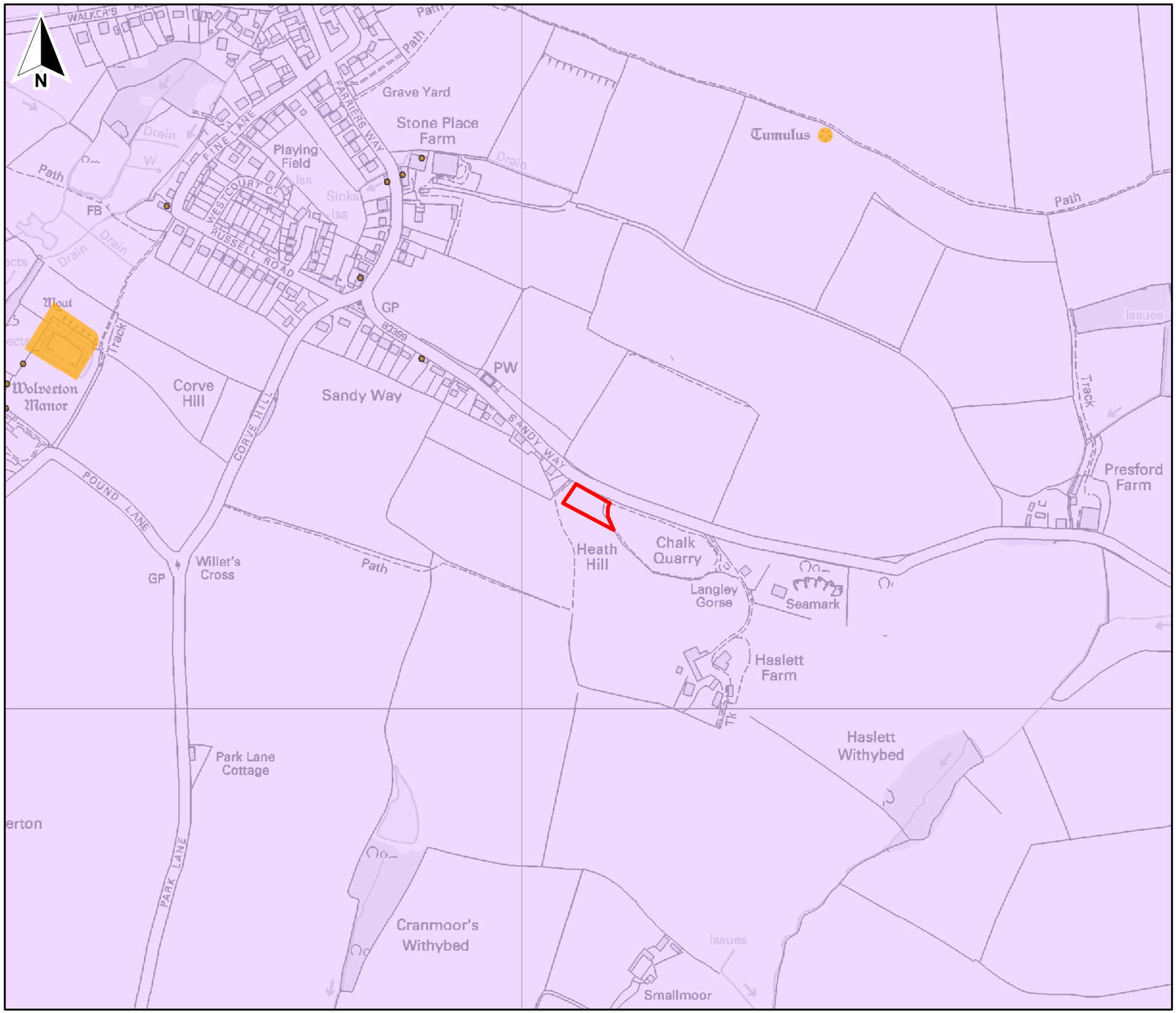
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S17.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S17: Land at Upper Hyde Farm, (South), Upper Hyde Farm Lane, Shanklin

October 2010
24810-S33 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 250 Meters

1:1250 @ A3

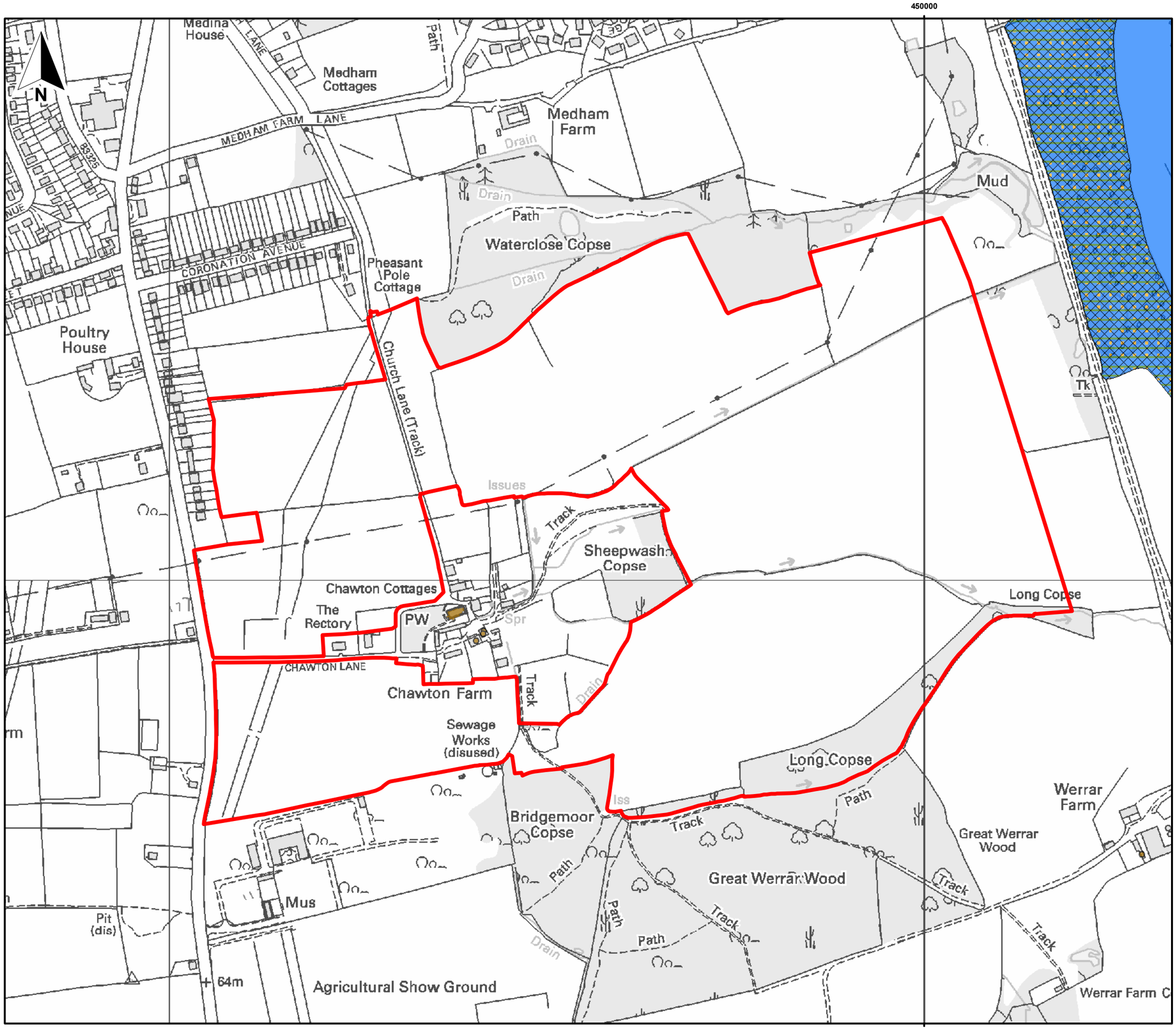
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S18.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S18: Shorwell Sandpit Extension, Sandy Way, Shorwell

October 2010
24810-S34 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 100 Meters

1:3000 @ A3

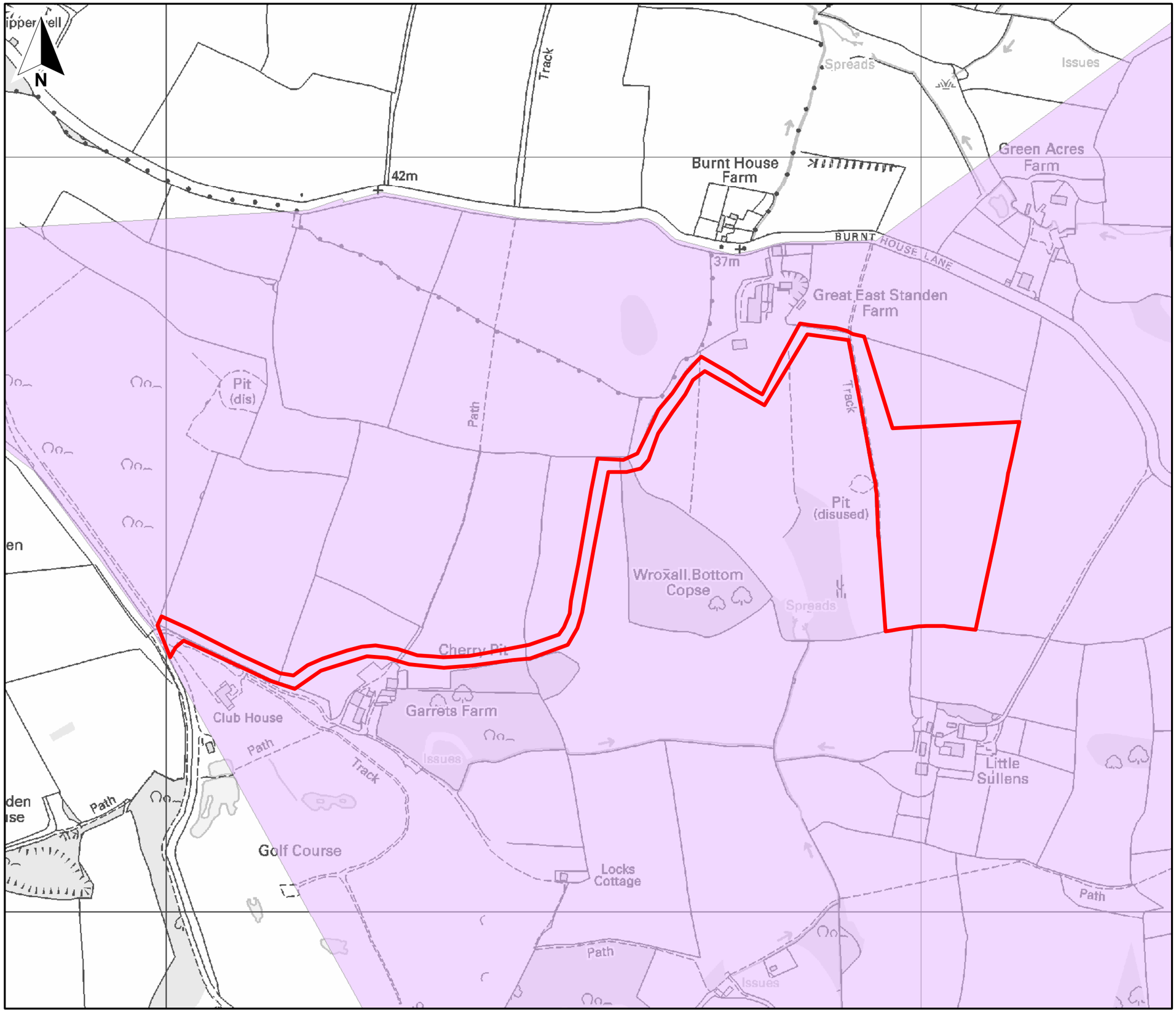
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S20.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S20: Chawton Farm, Chawton Lane, Northwood

October 2010
24810-S35 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 300 Meters

1:4000 @ A3

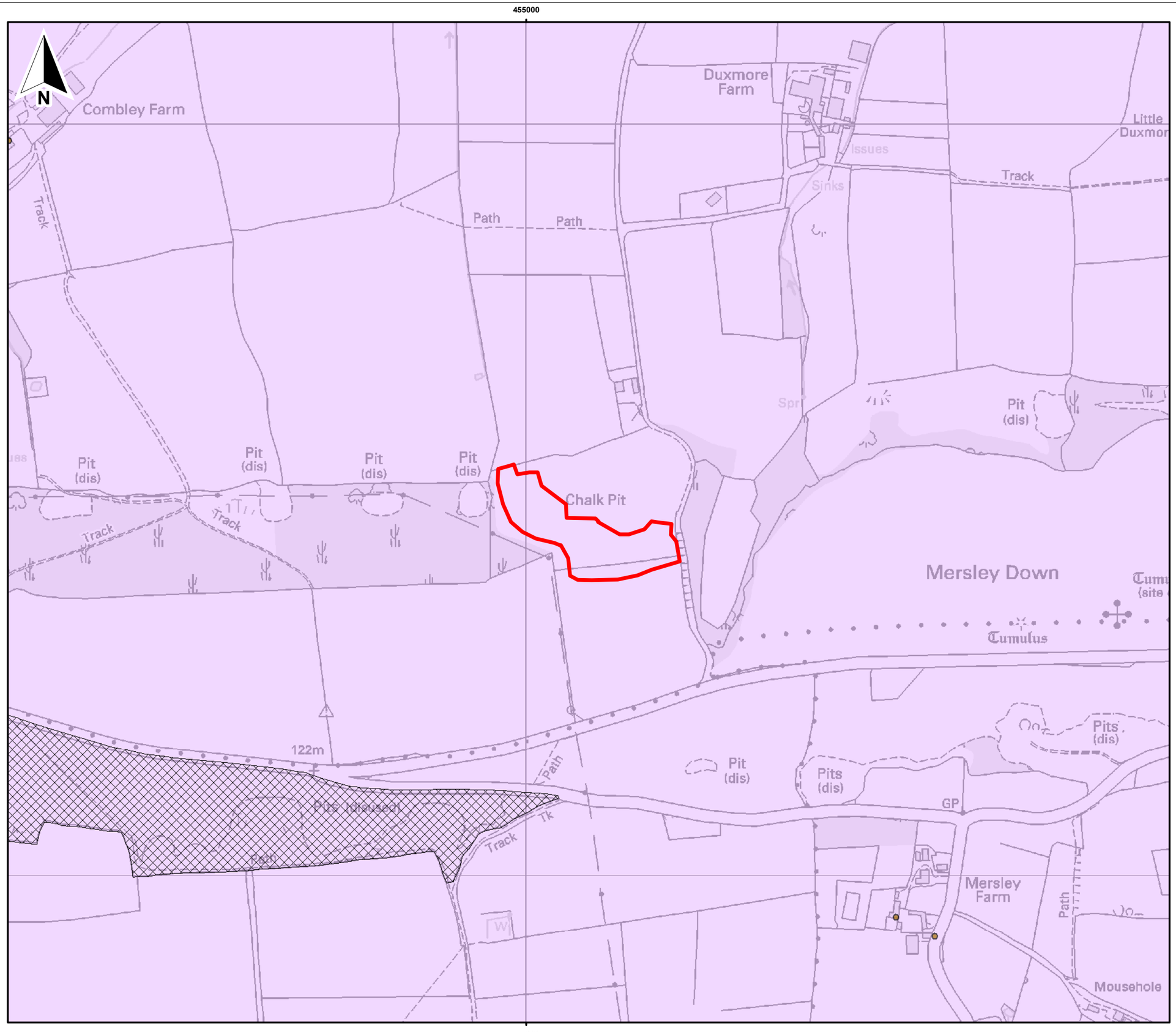
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/S21.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

S21: Blackwater Quarry, St George's Down - Land at Great East Standen Farm

October 2010
24810-S36 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

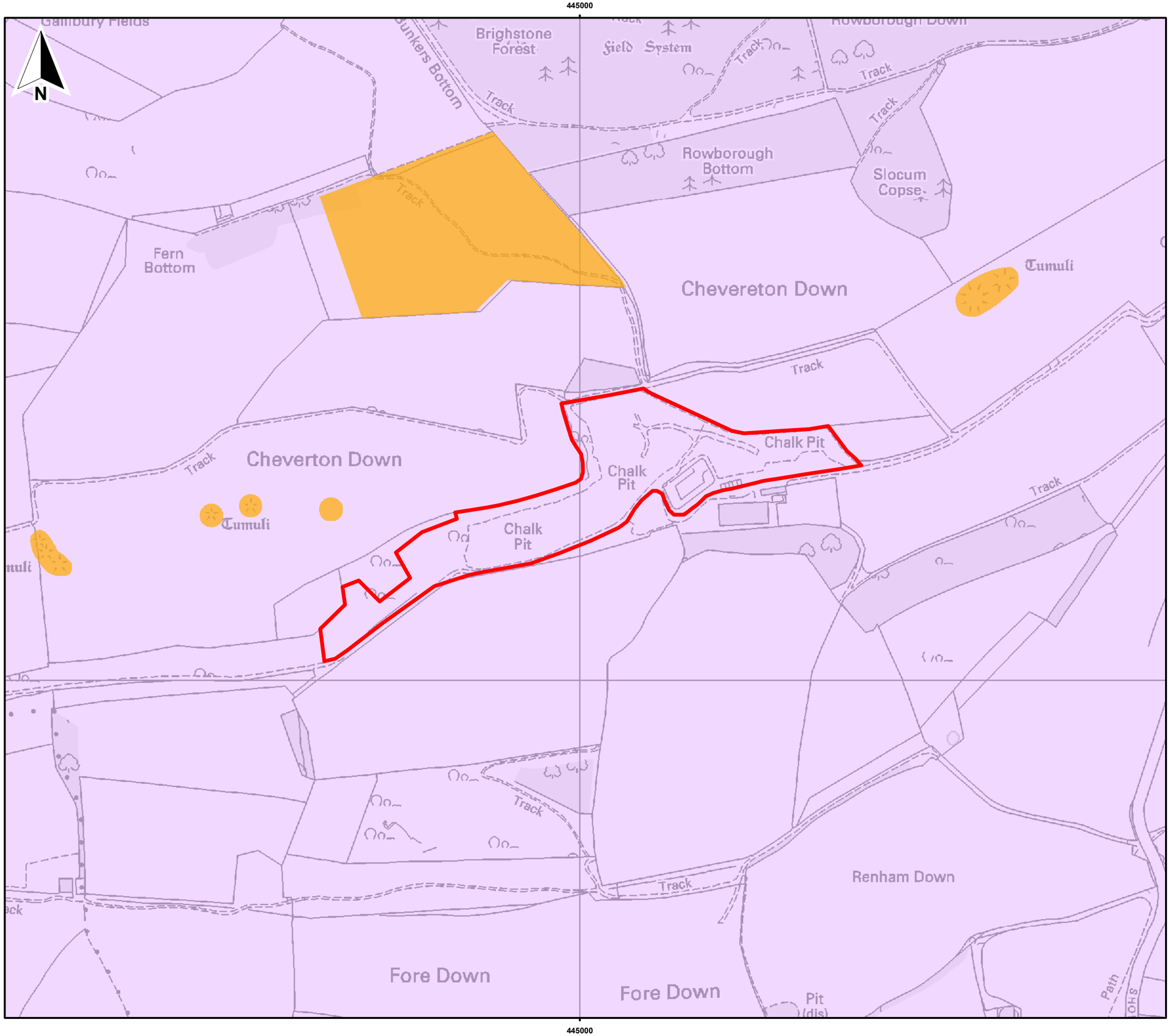
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/CS3.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

CS3: Duxmore Chalk Quarry Extension, Mersley Down

October 2010
24810-S20 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Meters

1:5000 @ A3

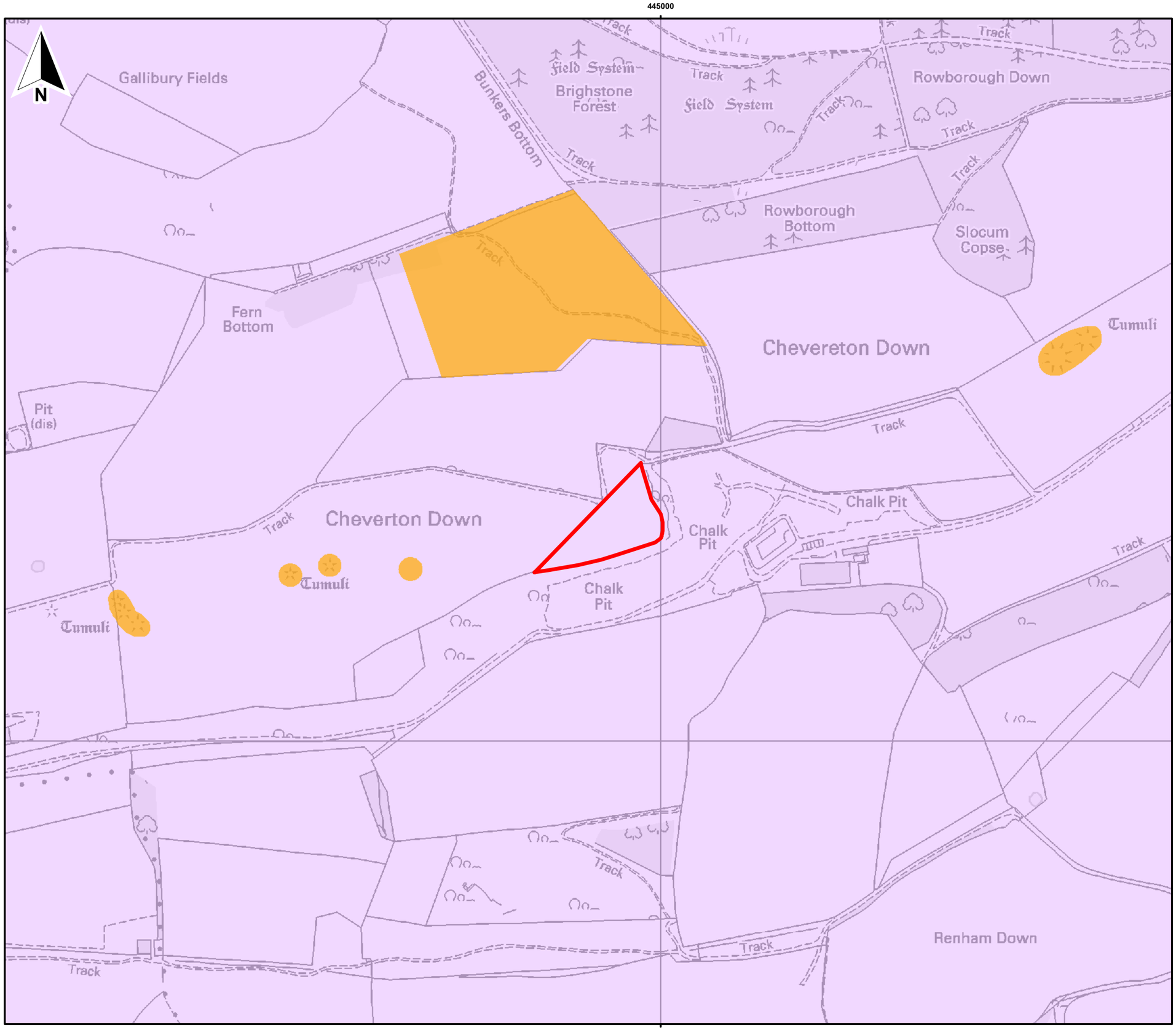
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/CS4.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

CS4: Cheverton Chalk Quarry Extension, Shorwell

October 2010
24810-S47 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

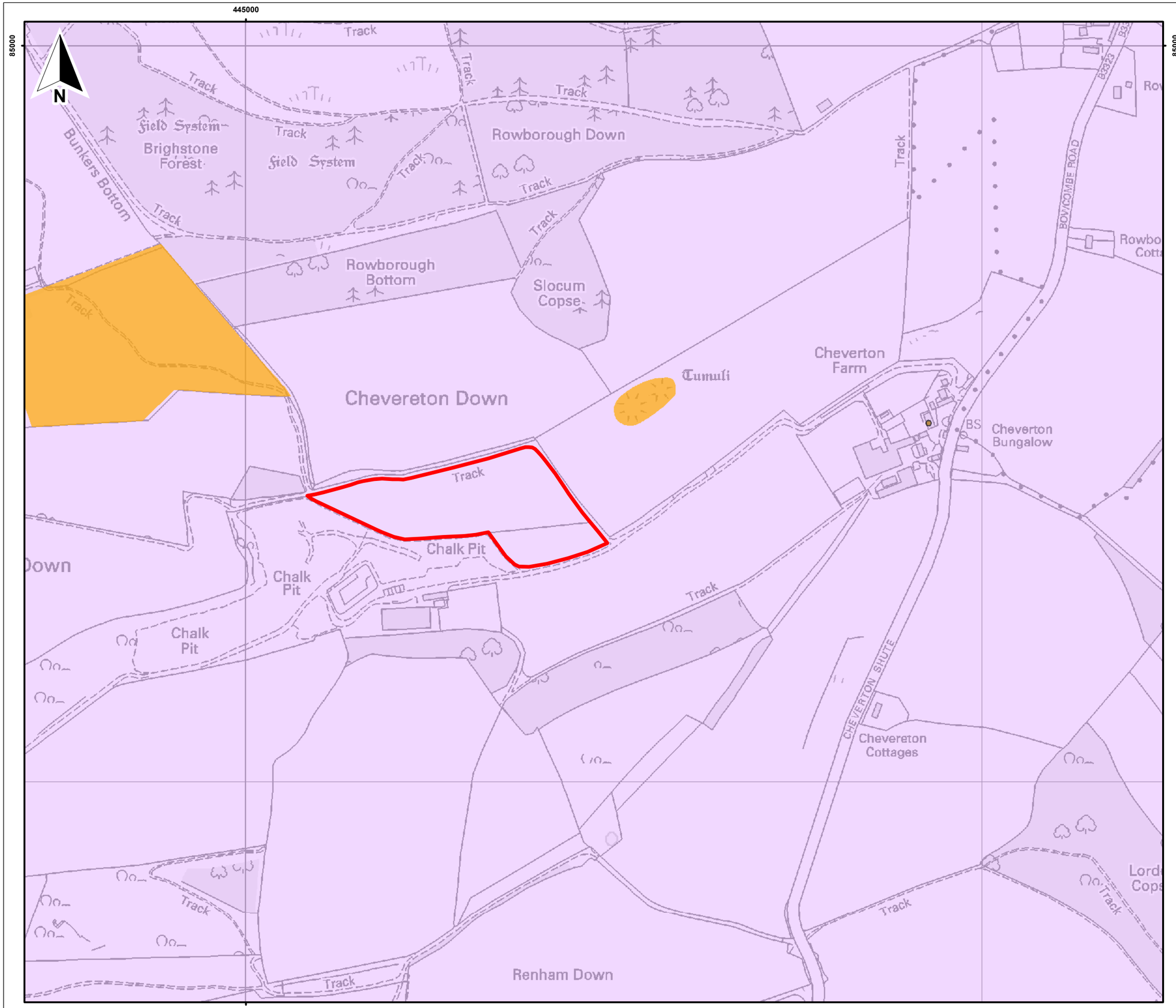
Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/CS4a.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

CS4a: Cheverton Chalk Quarry Western Extension, Shorwell

October 2010
24810-S21 browj

Entec



Key:

- Proposed extraction area
- Registered Park and Garden
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Listed Building
- Ramsar
- Special Area of Conservation (SAC)
- Special Protected Area (SPA)
- Scheduled Monument
- Area of Outstanding Natural Beauty (AONB)

0 200 Metres

1:5000 @ A3

Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Site Plans/CS4b.mxd

Isle of Wight Council
Assessment of Potential for Minerals Sites on the Island

CS4b: Cheverton Chalk Quarry Eastern Extension, Shorwell

October 2010
24810-S48 browj

Entec

Appendix B
Mineral Safeguarding Areas

Appendix B

430000 435000 440000 445000 450000 455000 460000 465000

100000 95000 90000 85000 80000 75000 70000

N

Key:

Main settlement

Mineral Safeguarding Areas

Sand and Gravel

Chalk

0 5 km

1:125000 @ A3

Project Path:
G:/MODEL/PROJECTS/EA-210/24810 Isle of Wight Minerals Sites Assessment/ArcGIS/Figures/Mineral Safeguarding Areas.mxd

IoW Minerals Sites Assessment

Mineral Safeguarding Areas

October 2010
24810-S41 browj

Entec