Draft Mineral Sites Plan – Proposed Aggregates Area of Search

Landscape & Ecological Impact Assessment – Prepared February 2015, Revised February 2018

Dorset County Council Natural Environment Team

1. Introduction

1.1. The reasons for the assessment.

The Bournemouth, Dorset and Poole Mineral Sites Plan is currently being prepared and will identify the specific mineral sites that will deliver the separate mineral strategies set out in the Bournemouth, Dorset and Poole Minerals Strategy 2014 to meet the need for minerals in Bournemouth, Dorset and Poole.

The current assessment shows that, for sand and gravel the number of sites being actively promoted and appearing to be relatively unconstrained may not be adequate to meet demand and deliver the annual requirement for sand and gravel over the period of the plan.

To assist in making up for any shortfall it is proposed to identify within the Mineral Sites Plan an area of search (AOS) for sand and gravel, to be designated through the local plan process. It will be robust, based on geological evidence and will go through consultation and examination before a Planning Inspector.

1.2. Description of study area and its landscape context.

The study area is the area designated by Policy AS1 of the Bournemouth Dorset and Poole Minerals Strategy 2014. These resource blocks as designated are the areas within which future sand and gravel quarries will be located.

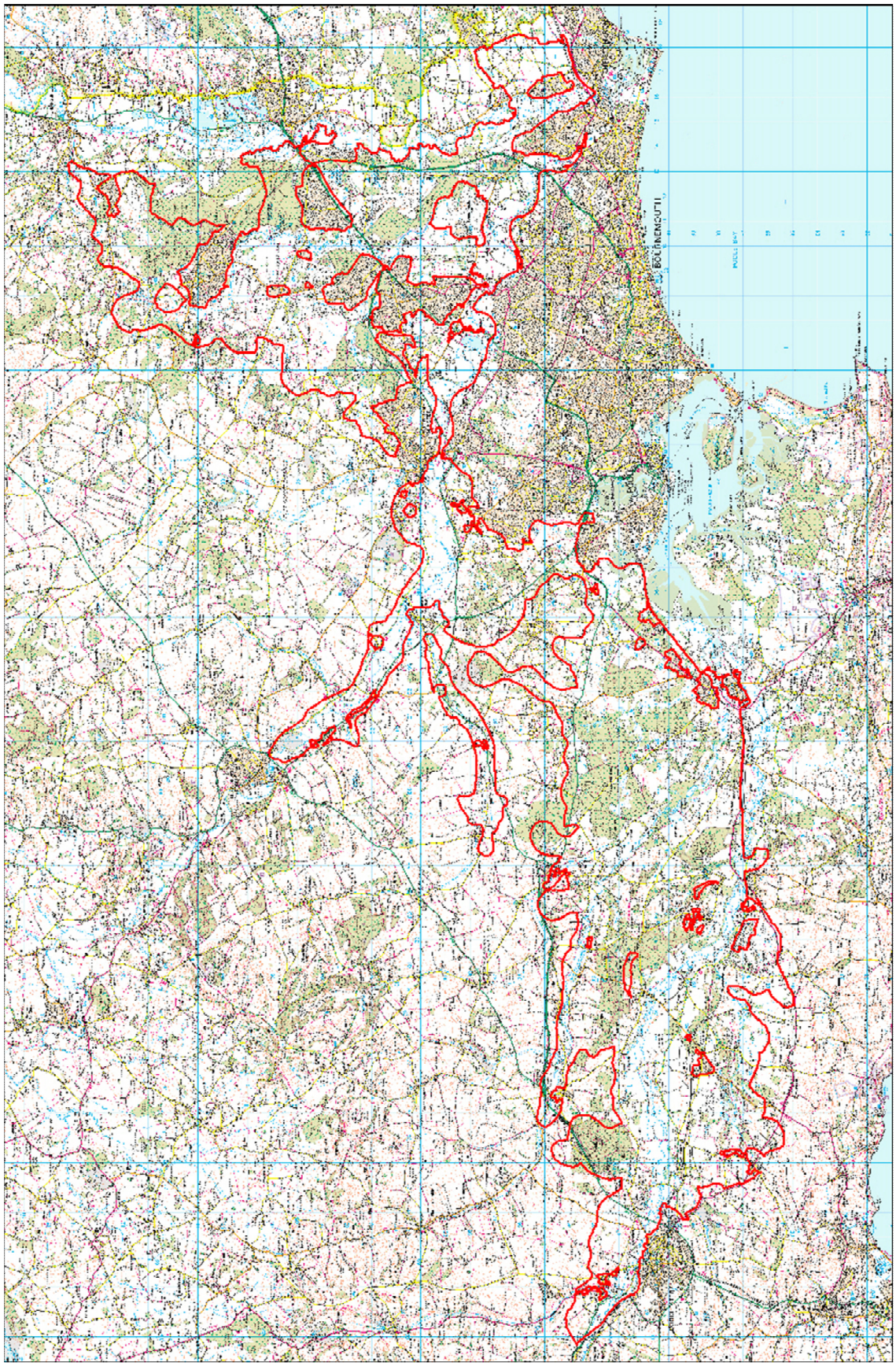
Although the resource blocks have been drawn to minimise the areas of landscape or biodiversity interest within them there are some areas of biodiversity, landscape and visual constraint within the designated resource blocks.

Since the AOS to be designated through the Mineral Sites Plan needs to be free of such constraint as far as possible, the designated resource blocks have been re-assessed to derive from them a spatial area that is significantly free from biodiversity, landscape and visual constraint, to be proposed an Aggregates Area of Search where the development of unallocated sites is proposed provided certain criteria are met.

The area includes most of the Poole Basin, an area of underlying sands and gravels which produce poor acidic soils which in turn support the important heathland mosaic habitats. The most extensive deposits are those of the Poole Formation or Bagshot Beds. At one time the whole area was almost all heathland lying on acidic soils.

The edges of the basin are formed of chalk and the study area merges into the chalk landscapes to the north west. Between the chalk edges and the central heaths is a belt where the Reading Beds and London Clays surface, giving rise to richer but still acidic, soils. Deposits of plateau and valley gravels overlie the sands of the Poole Formation, but their soils are also poor and acidic. The area has many nature conservation designations making it internationally important of wildlife, it is a popular and well used recreational area and fringed to the north and south by two AONBs.

Plan 1 - Extent of study area



1.3. Description of Potential sand and gravel quarry development

For the purposes of assessing the impacts of further sand and gravel extraction, the study will assume that the proposed methods will be based largely on existing practices and the following outline and approximate development parameters will be used to guide the assessment.

'Typical' River Terrace (Superficial Sand and Gravel) sites - (shallow, progressive restoration, worked wet or dry)

General parameters:

Processing plant:	Say 15-18m, could be reduced by being located in the quarry void
Excavation depth:	Up to 5m
Bund height (max):	3m
Overburden stockpile height (max):	8m
Mineral stockpile height (max):	8m
Lorry movements:	Say 100 per day (i.e. 50 in, 50 out) but this could vary depending on size of site or level of demand.
Life of operation:	Varies widely depending on size of reserve and level of demand – assume average of 10 years, then need to add time for completion of restoration, say **average** of 15 years
Size of site:	Varies widely, for the current site nominations from 2.5 ha to almost 200 ha – more likely to be 50-100 ha.

'Typical' Poole Formation (Bedrock Sand) sites (deep working)

General parameters:

Processing plant:	15-18m, but likely to be located in quarry void.
Excavation depth:	10 – 20m (Note that depths are variable within the sites)
Bund height (max):	3m
Overburden stockpile height (max):	8m (however likely to be located in quarry void)
Mineral stockpile height:	8m (however likely to be located in quarry void)
Lorry movements:	Say 100+ per day (i.e. 50+ in, 50+ out) but this could vary depending on size of site or level of demand.
Life of operation:	Varies widely depending on size of reserve and level of demand – expect it to be longer as the reserve is deeper, then need to add time for completion of restoration, say around 20-25 years +
Size of site:	Varies widely, but likely to be at least 50-100 ha.

To summarise, the principal elements likely to cause impacts during the construction and operational phases are as follows:

- Areas of open disturbed/unrestored land i.e. removal of existing landscape features/alteration of topography.
- Processing plant.
- Stockpiles/storage mounds.
- Exposed working faces.
- Bunds

- Plant/traffic and its noise.
- Lagoons.
- Creation of dust.

The principal elements likely to cause impacts post operational phase and at the restoration phases are as follows:

- Reprofiling of voids.
- Introduction of lakes/water features.
- New profiles/earth shaping/features in the landscape
- Establishment of planting/seeding

2. Assessment of Impacts

This part of the report assesses the potential landscape, visual and ecological impacts of the proposal to extract sand and gravel from the study area. At this stage the detailed proposals for any specific site are not known but as mentioned above, there is enough understanding of the design and working of existing pits to assess potential impacts within the study area.

The methodology of the impact assessment is derived from the 'Guidelines for Landscape and Visual Impact Assessment 3rd Edition' (Landscape Institute and Institute of Environmental Management and Assessment, 2013). The assessment was carried out by a Chartered Landscape Architect (Chartered Member of the Landscape Institute) and a qualified Ecologist.

The main aspects considered in this assessment include:

- Impacts on landscape resources, mainly the landscape character of the area, a range of international, national and local designations, European protected and Biodiversity Action Plan species, ancient woodland and other important habitats.
- Impacts on visual resources, based on the sensitivity of some representative viewpoints where people are likely to see changes.

2.1. Landscape and visual resource sensitivity

Landscape Character

The character of this part of Dorset has been well described at various levels:

- National level: Dorset Heaths National Character Area; Natural England 2005.
- County level: Valley Pastures, Heath/Forest Mosaic, Heath/Farmland Mosaic, Chalk Valley and Downland, Harbour, Wetland & Lagoon, Rolling Wooded Pasture, Lowland Heathland & River Terrace Landscape Types; Dorset County Landscape Character Assessment 2009.
- East Dorset District level 2008: Ringwood Hurn Heath Forest Mosaic, Horton Common-Three Legged Cross Heath/Farmland Mosaic, West Moors Heath Forest Mosaic, Ferndown Forest Stapehill Heath Forest Mosaic, Moors River, Dewlands-Rushmoor River Terrace**,** Parley River Terrace, Hampreston River Terrace, Sturminster Marshall River Terrace, Lower Avon Valley Pasture, West Parley Heath, Woodlands Colehill & Hillbutts farm woodland mosaic, Holton Heath and Henbury Corfe Farm Woodland Mosaic Landscape Character Areas.
- Purbeck District level 2008: Lower Piddle Valley Pasture, North Wareham Heath Forest, Bovington Affpuddle Heath Forest, Sherford River Valley Pasture, Upton Heath, Upton Bay Marsh, Mid Frome Valley Pasture, Upper/Middle Piddle Valley, South Bere Regis Downs, Crossways Winfrith Heath/Farmland Mosaic, Bloxworth Charlborough Downs and Morden Lytchett Rolling Wooded Farmland Landscape Character Areas.
- West Dorset District level 2009: Frome & Piddle Valley Pasture, Cerne & Piddle Valleys & Chalk Downland, Dorchester Downs, Puddletown Forest & Clyffe House, Crossways Gravel Plateau and the South Dorset Downs Landscape Character Areas
- Christchurch Borough level 2003: Avon Terrace, Stour Terrace, Lower Avon valley, St Catherine's Hurn Forest, Lower Stour Valley, Airport East Parley Common and Moors River Landscape Character Areas.
- North Dorset District level 2008: Mid Stour Valley and Lower Winterborne Valley Landscape Character Areas.

It is the district level assessments, which gives the most relevant level of detail for this assessment. The extracts from each character area within or adjacent to the study area, are useful for establishing the baseline of the character and the implications of the proposals. These are set out in Appendix 1 at the end of this report.

Plan 2 below shows the relevant Landscape Character Areas and Conservation Areas.

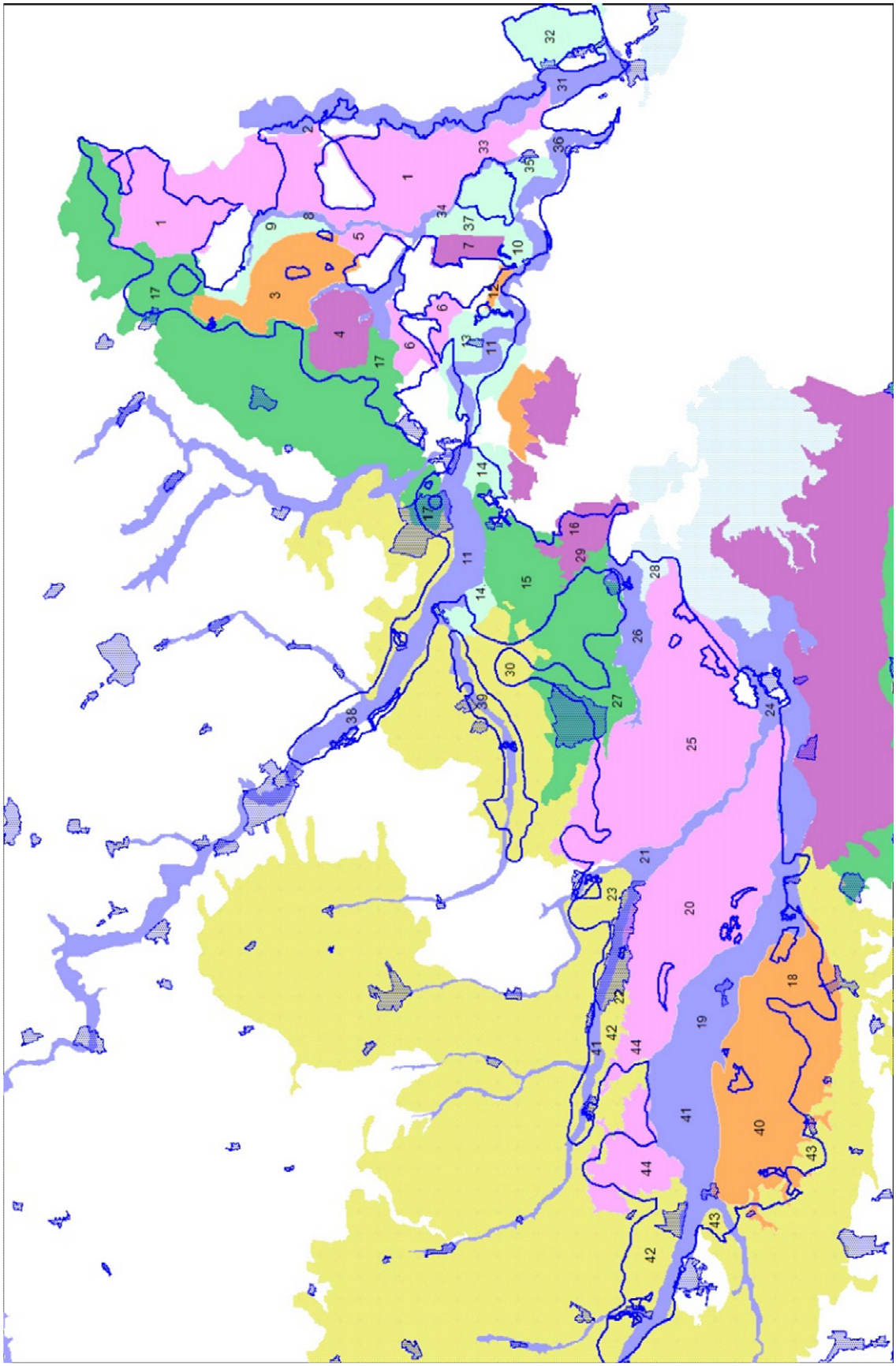
Designations

As well as the landscape character areas described below in Plan 2, there are many international, national and local designations potentially affected by proposals :

- National Nature Reserves
- Special Area of Conservation, Special Protection Areas & Ramsar sites which also includes Site of Special Scientific Interest
- Sites of Nature Conservation Interest.

Plan 3 below shows the extent of these designations and Plans 4 – 9 show the individual designations within the proposed area of search.

Plan 2 – Landscape Character Areas and Conservation Areas.



Plan 3: The extent of designated sites within the proposed area of search (SAC, SPA, Ramsar and SSSI).