

HAMPSHIRE COUNTY COUNCIL, NEW FOREST NATIONAL PARK AUTHORITY, PORTSMOUTH CITY COUNCIL, SOUTH DOWNS NATIONAL PARK AUTHORITY & SOUTHAMPTON CITY COUNCIL

# Hampshire Minerals & Waste Plan: Partial Update

## Site Restoration Topic Paper

August 2022



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# 1. Introduction

- 1.1 Hampshire County Council, Portsmouth City Council, Southampton City Council, New Forest National Park Authority and South Downs National Park Authority (collectively referred to as the 'Hampshire Authorities') are working together to prepare a partial update to the Hampshire Minerals & Waste Plan (adopted 2013).
- 1.2 To support the partial update, a number of Topic Papers have been prepared to provide more detailed information on key issues affecting the delivery of the Plan.
- 1.3 This Topic Paper focuses on the issues relating to site restoration, providing greater detail on the nature, planning and delivery of minerals and waste site restoration to inform policy development.
- 1.4 Mineral extraction and landfill waste management operations are temporary land uses, although they may take place over a relatively long timescale. The provision of effective, deliverable measures for appropriate restoration, aftercare and afteruse are a precondition for the granting of planning permission.
- 1.5 Depending on the mineral/deposit being worked, it is possible during site operation to provide temporary structures or areas for ancillary waste processing. An example of temporary waste use may include construction and demolition waste recycling and transfer, which may also contribute to site infilling for restoration.
- 1.6 Minerals and waste operations can adversely impact the environment in the short, medium and long-term. Once mineral extraction or landfilling operations have been completed, a site may subsequently be restored to its former use or to a range of alternative 'after-uses'. However, reclamation should be more than merely returning the land to a satisfactory condition after development. The restoration of minerals and waste sites will usually involve the removal of buildings, plant and equipment and may include the decontamination of land prior to restoration.
- 1.7 Minerals and waste site restoration provides opportunities to deliver environmental, social and economic benefits, which can also contribute to climate change mitigation and adaption. Examples include the creation and/or enhancement of the following:
  - biodiversity (particularly the creation of habitats and ecological networks);
  - water storage and flood attenuation;
  - landscape character and scenic beauty;
  - public amenity;
  - recreation and health and wellbeing;
  - networks of green and blue infrastructure;
  - environmental awareness and education;
  - forestry; and
  - food production.

Some case study examples of successful site restoration schemes are provided in Appendix 1.

- 1.8 Responsibility for the restoration and aftercare of mineral and waste sites, including financial responsibility, lies with the minerals and waste operators and, in the case of default, with the landowner.
- 1.9 It is essential that site restoration is considered at the earliest opportunity and that developers demonstrate to the Minerals and Waste Planning Authority that the site can be reclaimed satisfactorily and that there is a credible afteruse. This should be achieved through the preparation and submission of a supporting restoration plan based on detailed site investigation and fully integrated with the working programme.

## Legislative and Policy Context

- 1.10 The National Planning Policy Framework (NPPF)<sup>1</sup> sets out the Government's planning policies for England, including for minerals planning, and how it expects these to be applied. The NPPF is a material planning consideration and must be taken into account when planning applications are being determined. Minerals and waste local plans need to be in compliance with it.
- 1.11 Planning policy on waste is set out separately in the National Planning Policy for Waste document<sup>2</sup>.
- 1.12 Both the NPPF and NPPW are supplemented by Planning Practice Guidance (PPG), which provides planners and others involved in the development process guidance on how the requirements of the NPPF and NPPW can be met. PPG is kept under review and is revised and updated as necessary as a 'live' online resource<sup>3</sup>.
- 1.13 Paragraph 210(h) of the NPPF requires that planning policies should '*ensure worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high-quality restoration and aftercare of mineral sites takes place.*'
- 1.14 Paragraph 211(e) of the NPPF requires that in considering proposals for minerals extraction, minerals planning authorities should '*provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions.*'
- 1.15 Paragraph 215(a) states that minerals planning authorities should, when planning for on-shore oil and gas development, clearly distinguish between, and plan positively, the three phases of development... '*whilst ensuring appropriate monitoring and site restoration is provided for.*'

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<sup>1</sup> Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (London: TSO, 2021) - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf).

<sup>2</sup> Department for Communities and Local Government, *National Planning Policy for Waste* (London: TSO, 2014) - <https://www.gov.uk/government/publications/national-planning-policy-for-waste>.

<sup>3</sup> Planning Practice Guidance (PPG) - <https://www.gov.uk/government/collections/planning-practice-guidance>.

- 1.16 Mineral planning authorities should secure the restoration and aftercare of a site through imposition of suitable planning conditions and, where necessary, planning obligations<sup>4</sup>. Section 72 and Schedule 5 of the Town and Country Planning Act 1990 advise on the conditions which may be imposed on the granting of planning permission for development consisting of the winning and working of minerals. Planning Practice Guidance states that *'in framing planning conditions, mineral planning authorities should seek to have 'progressive' or rolling' restoration and aftercare to minimise the area of land occupied at any one time by the mineral working.'*<sup>5</sup>
- 1.17 Paragraph 7 of the NPPW requires that when determining waste planning applications, waste planning authorities should *'ensure that land raising or landfill sites are restored to beneficial after-uses at the earliest opportunity and to high environmental standards through the application of appropriate conditions where necessary.'*
- 1.18 PPG states that local planning authorities can help protect human health and the environment by *'ensuring land raising or landfill sites are restored to beneficial after-uses (e.g. agriculture, biodiversity, forestry, amenity) at the earliest opportunity and to high environmental standards.'*<sup>6</sup>
- 1.19 Significant long-term additional engineering requirements are imposed on landfill developments, by the Environmental Permitting Regulations<sup>7</sup> through Pollution Prevention and Control (PPC) permits administered by the Environment Agency.
- 1.20 PPG confirms that the minerals and waste planning authority must consult Natural England (if the proposed restoration is for agriculture) or the Forestry Commission (if the restoration is for forestry use)<sup>8</sup>.
- 1.21 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006<sup>9</sup> places a statutory duty on public bodies (including local planning authorities) to have regard to conserving biodiversity as part of their policy and decision-making processes. This is being strengthened to reflect the long-term environmental targets that will be set under the Environment Act 2021<sup>10</sup>.
- 1.22 Paragraph 174(d) of the NPPF requires that planning policies and decisions *'should contribute to and enhance the natural and local environment by: ...providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.'*

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<sup>4</sup> Planning Practice Guidance (PPG): Paragraph: 041 Reference ID: 27-041-20140306 Revision date: 06 03 2014 - <https://www.gov.uk/guidance/minerals#Restoration-and-aftercare-of-minerals>

<sup>5</sup> Planning Practice Guidance – Paragraph: 042 Reference ID: 27-042-20140306 - <https://www.gov.uk/guidance/minerals#review-of-minerals-planning-conditions>.

<sup>6</sup> Planning Practice Guidance (PPG): Paragraph: 005 Reference ID: 28-005-20141016 Revision date: 16 10 2014 - <https://www.gov.uk/guidance/waste>

<sup>7</sup> Environmental Permitting Regulations (England and Wales) 2016 [NB. The Waste and Environmental Permitting etc (Legislative functions and Amendment) (EU Exit) Regulations 2020 (draft Legislation)]

<sup>8</sup> Planning Practice Guidance (PPG): Paragraph: 054 Reference ID: 27-054-20140306 Revision date: 06 03 2014 - <https://www.gov.uk/guidance/minerals#Restoration-and-aftercare-of-minerals>

<sup>9</sup> <https://www.legislation.gov.uk/ukpga/2006/16/section/40>

<sup>10</sup> Environment Act 2021 - <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

- 1.23 Biodiversity net gain (BNG) is an approach to development that leaves biodiversity in a measurably better state than beforehand. This means protecting existing habitats and ensuring that lost or degraded habitats are compensated for by enhancing or creating habitats that are of greater value to wildlife and people. The Environment Act 2021<sup>11</sup> will introduce mandatory biodiversity net gain for most new development, including new infrastructure, in England. This is due to become a requirement in late 2023 for development under the Town and Country Planning Act 1990. BNG will require planning applicants to deliver at least 10% gain in biodiversity above the current baseline and is to be maintained for a period of at least 30 years.
- 1.24 Local Nature Recovery Strategies (LNRSs) have also been introduced by the Environment Act. This new mandatory England-wide system of spatial strategies will establish priorities and map proposals for specific actions to drive nature's recovery and wider environmental benefits. They are designed as tools to drive more coordinated, practical, and focussed action to help nature. LNRSs will support delivery of mandatory BNG and provide a focus for a strengthened duty on all public authorities to conserve and enhance biodiversity which are also being introduced by the Act.
- 1.25 Preparation of each LNRS will be led by a 'responsible authority' appointed by the Defra Secretary of State. The responsible authority will lead the preparation, publication, review, and republication of the LNRS for the area for which they are appointed.
- 1.26 Section 11A(2) of the National Parks and Access to the Countryside Act 1949 and section 85 of the Countryside and Rights of Way Act 2000 require that '*in exercising or performing any functions in relation to, or so as to affect, land*' in National Parks and Areas of Outstanding Natural Beauty, relevant authorities '*shall have regard*' to their purposes for which these areas are designated. This '*applies to all local planning authorities, not just National Park authorities, and is relevant in considering development proposals that are situated outside National Park or Area of Outstanding Natural Beauty boundaries, but which might have an impact on their setting or protection.*'<sup>12</sup>
- 1.27 Paragraph 176 of the NPPF states that '*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks... and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues.*'
- 1.28 For major development<sup>13</sup> in National Parks and AONBs permitted in exceptional circumstances, or where it can be demonstrated that the development is in the public

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<sup>11</sup> Environment Act 2021: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

<sup>12</sup> Planning Practice Guidance Paragraph: 039 Reference ID: 8-039-20190721 Revision date: 21 07 2019 - <https://www.gov.uk/guidance/natural-environment#landscape>

<sup>13</sup> Any planning application for minerals development, whether a new quarry proposal or an extension in area to an existing quarry, or a variation of the existing conditions, is considered to be a major development proposal

interest<sup>14</sup>, it is crucial that the afteruse and restoration scheme restore and enhance the development site so as to conserve and enhance the natural beauty of these designated landscapes and their settings. Paragraph 177(c) of the NPPF states that *'consideration of such applications should include an assessment of... the landscape...'*

- 1.29 The setting<sup>15</sup> of designated landscapes is also important in the consideration of restoration schemes and afteruse. Planning Practice Guidance (PPG)<sup>16</sup> states that *'Land within the setting of these areas often makes an important contribution to maintaining their natural beauty...'*
- 1.30 For dormant minerals permissions granted planning permission between 1948 and 1982 and not yet implemented and current minerals operations whose permission will last for many years, a periodic 'review of minerals planning conditions' under the provisions of the Environment Act 1995, provides an opportunity to review and update restoration conditions associated with these sites.
- 1.31 Management plans for National Parks and Areas of Outstanding Natural Beauty do not form part of the statutory development plan, *'but they help to set out the strategic context for development. They provide evidence of the value and special qualities of these areas, provide a basis for cross-organisational work to support the purposes of their designation and show how management activities contribute to their protection, enhancement and enjoyment. They may contain information which is relevant when preparing plan policies, or which is a material consideration when assessing planning applications.'*<sup>17</sup>

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<sup>14</sup> National Planning Policy Framework (NPPF) 2021: paragraph 177 - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf).

<sup>15</sup> Setting does not have a defined geographical boundary but is the area surrounding the designation boundary within which development and land management proposals can have an impact on natural beauty and special qualities of the designated landscape.

<sup>16</sup> Paragraph: 042 Reference ID: 8-042-20190721. Revision date: 21 07 2019

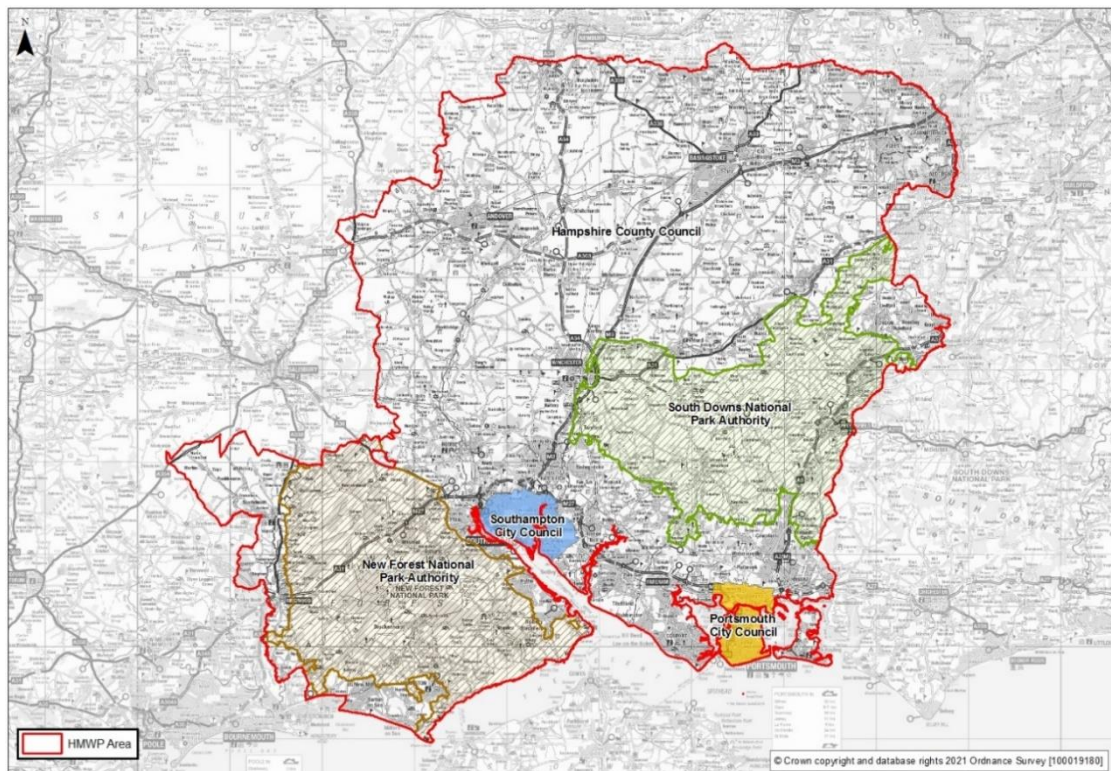
<sup>17</sup> Planning Practice Guidance (PPG): Paragraph: 040 Reference ID: 8-040-20190721 Revision date: 21 07 2019 - <https://www.gov.uk/guidance/natural-environment#landscape>.



## The Hampshire Minerals and Waste Plan

- 1.32 The current HMWP was adopted in October 2013<sup>18</sup> by the Hampshire Authorities. The National Planning Policy Framework (NPPF) requires that Local Plans should be reviewed to assess whether they require updating at least once every five years<sup>19</sup>.
- 1.33 A review of the 2013 HMWP in 2020 concluded that a partial update of the HMWP was required to reflect national policy changes, the Hampshire 2050 Vision for the Future, and to ensure that the Plan is delivering a steady and adequate supply of minerals and enabling sustainable waste management provision. It was subsequently decided by all partners that the HMWP would be partial updated.
- 1.34 This is important as out of date plans limit the ability for planning authorities to enable the right development, in the right location, at the right time, and may lead to a greater number of planning applications determined at appeal.
- 1.35 Minerals and waste planning issues are most appropriately addressed jointly so that strategic issues can be satisfactorily resolved. The HMWP will cover those geographical parts of the Hampshire Authorities that are within the Plan boundary (see Figure 1.1).

**Figure 1.1: Hampshire Minerals and Waste Plan Area and administrative boundaries**



<sup>18</sup> Hampshire Minerals & Waste Plan (2013) -

<https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

<sup>19</sup> National Planning Policy Framework (Para. 33) - <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

## Adopted Restoration Policy

- 1.36 The Hampshire Minerals & Waste Plan (adopted 2013)<sup>20</sup> includes a specific restoration policy with accompanying supporting text which cross-references a number of other relevant development management policy sections of the Plan including:
- Habitats and species;
  - Landscape and countryside;
  - South West Hampshire Green Belt;
  - Protecting public health, safety and amenity;
  - Design, construction and operation of minerals and waste development;
  - Construction, development and excavation wastes; and
  - Community benefits and engagement.
- 1.37 Policy 9 (Restoration of minerals and waste development) is set out below:

### **Policy 9: Restoration of minerals and waste developments**

Temporary minerals and waste development should be restored to beneficial after-uses consistent with the development plan.

Restoration of minerals and waste developments should be in keeping with the character and setting of the local area, and should contribute to the delivery of local objectives for habitats, biodiversity or community use where these are consistent with the development plan.

The restoration of mineral extraction and landfill sites should be phased throughout the life of the development.

- 1.38 The Restoration Policy, including supporting text, sets out how appropriate afteruse, high quality and imaginative restoration, effective aftercare and appropriate long-term management of minerals and waste sites, delivered in a timely manner, is integral to all mineral extraction and landfill development in the Plan area.
- 1.39 The Hampshire Authorities will continue to ensure that all mineral extraction sites and landfill sites are restored to high quality beneficial after-uses which are in keeping with the local area's biodiversity, landscape or townscape and communities. The policy confirms the requirement for community needs and aspirations to be considered in choosing afteruse options and restoration schemes.
- 1.40 This Site Restoration Topic Paper provides detail and guidance on afteruse, aftercare and restoration to help inform the formulation and delivery of the emerging restoration policy for the HMWP Partial Update and as such, should be read in conjunction with the HMWP Partial Update – Draft Plan<sup>21</sup>.

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<sup>20</sup> Hampshire Minerals & Waste Plan (adopted 2013) -

<https://documents.hants.gov.uk/mineralsandwaste/HampshireMineralsWastePlanADOPTED.pdf>

<sup>21</sup> Hampshire Minerals and Waste Plan: Partial Update – Draft Plan August 2022 –

<https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

## 2. Site Restoration Principles

- 2.1 In order to deliver long-term benefits for local communities and the environment it is critical that restoration is imaginative, high quality, carefully planned from the outset, and restores land back to a quality at least equivalent to that prior to development and provides environmental enhancement. As such, the following principles should apply to the planning of all restoration schemes.

### Restoration Led

- 2.2 Restoration should be an integral part of the management of the mineral extraction or landfilling process and phasing. It is essential, therefore, that restoration and future use of mineral extraction and landfill sites is addressed at the outset, prior to the pre-application discussion stage of preparing planning applications. This ensures that the most appropriate restoration solutions are formulated, and opportunities realised and that end-restoration uses are likely to be sustainable and more effective in the long-term.
- 2.3 With schemes often taking many years to complete, it is important for both industry and minerals and waste planning authorities to have regard to changing circumstances by exercising flexibility to amend restoration schemes particularly in light of amendments to Government policy, the impacts of climate change, and other unforeseen circumstances.

### Landscape-Scale

- 2.4 The term landscape-scale is commonly used to refer to actions that cover a large spatial scale usually addressing a range of ecosystem processes, conservation objectives and land uses. It is '*characterised by the pursuit of multiple benefits across a defined area (e.g. water quality, biodiversity, access). The best examples also make links to wider economic and social priorities, where enhancing nature can provide benefits to the local economy and quality of life*'<sup>22</sup>.
- 2.5 A landscape-scale approach to site restoration<sup>23</sup> can help in reversing habitat fragmentation, provide ecological linkages (corridors, stepping-stones or functionally linked habitat) that connect sites of environmental value and enable species to migrate, disperse and colonise, and restore or compliment landscape character and the historic environment. This is particularly important when proposed minerals and waste sites are close to sites designated for their nature conservation value or within or close to designated landscapes such as National Parks and AONBs or their setting.
- 2.6 The scale and clustered nature of minerals and waste sites is particularly conducive to landscape-scale conservation and, as a result, mineral extraction is in a unique position

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<sup>22</sup> HM Government, *The Natural Choice: Securing the value of nature*. TSO; London (para. 2.11, p18, 2011) - <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

<sup>23</sup> Nature After Minerals – Landscape Scale - <https://afterminerals.com/advice/landscape-scale/>

to contribute significantly to large-scale biodiversity initiatives. The way in which a restored site integrates with its surrounding environment and land use is, therefore, of critical importance.

## **Climate Focused**

- 2.7 Climate change is the greatest threat facing the planet. The restoration of minerals and waste developments has an important role to play in contributing to climate change mitigation and adaptation. For example:
- Planting of vegetation, particularly trees, contributes to carbon sequestration, surface cooling and air quality improvements.
  - Increasing connections between existing habitats through the creation of wildlife corridors and habitat 'stepping-stones' enables species to migrate, disperse and colonise, increasing species' population resilience to a changing climate.
  - Restored sites can contribute to reducing flood risk on local communities by providing water management and attenuation features.
  - Effective soil management can help retain soil organic carbon (SOC).

## **Collaborative**

- 2.8 For long-term restoration and afteruse to be successful, it is important that all stakeholders, including minerals and waste planning authorities, minerals and waste operators, local communities, landowners and statutory agencies, work together collaboratively. Those sites where local liaison groups are established have been proven to operate more smoothly, resolve difficulties more easily and deliver more effective restoration, and the establishment of such groups is regarded as best practice by the Hampshire Authorities.

## **Multifunctional**

- 2.9 Restored minerals and waste sites should deliver as many functions as is practicably possible, whether one or more after-uses have been chosen; for instance, biodiversity and landscape enhancement, flood attenuation, protection and interpretation of the historic environment, and recreation. Multifunctionality is a key principle of green infrastructure networks, of which restored minerals and waste sites can be an important component.
- 2.10 Although non-agricultural after-uses generally provide greater opportunity for multifunctionality, agricultural afteruse can still provide a number of functions in addition to food production by providing, for example, biodiversity enhancement with the incorporation of beetle banks, field margins, farmland bird plots and hedgerows, recreational opportunities in the form of enhanced public access, and flood attenuation in the form of functioning floodplain, naturalised water-courses and attenuation ponds.

## Net Gain

- 2.11 A central tenet of the Government's 25 Year Environment Plan<sup>24</sup> is embedding the principle that new development should result in environmental net gain – with neglected or degraded land returned to health, and habitats for wildlife restored or created. The first step in achieving this is the statutory requirement through the Environment Act<sup>25</sup> for developers to provide a minimum 10% Biodiversity Net Gain (BNG), which will be measured utilising the Natural England Biodiversity Metric<sup>26</sup>. Net gain for biodiversity in planning policies and decisions is also a requirement of the NPPF<sup>27</sup>. Imaginative, high-quality restoration can help to ensure that minerals and waste development provides net biodiversity and wider environmental gains.
- 2.12 The minerals extraction industry in general has an impressive record in providing biodiversity net gain (see also Appendix 1) and the aim in restoring minerals sites should be to attain biodiversity net gain significantly greater than 10%. In attaining biodiversity net gain, mineral and waste site restoration can contribute to the emerging Local Nature Recovery Strategies (LNRS)<sup>28</sup> for the Plan area and its environs and the emerging Nature Recovery Plans of associated designated landscapes.

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<sup>24</sup> Department for Environment, Food and Rural Affairs, *A Green Future: Our 25 Year Plan to Improve the Environment* (London: TSO, 2018) - <https://www.gov.uk/government/publications/25-year-environment-plan>

<sup>25</sup> Environment Act 2021 - <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

<sup>26</sup> Natural England Biodiversity Metric - <http://publications.naturalengland.org.uk/publication/6049804846366720>

<sup>27</sup> Department for Communities and Local Government, *National Planning Policy Framework*. (London: TSO, 2021), (Para 180 (d)) - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf)

<sup>28</sup> Local Nature Recovery Strategies (LNRS) are a new mandatory system of spatial strategies for nature established by the Environment Act 2021. They are designed as tools to encourage more coordinated practical and focused action and investment in nature.



### 3. Afteruse Options and Opportunities

- 3.1 Whilst restoration back to existing use is not precluded, restoration of mineral workings and landfill is regarded as an opportunity to achieve wider environmental and public benefits, such as the creation of a greater diversity of habitats for wildlife, improvements to the long-term appearance of the landscape, provision of new opportunities for public access and recreation, and the alleviation of flooding.
- 3.2 The majority of mineral workings are located in rural areas so that restoration is largely to nature conservation, agriculture, forestry or amenity uses. A small proportion of sites may be restored to built development and opportunities exist to accommodate temporary forms of restoration during working phases. The use of former mineral workings for waste storage, such as landfill, will influence the afteruse option chosen.
- 3.3 Soil issues are particularly relevant for mineral development as extraction usually involves disturbing land and soils over large areas. Minerals and waste development can also provide opportunities for the protection, recycling, recovery or enhancement of soils or soil substitutes. The protection and management of soils on a mineral extraction or landfilling site is crucial as these resources may be vital in achieving the desired afteruse and delivering the agreed restoration scheme. Further information on soil handling and management is provided in paragraph 4.24 onwards.
- 3.4 Restoration of mineral and landfill sites using construction, demolition and excavation (CDE) wastes is encouraged. The use of CDE waste is considered to be ‘recovery’ as it potentially replaces the use of a non-waste material for a beneficial outcome. All mineral sites and landfills should in the first instance be restored with the soils, overburden and inert mining wastes arising from the development. An assessment should be undertaken to ensure that there will be an adequate and timely supply of suitable material to enable the restoration scheme to proceed. Where it is necessary to import material to ensure the restored site is in keeping with the character and setting of the local area, only residues after treatment of inert construction, demolition and excavation waste should be used in the restoration, where reasonably practicable.
- 3.5 A range of factors need to be considered that will determine or influence the choice of afteruse and restoration scheme for a site, for example:
- type, quality and value of the land prior to extraction, including Agricultural Land Classification;
  - underlying geology and geomorphology;
  - presence of important habitats and species prior to development on site and in the local environment and the priorities of associated nature recovery strategies;
  - proximity of internationally, nationally and locally designated sites for nature conservation, functionally linked habitat and the nature of potential impact pathways;
  - local ecological and green/blue infrastructure networks (including the public rights of way network) and the priorities of associated strategies/plans;
  - existing hydrological regimes, local flood risk and proximity of aquifers, groundwater source protection zones, nitrogen vulnerable zones and public water supply abstraction points;

- local topography and landscape/townscape character, including proximity of designated landscapes and their setting (National Parks and AONBs) and the policies of associated statutory Management Plans;
- presence of important archaeological features, historic environment context, historic landscape character, and proximity of listed buildings and Conservation Areas;
- compatibility with surrounding land uses;
- availability of fill material;
- landowner / site operator aspirations;
- views of local community and other stakeholders, including statutory agencies;
- transport issues, including proximity of the Strategic Road Network (SRN) and Primary Route Network (PRN) and associated road junctions;
- public safety onsite and offsite, including proximity of urban areas, public rights of way and aerodromes (bird-strike);
- long-term management considerations;
- financial considerations;
- relevant local and national planning policy and guidance

## Mineral Resources

- 3.6 The geological structure of Hampshire, which influences the possible and desirable forms of restoration, provides the following main types of deposit – sand, gravel, chalk and clay. Each of these has been and continues to be extracted. There are no ‘hard’ rock deposits such as limestone. The Plan area also includes suitable reservoirs for oil and gas resources which has resulted in production in a number of areas. In economic terms, the Plan area’s principal geological deposits are the aggregate or construction ‘minerals’ comprising sand and gravel including both sharp sand and gravel as well as soft sand. The Minerals Background Study<sup>29</sup> provides further detail of the mineral resource.
- 3.7 Sand and gravel deposits in the Plan area are all relatively shallow, such that sites are worked over much shorter time spans than hard rock deposits and the surface area of extraction is more extensive than other forms of quarrying. In addition, the main aggregate deposits are concentrated along the river valleys so that ground and surface water are key considerations / restrictions in the restoration scheme following mineral extraction. These factors place an increased emphasis on restoration issues, such as the phasing of the restoration process and the nature of the afteruse.

## Climate Change

- 3.8 Within the Plan area, climate change may detrimentally impact biodiversity, exacerbate flooding and periods of drought, increase the fragility of sensitive landscapes leading to landscape change, increase the frequency and severity of weather events, and increase temperatures and diminish air quality in urban areas. Climate change is a

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<sup>29</sup> Hampshire Minerals and Waste Plan: Partial Update Minerals Background Study August 2022 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

cross-cutting issue that needs to be considered for all forms of site afteruse and restoration.

- 3.9 The urgency required to tackle climate change has been recognised by the Hampshire Authorities and other local authorities within the Plan area through their declaration of climate emergencies and their preparation of associated strategies and action plans. These strategies/plans set out policies, objectives and actions to achieve net zero carbon by target dates prescribed by each authority and implement climate change mitigation and adaption measures.
- 3.10 The afteruse and restoration of a site can provide opportunities to provide climate change mitigation and adaption measures, some examples of which are provided in paragraph 2.7. Section 3 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>30</sup> provides a detailed climate change baseline for the Plan area.
- 3.11 A detailed Climate Change Topic Paper<sup>31</sup> has been prepared to support the Partial Review, as scrutiny of minerals and waste development proposals in relation to their compliance with climate change has become more critical since the Plan was adopted in 2013.

## Nature Conservation

- 3.12 The Plan area is one of the richest areas for wildlife in England. Nevertheless, the area has suffered significant losses over the last century. Many habitats have been lost to development or become degraded through changes in agricultural practice and afforestation. Nevertheless, the Plan area has a large number of international, national and local sites designated for their nature conservation value, significant coverage of priority habitats and populations of notable species. Further detail of the Plan area's natural environment is provided in Section 5 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>32</sup>.
- 3.13 The presence, proximity and characteristics of high value nature conservation sites and features and important species populations provides a range of constraints and opportunities for minerals and waste development and may influence the afteruse option chosen and form of restoration achieved.
- 3.14 A study by the RSPB<sup>33</sup> showed that mineral sites in England hold the potential to deliver 100% of the habitat creation targets for nine priority habitats including lowland

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<sup>30</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report – September 2021 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

<sup>31</sup> Hampshire Minerals and Waste Plan: Partial Update Climate Change Topic Paper August 2022 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

<sup>32</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report – September 2021 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>.

<sup>33</sup> Davies, A.M. (2006) *Nature After Minerals – How mineral site restoration can benefit people and wildlife: the report*. The RSPB.



heathland, lowland meadows, and wet reedbed – and to make a significant contribution to many other habitat types. The RSPB’s ‘Nature After Minerals’ initiative provides invaluable advice on its website<sup>34</sup>. It is important for operators to have early strategic discussions with statutory bodies to ensure that opportunities for nature conservation enhancement are maximised.

- 3.15 In addition to specific habitats restored or created as part of the restoration of individual sites, restoration can contribute to the creation of coherent and resilient ecological networks better able to respond to climate change and other pressures, as part of an integrated landscape-scale approach. Through the 25 Year Environment Plan<sup>35</sup> and the Environment Act<sup>36</sup> there is now a greater national focus on nature recovery and ecological connectivity. Local Nature Recovery Strategies (LNRS) and designated landscapes’ Nature Recovery Plans, relevant to the Plan area, will set out the nature conservation priorities and opportunities that should be considered in deciding afteruse options and preparing restoration plans.
- 3.16 These ecological networks can support and consolidate the Plan area’s suite of International<sup>37</sup>, National and locally designated nature conservation sites. Where there are International designated sites in the vicinity of the development it is important that restoration contributes positively to their Conservation/Network Objectives. The proximity of International sites, particularly Special Protection Areas (SPA), may constrain afteruse options. Where restoration to open water is considered, it is important that this does not remove important feeding habitat for SPA waterfowl, often located some kilometres from the designated site.
- 3.17 Where a proposed minerals or waste site is located close to an International site, the potential effect of the proposed development on the integrity of the International site is assessed by the Hampshire Authorities through Habitats Regulations Assessment (HRA)<sup>38</sup>. Developers/operators should carefully consider the outcome of the HRA for such proposed sites and exploit opportunities to support the integrity of International sites through afteruse choice and restoration planning, where possible or required.
- 3.18 The creation and long-term management (aftercare) of compensatory habitats developed to mitigate or compensate for the impact of minerals and waste developments, will need to be incorporated into restoration and aftercare schemes from the outset.

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<sup>34</sup> Nature After Minerals - <http://afterminerals.com/>

<sup>35</sup> A Green Future: Our 25 Year Plan to Improve the Environment -

<https://www.gov.uk/government/publications/25-year-environment-plan>

<sup>36</sup> Environment Act 2021 - <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

<sup>37</sup> International sites include Special Protection Areas (SPA) and Special Areas of Conservation (SAC), which together constitute the UK National Site Network (NSN) (formally the European Natura 2000 network), and Ramsar sites.

<sup>38</sup> Hampshire Minerals and Waste Plan: Partial Update Habitats Regulations Assessment Screening Report August 2022 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

- 3.19 Natural regeneration can be an important method of re-colonising previously worked areas. Mineral workings provide excellent opportunities for natural regeneration and natural habitat succession, which can lend itself to the development of 'open mosaic habitat', a habitat of high ecological value. Where appropriate, natural regeneration can also be a cost effective method of wildlife colonisation.
- 3.20 The provision of wildlife-rich areas can offer opportunities for environmental education for local communities, particularly schools and youth groups, and mental health and wellbeing benefits, by providing opportunities for direct contact with nature.

### Landscape Conservation

- 3.21 The Plan area has a rich and varied landscape, the importance of which is recognised in almost 40% of its land area being given statutory designation as protected landscapes, including two National Parks and three Areas of Outstanding Natural Beauty (AONB). Much of the Plan area's landscape outside of the designated landscapes is also of significant value. Further detail of the Plan area's landscape value is provided in Section 6 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>39</sup>.
- 3.22 Restoration and afteruse of minerals and waste sites provides opportunities to restore and enhance landscape character, particularly where this has been degraded. In deciding afteruse options and restoration schemes, regard should be given to relevant Landscape Character Assessments (LCA), which identify the key characteristics of landscape types and character areas. The landscape character of the Plan area has been defined in LCAs prepared for each relevant protected landscape and local planning authority area.
- 3.23 The NPPF<sup>40</sup> confirms that '*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, ... and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues.*' '*The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks.*'
- 3.24 The setting<sup>41</sup> of designated landscapes is also important in the consideration of restoration scheme and afteruse. Planning Practice Guidance (PPG)<sup>42</sup> states that '*Land within the setting of these areas often makes an important contribution to maintaining their natural beauty...*'.

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<sup>39</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report September 2021 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

<sup>40</sup> NPPF Para. 176 - <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>41</sup> Setting does not have a defined geographical boundary but is the area surrounding the designation boundary within which development and land management proposals can have an impact on natural beauty and special qualities of the designated landscape.

<sup>42</sup> Paragraph: 042 Reference ID: 8-042-20190721. Revision date: 21 07 2019

## Agriculture

- 3.25 Although the proposed afteruse need not always be for agriculture, national planning policy emphasises the need to safeguard the long-term potential of the best and most versatile agricultural land (Agricultural Land Classification System Grades 1 – 3a) and to conserve soil resources. A wider range of non-agricultural after-uses can be considered on lower quality agricultural land. Minerals planning authorities must consult Natural England if proposed restoration is to agriculture. Further details of the Plan area's soil resources and agricultural economy are provided in Sections 7 and 12 of the Sustainability Appraisal Revised Baseline Report<sup>43</sup>, respectively.
- 3.26 When restoration is predominantly to agriculture, opportunities for biodiversity can be maximised through the incorporation of enhancements such as tree planting, beetle banks, field margins, farmland bird plots, hedgerows and ponds. The need to graze high value grasslands as part of nature conservation restoration can also provide important back up grazing for agricultural livestock. The new Environmental Land Management Scheme (ELM), which will come into operation in 2024, will provide additional opportunities for agricultural payments for environmental enhancement.
- 3.27 Furthermore, contour ploughing on slopes and rough ploughing, together with tree planting and the use of field margins can reduce soil loss and prevent sediment pathways feeding directly into watercourses, thereby reducing flood risk and improving water quality. Additional public access can be provided to restored sites providing further opportunities for agri-environment scheme funding.
- 3.28 Additional information on restoration for agriculture can be found in the Government report - 'Defra Guidance for Successful Reclamation of Minerals and Waste Sites'<sup>44</sup>, which sets out guidelines for minerals operators and planning authorities for planning, controlling and monitoring site activities.

## Forestry

- 3.29 Forestry is defined in the Town and Country Planning Act 1990 as '*the growing of a utilisable crop of timber.*' However, as well as being a commercial use, productive woodlands can form a multi-functional land-use combining timber production with nature conservation, recreation and visual amenity. Tree planting provides opportunities for carbon sequestration and can help to meet carbon reduction targets. Woodland planting also has the advantage of screening sudden and unnatural changes in slope. 18% of the Plan area's landscape is wooded (circa 69,650 ha), compared to 10% across England as a whole.
- 3.30 Of crucial importance to the establishment of forestry/woodlands on restored minerals and waste sites are the issues of soil preparation, species choice, planting design, tree

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<sup>43</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report – September 2021

<sup>44</sup> Department for Environment, Food and Rural Affairs, *Defra Guidance for Successful Reclamation of Mineral and Waste Sites* (London: TSO, 2004).

protection and aftercare. The Forestry Commission provides further guidance on the planting of woodlands on mineral working and waste disposal sites<sup>45</sup>.

- 3.31 It will not be appropriate to plant woodland in all locations and advice should be sought from the Hampshire Biodiversity Information Centre (HBIC) and the Forestry Commission when considering woodland/forestry planting in the Plan area. The minerals planning authority must consult the Forestry Commission if the restoration is to forestry.

### **Flood and Water Management**

- 3.32 Site restoration has the potential to improve water quality, ecological function and hydromorphological status of watercourses (through naturalisation and habitat improvements), sediment interception and help with groundwater protection. Detailed information regarding flooding and water management issues across the Plan area is provided in Section 9 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>46</sup>.
- 3.33 It is crucially important to ensure that flood risk is not increased from the pre-development scenario. Indeed, site restoration provides significant opportunities to reduce flood risk to local communities either as the principal afteruse or component of an alternative afteruse. This can be through restoration to an open water body with associated wetland and terrestrial habitat, or the inclusion of wetland and other sustainable drainage systems (SuDS) such as swales, retention ponds, detention basins and infiltration ditches. Flood attenuation is a particularly important afteruse where the mineral extraction site is within a floodplain.
- 3.34 The scale, type and orientation of vegetation planting and retention, together with soil friendly, long-term management of a site can contribute to reducing flood risk by slowing water movement and reducing sedimentation by blocking sediment pathways.
- 3.35 The void created during mineral extraction, especially following sand and gravel extraction can be useful in providing flood storage capacity. This can become a permanent open water feature where the final surface level is below the water table. However, the impact of new open water bodies on local landscape character and removal of grassland within feeding range of SPA birds, needs to be carefully considered. It should be noted that flood storage capacity in permanent open water bodies will be limited and dependent on local topography and hydrological connectivity.
- 3.36 Restoration of minerals sites to open water and/or wetland can, however, increase the risk of bird-strike when the site is close to an airfield. Such after-uses can lead to increased bird numbers on site by providing suitable feeding, roosting and nesting sites for waterfowl and waders. Birds may also extend their feeding to adjacent grassland

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<sup>45</sup> Perry, D. and Handley, J. (2000) *The Potential for Woodland on Urban and Industrial Wasteland in England and Wales*. Forestry Commission Technical Paper 29. Edinburgh: Forestry Commission.

<sup>46</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report – September 2021

and farmland closer the airfield. Applicants are advised to consult with airfield operators when formulating their proposals within Airport Safeguarding Zones. Further details about bird-strike within the Plan area is provided in Section 11 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>47</sup>.

- 3.37 Detailed information on the chemical quality, ecological status and hydromorphological status of the Plan area's water bodies is provided by the Environment Agency's Catchment Data Explorer<sup>48</sup>.
- 3.38 Early liaison with the Environment Agency will ensure that flood risk reduction opportunities and groundwater protection are maximised through restoration and aftercare.

### Recreation, Amenity and Tourism

- 3.39 The quality of the Plan area's natural and historic environment, the presence of significant areas of designated landscape (National Parks and AONBs), coastline, an extensive Public Rights of Way network and the presence and proximity of densely populated areas together generate a high demand for recreational opportunities and significant tourism pressures. Minerals and waste site restoration, particularly around the urban fringe and beyond the boundaries of designated landscapes, provides opportunities to contribute to both formal and informal recreational and sporting needs. Recreational and historic environment facilities may enhance the local tourism offer, depending on scale and integration with other tourism infrastructure.
- 3.40 Formal recreation can include the provision of facilities such as sports pitches, golf courses and open water for water sports, whilst informal recreation can include access for walking and cycling and the provision of informal green space. Where minerals or landfill sites are located close to existing public rights of way, opportunities should be exploited to maintain and improve this network and increase connectivity with other environmental features, including the wider countryside, as part of an integrated green infrastructure (GI) approach. The provision of formal and informal recreational facilities can help reduce pressure of nearby sensitive receptors such as Internationally designated nature conservation sites and designated landscapes (National Parks and AONBs).
- 3.41 Provision of green and blue spaces for both formal and informal recreational use benefit local communities through improved physical and mental health and wellbeing.
- 3.42 GI planning within the Plan area is supported by GI specific policies and/or reference in other policies within relevant Local Plans. In preparing afteruse and restoration schemes, regard should also be given to current and emerging green infrastructure strategies/plans across the Plan area and, where relevant, in neighbouring areas.

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<sup>47</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report September 2021 -

<https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>

<sup>48</sup> <http://environment.data.gov.uk/catchment-planning/>

- 3.43 It may not always be feasible, however, to incorporate public access, particularly where this is incompatible with adjacent land uses, such as environmentally sensitive areas. In particular, consideration should be given to recreation mitigation strategies/initiatives associated with the Plan area's two National Parks and the Solent. Furthermore, the location of the development, particularly in open countryside, may not be conducive to recreational provision due to factors such as distance from residential catchment, transport constraints, site context and the requirements of other after-uses that may need to be implemented on the same site.
- 3.44 Where infilling to pre-extraction levels is not required, excavation of material below the water table provides opportunities for water sports on newly created water bodies, such as wind surfing, dinghy sailing, rowing, canoeing and jet skiing. Water sports can also have a role in the provision of facilities that complement the sports curriculum. Water sports activity, however, can significantly impact wildlife, particularly waterfowl, and there is a need to avoid over-proliferation of such facilities, and provide appropriate management, zoning and/or seasonal restrictions, where necessary.

### Historic Environment

- 3.45 The Plan area has a rich historic environment, which encompasses designated and non-designated archaeological sites, historic buildings and settlements, historic landscape, and parks and gardens. These assets range from individual artefacts, through sites and buildings, to extensive landscapes, and range in date from the early prehistoric to the late 20th century. Further details of the Plan area's historic and cultural environment is provided in Section 8 of the Draft Plan's Sustainability Appraisal Revised Baseline Report<sup>49</sup>.
- 3.46 Site restoration can provide and improve access (physical and intellectual) to archaeology/heritage; protect, restore and enhance the settings of archaeological sites, listed buildings and historic parks/gardens; and restore historic landscape character. Restoration of historic landscape features such as hedgerows, meadows and woodlands can be integrated with biodiversity objectives for wildlife corridors and stepping-stones.
- 3.47 Where an archaeological feature or site has been preserved in situ within the mineral extraction footprint, restoration can enable its management and that of its setting, improve public access and enhance our understanding of it.

### Zoning

- 3.48 Where existing or proposed minerals and waste developments are adjacent to or within close proximity there is an opportunity for the minerals and waste planning authorities and relevant developers/operators to pursue an integrated approach to afteruse

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<sup>49</sup> Hampshire Minerals and Waste Plan: Partial Update Sustainability Appraisal (Incorporating Strategic Environmental Assessment) Revised Baseline Report – September 2021 - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>



options and restoration across more than one development and/or with more than one developer/operator. This may influence afteruse and restoration schemes based on a landscape-scale approach.

- 3.49 Where there are proposed extensions (time and/or area) to minerals and waste developments, the Hampshire Authorities may seek opportunities to improve the agreed, but yet unimplemented, afteruse and restoration schemes as part of any new permissions, to maximise environmental and community benefits.

## **Other Uses**

### **Temporary Restoration Phases**

- 3.50 Depending on the mineral/deposit being worked, it is possible during site operation to provide temporary structures or areas for ancillary waste processing and/or nature and geological/palaeontological conservation and research. An example of temporary waste use may include construction and demolition waste recycling and transfer, which may also contribute to site infilling for restoration. Temporary conservation uses can include the creation and maintenance of sand faces for sand martin nesting and the temporary exposure of geological faces to expose interesting geological formations and/or fossils that can be studied. The temporary provision of natural/artificial habitats provides stepping-stones for important species as part of a network of similar features across quarries regionally and nationally.

### **Permanent Geological Exposures**

- 3.51 Mineral/deposit extraction is uniquely placed to contribute to and enrich knowledge of and access to, local geodiversity. It may be possible to permanently retain geological or geomorphological features known to exist within the site or uncovered during operations. Geological sites of national value may be designated as Sites of Special Scientific Interest (SSSI). Locally important geological sites may be designated as Regionally Important Geological Sites (RIGS).

### **Built Development**

- 3.52 In some cases, the restoration of a minerals or waste sites may include built development, including permanent waste processing operations, housing, commercial development, and associated infrastructure.

## 4. Planning and Implementing a Restoration Scheme

- 4.1 Regardless of whether a proposed mineral or landfill site is allocated in a Minerals and Waste Plan or has not previously been identified for development, a planning application will need to be submitted. The principle of a restoration scheme should be agreed as early as possible in the process. This should preferably be undertaken through discussions with a range of interested parties prior to formal submission of a planning application.
- 4.2 At its simplest, a restoration scheme will set out when a site will begin to be restored, the timescales over which restoration, aftercare and long-term management will take place and the intended after-use(s) of a site. The Hampshire Authorities will expect the scheme to be of sufficient standard to enable a high-quality restoration. These considerations and different stages of the process are outlined in more detail below.

### Early engagement

- 4.3 Prior to a formal application for planning consent, an applicant will be expected to enter into discussion with the relevant planning authority and stakeholders in order to determine a suitable scheme. Each of the Hampshire Authorities also offer a pre-application service. Detailed proposals for the restoration and aftercare of a site should then form an important part of the information submitted with a planning application. National Planning Practice Guidance (PPG) provides detailed guidance on planning the restoration and aftercare of minerals sites<sup>50</sup>.
- 4.4 Consideration of a suitable scheme may also assist in contributing to the achievement of the objectives set out in a range of other relevant plans and strategies. These can include biodiversity and green infrastructure strategies, landscape character assessments and other land management plans, and discussions will necessarily require the involvement of the organisations responsible for these plans and strategies.
- 4.5 It is critical that early partnerships are created between the Hampshire Authorities, minerals and waste operators, local communities, landowners, organisations such as the local Wildlife Trust and the RSPB and statutory bodies such as Natural England, the Environment Agency and the Forestry Commission. This will help to identify the key issues for the site and the information that will be required in relation to afteruse, restoration and aftercare that should accompany the formal planning application.
- 4.6 Involving the community at an early stage in the development of restoration proposals for mineral and landfill sites is important in establishing a successful restoration scheme. The creation of local liaison panels for the lifetime of any minerals and waste site to consider the working and subsequent restoration is encouraged and supported.
- 4.7 Establishing a suitable restoration scheme will be dependent on a number of factors. Each site will need to be considered on its own merits with regard to its original use

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<sup>50</sup> Planning Practice Guidance (PPG) - <https://www.gov.uk/guidance/minerals>



and individual characteristics. To enable this, the operator should carry out a thorough site survey to identify existing features, including a survey of the soil resources and hydrological conditions.

- 4.8 The Hampshire Authorities expect phased restoration to take place on all minerals and landfill sites unless it can be effectively demonstrated that this is not appropriate. Phased restoration allows worked land to be restored as extraction or landfilling progresses on other parts of the site and can help to minimise/mitigate potential biodiversity and landscape impacts, as well as help to retain or enhance local distinctiveness during the development. Where early restoration is not appropriate, all restoration works should be phased to commence immediately following the completion of mineral extraction or landfilling.

### **Information required to support a planning application**

- 4.9 Proposals for all mineral extraction and landfill sites must be accompanied by a restoration and aftercare scheme that provides comprehensive details of the following:
- order and timings of phasing of minerals and landfill workings;
  - how the scheme contributes to the local environment (for example biodiversity, landscape and historic environment), as appropriate;
  - restoration plans including considerations of key issues such as aerodrome safeguarding, soil handling, biodiversity, landscape impact, extant archaeology, hydrology, as appropriate;
  - details of the importation of other materials which may be required to facilitate restoration (e.g. inert waste material), as appropriate;
  - plans for the final after-uses of the site; and
  - plans for the long-term aftercare and maintenance of the site.
- 4.10 Applicants should consult Planning Practice Guidance<sup>51</sup>, which sets out more detailed guidance on the likely information that should be submitted with a planning application for minerals and landfill workings. In addition, each minerals and waste planning authority provides more specific application validation guidance (e.g. Hampshire County Council guidance<sup>52</sup>)

### **Planning conditions and legal agreements**

- 4.11 Effective restoration and aftercare of minerals and landfill sites will be secured by using planning conditions attached to a planning consent and by using legal agreements to ensure that sites are maintained in the long-term. This will give greater certainty to local communities and minerals and waste planning authorities that agreed restoration plans will be delivered. Aftercare conditions are required to ensure that, following site

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<sup>51</sup> Planning Practice Guidance (PPG) - <https://www.gov.uk/guidance/minerals#Restoration-and-aftercare-of-minerals>

<sup>52</sup> Hampshire County Council Planning Application Validation Guidance (January 2018) - [Microsoft Word - Application Validation Guidance 2017 \(HF000015766307\).docx \(hants.gov.uk\)](#)

restoration, the land is brought up to and maintained at the required standard to enable its intended afteruse.

- 4.12 Legal agreements are often used to deal with issues that cannot be adequately controlled by planning conditions. Planning guidance identifies that such issues may include guaranteeing the long-term management of the afteruse and securing funding for long-term maintenance.

### **Aftercare and long-term management**

- 4.13 Many sites, once restored, require long-term management to maintain them. However, it is necessary to manage restored sites for a period of aftercare to improve the structure and stability of the soil, and to ensure vegetation is successfully established. All minerals and landfill proposals require an aftercare period of at least five years, although this period is often much longer in duration, including ‘in perpetuity’<sup>53</sup>. Where sites are subject to progressive restoration, the aftercare period for each part of the site will begin once the restoration condition has been met on the previous part.
- 4.14 The preparation of an aftercare scheme should begin at least six months prior to its commencement on all or part of the site, with the submission of outline proposals to the minerals and waste planning authority. This will allow time for consultations with the relevant organisations and the local community and any necessary amendments to be made before a scheme is agreed.
- 4.15 The outline proposals should include an outline strategy of commitments for the aftercare period (or longer if agreed between the applicant and the minerals and waste planning authority) and at the start of aftercare, and in each year of the aftercare period, a review of the previous years’ management and a detailed programme for the forthcoming year.
- 4.16 The outline strategy should broadly outline the steps to be carried out in the aftercare period and their timing within the overall programme. These should include, as appropriate:
- design and timing of vegetation establishment (including trees, grassland and hedgerows);
  - cultivation practices;
  - drainage;
  - secondary treatments;
  - preparation and management of soil, fertility, weeds etc;
  - irrigation and watering; and
  - control of livestock and wild animals.
- 4.17 The detailed programme should:

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<sup>53</sup> Although ‘in perpetuity’ technically means of indefinite duration, for the purposes of habitat management this is often determined by the courts as meaning a minimum of 80 years.

- elaborate on the outline strategy for work to be carried out in the forthcoming year;
  - confirm that steps already specified in detail in the outline strategy will be carried out as originally intended; and
  - include any modifications to original proposals e.g. due to differences between actual and anticipated site conditions.
- 4.18 Long-term management follows the successful completion of the aftercare period and its duration will be dependent on the nature of the development and the afteruse option(s) chosen. For example, nature conservation afteruse may require management in excess of 20 years (depending on the scheme) to enable the desired restoration to fully establish. Management requirements are determined on a case-by-case basis and set out in a legal agreement.
- 4.19 The minerals and waste planning authority must consult Natural England (if the proposed restoration is for agriculture) or the Forestry Commission (if restoration is for forestry).
- 4.20 Some of the most successful examples of long-term nature conservation restoration and management have resulted from a partnership between site operators/site owners and local Wildlife Trusts or dedicated charitable site management bodies. Langford Lakes nature reserve is a good example of this (see Appendix 1).

### **Management plans**

- 4.21 Where the afteruse of a site will continue significantly beyond the minimum five year aftercare period, for instance where the principal afteruse is for nature conservation, the minerals and waste planning authority will require the submission of a comprehensive management plan to ensure the establishment of the afteruse and its long-term management.
- 4.22 Management plans will be subject to a legal agreement under Section 106 of the Town and Country Planning Act 1990. The legal agreement will specify the detail of the management plan and the duration of its implementation. It is advisable for the applicant to discuss the heads of terms of the legal agreement and the outline structure of the management plan with the minerals and waste planning authority as early as possible, so that determination of the planning application for minerals or waste development is not unnecessarily delayed.
- 4.23 The minerals and waste planning authority will expect the management plan to contain a vision for the restored site, a set of specific and measurable objectives to deliver the vision, a suite of detailed and costed actions to deliver the objectives, and a commitment to monitoring the plan's implementation and report progress to the planning authority. The management plan may be implemented by the operator, landowner or management contractor. The planning authority will also expect that the local community and other key stakeholders will have been consulted during the preparation of the management plan.

## Soil handling and management

- 4.24 Soil restoration refers to the replacement, following mineral extraction or waste operations, of any or all of the following: subsoil; topsoil; and soil making material. National planning policy emphasises the need to protect and enhance soil resources<sup>54</sup>. The nature of mineral extraction in the Plan area means that most soil restoration can follow closely behind extraction so that the land can be returned to its original use or new afteruse relatively quickly.
- 4.25 Careful stripping, storage and handling of soils are fundamental to securing a successful restoration scheme. For example, if it is intended that a site will be restored as a sports pitch, it will be important to ensure that the depth of the soil can support a nutrient demanding hard-wearing sward and is sufficient to prevent stones working to the surface. Conversely for nature conservation after-uses, it is not always appropriate to replace soils across the entire site, as often nature conservation after-uses require nutrient poor substrates. The details, management, storage, timings and means of soils movements should therefore be clearly set out within restoration schemes.
- 4.26 The application of soil restoration planning conditions can secure the replacement of soil materials on landforms and levels which accord with the agreed restoration scheme in the correct order and to the correct depth, as well as cover remedial treatment to ensure the correct conditions for vegetation growth and drainage are maintained.
- 4.27 National planning policy states that plans, and decision should recognise the wider benefits from natural capital and ecosystem services including the '*economic and other benefits of the best and most versatile agricultural land*'<sup>55</sup>. That guidance is supported by the Department of environment, fisheries and rural affairs (Defra) Soil Strategy<sup>56</sup> which identifies three main threats to soil quality – erosion by wind and rain, compaction and organic matter decline. It is important that there is no net loss in the quality of the Plan area's soils. As such, the Defra Code of Practice for Soils Use on Construction Sites<sup>57</sup> and the Institute for Quarrying's Good Practice Guide for Handling Soils in Mineral Workings<sup>58</sup> should be taken into consideration.

## Financial considerations

- 4.28 Responsibility for the restoration and aftercare of mineral extraction and landfill sites lies with the operator, or in the case of default with the landowner, who should be able to demonstrate what the likely financial and material budgets for restoration, aftercare

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<sup>54</sup> National Planning Policy Framework (NPPF), paragraph 174(a) -

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>55</sup> National Planning Policy Framework (NPPF), Para. 174 (b) (MHCLG, 2021)

<sup>56</sup> Safeguarding our Soils – A Strategy for England (Defra, 2009) -

<https://www.gov.uk/government/publications/safeguarding-our-soils-a-strategy-for-england>

<sup>57</sup> Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009) -

<https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites>

<sup>58</sup> Good Practice Guide for Handling Soils in Mineral Workings - <https://www.quarrying.org/soils-guidance>

and afteruse will be and how they propose to make provision for such work during the operational life of the site.

- 4.29 National policy guidance recognises that there are several ways in which mineral companies may make financial provision for restoration and long-term maintenance of sites. It will be for the mineral operator in the first instance to assess which is the most suitable option. These include:
- making general provision in advance covering all company sites;
  - specific provision made in advance for each site;
  - full provision made when site development commences;
  - provision made on an incremental basis as sites are developed.
- 4.30 Some after-uses will be more expensive to maintain over the long-term than others, but alternative sources of financial contribution can be sought. A study by the RSPB<sup>59</sup> recognises that securing long-term conservation management is dependent on the security of long-term funding. However, it also identifies that there are other sources such as agri-environment payments or funding through initiatives such as the Landfill Communities Fund that can offset these costs.

### Natural Capital Valuation

- 4.31 In 2020 the government launched the 'Enabling a Natural Capital Approach' (ENCA)<sup>60</sup> project to help deliver 25 Year Environment Plan commitments. This online natural capital resource makes accessible a wide range of selected guidance, tools, data and case studies to enable decision-makers and appraisers to better value and account for natural capital in the UK.
- 4.32 As part of the national development of a Natural Capital Planning Tool (NCPT)<sup>61</sup> for local authorities, planners and developers, a Corporate Natural Capital Accounting (CNCA) process has been applied to mineral extraction and restoration planning. Evaluation has included carbon sequestration and storage, habitat and biodiversity, water provision, minerals yet to be quarried and future recreation and amenity. Application of the process as a pilot has enabled operators to demonstrate the significant natural capital value of restored quarries and highlights the benefits of CNCA in providing an opportunity to understand and communicate the full value of a site to the local planning authority, community and others.
- 4.33 Application of natural capital planning and accounting tools to mineral extraction and minerals and waste restoration continues to be developed and improved. The process will become a useful tool for both minerals and waste planning authorities and applicants/operators, informing afteruse options and restoration schemes and demonstrating environmental net gain, where it is able to add value to the current development management processes.

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<sup>59</sup> Davies, A.M. (2006) *Nature After Minerals: how mineral site restoration can benefit people and wildlife*. Bedfordshire. The RSPB.

<sup>60</sup> <https://www.gov.uk/guidance/enabling-a-natural-capital-approach-enca>

<sup>61</sup> <http://ncptool.com/>

## Monitoring

- 4.34 The Hampshire Authorities are committed to ensuring that the restoration and aftercare of mineral extraction and waste management sites takes place in line with the schemes agreed through the planning permissions granted and any subsequent amendment agreed with them. The restoration of all minerals and waste management permissions will be monitored by the Hampshire Authorities to ensure that sites are restored to the level of quality and within the timescales set out within agreed schemes.
- 4.35 If restoration or aftercare is not undertaken in accordance with agreed schemes the Hampshire Authorities will take the necessary steps to ensure compliance, which may include taking enforcement action.

## 5. Conclusion

- 5.1 This Topic Paper helps to inform policy formulation for the partial update of the HMWP by highlighting the importance of the provision of effective and deliverable measures for appropriate restoration, aftercare and afteruse of minerals and waste sites and providing an overall framework and set of principles.
- 5.2 There are many opportunities through the restoration of minerals and waste developments to provide significant benefits for climate change, the natural and historic environments, community health and wellbeing and the economy.
- 5.3 The Paper has shown that reclamation of minerals or waste sites should be more than merely returning the land to a satisfactory condition after extraction or waste management activity. Rather, the minerals and waste management industry and the Hampshire Authorities should seek, through the delivery of imaginative and high-quality restoration to deliver significant environmental and community benefits, which will in turn benefit the economy.
- 5.4 The Paper also assists the implementation of minerals and waste development within the Plan area by identifying local objectives for biodiversity, landscape character, historic environment and community use.

### Recommendations

- 5.5 Site restoration is a cross-cutting issue. The delivery of the emerging HMWP Partial Update – Draft Plan – *Policy 10: Restoration of minerals and waste developments* will support the delivery of emerging Development Management Policies, in particular, Policies 2 – 9 and 12. Likewise the implementation of these policies will support and strengthen the delivery of Policy 10. This should be recognised within the Partial Update Draft Plan.
- 5.6 There has been a greater national focus on nature recovery and ecological connectivity since the HMWP was adopted in 2013, in particular through the publication of the 25 Year Environment Plan 2018 and Environment Act 2021.
- 5.7 It is important that the emerging site restoration policy in the HMWP Partial Update – Draft Plan (Policy 10) takes account of the emerging requirement to secure Biodiversity Net Gain (BNG) through development, as set out in the Environment Act<sup>62</sup> and in national policy<sup>63</sup>, together with the 25 Year Environment Plan's<sup>64</sup> ambition of securing net environmental gain.

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<sup>62</sup> Environment Act 2021 -

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

<sup>63</sup> Para. 174 (d) of the National Planning Policy Framework 2021 –

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>64</sup> A Green Future: Our 25 Year Plan to Improve the Environment –

<https://www.gov.uk/government/publications/25-year-environment-plan>

- 5.8 It is recognised that many quarry and landfill restoration developments already achieve an exceedance of 10% BNG. As such, the Hampshire Authorities will expect operators to strive to achieve the maximum BNG possible and it is important for this to be reflected in the Partial Update Draft Plan.
- 5.9 It is also important that Policy 10 takes account of the emerging Local Nature Recovery Strategies (LNRS), mandated by the Environment Act, which will establish priorities and map proposals for specific actions to drive nature's recovery and wider environmental benefits across the Plan area, as well as take account of the emerging Nature Recovery Plans for the Plan area's National Parks and AONBs.
- 5.10 The focus on climate change and the scrutiny of minerals and waste development proposals in relation to their compliance with climate change has become more critical since the Plan was adopted in 2013. The opportunities for climate change mitigation and adaption that site restoration provides should be recognised in Policy 10. The issue of climate change is discussed in greater detail in the HMWP Partial Update - Climate Change Topic Paper<sup>65</sup>.
- 5.11 Since the publication of the 2013 Plan there has been a greater focus by Natural England on the effects of recreational activity on sensitive receptors, such as National Site Network sites, Ramsar sites and designated landscapes, particularly from recreational displacement generated by development. Restoration of mineral extraction and landfill sites can make an important contribution to the creation of alternative recreational facilities and opportunities and help off-set such effects. This should be recognised in the Draft Plan and Policy 10.

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<sup>65</sup> Hampshire Minerals and Waste Plan: Partial Update – Climate Change Topic Paper - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan>



## Acronyms

AONB	Area of Outstanding Natural Beauty
BNG	Biodiversity Net Gain
BOA	Biodiversity Opportunity Area
CO <sub>2</sub>	Carbon Dioxide
CWS	County Wildlife Site
GIS	Geographical Information System
HMWP	Hampshire Minerals and Waste Plan
HRA	Habitats Regulations Assessment
INNS	Invasive Non-Native Species
LCA	Landscape Character Assessment
LNRS	Local Nature Recovery Strategy
LWS	Local Wildlife Sites
MWPA	Minerals and Waste Planning Authorities
NCA	National Character Area
NERC	Natural Environment and Rural Communities Act 2006
NGO	Non-Governmental Organisation
NP	National Park
NPPF	National Planning Policy Framework
NPPW	National Planning Policy for Waste
NSN	National Site Network
PPG	Planning Practice Guidance
PRoW	Public Rights of Way
RSPB	Royal Society for the Protection of Birds
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SINC	Site of Importance for Nature Conservation
SOC:	Soil organic carbon
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

## Glossary

**Aftercare:** Action taken after restoration to bring land up to the required standard for the intended afteruse, and can include planting, maintenance of planting, fertilising, cultivating, stone picking, watering or drainage improvement.

**Aftercare scheme:** A scheme imposed by the minerals and waste planning authorities requiring management of the site after restoration

**Afteruse:** The intended land use after mineral working or landfilling has been completed. It may be a reinstatement of a former use or a completely new use.

**Aggregates:** Sand, gravel, crushed rock and other bulk materials used in the construction industry for purposes such as the making of concrete, mortar, asphalt or for roadstone, drainage or bulk filling materials.

**Agricultural Grades 1, 2 and 3a:** Agricultural land defined by the Department for Environment, Food and Rural Affairs (Defra) as the 'best and most versatile' to be protected, where possible, from irreversible damage.

**Amenity:** Something considered necessary to live comfortably.

**Applicant:** A person who has or intends to apply to the minerals planning authority for planning permission for minerals and or waste development.

**Area of Outstanding Natural Beauty (AONB):** An area designated under the National Parks and Access to the Countryside Act 1949 (as amended by the Countryside and Rights of Way (CRoW) Act 2000) as being of national importance for its natural beauty, including flora fauna, geology and landscape, which should be conserved and enhanced.

**Best and most versatile agricultural land:** Land in grades 1, 2 and 3a of the Agricultural Land Classification.

**Biodiversity:** The total variety of life on earth, including all genes, species, ecosystems and the ecological processes of which they are part.

**Biodiversity Action Plans (BAP):** Biodiversity Action Plans set out the status of habitats and species within a particular area and provide a set of actions to conserve those habitats and species that are considered a priority. BAPs in the Plan area have largely been replaced.

**Biodiversity Opportunity Areas (BOAs):** Specific geographical areas with the best opportunity to restore and create habitats of regional importance. They are defined entirely based on the identification of areas where conservation action is likely to have the most benefit for biodiversity based on existing biodiversity interest and opportunities for enhancement. The purpose of BOAs is to guide support for land management as they represent those areas where assistance for land management and habitat restoration would have particular benefit.

**Bird-strike:** Risk of aircraft collision with birds, which are often attracted to landfill sites containing organic waste or open water created after mineral extraction.

**Bird-strike Zone:** A safeguarding zone comprising a 13km radius circle within which local planning authorities must consult aerodrome authorities over any development which has the potential to increase the risk of bird-strike.

**Bourne:** An intermittent stream flowing from a spring, frequent in chalk and limestone areas, where rock saturated with winter rain slowly drains until saturation decreases to a point where stream flow ceases.

**Chemical quality (water):** The classification status for surface waterbodies against the environmental standards for chemicals that are priority substances and priority hazardous substances.

**Climate Change:** Long-term shift in weather patterns in a specific region or globally, involving changes in overall weather patterns, including precipitation, temperatures and cloud cover and thought to be leading to an increased frequency of extreme weather events. Much of the observed and predicted climate change is attributed to human activities that have resulted in increased concentrations of greenhouse gases in the atmosphere, such as carbon dioxide.

**Climate Change Adaptation:** Adjustments to natural or human systems in response to actual or expected climatic factors or their effects, including from changes in rainfall and rising temperatures, which moderate harm or exploit beneficial opportunities

**Climate Change Mitigation:** Action to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions.

**Conditions:** Terms attached to a planning permission to limit or direct the manner in which a development is carried out.

**Conservation Objectives:** A statement of the nature conservation aspirations for an EU protected site, expressed in terms of the favourable condition that is sought for the species and/or habitats for which the site has been selected to attain.

**Corporate Natural Capital Accounting (CNCA):** The process of calculating the value of total stocks and flows of natural resources and services in an ecosystem or region, in physical or monetary terms.

**Contour Ploughing:** Agricultural ploughing perpendicular to slope to reduce soil migration in periods of heavy rain, reducing soil loss, slowing water movement and reducing the likelihood of sediment pathway formation into watercourses.

**Development Plan Document (DPD):** Documents that form part of a statutory development plan such as a District Council Local Plan.

**'Dual use' restoration:** A restoration scheme that meets two or more restoration opportunities.

**Ecological status (surface water bodies):** Based on the following quality elements: biological quality, general chemical and physico-chemical quality, water quality with respect to specific pollutants (synthetic and non-synthetic), and hydromorphological quality. There are five classes of ecological status (high, good, moderate, poor or bad). Ecological status and chemical status together define the overall surface water status of a water body.

**Ecological networks:** Network of habitats that allow animals and plants to move through the landscape and which provides functional support to existing areas of ecological importance. The movement of organisms between populations in a connected landscape maintains genetic diversity, enabling populations to adapt to future changes in environmental conditions.

**Ecosystem Services:** The benefits people obtain from ecosystems such as, food, fuel, water, flood and disease control, materials and recreation.

**Fluvial flooding:** Fluvial flooding occurs when rivers burst their banks as a result of sustained or intense rainfall.

**Geodiversity:** The range of rocks, minerals, fossils, soils and landforms.

**Geomorphology:** The study of the characteristics, origins, and development of landforms.

**Green Belt:** A policy and land use designation used in land use planning to retain areas of largely undeveloped or agricultural land surrounding or neighbouring urban areas. The main aim of Green Belt policy is to prevent urban sprawl by maintaining land permanently open.

**Green Infrastructure:** A network of multi-functional green space, urban and rural, which can deliver a wide range of environmental and quality of life benefits for local communities.

**Habitat:** An ecological or environmental area that is inhabited by individuals or populations of a species of animal, plant or other type of organism.

**Habitats Regulations Assessment (HRA):** As required by the Conservation of Habitats and Species Regulations 2017 (as amended), the identification of any aspects of an emerging plan or project that would have the potential to cause a likely significant effect on National Site Network sites and Ramsar sites (either alone or in combination with other plans and projects), and to begin to identify appropriate mitigation strategies where such effects are identified.

**Historic environment :** All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

**Hydrogeology:** The study of the distribution and movement of groundwater in soil and rocks.

**Hydromorphological status:** Describes the form and function of a watercourse channel as well as its connectivity (up and downstream and with groundwater) and flow regime, which defines its ability to allow migration of aquatic organisms and maintain natural continuity of sediment transport through the fluvial system.

**Hydrology:** The study of the movement, distribution, and quality of water, including surface water and groundwater.

**Landfill:** The deposit of waste into voids in the ground.

**Landscape Character Assessment (LCA):** The process of identifying and describing variation in the character of the landscape. LCAs identify and explain the combination of elements and features that make landscapes distinct from one another by mapping and describing Landscape Character Types and Character Areas

**Landscape-Scale:** Landscape-scale conservation is characterised by the pursuit of multiple benefits across a large area (e.g. water quality, biodiversity, access). The best examples also make links to wider economic and social priorities, where enhancing nature can provide benefits to the local economy and quality of life.

**Local Plan:** Also known as a Local Development Plan, it is the plan for the future development of the local area, drawn up by the local planning authority in consultation with the community.

**Legal (Planning) Agreement:** An agreement between the local planning authority and any person with an interest in land in its area for the purpose of restricting or regulating the development or use of land (also known as a planning obligation).

**Local planning authority (LPA):** The public authority whose duty it is to carry out specific planning functions for an area.

**Local Nature Recovery Strategy (LNRS):** Local Nature Recovery Strategies are a new, England-wide system of spatial strategies that will establish priorities and map proposals for specific actions to drive nature's recovery and provide wider environmental benefits. The requirement for LNRS is set out in the Environment Act 2021.

**Local Nature Reserve (LNR):** A statutory designation made (by principal local authorities) under Section 21 of the National Parks and Access to the Countryside Act 1949. They are places of local, but not necessarily national, wildlife or geological importance and often have good public access and facilities. LNRs are almost always owned by local authorities, who often pass the management of the Local Nature Reserves to local Wildlife Trusts.

**Local Wildlife Sites:** Non-statutory sites identified and selected for their nature conservation value, using ecological surveys and robust criteria. The sites are protected through Local Plan policy. Local Wildlife Sites sometimes have equivalent nature conservation value to statutory designated sites.

**Minerals:** A mineral is an element or chemical compound that is normally crystalline and that has been formed as a result of geological processes, including sand, gravel, chalk, limestone and clay.

**Minerals and Waste Planning Authority (MWPA):** The local planning authorities (County and Unitary Councils) responsible for minerals and waste planning. In the Plan area, the Hampshire Authorities - Hampshire County Council, Portsmouth City Council, Southampton City Council, New Forest National Park Authority and South Downs National Park Authority, are the minerals and waste planning authorities.

**Mitigation:** Measures taken to avoid or reduce negative impacts. Measures may include locating the development and its working areas and access routes away from areas of high ecological interest, or timing works to avoid sensitive periods.

**National Nature Reserve (NNR):** A nationally important biological or geological site declared by Natural England and managed through ownership, leasehold or a nature reserve agreement.

**NPPF (National Planning Policy Framework):** Government policy framework that sets out planning policies for England and how they are expected to be applied. It provides guidance for local planning authorities and decision-takers, both in preparing development plans and in development management.

**NPPW (National Planning Policy for Waste):** Sets out, through the provision of detailed waste planning policies, the Government's ambition to work towards a more sustainable and efficient approach to resource use and management.

**National Site Network (NSN):** An ecological network of areas protected for their international nature conservation value in the UK, comprising Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Formally part of the European Natura 2000 Network.

**Natural Capital:** The world's stock of natural resources, which includes geology, soils, air, water and all living organisms. Some natural capital assets provide people with free goods and services, often referred to as ecosystem services.

**Natural Capital Planning Tool (NCPT):** A software-based tool that allows local authorities, planners and developers to indicatively, but systematically, assess changes to Natural Capital value in a land use planning context.

**Notable Species:** Species that are nationally scarce.

**Palaeontological:** Concerning the study of fossils.

**Phased / progressive restoration:** Method by which a site is worked and restored progressively on a phased basis, minimising the area of land worked at any one time.

**Planning condition:** A condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order.

**Planning Practice Guidance (PPG):** A web-based resource which brings together national planning guidance on various topics into one place and provides further clarity on the interpretation of the National Planning Policy Framework (NPPF).

**Pluvial flooding:** Pluvial flooding occurs when an extremely heavy downpour of rain saturates drainage systems and the excess water cannot be absorbed.

**Principal Bedrock Aquifer:** Layers of rock or drift deposits that have high intergranular and/or fracture permeability – meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

**Priority Habitats:** Habitats listed as ‘habitats of principal importance’ in Section 41 of the NERC Act 2006 (formally ‘priority habitats’ in the UK Biodiversity Action Plan (BAP)).

**Protected Species:** Species that are protected by international or national legislation or Government policy.

**Ramsar Site:** An internationally important wetland designated under the Convention on Wetlands of International Importance especially as Wildfowl Habitat (Ramsar, Iran) 1971 and, as a matter of government policy, are afforded the same protection as a site designated under the Conservation of Habitats and Species Regulations 2017 (as amended).

**Reclamation:** Operations associated with the extraction of minerals that are intended to return the area to an acceptable environmental condition suitable for the intended afteruse. Reclamation includes both restoration and aftercare and events that take place before and during mineral extraction, for example stripping, storage and reinstatement of soils.

**Restoration:** Operations associated with the winning and working of minerals and landfilling, which are designed to return the area to an acceptable environmental condition, whether for the resumption of former land use or a new use.

**Rough Ploughing:** An agricultural ploughing technique that increases water infiltration, reducing soil loss, slowing water flow and reducing the likelihood of sediment pathway formation into watercourses.

**Scheduled Monuments (SAM):** Nationally important archaeological sites included in the Schedule of Ancient Monuments maintained by the Secretary of State under the Ancient Monuments and Archaeological Areas Act 1979.

**Secondary A aquifer:** Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

**Sites of Special Scientific Interest (SSSI):** A site designated by Natural England as an area of special interest by reason of any of its flora, fauna, geological or physiographical features and of national importance.

**Special Areas of Conservation (SAC):** Sites identified under the EU Habitats Directive (92/43/EEC) supporting habitats or species listed within Annex I and II of that legislation, which form a network of internally recognised sites across Europe alongside SPA and Ramsar sites. Following the UK withdrawal from the EU, these sites are provided equivalent protection under the UK transposition of this Directive - The Conservation of Habitats and Species Regulations 2017 (as amended), as amended by the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019.

**Special Protection Area (SPA):** Sites identified under the EU Directive on the Conservation of Wild Birds protecting sites supporting the habitats of migratory and other particularly threatened species of bird. They form a network of internally recognised sites across Europe alongside SAC and Ramsar sites. Following the UK withdrawal from the EU, these sites are provided equivalent protection under the UK transposition of this Directive - The Conservation of Habitats and Species Regulations 2017 (as amended), as amended by the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019.

**Stepping-stones:** Pockets of habitat that, while not necessarily connected, facilitate the movement of species across otherwise inhospitable landscapes.

**Surficial Principal Aquifer:** Shallow aquifers (typically less than 15m). These mostly consist of unconsolidated sand enclosed by layers of limestone, sandstone or clay and the water is commonly extracted for urban use. The aquifers are replenished by streams and from precipitation and can vary in volume considerably as the water table fluctuates. Being shallow, they are susceptible to contamination by fuel spills, industrial discharge and landfill.

**Sustainable Drainage System (SuDS):** Techniques to control and manage surface water run-off before it enters a water course including preventative measures (recycling), including filter strips, swales, permeable surfaces, infiltration devices, basins and ponds. SuDS also aim to control pollution, recharge ground water, control flooding, and enhance the environment. Previously referred to as Sustainable Urban Drainage Systems.

**Sustainability Appraisal:** A systematic process, required under Section 19 of the Planning and Compulsory Purchase Act 2004, that must be carried out during the preparation of a Local Plan. Its role is to promote sustainable development by assessing the extent to which the emerging plan, when judged against reasonable alternatives, will help to achieve relevant environmental, economic and social objectives. Sustainability appraisal incorporates the requirements of strategic environmental assessment (SEA).

**Wildlife corridor:** Areas of habitat, usually linear in nature, connecting wildlife populations.

## Appendix 1: Restoration Case Studies

There are a number of examples of former mineral extraction and landfill sites within the Plan area and beyond that have been successfully restored for the benefit of the wider environment, local communities and the local economy. Examples of successful restoration schemes include:

### Ibsley Quarry

(Restoration to nature conservation, public water supply and public access)



Source: <https://www.agg-net.com/news/ibsley-quarry-wins-major-restoration-award>

Lafarge Tarmac's Ibsley Quarry near Ringwood in Hampshire produced more than two million tonnes of sand and gravel between 1991 and 2008. The restoration of Ibsley links with the adjoining restoration of Blashford Lakes, a series of former gravel pits, which together provide landscape-scale habitats in an area dominated by international and national nature conservation designations, including SPA, SAC, Ramsar and SSSI.

Since active working ceased, the 36-hectare site located on the edge of the New Forest has been restored to a mix of open water conservation lakes, wetland and grassland. Innovative and practical techniques have been deployed to control water levels, establish the species rich grassland and reedbeds and control invasive weeds. The way the site fits with wider strategies for the area, relating to landscape, ecology, biodiversity, access and restoration, is particularly significant.

The site is popular with wildfowl and breeding waders and great effort has been made in making the site accessible for bird watchers, including the provision of three bird hides adjacent to public footpaths and was the subject of an award from the British Trust for Ornithology. Furthermore, the site has contributed to recreation and access in the area by providing well-used and popular links for the Avon Valley footpath which runs through the centre of the site.

The operator was awarded the Mineral Products Association (MPA) Cooper-Heyman Cup for outstanding restoration of this site in 2013.



## Langford Lakes

(Restoration to nature conservation, public water supply, public access and education)



Source: <https://www.wiltshirewildlife.org/langford-lakes>

Set in the Wylde valley to the west of Salisbury in Wiltshire, Langford Lakes is one of the UK's best examples of long-term gravel workings that have successfully made the transition to become a valuable nature reserve.

Since purchasing the site in 2001, the Wiltshire Wildlife Trust has built on the restoration work achieved previously by Hills to establish what has become its flagship reserve. It is now an important refuge for wetland birds, a centre of excellence for environmental education, a popular destination for anglers and a valued venue for the local community. Facilities include a visitor/education centre, bird hides, footpaths, toilets and car parking.

When gravel was excavated during the 1960s and 1970s the process left behind water filled voids that were turned into a commercial fishery. Since the Wildlife Trust acquired the lakes in 2001, they have undertaken further restoration work that has created islands, ponds and wader scrapes that provide habitat for birds such as redshank and sandpiper. The site compliments the River Wylde, a designated Special Area of Conservation (SAC) and has acted as a focus for further habitat enhancement work on adjacent land.

Langford Lakes received the Chairman's Trophy in the Quarry Products Association 2007 Restoration Awards.

## Panshanger Park

(Restoration to historic parkland)



Source: <https://hertford.net/galleries/panshanger-park/>

Panshanger Park is a historic Grade II\* listed park and garden to the west of Hertford. The park covers an area of 1000 acres, of which 200 acres are open to the public. Much of the parkland was created by Humphry Repton in the late 18th century, with other parts previously landscaped by Lancelot 'Capability' Brown.

More recently, since the 1980s, the park has been owned by Tarmac and parts have been quarried for sand and gravel. Much of the site has now been restored to arable farming and a range of valuable wildlife habitats including a new section of chalk river and a number of lakes. The park opened to the public in 2014 and comprises a country park and nature reserve. More of the site will be opened up in a series of carefully managed phases as the remaining extraction processes on site come to an end.

Panshanger Park is listed within the Register of Historic Parks and Gardens by English Heritage for its special historic interest.

Tarmac, along with its partners, the Hertfordshire & Middlesex Wildlife Trust, were awarded the Mineral Products Association (MPA) Cooper-Heyman cup at the 2017 Restoration and Biodiversity Awards ceremony, in recognition of their work to sensitively manage the grade II\* listed landscape at Panshanger.

## Laleham Farm

(Restoration predominantly to agriculture)



Source: <https://mineralproducts.org/laleham.html>

Laleham Farm near Staines was worked for sand and gravel from the late 1960s until the mid-1990s by Greenham Construction Materials Ltd now part of Brett Group. During this period, the site won the Cooper-Heyman Cup restoration award from the Mineral Products Association (MPA). For the exceptional standard of its restoration, Laleham Farm was also the MPA 40th Anniversary Trophy winner in 2009.

Extraction was carried out in phases and innovative progressive restoration was used. This enabled restoration to be achieved within 18 months, after which cultivation of the land restarted. A careful assessment of topsoil quality and thickness took place during both the planning and extraction phases. Topsoil was then replaced in a balanced way over the site significantly improving conditions for crop growth.

Hedges and ditches introduced during extraction have provided wildlife corridors. A small lake has been retained and developed which attracts waterfowl, amphibians and dragonflies. Lapwings, skylark, little ringed plovers and yellow wagtails are also frequent visitors.

Over nine crops, including fennel, coriander and spring onions are successfully grown here and supplied to London wholesale markets, local farm shops, greengrocers and farmers markets.



## Broom Quarry

(Restoration to a mixture of wildflower meadows, wetlands, woodland and farmland)



Source: <https://sustainability-report-2019.tarmac.com/sr/case-studies/broom-quarry-wins-cooper-heyman-cup/index.html>

Tarmac's Broom Quarry in Bedfordshire is a 172-hectare former quarry, which has been progressively restored over many years into wildflower meadows, wetlands, woodland and farmland, featuring public access with 10 kilometres of pathways created, and some of the lakes that were restored are now used for fishing.

The site, which was designated a County Wildlife Site in 2017, has a rich variety of flora with 48 different species recorded in its meadows. Part of the site, which is known as Broom East Wildlife Conservation Site, is home to 117 different types of bird species, including Little Ringed Plover, Lapwing, Redshank and Grey Partridge.

There are further plans to enhance the diversity of the site over the coming years, which will be helped by grazing using local Dexter cattle.

Tarmac was named joint winner of the prestigious Cooper-Heyman Cup for outstanding restoration at the Mineral Products Association (MPA) Quarries and Nature 2019 awards ceremony for their work at Broom Quarry.

A summary of this document can be made available in large print, in Braille or audio cassette. Copies in other languages may also be obtained. Please contact Hampshire County Council by email [HMWP.consult@hants.gov.uk](mailto:HMWP.consult@hants.gov.uk) or by calling 01962 846746.