Buckinghamshire County Council

Buckinghamshire Minerals and Waste Local Plan 2016-2036

Plan for Adoption

July 2019

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Policies

1. The Minerals and Waste Local Plan

Introduction

1.1 The Buckinghamshire Minerals and Waste Local Plan (MWLP) forms the land use planning strategy for minerals and waste development within the administrative area of Buckinghamshire County. It provides guidance regarding industry investment, the level of minerals and waste development needed to support the development of sustainable communities and infrastructure and where in the county such development should go. The Plan also addresses the design and impact of development and how it can best relate to the surrounding land use(s) and link with the wider community in order to optimise beneficial outcomes.

1.2 The adopted MWLP will provide the basis for determining planning applications for, or linked to, minerals and waste development in Buckinghamshire. It sets out:

- the spatial strategy for minerals and waste development in the county and the amount of provision that will need to be made for such development;
- the vision and strategic priorities, or objectives, for minerals and waste development in Buckinghamshire to 2036;
- development principles and policies for controlling and managing development and to address locally-specific issues;
- site-specific allocations for minerals and waste development;
- areas of focus within which waste development could be accommodated; and
- a geographical presentation of the Plans policies, site specific allocations and designations (where possible) on a detailed OS map of the county (the Policies Map).

1.3 At the time the Local Plan was prepared the prevailing national policy was contained in the National Planning Policy Framework (NPPF) issued in March 2012 and the National Planning Policy for Waste (NPPW) issued in October 2014. Following submission of the Local Plan for independent examination (in June 2018) a revised NPPF was published in July 2018. Paragraph 214 of the revised NPPF clarified, however, that the policies in the previous Framework would apply for the purpose of examining this Local Plan. In addition the National Planning Practice Guidance as existing at the time of the 2012 NPPF has been the relevant guidance for the purpose of examining the Plan

1.4 The MWLP, along with the Local Plans prepared by the district planning authorities in the county, form the Development Plan for Buckinghamshire.

1.5 The presumption in favour of sustainable development is a fundamental component of the government's National Planning Policy Framework (NPPF). In preparing local plans this presumption means that:

- Planning authorities should positively seek opportunities to meet the development needs of their area; and
- Local plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole, or specific policies in the NPPF indicate development should be restricted.

1.6 Applications for planning permission must be determined in accordance with the MWLP unless material considerations indicate otherwise. The MWLP is applicable to all proposals for minerals and waste development, and all other forms of development, made in Buckinghamshire. This is regardless of whether or not the proposal relates to an allocated site (or location) identified in the MWLP or to any other site.

1.7 In developing proposals, and for the County Council as the minerals and waste planning authority (MWPA) to determine them, the policies in the MWLP should not be read in isolation. Rather they are to be read in conjunction with national planning policy and legislation as well as European legislation and directives applicable in the UK.

1.8 In all cases any proposed development will be expected to comply with relevant parts of the MWLP. Proposals on allocated sites in the MWLP should be in accordance with other policies set out in the MWLP.

1.9 In making decisions on planning applications the presumption in favour of sustainable development means that proposals that accord with the Plan should be approved without delay. Where the Plan is silent or the relevant policies are out-of-date, permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole, or specific policies in the NPPF indicate development should be restricted.

Sustainability and Environmental Assessment of the Local Plan

1.10 In line with European Directives, the Plan has been subject to sustainability and environmental assessment throughout its preparation.

1.11 An assessment of the effects of certain plans and programmes on the environment is required in accordance with European Directive 2001/42/EC (the Strategic Environmental Assessment, or SEA Directive) when preparing Local Plans. This must include Sustainability Appraisal (SA), which effectively broadens the concept of SEA to encompass economic and social impacts. The requirement to carry out SA and SEA are distinct however it is possible to satisfy both through a single appraisal process, herein referred to as the SA process. The integration of sustainability considerations into the preparation and adoption of Plans is the key focus of the SA process.

1.12 Burnham Beeches, Chiltern Beechwoods and a small section of Aston Rowant Woods are located within the county and are designated as a Special Area of Conservation (SAC), recognised as European Sites (Natura 2000). Furthermore, there are other Natura 2000 sites that, although outside of Buckinghamshire's boundary should be taken into account with respect to the Habitats Directive, these include: Aston Rowant Woods SAC, Windsor Park SAC and South and West London Waterbodies Special Protection Area (SPA).

1.13 An assessment of the impact on the conservation of natural habitats and wild fauna and flora on European Sites (Natura 2000) is required in accordance with European Directive 92/43/EEC. The Habitats Regulation Assessment (HRA) process considers the impact of the Plan against the conservation objectives of the site and ascertains whether the Plan would adversely affect the site's integrity.

2. Background and Context

Key Drivers

Policy and Legislation

2.1 Relevant international and national policy and legislation, together with local policy, covering environmental, social and economic issues, together with those relating specifically to minerals and waste provide the policy framework against which this MWLP has been prepared.

2.2 International policy and legislation is translated across into national policy and legislation at an appropriate level. The key national policy mechanism for this plan is the NPPF and associated guidance. Although the NPPF influences the context of waste planning it does not specifically address waste planning matters. This is done through the National Planning Policy for Waste (NPPW), which is to be read in conjunction with the NPPF, Waste Management Plan for England and National Policy Statements (NPS) for Waste Water and Hazardous Waste, or any successor documents. In addition the national policy context regarding radioactive waste is set out through a number of documents[1].

2.3 For minerals, national policy recognises that minerals are essential to support sustainable economic growth and our quality of life, and as such it is important that there is a sufficient supply of material. The use of secondary and recycled aggregates is promoted to substitute the use of primary aggregates where appropriate. It is recognised that minerals are a finite natural resource and can only be worked where they are found, and so safeguarding measures are required to prevent sterilisation of local and nationally important resources and ensure future access to associated infrastructure and related development. The need to ensure that development does not have unacceptable adverse impacts on communities as well as the built, natural and historic environment forms a key element, as does the need for extraction sites to be reclaimed at the earliest opportunity delivering high quality restoration and aftercare.

2.4 For waste, national policy promotes the delivery of sustainable development and resource efficiency by driving waste up the waste hierarchy. The positive contribution that waste management can make to the development of sustainable communities is recognised with the need for waste management to be considered alongside other forms of development highlighted. Measures include design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links), which complement sustainable waste

1 National policy addressing radioactive waste of relevance to Buckinghamshire's planning context includes the Nuclear Decommissioning Authority (NDA) Strategy for Radioactive Waste Management (Strategy III) (effective April 2016), Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom (2007) and the UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry (2016).

management. Encouraging communities and businesses to take more responsibility for their own waste, including by enabling waste to be disposed of or recovered in line with the proximity principle is promoted. The need to ensure that development does not have unacceptable adverse impacts on communities and the built and natural environment also forms a key element of national policy.

2.5 There is no need to reiterate higher-level policy and legislative requirements within the MWLP. This MWLP may however, provide a local interpretation of national policies for minerals, waste and other relevant planning matters and explain how they will be applied in Buckinghamshire.

Financial Drivers

2.6 The national objective to increasingly divert waste from disposal to landfill[2] is most significantly driven by the level of the Landfill Tax. This is an important consideration for the MWLP because it offers an assurance that the management of both public and commercial waste will change significantly during the plan period in accordance with the waste hierarchy and the policies in this plan. As of April 2017 the Landfill Tax is £86.10 per tonne[3], this combined with the base cost of landfill (sometimes called the "Gate Fee") is likely to mean a disposal cost of just over £100 per tonne. It is generally acknowledged that the increasing cost of landfill is driving the market towards alternative, and more sustainable, waste management methods. This has had the effect of increasing the viability of alternative waste management facilities.

Climate Change

2.7 The global climate is changing, and this is being accelerated by man-made emissions of greenhouse gases (GHGs). Key drivers to reduce these emissions and build resistance and resilience to the effects of climate change include the Kyoto Protocol, Climate Change Act (2008), the Paris Agreement (2016), UK Low Carbon Transition Plan, relevant European Union (EU) Directives, NPPF, Civil Contingencies Act (2004) and Flood and Water Management Act (2010).

2.8 Minerals and waste activities make a relatively minor contribution to GHG emissions. However, for waste management in particular, changes in management methods could make a significant contribution to GHG emission reductions. Emissions from landfill represent the most significant source of GHGs from the minerals and waste sector. Therefore continued efforts to reduce and minimise these through the diversion and recovery of waste, particularly biodegradable waste, should continue to be the focus of efforts. Recovery of waste (as materials and energy) will also generally have a positive impact through reducing emissions in other sectors of the economy.

2.9 The likely effect of the minerals policies in reducing GHGs is comparatively lower, but will generally help to reduce the potential for carbon emissions. This is through

2 Landfill is herein taken to also refer to landraise.

3 £2.70 per tonne for 'inactive waste' (e.g. rubble or soil).

providing for an adequate and steady supply to help ensure that the needs of the county are largely met from indigenous supplies, promoting the use of secondary and recycled aggregates, identifying the potential for supply in the north of the county to support sustainable transport movements, and safeguarding of rail depot and bulk transport sites.

Sustainable Community Strategy for Buckinghamshire

2.10 The MWLP has an inter-relationship with the Sustainable Community Strategy (SCS) for Buckinghamshire[4]. As in other two-tier areas the county-wide strategy becomes the overarching strategy and the four district community strategies link with this. The SCS for Buckinghamshire has five broad themes:

- Thriving Economy
- Sustainable Environment
- Safe Communities
- Health and Wellbeing
- Cohesive and Strong Communities

2.11 Under each theme there are a small number of aims. Five of these aims are relevant to the MWLP falling under three of the above themes, and are detailed in the below table.

Table 1: Sustainable Community Strategy for Buckinghamshire - Aims relevant to the Minerals and Waste Local Plan

Theme	Relevant aim	Role of the MWLP
Thriving Economy	Support strategic infrastructure requirements	The MWLP supports a sustainable network of waste management facilities as part of the county's infrastructure. Aggregate extraction from locations identified in the MWLP will support the construction of strategic infrastructure.
	Promote investment in Buckinghamshire	Development of waste facilities and mineral extraction sites through the MWLP brings investment into the county.
Sustainable Environment	Enhance and protect the local environment	Regulating minerals and waste development through the MWLP will assist the overall protection of the environment.
	Reduce waste, re-use resources and recycle	The waste policies in the MWLP supports new development that minimises waste in its construction and operation and promotes new waste management facilities for recycling/re-use.
Safe Communities	Promote safe development	Development permitted through the MWLP will need to have addressed

4 Sustainable Community Strategy for Buckinghamshire 2009 - 2026

Theme	Relevant aim	Role of the MWLP
		safety, security and climate change matters.

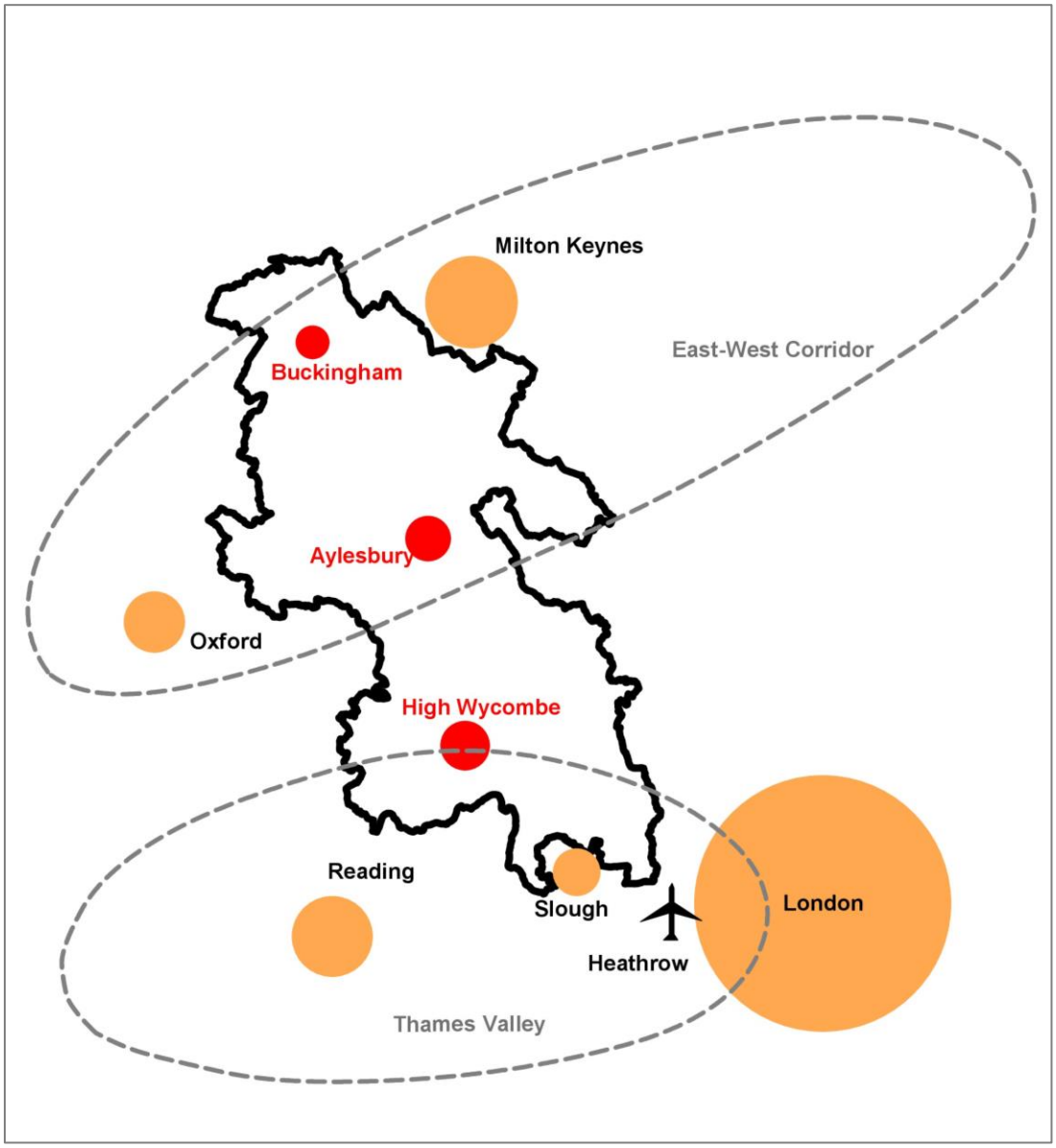
The Buckinghamshire Context

2.12 Buckinghamshire has a population of about half a million people and covers an area of around 156,000 hectares (ha). Over a quarter of these residents live in the two main towns of High Wycombe and Aylesbury. Just over a third of Buckinghamshire's residents live in rural areas compared to the South East average of around a quarter. The population is expected to increase from approximately 530,000 in 2016 to 610,000 in 2036[5].

2.13 Buckinghamshire is traditionally one of the Home Counties and, as would be expected, has a very strong spatial and economic relationship with Greater London. Its current key road and rail corridors are those originating from London and a high proportion of the working population commutes to London. However that relationship does reduce the further away from London you go, with spatial and economic relationships taking on an east-west dimension as much as a London-influenced one. These relationships along the Oxford-Cambridge arc will be further strengthened throughout the plan period through the east-west rail link and, for road, the possible Oxford-Cambridge Expressway. As well as having the greater links to London, the southern part of the county is part of the Thames Valley-Heathrow Airport economy. Although the route for the High Speed 2 (HS2) railway will run directly through Buckinghamshire[6], the HS2 programme is unlikely to directly influence future economic patterns, as there will be no passenger stops within the county.

5 Buckinghamshire Housing and Economic Development Needs Assessment, HEDNA, Update December 2016

6 It should be noted that Safeguarding Directions have been made within the county by Secretary of State for Transport relating to the HS2 safeguarding area, which runs diagonally through the county from southeast to northwest (entering the county to the east of Chalfont St Peter, running west of Aylesbury and Buckingham, and exiting the county east of Turweston), shown on the Policies Map.



Map 1: Buckinghamshire's spatial relationship with the wider area

2.14 Being part of these strong economic areas, Buckinghamshire is a relatively affluent county with low unemployment and an average household income that is a third higher than the UK average. The workforce is highly skilled, with a quarter of employees educated to degree level, and levels of educational attainment are high, although this is not reflected across all groups in the county. Around two-thirds of residents work in the county with 92,000 out-commuting[7].

2.15 Planning for minerals and waste development needs to reflect the county's regional and sub-regional context, but also fundamentally requires to be linked to the wider spatial planning and land use picture. The county's population is planned

7 Buckinghamshire Strategic Economic Plan

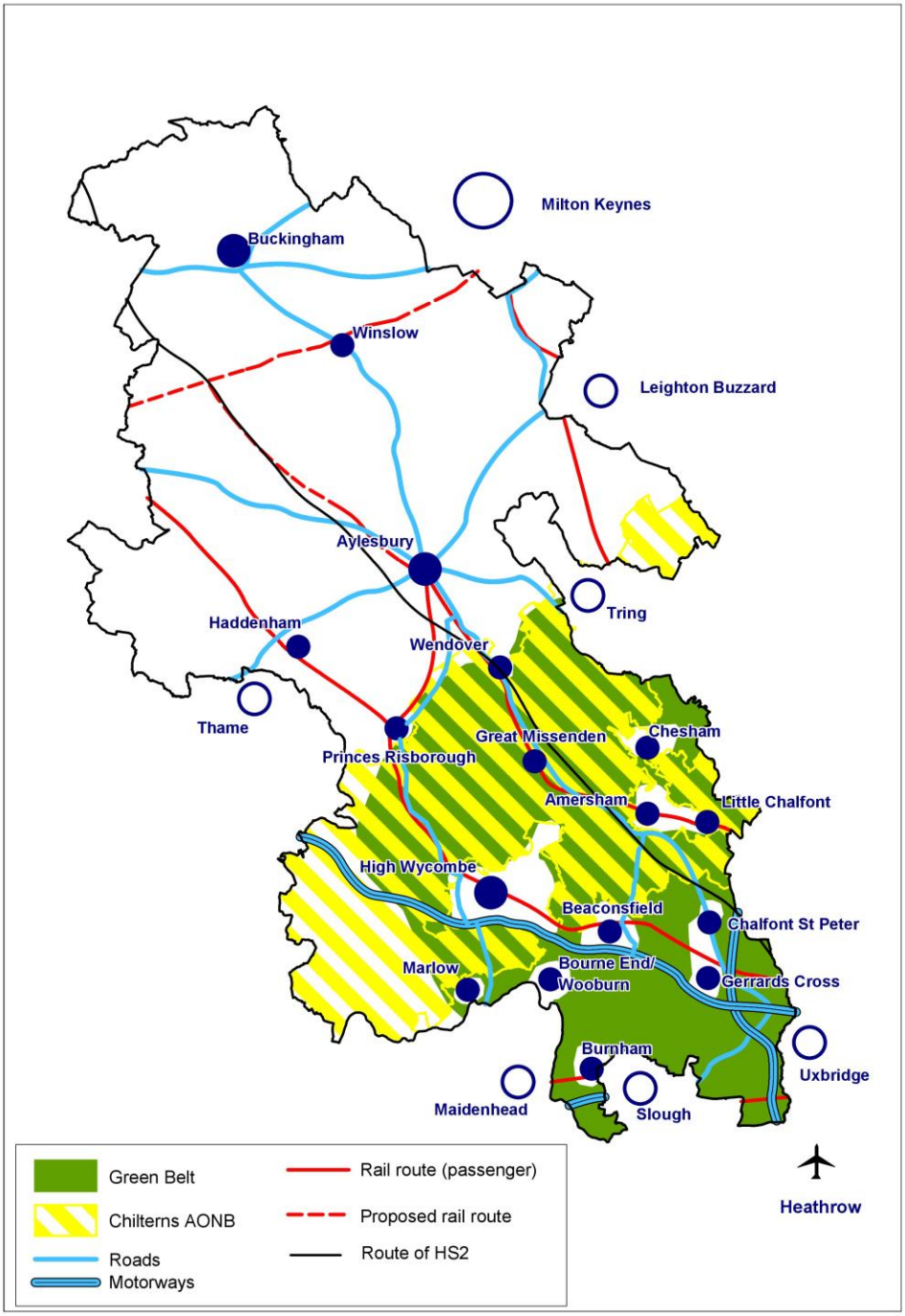
to grow by 15% to 2036 (from 2016). The broad development strategy for this growth will largely come forward through the plans prepared by the county's four local planning authorities (LPAs). This growth has to be set against the backdrop of the southern portion of the county being within the metropolitan green belt, which accounts for a third of the whole county by area, and large parts of that area being within the Chilterns Area of Outstanding Natural Beauty (AONB), which accounts for a quarter of the whole county by area. As such the larger growth opportunities should lie beyond these key designations.

2.16 The county also benefits from a variety of natural and historic environmental designations, ranging from SACs, a National Nature Reserve (NNR), scheduled monuments and registered parks and gardens through to Local Geological Sites (LGS), Local Wildlife Sites (LWS) and undesignated heritage assets of archaeological interest. Such designations contribute towards the delivery of ecosystem services and creating a sense of place and identity. The need to protect and enhance such assets at an appropriate level also influences the context of minerals and waste planning.

2.17 Although close to London over 75% of the county is rural in nature, with only 6% of the county classified as urban. Out of the four district authorities, Aylesbury Vale District makes up the northern 60% of the county by area, but only contains just over 33% of the population, concentrated in the main towns of Aylesbury and Buckingham. The remaining 66% of the population lives in the southern 40% of the county, in the districts of Chiltern, South Bucks and Wycombe, concentrated in the main settlements of High Wycombe, Amersham, Chesham, Beaconsfield, Gerrards Cross and Marlow.

2.18 Population and job growth has implications for both minerals and waste development. Minerals and waste facilities will be required to support development (e.g. through the supply of building materials and handling of waste from construction) and throughout the community's life (e.g. provision of waste management facilities). Planning for minerals and waste should therefore take a local approach to planning for needs, seeking to ensure the provision of an adequate and steady supply of minerals and the development of a sustainable waste management network to support growth.

2.19 Aylesbury, the county town and the second largest urban area, is the key growth point in the county to take advantage of links to London as well as the east-west links, including to Milton Keynes. Aylesbury was awarded Garden Town status in January 2017. Buckingham, although a smaller town, is also planned to continue its expansion. High Wycombe is the largest urban area and will continue to be a development location but it does have more constraints, in terms of accommodating growth, when compared to the other two locations. There will be more local development at the remaining towns as well as a small number of other settlements. The plan area adjoins the London conurbation at Uxbridge, the significant urban areas of Milton Keynes and Slough as well as smaller economic centres such as Leighton Buzzard, Henley on Thames and Maidenhead. All of which, to a greater or lesser extent, increases development pressure on land within the plan area for uses to serve these urban locations.



Map 2: Buckinghamshire's spatial planning context

2.20 Overall, Buckinghamshire is a net importer of aggregates. Buckinghamshire also produces materials that are exported and used to produce bricks for a local market. As minerals can only be worked where they are found, it is inevitable that resources extracted within Buckinghamshire will meet demand beyond the county boundary, and vice versa. This is because some construction materials, such as crushed rock, cannot be sourced from within Buckinghamshire and have to be imported from neighbouring areas such as Oxfordshire, reflecting a natural cross-

boundary demand for resources.

2.21 The National Aggregate Minerals Survey undertaken in 2014 reports on aggregate production (sales) and consumption for all Mineral Planning Authorities (MPAs) across the UK. Data for Buckinghamshire is reported for the Buckinghamshire-Milton Keynes sub-region as a whole. Sand and gravel production from within the sub-region was 0.77 million tonnes (Mt), with total consumption at 0.79Mt. Imports and exports were similar, roughly balancing out, at 0.43Mt and 0.41Mt respectively. No crushed rock was produced within the sub-region; as a result 0.49Mt was imported from other authorities.

2.22 Cross boundary movements of waste currently exist between Buckinghamshire and adjacent (and wider) areas. The MWLP recognises that such movements will continue and that these should occur in line with the proximity principle. This means that waste to be disposed of and mixed municipal waste collected from households needs to be managed in one of the nearest appropriate installations, by means of the most appropriate technologies, in order to ensure a high level of protection for the environment and human health[8]. In particular, commercial waste will have less regard for local authority areas than does the management of municipal waste as it is managed via private commercial contracts over which the County Council has very little control.

2.23 Environment Agency (EA) data[9] suggests that in 2015 a total of 1.81Mt of waste was managed and disposed of within the county, of which 0.63Mt originated from Buckinghamshire and 1.18Mt was imported with half disposed of to landfill (at the Calvert and Gerrards Cross sites). London's waste accounted for 0.66Mt, with over half (0.39Mt) being disposed of to non-hazardous landfill, particularly from the West London and North London waste disposal authority areas. The majority of waste disposed of to non-hazardous landfill comprised household, industrial and commercial waste[10]. Historically there has been a fairly high degree of self-containment for landfill and recycling capacity within the neighbouring areas. The majority of inward flows originated from London and neighbouring areas (Windsor & Maidenhead, Slough, Hertfordshire, Oxfordshire, Bedfordshire, Surrey, Reading, and, to a lesser extent, Milton Keynes) with significant movements into the county from further afield (including West Berkshire, Hampshire, Essex and the Scottish Waste Planning Authorities (WPAs) of North and South Lanarkshire).

2.24 At the same time Buckinghamshire exported 0.43Mt of waste (roughly a third for recycling and a quarter for disposal to landfill) with the majority of outward flows to Hertfordshire, Cardiff, Oxfordshire, London and Bristol. Significant movements also occurred to Hampshire, Surrey, Reading, Flintshire, Milton Keynes, Northamptonshire and Lincolnshire with smaller movements to other WPAs.

2.25 This demonstrates that waste movements mostly occur as a result of contractual

8 Schedule 1, Part 1, paragraph 4 of The Waste (England and Wales) Regulations 2011 (S.I 2011/988)

9 EA Waste Data Interrogator (WDI) 2016 (reporting 2015 industry returns data)

10 EA WDI reporting category

and operational (network) arrangements that need to be given consideration through the planning system where possible.

3. Vision and Strategic Objectives for the Local Plan

3.1 The MWLP is underpinned by a Vision and a set of Strategic Objectives to realise this vision.

3.2 The vision states the desired outcome for the future in relation to minerals and waste development in Buckinghamshire, confirming our ambition for the sustainable management of resources and supply of minerals. This vision is therefore the cornerstone for the MWLP.

Vision for the Minerals and Waste Local Plan

By the end of the plan period:

Mineral sites and a network of waste management facilities are available to support sustainable economic growth and deliver social and environmental benefits. The existing needs and the various levels of planned growth in different parts of Buckinghamshire are being met in ways that contribute to the efficiency of the county's transport and infrastructure networks.

Buckinghamshire is making more efficient provision and use of primary minerals by conserving mineral resources, which are primarily located in the Thames Valley, for future use and minimising demand through the increasing use of recycled and alternative materials. The minerals industry is extracting sufficient mineral in more sustainable ways, and has an adequate planned provision to meet future needs. High quality restoration and aftercare is taking place, with worked land being reclaimed at the earliest opportunities to deliver sustainable benefits to Buckinghamshire communities.

Buckinghamshire has made the transition to a more sustainable and efficient approach to resource use and management across all waste streams, moving waste up the waste hierarchy. The amount of waste produced in Buckinghamshire by the community and businesses has been reduced to a minimum. Buckinghamshire has achieved net self-sufficiency in waste management capacity with waste arisings from within the county being managed in more sustainable ways. The council continues to plan positively to support the development of a network of facilities to deliver sustainable waste management. This is being achieved by working with the waste industry to maximise the use of existing waste facilities, and providing new ones in the right place to meet the needs of the community and businesses. Cross boundary movements have been minimised but where necessary, sustainable transport movements are occurring.

Buckinghamshire's natural and historic environment and the quality of life of its residents have been conserved and enhanced for future generations, whilst account has been taken of climate change through good planning, design and restoration of minerals and waste development.

3.3 The strategic priorities, or objectives, have been developed to facilitate delivery of the Vision. The Strategic Objectives are intended to apply continuously throughout the period to 2036 and beyond.

Strategic Objectives

SO1: Contributing Towards Sustainable Communities and Economic Growth

For minerals development this means: identifying sufficient land to enable Buckinghamshire's adopted provision rate for sand and gravel to be maintained so as to plan for a steady and adequate supply over the plan period and source minerals indigenously where possible. This will be complemented by maximising the contribution made by aggregates recycling and the use of alternatives to primary materials.

For waste development this means: supporting waste prevention and re-use, and identifying sufficient opportunities to manage an equivalent amount of waste to that generated within Buckinghamshire so as to deliver a countywide network of improved existing and new facilities to maximise recycling, composting, energy recovery and other forms of treatment for the remaining waste whilst continuing to move away from Buckinghamshire's current reliance on disposal to landfill.

SO2: Safeguarding of Minerals Resources

To define Minerals Safeguarding Areas to protect mineral resources of local and national importance within Buckinghamshire from development that would hinder their future use. In particular the sand and gravel resources within the Thames and Colne Valley as well as in the north of the county, brickclay resources (around Bellingdon) and white limestone in the north of the county are recognised as being important to support the needs of future generations.

SO3: Facilitating the Delivery of Sustainable Minerals Development

To give priority to the use of secondary and recycled aggregates and the improved use or extension of existing sites in Buckinghamshire before considering new locations in order to maximise recovery of the resource. Identify sites to facilitate the delivery of a steady and adequate supply of aggregates.

SO4: Facilitating the Delivery of Sustainable Waste Development

To enable the development of a network of facilities to deliver the required waste management capacity in line with the waste hierarchy and proximity principle within the county and to support the co-location of facilities, minimise waste movements and make the best use of a limited number of site opportunities.

SO5: Buckinghamshire's Environment

To recognise the important contribution that designated natural and historic environment assets (such as the Chilterns AONB, Chiltern Beechwoods SAC and Burnham Beeches SAC), the Green Belt and landscape character make towards Buckinghamshire's local distinctiveness and spatial planning context, and to protect and conserve such assets and features in an appropriate manner.

To conserve and enhance the natural and historic environment and landscape character by ensuring that minerals and waste development do not have unacceptable adverse impacts, seeking positive improvements and a net gain in biodiversity.

SO6: Sustainable Transport of Minerals and Waste

To encourage sustainable transport movements and alternative transport methods, and enable the more efficient movement of minerals and waste. This will be supported by planned improvements in transport infrastructure that will improve connectivity between the north and south of the county.

To ensure that development does not have unacceptable adverse impacts on the community.

SO7: Design and Amenity

To seek to secure a high quality of design for minerals and waste development and a good standard of amenity, ensuring that development does not have unacceptable adverse impacts on health and quality of life.

SO8: Tackling Climate Change

Facilitate the move to a low carbon future by planning positively for sustainable development that includes measures to reduce greenhouse gas emissions, minimise vulnerability and increase resilience to the impacts of climate change.

SO9: High Quality Restoration and Aftercare

Secure high quality restoration and aftercare that delivers sustainable benefits to Buckinghamshire communities, enhances ecological networks and incorporates measures to facilitate climate change mitigation and adaptation.

SO10: Safeguarding of Existing Minerals and Waste Sites

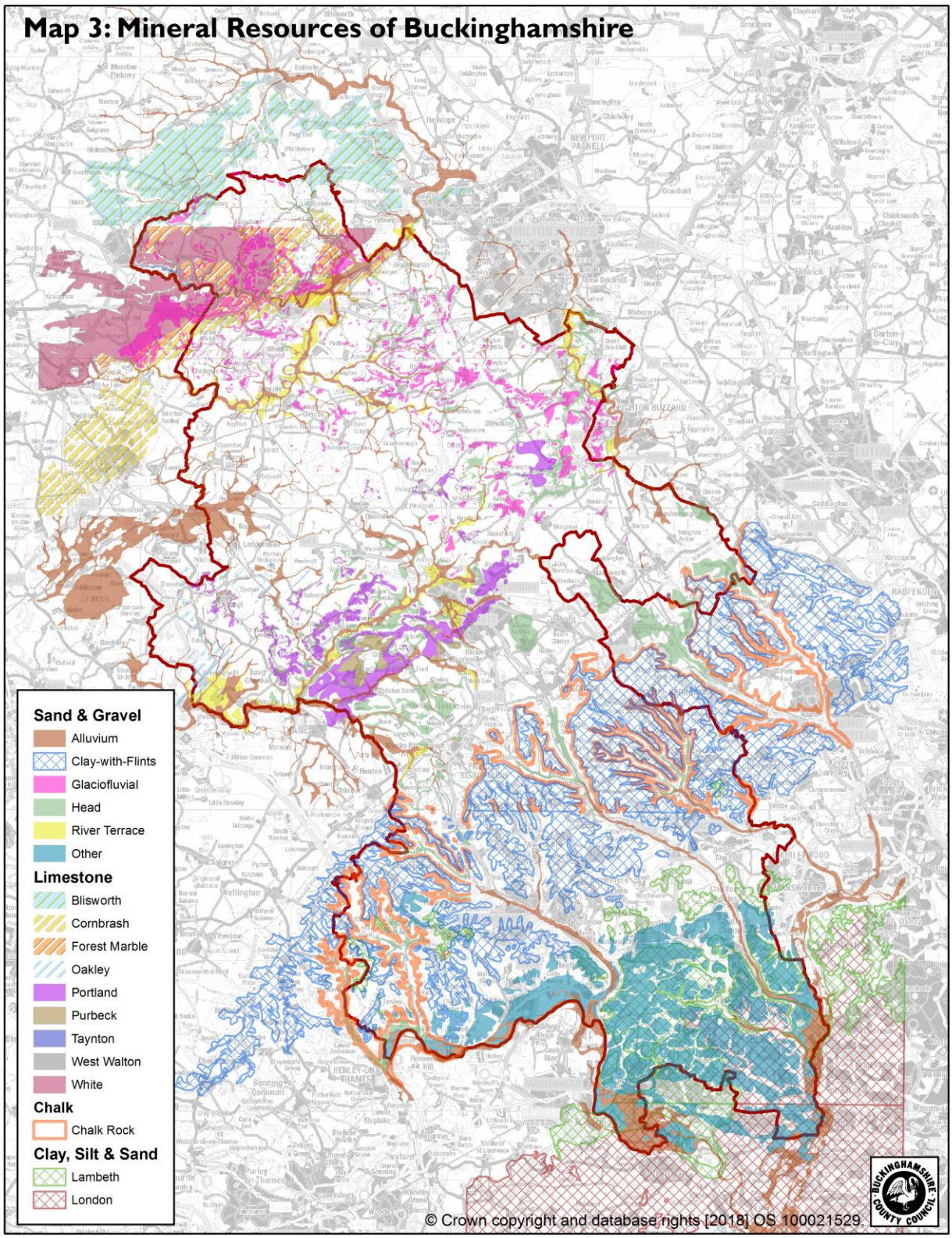
To protect Buckinghamshire's existing minerals and waste sites, and sites allocated through the Plan and associated facilities and infrastructure, from alternative uses.

4. Minerals

The Strategic Objectives for achieving sustainable minerals development are:
SO1: Contributing Towards Sustainable Communities
SO2: Safeguarding of Minerals Resources
SO3: Facilitating the Delivery of Sustainable Minerals Development
SO10: Safeguarding of Existing Minerals and Waste Sites

Minerals in Buckinghamshire

4.1 Minerals are a finite resource and can only be worked where they are found. This means that they must be utilised prudently and efficiently to ensure that they are not wasted. Minerals present in Buckinghamshire include sand and gravel, soft sand, limestone (building stone) and brick clay. Coal and hydrocarbons including conventional oil and gas and coalbed methane (CBM) are not identified within Buckinghamshire. Buckinghamshire's mineral resources are illustrated in the map below.



Map 3: Mineral resources of Buckinghamshire

4.2 Within Buckinghamshire the most significant mineral resources are the sand and gravels of the Thames Valley located in the south of the county. The fluvial deposits of the Thames Valley area are where the thicker deposits of sand and gravel are found. The thickest materials lying closest to the surface and containing the lowest proportion of non-useable material are the most favoured and economically viable materials for extraction in the county. The principal uses of sand are as fine aggregate in concrete, mortar and asphalt. The main use of gravel is as coarse aggregate in concrete. Substantial quantities of sand and gravel may also be used for construction fill. Since the early 1990's the main type of mineral production in Buckinghamshire has been the working of sand and gravel from this area. There are sand and gravel resources in the north of the county but these are not consistent in quality, thickness and extent as compared to the Thames Valley resources. Buckinghamshire does not have substantial soft sand resources, some sites may also provide soft sand but not as a standalone operation.

4.3 Sand and gravels form part of a crucial group of raw materials for the construction industry and are used in built development, for the construction and maintenance of infrastructure. They are therefore essential to delivering growth and regeneration. This group of materials is known as "aggregates" which is a broad classification embracing both minerals extracted from the ground (primary materials) and alternative aggregates (secondary and/or recycled materials).

4.4 As of the start of 2016 there were seven active sand and gravel sites within Buckinghamshire, with a further two sites that were not active. Interest from the minerals industry, and subsequent extraction, has generally been active with most allocated sites (from previous plans) being taken forward by industry through the planning application process and, where approved, being worked steadily. Buckinghamshire has historically met landbank levels. This reflects that the resource is generally of good quality and is economically viable. Although sales fluctuated over the last two decades the general trend has seen sales decrease. However, this decline appears to have leveled out somewhat over recent years.

4.5 A small area of the Woburn Sands formation (bedrock sand deposits) occurs in east Buckinghamshire where it forms the most westerly part of an extensive outcrop that extends north-eastwards through Bedfordshire and into Cambridgeshire. Although the Woburn Sands are an important source of both construction and silica sands in Central Bedfordshire, the deposits in Buckinghamshire are thinner, and there are indications that it would make a less attractive source of construction sand[11]. Although there is a single dormant site that has planning permission for the extraction of sand in this area, there are currently no active workings of the Woburn Sands in the county.

4.6 Crushed rock (limestone) is also classed as a primary aggregate however Buckinghamshire is not currently a producer of crushed rock. Limestone resources

11 Mineral Resource Information in Support of National, Regional and Local Planning Buckinghamshire and Milton Keynes, BGS 2003

are located in the north west of the county, of which very limited resources of rock are suitable for use as crushed rock aggregate with the white limestone most likely to be suitable for aggregate use. A narrow band of white limestone runs east of Buckingham, with a wider area to the west of Buckingham (extending to Dadford, Turweston, Finmere and Radclive). There are presently no permitted crushed rock extraction sites within Buckinghamshire, although in the past crushed rock has been won on a small scale at Turweston Hill Railway in the north of the county.

4.7 Limestone resources can also be worked for non-aggregate purposes, including building stone. Although there has been historic working of building stone, with Purbeck and Portland limestones quarried extensively in the Vale of Aylesbury, carstone used very locally along the county's eastern border and sarsen stone commonly used in the Chilterns, there are no major resources of building stone in Buckinghamshire.

4.8 Moderate deposits of clay-with-flints are located predominantly in Chiltern District. These are locally important materials used for the manufacture of high quality brick for the restoration or construction of new buildings that fit the distinctive architectural character of the area. However, the materials suitable for this local brick-making industry tend to be of variable quality and only occur in relatively small areas. As a consequence the majority of the extraction and processing of these materials takes place in the Chilterns AONB.

4.9 Further alternative clay deposits are located in the northern half of the county. Historically this material was an important resource used for the production of Fletton bricks at a brickworks located at Calvert Landfill Site. Production ceased in 1991 along with the closure and demolition of the brickworks, reflecting a drop in demand for this type of brickclay. There are however, still large permitted reserves of this clay resource at Calvert Landfill Site that are being slowly worked and primarily used for landfill restoration purposes.

4.10 The majority of chalk deposits are situated in central and southern Buckinghamshire with a narrow band of grey chalk running across central Buckinghamshire adjoining a wider band of white chalk running across central and southern Buckinghamshire. Although the grey chalk has a lower purity than white chalk its high lime to clay ratio makes it an ideal raw material for cement. A small proportion of the resources at the foot of the Chiltern Hills were historically used in the production of cement, worked and processed at the cement works at Pitstone until 1991. Since that time, there has been an international and national restructuring of the cement industry and there is no longer a demand for chalk from Buckinghamshire for the production of cement. No form of chalk is at present worked in the county as an aggregate mineral.

4.11 Small amounts of white chalk from the Pitstone site, partly located in the Chilterns AONB, have been used to supply the agricultural lime market. The site is subject to an extant permission for the extraction of chalk and subsequent restoration however inactive for extended periods as extraction is seasonal and weather dependent.

4.12 Alternative aggregates (secondary and recycled materials) are produced within the county. Recycled aggregates are materials that are recovered from construction,

demolition and excavation activities, primarily at construction sites. Some of which can be reprocessed into other suitable building materials. It is estimated that Buckinghamshire had a capacity of 0.10 million tonnes per annum (Mtpa) for recycling construction and demolition waste as of 2016. Most of the known aggregate recycling in Buckinghamshire takes place at temporary facilities, often located at sand and gravel quarries, although a number of sites also benefit from permanent planning permissions. Mineral industry returns for 2015 indicated that there were five recycled aggregate sites, four of which were active, within Buckinghamshire.

4.13 Planning permission was granted for the Greatmoor Energy from Waste (EfW) facility at the Calvert landfill site in the north of the county in 2012. The facility has a built capacity of 0.30Mtpa and was fully operational in June 2016. It is expected that 25% (0.075Mtpa) of its waste input will potentially be exported from the site as secondary aggregate.

Safeguarding Mineral Resources

4.14 There is a national requirement to ensure that proven mineral resources are not needlessly sterilised by other forms of development. To meet this requirement the MWLP must consider the distribution of its mineral resources and identify appropriate Mineral Safeguarding Areas (MSAs). The aim of which is to protect minerals of local and national importance from being needlessly sterilised, but it must be stressed that there is no presumption that resources defined in MSAs will be worked.

4.15 The most significant primary resources in Buckinghamshire that warrant protection are the sand and gravel deposits situated in the southern half of the county, as these are the most economically viable and essential minerals. In addition the resources in the Great Ouse Valley east of Buckingham should also be safeguarded. In saying this, it is also important that other resources are safeguarded for future generations even if they are not considered to be economically viable in the current market. As such sand and gravel resources in the north of the county, clay-with-flints around Bellingdon and white limestone in the far north of the county are also safeguarded.

4.16 Resources of local and national importance identified for long-term safeguarding have been designated as MSAs, and are shown on the MWLP Policies Map. The indicative mineral resources are derived from British Geological Survey (BGS) mapping, refined as appropriate to reflect local circumstances[12]. The methodology applied to identify the MSAs was derived from the BGS 2011 Mineral Safeguarding in England: A Good Practice Guide.

4.17 To ensure these mineral resources are safeguarded Minerals Consultation Areas (MCAs) are also designated, whose boundaries are co-terminous with the MSAs (herein reference to MSAs is taken to include both MSAs and MCAs). Within these

12 Methodology for Defining Mineral Safeguarding and Consultation Areas within Buckinghamshire 2017.

areas district councils should consult the County Council, as the MPA, over any proposals for significant development that could lead to sterilisation of mineral resources. This expectation for consultation should also be extended beyond the Buckinghamshire boundary in circumstances where development in neighbouring authorities has the potential to sterilise resources that exist within the county and vice versa.

4.18 In line with securing the long-term conservation of mineral resources of local and national importance, the County Council will object to proposals for non-minerals development that it considers will result in the needless sterilisation of resources unless it can be demonstrated that: prior extraction is possible; the development is of a form or nature that would not hinder future extraction; there is an over-riding need for the development; or that the resource is not viable.

4.19 So as to prevent sterilisation within the MSAs the prior extraction of minerals will be encouraged where practicable and environmentally feasible. The viability of prior extraction is an important factor, and it is recognised that small developments, and some other forms of development, are unlikely to present viable opportunities for prior extraction. To this end, development that is exempt from consultation and developer requirements set out through the MWLP specifically relating to MSAs has been identified, refer Box 1.

Box 1: Development exempt from Policy 1 Safeguarding Mineral Resources

Development that is exempt from consultation and developer requirements set out through the MWLP specifically relating to MSAs, as set out through Policy 1 Safeguarding Mineral Resources, includes:

a) extensions to existing dwelling houses and other householder planning applications (except for new dwellings),

b) provision of dwelling house(s): (i) within an urban area - less than 10 dwelling houses, or a site area of less than 0.5 ha; or (ii) elsewhere - one dwelling house within the recognised settlement boundary,

c) minor extension or alteration to an existing building,

d) development (other than the provision of dwelling houses) on a site having an area of 1 ha or more within an urban area, and

e) changes of use, advertisement consent, amendments to previously approved applications/current permissions (with no additional land take involved), reserved matters, prior notifications, certificates of lawfulness of existing use or development, certificate of lawfulness of proposed use or development, works to trees and other miscellaneous minor works/applications (e.g. fences, gates, access, etc.).

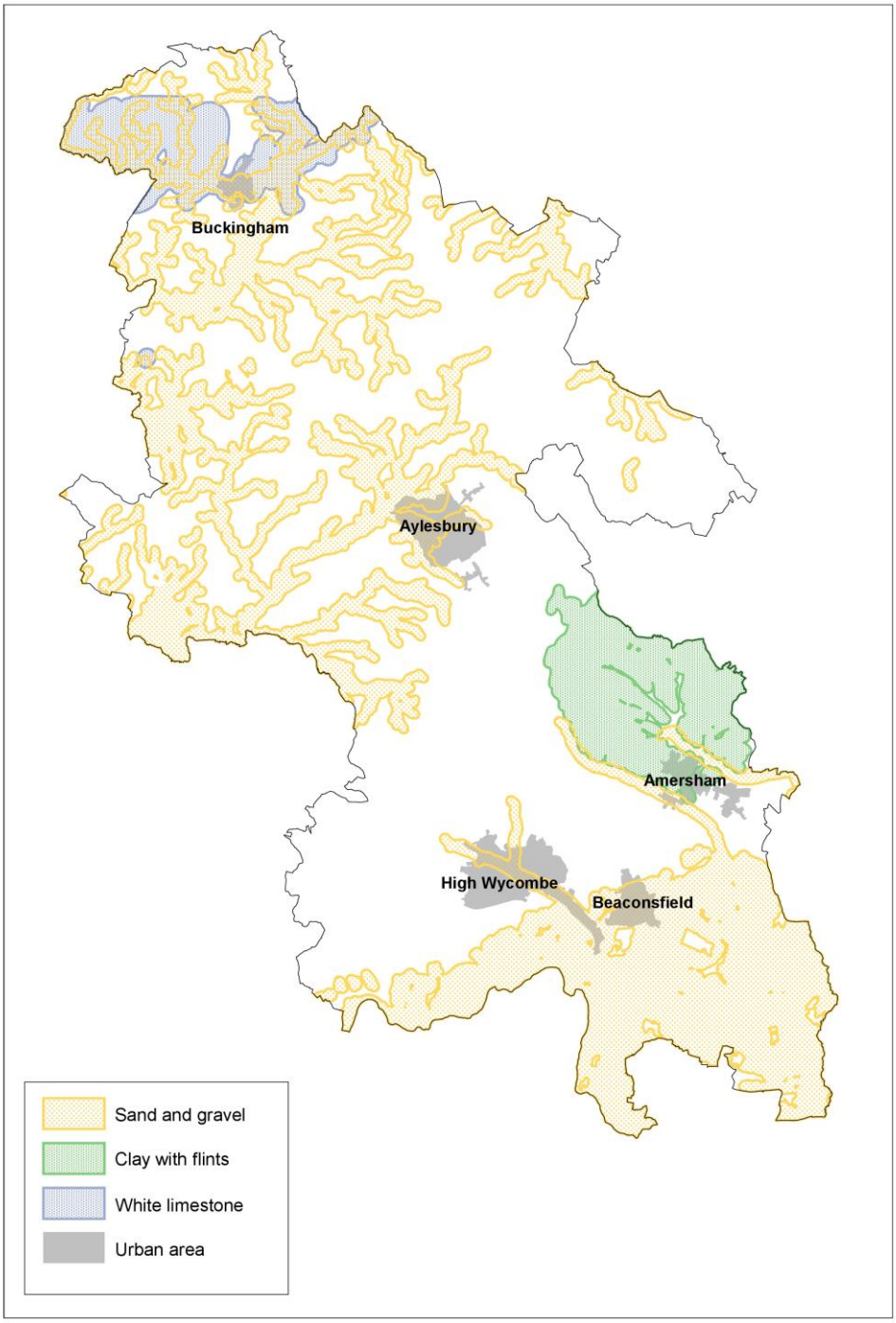
4.20 Proposals for development (that does not constitute exempt development) within an MSA must include a Mineral Assessment (to accompany the planning application) which is to address the effect of the proposed development on the

mineral resource beneath or adjacent to the site, site-specific geological survey data pertaining to the mineral resource, feasibility both in relation to the (prior) extraction of the resource and whether the prior extraction itself could harm the viability of the overall proposed development, potential for use in the proposed development and how prior extraction would be achieved.

4.21 The County Council will advise the LPA on its finding in relation to the likelihood and viability of the mineral being worked in order to inform the decision-making process (as a material planning consideration) before the application for non-minerals development can be determined.

4.22 Separate planning applications will be required for the prior extraction and the non-minerals development.

4.23 Proposals for development of a site allocated through a local plan prepared by a district council that is within an MSA will be required to demonstrate that the matters considered under the Mineral Assessment have been previously assessed and an agreement (in writing) reached between the District and County Council regarding the presence and identification of mineral resources beneath or adjacent to the site, the effect of the proposed development on the mineral resource, and feasibility and viability of prior extraction. This statement is to be supported by evidence demonstrating that the development would not needlessly sterilise mineral resource of local or national importance. If this cannot be demonstrated to the satisfaction of the County Council the proposal will be required to comply with Policy 1: Safeguarding Mineral Resources and undertake a full Mineral Assessment.



Map 4: Minerals Safeguarding Areas within Buckinghamshire

Policy 1: Safeguarding Mineral Resources

Minerals are a finite natural resource; in order to secure their long-term conservation Mineral Safeguarding Areas (MSAs) have been defined within Buckinghamshire to prevent mineral resources of local and national importance from being needlessly sterilised by non-minerals development. Mineral resources of local and national importance identified within Buckinghamshire include: sand and gravel deposits of the Thames Valley (situated in the southern half of the county), the Great Ouse Valley east of Buckingham, the sand and gravel deposits in the north of the county, clay-with-flints around Bellingdon and white limestone in the far north of the county.

Proposals for development within MSAs, other than that which constitutes exempt development, must demonstrate that:

- prior extraction of the mineral resource is practicable and environmentally environmentally feasible and does not harm the viability of the proposed development; or
- the mineral concerned is not of any value or potential value; or
- the proposed development is of a temporary nature and can be completed with the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or
- there is an overriding need for the development.

A Mineral Assessment will be required to accompany the planning application for the proposed non-minerals development, detailing:

- the size, nature and need for the (non-minerals) development,
- the effect of the proposed development on the mineral resource beneath or adjacent to the site,
- site-specific geological survey data (in addition to the MSAs and BGS mapping data) to establish the existence or otherwise of a mineral resource (detailing resource type, quality, estimated quantity and overburden to reserve ratio),
- whether it is feasible and viable to extract the mineral resource ahead of the proposed development to prevent sterilisation and the potential for use (of the mineral resource) in the proposed development, and
- where prior extraction can be undertaken how this will be carried out as part of the overall development scheme, with reference to the proposed phasing of operations and construction of the non-mineral development.

In the event that the non-mineral development is delayed or not implemented the site must be restored to a stable landform and appropriate after-use.

Spatial Strategy for Minerals Development

4.24 Although minerals can only be extracted where they are found, the mineral resources within Buckinghamshire are significant and it is appropriate in the context of long-term minerals planning to establish a clear spatial strategy for their extraction. This assists in providing guidance for industry regarding investment as well as relating minerals development to the surrounding land use(s), infrastructure networks and planned growth in order to link with the wider community and

optimise beneficial outcomes.

4.25 The spatial strategy for sand and gravel extraction in the county is to focus extraction primarily in the Thames and Colne Valleys but also within the Great Ouse Valley east of Buckingham. The primary focus area is where the most significant sand and gravel resources in the county are present and where there are thicker fluvial deposits; soft sand resources are also present. The secondary focus area has been identified to support a balancing of supply, notwithstanding that the resources are not as consistent in quality and thickness (in comparison with the primary focus area). It should be noted that the Plan does not apply a preferential hierarchy between the two focus areas. The production of bricks from the deposits of clay-with-flints from the eastern part of the Chiltern AONB in the county will be encouraged where this is to support the retention of local identity. No strategy for the production of other minerals is proposed, as it is not expected there will be demand for extraction of such resources from new sites.

4.26 Away from new production facilities, recycling and processing should be directed to locations that are well linked to strategic transport networks and to the key urban and growth areas both within and close to the boundaries of the plan area. The preferred locations should be at existing or permitted industrial sites, existing waste facilities, mineral extraction sites and construction and/or demolition sites.

Policy 2: Spatial Strategy for Minerals Development

The spatial strategy for minerals development in Buckinghamshire is to:

- focus sand and gravel extraction primarily in the Thames and Colne Valleys but with a secondary focus in the Great Ouse Valley east of Buckingham,
- encourage the production of Chiltern bricks to promote local identity in the wider Chiltern area, and
- support the recycling and processing of alternative aggregates at locations well linked to strategic transport networks and main urban areas, growth locations and key settlements, with a preference for the following locations: mineral extraction and processing sites, on-site as an ancillary activity to construction or demolition projects, committed waste management facilities, within the areas of focus for waste management use, existing industrial sites or on land that is permitted or allocated for general industrial development, and existing and disused railheads and wharves.

Sand and Gravel Provision

Identifying the Provision to be Made

4.27 As set out in the NPPF, MPAs are required to plan for a steady and adequate supply of aggregates by preparing an annual Local Aggregate Assessment (LAA) based on a rolling average of ten years sales data and other relevant local information, and an assessment of all supply options. In making this decision the MPA should also have regard to the annual average sales figure for the last three years with the purpose of identifying the general trend of demand as part of the

consideration of whether it might be appropriate to increase supply. Annual figures over the ten year period leading up to the commencement of the plan period (2006 to 2015) and the annual average for ten year and three year periods are set out in the table below.

Thames and Colne Valleys

4.28 All of the sites that have contributed towards the identified ten-year period are located in the Thames and Colne Valleys, as such the annual average for ten year and three year periods set out in the table below apply to the primary focus area only. There have been no sales for a considerable period of time from the Great Ouse Valley (the secondary focus area).

4.29 Consideration of relevant local information has not identified reasoning to suggest that the use of the ten-year figure as the basis for the plans provision in the primary focus area is inappropriate. The levels of development and growth that are planned for the county are not significantly greater than previously, as such a departure from the ten-year figure is not warranted. Additionally there are not the constraints on resources that would point to a lower than ten-year figure to be the preferred way forward.

Table 2: Aggregate (sand and gravel) sales from the Thames and Colne Valleys over the period 2006 to 2015

Year	Sales (million tonnes)
2006	1.24
2007	1.08
2008	0.79
2009	0.71
2010	0.71
2011	0.69
2012	0.66
2013	0.77
2014	0.69
2015	0.74
Ten year average (2006 – 2015)	0.81
Three year average (2013 – 2015)	0.73

4.30 The annual provision to be met, for the Thames and Colne Valleys (primary focus area) based on the ten-year average sales, is 0.81Mt. The plan period is from 1 January 2016 to 31 December 2036, which gives a total provision of 17.01Mt. At the commencement of the plan period estimated permitted reserves of sand and gravel (sites with planning permission) totaled approximately 9.04Mt. The MWLP should therefore seek to identify sites for the provision of 7.97Mt from the primary area.

Great Ouse Valley

4.31 Due to costs associated with haulage, aggregates tend to have a local market, around 30 miles from source. It is likely that some of the sand and gravel required for growth in the north of the county is imported from surrounding MPAs. In trying to balance out provision within the county it seems prudent to take a measured

approach and identify a separate provision rate for the Great Ouse Valley (the secondary focus area). However, there are no ten year sales figures from this area to base a provision figure on.

4.32 However, sand and gravel extraction sites are permitted within the wider Great Ouse Valley east of the county. Data reported for such sites[13] was taken into consideration, as was the operational relationship of the sites and phasing. Several of the sites within the Great Ouse Valley are operated as satellite sites; in addition sites within this area are often phased so that as one site is winding down production another is coming online to ensure consistent supply.

4.33 The annual provision rate for the Great Ouse Valley (secondary focus area) is therefore based on consideration of trends from within the wider related Great Ouse Valley area.

4.34 The annual provision to be met, for the Great Ouse Valley (secondary focus area), is 0.12Mt. The plan period is from 1 January 2016 to 31 December 2036, which gives a total provision of 2.52Mt. There were no permitted reserves of sand and gravel at the commencement of the plan period. The MWLP should therefore seek to identify sites for the provision of 2.52Mt from the secondary area.

Total Provision to be Made for the Plan Area

4.35 The total provision to be made over the plan period from both the primary and secondary areas is 0.93Mtpa, or 19.53Mt over the plan period, of which 10.49Mt needs to be identified through the MWLP, as set out in Table 3. These sites, which should be in line with the spatial strategy for minerals as well as other MWLP policies, should come from extensions to existing sites or from wholly new sites.

Soft Sand

4.36 No notional provision has been made in the MWLP policies for soft sand production and which therefore would have needed to be carried forward into specific allocations for soft sand production. It is not a national requirement for soft sand provision to be separately identified and if the MWLP was to have done so it would have been at the expense of reducing the general sand and gravel provision by the same amount as identified for soft sand. With the industry not having put forward any sites for specific soft sand production, but where some allocated sites could provide some soft sand, it is considered that overall it is more appropriate for Buckinghamshire to have a general sand and gravel provision rather than a split provision.

Landbank

4.37 A landbank is a stock of planning permissions for mineral extraction over a specified time period. Government guidance requires landbanks to be maintained for all aggregate minerals, with the recommended landbank period for sand and gravel being at least seven years. However, landbanks can only be maintained in practice if the minerals industry comes forward with planning applications in the

13 Planning applications, MPA annual monitoring reports and Aggregate Working Party reports.

right place at the right time. The maintenance of landbanks is considerably assisted by the Development Plan allocating deliverable sites that have industry support. Buckinghamshire has generally been able to maintain the seven-year landbank for sand and gravel.

4.38 Where the landbank is over seven years this should not preclude a proposal on an allocated site from being granted planning permission. In Buckinghamshire's case, this is important as the MWLP has a ten year based provision (for the Thames and Colne Valleys) with no upward adjustment to reflect other local circumstances. As such the MWLP should not try to constrain demand if this exhibits itself through an earlier take-up of allocated sites than anticipated.

Delivering of the Provision for Sand and Gravel

4.39 Sites allocated within the county are usually taken forward and so there is a need to provide a good portfolio of sites for the industry to bring forward over the plan period, which extends up to the end of 2036. The Buckinghamshire Minerals and Waste Local Plan adopted in 2006 (BMWLP 2006) was the previous plan that set out allocations, all of which (except two) have become operational sites. Of the other two: one has planning permission for a nearby extraction operation to move into once the currently operational site is completed in 2017; and the other is the remaining part of an allocation where the other part is currently an operational location. This demonstrates that the continuation of good implementable sites is needed.

4.40 The rationale for the allocations in the MWLP is to provide continuity to those sites that can expand, thus maximising use of existing processing facilities and resource recovery. At the same time allocations have been identified at new locations to supplement the extensions. In both instances allocations have been made where there is minerals industry interest and it is considered environmentally feasible. Furthermore, the MWLP seeks to also commence a new broad area of extraction in the north of the county associated with the mineral resources of the Great Ouse Valley, thereby supporting some balancing of production and linking growth areas in the northern half of Buckinghamshire.

4.41 The sites allocated under Policy 4: Allocated Sites for Sand and Gravel Provision include: the partial allocation that is the last remaining uncommitted (i.e. with no planning permission) allocation from the BMWLP 2006; three allocations associated with an extension of an operational site in the Colne Valley; and two wholly new sites for extraction, one that is linked to the prevention of sterilisation of resources in part of the site. All of these being within the primary focus area. In addition one allocation has been made in the Great Ouse Valley secondary focus area. This allocation pattern therefore provides a deliverable supply of sites with industry interest to meet provision within the primary focus area, but also to provide an extraction opportunity within the secondary focus area.

4.42 Although not seeking to limit the granting of permission for sites allocated in the MWLP, where there is a sand and gravel seven-year landbank the MPA will, within the primary focus area, maintain a phased implementation of the allocations. Allocated extensions to operational sites will be given preference over other allocations where they are needed to continue operations when the current

operation is coming to a close.

4.43 In making the allocations for sand and gravel, as identified in Policy 4: Allocated Sites for Sand and Gravel Provision, a range of environmental, social, spatial and operational considerations were taken into account as detailed in the Site Assessment Methodology (May 2017) and the Technical Annex - Site Assessments (June 2017).

Policy 3: Sand and Gravel Provision

Provision will be made over the plan period (2016 to 2036) for the extraction of 0.81 million tonnes per annum of sand and gravel from the Thames and Colne Valleys (primary focus area) and 0.12 million tonnes per annum of sand and gravel from the Great Ouse Valley (secondary focus area).

The maintenance of a landbank for sand and gravel equivalent to at least seven years supply will be sought in order to ensure a steady and adequate supply and in line with prevailing Local Aggregates Assessment.

This provision will come from sites with planning permission,extensions to existing sites and from new sites in line with the spatial strategy for mineral extraction. Within the Thames and Colne Valleys this provision may be phased to manage supply levels over the plan period and avoid cumulative adverse impacts.

Allocated Sites for Sand and Gravel Provision

The Thames and Cone Valleys

4.44 Sand and gravel provision to facilitate delivery of the requirement to 2036 of 17.01Mt will come from:

- sites with planning permission as of 1 January 2016 (with permitted reserves of 9.04Mt), and
- sites allocated through the MWLP (8.3Mt of which is expected to be provided by 2036).

4.45 Sites with planning permission (totalling 9.04Mt) as of 1 January 2016 are:

- Springfield Farm (Beaconsfield),
- New Denham Quarry (Denham),
- George Green (Wexham),
- All Souls Farm Quarry (Wexham),
- Harleyford Marina, Marlow,
- Berry Hill Farm, Taplow,
- Park Lodge Quarry, Iver,
- Beechwood Nurseries, East Burnham, and
- Denham Park Farm, Denham Green.

4.46 Allocations to be made in the MWLP for the Thames and Colne Valleys that will contribute towards meeting the provision of 7.97Mt up to 2036 (17.01Mt minus the commitments of 9.04Mt) comprise the following sites:

- Springfield Farm South Extension (Beaconsfield) - 2Mt of which around 1.1Mt is anticipated to be extracted during the plan period,
- New Denham Quarry North Extension (Denham) - 1.6Mt,
- New Denham Quarry Extension (Denham) – 0.34Mt,
- New Denham Quarry North West Extension (Denham) - 0.85Mt,
- North Park, Richings Park (Iver) - 3Mt,
- Slade Farm North (Hedgerley) - 1.1Mt, and
- Slade Farm South (Hedgerley) - 1Mt of which around 0.3Mt is anticipated to be extracted during the plan period.

4.47 The MWLP carries forward the remaining allocation from the BMWLP 2006 south of Springfield Farm, Beaconsfield. The northern part of this allocation has planning permission and is being extracted from, but the area to the south containing 2Mt of resources does not. It is anticipated that the northern committed area will be worked out in the last quarter of the plan period, with the south extension phased to come online to ensure continuity of supply and operations. This scenario would mean that of the 2Mt around 1.1Mt is anticipated to be extracted during the plan period; the remaining 0.9Mt would contribute towards the landbank at the end of the plan period.

4.48 The Plan also allocates an extension to the existing New Denham Quarry to provide for 1.60Mt to come forward following the completion of the committed site in the first quarter of the plan period. This is intended to commence extraction towards the end of the first quarter for a period of six years (with restoration taking a further two years). This site was granted planning permission in March 2017 but is identified as an allocation as it was not a permitted site at the start of the plan period. A smaller extension to the New Denham Quarry providing for around 0.2Mt for extraction, to (following restoration) accommodate the relocation of the Hillingdon Outdoor Activity Centre (HOAC), is also allocated. This site is intended to have an operational life of 1.5 years and would form an additional area to the current operational area. This site too was granted planning permission in March 2017 but likewise is identified as an allocation as it was not a permitted site at the start of the plan period.

4.49 To the west of this site across the A412 a further extension to the New Denham Quarry has been allocated. For access this can utilise the roundabout built to access the larger extraction area east of the A412 and could potentially utilise the processing plant there.

4.50 The MWLP allocates a new site at North Park, Richings Park, Iver. The eastern part of this allocation is within the safeguarded area for the Western Rail Link to Heathrow (WRLtH). Planning permission for this eastern part (the majority of the allocated area) was granted in April 2017. The site was brought forward in order to prevent the mineral resources (2Mt) being sterilised by the rail link. The whole site is identified as an allocation as the eastern part was not a permitted site at the start of the plan period. In addition the allocated site includes an area to the west that can come forward as an extension to extract a further 1Mt, making use of the processing infrastructure whilst it is in situ to extract the eastern area.

4.51 A further new allocation has been made at Slade Farm, Hedgerley. This comprises

two elements: an allocation to the north-west of Slade Farm, adjoining and with access from Hedgerley Lane; and a potential extension to the south, taking advantage of the access and processing infrastructure once extraction has been completed from the northern site. The northern site was granted planning permission in February 2018 subject to a secion 106 agreement but is identified as an allocation as it was not a permitted site at the start of the plan period. On that basis it is anticipated that the northern site will therefore be worked out in the last quarter of the plan period, with the south extension (1Mt) phased to come online to ensure continuity of supply and operations. This scenario would mean that of the 1Mt only around 0.3Mt is anticipated to be extracted during the plan period; the remaining 0.7Mt would contribute towards the landbank at the end of the plan period.

Balancing the provision from the Thames and Colne Valleys over the plan period

4.52 The above allocations are expected to bring forward in the region of approximately 8.3Mt in the primary focus area of the Thames and Colne Valleys by the end of the plan period in 2036, with extraction at Springfield Farm South and Slade Farm South continuing beyond this date.

4.53 Due to the extraction expected to take place beyond 2036 the MWLP will not count the supply from these two sites after 2036 as contributing to the provision to be made during the plan period. The MWLP will therefore, through commitments and allocations to be worked by 2036, have a provision of 8.3Mt against the target of 7.97Mt.

4.54 The performance of the economy does have an impact on the delivery of the provision of 8.3Mt. The commitments at the start of the plan period added to the commitments that have subsequently been granted (as of 01 January 2016) have resulted in a total of permitted reserves that, if all permitted sites came forward for extraction during the first quarter of the plan period, could result in a significant bulge in production (refer Figure 1). If the economic situation was positive to the extent that extraction at all permitted sites did take place and continued, then this would affect 10 year sales figures and thus lead to a potential undersupply situation in the second half of the plan period. If the ecomony was to perform poorly then the permitted sites, even if they had all started to be worked, may be worked slower and/or mothballed. This would have the effect of smoothing out the supply and reducing the likelihood of a potential undersupply. The delivery of commitments and allocations will need to be closely monitored as it is important that a steady supply of aggregates is maintained over the plan period. Where monitoring indicates that that cannot be guaranteed then the MWLP may need to be revised to do so. However it should be noted that the requirement to maintain an up to date plan should mean that a review or partial review of the MWLP will take place before any potential shortage of allocations becomes an issue. Furthermore it is also the case that Policy 5, which allows unallocated sites to come forward, can also be utilised if considered neccessary.

Great Ouse Valley

4.55 In relation to the intention to have some balance to production in the county to reflect that much of the county's growth is to take place in the northern half of the

county (notably at Aylesbury but also at Buckingham), the MWLP has identified the Great Ouse Valley as a secondary focus area.

4.56 An allocation is to be made in the MWLP to contribute towards meeting the provision of 2.52Mt in the secondary focus area of the Great Ouse Valley. This is at Hydelane Farm (located at the junction of Leckhampstead, Foscott, Maids Moreton and Thornborough parishes and bordering Thornton parish) east of Buckingham, and will provide 1Mt towards the provision figure. Other site(s) are to come forward as appropriate to meet the provision and will be determined under Policy 5 relating to proposals for the extraction of minerals from unallocated sites (including extensions to existing sites and extensions to allocated sites).

Delivery of the total provision over the plan period

4.57 The table below sets out the annual provision, permitted reserves, amount to be provided through the Plan and the balance remaining at the end of the plan period.

Table 3: Delivery of the sand and gravel provision

	Whole Plan area	Thames and Colne Valleys (primary focus area)	Great Ouse Valley (secondary focus area)
Annual provision rate	0.93Mtpa	0.81Mtpa	0.12Mtpa
Total provision over plan period	19.53Mt	17.01Mt	2.52Mt
Permitted reserves	9.04Mt	9.04Mt	0
Remaining amount to be provided through the Plan	10.49Mt	7.97Mt	2.52Mt
Provision made by MWLP allocations (up to 2036)	9.29Mt	8.29Mt	1Mt
Balance over the plan period	N/A	+0.32Mt	-1.52Mt
Surplus anticipated to be provided by allocations at the end of the plan period	N/A	1.6Mt	0

Policy 4: Allocated Sites for Sand and Gravel Provision

Sand and gravel provision to facilitate delivery of the requirement to 2036 will come from sites with planning permission as of 1 January 2016 and the following allocated sites:

Thames and Colne Valleys

M1: Springfield Farm South (Beaconsfield) (2Mt)

M2: New Denham Quarry North Extension (Denham) (1.60Mt)

M3: New Denham Quarry Extension (Denham) (0.34Mt)

M4: New Denham Quarry North West Extension (Denham) (0.85Mt)

M5: North Park, Richings Park (Iver) (3Mt)

M6: Slade Farm North (Hedgerley) (1.1Mt)

M7: Slade Farm South (Hedgerley) (1Mt)

Great Ouse Valley

M8: Hydelane Farm (Leckhampstead/Foscott) (1Mt)

Development Principles for Mineral Extraction

4.58 Regardless of the mineral to be extracted and whether the proposal is for a site allocated in the MWLP, the development principles set out in Policy 5: Development Principles for Mineral Extraction will need to be addressed along with relevant MWLP policies.

4.59 The Plan identifies sufficient deliverable allocations for sand and gravel to not only meet the total provision set out in Policy 3: Sand and Gravel Provision but to go beyond this figure. However there is a deficit for provision in the Great Ouse Valley area.

4.60 Preference will be given to proposals for development on allocated sites. Proposals for sand and gravel extraction at unallocated sites (including extensions to existing sites and extensions to allocated sites), will be required to robustly justify the requirement for extraction, specifically in relation to the need for the site to maintain supply in line with the adopted Local Plan provision rates and/or the maintenance of the aggregates landbank. It is not anticipated that the allocations made in this Plan in the Thames and Colne Valleys area will fail to come forward and deliver the provision required within the primary focus area.

Non-aggregate Mineral Development

4.61 Moderate deposits of clay and chalk exist within the county. Whilst these are still a finite resource they are not subject to the same high levels of demand as aggregate minerals. As such the level of consideration for proposals for the working of these resources is assessed on a site-by-site basis.

4.62 The NPPF requires that MPAs plan for a steady and adequate supply of industrial minerals, including brick clay, in doing so a stock of permitted reserves of at least 25 years (for brick clay) should be provided for. Brick clay extraction is undertaken at Bellingdon by a single operator (who is also the manufacturer), on a very small scale for the production of traditional Chiltern bricks. Given there is a single operator within the county, details regarding extraction rates and permitted reserves cannot be released due to the need to maintain commercial confidentiality. The quality of material required for manufacturing traditional bricks is very high and so only a portion of material extracted may be suitable for use. This makes the identification of a stock of reserves (with any certainty) for this specific end use very difficult, even for the operators, and so has not been sought through the MWLP.

4.63 Whilst the Plan will continue to support the principle of maintaining a suitable supply of material to sustain the Chilterns brick industry, the identification of a stock of permitted reserves and the identification of locations for the winning and working of these resources is not considered necessary given the nature and limited scale of operations. Where any such proposals for the winning and working of non-aggregate minerals are brought forward they will be assessed against Policy 5: Development Principles for Mineral Extraction. Witchert, a construction material of local importance primarily sourced from the south western part of Aylesbury Vale, is used for the restoration of historical vernacular buildings and structures. Proposals for the extraction of Witchert will also be subject to the requirements of Policy 5: Development Principles for Mineral Extraction.

4.64 Although the working of minerals within the AONB should only be permitted in exceptional circumstances, the County Council, as the MPA, has historically supported the Chiltern brick industry in maintaining a supply of material so as to continue the localised employment industry and meet the demand for vernacular building materials that cannot be sourced elsewhere. These principles are supported by national policy and objectives and local policy.

4.65 No form of chalk is at present worked in the county as an aggregate mineral and although the Pitstone site has an extant permission (for the extraction of chalk) it is inactive for extended periods as extraction is seasonal and weather dependent, in addition extraction is on a small scale. Given the scale of extraction it is not considered necessary to maintain a specific level of provision for chalk.

4.66 Although some clay and chalk deposits are currently extracted for local purposes, it is prudent to ensure that these resources are not unnecessarily exploited, to encourage the efficient use of resources and to continue to support the supply of locally sourced materials. To this end the County Council will seek information relating to the volume, type of products being produced and the anticipated market. This information will be used to consider restricting, if necessary, the rate of clay extraction for brick making to the associated brickworks in order to reduce environmental impacts and overprovision of resources. Proposal for the production of building materials (e.g. bircks) that utilize such resources would be supported where compliant with relevant MWLP policies.

Policy 5: Development Principles for Mineral Extraction

Proposals for the extraction of minerals from unallocated sites (including extensions to existing sites and extensions to allocated sites) must demonstrate that the development:

- is in general compliance with the spatial strategy for minerals development; and
- where relating to sand and gravel, is required to maintain a steady and adequate supply of minerals in accordance with the adopted MWLP provision rates and/or the maintenance of a landbank with reference made to the findings of the prevailing Local Aggregate Assessment; and
- is required to provide materials with particular specifications that cannot reasonably or would not otherwise be met from committed or allocated reserves.

Proposals for the extraction of other minerals to support conservation of the historic environment, maintaining local distinctiveness or to maintain a supply of material to meet the local and wider demand for traditional Chiltern bricks will be supported where it can be demonstrated that this is the main purpose of the proposal and the proposal is compliant with relevant MWLP policies.

Borrow Pits and Extraction as an Ancillary Activity

4.67 It may be necessary to consider applications to work minerals from land that is otherwise not considered appropriate to allocate in the MWLP but where there is a particular case to be made for its extraction. For example, major infrastructure projects such as water recreation schemes, housing schemes and nationally significant infrastructure projects that would require prior extraction of the minerals resource to ensure such material is not sterilised. These are often termed ‘windfall sites’.

4.68 Such sites cannot be relied upon to provide a steady and continuous supply of aggregate, but they do represent a windfall in that they provide for development and make a contribution towards the total amount of permitted reserves (the landbank).

4.69 On occasions, it may be necessary to consider applications to work minerals for specific road or other major infrastructure projects from land that is constrained by policies in the Plan and where there are no other acceptable sources of mineral available.

4.70 In addition, previous large construction projects such as the Jubilee River and the Eton Rowing Course have produced saleable aggregates that are not intended solely or mainly for their own use, are also considered windfalls.

4.71 Aggregates from windfall sites such as borrow pits and construction projects will be included as part of the county’s permitted reserves for landbank purposes on the basis of the actual amount of aggregate likely to be exploited.

Policy 6: Borrow Pits and Extraction as an Ancillary Activity

Permission will be granted for the development of borrow pits and extraction occurring as an ancillary activity where it can be demonstrated that one of the following applies:

- The borrow pit is in close proximity to the construction project it is intended to supply, and that extraction of mineral from the borrow pit constitutes the most appropriate supply option with reference to the type and quality of the mineral and proximity to other mineral extraction sites. The estimated size of the resource, and proposed extractive operations, is commensurate to the estimated needs of the associated construction or engineering works.
- The extraction of the mineral can be clearly demonstrated to be ancillary to the proposed development. The estimated size of the resource, and proposed extractive operations, is proportionate to the primary use.
- The proposal is for the prior extraction of minerals within a Mineral Safeguarding Area.

In addition to the above, the proposal will need to demonstrate that inert waste arising from the associated works or extraction is used in restoration works where appropriate and that the proposed development is compliant with relevant MWLP policies.

Provision of Secondary and Recycled Aggregates

4.72 National policy seeks to increase the use of secondary and recycled materials as substitutes for natural minerals. The council is committed to reducing the amount of primary mineral used and enabling the recycling of mineral waste and other appropriate forms of waste, such as construction, demolition and excavation (CD&E) wastes, and the use of secondary materials, such as waste glass and bottom ash from waste recovery processes. This will not only contribute to the level of alternative aggregates provision set out in national guidance, it will also contribute to a reduction in the amount of CD&E waste disposed of to landfill sites within the county when it could reasonably be used for construction purposes.

4.73 The Waste Directive Framework includes a target for the recycling and/or recovery of construction and demolition waste, supporting an increase in production of recycled aggregates. The future capacity required to attain this target, and net self-sufficiency for waste management, is set out in Policy 12: Waste Management Capacity Needs.

4.74 It should be noted that whilst the use of recycled materials as alternative aggregates is desirable and may result in a reduction of the amount of newly won primary minerals actually required, the requirement to make provision of primary aggregate as set out in Policy 3: Sand and Gravel Provision would remain unchanged. This is because the quality, type and quantity of alternative materials varies and cannot fully replace materials used for certain construction purposes.

4.75 Currently, most of the known aggregates recycling within Buckinghamshire takes place at temporary facilities, often located at existing sand and gravel quarries and associated landfill operations. There are advantages in co-locating construction and demolition waste recycling and aggregate processing facilities at mineral sites. Both new and recycled aggregate materials are similar in nature and require the same type of processes such as screening and grading of material, crushing and stock piling. The type of impacts on the environment such as noise, dust and those associated with haulage traffic are broadly similar and co-location could ensure that appropriate forms of mitigation are in place. Co-location can also result in a reduction or more efficient use of vehicle movements in and around the site as the burden of transport into and out of the site is shared between the two uses.

4.76 There is a further benefit to co-location that must also be taken into consideration. The process of recycling CD&E waste requires a large area of land as recycled materials must be stored separately according to their size and type. This particular use would therefore be considered to be an inefficient use of land where such facilities were to be located within an area designated as an employment site, which are often small industrial estates.

4.77 The diversion of waste from landfill for treatment and energy recovery (e.g. EfW) produces residue materials. Incinerator bottom ash (IBA) can be processed into a secondary aggregate (IBA aggregate), uses for which may include bulk fill, road sub-base and cement bound materials. IBA production can contribute towards the provision of alternative aggregates and further reducing the reliance on landfill (of residue materials). As energy recovery from waste increases so to will the need for IBA processing facilities. Such facilities may also be co-located with other waste management uses.

4.78 Facilities for recycling materials and secondary processing facilities to produce alternative materials are ideally required across the whole of Buckinghamshire, both temporary and permanent in nature. In particular, it would be prudent to permit facilities in the northern half of the county where growth is proposed. This would contribute to reducing the reliance on primary materials and the distance materials are transported by road from southern Buckinghamshire.

4.79 To facilitate this, the council will seek to ensure that appropriately located sites for the handling and processing of secondary and recycled materials are available to serve the county, and in particular to serve potential growth areas in north Buckinghamshire.

Policy 7: Provision of Secondary and Recycled Aggregates

Favourable consideration will be given to proposals for facilities for secondary and recycled aggregates. Permission will be granted where it can be demonstrated that potentially adverse impacts are able to be avoided and/or minimised to acceptable levels and that the proposal is compliant with relevant MWLP policies.

Preference will be given towards sites at the following locations:

- mineral extraction sites with existing processing plants,
- on-site as an ancillary activity to construction or demolition projects,
- committed waste management facilities or within the areas of focus for waste management where the proposed use accords with the type of waste use either existing at that location, or is complementary to the current economic role, status and uses of the employment area (where applicable),
- existing industrial areas or on land that is permitted or allocated for general industrial development, and
- existing and disused railheads and wharves.
- where not within the areas of focus for waste, or a committed waste site, the proposals should intergrate and co-locate with complementary activities, or maximize the use of previously developed land or redundant agricultural and forestry buildings (and their curtilages).

For sites where the primary use is temporary (e.g. mineral extraction and where associated with construction or demolition projects), permission will be granted for a period not exceeding the permitted life of the primary use.

Specifically regarding proposals on mineral extraction sites, permission will only be granted where there is no conflict with the approved restoration scheme.

Development of temporary facilities for the recovery and recycling of inert materials, including inert wastes, must demonstrate that the materials will be recycled and re-used (as far as practicable) on-site.

Rail Aggregate Depots and Wharf Facilities

4.80 The County Council supports the use of alternative modes of transport (to road haulage), where practicable, such as by rail or inland waterway. The South East of England is a net importer of aggregates and the need to import is likely to increase as land won supplies become scarcer. It is important that facilities for the importation of primary and secondary aggregates are made available. It is therefore vital that facilities are in place and are safeguarded from other forms of development that could prevent future use for the movement of aggregates. Such facilities will need to be well sited close to the Primary Route Network and Strategic Inter-Urban Routes if they are to make a valid contribution to achieving more sustainable transport.

4.81 The Buckinghamshire Freight Strategy supports water-borne freight activities, although it is stated that neither the River Thames or the Grand Union Canal offer a significant prospect of taking freight off Buckinghamshire's roads. The Strategy

does however encourage the use of the Grand Union Canal for the transport of sand and gravel from southern Buckinghamshire in order to encourage future water borne movements.

Policy 8: Rail Aggregate Depots and Wharf Facilities

Permission will be granted for development of rail aggregate depots and wharf facilities where it can be demonstrated that the development is located in proximity to the Primary Route Network and Strategic Inter-Urban Routes, complies with relevant MWLP policies and avoids and/or minimises potentially adverse impacts to acceptable levels.

Energy Minerals

4.82 Although no commercial reserves of oil and gas are known to exist in Buckinghamshire, an exploration licence does exist within the county. However, there is a need for a policy to safeguard the county's environment should the County Council receive applications for preliminary appraisal works.

4.83 The location of oil and gas extraction requires the presence of economically viable oil reserves. Oil and gas exploration and processing operations are different from conventional mineral workings, and can be designed to be significantly less intrusive as they use less land and have more flexible locational requirements compared to other minerals developments. Elsewhere in the UK oil exploration and production takes place at such a depth that other developments will not sterilise the resource, except where there are surface installations. It is therefore unnecessary to identify and then safeguard oil and gas resources or identify and allocate sites.

4.84 The exploration and production licensed areas granted by the Government would, in the event they are taken up by the industry, only be an indication of the county's potential oil and gas resources. Should the Government licence any area in Buckinghamshire or in neighbouring authorities that may have resources, which extend into the county, then the need for more detailed criteria or a Supplementary Planning Document (SPD) can be assessed given the long lead in times from progressing from a licence to an application for exploration.

4.85 Shale gas is a natural gas produced from shale. The extraction of shale gas is considered to be an unconventional operation as it comes from sources that are considered to be unconventional sources. This sort of development does not occur in the county, and at the start of the plan period unconventional oil and gas development was not an activity that the industry had approached the County Council on, even through pre-application discussions. Any application for shale gas development will need to comply with Policy 9: Energy Minerals and relevant MWLP policies.

Policy 9: Energy Minerals

The exploration and appraisal of oil and gas (including appraisal drilling) and/or commercial production of oil and gas will be supported where it can be demonstrated that:

- the site and equipment is not located within the Chilterns Area of Outstanding Natural Beauty (AONB) or its setting; and
- specific to exploration and appraisal, there would be no adverse impact on the underlying integrity of the geological structure and water resources; and
- potentially adverse impacts are able to be avoided and/or minimised to acceptable levels; and
- the site will be restored to an acceptable condition and afteruse, where possible incorporating beneficial outcomes, with appropriate aftercare provided for, as soon as possible following cessation of works regardless of whether oil or gas is found; and
- it is compliant with relevant MWLP policies.

Pertaining to proposals for exploration and appraisal of oil and gas, particular regard will be made to the long-term suitability of the site for commercial production and distribution.

The exploration and appraisal/commercial production from sites outside the Chilterns AONB of potential/proven oil and gas resources within the Chilterns AONB and its setting will be supported in exceptional circumstances, where (in addition to the before listed criteria) it can be demonstrated that the reasons for the designation are not compromised; the proposal is in the public interest; and there is a need for the development, including in terms of any national considerations, giving consideration to the impact of permitting it, or refusing it, upon the local economy. Consideration should also be given to the cost of, and scope for, meeting the need for it in some other way. In addition any proposal would need to identify any detrimental effects on the environment, landscape and recreational opportunities, and the extent to which such effects could be moderated.

Proposals for the commercial production of oil and gas must demonstrate that:

- a full appraisal programme for the oil and gas field has been completed; and
- the proposed location is the most suitable, taking into account environmental, amenity, geological, traffic and technical factors.

5. Waste

The Strategic Objectives for achieving sustainable waste development are:
SO1: Contributing Towards Sustainable Communities and Economic Growth
SO4: Facilitating the Delivery of Sustainable Waste Development
SO10: Safeguarding of Existing Minerals and Waste Sites

5.1 The MWLP seeks to work towards a more sustainable and efficient approach to resource use and management, and to deliver net self-sufficiency with respect to waste management capacity. In order to do so it is necessary to first identify the amount and type of waste produced within Buckinghamshire, make an assessment of the amount of waste likely be produced over the plan period, take account of the extent to which existing facilities satisfy the identified capacity requirements, and to then identify sufficient opportunities to meet the identified capacity requirements, including areas for new or enhanced waste management facilities in appropriate locations.

5.2 It is essential that the Plan's policies provide a framework to allow the County Council, as the WPA, to determine planning applications that facilitate the delivery of waste management capacity at existing and appropriate new waste management facilities and drive waste up the waste hierarchy.

5.3 The Waste Needs Assessment (WNA) Report (May 2017) and WNA Addendum Report (November 2017) set out in detail the methodology for determining waste produced within Buckinghamshire, growth rates, targets, permitted waste management capacity and future capacity needs. These documents are collectively referred to as the WNA. The WNA was used to inform the MWLP plan-making process.

Waste Produced within the County

5.4 It is estimated that in 2016 Buckinghamshire produced approximately 1.97Mt of municipal, commercial and industrial (C&I), CD&E and hazardous waste (as illustrated in the figure below). The majority of which was recycled, composted or treated via other recovery methods with the remainder disposed of to landfill or via incineration without energy recovery. This indicates that already there has been a shift in waste management away from historic trends with significant amounts of waste being diverted from disposal to landfill. Although this signals that a step change is occurring there is still quite a way to go to achieve waste management targets and ensure that only residual materials[14] are disposed of.

14 Residual materials include waste materials and residues arising from treatment processes that cannot be recycled or recovered.

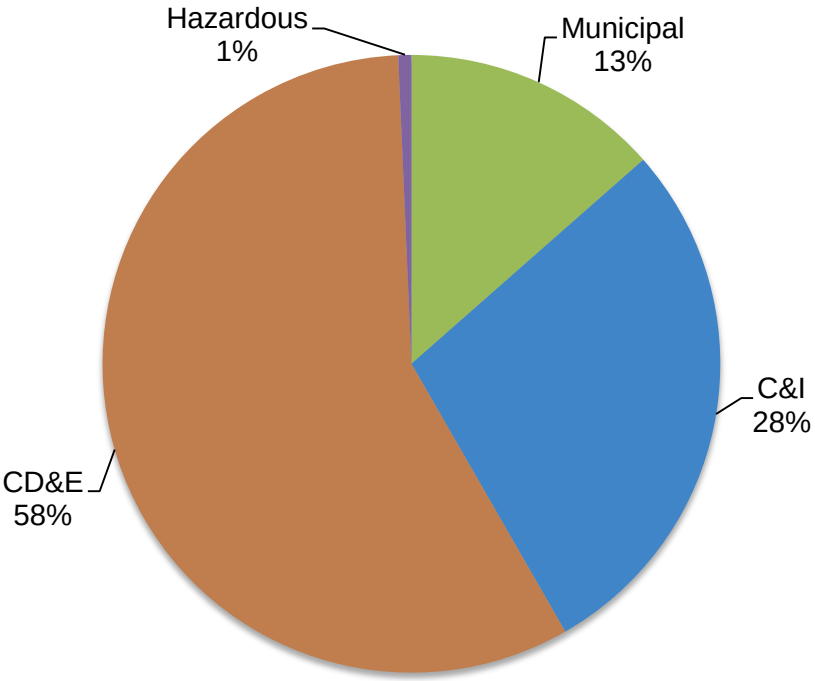


Figure 2: Waste arisings in Buckinghamshire 2016

5.5 It has been estimated[15] that by the end of the plan period (2036) 2.14Mt of waste will be produced within the county. Management of non-hazardous waste is expected to include preparing for re-use and recycling (forecast to capture 64% of arisings - the majority being inert recycling) and treatment via other recovery methods (12%) with the remainder captured under disposal to landfill and inert recovery and/or landfill[16].

5.6 It is anticipated that, by the end of the plan period, residues from treatment may make up to an additional 0.16Mtpa of non-hazardous waste; around 40% of which is likely to be IBA, which can be processed as a secondary aggregate. The remainder may be able to be subject to further treatment or may need to be disposed of to non-hazardous landfill[17]. Residues from treatment processes may also produce another 7,000 tonnes per annum (tpa) of hazardous waste for disposal (by the end of the plan period).

5.7 In line with making the transition to a more sustainable and efficient approach to resource use and management it has been assumed that the percentage of waste prepared for re-use and recycling will not decrease and that the percentage of waste treated via other recovery methods will be increased as waste is recognised

15 Waste needs assessment Buckinghamshire County Council 2017

16 It should be noted that deposit of inert waste onto land may constitute recovery where this is in compliance with regulatory guidance (Environmental Permitting Regulations 2010 Regulatory Guidance (EPR13), Defining waste recovery: Permanent deposit of waste on land). Where inert recovery and inert landfill are identified within figures it should be noted that there has not been double counting in calculations.

17 Non-hazardous landfill does not include inert recovery and/or landfill.

as a resource with the Plan seeking to achieve the recycling and recovery rates as per the requirements set out through the EU's Circular Economy Package (with a subsequent reduction in disposal to landfill).

5.8 The indicative waste management requirements identified in the MWLP to 2036 are based on the objective of meeting the equivalent of Buckinghamshire's own waste arisings (net self-sufficiency) and to allow for more sustainable waste management options further up the waste hierarchy in the future. In addition the MWLP seeks to consider the need for additional waste management capacity of more than local significance (as per the NPPW) by seeking to accommodate a declining quantity of London's waste for disposal to landfill, reflecting the intent of the London Plan.

5.9 There is already an extensive range of facilities in the county that contribute towards the identified waste management capacities for recycling, composting, recovery, waste transfer and landfill. Notwithstanding what will be achieved in reducing waste through various initiatives and market drivers as well as MWLP policies, it will be necessary to provide for additional new capacity and supporting infrastructure to meet the needs over the plan period.

5.10 Other wastes also produced within Buckinghamshire, including agricultural, wastewater and radioactive wastes, are addressed separately.

The Waste Hierarchy

5.11 The waste hierarchy is a fundamental concept for sustainable waste management in England. It ranks the methods of waste management in priority order, as illustrated in the figure below.

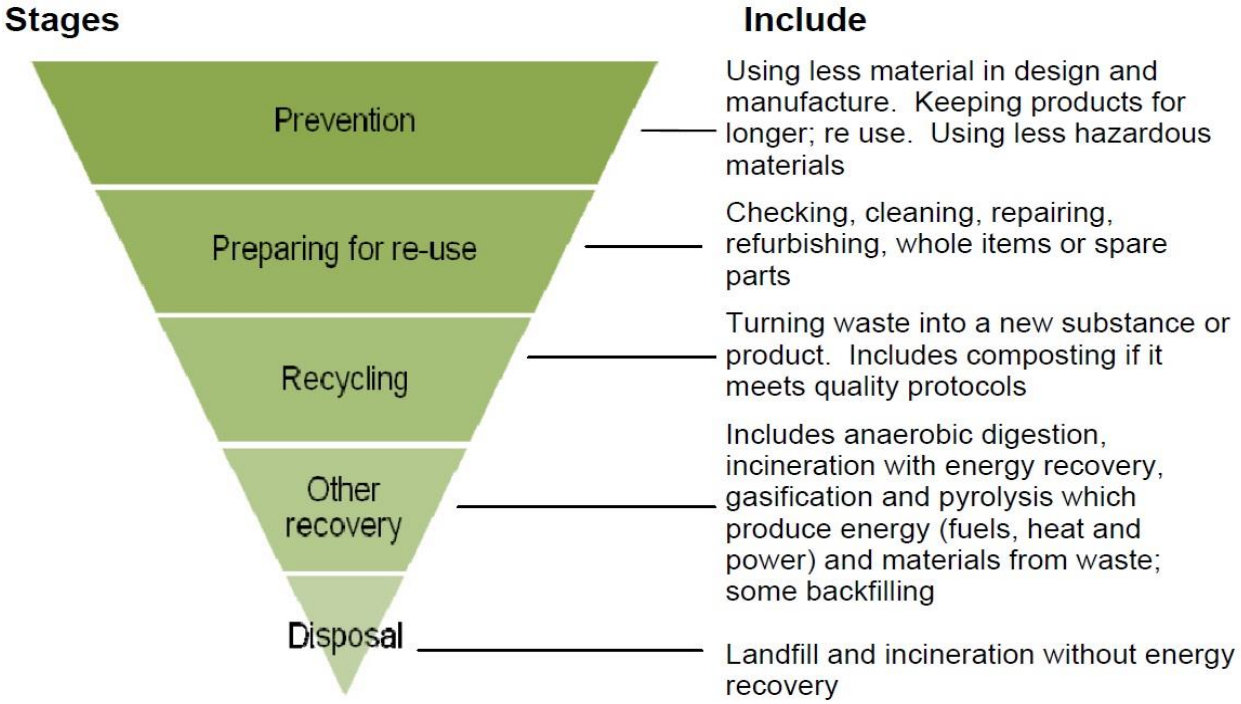


Figure 3: The waste hierarchy

Municipal Waste

5.12 Municipal waste is all waste that is collected and disposed of by, or on behalf of, a local authority, also referred to as Local Authority Collected Waste (LACW). It will generally consist of household waste and any other wastes collected from Household Recycling Centres (HRCs), commercial or industrial premises, and waste resulting from the clearance of fly-tipped materials and litter.

5.13 Buckinghamshire generated 0.27Mt of municipal waste for the reporting year 2015/2016 (of which household waste accounted for around 0.24Mt). Of this (household waste) 56% was recycled or composted, 12% was treated via EfW processes and 33% was disposed of to landfill with a small amount (<1%) disposed of via incineration without energy recovery.

5.14 The Buckinghamshire Joint Waste Strategy (JWS) sets out a target to re-use, recycle or compost 57% of household waste (equivalent to 52% of municipal waste) by 2016/17 and 60% plus by 2019/20. The EU Circular Economy Package sets proposed targets for municipal waste for recycling 65% and landfilling (maximum) 10% of municipal waste by 2030. These targets have been incorporated into arisings forecasts as appropriate. It should be noted that the 2016/17 target set out in the JWS has been met. It has been assumed that recycling, composting and recovery rates will not decrease.

5.15 The County Council has a 30-year contract with FCC Environment, the operators of the Greatmoor EfW facility for the management of Buckinghamshire's municipal waste. The EfW facility became fully operational in June 2016, and started accepting Buckinghamshire's municipal waste the same year. The EfW facility has a built capacity of 0.3Mtpa; of which around 0.112Mtpa is currently used to manage Buckinghamshire's municipal waste; this amount is expected to increase in line with growth in household numbers and waste generation rates and could increase to up to 0.13Mtpa by 2030. The contract period ends in January 2046 (with a possible five-year extension). This level of recovery may act to further decrease disposal to landfill to below the target of 10%.

5.16 Other municipal waste contracts are in place in relation to HRCs, food waste, garden waste, waste transfer stations and inert recovery and/or landfill. Further detail regarding contracts is set out in the WNA.

5.17 It is estimated that by the end of the plan period a total of 0.32Mtpa of municipal waste will arise within Buckinghamshire, with management methods (by 2030) including 65% recycled or composted with a maximum of 10% disposed of to landfill (with the remaining 25%+ otherwise recovered).

Commercial and Industrial Waste

5.18 C&I waste is defined as "waste from premises used mainly for trade, business, sport, recreation or entertainment" (Environmental Protection Act 1990 s5.75(7)). It will generally consist of a wide range of wastes (such as mixed wastes, mineral wastes, chemical wastes, metals, discarded equipment, animal and vegetable waste including food waste, healthcare waste and others) and contains a high

proportion of recyclable materials.

5.19 Approximately 0.55Mt of C&I waste was generated within Buckinghamshire in 2016. Reliable local data on management methods is not available. A broad picture can be developed from national data sets, which indicate that just over half of C&I waste is recycled or composted, around a quarter is disposed of to landfill and the remainder is subject to other recovery.

5.20 The EU Circular Economy Package sets a proposed target for recycling 75% of packaging waste by 2030, however packaging waste does not make up all C&I waste. Aspirational targets for recycling of C&I waste of 70% by 2030 and for a maximum of 10% of waste sent to landfill by 2030 have been included in the arisings forecasts.

5.21 It is estimated that by the end of the plan period a total of 0.68Mtpa of C&I waste will arise within Buckinghamshire, with management methods (by 2030) including 70% recycled or composted, 20% otherwise recovered and 10% disposed of.

Construction, Demolition and Excavation Waste

5.22 CD&E waste means waste materials that arise from the construction or demolition of buildings and/or civil engineering infrastructure, including hard construction and demolition waste and excavation waste (and soils). Hard construction and demolition waste may include concrete, bricks, tiles, bituminous mixtures and railway ballast and mixtures of the various components. Excavation waste may include clean and contaminated soil, stone and rocks arising from land levelling, filling and/or general foundations. The majority of this type of waste is made from inert materials such as concrete, rubble and soils. A small amount of CD&E waste is non-inert materials such as wood, metals and plastic that can managed via non-hazardous waste management facilities. CD&E waste may also include hazardous waste materials such as lead, asbestos, liquid paints, oils, etc. CD&E waste contains a high proportion of recyclable materials.

5.23 Approximately 1.13Mt of CD&E waste was produced within Buckinghamshire in 2016 and it is anticipated that arisings will remain the same over the plan period. This figure includes a portion of CD&E waste exported from London. The CD&E waste stream is largely made up of inert material. Recent national studies suggest that over three quarters of CD&E waste is currently recycled or otherwise recovered with less than a quarter disposed of to landfill. A significant proportion (around a third) of inert waste is re-used, with over half of this thought to be re-used on exempt sites. This unseen capacity is assumed to continue to be available throughout the plan period, however it is anticipated that the amount of waste captured under exempt categories will decrease in line with revision of the Environmental Permitting system providing a more rounded view of management of this waste in the future. In addition some inert waste is utilised at non-hazardous landfill for engineering purposes[18]. As previously noted, the deposit of inert waste

18 Over the plan period there is likely to be a reduction in inert waste used at non-hazardous landfills for engineering purposes as there is less requirement for non-hazardous landfill capacity and a shift as some

onto land may constitute recovery where this is in compliance with regulatory guidance.

5.24 The Waste Framework Directive (WFD) sets a target for 70% of construction and demolition waste[19] to be recycled or otherwise recovered by 2020, however, as this does not capture all CD&E waste the target for the MWLP has been adjusted accordingly. Management methods for CD&E waste (by 2025) include 60% recycled, 30% otherwise recovered and 10% disposed of.

Hazardous Waste

5.25 Hazardous waste has historically been considered material that poses the greatest risk to human health or the environment, including materials such as asbestos, oils, solvents and chemical wastes. The Landfill Directive refers to some wastes as 'hazardous', rather than 'special', broadening the definition to include everyday items such as fluorescent tubes, monitors and televisions that have reached the end of their lives. Hazardous materials are subject to strict controls on carriage, treatment and disposal.

5.26 Approximately 13,000 tonnes of hazardous waste was generated within Buckinghamshire in 2016, with arisings anticipated to increase slightly to 16,000 tpa over the plan period. There are no national or local targets relating to the management of hazardous waste. EA data[20] indicates that the majority of hazardous waste is recovered (40%) or treated (17%), with less than 20% being disposed of (15% landfill and 3% incineration without energy recovery), with the remainder either rejected or captured under transfer.

5.27 Hazardous waste treatment and disposal facilities are specialised and generally operate at a regional or national scale. There is currently no capacity for hazardous waste treatment within the county. However, two landfill sites are permitted to dispose of hazardous waste. The majority of hazardous waste is exported to appropriate facilities outside the county.

Total Waste Arisings

5.28 The total amount of waste anticipated to be produced from within Buckinghamshire over the plan period is set out in the table below. The arisings are broken down by waste type and are provided at five-year intervals.

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inert waste captured under exempt operations is identified as inert recovery with some exempt operations reclassified as inert recovery. The effect of this is a likely increase in requirement for inert recovery and/or landfill capacity over the plan period, however, the extent to which these factors will increase this cannot be calculated and it is highly likely that the increased capacity requirements can be accommodated by voidspace created by mineral extraction from allocated sites and other mineral extraction sites coming forward over the plan period.

19 Only refers to EWC number 17 05 04, which is estimated to make up 63% of Buckinghamshire's CD&E waste.

20 EA 2015 Hazardous Waste Data Interrogator (HWDI)

Table 4: Waste arisings over the plan period (million tonnes per annum)

Waste stream	2016	2021	2026	2031	2036
Municipal	0.266	0.279	0.292	0.306	0.319
C&I	0.554	0.582	0.612	0.643	0.676
CD&E	1.132	1.132	1.132	1.132	1.132
Hazardous	0.013	0.014	0.015	0.016	0.016
Total	1.965	2.008	2.051	2.097	2.144

Other Waste Streams

5.29 Agricultural, wastewater and radioactive wastes also arise within Buckinghamshire. There are no national or local targets for the management of such wastes, however these wastes have been taken into consideration through the MWLP at an appropriate level (outlined below).

Agricultural Wastes

5.30 Agricultural waste is waste material that is generated from agricultural premises, the majority of agricultural waste is not classified as controlled wastes. The majority of agricultural wastes are bulk materials such as animal waste slurries. The WFD captures non-natural components of this waste stream, which account for a very small amount (<1%) and is thought to be managed via the use of civic amenity sites and transfer to others (contractors). Very little data is available on waste arisings within the agricultural sector, particularly at a local level. As such the MWLP assumes that the non-natural component of agricultural waste is captured under either trade waste received at HRCs or within the C&I waste stream.

Sewage and Wastewater

5.31 Thames Water manages sewage and wastewater treatment for the large majority of Buckinghamshire with Anglian Water covering the northern part of Aylesbury Vale district including Buckingham. Water cycle studies, flood risk assessments and water management plans have been undertaken by the County and District Councils of Buckinghamshire with the purpose of identifying major issues associated with the planned growth for the area such as sewage treatment, water quality, supply and efficiency, flood risk management and sustainable drainage systems. The MWLP is generally supportive of an increase in sewage treatment capacity where required to serve existing or planned development in accordance with the Development Plan (refer Policy 16: Sewage Treatment Works).

Radioactive Waste

5.32 It is essential that all radioactive waste and materials be safely and appropriately managed in ways that pose no unacceptable risks to people or the environment. The decommissioning of nuclear power reactors produces the majority of radioactive waste in the UK, with other sources including the generation of electricity in nuclear power stations and from the associated production and

processing of the nuclear fuel, use of radioactive materials in industry, medicine and research, extraction of materials which include some naturally occurring radioactive materials, and from military nuclear programmes.

5.33 Radioactive waste is divided into categories according to how much radioactivity it contains and the heat that this radioactivity produces, the main categories including high, intermediate and low level waste. Low level waste (LLW) may comprise building rubble, soil and steel items arising from the decommissioning and clean-up of nuclear reactors, facilities and sites as well as paper, plastics and scrap metal items from the operation of nuclear facilities.

5.34 The Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom (2007) allows for the disposal of some types of LLW to existing landfill. The disposal of such waste to existing landfill is regulated by the EA under the Environmental Permitting Regulations. Intermediate level waste (ILW) and high level wastes (HLW) are not suitable to be disposed of in the same way as LLW. This policy direction is reflected through the UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry (2016).

5.35 The NDA 2016 Inventory reports that Buckinghamshire (Amersham GE Healthcare facility) produced 513m^3 of LLW and 174m^3 of ILW as of 1 April 2016. Future arisings are estimated at 4,100m^3 of LLW and 55m^3 of ILW up to 2040; accounting for less than 1% of UK future arisings[21]. Estimates from the non-nuclear industry are not available for Buckinghamshire[22].

5.36 Arisings of radioactive waste from both nuclear and non-nuclear industries within Buckinghamshire are relatively low. Such facilities are highly specialised and generally operate at a regional or national scale. There is currently no capacity for radioactive waste management within the county, with waste being managed at appropriate facilities outside the county, including at the East Northants Resource Management Facility (ENRMF) in Northamptonshire.

Making Provision for Waste Imports - London's Waste

5.37 In 2015, some 0.66Mt of waste was exported from London for management within Buckinghamshire. The majority (around 60%) of which was disposed of to non-hazardous landfill at the Calvert and Gerrards Cross sites and was primarily made up of household, industrial and commercial waste. Inert recovery and landfill accounted for a further 20% at the Park Lodge, Denham Park Farm and New Denham Quarry sites; this waste is likely to be construction wastes and waste from major engineering projects. In addition inert recycling and treatment made up another 15%, with recycling occurring at the Gerrards Cross Landfill site and transfer and treatment at Denham Quarry.

21 UK Radioactive Waste Inventory 2016

22 Department of Energy and Climate Change (DECC) Data Collection on Solid Low-level Waste from the Non-nuclear Industry 2008

5.38 Disposal to landfill is recognised as the least preferred method according to the waste hierarchy, but one that adequate provision must be made for. In line with increasing waste management capacity for recycling and other forms of recovery and the planned reduction in London's waste, the demand for landfill will decrease.

5.39 The MWLP makes provision for a declining amount of imported waste (from London) to be landfilled in Buckinghamshire. It is expected that London's exports of waste to Buckinghamshire for disposal to landfill will gradually decline in line with the London Plan. The London Plan[23] sets out an intent to achieve greater net self-sufficiency in London. The London Plan includes targets to manage as much of London's waste within London as practicable, work towards managing the equivalent of 100% of London's waste within London by 2026, zero biodegradable or recyclable waste sent to landfill by 2026 and the re-use and recycling of 95% of CD&E waste by 2020. It also seeks to reduce the proportion of waste exported from the capital over time and to work with neighbouring authorities to co-ordinate strategic waste management across the greater South East of England.

5.40 The MWLP reflects this transition as London adjusts to greater self-sufficiency and reduces its landfill demands upon Buckinghamshire. The MWLP therefore sets out what is considered to be the appropriate provision to be made for the period 2016 to 2036.

5.41 The London Plan sets out projected household and C&I waste arisings up to 2036, apportioning waste to be managed by London boroughs as well as non-apportioned waste (constituting household and C&I waste – not CD&E waste) to be exported. It is anticipated that 1.95Mt of waste will be exported from London in 2016, decreasing to 1.19Mt in 2021 and zero by 2026. The London Plan does not set out how much of this is anticipated to be sent for disposal to non-hazardous landfill. No figures are identified for CD&E or hazardous wastes, however it does recognise that the majority of hazardous waste is currently sent to landfill, mostly within the South East and East of England regions.

5.42 In 2015 London exported 11.4Mt of waste; of this 3.45Mt was household and C&I waste. During this period (2015) Buckinghamshire received 0.32Mt of London's household and C&I waste for disposal to non-hazardous landfill; (equating to around 9% of London's total non-apportioned waste to be exported. Such movements are likely to be subject to commercial contracts and operational (network) arrangements and so are anticipated to continue in a similar vein, albeit with a gradual decline in line with the London Plan. As such, it is expected that between 2016 and 2026, as London's waste treatment capacity increases to meet targets and achieve net self-sufficiency, the amount of exported waste for treatment will decrease, with a subsequent adjustment to the amount of exported waste disposed of to non-hazardous landfill. The anticipated quantities and management methods are illustrated in the graph below.

5.43 In line with the London Plan Waste Forecasts and Apportionments 2017, it is

23 London Plan Policy 5.16 Waste Net Self-Sufficiency (https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-five-londons-response/pol-15)

assumed that around 9% of London's non-apportioned waste (constituting household and C&I waste – not CD&E waste) to be exported for disposal to non-hazardous landfill[24] will be received in Buckinghamshire, decreasing to zero by 2026, as set out in the table and illustrated in the graph below. It should be acknowledged that some residual wastes arising as outputs from waste treatment methods are likely to require disposal to landfill, meaning that Buckinghamshire may continue to dispose of London's waste, in addition to its own waste. However, at this stage no information is available on the quantum of residues arising from London that may require disposal to landfill.

Table 5: London's non-apportioned (household and C&I) waste to be exported for disposal to non-hazardous landfill in Buckinghamshire (2016 to 2026 onwards)[25]

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
London's total exports	1.95	1.80	1.65	1.49	1.34	1.19	0.95	0.71	0.48	0.24	0.00
London's total non-apportioned (household and C&I) waste to be exported	1.14	1.12	1.10	1.06	1.01	0.94	0.79	0.62	0.44	0.23	0.00
London's waste received by BCC for disposal to non-hazardous landfill	0.18	0.17	0.15	0.14	0.12	0.12	0.11	0.09	0.07	0.04	0.02

24 Based on current management method rates for waste exported from London and targets being achieved, refer to WNA for additional detail.

25 It should be noted that: (1) the figures in the above table for London's waste received by Buckinghamshire for disposal to non-hazardous landfill refer to the non-apportioned household and C&I waste for export identified in the London Plan; (2) the Buckinghamshire MWLP does not apply a limit on the amount of London's waste exported for recycling or recovery – a decrease in waste exported for recycling and recovery is anticipated in line with the London Plan targets for self-sufficiency however it is acknowledged that cross-boundary movements will continue to occur; and (3) the figures in the above table do not capture CD&E waste exported for inert recovery and/or landfill.

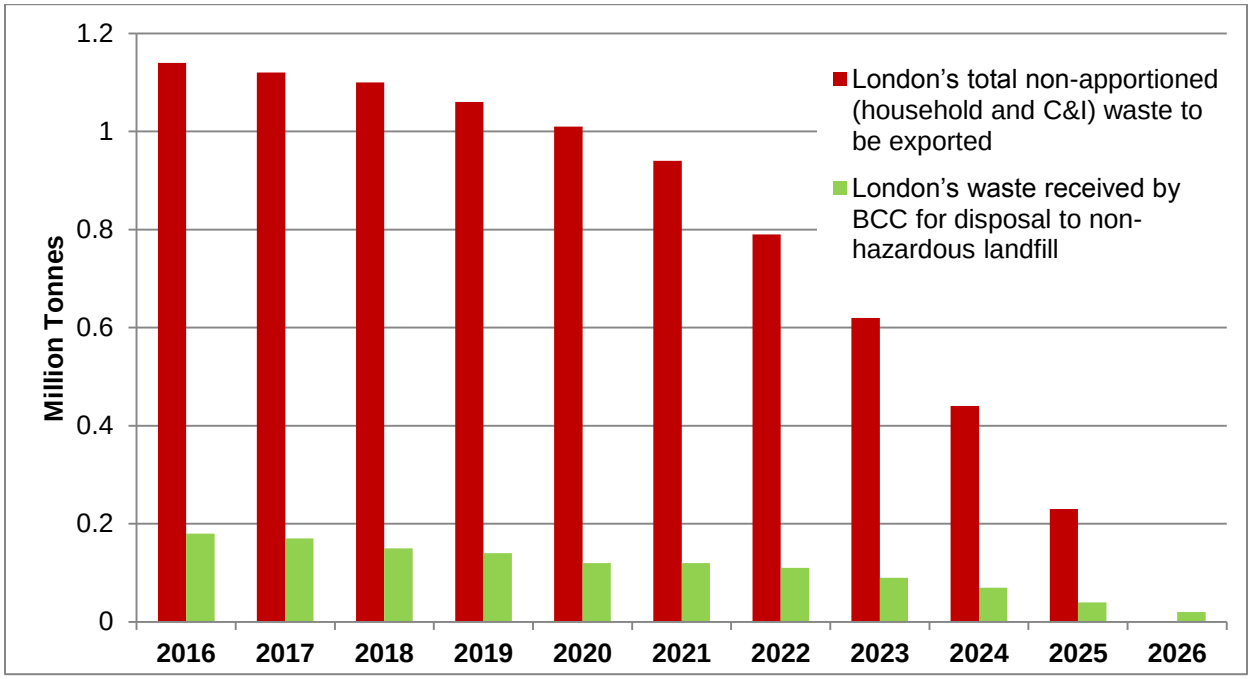


Figure 4: London's non-apportioned (household and C&I) waste for export (2016 to 2026 onwards)

5.44 Based on this data, and in lieu of more specific information regarding anticipated management methods and destination of exports from London, over the period 2016 to 2036 a total of 1.09Mt of non-hazardous landfill voidspace is needed to accommodate London's non-apportioned (household and C&I) waste for export. In addition a portion of CD&E waste exported from London is included in the waste arising and management figures for CD&E waste (as detailed in the WNA). This approach aligns with the consideration of wider needs as per national policy.

Waste Prevention and Minimisation in New Development

5.45 Preventing the generation of waste from our community and business operations is a crucial step in transitioning to a more sustainable and efficient approach to resource use and management, this is supported by national policy and reflected in the waste hierarchy. The prevention of waste should be carried out in conjunction with increasing the proportion of waste that is re-used, recycled, or composted. The MWLP can contribute positively to this through supporting the general promotion of waste prevention, and by specific proposals relating to new development.

5.46 The construction industry in particular produces a considerable amount of waste. National policy sets a requirement for the handling of waste arising from the construction and operation of development to maximise re-use and recovery opportunities, and minimise off-site disposal.

5.47 Projects that are assessed (for sustainability of buildings) through the Building

Research Establishment Environmental Assessment Method (BREEAM) require a Site Waste Management Plan (SWMP) as part of the BREEAM certification process[26]. The County Council as the WPA encourages the preparation and implementation of SWMPs.

5.48 Proposals for major development[27] should set out how waste is to be prevented and measures taken to drive waste arisings up the waste hierarchy to support resource efficiency and recovery, in particular during construction and demolition (where applicable). This should include (approximate) volumes and types of waste expected to be generated by the proposed development and the measures to be implemented to prevent and minimise waste arisings and subsequent management methods to be employed.

5.49 The Waste Resources Action Programme (WRAP) Guidance & Online Tool is a valuable resource that can assist the process through:

- Identifying opportunities to design out waste in projects,
- Comparing the performance of different projects/alternative designs,
- Recording design decisions to reduce material consumption or wastage,
- Calculating the impact, including waste to landfill and embodied carbon, and
- Providing an indicative waste forecast for a project SWMP.

5.50 Proposals for major development[28] that seeks to deliver the housing requirement or employment land will be encouraged to incorporate neighbourhood waste management facilities that support the efficient use and recovery of resources. The scale of development within these locales could potentially range from neighbourhood to sub-regional for facilities treating municipal, C&I and CD&E wastes. Depending on the proposed land use, population and role within the settlement hierarchy the provision of neighbourhood waste management facilities would generally include small scale facilities that support preparing for re-use and recycling, for example bring/recyclate collection sites (where complementary to operating kerbside collection systems), or baling/'mini-MRF' facilities (where associated with commercial or industrial uses). Processing of waste to produce Refuse Derived Fuel pellets (or similar) and waste to energy (or other recovery) facilities may also be provided where the output is able to be utilised within the development area as an alternative fuel or where heat and energy can be utilised within a neighbourhood scheme or in industrial processes. The acceptability of individual facilities is to be assessed in context with the surrounding environment and in line with relevant MWLP policies.

26 The legal requirement for projects over £300,000 in value to be subject to a Site Waste Management Plan was repealed in 2013.

27 Defined in accordance with the Town and Country Planning (Development Management procedure) (England) Order 2015

28 Defined in accordance with the Town and Country Planning (Development Management procedure) (England) Order 2015 – Part 1, Preliminary, Interpretation, Section2, Major Development (c), (d) & (e).

5.51 The County Council will work with the district authorities, the community and businesses to encourage best practice on sustainable construction and the prevention of site waste. It will advise the district councils on the appropriateness of waste prevention proposals submitted by developers in support of applications for major development[29].

Policy 10: Waste Prevention and Minimisation in New Development

Proposals for new development should support the efficient use and recovery of resources throughout the life of the development including construction and operation and/or occupation through:

- Design principles and construction methods that minimise the use of primary minerals and encourage the use of building materials made from recycled and alternative materials; and
- Construction and demolition methods that minimise waste production, maximise the re-use and recovery of materials (as far as practicable) on-site and minimise off-site disposal; and
- Design and layout that complements sustainable waste management by providing appropriate storage and segregation facilities.

Proposals for major development should identify measures to support implementation of the waste hierarchy during construction and demolition (where applicable), including quantity and type(s) of waste expected to be generated.

Proposals for major development that seeks to deliver the housing requirement or employment land will be encouraged to incorporate neighbourhood waste management facilities (where appropriate).

Waste Management Capacity

Existing Waste Management Capacity

5.52 A number of waste management facilities are currently permitted within Buckinghamshire. These facilities are expected to continue to operate throughout the plan period[30]. The existing capacity (as of 1 January 2016) comprises a variety of facilities located throughout Buckinghamshire, including:

- numerous local scale facilities for preparing for re-use and/or recycling and reprocessing materials – HRCs (10), material recycling facilities (MRF) (1), inert transfer stations (6), inert recycling facilities (4), IBA processing facility (1),

29 Defined in accordance with the Town and Country Planning (Development Management procedure) (England) Order 2015

30 With the exception of those: with temporary planning permission, or where the site has been identified as not operational or industry have indicated future closure plans. Permission end dates and status are indicated in Appendix 2 where available.

composting facilities (6), waste transfer stations (20), metal recycling and end of life vehicles (ELV) facilities (12) and waste electrical and electronic equipment (WEEE) facility (1);
- two AD facilities;
- one thermal EfW facility;
- one soil treatment facility;
- six inert recovery and/or landfill sites;
- three non-hazardous landfill sites; and
- two sites permitted to dispose of hazardous wastes (to landfill).

5.53 Details on facilities and locations are contained in Appendix 2.

Table 6: Permitted waste management capacity within Buckinghamshire as of 2016 (million tonnes)

Waste hierarchy management level	Management method	Waste stream	Permitted capacity (Mtpa)/remaining voidspace (Mt)
Preparing for re-use and recycling	HRC	Municipal	0.11 Mtpa
	Transfer	Municipal and C&I	0.92 Mtpa
	MRF	Municipal and C&I	0.08 Mtpa
	WEEE	C&I	0.004 Mtpa
	Metal recycling and ELV	C&I and CD&E	0.48 Mtpa
	Inert transfer	CD&E	0.39 Mtpa
	Inert recycling	CD&E	0.10 Mtpa
	IBA processing	Residues (EfW - Municipal and C&I)	0.075 Mtpa
	Composting	Municipal and C&I	0.09 Mtpa
Other recovery	EfW	Municipal and C&I	0.30 Mtpa
	AD	Municipal and C&I	0.10 Mtpa
	Inert recovery (also captured under inert landfill)	CD&E	0.35Mtpa 3.48Mt (remaining voidspace)
Disposal	Non-hazardous landfill	Municipal, C&I and CD&E	0.94 Mtpa 7.95 Mt (remaining voidspace)
	Inert landfill (also captured under inert recovery)	CD&E	0.35Mtpa 3.48Mt (remaining voidspace)
	Hazardous landfill	Hazardous	0.02 Mtpa

Note:

For facilities with the purpose of collection and transfer of waste 25% of their capacity assumed to contribute towards existing capacity for preparing for re-use and recycling.

Metal recycling and ELV - Capacity derived from EA Permit thresholds as such there may be significant variation in the actual capacity. This capacity will not be taken forward into calculations for total re-use and recycling capacity as it would very likely produce significant overestimate of existing capacity.

Composting - 0.088 Mtpa total of which 0.08Mtpa is not operational.

Non-hazardous disposal landfill – 0.15Mtpa has been mothballed at the Springfield Farm site which has permission up to 30 September 2029. This mothballed capacity has not been taken forward into calculations to derive future capacity requirements.

Inert recovery and/or landfill – Deposit of inert waste onto land may constitute recovery where this is in compliance with regulatory guidance. Whilst both inert recovery and landfill are identified in the table the figures have not been double counted in calculations. Over the plan period there is likely to be a reduction in inert waste used at non-hazardous landfills for engineering purposes (around 0.04Mtpa) as there is less requirement for non-hazardous landfill capacity and a shift as some inert waste captured under exempt operations (around 0.2Mtpa) is identified as inert recovery with some exempt operations reclassified as inert recovery. The effect of this is a likely increase in requirement for inert recovery and/or landfill capacity over the plan period however the extent to which these factors will increase this cannot be calculated and it is highly likely that the increased capacity requirements can be accommodated by voidspace created by mineral extraction from permitted sites, allocated sites and other mineral extraction sites coming forward over the plan period.

Waste Management Capacity Needs over the Plan Period

5.54 Being net self-sufficient means that there is enough waste management capacity in the plan area to manage Buckinghamshire's waste arisings. This does not preclude the potential for cross boundary movement of waste. Such movements are recognised to occur due to the spatial planning context and links with other areas, commercial contracts and operational arrangements. Also some wastes (such as hazardous and radioactive wastes) are of a nature that require specialised facilities that tend to have a regional to national catchment and so cannot be provided for within each WPA area.

5.55 The waste arisings forecasts (including waste management targets) have informed the identification of the total waste management capacity needs over the plan period. The total waste management needs have been split into the various management levels and methods (as per the waste hierarchy) and are provided at five year intervals, as set out in Policy 12: Waste Management Capacity Needs.

5.56 The existing capacity[31] has been subtracted from the total waste management needs in order to determine the future capacity needed (i.e. the capacity gap) to develop a sustainable waste management network over the plan period. The indicative future capacity needs, in addition to the existing capacity, over the plan period are set out in the table below.

5.57 It is estimated that, by the end of the plan period, there may be a need for an additional 0.20Mtpa of (non-inert) recycling, 0.51Mtpa of inert recycling, 0.13Mtpa of composting[32] and 0.09Mtpa of inert recovery and/or landfill) [33] capacity. This

31 Not all of the permitted capacity is operational. Where available, information on the operational status and capacity as well as future closures have been taken into account to determine the existing capacity, however this information was not available for all sites. Where not available the permitted capacity has been applied in determining the existing capacity. This information also fed into determining future capacity needs. The existing capacity fluctuates over the course of the plan period due to permission end dates, operational status and capacity of individual sites.

32 Capacity identified under "composting" may also be delivered by another biological waste management facility that is able to process waste types that are suitable for composting. Such a facility may also accept other waste types (e.g. food waste) and may include energy recovery, such as AD.

33 As previously noted (Table 6) this may increase where inert waste used at non-hazardous landfill for engineering purposes decreases and/or where exempt sites are reclassified as inert recovery operations. This additional capacity could be accommodated by voidspace created by mineral extraction (current permissions, allocations and unallocated sites).

capacity will need to be taken up by extensions to existing facilities and new facilities. The exception being inert recovery and/or landfill, for which there is a preference in favour of inert material being utilised in the restoration of mineral extraction sites.

5.58 There is also a potential need for hazardous waste recovery and treatment, however the identified capacity needs are comparatively quite low (approximately 2,000tpa for treatment and 11,000tpa for recovery by 2036).

5.59 The existing capacity for EfW recovery processes is 0.30Mtpa, the indicative waste management capacity need at the end of the plan period is 0.247Mtpa. This demonstrates that the existing EfW capacity is sufficient with respect to net self-sufficiency. However, due to commercial arrangements and waste movements there may be a requirement in the future for additional recovery capacity. The Plan allows for proposals to come forward even where the permitted capacity for a specific waste management method has reached or exceeded the indicative capacity needs required to achieve net self-sufficiency, refer paragraph 5.97. Under these circumstances proposals would be supported where it is found to be beneficial for regional resource management in line with the waste hierarchy.

5.60 The non-hazardous landfill voidspace as of 1 January 2016 is estimated at 7.95Mt, this is sufficient to accommodate Buckinghamshire's disposal needs during the plan period, with a surplus of between 0.70Mt and 2.53Mt (dependent on residue output rates from treatment processes). The estimated total voidspace needed to accommodate London's waste up to 2036 is 1.09Mt.

5.61 Waste management capacity[34] will be monitored as per the monitoring framework set out in this MWLP, reported through the Annual Monitoring Report (AMR)

34 Permitted and/or operational as available. Refer to note above.

Table 7: Indicative future capacity needs (the capacity gap) over the plan period (million tonnes per annum)

Waste hierarchy management level	Management method	Waste stream	2016	2021	2026	2031	2036
Preparing for re-use and recycling	Recycling and reprocessing materials	Municipal and C&I	0.01	0.07	0.12	0.17	0.20
	Inert recycling	CD&E	0.39	0.51	0.51	0.51	0.51
	Composting	Municipal and C&I	0.08	0.10	0.11	0.13	0.13
Other recovery	Inert recovery (also captures inert landfill)	CD&E	0	0	0	0	0.09
	Hazardous recovery	Hazardous	0.0093	0.0098	0.0103	0.0108	0.0114
	Hazardous treatment	Hazardous	0.0016	0.0017	0.0018	0.0019	0.0020

Note: Capacity identified under “composting” may also be delivered by another biological waste management facility that is able to process waste types that are suitable for composting. Such a facility may also accept other waste types (e.g. food waste) and may include energy recovery, such as AD.

0.08Mt of permitted composting capacity is not operational; if this were to become operational the capacity needs would reduce to 0Mtpa by 2016, 0.02Mtpa by 2021, 0.04Mtpa by 2026, 0.05Mtpa by 2031 and 0.05Mtpa by 2036.

Policy 11: Waste Management Capacity Needs

Net self-sufficiency will be achieved through the provision of the waste management capacity needs of Buckinghamshire, as set out in the table below. The capacity will be delivered through existing commitments, extensions to existing commitments and new facilities.

Waste hierarchy management level	Management method and waste stream	Total waste management capacity needs (million tonnes)				
		2016	2021	2026	2031	2036
Preparing for re-use and recycling	Recycling Municipal and C&I	0.356	0.411	0.465	0.516	0.541
	Composting Municipal and C&I	0.092	0.108	0.121	0.133	0.139
	Inert recycling CD&E	0.589	0.679	0.679	0.679	0.679
Other recovery	Recovery/treatment (e.g. EfW) Municipal and C&I	0.145	0.232	0.228	0.241	0.247
	Inert recovery (also captures inert landfill) CD&E	0.106	0.088	0.093	0.093	0.093
	Hazardous recovery Hazardous	0.0093	0.0098	0.0103	0.0108	0.0113
	Hazardous treatment Hazardous	0.0016	0.0017	0.0018	0.0019	0.0020

Note:
Capacity identified under "composting" may also be delivered by another biological waste management facility that is able to process waste types that are suitable for composting. Such a facility may also accept other waste types (e.g. food waste) and may include energy recovery, such as AD.
An additional 0.2Mtpa and 0.04Mtpa (approximate) of inert recovery and/or landfill capacity is accounted for by exempt sites and non-hazardous landfill for engineering purposes, respectively.

Disposal to Landfill

5.62 Consistent with the requirements of the waste hierarchy, provision for landfill will be made to accommodate the portion of Buckinghamshire's waste that cannot be recycled or from which energy cannot be recovered, and for the residues arising from treatment of waste for which there are no other management options available. The indicative capacity needs are calculated by assuming that all recycling, composting and recovery targets have been achieved.

5.63 The estimated remaining landfill voidspace as of 1 January 2016 over the plan period within Buckinghamshire was 7.95Mt of non-hazardous landfill, 3.485Mt of inert recovery and/or landfill and 0.489Mt of hazardous landfill.

5.64 If waste management targets are achieved the remaining non-hazardous landfill capacity at the end of the plan period is estimated to be between 0.70 and 2.53Mt

(dependent on residue output rates from treatment processes). Imports from London for disposal to non-hazardous landfill are estimated at 1.09Mt over the plan period. As such no allocations for non-hazardous landfill are considered necessary. However there will be a need to consider future options in the long term (i.e. towards the end of the plan period) in order to address the ongoing need for disposal and ensure that residues are managed appropriately.

5.65 Almost 90% of inert recovery and/or landfill voidspace is associated with the restoration of mineral extraction sites. It is anticipated that additional inert recovery and/or landfill capacity will result from new mineral extraction sites being permitted through the plan period to deliver a sufficient supply of minerals in line with Policy 3: Sand and Gravel Provision.

5.66 Hazardous landfill voidspace is sufficient to accommodate Buckinghamshire's future needs over the plan period.

5.67 As more waste is diverted from landfill, and recycling and recovery capacity increases, more residues (waste material output from treatment processes) will arise that will require management. Some residues may be re-used or recycled, whilst some may require disposal. Different waste treatment processes produce varying levels of residues and the amount may also vary between facilities using the same process due to waste composition and operational efficiencies. As such figures for residues should be treated with caution and used as a guide only. Residues could make up to an additional 0.16Mtpa of non-hazardous waste (by the end of the plan period). Around 40% of this is likely to be IBA, which can be processed as a secondary aggregate. The remainder may also be able to be subject to further treatment or may need to be disposed of to non-hazardous landfill. Residues from treatment processes may also produce another 7,000tpa of hazardous waste for disposal (by the end of the plan period).

5.68 Overall, estimates indicate that there will be sufficient landfill capacity[35] available up to the end of the plan period to manage Buckinghamshire's waste, as well as estimated imports from London (for disposal to non-hazardous landfill). Notwithstanding this conclusion, it is important to view the remaining capacity against the backdrop of wider patterns, which indicate that, within South East England and other neighbouring areas, the demand for landfill has decreased considerably resulting in the early closure or mothballing of sites and plans for future cells (and capacity) being dropped. The follow-on effects of this may mean that sites within Buckinghamshire, could start to accept waste from a wider catchment. Taking waste from a wider catchment will not be seen as a reason to extend the site area operations at these facilities.

5.69 The County Council, as the WPA, will monitor landfill use and remaining voidspace closely through the indicators set out in the monitoring framework, reported through the AMR.

35 Based on indicative capacity requirements over the plan period identified in the MWLP, does not include new capacity required as a result of nationally significant infrastructure projects.

5.70 Proposals for the disposal of hazardous and radioactive wastes would need to demonstrate a particular imperative to locate within Buckinghamshire. In doing so proposals should take account of the wider network of waste management facilities in order to ensure that disposal forms the most appropriate management option and that waste is managed at the nearest appropriate installation.

Policy 12: Disposal to Landfill

In line with achieving net self-sufficiency, driving waste up the hierarchy and the reduction in London's waste exports, no additional capacity for disposal to non-hazardous landfill will be provided for during the plan period. The required non-hazardous disposal capacity is able to be delivered through existing commitments for non-hazardous landfill.

In order to address the need for additional capacity of more than local significance, the following quantities of London's non-apportioned (household and C&I) waste for export received by Buckinghamshire for disposal to non-hazardous landfill will be provided for over the plan period: 0.18Mtpa 2016, 0.11Mtpa 2021 and zero by 2026.

No specific capacity will be provided for inert disposal (or recovery) during the plan period. Deposit of inert waste to land should be focused at mineral extraction sites with extant planning permission to facilitate restoration. Where the deposit of inert waste to land is proposed at sites not directly associated with the restoration of mineral extraction sites it must be demonstrated that there are no opportunities afforded by extraction.

Whilst it is recognised that the management of hazardous and radioactive wastes occurs on a wider than local scale, proposals for such development would need to demonstrate a particular imperative to locate within Buckinghamshire. In doing so proposals should take account of the wider network of waste management facilities and ensure that wastes are managed in line with the waste hierarchy and proximity principle, with waste being managed at the nearest appropriate installation. No specific capacity will be provided for hazardous and radioactive waste disposal during the plan period.

Disposal capacity requirements over the plan period are set out in the table below with London's waste, taken to be in addition to Buckinghamshire's disposal requirements, indicated in brackets.

Waste hierarchy management level	**Management method and waste stream**	**Total waste disposal capacity needs (million tonnes)**				
		2016	**2021**	**2026**	**2031**	**2036**
Disposal	Non-hazardous landfill Municipal, C&I, CD&E	0.426 (0.18)	0.278 (0.11)	0.243 (0)	0.212 (0)	0.220 (0)
	Inert landfill (also captures inert recovery) CD&E	0.106	0.088	0.093	0.093	0.093
	Hazardous landfill	0.0025	0.0026	0.0028	0.0029	0.0031

Note: Approximately 0.2Mtpa and 0.04Mtpa (approximate) of inert recovery and/or landfill capacity is accounted for by exempt sites and non-hazardous landfill for engineering purposes, respectively.

Developing a Sustainable Waste Management Network

5.71 As previously discussed, by the end of the plan period there may be a need for an additional 0.20Mtpa of (non-inert) recycling, 0.51Mtpa of inert recycling, 0.13Mtpa of composting[36] and 0.09Mtpa of inert recovery and/or landfill capacity. This capacity will need to be taken up by extensions to existing facilities and new facilities. The exception being inert recovery and/or landfill, for which there is a preference in favour of inert material being utilised in the restoration of mineral extraction sites. Some capacity for inert recycling may also be able to be accommodated on mineral extraction and processing sites and so standalone sites[37] may not be required in all instances.

5.72 Indicative facility requirements are set out in the table below in order to provide a general idea of the type and number of facilities that may be required to take up the future capacity needs. However, it is possible that some of this capacity may be taken up by extensions to existing facilities or by facilities currently not operational coming online. Sites are more commonly being developed as integrated waste management sites, accommodating more than one facility type, which reduces overall landtake. Facilities for inert recycling are often associated with temporary development such as construction sites and mineral extraction and processing sites, again acting to reduce the overall landtake. In addition the scale of facility can vary widely and so this will affect the number of facilities required and landtake.

5.73 As demonstrated above, the waste management industry is becoming more flexible. When coupled with emerging technologies, changing industry practices, commercial arrangements and operational networks this makes for a dynamic and complex environment. Hence the facilities stated in the below table are not intended to form the Plans preferred solutions. This also means that the estimated facilities and landtake should not be added up to achieve a total landtake for the MWLP.

Table 8: Indicative future facility needs

Broad management method/facility type	Estimated number of facilities and scale	Estimated landtake per facility
MRF	Up to four medium or two large	0.5 - 2ha
Composting or another biological treatment process e.g. AD	Up to five medium or two large Up to three medium or two large	2 - 3ha 0.6 - 2ha
Inert recycling	Up ten medium or five large	1 - 2ha

36 Capacity identified under “composting” may also be delivered by another biological waste management facility that is able to process waste types that are suitable for composting. Such a facility may also accept other waste types (e.g. food waste) and may include energy recovery, such as AD.

37 Development of a temporary inert recycling facility as an ancillary activity or where complementary to/co-located with minerals extraction and processing is not considered to constitute a “new standalone waste management facility” as set out in Policy 14.

5.74 There is also a potential need for hazardous waste recovery and treatment, however the identified capacity needs are comparatively quite low (approximately 2,000tpa for treatment and 11,000tpa for recovery by 2036). Given the indicative capacity needs it is unlikely that the development of a facility(ies) to manage such wastes would be economically viable to handle Buckinghamshire's waste alone. It is more likely that current private contractual arrangements, whereby waste is exported to appropriate facilities for management, will remain in place. No strategic matters have been identified that would prevent the continuation of such arrangements.

Spatial Strategy for Waste Management

5.75 The development of a sustainable waste management network requires a range of facilities aligned with the different levels of the waste hierarchy, including facilities for the preparation of wastes for re-use and recycling and other recovery as well as facilities for the disposal of residual wastes (including residues arising from the treatment of waste). Facilities should be directed to locations where investment and links to existing and planned land uses, and infrastructure networks can be optimised, in order to support sustainable economic growth and development of sustainable communities.

5.76 The Government's policy direction regarding identification of suitable sites and areas highlights the need to:

- consider waste management alongside other spatial planning matters;
- enable communities and businesses to take more responsibility for their own waste;
- plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle;
- recognise the relationship between catchment areas and economic viability;
- support opportunities for co-location of waste management facilities together and with complementary activities; and
- give priority to the re-use of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.

5.77 Buckinghamshire's land use context and environmental designations have a heavy influence on both the overall spatial strategy for developing a network of facilities and available locations that would be considered as appropriate to accommodate a waste use for allocation in the MWLP. The distribution of this network of facilities, including the scale and catchment area of individual facilities, should relate to Buckinghamshire's settlement hierarchy and areas of planned growth (as identified in the local plans prepared by the district councils).

5.78 The two main towns are High Wycombe and Aylesbury, which together account for over a quarter of Buckinghamshire's population. Located within the south of the county, High Wycombe is the largest urban area and although it will continue to experience growth this is set against the backdrop of metropolitan Green Belt and the Chilterns AONB, with only areas to the west and south not bounded by Green Belt and/or the Chilterns AONB. These key designations dominate the southern

portion of the county. Amersham, Beaconsfield, Chesham, Gerrards Cross/Chalfont St. Peter and Marlow are also main settlements however these are bounded on all sides by the Green Belt and/or AONB, constraining growth. As such the larger growth opportunities should lie beyond these key designations. Aylesbury, located in central Buckinghamshire, is the second largest urban area and forms a key growth point, being well-placed in relation to London and east-west links including Milton Keynes and not constrained by the green belt and/or Chilterns AONB. To the north of the county, Buckingham, although a smaller town, is planned to continue its expansion and is also not constrained by the green belt and/or Chilterns AONB. Together, these three main settlements form a natural focus for future growth. Growth will also occur, albeit on a more local scale, at the remaining towns as well as a small number of other settlements.

5.79 The spatial strategy for waste will seek to focus the delivery of a network of waste management facilities, particularly those for the recovery of waste, to meet capacity needs at the main urban areas, growth locations and beyond these at existing industrial estates and waste management sites, with facilities in rural areas where this does not conflict with AONB and Green Belt designations. New development will be encouraged to incorporate neighbourhood waste management facilities in line with Policy 10: Waste Prevention and Minimisation in New Development.

5.80 As such the strategy for providing sufficient opportunities to meet Buckinghamshire's future needs is to identify an overall spatial strategy that identifies areas of focus for new or enhanced waste management that seek to deliver the indicative capacity needs and reflect the key growth points in order to support the development of sustainable communities. Proposals for sites coming forward within these areas would need to demonstrate compliance with relevant MWLP policies.

The Primary and Secondary Areas of Focus

5.81 As previously discussed, the main urban areas in Buckinghamshire are High Wycombe and Aylesbury. Aylesbury is a growth location in the county and was awarded Garden Town status in January 2017. Buckingham is also identified as a growth location. These locations will form the natural (primary) focus for Buckinghamshire's sustainable waste management network given their proximity to the community and businesses. In these locations the preferred areas are existing general industrial and employment areas along with urban extensions (as defined in district local plans).

5.82 Within the primary areas of focus of High Wycombe, Aylesbury and Buckingham particular locations have been identified as being acceptable in principle to accommodate waste management facilities, refer to the table below.

5.83 Outside of the primary areas of focus (i.e. High Wycombe, Aylesbury and Buckingham) there are a number of existing general industrial estates, employment areas and existing waste management facilities that are considered suitable for waste management use, including within southern Buckinghamshire. These areas will form the secondary focus for Buckinghamshire's sustainable waste management network, refer to the table below. These areas are largely

outside of the remaining Buckinghamshire urban locations. Sites within these secondary areas outside of the urban centres may be suitable for facilities that are not appropriate to locate in or adjacent to urban areas.

5.84 The nature of constraints to development in Buckinghamshire, with respect to the Green Belt and AONB being present in the south but not in the north, means that there are more locational opportunities identified in the north of the county than there are in the south (refer table below). As the capacity need is identified for the whole of the county, it is therefore appropriate for the opportunities in the north for waste management facilities to meet the needs arising in the south in accordance with the proximity principle. However,the need for waste management facilities may present itself in the southern half of the county. In these cases the following factors may combine to produce very special circumstances, allowing development within the Green Belt: a lack of suitable alternative sites outside the Green Belt; the need to locate facilities close to sources of waste in order to serve a local, southern Buckinghamshire catchment; and the wider social and environmental benefits associated with sustainable waste management.

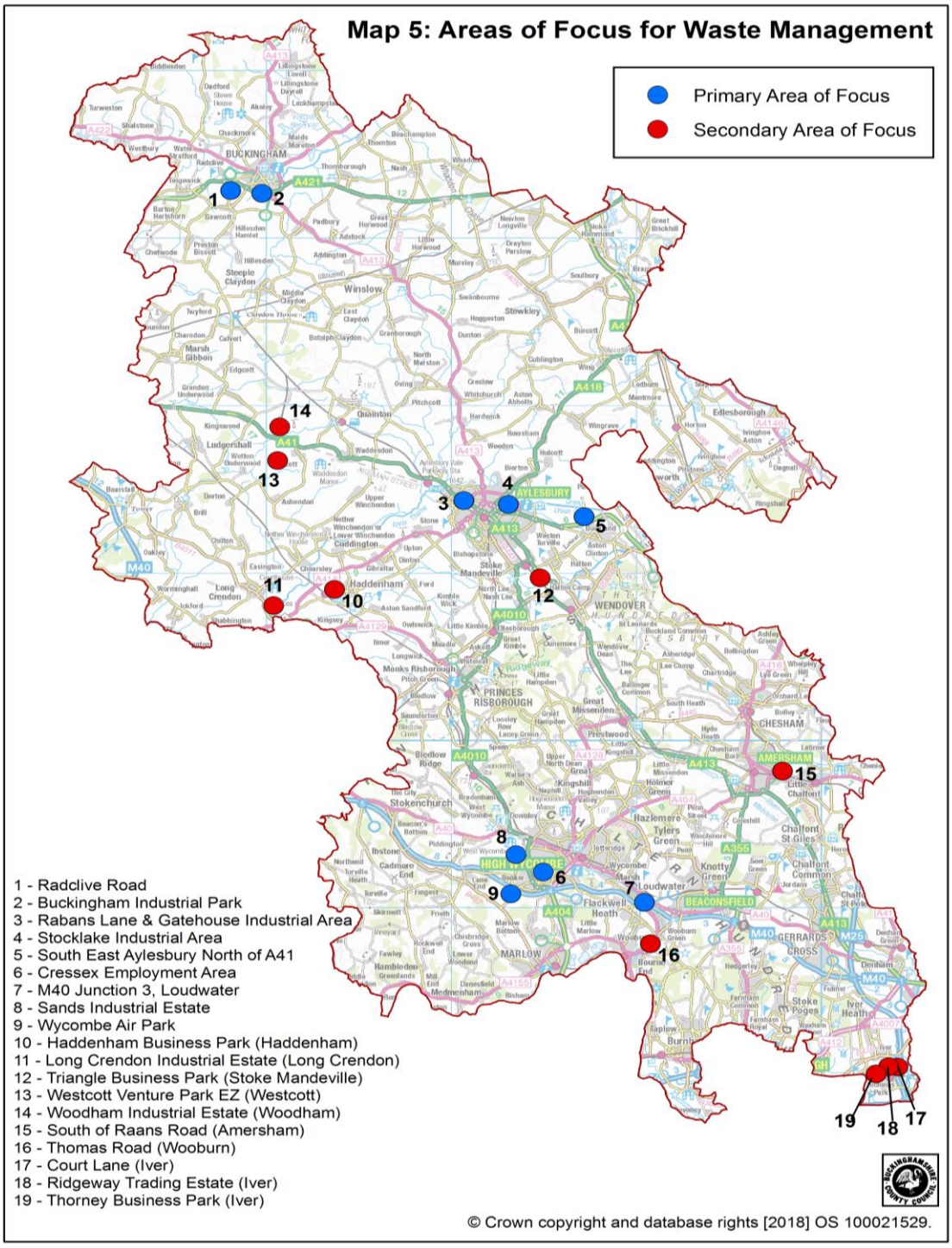
Table 9: Areas of focus for waste management

Primary Areas of Focus for Waste Management (by geographical – not priority – order)	**Secondary Areas of Focus for Waste Management**
Northern Buckinghamshire **Buckingham**, particularly at the following locations: - Radclive Road (Gawcott with Lenborough) - Buckingham Industrial Park** (includes the undeveloped area to its south east identified in the Buckingham Neighbourhood Plan)	
North Central Buckinghamshire **Aylesbury**, particularly at the following locations: - Rabans Lane & Gatehouse Industrial Areas** - Stocklake Industrial Area - South East Aylesbury North of A41** (Weston Turville/Aston Clinton)	***North Central Buckinghamshire*** - Haddenham Business Park (Haddenham) - Long Crendon Industrial Estate (Long Crendon)** - Triangle Business Park (Stoke Mandeville) - Westcott Venture Park EZ (Westcott)** - Woodham Industrial Estate (Woodham)
South Central Buckinghamshire **High Wycombe**, at the following locations: - Cressex Employment Area** - M40 Junction 3, Loudwater - Sands Industrial Estate - Wycombe Air Park	***South Central Buckinghamshire*** - South of Raans Road (Amersham) - Thomas Road (Wooburn)
	South Eastern Buckinghamshire - Court Lane (Iver)** - Ridgeway Trading Estate (Iver) - Thorney Business Park (Iver)***

** Employment area locations with one or more existing waste uses currently present

*** Subject to the emerging Chiltern and South Bucks Joint Local Plan and future development implenmation

The areas of focus are defined as the industrial estate, existing or designated in adopted district local plans, and their curtilage. This excludes any associated greenfield land beyond the existing footprint and any other buildings or structures not directly associated with the industrial estates operations and as indicated on the respective local plan policy map.



Map 5: Areas of Focus for Waste Management

5.85 Some of the locations in the above table are industrial estates or employment areas that include existing waste management facilities/uses, whilst others are existing industrial estates or employment areas where the receiving environment is considered suitable to accommodate such use and so presents an opportunity to facilitate delivery of the indicative capacity needs. Depending on scale, type and catchment of the proposed waste management facility it may be that a secondary area of focus is not the most appropriate location and that it would be better directed to a primary area of focus. Proposals for development of waste management facilities on sites other than the identified locations may also be acceptable where in compliance with relevant MWLP policies.

5.86 In addition to the identified locations within the primary and secondary areas of focus, proposals for development of waste management facilities to be co-located with existing waste management facilities that would contribute towards integrated waste management solutions will be supported where in compliance with relevant MWLP policies.

5.87 Many of the areas of focus for waste management are within existing areas, or areas designated through district council's local plans, for employment purposes. Where development of a new waste management facility is proposed within an employment area it will be necessary to ensure that the proposed use is complementary to the employment areas current economic role, status and uses and any plans for those employment areas as set out in the local plans of the relevant district council. Where an employment location is proposed for enhancement in a local plan then well-designed B2 type enclosed waste management facilities would be considered acceptable but not open air non-B2 type preliminary waste facilities.

5.88 It is recognised that the site of Thorney Business Park (Iver) is being proposed for mixed-use development (residential and employment) in the emerging Chiltern and South Bucks Joint Local Plan 2013-2034 (CSBJLP). Whilst the CSBJLP is still in the early stage of preparation, however, there is support to allocate the site of Thorney Business Park and adjacent land for mixed-use development. This proposed development is also intended to deliver essential infrastructure for Iver to improve environmental conditions. As any future development of this site is unlikely to be implemented (subject adoption of the CSBJLP and planning permission) until later in the plan period, industrial uses at Thorney Business Park, including potential waste use, would continue. The inclusion of the Thorney Business Park as a location identified within the secondary area of focus for waste management in Table 9 would remain until the redevelopment is programmed to be implemented.

Development in rural areas

5.89 Facilities that are incompatible with, or not complementary to, urban development should be encouraged to locate in appropriate rural industrial estates, existing waste management sites outside the urban areas or other appropriate rural locations in line with the policies of the MWLP.

5.90 Facilities in rural areas that are outside of current industrial developments will be supported where such facilities: have a local to sub-regional catchment; serve

local residents and allow for the collection and separation of household waste; incorporate biological treatment of waste; are associated with existing rural employment uses or farm-based enterprises, and/or involve the re-use of previously developed land, redundant agricultural and forestry buildings and their curtilages. This may include, for example, HRC's, facilities for composting or for recovery of waste such as anaerobic digestion (AD) with energy recovery.

Household Recycling Centres

5.91 Buckinghamshire's network of HRCs are recognised as playing an important role in meeting waste recovery and landfill diversion targets for municipal waste. Most of the existing HRCs are concentrated in southern Buckinghamshire. There may be a need during the plan period to develop, improve and possibly rationalise the existing network to better relate to and service areas of planned growth, particularly in the north of the county. For some existing HRCs this need may be delivered through improvements to the facility to increase operational capacity. It is the intention that facilities are to be provided to meet local population needs accounting for economic and projected housing growth. Proposals in relation to HRCs will be considered in accordance with the policies of the MWLP but with particular regard to Policy 11: Spatial Strategy for Waste Management and Policy 15: Development Principles for Waste Management Facilities.

Strategy for other types of waste development

5.92 No further non-hazardous landfills should be provided for. The deposit of inert waste to land should be focused at mineral extraction sites with extant planning permission to facilitate restoration, although it is accepted that in central Buckinghamshire there may not be opportunities afforded by extraction and therefore other sites (not associated with restoration of mineral extraction sites) could be required.

5.93 Development of facilities with a national or regional catchment area are only considered appropriate for hazardous and radioactive wastes (particularly LLW). It is acknowledged that such wastes are, in general, produced in relatively smaller quantities (within WPAs) and require specific treatment processes to reduce the volume of waste and ensure that it does not cause pollution or harm to the environment. As such facilities require a much wider catchment for operational efficiency and economic viability. These wastes can therefore be said to be of a specialised nature, with a genuine need for a wider catchment area, unlike other waste streams that can be managed via a wide range of treatment processes and area able to capture the required capacity for operations within a smaller catchment area.

5.94 Given the quantity of arisings and spatial context within which Buckinghamshire is situated, there is currently no evidence to warrant development of facilities for the management of hazardous and radioactive wastes within the county.

Policy 13: Spatial Strategy for Waste Management

The growth of Buckinghamshire's sustainable waste management network will be delivered by primarily focusing development of facilities for the preparation of wastes for reuse and recycling and other recovery on the main urban areas and growth locations of High Wycombe, Aylesbury and Buckingham within existing general industrial and employment areas along with urban extensions.

As a secondary focus, facilities for the preparation of wastes for re-use and recycling in key settlements outside of the primary areas of focus (i.e. High Wycombe, Aylesbury and Buckingham), will be supported where located within existing general industrial and employment areas, particularly where involving the re-use of previously developed land and/or the co-location of waste management facilities.

New standalone waste management facilities should be directed towards the primary and secondary areas of focus. Other sites that are not within the primary and secondary areas of focus may come forward over the plan period and should demonstrate why the proposed location is acceptable with regard to the spatial strategy for waste management and other relevant MWLP policies.

Opportunities to co-locate waste management facilities together and with complementary activities will be supported where complaint with relevant MWLP policies. This includes co-location together with existing waste management facilities that would contribute towards integrated waste management solutions as well as co-location with complementary activities at industrial estates, waste management sites, and mineral extraction and processing sites (for proposals for aggregate and/or inert recycling facilities).

New strategic development areas should incorporate neighbourhood waste management facilities that support the efficient use and recovery of resources and enable communities and businesses to take more responsibility for their own waste. Within rural areas the development of facilities for the biological treatment of waste will be supported where: (i) associated with existing rural employment uses or farm-based enterprises; and/or (ii) involving the re-use of previously developed land, redundant agricultural and forestry buildings and their curtilages.

The scale and catchment of facilities should reflect the role of the locale with respect to Buckinghamshire's settlement hierarchy.

Sufficient non-hazardous landfill capacity exists within the county and so no new capacity is considered necessary.

The deposit of inert waste to land should be focused at mineral extraction sites with extant planning permission to facilitate restoration.

Development Principles for Waste Management Facilities

5.95 The MWLP identifies indicative capacity requirements and the resulting capacity needs over the plan period (taking into account the extent to which the capacity of existing operational facilities would satisfy the identified needs). The capacity needed to achieve net self-sufficiency is to be taken up by extensions to existing facilities and new facilities.

5.96 The identification of the capacity need is complemented by the spatial strategy for waste management, which identifies broad areas where such development is considered to be acceptable in principle. However, this does not remove the need for proposals on sites located within these broad areas to be subject to a planning application and assessment against the Development Plan and other relevant policies. Other sites that are not within these areas may come forward over the plan period, and should demonstrate why the proposed location is acceptable with regard to the spatial strategy for waste management and other relevant MWLP policies. Such proposals will be subject to a planning application and assessment against the Development Plan and other relevant policies.

5.97 Where the permitted capacity for a specific waste management method has reached or exceeded the indicative capacity needs (as reported through the most recent AMR), and a proposal is brought forward that would result in surplus capacity, it will be necessary to demonstrate: how the proposal supports the development of a sustainable waste network (both locally and wider), specifically addressing how the proposal will benefit regional resource management in line with the waste hierarchy; and that the benefits for the receiving environment (including the community) outweigh potentially adverse impacts of the county acting as a net importer of waste, e.g. such as impacts on sustainable transport.

5.98 Setting out development principles and assessment criteria assists in providing clear guidance on how applications for waste development will be decided including planning considerations and requirements. The development principles also provide direction on how Buckinghamshire's sustainable waste management network should be developed.

Policy 14: Development Principles for Waste Management Facilities

Proposals for waste management facilities must demonstrate that the development:

- Is in general compliance with the spatial strategy for waste development; and
- Facilitates the delivery of Buckinghamshire's waste management capacity requirements; and
- Identifies the waste streams to be treated, catchment area for the waste to be received on-site and end fate of any outputs; and
- Is complementary to the current or planned economic role, status and uses of the employment area (where applicable); and
- Enables communities and businesses to take more responsibility for their own waste and supports the management of waste in line with the waste hierarchy and the proximity principle.

Proposals for the development of facilities for preparing for re-use, recycling, treatment and other forms of recovery must demonstrate that:

- Energy and heat generated is utilised and residues are re-used, where possible; and
- The proposed treatment process facilitates the efficient collection and recovery of waste materials further up the waste hierarchy; and
- Waste intended for recovery has undergone prior-treatment.

Where the proposal is not located within an area of focus for waste manage of focus for waste management preference will be for proposals that integrate and co-locate waste management facilities together and with complementary activities, or maximise the use of previously developed land or redundant agricultural and forestry buildings (and their curtilages).

Proposals for the development of facilities for the disposal of non-hazardous waste must demonstrate that:

- the development is required to meet disposal capacity needs within Buckinghamshire that cannot reasonably or would not otherwise be met from committed sites; and
- disposal forms the most appropriate management method; and
- only residual waste is disposed of, with waste having undergone prior-treatment.

Where it can be clearly demonstrated that additional landfill capacity for residual wastes should be provided, preference would be for an extension to an existing site, unless it can be shown that a standalone site would be more sustainable and better located to support the management of waste close to its source.

Deposit of inert waste to land should be should be focused at mineral extraction sites with extant planning permission requiring restoration, unless it can be clearly demonstrated that an alternative location would not prejudice the restoration of these sites.

Whilst it is recognised that the management of hazardous and radioactive wastes occurs on a wider than local scale, management (including disposal) of such wastes should be in line with the waste hierarchy and proximity principle, with waste being managed at the nearest appropriate installation. Proposals would need to demonstrate a particular imperative to locate within Buckinghamshire.

Sewage Treatment Works

5.99 Buckinghamshire has an established network of sewage treatment works (STWs). However, in order to support planned growth and avoid unacceptable impacts on the environment, particularly regarding pollution of land and watercourses, it is likely improvements will be required, this will be delivered through increased capacity and/or extensions to existing STWs and new sites[38].

5.100 Due to the nature of operations and associated potential adverse impacts regarding odour and bio-aerosols, it is preferable for STWs to be located away from residential development and other sensitive receptors to ensure potential environmental health impacts (e.g. odour) are minimised.

5.101 The location of new STWs is often constrained by the need to be in proximity to a watercourse that is able to receive effluent discharge. However, new STWs should be appropriately located to ensure operations do not have unacceptable adverse impacts. In addition the scale of the development reflects the combined role(s) of the location(s) currently and/or intended to be serviced with respect to the settlement hierarchy set out through the Development Plan.

5.102 No new sites for STWs or extensions to existing sites are allocated through the MWLP. Where an increase in sewage treatment capacity is required to serve existing or planned development in accordance with the adopted Development Plan, or in the interests of long-term management, such development (including extensions) will normally be permitted where in compliance with relevant MWLP policies.

5.103 Potential may exist for STWs to accommodate other waste management facilities or joint arrangements such as co-composting or AD that utilise household waste and sewage sludge. Proposals would need to demonstrate compliance with relevant MWLP policies.

38 Planning applications for such development are to be determined against Policy 16 and other relevant MWLP policies.

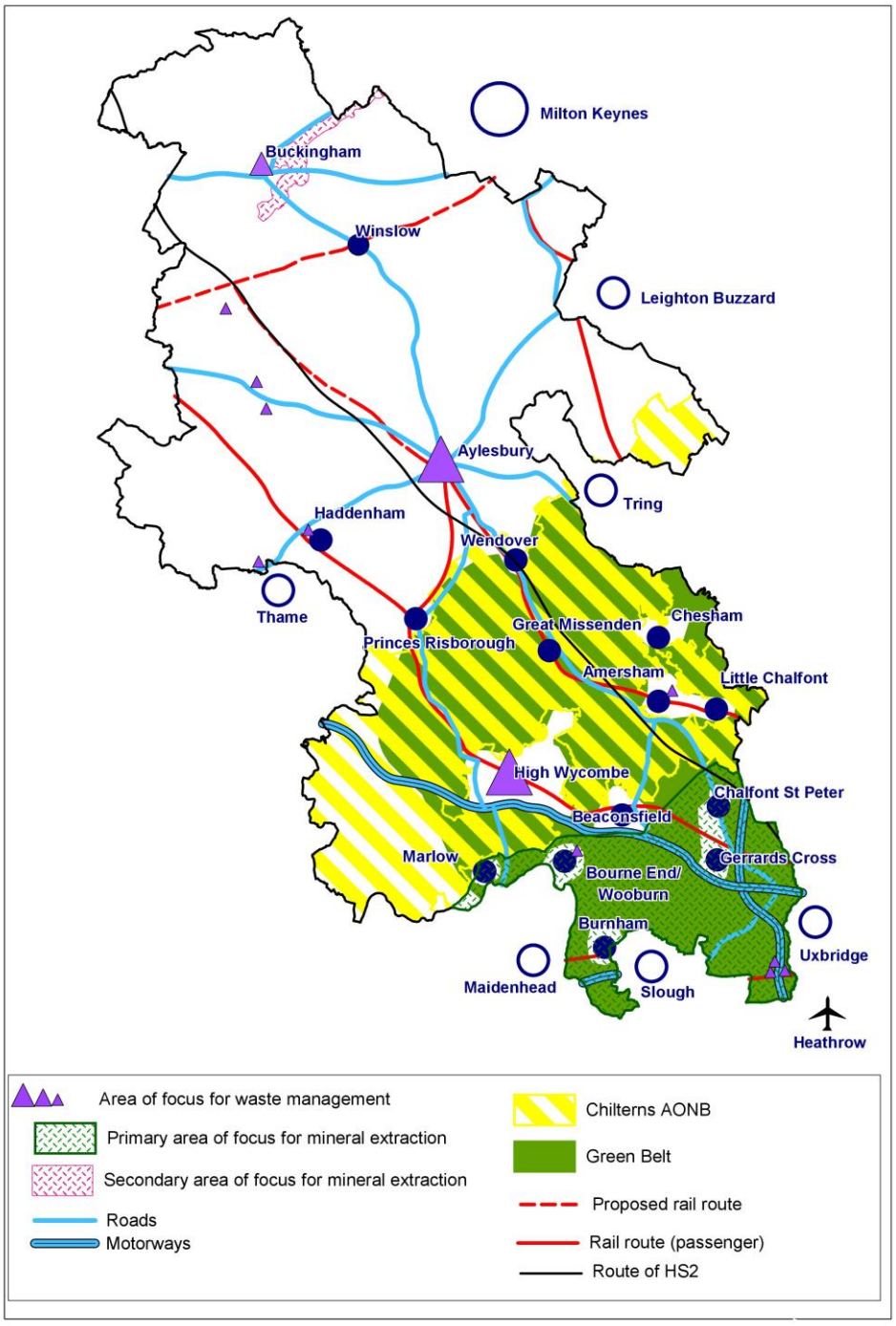
Policy 15: Sewage Treatment Works

Proposals for extensions to, or increased capacity of, existing sewage treatment works (STWs), new STWs, supporting infrastructure (including renewable energy) or for the co-location of STWs with other waste management facilities will be supported where it can be demonstrated that there is a need for increased capacity to support sustainable development, operations do not have unacceptable adverse impacts, the scale of the development reflects the role of the location with respect to the settlement hierarchy and the proposal complies with relevant MWLP policies.

6. The Key Diagram

6.1 The Key Diagram below shows how the spatial strategies for minerals and waste will guide development in Buckinghamshire to 2036.

Plan 1: Buckinghamshire Minerals and Waste Local Plan Key Diagram



7. The Control and Management of Minerals and Waste Development

The Strategic Objectives for delivering sustainable minerals and waste development by ensuring that development does not give rise to unacceptable adverse impacts and where possible enhancing the environment and quality of life are:
SO5: Buckinghamshire's Environment
SO6: Transportation of Minerals and Waste
SO7: Design and Amenity
SO8: Tackling Climate Change
SO9: High Quality Restoration and Aftercare
SO10: Safeguarding of Existing Minerals and Waste Sites

7.1 All forms of development will have some form of impact on the receiving environment. Minerals and waste development, unmitigated, can have significant adverse impacts particularly on sensitive receptors. By front-loading the identification and assessment of potentially adverse impacts and appropriate mitigation measures, impacts can be avoided and/or minimised to acceptable levels. Conversely, other land uses can impact on the long-term operation and viability of allocated or committed minerals and waste development as a result of land use conflict from encroachment of incompatible forms of development. This is particularly relevant for minerals extraction as minerals can only be worked where they are found.

7.2 One of the key roles of the MWLP is to set out a decision-making and policy framework to assist in controlling and managing the impact of minerals and waste development on other forms of land use. The development control and management policies are applicable to all proposals for minerals and waste development, with policies addressing safeguarding of minerals and waste development and preventing land use conflict applicable to proposals for all other forms of development (e.g. residential, commercial, industrial, etc.). This early identification of such matters and appropriate mitigation measures also increases the capacity to which the development can contribute towards sustainable development outcomes.

Managing Impacts on Amenity and Natural Resources

7.3 Minerals are a finite resource and so extraction is temporary in nature. However, unmitigated, minerals development can result in unacceptable adverse impacts, in particular those associated with landtake and landscape but also relating to environmental nuisance impacts such as dust and noise. Similarly, the processing of minerals and site restoration works can result in environmental nuisance impacts.

7.4 Modern waste treatment processes have come a long way and many are no longer "dirty" operations. Some impacts may be similar to those resulting from other forms of development, such as industrial land use. Other impacts are specific to waste development and can vary dependent on the type of waste processed and facility (e.g. odour, bio-aerosols, litter, vermin and birds). It should be noted

that many of the adverse impacts that waste management facilities can give rise to, are controlled by the EA through environmental permitting and pollution prevention regulations, rather than through planning.

Amenity

7.5 Minerals and waste development contribute towards our quality of life and the development of sustainable communities, but must be controlled and managed so as to avoid unacceptable impacts. New development should not result in significant adverse impacts on quality of life. Defining quality of life is difficult as it is subjective and may vary dependent on individual perception with some elements being less tangible than others. Factors affecting quality of life may be quantitative (e.g. physical and chemical environmental conditions such as air quality, noise, vibration, etc.) or qualitative (e.g. amenity, visual impact or intrusion, etc.). Adverse impacts may arise as a result of construction, operation and restoration as well as from transportation (it should be noted that potentially adverse impacts arising from the transport of minerals and waste are addressed through Policy 18: Sustainable Transport). Therefore it is important to identify potentially adverse impacts and for appropriate mitigation measures[39] to be implemented so that such impacts can be avoided and/or minimised to acceptable levels.

7.6 Proposals for minerals and waste development must demonstrate that a good standard of amenity will be secured for all existing or future occupants of land and buildings within areas that would be reasonably expected to be affected by the proposed development.

7.7 Good site management and plant maintenance is essential in avoiding adverse impacts on the environment, quality of life and amenity.

Water

7.8 A total of 1,600 kilometres (km) of watercourses exist in Buckinghamshire, including four distinct river catchments: the River Colne, River Thame, River Wye and Upper River Great Ouse. Within these catchments there are numerous tributaries, water bodies and features of note, including lakes, ponds and man-made surface waters such as reservoirs and the Grand Union Canal. Below ground, groundwater provides an important resource, supporting surface watercourses and water bodies.

7.9 Buckinghamshire's water environment supports biodiversity, amenity and recreation, transport, business and community life. The physical and chemical quality of these resources is therefore of high importance. Surface and ground water quality and flow can be affected by mineral extraction and waste management facilities, potentially impacting on dependent habitats, species,

39 Mitigation measures may include: separation distances, bunding, acoustic screening and strategic site layout (including site access and roads), air filtration systems, dust suppression, etc. Note that this is not an exhaustive list of mitigation measures, each site will need to be looked at on a site-by-site basis to determine what mitigation measures will be required.

existing abstractors and compromising chemical, physical and ecological targets under the Water Framework Directive. It is therefore important to ensure that development proposals do not result in unacceptable impacts on the intrinsic quality and quantity of water resources (including ground and surface waters) including any adverse impacts on Source Protection Zones (SPZs)[40].

7.10 Buffer zones and stand-offs are required for some waterways for environmental permitting and Land Drainage Consents. Where buffers along waterways are set out in adopted district local plans they should be given due consideration.

Flood Risk

7.11 It is important to take full account of flood risk as part of addressing both potential impacts on existing communities and the environment and climate change impacts over the longer term. National policy states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. This sequential risk based approach has been applied in identifying the allocations set out in the MWLP. However, proposals for development on allocated sites will still be required to be accompanied by a site-specific flood risk assessment, including consideration of climate change allowances. Requirements for site-specific flood risk assessments and application of the Sequential and Exception Test is set out in national policy.

7.12 National guidance identifies development within flood-risk vulnerability classifications. Sand and gravel working is identified as water-compatible development, with other forms of mineral working and processing identified as less vulnerable. Waste treatment is also identified as less vulnerable with the exception of landfill and hazardous waste facilities, which are identified as more vulnerable.

7.13 Restoration of mineral sites may present opportunities to implement flood management measures and reduce flood risk. This highlights the need to consider such impacts throughout all stages of the development.

Air

7.14 The main emissions to air resulting from minerals and waste development include dust, and vehicles or plant emissions, with waste development also including potential for odours and bio-aerosols. Dust may arise from a variety of sources including disturbance to soils (e.g. as part of extractive operations), processing of inert waste or recycled aggregates, handling and processing of wastes or transportation (movement of heavy goods vehicles, HGVs). Bio-aerosols and odours are produced from putrescible wastes and sewage. Release of pollutants to the air, for example via flue-gas stacks associated with EfW facilities, are

40 SPZs around potable abstractions are areas of high groundwater sensitivity where restrictions could be applied and permits not granted. Refer to the Environment Agency's approach to groundwater protection March 2017 Version 1.0 available on the .gov.uk website at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/620438/LIT_7660.pdf

controlled by the EA through environmental permitting and pollution prevention regulations.

7.15 Development proposals will be required to take into account the presence of Air Quality Management Areas (AQMAs) and the cumulative impacts on air quality from individual sites in local areas. Any new development in AQMAs must be consistent with the local air quality action plan.

Soils

7.16 Soil is a natural resource and forms an integral component of healthy natural environment, from which the community benefits from ecosystem services. Landtake, including extraction, and potential for contamination are issues presented by development, it is therefore important that soil resources are protected.

7.17 The economic and other benefits associated with best and most versatile (BMV) agricultural land[41] should be taken into account with necessary development located on areas of poorer quality land (in preference to that of higher quality land). As minerals can only be worked where they are found this may not always be possible.

7.18 Where mineral sites are located within BMV agricultural land appropriate measures for the handling and storage of soils should be identified in order to safeguard the long-term potential of BMV agricultural land and conserve soil resources. Restoration and aftercare of mineral extraction sites within such areas should ensure that the land is restored to a condition where it enables the land to retain its longer-term capability and is a high quality resource for the future (i.e. of equal or greater quality BMV agricultural land prior to extraction).

7.19 Where appropriate proposals for minerals and waste development should include a Soil Handling and Replacement Strategy.

41 Identified as land grades 1, 2 and 3a of the Agricultural Land Classification.

Policy 16: Managing Impacts on Amenity and Natural Resources

All proposals for minerals and waste development must demonstrate that the proposed development is environmentally feasible, secures a good standard of amenity and would not give rise to unacceptable adverse impacts on the following:

- quality and quantity of water resources (including ground and surface waters), Source Protection Zones and flood risk,
- soil resources (including best and most versatile agricultural land),
- air emissions (including dust),
- human health and wellbeing and amenity to communities,
- noise,
- vibration,
- light,
- visual impacts and/or intrusion,
- migration of contamination from the site,
- potential land use conflict, and
- cumulative impacts.

Specifically relating to mineral extraction the following potential impacts should also be addressed: tip and quarry slope stability, differential settlement of quarry backfill and mining subsidence.

Specifically relating to waste development the following potential impacts should also be addressed: land instability, odours, bio-aerosols, vermin and birds, and litter.

The nature and extent of potentially adverse impacts likely to result from the proposed development as well as appropriate mitigation measures necessary to avoid and/or minimise impacts to an acceptable level must be identified.

A site-specific management plan should be developed where appropriate, to ensure the implementation and maintenance of such measures throughout construction, operation, decommissioning, restoration works (including aftercare) as well as from transportation.

Sustainable Transport

7.20 The MWLP seeks to encourage sustainable transport measures and movements as well as the use of alternative transportation methods. The efficient use of transport networks combined with good logistics and operational practices can make a significant contribution towards the level of transport sustainability achieved. Hence there is a need to view transport sustainability in the round rather than as a direct consequence of the mode employed.

7.21 The opportunity for alternative forms of transport (i.e. not road based) for waste is determined by the proximity of rail or waterways to the development site. Where practicable the use of alternative transport methods should be considered; for example rail, water and conveyor. Calvert landfill is rail linked and past mineral

transport sites have utilised both the River Thames and the county's canal network.

7.22 It is acknowledged that the majority of minerals and waste movements in the county will continue to be made by road. However, wherever possible, sites should be well located in relation to the intended market and minimise transport movements.

7.23 The transportation of minerals and waste as well as other traffic movements to and from sites (such as the movement of empty vehicles used to transport minerals and waste to and from a site) can impact on amenity of local people along the transportation routes used. The council will seek to minimise such impacts where possible. This may include seeking routing agreements and, where practicable, other agreements and controls on site operating times, operating practices, the types of vehicles to be used, and the times and days when sites can accept vehicles and allow vehicles to leave.

7.24 Proposals for minerals and waste development must demonstrate that transport movements associated with the proposed minerals and waste development would not result in unacceptable adverse impacts on the community and the environment within areas that would be reasonably expected to be affected by the proposed development, including along transport routes. Of particular note, Burnham Beeches SAC is located within the south of the county, with the A355 running in a north-south direction to the east. In order to avoid having a significant effect on the interest features of the SAC, transport movements associated with minerals and waste development should avoid using this route. In parts of the county there are a number of employment areas, identified in Table 9 as areas of focus for waste management facilities that generate HGV movements particularly affecting particular transport hotspots. Any proposals that come forward, may be asked to specifically consider the likely HGV movements that would be generated. As part of the required Transport Assessment/Transport Plan applicants should seek to demonstrate how they can reduce HGV movements compared to the current/previous use on the site.

7.25 In line with national policy, proposals for minerals and waste development will require a Transport Assessment or Statement and a Transport Plan (where applicable). The aim of which is to identify potential issues, as well as measures to be implemented, to deliver safe access and sustainable transport objectives. Where available, published guidance on developer requirements relating to the Local Transport Plan and Freight Strategy should be utilised.

7.26 The ability to locate development with respect to its intended market or catchment area is more relevant to waste development than for minerals. This is primarily because minerals can only be worked where they are found. Catchment area categories have been identified for the purpose of the MWLP in order to encourage sustainable transport movements. The identification of catchment areas also helps the County Council to identify what areas facilities within Buckinghamshire's boundaries serve and where outputs go, enabling better planning for sustainable waste management in the future as well as identification of matters of more than local significance. The catchment area categories are

defined below:

- Neighbourhood – Covering an urban extension, a commercial or industrial estate, or one or more rural settlements in close proximity to one another.
- Local – A geographical area equivalent to a third of the area of Buckinghamshire.
- Sub-regional – A geographical area equivalent to the area of Buckinghamshire.
- Regional – A geographical area equivalent to the area of Buckinghamshire plus its adjoining county areas.
- National – A geographical area equivalent to the area of England.

Policy 17: Sustainable Transport

Proposals for minerals and waste development will require a Transport Assessment or Statement addressing the following matters, as well as a Travel Plan (where applicable):

- identification and viability of opportunities for alternatives to road-based transport,
- safe and suitable access to the site,
- traffic flows likely to be generated including type of vehicles and number of movements to and from the site per day,
- identification of the intended market base (for mineral development), or the waste facilities catchment area including the origin of waste intended to be received on-site as well as the destination of outputs on an OS base map (for waste development),
- capacity of the local and highway network to accommodate the movements generated by the proposed development,
- identification of any improvements to the transport network determined to be necessary to minimise impacts to an acceptable level,
- identification of potentially adverse impacts arising from the transport of minerals and waste on the community and environment and mitigation measures required to avoid and/or minimise potentially adverse impacts to an acceptable level (including routing agreements or other agreements and controls as necessary), and
- emission control and reduction measures to be implemented.

Natural Environment

7.27 Buckinghamshire contains many sites of nature conservation importance and interest. Burnham Beeches, Chiltern Beechwoods and a small section of Aston Rowant Woods are located within the county and are designated as SACs, which are internationally recognised for their importance to biodiversity and have been given special protection under the Habitats Directive; these sites are also SSSIs. Burnham Beeches is also designated as a NNR, the only one in the county. There are currently 65 nationally designated SSSIs in Buckinghamshire, protected under UK law for their biological or geological interest. In total 4% of Buckinghamshire's land area is protected by national or international habitat designations, including SACs (notably the Chiltern Beechwoods and Burnham Beeches), NNR and SSSIs.

In addition many individual wildlife species receive statutory protection under a range of legislative provisions.

7.28 Furthermore, there are other Natura 2000 sites that, although outside of Buckinghamshire's boundary, should be taken into account by industry and developers with respect to the Habitats Directive, these include: Aston Rowant SAC (only a small section is within Buckinghamshire), Windsor Park SAC and South and West London Waterbodies Special Protection Area (SPA).

7.29 Buckinghamshire supports a diversity of wildlife habitats and species, ranging from wood-pasture and parkland to floodplain grazing marsh and chalk rivers. In addition, chalk grasslands and beech woods are associated with the Chilterns. The county also features pockets of rare fen and heath land. The county has over 100 legally protected species records and around 200 species recognised as being a priority for conservation. Sites that have been designated at the international and/or national level benefit from legal protection.

7.30 Locally designated sites are important environmental assets that complement nationally and internationally designated biodiversity and geological sites. These lower tier designations are not afforded the same level of protection with the onus placed on planning authorities to provide protection for such sites (through planning policy), commensurate with their status and giving appropriate weight to their importance and the contribution that they make to wider ecological networks. Local designations include: LWSs, Biological Notification Sites (BNSs), LGSs, Biodiversity Action Plan (BAP) Priority Habitats and Species, Local Nature Reserves (LNRs) as well as ancient woodland and veteran trees.

7.31 LWSs and LGSs are sites of substantive nature conservation value or geological interest. There are over 400 LWSs and 26 LGSs in Buckinghamshire. In addition to LWSs, there is a category of sites that are in the process of being reviewed and assessed against the LWS criteria (i.e. BNSs) and until the programme of review has been completed, are to be treated in the same way as LWSs.

7.32 The Buckinghamshire and Milton Keynes BAP (BMK BAP) identifies the habitats and species of principal importance and the priorities for the conservation of biodiversity in Buckinghamshire. Numerous protected species and UK Biodiversity Action Plan (UK BAP) priority species[42] can be found within the county, including rare and declining species of mammals, birds, reptiles, amphibians, fish, plants, mosses, lichens and liverworts. Buckinghamshire has 20 BAP priority habitats: four grasslands, four woodlands, eight wetlands, and four other habitats. Large parts of Buckinghamshire have been identified as Biodiversity Opportunity Areas (BOAs). BOAs are broad areas (landscape scale) that have been identified as containing concentrations of BAP priority habitats or where there is the opportunity for strategic biodiversity gain. The protection and creation of priority habitat is an integral step in achieving a net gain in biodiversity within the county. Opportunities for priority species conservation, from small-scale actions (specific to a single

42 Species and Habitats of Principal Importance under Section 41 of the NERC Act 2006

species) to habitat creation or enhancement, should be sought where appropriate and potentially adverse impacts on priority species avoided and/or mitigated to acceptable levels.

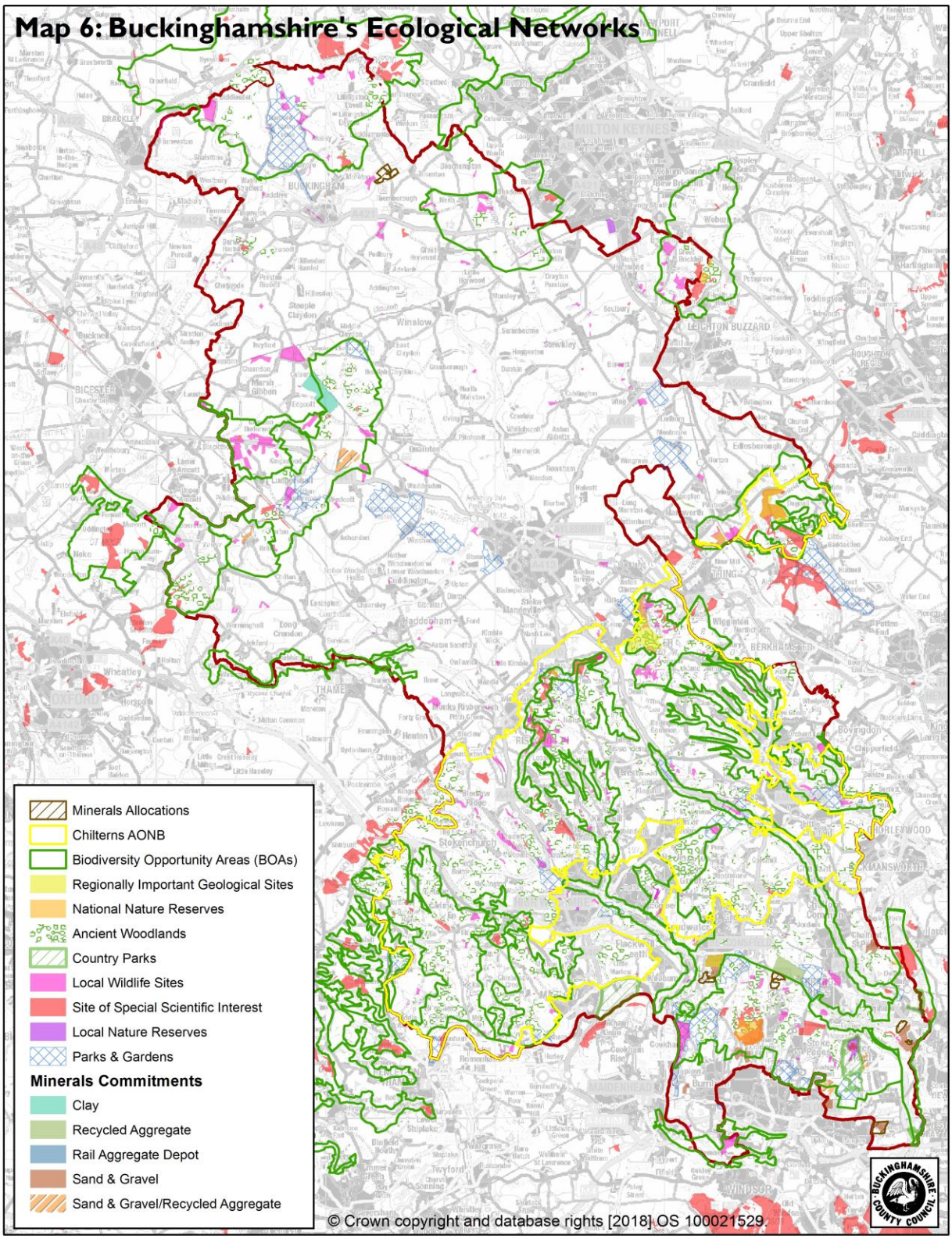
7.33 LNRs are important sites for both people and wildlife as they have features of local biodiversity or geological interest and offer opportunities for learning. There are currently 17 LNRs in Buckinghamshire.

7.34 Ancient woodlands are those that are known to have had continuous tree cover since at least 1600 AD. They are found throughout Buckinghamshire, although there are particular concentrations in the Chilterns, southern Buckinghamshire and the Bernwood area in the west of Buckinghamshire. These sites are recognised as supporting irreplaceable habitats, and along with aged and veteran trees, should be protected unless the need for, and benefits of, the proposed development clearly outweighs the loss.

7.35 In addition, it is important to recognise the role that some landscape features play in nature conservation through providing ecological links at a landscape scale, by forming a linear and continuous structure or as stepping-stones that complement designated sites and support wild flora and fauna with regards to migration, dispersal and genetic exchange. The enhancement and ongoing management of such features is supported in line with planning for biodiversity at a landscape scale. The Colne Valley Regional Park (CVRP) is of particular importance within Buckinghamshire in this respect. Such features also play an important role in relation to landscape character, green belt and green infrastructure.

7.36 Components of the local ecological networks[43] are identified on the map below.

43 Includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation.



Map 6: Buckinghamshire's ecological networks

7.37 The ecosystem services provided by our ecological networks contribute towards sustainable economic growth and our quality of life, as such it is important to recognise these wider benefits. The protection and enhancement of such assets is key to retaining these services and benefits into the future. Minerals and waste development can, unmitigated, have significant adverse impacts on the natural environment. Early assessment, careful management and future planning can avoid and/or minimise impacts to acceptable levels and deliver beneficial outcomes and net gains, for example as a result of planting and restoration schemes. Not all developments, particularly for waste management facilities, will be of a temporary nature requiring restoration. For this reason the MWLP encourages all development to incorporate biodiversity both in and around the site where possible. In order to ensure the long-term success of biodiversity improvement actions, a wider (landscape scale) view of natural environmental assets should be applied in order to support the local ecological networks and prevent ecologically important sites from becoming fragmented.

7.38 Proposals for minerals and waste development should include an assessment of the natural environmental asset(s) on site and in the wider area, in order to identify assets and their context within the wider landscape. This should include ecological networks and the relationship with geological conditions as well as measures to avoid and/or minimise potentially adverse impacts to acceptable levels (commensurate with the sites status) and enhancement opportunities. Consideration should also be given to how this can contribute towards green infrastructure, landscape character and other designations where relevant. A Biodiversity Impact Assessment calculator based on that described in the Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Offsetting guidance or a suitably amended version, should be used to demonstrate a net gain in biodiversity.

Policy 18: Natural Environment

Minerals and waste development should conserve and enhance natural assets and resources, including protected and notable species. Proposals for minerals and waste development will be supported where in compliance with the following criteria, which reflects the hierarchy of designated sites and affords a level of protection that is commensurate with the sites status:

- International or national designations, including Special Area of Conservation and Sites of Special Scientific Interest, are to be protected with no likely adverse effects on the sites notified special interest features resulting from the development. Where adverse effects are likely permission will only be granted where it can be demonstrated that the benefits of the development clearly outweigh the impacts.
- Local designations including Local Wildlife Sites, Biological Notification Sites, Local Nature Reserves and Local Geological Sites should be protected from significant adverse effects. Where adverse effects are likely permission will only be granted where it can be demonstrated that the effects can be avoided and/or minimised to an acceptable level, or as a last resort, appropriate compensatory measures provided.
- Ancient woodland along with aged and veteran trees are an irreplaceable resource that should be protected. Permission will only be granted where it can be demonstrated that the need for, and benefits of, the development clearly outweigh the loss.
- Regarding undesignated natural environmental assets, proposals should: conserve and enhance biodiversity; and prevent harm to geological conservation interests. Where significant harm is likely to result from the proposed development permission will only be granted where it can be demonstrated that the effects can be avoided and/or minimised to an acceptable level, or as a last resort, appropriate compensatory measures provided.

Development should provide net gains in biodiversity, in doing so: enhance strategic ecological networks, particularly within the Colne Valley Regional Park, and contribute towards the achievement of UK and Buckinghamshire and Milton Keynes Biodiversity Action Plan targets and the restoration and re-creation of priority habitats and the protection and recovery of priority species populations.

Proposals for minerals and waste development must include an assessment of the natural environmental asset(s), both on-site and wider, with the purpose of: identifying the nature, extent and status of the asset(s); connection with and contribution to wider ecological networks; potential adverse impacts that are likely to arise as result from the proposed development; and measures required to avoid and/or minimise potentially adverse impacts to an acceptable level, or as a last resort, identification of appropriate compensatory measures. Where compensatory measures are deemed to be appropriate it will also be necessary to demonstrate how the long-term management and maintenance of the site will be secured.

Historic Environment

7.39 Buckinghamshire has numerous national and locally designated heritage assets, including 146 scheduled monuments, 38 registered historic parks and gardens, 192 conservation areas and over 5,800 listed buildings. In addition, there are over 26,000 (undesignated) buildings, sites and finds of archaeological, architectural, or historic interest recorded on the Buckinghamshire County Historic Environment Record (HER). The Buckinghamshire Historic Landscape Character Assessment provides an understanding of the historic dimension of today's landscape.

7.40 Whilst the majority of sites are not legally protected, many will have sufficient significance to merit consideration in planning decisions. Undesignated heritage assets of archaeological interest that are of equivalent significance to scheduled monuments are to be taken to have the same level of significance and status with respect to the adopted Development Plan.

7.41 Heritage assets are an irreplaceable resource that contribute towards the county's character and deliver social, cultural, economic and environmental benefits. The Local Plan will seek to plan positively for the conservation of the historic environment and to conserve heritage assets in a manner appropriate to their significance.

7.42 Mineral extraction, by its nature, has the potential to have adverse impacts on the historic environment, particularly archaeological interests. However, it is acknowledged that both minerals and waste development have the potential to affect different types of heritage assets and their setting.

7.43 In order to ascertain the presence and significance of heritage assets (both designated and undesignated) and their setting, and the elements that contribute towards significance, proposals for minerals and waste development should include a phased assessment involving a desk-based assessment, walk over survey and field evaluations (as appropriate). The field evaluation would normally include an archaeological geophysical survey and targeted trial trenching[44] to ground truth the results. This is particularly important in the case of archaeology, where assets may not be identified until the process of assessment or evaluation has begun. The assessment should also set out measures to ensure careful management of assets as well as measures required to avoid and/or minimise potentially adverse impacts to acceptable levels (and appropriate to their significance) including the requirement for a programme of post-permission works[45] and opportunities for conservation and enhancement. Opportunities could

44 The level of trial trenching should be sufficient to accurately assess the buried archaeology of the site, its significance and extent. This is normally around 4% of the site but could be greater or lesser depending on individual site circumstances.

45 A programme of post-permission works may including any mitigation measures considered necessary to manage or enhance the asset and its setting, such as preservation in situ of archaeological remains, use of buffer zones, 'post excavation' assessment (including analysis, archiving and dissemination of information), 'preservation by design' (e.g. where dewatering is required measures to prevent waterlogged archaeological remains from drying out and being destroyed) and long-term monitoring.

include incorporating specific features into landscaping or restoration schemes in order to reinforce our connection with the historic environment and contribute to a sense of place. For proposed sand and gravel extraction sites a deposit model will normally be required so that any 'gravel islands' and palaeo-channels where Mesolithic and Palaeolithic/Neolithic activity, environmental and climate data may be expected to occur is able to be targeted during later phases of work.

Policy 19: Historic Environment

Proposals for minerals and waste development must conserve heritage assets in a manner appropriate to their significance and enhance the historic environment (where possible).

This will be achieved by identifying: the nature, extent and significance of the asset(s) and their setting; potential adverse impacts that are likely to arise, specifically identifying where substantial harm or loss of significance is likely to occur, as result of the proposed development; measures required to avoid and/or minimise potentially adverse impacts to an acceptable level; the requirement for a programme of post-permission works including any mitigation measures and long-term monitoring; and opportunities for the enhancement of the historic environment (where possible).

Landscape Character

7.44 Buckinghamshire has a rich and varied landscape, ranging from the Thames and Colne valleys in the south, the chalk hills and valleys of the Chilterns, to the open clay Vale of Aylesbury in the north.

7.45 Over a quarter of county's land area benefits from the strong protection afforded by being within the Chilterns AONB[46]. Notwithstanding that designation, national planning policy supports the landscape character approach to safeguarding and enhancing the landscape. All of Buckinghamshire, including the AONB, is covered by this approach. All minerals and waste proposals should give proper consideration to potentially adverse impacts on landscape character.

7.46 Local landscape designations remain within Wycombe and Aylesbury Vale districts. These are the Areas of Attractive Landscape (AAL), first designated at a county level in 1979, and the subsidiary Local Landscape Areas (LLA) later designated at a district level. Neither of these designations seeks to prevent development unless regard has not been given to distinctive features and characteristics related to the designation. Proposals should take account of

46 National policy identifies AONBs as having the highest status of protection in relation to landscape and scenic beauty. The protection of the AONB also applies to its setting, as consideration must be given to whether land in the AONB is affected by a proposal, not where the effect originates.

relevant Landscape Character Assessments and recognise the individual character of particular Landscape Character Areas. Sand and gravel allocation M8 (Hydelane Farm) is within the Ouse Valley East LLA.

7.47 It is important to safeguard Buckinghamshire's landscapes for the sake of their intrinsic character and beauty, the diversity of wildlife and wealth of natural resources. The Local Plan will seek to plan positively for the protection of valued landscapes[47]. Proposals for minerals and waste development should include an assessment of landscape character, potentially adverse impacts resulting from the development, any measures required to avoid and/or minimise potentially adverse impacts to an acceptable level as well as opportunities to protect and enhance particular features that create a specific aspect of local distinctiveness or character, particularly with respect to restoration schemes. The sites context and contribution to wider networks, including ecological networks, should also be considered.

7.48 The assessment should take account of the relevant Landscape Character Assessment, including those of adjoining authorities where the proposed site is near to the county boundary. This reflects that landscape character (and therefore potential impacts) does not cease at administrative boundaries but rather is contiguous.

Policy 20: Landscape Character

Proposals for minerals and waste development should protect and enhance valued landscape in a manner commensurate with their status recognising their importance and contribution to wider networks.

Proposals for minerals and waste development will require a Landscape Impact Assessment detailing the identification of: landscape character and/or features and its value (including the nature, extent and level of importance); connection with and contribution to wider networks; potential adverse impacts that are likely to arise as result from the proposed development; measures required to avoid and/or minimise potentially adverse impacts to an acceptable level; and opportunities to protect and enhance particular features that create a specific aspect of local distinctiveness or character.

Green Belt

7.49 About one third of Buckinghamshire lies within the Metropolitan Green Belt. The fundamental aim of Green Belts is to prevent urban sprawl by keeping land permanently open. National policy establishes a general presumption against inappropriate development in the Green Belt. The County Council will plan

47 Protection is commensurate with their status and giving appropriate weight to their importance and the contribution that they make to wider ecological networks.

positively to protect the Green Belt and where possible enhance its beneficial use.

7.50 Mineral extraction need not conflict with the purposes of including land in Green Belts, provided that high environmental standards are maintained and that high quality restoration takes place. Taking into account its temporary nature and the acceptance that minerals can only be worked where they are found, national policy recognises that mineral extraction does not form inappropriate development provided that it preserves the openness of, and does not conflict with the purposes of including land in, the Green Belt. All of the sand and gravel allocations in the primary focus area of the Thames and Colne Valleys are within the Green Belt.

7.51 Elements of development considered integral to extractive operations (other than those necessary for the winning of mineral) include those associated with access and restoration. The deposit of inert waste to land to facilitate restoration of mineral extraction sites may be required to preserve the openness of the Green Belt, and so need not conflict with the purposes of including land in the Green Belt. Other forms of development, including on-site processing, would need be assessed on a site-by-site basis against relevant MWLP policies and national policy.

7.52 The development of permanent waste facilities is not generally supported in the Green Belt. Where waste development is able to preserve the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt, it may be regarded as not inappropriate within the Green Belt.

7.53 Waste facilities that include new buildings are considered inappropriate development in the Green Belt. If the proposed development constitutes inappropriate development, permission will only be granted where very special circumstances can be demonstrated. In this respect, very special circumstances will only exist where the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.

7.54 Notwithstanding the above, proposals within the Green Belt must demonstrate that the development is designed in such a manner as to preserve the openness of the Green Belt by reason of its design and scale, nature and location, including appropriate mitigation measures to avoid and/or minimise potentially adverse effects. In addition, minerals and waste development either within or conspicuous from the Green Belt should not result in visual impacts or intrusion (e.g. by reason of siting, materials or design) that would detract from the openness or character of the Green Belt.

7.55 For waste development proposals within Buckinghamshire that seek to have a London-oriented catchment area, that ultimately cannot be accommodated in the Green Belt, the expectation will be that this should be directed to within the inner boundary of the Green Belt (i.e. Greater London) rather than being directed to outside the outer boundary of the Green Belt in Buckinghamshire.

Policy 21: Green Belt

The openness and characteristics of the Green Belt are to be protected, with minerals and waste development enhancing the beneficial use of the Green Belt (where possible) through: increased access; provision of recreational opportunities; retention and enhancement of landscapes, visual amenity and biodiversity; or improving damaged and derelict land.

Mineral extraction within the Green Belt will be supported provided that it preserves the openness of, and does not conflict with the purposes of including land in, the Green Belt and where compliant with relevant MWLP policies. Other than those required for the winning of mineral, elements of development considered integral to extractive operations include those associated with access and restoration. Other forms of development, including on-site processing, will be supported where compliant with relevant MWLP policies and national policy.

Development of waste management facilities in the Green Belt will be supported where it can be demonstrated that the development would not form inappropriate development and provided that it preserves the openness of, and does not conflict with the purposes of including land in, the Green Belt. Circumstances where waste development may be regarded as not inappropriate include:

- waste development with a low visual impact (such as open windrow composting),
- deposit of inert waste to land where necessary to facilitate restoration of a mineral extraction site with extant planning permission or engineering works,
- extension or alteration of an existing waste management facility provided that it does not result in disproportionate additions over and above the size of the original building, or the replacement of an existing waste management facility, provided the new building is for waste management use and not materially larger than the one it replaces,
- limited infilling or the partial or complete redevelopment of previously developed sites (brownfield land), whether redundant or in continuing use (excluding temporary buildings), which would not have a greater impact on the openness of the Green Belt and the purpose of including land within it than the existing development, or
- the re-use of buildings provided that the buildings are of permanent and substantial construction.

The following considerations may contribute to very special circumstances that would necessitate the siting of waste management facilities within the Green Belt:

- the redevelopment of a waste site (e.g. landfill) to improve and enhance Green Belt objectives, or
- whether there are any other reasonably available alternatives outside the Green Belt, including an assessment of options and consideration of the contribution towards development of a sustainable waste management network and capacity requirements.

Chilterns Area of Outstanding Natural Beauty

7.56 The Chilterns AONB[48] was designated for the natural beauty of its landscape and its natural and cultural heritage. The AONB designation is based on the chalk escarpment to the north-west of London, with the steep "scarp" face overlooking the Vale of Aylesbury to the north-west and the more gently sloping "dip-slope", dissected by steep dry valleys, progressively decreasing in height south-eastwards towards the London basin.

7.57 Over a quarter of Buckinghamshire lies within the Chilterns AONB, which extends across the centre of the county. The MWLP should be read in conjunction with the Chilterns AONB Management Plan (and other relevant guidance and advice notes)[49], which forms a material planning consideration in the decision making process. The primary purpose of the AONB is to conserve and enhance the natural beauty of its landscape; this also captures contributing elements such as wildlife and man-made features such as archaeology and built heritage. The AONB Management Plan seeks to the primary purpose of conserving and enhancing natural beauty, but alsorecognises that this must be balanced with the need to foster social and economic well-being (where consistent with conservation of natural beauty).

7.58 In respect of minerals, national policy sets a preference for the maintenance of landbanks of non-energy minerals to be provided for as far as is practical from outside of AONBs. There are no active sand and gravel workings within the AONB in Buckinghamshire and no allocations have been made (within the AONB) in the MWLP. The production of cement at Pitstone has long-ceased although a site at Pitstone is subject to an extant permission.

7.59 The most common building material in the Chilterns is brick, which were almost always made locally, the variations in quality and colour of local brick earth and clays giving a distinctive character to buildings in different parts of the AONB. Bricks are still being made in the Chilterns. The working of clay within the AONB is confined to the small-scale working of brickclay for the manufacture of high quality bricks. The AONB Management Plan seeks to minimise the environmental impacts on the Chilterns from quarrying, and includes policies relating to the continuation of the local brick making industry and the restoration of redundant quarries.

7.60 Parts of the AONB are located within the MSAs for sand and gravel and clay-with-flints resources. Guidance on identifying MSAs states mineral safeguarding is not precluded by the presence of national and international environmental designations. Although it is not anticipated that development will take place in this part of the AONB, and there is no presumption that planning permission for winning or working of mineral resources will be granted, the area is included to

48 AONBs are designated under the National Parks and Countryside Act 1949 to conserve and enhance natural beauty.

49 The Chilterns AONB Management Plan is published by the Chiltern Conservation Board and is reviewed every five years. Other relevant guidance and advice notes are published by Natural England and the Chilterns Conservation Board.

ensure that mineral resources of local and national importance are not needlessly sterilised by non-mineral development.

7.61 In respect of waste, the AONB Management Plan recognises the need to focus on sustainable waste management with a move away from the landfilling of waste, and the importance of ensuring that any waste facilities are sensitively sited and located to avoid a detrimental impact on the landscape or settlement character and to avoid disturbance to local amenity.

7.62 Small-scale waste management proposals that support the economies and social well-being of communities within the AONB,in particular, well located and designed local facilities for the preparation of waste for re-use and recycling of waste that do not conflict with the purpose of conserving and enhancing natural beauty will be acceptable in principle.

Policy 22: Chilterns Area of Outstanding Natural Beauty

Proposals for minerals and waste development should conserve and enhance the Chilterns AONB, comply with the prevailing AONB Management Plan and other relevant guidance, and demonstrate exceptional circumstances and that the development is in the public interest.

Proposals for mineral extraction within the Chilterns AONB and its setting will be permitted where it can be demonstrated that it does not conflict with the purpose(s) of the designation of the Chilterns AONB. Small-scale proposals to extract brickclay for use at the existing and former small scale brickworks of the Chiltern Hills will be permitted within the Chilterns AONB where compliant with relevant MWLP policies.

Proposals for waste development within the Chilterns AONB and its setting will be permitted where it can be demonstrated that it:

- does not result in harm to the AONB and does not conflict with the purpose(s) of the designation; and
- contributes towards provision of waste management capacity for preparing for re-use and recycling; and
- supports the economies and social well-being of local communities in the area; and
- includes opportunities, where appropriate, to enhance the character, assets and appearance of the AONB and its setting, including ensuring a high standard of design for development and integration of the site within its landscape setting; and
- is compliant with relevant MWLP policies.

Design and Climate Change

7.63 Good design is a key aspect of sustainable development and should contribute positively to making places better for people. As such, securing high quality design is an important consideration for minerals and waste developments. Design is far more than the look of buildings and the internal layout of activities within a site. It is an integrated approach that can help to achieve a wide range of different social,

economic and environmental objectives that come together in the process of achieving high quality living and working environments.

7.64 Minerals and waste development can greatly benefit from high quality design, as strategic site layout and careful design, not only of the operational aspects but of landscaping and boundary treatments, can reduce the potentially for adverse impacts affecting the surrounding area. This can help to improve the environmental quality of sites, for example, where waste development is sited on derelict or underused brownfield sites, by measures such as new landscape and tree planting schemes within or adjoining the site, which can also provide linkages with adjoining wildlife and recreation corridors.

7.65 Design can also help to ensure safety, for example through incorporating measures to reduce fire risk and considering air safety risks.

7.66 Solid waste materials are usually combustible and therefore fires at waste sites may result in substantial property damage and cause harm to people and the environment, including through the release of pollutants via air (from smoke) and water (firewater run-off). The increase in waste facilities in line with recycling and landfill diversion targets, coupled with such sites being able to be sited with complementary development (such as industrial estates) within urban areas near infrastructure, transport routes and communities, places a high level of importance on reducing fire risk. Proposals for waste development should incorporate measures to reduce fire risk and to consider the prevailing guidance on Fire Prevention Plans published by the EA and the Waste Industry Safety and Health Forum (in addition to legislative requirements).

7.67 Some waste management facilities require an emission stack (chimney) or other tall structures that may be incorporated into an external building treatment to create visual interest. The presence of tall structures (particularly where involving atmospheric emissions) or reflective surfaces under flight paths may present air safety risks. Proposals for development surrounding areas known to be of importance for migratory bird species should also consider the potential for building bird strike resulting from tall structures and reflective surfaces.

7.68 Good design of buildings and open spaces within sites can also be of great benefit to localities in terms of reflecting and potentially enhancing the character of the area. Opportunities also exist to contribute towards other objectives including tackling climate change and increasing the capacity of the development to contribute towards sustainable development.

7.69 Energy efficiency and the need to reduce levels of carbon dioxide are key components of the measures required to tackle climate change, which forms a key theme through both national planning policy and the SCS for Buckinghamshire. In moving towards a low carbon future all development should aim to reduce GHGs emissions, support energy efficiency and meet national standards particularly regarding sustainable design of buildings. In seeking to minimise energy consumption development should take account of landform, layout, building orientation, massing and landscaping. Where appropriate the BREEAM Industrial classification should be applied (for waste management facilities) in respect of the principles of sustainable design and construction, which include measures to

reduce the carbon footprint of developments.

7.70 Development should take account of climate change impacts over the longer term by ensuring long-term resilience and facilitating adaption to the likely effects of climate change, which include seasonal variations associated with intense precipitation, increased risk of flooding, changes in water supply, changes to biodiversity and landscape, excessive wind speeds and prolonged hotter and drier weather conditions. High quality design can assist in tackling these issues, particularly where suitable adaptation measures are incorporated such as planning of green infrastructure, flood risk management measures and increasing connectivity and quality of ecological networks.

7.71 Water efficiency and flood risk management are key components in managing the effects of climate change, in terms of potential water scarcity and predicted increases in precipitation, fluvial flows and sea level that can increase flood risk. Under the Flood and Water Management Act (2010) all new development is required to incorporate Sustainable Drainage Systems (SUDS). The appropriate use of SUDS and the application of the SUDS Hierarchy, encouraging the prioritisation of more sustainable systems, have potential benefits ranging from reductions in water demand (for example through water re-use) to flood alleviation, water quality and ecological enhancement. Drainage systems should always be designed in accordance with current policy and good practice. SUDS design should be progressed in consultation with the council, EA, Internal Drainage Board (if relevant) and water provider and in accordance with any forthcoming national standards.

Policy 23: Design and Climate Change

Minerals and waste development should secure high quality design and minimise adverse effects on and from climate change, in doing so demonstrate that the proposed development:

- incorporates design elements that are visually attractive, function well and add to the overall quality of the area; and
- reflects local character and the surrounding environment, helping to establish a strong sense of place, in doing so gives consideration to sensitivity in the massing, scale of buildings and structures and materials used in relation to the surrounding environment, particularly in respect of locations within or adjoining settlements or designated areas including the Chilterns Area of Outstanding Natural Beauty and Green Belt; and
- incorporates safety and security measures, in doing so reduces fire risk on waste management and disposal sites and takes account of aviation safety; and
- complies with the principles of sustainable design and construction, including minimising energy consumption and increased resource efficiency; and
- applies the Sustainable Drainage Systems (SUDS) Hierarchy in integrating suitable water efficiency, treatment and storage options; and
- minimises greenhouse gas emissions and 'climate proofs' development by incorporating measures to minimise vulnerability and ensure long-term resilience and adaptation to the likely effects of climate change, allowing sustainable, safe and uninterrupted operation; and
- utilises appropriate native species in landscape and planting schemes that are able to successfully adapt to climate change and sequester carbon.

Great weight will be given to outstanding or innovative designs which help raise the standard of design for waste management facilities, and where possible minerals development.

It is recognised that minerals development may have a reduced capacity to address some of the above criteria however they should be addressed to the fullest extent possible.

Environmental Enhancement

7.72 Within Buckinghamshire many minerals and waste sites are located in rural or urban fringe locations. There are opportunities for both minerals and waste development proposals to contribute towards the enhancement of existing or the creation of new environmental assets within the county. Through delivery, understanding and promoting the importance and role of ecosystem services within such developments, wider benefits can be gained. This can help provide better integration with the surrounding area and achieve multiple benefits such as increasing the potential for biodiversity (for example, to provide suitable habitats for animals or plant species and through improvement of land or water quality), enhancing landscape character and wider links, enhancing the historic environment, enhancing public access (such as new footpaths, bridleways and

cycleways), provision of green infrastructure and recreation opportunities (for example, new recreation facilities and facilities for informal recreation such as open access areas or water sports).

7.73 Opportunities could benefit public users, nearby local communities and even the local economy by encouraging recreation and tourism. Environmental or amenity gain can also have a dual purpose of contributing to the mitigation of potential adverse impacts from the development.

7.74 Such measures could facilitate delivery of several of Buckinghamshire's plans and strategies, including the:

- BMK BAP, in respect of opportunities for increasing wildlife habitats;
- BOAs, which are identified as key locations for conservation and creation of ecological networks through the restoration and creation of priority habitat;
- Buckinghamshire Rights of Way Improvement Plan, which encourages improvements to access;
- Buckinghamshire Green Infrastructure Strategy[50], which seeks to ensure that new development within the county is accompanied by appropriate 'green growth'; and
- SCS for Buckinghamshire, supporting the preservation and strengthening of environmental quality.

7.75 Green infrastructure is defined within the Strategy as a: "planned network of multi-functional and inter-connecting links of green space that will contribute to the high quality natural and built environment for both current and future residents, as well as visitors to Buckinghamshire". Proposals for minerals and waste development can help contribute to the demand for green infrastructure, particularly in areas where there is a recognised deficit in accessible green space provision, prevalent in Aylesbury Vale, through both the design and layout of the site and restoration.

7.76 The Buckinghamshire and Milton Keynes Natural Environment Partnership (NEP) Strategy looks to recognise the wider benefits of ecosystem services and create links with the local community and economy. It provides a useful reference with regards to achieving landscape scale approaches to conservation and crossing over to the health and wellbeing benefits of the natural environment.

7.77 The CVRP forms over 11,000ha of parks, green spaces and open water areas alongside the channels of the River Colne and the Grand Union Canal. The majority of the park area is within Buckinghamshire, running through the county's south-east. Much of the open water areas across the park, including those within Buckinghamshire, have come about through restoration of previous sand and gravel extraction. The park is a regionally important place for recreation, with large areas open to the public or accessible through a network of paths, it is also important for wildlife. The CVRP is therefore a focus for the development of green infrastructure. Sand and gravel sites M2 (New Denham Quarry North Extension),

50 Herein taken to include the Vision and Principles for the Improvement of Green Infrastructure in Buckinghamshire and Milton Keynes, published September 2016, which serves as a supplementary update to the Buckinghamshire Green Infrastructure Strategy 2009.

M3 (New Denham Quarry North West Extension), M4 (New Denham Quarry Extension) and M5 (North Park, Richings Park) are within the park boundaries. Of particular note restoration of the sand and gravel extraction site at M4 (New Denham Quarry Extension) will support the relocation of the HOAC.

7.78 Where a site is adjoining or within the setting of a Conservation Areas or heritage asset (and their setting), opportunities may exist to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

7.79 There are over 3,300km of public rights of way, including footpaths, bridleways and two National Trails within Buckinghamshire. In addition, chalk downland, heathland and common land open access areas are available in the county. These are all utilised by walkers, cyclists and horse riders and this network enables access to the countryside and historic landscapes for both local people and tourists.

7.80 Although it is recognised that individual proposals may not necessarily be able to contribute towards enhancement of all the listed assets, developers and applicants will need to demonstrate how they have considered the opportunity for enhancement of each of these as part of the design process to support their applications.

Policy 24: Environmental Enhancement

Proposals for new or extensions to existing minerals and waste development must incorporate measures, on-site and/or off-site, to enhance Buckinghamshire's environmental assets and green infrastructure networks, including (where appropriate):

- Opportunities to delivery net gains in biodiversity and to contribute to wildlife corridors consistent with Biodiversity Action Plan targets and taking into account the priorities of the nearest Biodiversity Opportunity Areas and wider ecological networks.
- The positive integration of the site with the wider landscape or townscape, taking into account the Landscape Character Assessments and areas, Historic Landscape Character Assessment and areas, Conservation Areas and appraisals, Chilterns Area of Outstanding Natural Beauty, Colne Valley Regional Park and other relevant designations.
- Consistency with the Buckinghamshire Green Infrastructure Strategy, in particular the objective of creating green spaces and links that have multi-functional benefits.
- Retention of existing public or permissive footpaths, cycleways or bridleways on the site, or where this is not possible, their diversion or replacement to an equal or greater standard in terms of recreational, social and economic value to site users and local communities, including linking with wider transport and strategic rights of way networks. In addition, consideration should be given to the opportunity for providing new routes, taking into account the potential value to site users and to local communities. Proposals will be required to be consistent with the Buckinghamshire Rights of Way Improvement Plan.

Where such measures cannot be incorporated into development involving mineral extraction during the operational phases, and no viable opportunities exist for off-site enhancement measures, restoration of the site should deliver such enhancement measures as appropriate.

Delivering High Quality Restoration and Aftercare

7.81 Minerals are a finite resource and as such extractive operations are a temporary land use. Similarly some waste development, primarily landfill, is also temporary in nature. Applications for temporary development must include a restoration scheme to ensure that adequate consideration is given to the ongoing use of the land and retaining its value and function. However, it should be noted that restoration practices have moved on from simply returning the land to its previous use, to providing a variety of complementary beneficial after-uses.

7.82 Minerals and waste developments have the potential to make a significant contribution to achieving a net gain in biodiversity and enhancing Buckinghamshire's character.

7.83 After-uses are primarily focused on delivering outcomes aimed at agriculture, geodiversity, biodiversity, native woodland, the historic environment and

recreation. Mixed-use restoration schemes deliver higher value outcomes and can make a greater contribution towards sustainable development. By incorporating secondary after-uses further benefits can be achieved, increasing the Plans capacity to contribute towards sustainable development. This may include landscape enhancement, water catchment conservation, flood management measures, green infrastructure, climate change mitigation and adaption, environmental education and economic development. In particular economic development may provide opportunities for renewable energy generation such as solar parks and biomass cultivation/energy crops.

7.84 Where mineral sites are located within BMV agricultural land the site should be managed and restored to enable the land to retain its longer-term capability and remain as a high quality resource for the future (i.e. of equal or greater quality BMV agricultural land prior to extraction). In such instances the opportunity to increase the biodiversity value of the land can be incorporated through smaller, but nevertheless important, measures such as field margins, hedgerows and beetle banks.

7.85 Restoration schemes should seek to support the enhancement of ecological networks, national and locally rare and threatened species and BAP priority habitats and species where suitable conditions exist. Within river valleys the creation of wetland habitat is encouraged where appropriate. Restoration to predominantly open-water is not considered appropriate. Sites located within close proximity to designated sites and irreplaceable habitat (including ancient woodland) should seek to increase their resilience.

7.86 Landscape character, heritage assets and geodiversity interests are usually directly linked with, and restricted to, their location. Where suitable conditions occur the opportunity for enhancement of such features and/or assets should be incorporated into the restoration scheme. Re-profiling of land to lower levels will be acceptable where the integrity of the local landscape character is retained. Regarding sites within the Great Ouse Valley, there may be opportunities to promote benefical outcomes with respect to the Buckingham Canal restoration, where appropriate restoration should support such outcomes.

7.87 Measures to facilitate climate change mitigation and adaptation can also be incorporated into restoration schemes, for example flood risk management measures (such as the development of flood storage), improvements to flood flow routes and measures to reduce flood risk. Pre-extraction run-off rates should not be increased through restoration schemes and where possible run-off levels should be reduced.

7.88 It is important that the restoration and aftercare of sites is driven by careful consideration of the land-use context (local and wider), environmental character and ecological networks and takes account of landowner interests as well as the requirements of the local community. There are often competing interests for restoration schemes as sites can present many opportunities for enhancement and beneficial after-uses; the scheme should seek to balance these interests. However, where specific and favorable conditions occur and when the site is adjacent to identified habitat or designated asset(s) precedence should be given to

the enhancement of the significance of the asset and the features and/or qualities for which it was designated. This also applies where the site is within the Chilterns AONB (and its setting), CVRP or the Green Belt.

7.89 Care should be taken where restoration schemes involve water bodies or a wetland habitat that may attract large numbers of birds. This is because such features may present a hazard to aircraft where located within a statutory bird-strike safeguarding zone or, in the case of other aerodromes, where operators have produced a non-official safeguarding map. A listing of relevant aerodromes is set out in Appendix 5.

7.90 Restoration schemes must identify the intended after-use(s) and clear stages of restoration including layout and design plans as necessary. Schemes must be progressive to ensure that land is restored to an acceptable and stable landform as soon as practicable. The scheme must identify an end date by which restoration works are to be completed as well as a programme setting out arrangements for high quality aftercare (including provisions for ongoing management and maintenance) and monitoring. It may be necessary for aftercare and monitoring arrangements to extend over a longer-term (i.e. beyond the statutory five year period) to ensure that the desired environmental outcomes are achieved. There may also be a requirement for site-specific assessments (such as landscape character, environmental capacity, ecological networks, flood risk, etc.) to accompanying the restoration scheme. The restoration scheme must be submitted to the MWPA and approved prior to commencement of development.

7.91 In line with national policy, bonds or other financial guarantees to underpin planning conditions (in order to secure restoration of sites) should only be sought in exceptional circumstances. Operators within the mineral industry are members of either the Mineral Products Association or the British Aggregates Association; both of which have a restoration guarantee fund which acts as an industry bond. This means that operations carried out are covered by this mechanism in the circumstance where (for example) the operator becomes financialy insolvent to ensure that sites are restored.

Policy 25: Delivering High Quality Restoration and Aftercare

Minerals and waste development of a temporary nature must include a restoration scheme that will result in the site being progressively restored to an acceptable condition and stable landform as soon as is practicable and provide for high quality aftercare arrangements including ongoing management and monitoring where necessary.

The after-use of a site will be determined in relation to the land-use context and surrounding environmental character (including wider ecological networks) and should take account of landowner interests and the requirements of the local community. Schemes should include objectives that will contribute towards: biodiversity gains, enhancement of the local environment and amenity, climate change mitigation and adaptation, benefits for the local community and economy (as appropriate).

Where relevant the restoration of the site must meet the following requirements:

- Sites that are to be restored to the previous land-use must include a secondary after-use that includes environmental enhancement. Where a site is located within best and most versatile agricultural land, the land should be restored to a condition where the long-term potential of the land is safeguarded and soil resources are conserved, however this does not preclude the requirement for incorporating a secondary after-use.
- Where specific and favorable conditions occur and when adjacent to identified habitat or designated asset(s), precedence must be given to environmental enhancement objectives, the creation of Biodiversity Action Plan habitat, ecological networks, promotion of geodiversity and enhancement of the historic environment.
- Sites located within river corridors should address flood risk management and support River Basin Management Plan actions.
- Sites located within or adjacent to the Chilterns Area of Outstanding Natural Beauty, Colne Valley Regional Park or the Green Belt should seek to enhance the characteristics and qualities for which the area was designated giving consideration to the provision of green infrastructure and opportunities for access and recreation.
- Sites located within the Great Ouse Valley should support the Buckingham Canal restoration.

The restoration of sites for economic development purposes will be supported where fully in accordance with relevant planning policy and a secondary after-use is included that incorporates an ecologically beneficial after-use within the restored function.

Safeguarding of Minerals Development and Waste Management Infrastructure

7.92 Minerals can only be worked where they are found, and although mineral resources are safeguarded through the designation of MSAs these areas do not include sites for mineral extraction with extant permission and associated infrastructure. In order to ensure that there is a sufficient supply of mineral the Plan will safeguard sites for mineral extraction with extant permission, other forms of minerals development and associated infrastructure[51] unless justification can be provided to demonstrate that the site is not required or alternate provision can be made.

7.93 The retention of existing waste management capacity (at sites with extant planning permission) is a key part of the Plans delivery of net self-sufficiency and development of a sustainable waste management network. Some sites may have the potential to increase their capacity, or provide additional waste services and facilities. The loss of well-located waste sites diminishes the potential of the county to meet its own needs, and may also mean that new greenfield sites may need to be found to replace those lost, which can have a detrimental effect on natural resources, environmental assets and the quality of life of communities. The reality is that once waste sites have been lost it is often difficult to replace them. Permanent sites with extant planning permission and those with a long-term temporary planning permission should be safeguarded from development for non-waste uses unless justification can be provided as to why the site is no longer required or alternative provision can be made. It should be noted that safeguarding measures set out in Policy 27 do not apply to the areas of focus for waste managment identified in Table 9, however where an individual site within one of these areas has extant planning permission the provisions set out though the policy are applicable to this site.

7.94 In addition to the need to safeguard existing waste management sites, there will be the need to safeguard sites associated with the storage, processing, handling and transportation of such materials.

51 Other forms of minerals development and associated infrastructure includes: existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials; and existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, secondary and recycled aggregate material.

Policy 26: Safeguarding of Minerals Development and Waste Management Infrastructure

The following sites are safeguarded for minerals and waste development:

- mineral extraction sites with extant permission; and
- site specific allocations for mineral extraction; and
- other forms of minerals development and associated infrastructure; and
- waste management sites with extant permission and associated infrastructure.

Proposals for other forms of development within a site safeguarded for minerals or waste development will be permitted where it can be demonstrated that:

- (for mineral extraction) the site is no longer required to support the delivery of the adopted provision rate and/or to maintain landbanks (with reference to the prevailing Local Aggregates Assessment); or
- an alternative site could be provided that would be as appropriate for the use as the safeguarded location without significant interruption to operations and (for waste management) can service the existing catchment area; or
- there is no longer a need for the facility in either the vicinity or the wider area as appropriate.

Preventing Land Use Conflict

7.95 Proposals for other forms of development that would be incompatible with the existing or allocated minerals and/or waste development must take account of the existing or allocated development and any potential impacts resulting from the interaction of the different land uses. Land use conflict may arise where incompatible development encroaches on minerals and waste development, potentially adversely affecting the continued operation of the facility or prejudicing use of the site as well as resulting in adverse impacts (e.g. odour, dust, noise, etc.) on the proposed development and future occupants.

7.96 In order to prevent land use conflict consultation zones have been identified for minerals and waste development, being 300 metres (m) for minerals and waste development (permitted and allocated sites) and 400m for sewage treatment works. The purpose of the consultation zones is to trigger the identification of potential land use conflict and potential adverse impacts to ensure that such matters are given due consideration early in the decision making process. Proposals for incompatible development within the consultation zones should consider local circumstance and determine the potential for adverse impacts and identify mitigation measures to avoid and/or minimise impacts on both the proposed development and existing and/or allocated waste or mineral development to acceptable levels. Mitigation and/or avoidance are to be implemented prior to occupation. It is the developer's responsibility to determine site-specific potential impacts, as well as identification and implementation of mitigation measures where necessary.

7.97 Specific to sewage treatment works the risks associated with the proposals will be

assessed to inform decisions. There is a presumption against allowing development of a sensitive nature that would pose medium to high risks of loss of amenity to future occupants or restrict the statutory undertakers' ability to operate in accordance with national legislation (including the Water Industry Act 1991) or any subsequent requirements.

7.98 Development must not be constrain the effective operation of existing or allocated sites for mineral or waste development. The County Council is to be consulted on for proposals for major development[52] within the consultation zones.

Policy 27: Minimising Land Use Conflict

Proposals for new development within 300 metres of minerals and waste development (permitted or allocated) and 400 metres of sewage treatment works must demonstrate that it would not adversely affect the continued operation of, or prevent or prejudice the use of, the permitted or allocated land use. Proposals should include a site-specific assessment that identifies the following:

- The compatibility and nature of both the proposed development and the minerals and/or waste development, with regard to the duration of the development(s) and construction and/or operational phasing.
- Any potentially adverse impacts that may result, either now or in the future, from ongoing occupation and usage (of the proposed development). Where relating to sewage treatment works and involving buildings that would normally be occupied, the proposal should be accompanied by an odour assessment report and must consider existing odour emissions of the waste water treatment works at different times of the year and in a range of different weather conditions.

Appropriate mitigation measures considered necessary to avoid and/or minimise potentially adverse effects to an acceptable level and a schedule for their implementation.

52 Defined in accordance with the Town and Country Planning (Development Management procedure) (England) Order 2015

8. Implementation and Monitoring of the Local Plan

Implementation

8.1 In line with the NPPF and the positive provision for development set out in this Local Plan, the County Council, as the MWPA, will seek to always work proactively with applicants to find solutions which mean that proposals can be approved wherever possible (in line with the Local Plan and its policies) and to secure development that improves the economic, social and environmental conditions in the area. The ability to successfully manage the implementation of development will help in the planning authority being able to grant permission with the necessary confidence.

Planning Conditions and Obligations

8.2 Unmitigated, minerals and waste developments have the potential to affect not only the immediate surrounds but also the wider area, including along transport routes. The resulting adverse impacts are dependent on the nature of the development and the receiving environment. These impacts need to be addressed and, where ongoing, managed. The use of planning conditions (attached to the grant of planning permission) and obligations (legal agreements relating to the planning approval) may be able to control and manage such impacts, making developments acceptable and allowing the development to go ahead where it would otherwise be refused. The preference of the MWPA is always to try to address matters by condition first and only go down the route of applying planning obligations where conditions alone would not prove adequate in addressing unacceptable impacts.

8.3 Areas where conditions and obligations would be utilised in relation to the granting of planning permission would be:

- improving and maintaining access (including public rights of way) and highways;
- traffic routing agreements;
- catchment areas for waste development;
- protection and re-creation of environmental features and natural resources (including landscaping, habitat and species);
- restoration and aftercare;
- protection of local amenity; and
- long-term management and monitoring of the development (including maintenance of water levels in relation to mineral extraction).

8.4 Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition and should be directly related to the development. Planning obligations can be used to mitigate the effects of development, and to also bring tangible and more subtle benefits to the local community, including :

- the provision of waste awareness and publicity campaigns for the local community and/or the introduction of local waste minimisation projects; and
- enhancement of local community facilities.

Site Monitoring

8.5 Monitoring is an important part of the planning process to ensure that development is undertaken in accordance with the conditions attached to a planning permission. Effective monitoring can also identify and avert potential problems before they arise and help minimise the need for enforcement action. It ensures the promotion of best practice within the industry, and helps to foster a good working relationship between the planning authority, industry and local communities.

8.6 The County Council, as the MWPA, is firmly committed to the effective and proportionate enforcement of planning control. The Local Monitoring and Enforcement Plan sets out the council's strategy for pursuing planning compliance in Buckinghamshire and the approach that the council will take in investigating and remedying breaches of planning control.

8.7 Baseline monitoring and data are usually required as part of the information submitted with an application for planning permission and in some cases this will form part of an Environmental Impact Assessment.

8.8 In order to properly monitor sites and maintain an accurate and up-to-date database on which to judge how policies are performing, the planning authority will seek to obtain relevant information from operators post-approval. This will be held on a confidential basis. If information is required under other means, e.g. Aggregate Working Party (AWP) data, then this will not need to be re-produced. The monitoring information will be used by the planning authority, and ideally should also be used by the operators themselves, to monitor performance and identify trends.

Local Liaison Groups

8.9 In some cases it may be appropriate to establish a Local Liaison Group for the purpose of enabling representatives of the local community, whom are affected by a minerals or waste development, to have direct regular contact with the operator and council officers. The need for Local Liaison Groups should be given consideration for mineral extraction sites (particularly for significant minerals development) and certain types of waste management facilities (as appropriate, dependent on nature of the development and potential impacts).

Prohibition Orders

8.10 MPAs are permitted to make orders prohibiting the resumption of minerals development in, on or under land where no such development has been carried out to any substantial extent for a period of at least two years and where, on the evidence available to the authority at the time when they make the order, it appears that development is unlikely to resume to any substantial extent.

8.11 The intention of prohibition orders is to establish without doubt that minerals development has ceased, to ensure that development cannot resume without a fresh grant of planning permission, and to secure the restoration of the land. A prohibition order can encompass any number of permissions for mineral development that apply to the land or site to which it relates, including plant and machinery.

8.12 There are a number of sites in the county with valid planning permissions, where the winning and working of minerals has not taken place for a considerable period of time. Consideration will be given, on a site-by-site basis, to the benefits of serving Prohibition Orders for individual sites. Most of the dormant sites identified by the Review of Minerals Permissions (ROMPs) process fall into this type of site.

Policy 28: Implementation

The implementation of minerals and waste development will be controlled and managed through the use, where appropriate, of the following measures:

- planning conditions (including aftercare conditions),
- planning obligations and/or legal agreements to ensure that requirements are met,
- requirements by the owner and/or operator to monitor minerals extracted and waste managed, including information on catchments, and to provide summaries of this information to the Minerals and Waste Planning Authority,
- monitoring and enforcement of permitted operations by the planning authority to ensure compliance with planning conditions,
- establishment of a Local Liaison Group (where appropriate), and
- service of prohibition orders at minerals sites (where appropriate).

Delivery of the Local Plan

8.13 The Local Plan will ultimately be implemented through the grant of planning permission for individual proposals that are then realised on the ground. Planning permission will be forthcoming in accordance with the national planning policy, the policies of the Local Plan and any relevant policies in the Development Plan for Buckinghamshire.

8.14 However, activities that can affect the delivery of the Local Plan may rely on the operation of other policies, work of other agencies, behaviour of the general public and actions of industry. Such projects, place making activities, investment decisions and behaviour include the:

- SCS for Buckinghamshire;
- Buckinghamshire JWS;
- programmes and projects of the statutory agencies;
- procurement decisions of companies and organisations (including the County Council and its partners in relation to waste management procurement);
- actions and decisions of infrastructure providers; and
- actions of the general public.

8.15 Production and implementation of these strategies, and the actions of these bodies or individuals, may impact upon planning for minerals and waste development within the plan area. The MWPA will take such matters into account as necessary, including through the process of monitoring and review.

8.16 The County Council, as the MWPA, will therefore seek to meet the Local Plan objectives through its own actions such as:

- Waste management activities - for example, encouraging behavioural change, through the preparation of the Buckinghamshire JWS and procurement of waste management services (contracts).
- Corporate behaviour - for example, through the procurement of materials and goods, which in their production have sought to minimise waste, made efficient use of materials that are used, encouraged the use of recycled materials and used local materials.
- Its development and construction activities - for example, in the construction and operation of County Council owned new schools and community facilities.
- Implementation of other plans and strategies - for example, the Local Transport Plan.

Monitoring of the Local Plan

8.17 The purpose of monitoring is twofold, as monitoring needs to consider both beneficial and adverse effects. Firstly, to measure the actual significant effects of implementing the Local Plan policies and measure contribution towards achievement of desired objectives. Secondly, it assists in identification of unforeseen adverse effects and the need to undertake appropriate remedial action. Monitoring should aim to answer questions such as:

- Are the policies contributing towards the Plans vision and objectives, as well as the SA objectives and sustainable development as predicted?
- Are mitigation measures performing as well as expected?
- Are there any adverse effects? Are these within acceptable limits, or is remedial action desirable?

8.18 The approach taken to monitoring should be objective and target led. It is not necessary to monitor everything, or monitor an effect indefinitely; instead monitoring should be focused on significant effects. Monitoring should involve measuring performance against indicators that may establish a causal link between implementation of the Plan and the likely significant effects being monitored.

8.19 In addition it may be beneficial for monitoring requirements to build on existing monitoring systems (such as the SA monitoring framework) in order to reinforce links and ensure efficiency within planning processes. Gaps in existing information will be identified so that consideration might be given to how these could be addressed in the longer term.

8.20 There is a specific requirement for the implementation of the Local Plan and its individual components to be monitored. The most appropriate vehicle for this is the AMR, which is produced by the MWPA annually. Monitoring is undertaken on an annual basis (unless otherwise specified) in line with the AMR. The AMR will also include a summary of the annual LAA and an update on Duty to Co-operate matters undertaken over the previous year by the County Council as MWPA.

8.21 The plan period for the Local Plan is by calendar year of January to December rather than by April to March. This is largely because monitoring of minerals production by the AWP is on this basis.

8.22 How the Plan will be monitored in relation to its policies is set out through the monitoring framework, detailed in the following table. Where possible, the County Council will also seek to monitor other elements relating to the Local Plan and its implementation including production and cross-border movements, recognising that at present the availability of this information is limited.

Review or Partial Review of the Local Plan

8.23 Policies in local plans should be reviewed to assess whether they need updating at least once every five years, and should then be updated as necessary. The need for a review or partial review of the MWLP will be informed by changing circumstances affecting the area, any relevant changes in national policy and how the plan is performing against the indicators in the Monitoring Framework in Table 10 including the delivery of waste management facilities to meet the identified capacity gap and their spatial distribution. During the early part of the plan period it is anticipated that more detail in respect of Heathrow expansion and development proposals related to the Oxford- Milton Keynes-Cambridge corridor will be forthcoming and the scale of these could in themselves lead to a review or partial review of the MWLP."

Table 10: Buckinghamshire Minerals and Waste Local Plan Monitoring Framework

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
Policy 1: Safeguarding Mineral Resources *Contributes towards SO2, SO10*	Approved proposals do not needlessly sterilise minerals resources identified within a MSA Approved proposals comply with criteria	No sterilisation of safeguarded minerals resource 100% of approvals comply with criteria No appeals lost on proposals not compliant with criteria	• Minerals Industry • Development (Construction) Industry • Minerals Planning Authority (MPA) • Local Planning Authority (LPA)	More than two proposals are approved (within the plan period) that do not comply with criteria and result in needless sterilisation of safeguarded mineral resources
Policy 2: Spatial Strategy for Minerals Development *Contributes towards SO1, SO3*	Approved proposals are consistent with Spatial Strategy	100% of approvals are consistent with Spatial Strategy	• MPA • Minerals Industry	More than two proposals are approved (within the plan period) that are not consistent with the Spatial Strategy
Policy 3: Sand and Gravel Provision *Contributes towards SO1, SO3*	Aggregate production in line with (adopted) annual provision rate Sand and gravel landbank	Sand and gravel production of 0.81Mtpa for the Thames and Colne Valleys and 0.12Mtpa for the Great Ouse Valley Maintain seven year landbank for sand and gravel Remaining landbank at the end of each	• Minerals Industry • MPA • Aggregate Working Party (AWP)	Trend identified through the LAA indicates that the average aggregate sales over a ten year period is consistently (over a three year period) different (+/- 20%) to the adopted provision rate Landbank falls below target for

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
		year		more than two years
Policy 4: Allocated Sites for Sand and Gravel Provision *Contributes towards SO1, SO3*	Sand and gravel production from identified sites is in line with (adopted) annual provision	Allocated sites come forward to ensure sand and gravel production of 0.81Mtpa for the Thames and Colne Valleys and 0.12Mtpa for the Great Ouse Valley	• Minerals Industry • MPA • Highways England	Allocated sites are not coming forward, with unallocated sites being granted permission to ensure provision More unallocated sites are granted planning permission than allocated sites by mid plan period
Policy 5: Development Principles for Mineral Extraction *Contributes towards SO1, SO3, SO7*	Approved proposals comply with principles	100% of approvals comply with principles No appeals lost on proposals not compliant with principles	• Minerals Industry • MPA	More than two proposals are approved (within the plan period) that do not comply with principles
Policy 6: Borrow Pits and Extraction as an Ancillary Activity *Contributes towards SO2, SO3*	Approved proposals comply with criteria	100% of approvals comply with criteria No appeals lost on proposals not compliant with criteria	• Minerals Industry • MPA	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 7: Provision of Secondary and Recycled Aggregates *Contributes towards SO1, SO3, SO10*	Approved proposals comply with criteria Permitted capacity for secondary and	100% of approvals comply with criteria No appeals lost on proposals not	• Minerals Industry • MPA • LPA • Highways	More than two proposals are approved (within the plan period) that do not comply with

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
	recycled aggregate (Mtpa)	compliant with criteria	England	criteria
Policy 8: Rail Aggregate Depots and Wharf Facilities *Contributes towards SO6, SO8*	Approved proposals comply with criteria	100% of approvals comply with criteria Identification of new rail aggregate depots/wharves	• Minerals Industry • MPA • LPA • Rail haulage operators	One or more rail aggregate depots/wharf lost to non-mineral related development contrary to policy objection by the MPA
Policy 9: Energy Minerals *Contributes towards SO1*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MPA • Energy Industry	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 10: Waste Prevention and Minimisation in New Development *Contributes towards SO4, SO8*	Approved proposals comply with criteria	100% of approvals comply with criteria	• Waste Industry • Waste Planning Authority (WPA) • LPA • Development (construction) industry	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 11: Waste Management Capacity Needs *Contributes towards SO1, SO4, SO6, SO8*	Permitted/existing waste management capacity	Waste management capacity is provided to meet the county's needs throughout the plan period	• Waste Industry • WPA • LPA	Trends show that not enough capacity is made within the plan period
Policy 12: Disposal to Landfill *Contributes towards SO1, SO4*	Permitted/remaining landfill capacity/voidspace Amount of waste	Remaining void space within Buckinghamshire is sufficient to meet	• Waste Industry • WPA	Trends show that not enough capacity/voidspace remains during the

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
	disposed of to landfill originating from within the county Amount of waste (municipal, C&I and CD&E) imported from London waste authorities for disposal (non-hazardous and inert recovery and/or landfill) within the county	the county's needs and estimated imports from London		plan period
Policy 13: *Spatial Strategy for Waste Management Contributes to SO1, SO4*	Approved poposals are consistent with the Spatial Strategy	100% of approvals are consistent with the Spatial Strategy	• Waste Industry • WPA	More than two proposals are approved (within the plan period) that are not consistent with the Spatial Strategy. Proposals are granted planning permission and then not implemented within two years.
Policy 14: Development Principles for Waste Management Facilities *Contributes towards SO4*	Approved proposals comply with principles	100% of approvals comply with principles	• Waste Industry • WPA	More than two proposals are approved (within the plan period) that do

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
		No appeals lost on proposals not compliant with principles		not comply with principles
Policy 15: Sewage Treatment Works *Contributes towards SO4*	Approved proposals comply with criteria	100% of approvals comply with criteria	• WPA • LPA • Water companies	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 16: Managing Impacts on Amenity and Natural Resources *Contributes towards SO5, SO7, SO8*	Approved proposals comply with criteria	100% of approvals comply with criteria	• Minerals and Waste Planning Authority (MWPA) • Waste Industry • Minerals Industry • Environment Agency • Natural England	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 17: Sustainable Transport *Contributes towards SO6*	Approved proposals comply with criteria	100% of approvals comply with criteria No appeals lost on proposals not compliant with criteria	• MWPA • Waste Industry • Minerals Industry • Highways Agency	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 18: Natural Environment *Contributes towards SO5, SO9*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Waste Industry • Minerals Industry	More than two proposals are approved (within the plan period) that do not comply with

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
			• Natural England	criteria
Policy 19: Historic Environment *Contributes towards SO5, SO9*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Waste Industry • Minerals Industry • Historic England	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 20: Landscape Character *Contributes towards SO5, SO9*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Waste Industry • Minerals Industry • Natural England	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 21: Green Belt *Contributes towards SO5*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Waste Industry • Minerals Industry	More than two proposals are approvedf (within the plan period) that do not comply with criteria
Policy 22: Chilterns Area of Outstanding Natural Beauty *Contributes towards SO5, SO9*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • Chilterns Conservation Board • Natural England	One proposal is approved (within the plan period) that does not comply with criteria
Policy 23: Design and Climate Change *Contributes towards SO7, SO8*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Environment Agency • Natural England	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 24: Environmental	Approved proposals	100% of approvals	• MWPA	More than two

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
Enhancement *Contributes towards SO5, SO7, SO8*	comply with criteria	comply with criteria	• LPA • Natural England • Environment Agency • Heritage England	proposals are approved (within the plan period) that do not comply with criteria
Policy 25: Delivering High Quality Restoration and Aftercare *Contributes towards SO5, SO9*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • Minerals Industry • Waste Industry • Natural England • Environment Agency • Heritage England	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 26: Safeguarding of Minerals Development and Waste Management Infrastructure *Contributes towards SO2, SO3, SO4, SO10*	Approved proposals comply with criteria	100% of approvals comply with criteria	• MWPA • LPA • Minerals Industry • Waste Industry • Development Industry	More than two proposals are approved (within the plan period) that do not comply with criteria
Policy 27: Minimising Land Use Conflict *Contributes towards SO3, SO4, SO7*	Approved (non-minerals/waste) proposals comply with criteria and do not adversely impact on permitted minerals/waste development	100% of approvals comply with criteria	• MWPA • LPA • Minerals Industry • Waste Industry • Development Industry	More than two approved proposals (within the plan period) are seen to have adversely affected the operation or do not comply with criteria
Policy 28: Implementation	Approved proposals	100% of approvals	• MWPA	More than two

Local Plan policy and link to Strategic Objectives (SO)	Key indicator(s)	Target	Implementation partners	Trigger point for correction and/or mitigation measures
Contributes towards SO7, SO9	comply with criteria	comply with criteria	• Minerals Industry • Waste Industry	proposals are approved (within the plan period) that do not comply with criteria

Appendix 1: Minerals Development Commitments

Commitments for minerals development as of the end of 2016 are set out in the schedule below and include sites for extraction of sand and gravel, clay and chalk as well as secondary and recycled aggregate facilities and aggregate rail depots.

Appendix 1a: Sand and gravel

Site	Permission reference	Grid reference	
		Easting	Northing
Springfield Farm, Beaconsfield	CM/21/14 12/00492/CM	493199	189369
New Denham, Denham	CM/32/14	503858	185000
New Denham HOAC, Denham	CM/22/16	503858	185000
New Denham Northern Extension, Denham	CM/23/16	503858	185000
Denham Park Farm, Denham	CM/04/16	502300	190300
North Park, Iver	CM/51/16	502745	179484
George Green, Wexham	13/00575/CC	499790	180794
All Souls Farm, Wexham	CM/25/16 CM/26/16 CM/27/16	500115	181824
Berry Hill Farm, Taplow	CM/35/14 CM/36/14	490896	181619
Park Lodge, Iver	CM/38/16 CM/39/16 CM/37/16 CM/36/16	501820	183514
Beechwood Nurseries, East Burnham			
Rammamere Heath ROMP, Leighton Buzzard	WG/337/62	492030	230215
East Burnham Quarry ROMP	SDB/8204/07	495000	183500
Westhorpe Farm ROMP, Woodham	AR/138/48	471025	218630

Note that in addition the following sites were granted planning permission in 2017:

New Denham HOAC, Denham – permission reference CM/22/16 (E 503858, N 185000),

New Denham northern extension, Denham – permission reference CM/23/16 (E 503858, N 185000), and

North Park, Iver – permission reference CM/51/16 (E 502745, N 179484).

Appendix 1b: Clay

Site	Permission reference	Grid reference	
		Easting	Northing
Calvert Landfill Site			
Bellingdon Brickworks	CH/2009/0891/BCC	493680	206295
The Parks, Bellingdon	CH/2011/60004/BCC	493385	206450
Woodham Brickworks ROMP	AR/138/48	471025	218630
Meadhams Farm ROMP, Chesham	CH/2011/60006/BCC	498847	201325

Appendix 1c: Chalk

Site	Permission reference	Grid reference	
		Easting	Northing
Pitstone		493445	214230

Appendix 1d: Recycled aggregate facilities

Site	Permission reference	Grid reference	
		Easting	Northing
Thorney Mill, Iver	11/01259/CM SBD/8207/96	505128	179328
Westhorpe Farm, Woodham	AR/138/48	471025	218630
Spade Oak,			
Wapseys Wood, Gerrards Cross			
Park Lodge, Iver		501820	183514
All Souls Farm, Wexham		500115	181824
Airfield Industrial Estates, Cheddington Lane, Long Marston	11/20007/AWD	491645	216155
Home Farm, Bourton Road Buckingham	09/20004/AWD	470892	233510
Clear Up Skips Recycling, Binders Industrial Estate, High Wycombe	04/08036/CONCC	487865	197070
Wycombe Skip Hire & Demolition	CC10/9001/CM 09/06430/CONCC APP/P0430/A/05/1181591	487865	197070
Cappagh, Bison Industrial Estate, Thorney Lane, Iver	09/01533/CM	503205	180200

Appendix 1e: Secondary aggregate facilities

Site	Permission reference	Grid reference	
		Easting	Northing
Calvert EfW facility	11/20000/AWD	470395	222435

Appendix 1f: Rail aggregate depots

Site	Permission reference	Grid reference	
		Easting	Northing
Thorney Mill, Iver		505160	179540

Appendix 2: Waste Development Commitments

Commitments for waste development as at end 2016 are set out in the schedule below and include sites for:

- Waste management (non-hazardous and inert),
- Non-hazardous waste disposal,
- Inert waste recovery and/or disposal, and
- Hazardous waste disposal.

Permission end dates are included for all commitments as per Article 28 of the WFD. Where the end date is noted as N/A (not applicable) this means that no end date is set out in the planning permission and so the facility should be considered to be permanent.

Appendix 2a: Waste management (non-hazardous and inert)

Site	Facility	Permission reference	Grid reference		Permission end date
			Easting	Northing	
Samian Way, College Road North, Aylesbury	AD	CM/78/14	486065	214308	N/A
Westcott Venture Park, Aylesbury	AD	07/20010/AWD	470819	216243	N/A
Alderbourne Farm, Iver Heath	Composting	09/01346/CM	501400	185300	06/01/2016
College Farm, Maids Moreton	Composting	08/20000/AWD	471418	234723	N/A
High Heavens Waste Complex, Clay Lane, Marlow	Composting	CC/04/07	483551	190164	N/A
Little Marlow Sewage Treatment Plant	Composting	CM/24/16	487362	187453	N/A
Westcott Venture Park, Aylesbury	Composting	12/20001/AWD	470819	216243	N/A
Calvert Landfill, Brackley Lane, Calvert	Composting	10/20002/AWD	470664	218133	31/03/2025
Greatmoor, Calvert, Aylesbury	EfW	11/20000/AWD	470395	222435	N/A
High Heavens, Clay Lane, Booker	HWRC	CC/04/07	483551	190164	N/A
Aylesbury Rabans Lane, Aylesbury Rabans Close	HWRC	AB/515/71	479385	213545	N/A
Beaconsfield,Lower Pyebushes	HWRC	CC/58/00	486245	189710	N/A
Bledlow Ridge, Wigans Lane	HWRC	CC/3/83	478415	199445	N/A
Buckingham, Buckingham Industrial Park	HWRC	CC/2/83	470000	232590	N/A
Burnham, Crowpiece Lane	HWRC	CC/51/89	494680	183560	N/A

Site	Facility	Permission	Grid reference		Permission
Chesham, Latimer Road	HWRC	CC/3/85	497670	199955	N/A
Langley, Langley Park Road, SL3 6DD	HWRC	CC/43/82	501345	180120	N/A
Amersham, London Road	HWRC	WDA 384	498009	195900	N/A
Aston Clinton, College Road North	HWRC	CC/03/08 CC/31/08	487450	213320	N/A
Waste King, Airfield Industrial Estate, Teddington Lane, Long Marston	Metal recycling (including vehicles)	CM/17/17	491211	216213	N/A
ASM Metal Recycling, Griffin Lane, Aylesbury	Metal recycling (including vehicles)	05/20006/ACC 04/20005/AWD	480590	214150	N/A
LC Autos, Cotherne, Oxford Road, Oakley	Metal recycling (including vehicles)				N/A
Top Marks Renault, Airfield Industrial Estate, Long Marston	Metal recycling (including vehicles)				N/A
Iver Recycling Ltd, Court Lane Estates, Ivar	Metal recycling (including vehicles)				N/A
Wycombe Car Spares Clay Lane, Marlow	Metal recycling (including vehicles)				N/A
Saunderton Salvage, Slough Lane, Saunderton	Metal recycling (including vehicles)				N/A
Abbey Barn Road, High Wycombe	Metal recycling (including vehicles)				N/A
B & T Exports, Thorney Business Park, Ivar	Metal recycling (including vehicles)				N/A
R Buckland and Sons Ltd, Bath Lane, Buckingham	Metal recycling (including vehicles)				N/A
Definite Finance Co.	Metal				N/A

Site	Facility	Permission	Grid reference		Permission
Ltd T/A Camoskips, Oakley Road, Worminghall	recycling (including vehicles)				
West Drayton Depot, Thorney Mill Road, West Drayton	Recycling (asphalt)	11/01259/CM SBD/8207/96	505160	179540	N/A
Unit F2, Airfield Industrial Estate, Marston	Recycling and transfer (tyres)	10/20003/AWD	491425	216250	N/A
Samian Way, Land at College Road North, Aylesbury	Recycling and transfer	CM/78/14	486065	214308	N/A
Airfield Industrial Estates, Cheddington Lane, Long Marston	Recycling and transfer (aggregates)	11/20007/AWD	491645	216155	N/A
Home Farm, Bourton Road Buckingham	Recycling and transfer (aggregates)	09/20004/AWD	470892	233510	N/A
Clear Up Skips Recycling, Binders Industrial Estate, High Wycombe	Recycling and transfer (CD&E and aggregates)	04/08036/CONCC	487865	197070	N/A
Wycombe Skip Hire & Demolition	Recycling and transfer (aggregates)	CC10/9001/CM 09/06430/CONCC APP/P0430/A/05/1181591	487865	197070	N/A
Cappagh, Bison Industrial Estate, Thorney Lane, Ivar	Recycling and transfer (aggregates)	09/01533/CM	503205	180200	N/A
Bye Green, Brook End, Weston Turville	Transfer				N/A
Gawcott Depot Preston Road, Gawcott	Transfer				N/A
Handycross Depot, Clay Lane, Marlow	Transfer				N/A
Long Crendon Transfer Station, Oakley Road, Long Crendon	Transfer				N/A
Griffin Lane Depot, Griffin Lane, Aylesbury	Transfer				N/A
AVDC Recycling and Waste Depot, Pembroke Road, Aylesbury	Transfer				N/A
Wycombe Transfer Station, Clay Lane, Marlow	Transfer				N/A
Aylesbury Transfer	Transfer				N/A

Site	Facility	Permission	Grid reference		Permission
Station, Griffin Lane, Aylesbury					
The Spinney, Oakley Road, Worminghall,	Transfer				N/A
Hawes Skip Hire, Coronation Road, Cressex Business Park, High Wycombe	Transfer	09/06549/CONCC CC13/9002/CM	484755	192085	N/A
Kevin Wilkinson, Harebridge Lane, Halton, Aylesbury	Transfer	08/20003/AWD	487970	210730	N/A
Hangar 5, Westcott Venture Park, Westcott, Aylesbury	Transfer	11/20005/AWD	471650	217127	N/A
Enterprise Skip Hire, Wendover Road, Stoke Mandeville	Transfer	13/20003/AWD	484784	209946	N/A
Bucks Recycling Ltd, Westcott Venture Park, Westcott, Aylesbury	Transfer	CM/24/14	471600	216800	N/A
Lockharts Farm, Wing Road, Cublington, Leighton Buzzard	Transfer	08/20007/AWD	485380	222845	N/A
M & K Skip Hire, Harebridge Lane, Halton	Transfer	07/20007/AWD	488000	210858	N/A
High Heavens, Clay Lane, Booker, High Wycombe	Transfer	CM/67/15	483551	190164	N/A
College Farm, Stratford Road, Maids Moreton	Transfer	CM/17/13	471418	234723	N/A
Mayling Recycling, Seven Hills Road, Iver Heath	Transfer	SBD/8213/03	501715	185210	N/A
Compound F1, Airfield Industrial Estate, Cheddington Lane, Long Marston	Transfer	02/02229/ACC	491240	216290	N/A
Bucks Recycling Ltd, Long Crendon Industrial Park	Transfer	11/20001/AWD	470353	208107	N/A
Brissenden Farm, Oaskely Road, Worminghall	Transfer	04/20002/ACC 05/20003/ACC	464705	209552	N/A
Wycombe Trade Waste and Skip Hire, Cryer's Hill, High Wycombe	Transfer		487865	197070	N/A
AMS Metal Recycling Centre, Griffin Lane	Transfer	08/20005/ACC	480495	214118	N/A

Site	Facility	Permission	Grid reference		Permission
New Denham Quarry, Denham Road, Uxbridge	Transfer	10/01665/CC	504068	184766	N/A
CR Bates Industrial Estate, Wycombe Road, Stoke church	WEEE	CC11/9001/CM	476241	196098	N/A

Appendix 2b: Non-hazardous waste disposal

Site	Permission reference	Grid reference		Permission end date
		Easting	Northing	
Meadhams Farm, Blackwell Hall Lane, Chesham	CH/2011/60006/BCC	498847	201325	31/12/2040
Calvert, Brackley Lane, Aylesbury	07/20003/AWS 11/20000/AWD	470710	222405	
Wapseys Wood, Oxford Road, Gerrards Cross	11/00223/CC	497340	188780	31/12/2017

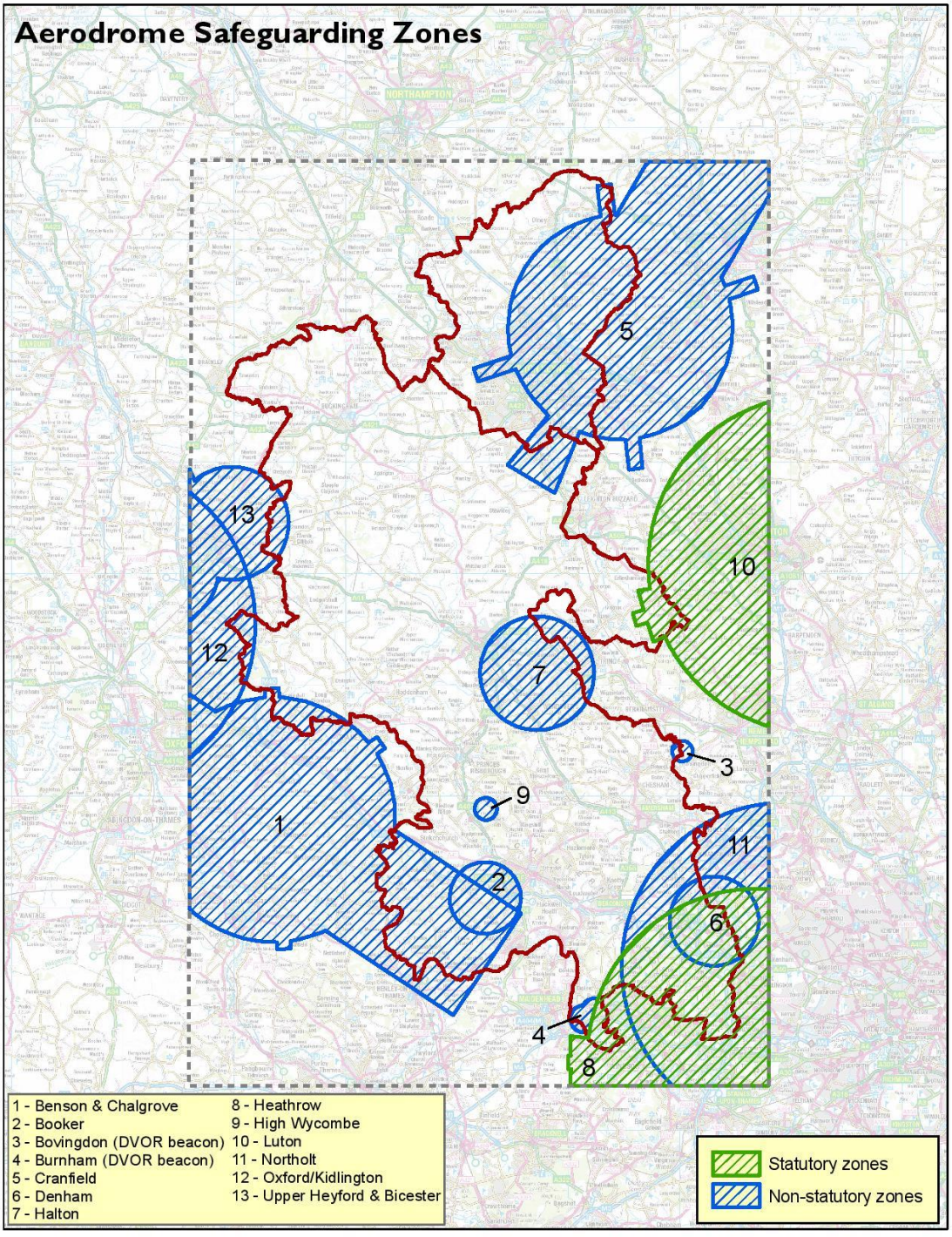
Appendix 2c: Inert waste recovery and/or disposal

Site	Permission reference	Grid reference		Permission end date
		Easting	Northing	
East Burham Quarry	SDB/8204/07	495000	183500	31/12/2021
Park Lodge, Pinewood Road, Iver Heath	CM/38/16 CM/39/16 CM/37/16 CM/36/16	501820	183514	31/12/2020
Denham Park Farm, Marish Lane, Denham Green	CM/04/16	502300	190300	31/08/2031
George Green, Uxbridge Road, Slough	13/00575/CC	499790	180794	31/12/2024
All Souls Farm Quarry, Wexham Park Lane, Wexham, Slough	CM/25/16 CM/26/16 CM/27/16	500115	181824	30/06/2017
Springfield Farm, Broad Lane, Beaconsfield	CM/21/14	493199	189369	30/09/2029

Appendix 2d: Hazardous waste disposal

Site	Permission reference	Grid reference		Permission end date
		Easting	Northing	
Meadhams Farm, Blackwell Hall Lane, Chesham	CH/2011/60006/BCC	498847	201325	31/12/2035
Calvert, Brackley Lane, Aylesbury	BR/200/73 97/2002/AMI	470710	222405	21/09/2047

Appendix 3: Aerodromes with (statutory) Bird-strike Safeguarding Zones and (non-statutory) Safeguarding Maps



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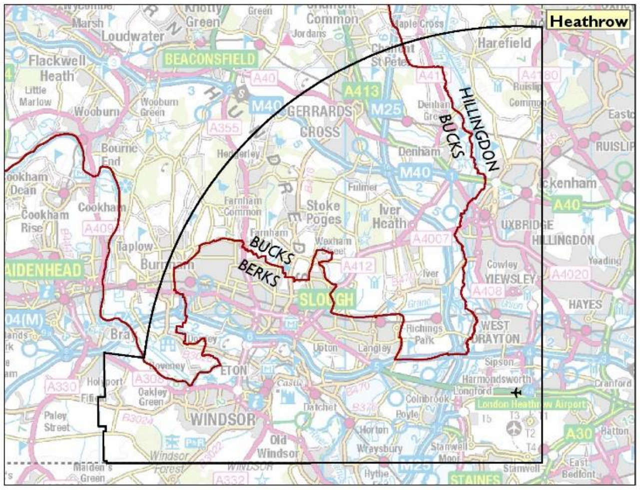

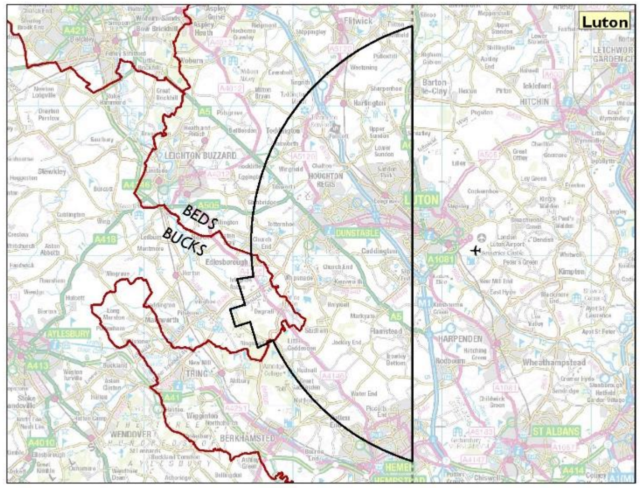

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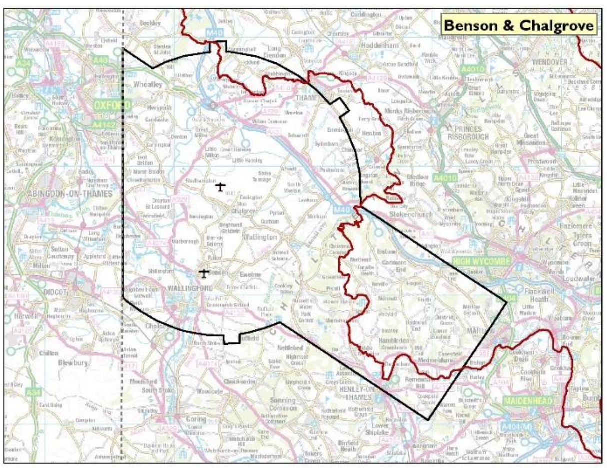

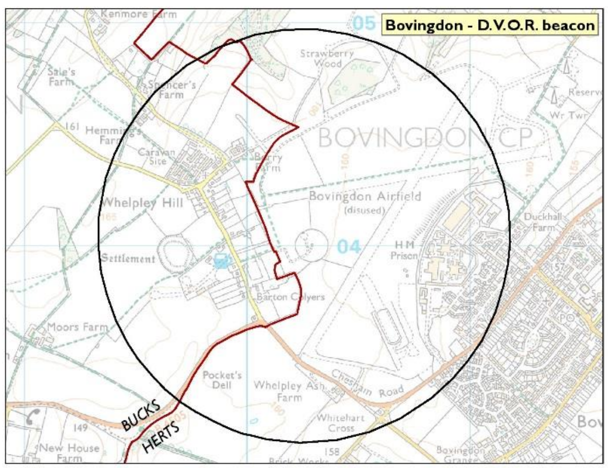

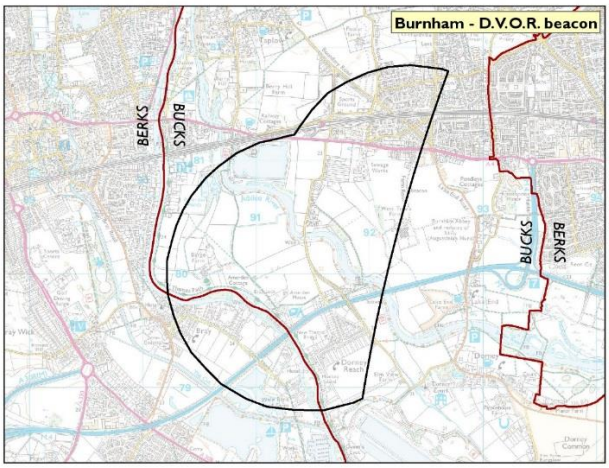
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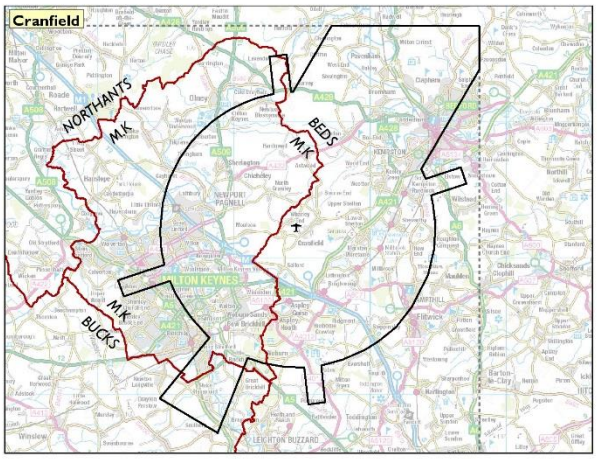
BUCKS
BUCKS
BERKS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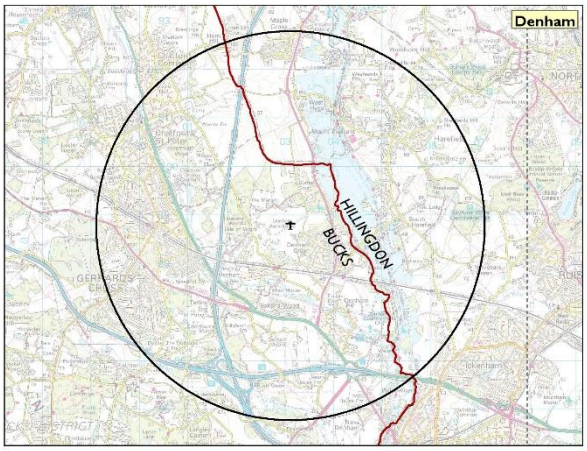
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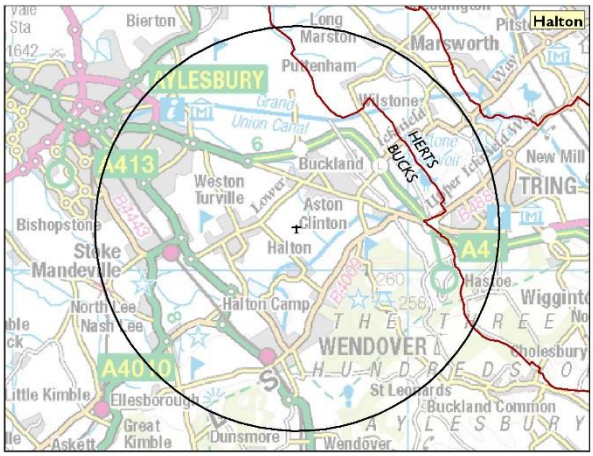
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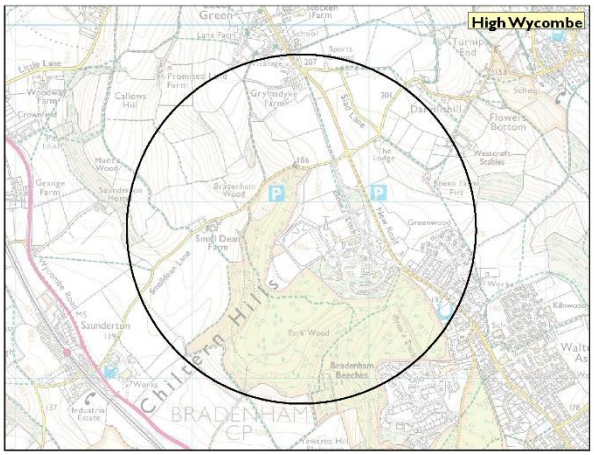
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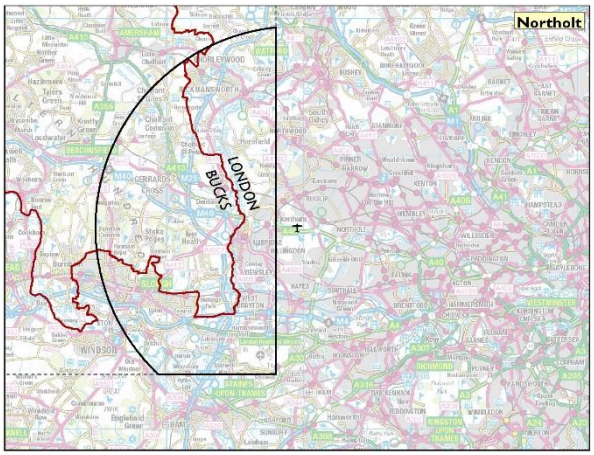
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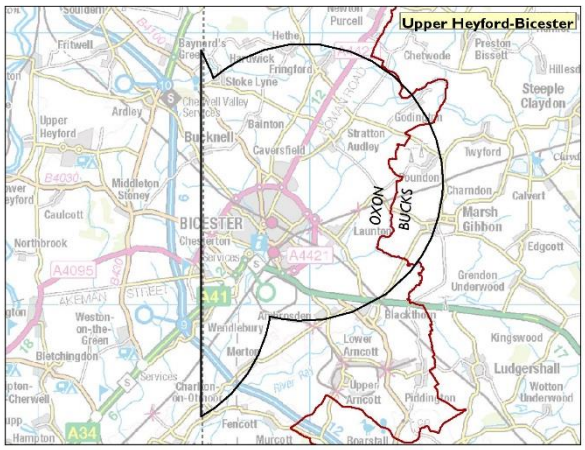
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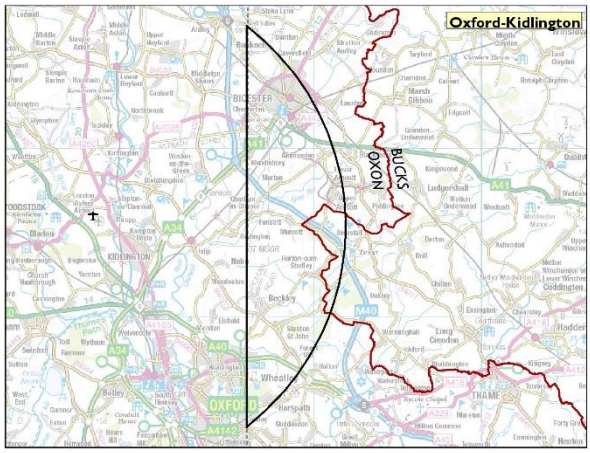
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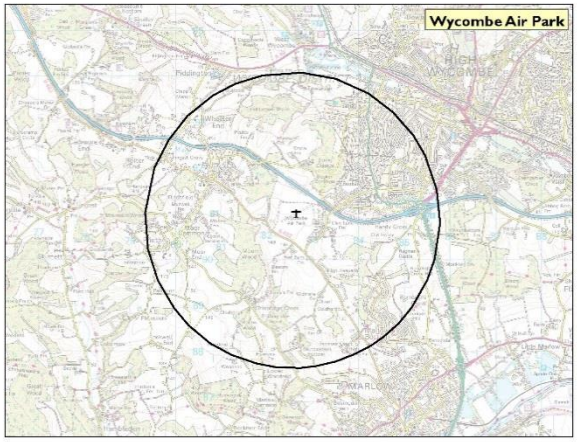
Wycombe Air Park

Appendix 4: Glossary

Aggregate - Inert particulate matter which is suitable for use (on its own or with the addition of cement or bituminous material) in construction as concrete, mortar, finishes, road stone, asphalt, or drainage course, or for use as constructional fill or railway ballast.

Alternative (secondary and recycled) aggregates - Materials that do not meet primary aggregate (e.g. sand, gravel and crushed rock) specifications in certain circumstances. Secondary aggregates are waste or by-products from industrial processes (e.g. scalpings and crusher fines from the production of primary aggregates), whereas recycled aggregates are reprocessed materials previously used in construction (e.g. demolition materials). Both secondary and recycled aggregates are used in the construction industry to replace the use of primary aggregates.

Amenity - A land use which is not productive agriculture, forestry or industrial development; can include formal and informal recreation and nature conservation.

Anaerobic digestion - The biological treatment of biodegradable organic waste in the absence of oxygen, utilising microbial activity to break down the waste in a controlled environment. AD results in the generation of: biogas which is rich in methane and can be used to generate heat and/or electricity; fibre (or digestate) which is nutrient rich and can potentially be used as a soil conditioner; and a liquor which can potentially be used as a liquid fertiliser. Where AD includes energy recovery it can be classified as “other recovery” (under the waste hierarchy).

Archaeological interest - An interest in carrying out an expert investigation at some point in the future into the evidence a heritage asset may hold of past human activity. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them. These heritage assets are part of a record of the past that begins with traces of early humans and continues to be created and destroyed.

Borrow pit - Often used in construction and civil engineering, a borrow pit is an area where material (usually soil, gravel or sand) has been dug up to use at another location. Often found near to major construction projected, e.g. soil might be excavated to fill an embankment for a highway.

Buffer zone - A zone or area that separates waste management facilities from other land uses to safeguard local amenity.

Commercial and industrial (C&I) waste - Waste from premises used mainly for trade, business, sport, recreation or entertainment.

Composting - A biological process in which micro-organisms convert biodegradable organic matter into a stabilised residue known as compost. The process uses oxygen drawn from the air and produces carbon dioxide and water vapour as by-products. Composting can be undertaken in either an open-windrow or in-vessel system. Office of the Deputy Prime Minister (ODPM) 2004

Construction, demolition and excavation (CD&E) waste - Waste arising from any development such as vegetation and soils (both contaminated and uncontaminated)

from the clearance of land, remainder material and off-cuts, masonry and rubble wastes arising from the demolition, construction or reconstruction of buildings or other civic engineering structures. CD&E may also include hazardous waste materials such as lead, asbestos, liquid paints, oils, etc.

Crushed rock - Hard rock, which has been quarried, fragmented and graded for use as aggregate.

Energy from waste (EfW) - The process of generating energy in the form of electricity and/or heat from the primary treatment of waste.

Energy minerals - Materials used to produce electricity, fuel for transportation, heating for homes and offices and in the manufacture of plastics, e.g. coal, oil and natural gas.

Floodplain - All land adjacent to a watercourse over which water flows in times of flood or would flow but for the presence of flood defences where they exist.

Gravel - Naturally occurring aggregates of more or less rounded rock fragments (pebbles) which are coarser than sand (i.e. 2 - 64 millimetres in diameter) and used as a building and construction material and in drainage work.

Groundwater - Water associated with soil or rocks below the ground surface, usually taken to mean water in the saturated zone.

Hazardous waste - Waste that contains hazardous properties that if improperly handled treated or disposed of, by virtue of its composition carries the risk of death, injury, or impairment of health, to humans or animals, the pollution of waters, or could have an unacceptable environmental impact.

Heritage asset - A building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage assets are the valued components of the historic environment. They include designated heritage assets and assets identified by the local planning authority during the process of decision-making or through the plan-making process (including local listing). Department for Communities and Local Government (DCLG) 2010

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. Those elements of the historic environment that hold significance are called heritage assets. DCLG 2010

Household Recycling Centre (HRC) - Also known as civic amenity site**,** resource recovery centre's and bring sites. Civic amenity sites are provided by Waste Disposal Authorities as places where the public can deliver a range of household waste for recycling or disposal, including metals, paper, glass, engine oil, garden waste, oversized items (e.g. furniture and appliances) and building rubble.

Inert waste - Waste which will not biodegrade or decompose (or will only do so at a very slow rate), examples include glass, concrete, bricks, tiles & ceramics and soil & stone (excluding topsoil & peat).

Key settlements - The key settlements are those more important settlements, outside of Aylesbury, Buckingham and Wycombe, as defined in the adopted plans for Chiltern and South Bucks and the most recent draft of the local plan for Aylesbury Vale and Wycombe:

- For Aylesbury Vale these are the Strategic Settlements (outside of Aylesbury and Buckingham) of Haddenham, Wendover and Winslow (Vale of Aylesbury Draft Plan 2016).
- For Chiltern district these are the Designated Settlements of Amersham/Amersham-on-the-Hill, Chesham, Chalfont St Peter, Great Missenden, Little Chalfont (Chiltern Core Strategy 2011).
- For South Bucks district these are the Principal Settlements of Beaconsfield, Burnham, Gerrards Cross (South Bucks Core Strategy 2011).
- For Wycombe district these are the Tier 2 settlements of Bourne End/Wooburn, Marlow, Princes Risborough (Wycombe Draft Plan 2016).

Landbank - A stock of planning permissions sufficient to allow for extraction over a given period at an appropriate local level.

Landfill - The deposition of waste into hollow or void space in the land, usually below the level of the surrounding land or original ground level in such a way that pollution or harm to the environment is prevented. Landfill sites have to be sited where an existing void is available; former mineral workings have historically been used for this purpose.

Limestone - Sedimentary rock consisting predominantly of calcium carbonate. Often used as aggregate (crushed rock) or a building stone.

Local Geological Sites (LGS) - A non-statutorily protected site of local importance for geodiversity (geology and geomorphology). LGS may be designated for their value to Earth science, and to Earth heritage in general, and may include cultural, educational, historical and aesthetic resources.

Low level radioactive waste (LLW) - Radioactive waste with a low range of activity that includes metals, soil, building rubble and organic materials, which arise principally as lightly contaminated miscellaneous waste. Metals are mostly in the form of redundant equipment. Organic materials are mainly in the form of paper towels, clothing and laboratory equipment that have been used in areas where radioactive materials are used – such as hospitals, research establishments and industry.

Other forms of minerals development - Mineral extraction and processing, the handling, processing and transport of secondary and recycled aggregate materials, rail heads and rail aggregate depots, rail links to quarries, wharfs and associated storage, handling and processing facilities as well as facilities for concrete batching, manufacture of other concrete products and coated materials.

Municipal waste - Waste that is collected and disposed of by, or on behalf of, a local authority, also known as Local Authority Collected Waste (LACW). It will generally consist of household waste and other wastes collected by a Waste Collection or Disposal Authority, or their agents. It primarily consists of household waste but also includes waste collected from household waste recycling centres, commercial or industrial premises (i.e. small amounts of trade waste), and waste

resulting from the clearance of fly-tipped materials and litter. In addition, it may include road and pavement sweepings, gully emptying wastes, and some construction and demolition waste arising from local authority activities.

Non aggregate minerals - Minerals, including limestone, which are utilised for purposes including building and roofing stone, agriculture and brick and cement manufacture.

Public rights of way - Footpaths, bridleways, tracks and lanes used as public paths and public byways.

Radioactive waste - Radioactive waste is waste that contains radioactive material. It is normally a by product of nuclear power generation. Radioactivity naturally decays over time, so radioactive waste has to be isolated and confined in appropriate disposal facilities for sufficient periods until it no longer poses a threat.

Recovery - The collection, reclamation and separation of materials from the waste stream. That is, any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit. Recovery mainly refers to the following operations: material recovery (i.e. recycling), energy recovery (i.e. re-use as a fuel), biological recovery (e.g. composting) and re-use.

Recycling - The collection, separation, recovery and re-use of materials from waste that would otherwise require disposal and subsequent reprocessing in a production process of the waste materials either for the original purpose or for other purposes including organic recycling but excluding energy recovery.

Reserves - Mineral deposits which have been tested to establish the quality and quantity of material present and which could be economically and technically exploited. Permitted reserves are reserves having the benefit of planning permission for extraction.

Restoration - The return of land to its former use, or an appropriate condition, and stable landform (using subsoil, topsoil and/or soil making material); may include the remediation of contaminated land.

Sand and gravel - Naturally occurring materials formed as a result of the disintegration of rocks through weathering processes, then transported and deposited by wind, water and ice. In Britain the most common rock types are flint, limestone, quartzite and igneous rocks. Sand and gravel are therefore derived from similar sources, and are similar in their composition, though they differ in the size of their respective particles.

Sterilisation - Where minerals cannot be extracted due to surface level development e.g. buildings on top of reserves, which prevent access.

Transfer station - A depot where waste from collection vehicles is stored temporarily prior to carriage in bulk to a treatment or disposal site.

Treatment - Defined according to a ‘three point test’ (1) a physical/thermal chemical or biological process including sorting that: (2) changes the characteristics of waste and (3) does so in order to reduce its volume, or reduce its hazardous nature, or facilitate its handling or enhance its recovery.

Waste - Waste is defined in circular 11/94 and in the Waste Management Licensing Regulations 1994 as any substance or object that the holder discards, or intends to discard or is required to discard' and may include production residues and some by-products.

Witchert - is a natural blend of white chalk and clay, which is mixed with straw to make walls and buildings, usually then thatched or topped with red clay tiles. This historic method of building construction is localised to Haddenham and the surrounding local area in Buckinghamshire.

Appendix 5: Abbreviations

AAL – Areas of Attractive Landscape

AD – Anaerobic digestion

AMR – Annual Monitoring Report

AONB – Area of Outstanding Natural Beauty

AQMA – Air Quality Management Area

AWP – Aggregate Working Party

BAP – Biodiversity Action Plan

BGS – British Geological Society

BMK BAP – Buckinghamshire and Milton Keynes Biodiversity Action Plan

BMWLP – Buckinghamshire Minerals and Waste Local Plan (adopted 2006)

BMV – Best and Most Versatile

BNS – Biological Notification Site

BOA – Biodiversity Opportunity Area

BREEAM – Building Research Establishment Environmental Assessment Method

CD&E – Construction, demolition and excavation

C&I – Commercial and industrial

CBM – Coalbed methane

CVRP – Colne Valley Regional Park

DCLG – Department for Communities and Local Government

DEFRA – Department for Environment, Food and Rural Affairs

EA – Environment Agency

EfW – Energy from waste

ELV – End of live vehicles

ENRMF – East Northants Resource Management Facility

EU – European Union

GHGs – Greenhouse gases

Ha – Hectares

HER – Buckinghamshire County Historic Environment Record

HGV – Heavy goods vehicle

HLW – High level waste

HOAC – Hillingdon Outdoor Activity Centre

HRA – Habitats Regulations Assessment

HS2 – High Speed 2

HRC – Household recycling centre

IBA – Incinerator bottom ash

ILW – Intermediate level waste

JWS – Joint Waste Strategy

Km – Kilometre

LAA – Local Aggregate Assessment

LACW – Local Authority Collected Waste

LGS – Local Geological Site

LLA – Local Landscape Area

LLW – Low level waste

LNR – Local nature reserve

LPA – Local Planning Authority

LWS – Local Wildlife Site

m – Metre

MCA – Minerals Consultation Areas

MPA – Minerals Planning Authority

MRF – Material recycling facility

MSA – Minerals Safeguarding Areas

Mt – Million tonnes

Mtpa – Million tonnes per annum

MWCS – Minerals and Waste Core Strategy (adopted 2012)

MWLP – Minerals and Waste Local Plan

MWPA – Minerals and Waste Planning Authority

NEP – Natural Environment Partnership

NNR – National Nature Reserve

NPPF – National Planning Policy Framework

NPPW – National Planning Policy for Waste

NDA – Nuclear Decommissioning Authority

NPS – National Policy Statement

ODPM – Office of the Deputy Prime Minister

RMWLP – Replacement Minerals and Waste Local Plan (as was proposed to be prepared in 2015)

ROMPS – Review of Minerals Permissions

SA – Sustainability Appraisal

SAC – Special Area of Conservation

SCS – Sustainable Communities Strategy

SEA – Strategic Environmental Assessment

SO – Strategic Objective

SPA – Special Protection Area

SPD – Supplementary Planning Document

SPZ – Source Protection Zone

SSSI – Sites of Special Scientific Interest

STW – Sewage treatment works

SUDS – Sustainable Drainage Systems

SWMP – Site Waste Management Plan

tpa – tonnes per annum

UK BAP – United Kingdom Biodiversity Action Plan

WEEE – Waste electrical and electronic equipment

WFD – Waste Framework Directive

WNA – Waste Needs Assessment Report (May 2017) and Addendum Report (November 2017)

WPA – Waste Planning Authority

WRAP – Waste Resources Action Programme

WRLtH – Western Rail Link to Heathrow

Appendix 6: List of Key Evidence Base Documents

Issues and Options Consultation Report, June 2017

Site Assessment Methodology, May 2017

Technical Annex - Site Assessments, December 2017

SA Scoping Report for Draft Plan, July 2017

SA Report (Proposed Submission), December 2017

HRA Screening Assessment, June 2017

Map of primary and secondary areas of focus for sand and gravel extraction, July 2017

Waste Needs Assessment, May 2017

WNA Addendum Report, Updated November 2017

Methodology for Defining Mineral Safeguarding and Consultation Areas within Buckinghamshire, April 2017

Non-technical Summary of Buckinghamshire's Strategic Flood Risk Assessments and Methodology for Application of the Sequential Test for Proposed Mineral and Waste Allocations, April 2017

Sequential Test of Proposed Mineral and Waste Allocations, Updated December 2017

Briefing Note: Minerals Provision, Updated December 2017

Briefing Note: Spatial Strategy for Waste, Updated December 2017

DtC Strategic Statement, December 2016

Equalities Impact Assessment, January 2018

Local Aggregates Assessment (2006 to 2015), 2016

Minerals and Waste Monitoring Report 2016/17

Appendix 7: Tests of Soundness

The MWLP will be examined by an independent Planning Inspector whose role is to assess whether the Plan has been prepared in accordance with the Duty to Cooperate, legal and procedural requirements, and whether it is sound. A planning authority should submit a plan for examination that it considers is "sound", namely that it is:

- Positively prepared – The Plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development;
- Justified – The Plan should be the most appropriate strategy, when considered against the reasonable alternatives, based on proportionate evidence;
- Effective – The Plan should be deliverable over its period and based on effective joint working on cross-boundary strategic priorities; and
- Consistent with national policy – The Plan should enable the delivery of sustainable development in accordance with the policies in the NPPF.

(NPPF paragraph 182)