



Bradford Local Development
Framework, Waste
Development Plan Document

Sustainability Appraisal
of the Issues and Options
Paper

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Bradford Metropolitan District Council

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1 Introduction

1.1 Background

The preparation of the Bradford Waste Development Plan Document (DPD) is being subject to a full integrated sustainability appraisal (SA) and strategic environmental assessment (SEA) in line with the requirements of:

- Statutory Instrument 2004 No. 1633: The Environmental Assessment of Plans and Programmes Regulations 2004 (which requires a environmental assessment to be carried out on certain plans and programmes prepared by public authorities that are likely to have a significant effect upon the environment); and
- The Planning and Compulsory Purchase Act 2004 and Planning Policy Statement 12 (PPS12) (which requires sustainability appraisal (SA) of all emerging Development Plan Documents and Supplementary Planning Documents).

The sustainability appraisal is being carried out by ENVIRON using a team of consultants experienced in SA and SEA of local authority spatial planning documents.

1.2 Purpose of the Sustainability Appraisal

The purpose of the sustainability appraisal is to promote sustainable development by integrating sustainability considerations into the plan making process. This is done through a number of stages:

- The production of an SA scoping report (in July 2007) and an updated SA scoping report in December 2008, which examined the sustainability issues in the area. The issues identified in the scoping report were used to produce a sustainability appraisal framework against which the plan could be measured.
- The production of an issues and options assessment briefing paper (this report) which outlines the results of the sustainability appraisal of the Waste DPD issues and options report (see below for more details). The SA team has examined the sustainability effects of the issues and options put forward for consideration in November 2009 and this report provides recommendations to the Council as to how to develop the preferred options in a sustainable manner;
- Input into the site assessment methodology including the criteria to be used in assessing the sites' suitability for waste management facilities and sustainability commentary on the assessment of sites. The recommendations made by the SA team with regards to the site selection criteria are included within this report. The SA commentary will be used to inform the choice of the shortlisted sites. The commentary findings will be summarised within the formal SA Report which will accompany the Preferred Options DPD (see below); and
- The appraisal of the preferred options. This will be the formal SA report under the terms of the SEA Regulations. The results of the preferred options appraisal will be used by the council to develop the pre-submission and the final submission draft of the plan.

1.3 This Report

The purpose of SA is to integrate sustainability and environmental considerations into plan making. In order to do this, it is necessary for plan makers to be aware of the implications of their decisions as early as possible in the planning process. Assessing issues and options helps to ensure that sustainability considerations are integrated into plan making at the earliest stages. Therefore, the purpose of this report is to outline the sustainability effects of the issues and options in order to guide the plan makers as they write the preferred options document.

This document presents the findings of the SA of the Bradford Waste Management DPD Issues and Options Paper (November 2009) and sets out the input of the SA in the site assessment process. The Bradford Waste Management DPD Issues and Options Paper (November 2009) can be accessed here:

http://www.bradford.gov.uk/bmdc/the_environment/planning_service/local_development_framework/bradford_waste_development_plan.htm.

2 The Bradford Waste DPD

Bradford Metropolitan District Council has begun the preparation of the Bradford Local Development Framework (LDF). This will gradually take over the role of the Replacement Unitary Development Plan (adopted in October 2005) to provide the land-use planning framework for the District.

The requirement to prepare a new-style LDF was introduced by the Government in 2004. The Waste Management Development Plan Document (DPD) is one element in a portfolio of local planning documents, which will make up the LDF for Bradford.

The Council adopted their replacement Unitary Development Plan (rUDP) in October 2005. The Council's adopted UDP does not have a comprehensive coverage of waste management issues and was produced prior to publication of Planning Policy Statement 10: Waste Management (PPS10) (in July 2005). Because of this, the waste policy does not reflect the latest government planning policy. The Waste Management DPD will replace the waste elements of the replacement UDP and include additional information to reflect the introduction of PPS10.

The Waste Management DPD will be an important tool in ensuring that the Council has sufficient and appropriate provision within the LDF to deliver an aspiration for self-sustainability in waste management over the next 15 years.

The Waste Management DPD must comply with the policies within the emerging Core Strategy. The Core Strategy establishes the strategic vision, objectives and overall strategy for Bradford, as well as broad policies to guide and control development across the District. One way in which to ensure that the Waste Management DPD is consistent with the Core Strategy has been to align the SA of the Waste Management DPD with that of the Core Strategy (the SA of which is further ahead) so that both documents are tested in a consistent manner against a similar SA Framework. The Waste Management DPD must also conform to the RSS for Yorkshire and the Humber, national planning policy, and European legislation.

To date, the following documents have been prepared specifically by the Council relating to waste management:

- Topic Paper 8 Waste – February 2007; and
- Waste Management Core Strategy Further Issues and Options Paper – October 2008.

The findings of the previous consultations have been used to inform the emerging Waste Management Core Strategy Preferred Option, as well as this Waste Management DPD Issues & Options paper (November 2009). The findings of the consultation have informed the basis for the development of the Waste Management DPD Issues & Options paper (November 2009).

The Waste Management DPD Issues and Options paper was consulted on between November 2009 and January 2010. Following this consultation, a Waste Management DPD Preferred Option will be developed, to be consulted on during summer/autumn 2010. It is envisaged that the Waste Management DPD will be adopted in early 2011.

The Waste Management DPD Issues and Options consultation paper puts forward seven issues, all of which have a number of options attached to them. The Waste Management DPD establishes a series of waste related issues relating to the amount, location, and handling of waste arisings now in the District, and the objectives for the future, including the need for cross-boundary working. The document considers the approaches that the District could take in relation to dealing with different waste arisings. A series of alternative options are proposed that could be further developed as the Waste Management DPD is prepared.

The options and objectives set out within the Waste Management DPD Issues and Options consultation paper have been appraised by the SA. The approach to the appraisal, including details on which elements of the paper have been appraised, is presented in Section 3.2.

3 Methodology of the Issues Assessment Process

3.1 Introduction

Sustainability appraisal is being carried out as an integral part of the Waste DPD preparation and has a number of set stages. The stages that have been carried out so far are shown in Table 1.

Table 1: SA Stages	
DPD Stage	Purpose of the SA Stage
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope	
A1: Identifying other relevant policies, plans and programmes and sustainability objectives.	To document how the plan is affected by outside factors and suggest ideas for how any constraints can be addressed.
A2: Collecting baseline information.	To provide an evidence base for sustainability issues, effects prediction and monitoring.
A3: Identifying sustainability issues and problems.	To help focus the SA and streamline the subsequent stages, including baseline information analysis, setting of the SA Framework, prediction of effects and monitoring.
A4: Developing the SA framework.	To provide a means by which the sustainability of the plan can be appraised.
A5: Producing scoping report and consulting on the scope of the SA.	To consult with statutory bodies with social, environmental, or economic responsibilities to ensure the appraisal covers the key sustainability issues.
Stage B: Developing and refining options and assessing effects	
B1: Testing the DPD objectives against the SA framework.	To ensure that the overall objectives of the DPD are in accordance with sustainability principles and provide a suitable framework for developing options.
B2: Developing the DPD options.	To assist in the development and refinement of the options, by identifying potential sustainability effects of options.

The scoping phase of the SA (Stage A) resulted in the production of a SA framework which will be used to test the plan. This is shown in Table 2. The process of refining options is not yet completed and therefore Stage B2: Developing the DPD Options is not yet completed. The results of the SA presented within this report will be incorporated into the choice of the preferred options.

Table 2: SA Framework			
<i>(NB. Text in red italic is added as a result of consultation comments received on the original scoping report. Text in green italic is added as a result of consultation comments received on the amended scoping report)</i>			
Topic	Core Strategy Sustainability Appraisal Objectives	Draft Waste DPD Sustainability Appraisal Objectives	Appraisal Questions. Will the plan...
Energy and Resources	<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<p><i>Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities?</i></p> <p>Lead to a reduction of the amount of waste that will require treatment?</p> <p><i>Minimise any adverse impacts on water resources at all stages of waste management?</i></p> <p>Put in place adequate and sustainable treatment facilities?</p> <p>Help the District to meet its recovery and recycling targets?</p> <p>Help the authority meet its quota under the LATS?</p> <p><i>Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials).</i></p>
Response to Climate Change	Reduce the districts impact on climate change and vulnerability to its effects	Reduce the District’s impact on climate change and vulnerability to its effects.	Reduce the potential for greenhouse gas emissions caused by waste management and <i>reduce vulnerability of waste management facilities to the effects of climate change (including increased flooding)?</i>

Table 2: SA Framework			
<i>(NB. Text in red italic is added as a result of consultation comments received on the original scoping report. Text in green italic is added as a result of consultation comments received on the amended scoping report)</i>			
Topic	Core Strategy Sustainability Appraisal Objectives	Draft Waste DPD Sustainability Appraisal Objectives	Appraisal Questions. Will the plan...
			Encourage the development of renewables and energy efficiency within the waste sector?
Air, Soil & Water Quality	Safeguard and improve air, water and soil resources.	Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.	Change the amount of pollution and nuisance caused by waste management? <i>Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)?</i>
Natural Assets	To conserve and enhance the internationally, nationally and locally valued wildlife species and habitats. Maintain and enhance the character of natural and man made landscapes.	To conserve, <i>restore, expand</i> and enhance the <i>internationally</i> , nationally and locally valued wildlife species and habitats. To maintain, <i>restore</i> and enhance the character, <i>value and diversity</i> of natural and man-made landscapes. Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.	Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, <i>RIGS</i> or other designated sites? Include actions that will cause habitat loss or fragmentation <i>or restoration, expansion or enhancement of wildlife networks or habitats?</i> Include actions that help to reach targets or compromise targets of BAPs? Include actions to ensure restoration to biodiversity is a priority where appropriate? Protect, <i>restore</i> and enhance the landscape?
Housing	Provide the opportunity for everyone to live in quality housing which reflects individual needs, preferences and resources.	Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled <i>and encouraging waste</i>	Include actions that change mileage travelled per tonne of waste? <i>Allow residents in new developments to</i>

Table 2: SA Framework			
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Topic	Core Strategy Sustainability Appraisal Objectives	Draft Waste DPD Sustainability Appraisal Objectives	Appraisal Questions. Will the plan...
		<i>segregation in new development.</i>	<i>segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems?</i>
Transport	Develop and maintain an integrated and efficient transport network which maximises access whilst minimizing detrimental impacts. Reduce congestion and pollution by increasing transport choice and by reducing the need to travel by lorry / car.	Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight	Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental importance? Include actions that would encourage a shift from road freight to rail freight?
Land use	Improve the quality of the built environment and make efficient use of existing land and buildings.	Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	Reduce the impact of waste management on the quality of the built environment? <i>Maximise use of previously developed land where possible.</i>
Historic Environment	Protect and enhance historic assets.	<i>Avoid, protect and enhance historic assets.</i>	Preserve and where relevant enhance sites of built and archaeological heritage <i>and their settings?</i> Aim to steer development away from archaeologically sensitive sites? Preserve, manage or enhance the historic environment character and opportunity areas?
Accessibility & Local Needs	Improve the quality and range of services available within communities and connections to wider networks.	Improve the quality and range of services available within communities and connections to wider networks.	Improve the accessibility of waste management and treatment services to centres of population?

Table 2: SA Framework			
<i>(NB. Text in red italic is added as a result of consultation comments received on the original scoping report. Text in green italic is added as a result of consultation comments received on the amended scoping report)</i>			
Topic	Core Strategy Sustainability Appraisal Objectives	Draft Waste DPD Sustainability Appraisal Objectives	Appraisal Questions. Will the plan...
Communities	Promote social cohesion, encourage participation and improve the quality of deprived neighbourhoods.	Ensure local communities take more responsibility for their own waste	Reduce the amount of waste that is treated outside of the District?
Culture, Leisure and Recreation	Create good cultural, leisure and recreation activities available to all.	<i>Avoid impacts on open space, cultural, leisure and recreation opportunities</i>	<i>Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management?</i>
Safety and Security / Health and Social Welfare	Improve safety and security for people and property. Provide the conditions and services to improve health and well being and reduce inequality to access to health and social care.	Reduce the impact of the waste industry on people's safety and security , health and quality of life	Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? Cause a cumulative impact on certain communities?
Education and Training/ Local Economy and Employment	Promote education and training opportunities which build the skills and capacity of the population. Increase the number of high quality job opportunities suited to the needs of the local workforce. Support investment and enterprise that respects the needs of a local area.	Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.	Include actions that change the number of local people directly employed in <i>skilled jobs</i> in the waste industry? Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability?

3.2 Assessing the Issues and Options

As ODPM guidance¹ outlines, during the issues and options stage the effects of the strategic options must be assessed in broad terms. The aim of this assessment is to assist in the selection of the preferred options. Once the preferred options have been selected they will be assessed in more detail. The Issues and Options consultation paper puts forward 7 issues, all of which have a number of options attached to them.

The elements of the Issues and Options consultation paper plan that were appraised are shown below:

- Objectives for Waste Management (Section 4.1) (this is Stage B1 of the SA process – see Table 1).
- Issue 1: Internal Waste Management:
 - Issue 1 Option 1: Focus on consolidating and increasing capacity at existing facilities across the District, and recognise that some waste will need to be managed outside Bradford;
 - Issue 1 Option 2: Provide additional sites and capacity to manage growing waste arisings within the District;
 - Issue 1 Option 3: Provide additional sites and capacity to manage more waste than is produced in the District, allowing scope to import and handle waste from other places in the future?;
 - Issue 1 Option 4: Work with adjacent authorities to identify appropriate sites / facilities to accommodate waste arisings as closely as possible to their source?; and
 - Issue 1 Option 5: Minimise waste production / arisings across the District through appropriate planning policies, therefore minimising site allocations required.
- Issue 2: Location of Waste Sites:
 - Issue 2 Option 1: Concentrate waste management facilities in a small number of strategic sites; and
 - Issue 2 Option 2: Identify a large number of small sites dispersed across the District for waste management purposes.
- Issue 3: Identifying Sites for Waste Management Facilities;
 - Issue 3 Option 1: Test all sites on the initial long list within the area of search, excluding those in the Green Belt other than existing facilities; and
 - Issue 3 Option 2: Test all sites on the initial long list, including new potential sites in the Green Belt.
- Issue 5: Management of Construction and Demolition Waste;

¹ ODPM, 2005: Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks. The Stationary Office

- Issue 5 Option 1: Include criteria based policies in the Waste Management DPD that require the maximisation of on-site recycling and re-use of construction and demolition waste as part of the development process to minimise waste arisings;
- Issue 5 Option 2: Include a criteria based policy for locating new and expanded construction and demolition waste management facilities; and
- Issue 5 Option 3: A combination of Options 1 and 2.
- Issue 6: Management of 'Other' Waste Streams:
 - Issue 6 Option 1: Identify potential new sites for managing hazardous waste now even though such capacity may not be required in the short term plan period;
 - Issue 6 Option 2: Do not identify potential new sites for managing hazardous waste as they are not required in the short term period;
 - Issue 6 Option 3: Develop a criteria based policy approach for locating 'other' waste management facilities, including hazardous and agricultural waste; and
 - Issue 6 Option 4: Develop a policy approach combining either Option 1 or 2 with Option 3.
- Issue 7: Management of Residual Waste:
 - Issue 7 Option 1: Through the inclusion of appropriate criteria based policies, encourage the use of alternative technologies for the treatment of residual waste through limiting landfill capacity within the District;
 - Issue 7 Option 2: Provide additional landfill capacity within the District through the identification of suitable sites within the Waste Management DPD;
 - Issue 7 Option 3: Provide a combination of both Options 1 and 2; and
 - Issue 7 Option 4: Utilise the existing sub-regional capacity in the first instance, but still provide additional landfill capacity within the District through the identification of suitable sites within the Waste Management DPD. Any identified additional landfill capacity only to be utilised when the sub-regional capacity nears exhaustion.

For Issue 4: Locational Criteria for Municipal Solid Waste and Commercial and Industrial Waste Management Facilities, only one option is presented as follows:

- Issue 4 Option 1: Test the long list of potential waste sites (appendix 1) against the Municipal Solid Waste and Commercial & Industrial waste facility location criteria as identified.

It is stated within the Issues and Options Paper (November 2009) that it is considered that there is no other realistic option other than to use a set of locational criteria for the location of Municipal Solid Waste and Commercial and Industrial Waste Management Facilities. The location criteria have been considered by the SA Team and a commentary provided in Section 3.3 to help inform their development. Following application of the criteria to the list of potential sites identified, the SA Team will provide a commentary on each site shortlisted which will be used internally to help inform the choice of shortlisted sites and will be summarised within the formal SA Report which will accompany the Preferred Options DPD.

The appraisal of the Waste Management Development Plan Document Issues and Options Paper has been undertaken in line with the approach adopted for the SA of the Bradford Core Strategy. The latest appraisal of the Bradford Core Strategy is presented within Sustainability Appraisal of the Bradford Core Strategy Issues and Options report (Entec, March 2009). Although the SA frameworks are slightly different, in order to ensure consistency with the Core Strategy SA, the same matrix layout and method have been used for the appraisal of the Waste Management Development Plan Document Issues and Options Paper elements listed above. The appraisal matrices for the Waste Management Development Plan Document Issues and Options Paper are presented in Annex A.

The appraisal of the Waste Management DPD Issues and Options Paper has taken place following consultation and has taken into account the responses of consultees in relation to each issue and the options.

3.3 Site Assessment Methodology

An important part of the development of the Waste Management DPD is the identification and assessment of sites which might be suitable for waste management uses. The chosen sites will form a part of the Preferred Option.

The process of identifying sites at which to locate waste management facilities is a hierarchical three-stage process. This hierarchical process 'sieves' the sites identified, removing sites from consideration as the process is undertaken.

The first task of this process is to identify all potential sites (see Task 1 below). The second task involves identifying which of these are reasonable sites to be considered based on a number of criteria (see Task 2 below). Thirdly, the suitability of the remaining sites must be evaluated in relation to certain waste management technologies on the basis of a more detailed consideration of environmental and social constraints (See Task 3 below). This process is set out in more detail below.

In order that this process incorporates important sustainability issues identified as a part of the SA, the SA team has also been involved in developing the site assessment methodology which is being undertaken as part of the development of the DPD. The SA team have prepared a commentary on the site assessment methodology with suggested enhancements to the method, as appropriate. The SA team's commentary on the method is presented below, demonstrating the input that the SA has had to this process.

The SA team will also have an input into the site assessment process by providing a commentary on the assessment of each site in the short list, commenting on constraints identified, the risk of adverse sustainability effects and the opportunities for positive sustainability effects.

3.3.1 Site assessment methodology with SA team input

Task 1: Site identification

The following types of site were identified for inclusion in the list of possible sites for waste management facilities:

- Designated employment land;
- Council depots including current waste facilities;
- Civic amenities including disused reservoirs;
- Exhausted mineral workings; and
- Unallocated 'white' land (i.e. land which is not designated for any type of use or protection in planning terms).

In addition to these types of site, the list also includes all sites that were put forward during consultation on the Core Strategy Waste Management Issues & Options Paper (October 2008). The list of sites were then mapped using GIS. The site identification exercise has identified a long list of 124 locations across the District for further consideration for the accommodation of waste management facilities.

Task 2: Areas of search

Areas of Search criteria were defined within the Core Strategy: Waste Management Further Issues and Options October 2008 Report. This report identified appropriate areas of search locations for waste facilities which provide the next sieve for identifying whether sites are reasonable for use as waste management facilities. These broad locations excluded those sites with primary constraints designated in the Bradford Unitary Development Plan as:

- World Heritage Sites;
- Historic Battlefields;
- Historic Parks and Gardens;
- Special Protection Areas;
- Special Areas of Conservation;
- SSSI;
- Sites of Ecological and Geological Importance; and
- Urban Green Space.

Development in or adjacent to these areas would normally only be considered in special circumstances and where no detrimental impact would be caused.

Green belt was also identified as an appropriate area of search for waste management sites but greenbelt land will only be looked at once all other options have been exhausted.

SA team suggestion: sites which have been discounted through this exercise should be reintroduced to the site assessment process if, at the end of the process, there are not enough suitable sites. Such constraints could then be considered in order to identify whether a detrimental impact would be caused by locating a waste management site on such areas.

In addition, the Waste Management Further Issues & Options Report 'Area of Search criteria' required that all sites must be within 1km of the strategic road network (meaning primary and A-Roads). This is in order to reduce the number of larger vehicles on smaller roads as well as reduce the number of trips required.

SA team suggestion: It should also be noted where sites are near to a railway line which could be used to as a transport mode.

41 sites have been identified within the long list which are co-located with one of the primary policy constraints identified above. These sites have therefore been removed from the list of sites to be further considered.

The minimum site size that will be examined is 0.5Ha, which aligns with the minimum site requirement for the type of facilities identified. It is assumed that more than one facility can be sited on a single site therefore there will be no upper limit in site size. 15 sites initially placed on the long list which were smaller than the identified threshold for suitability for waste facilities. These sites have been removed from the list of potential waste management sites.

Task 3: Site Specific Criteria and Assessment

Following initial sieving of sites identified at Task 1 and Task 2, a refined, short list of 64 sites remain for further, more detailed analysis in Task 3.

Site specific assessment criteria have been developed in compliance with Annex E of PPS10 which outlines the location criteria of waste facilities. The site assessment proposed is divided into two steps. The first step is a desktop review followed by the second step which is an evaluation of all sites in the district on the short list undertaken through a site visit.

Desk based assessment

Policy alignment

Each site will be assessed in relation to existing local planning policy, cross referenced to emerging Core Strategy policies. For example, a site already short-listed on the basis of its policy designation (such as allocated for an employment use within the UDP) would be considered more deliverable than a site designated as tourism facility or allocated for housing.

SA Team suggestion: this assessment exercise should include whether a site is brownfield or Greenfield land and contains or is near to scheduled monuments and listed buildings.

Sites within an agreed distance of environmental designations will be considered as encroaching on environmental constraints. The distance varies depending on the environmental designation. To measure encroachment we will initially highlight sites that are located in a rural environment and within 400 metres of the European designations of SAC, SPA, RAMSAR and SSSI and sites 200 metres of AONB and Ancient Woodlands. This is in line with Natural England recommendations on the protection of habitats from the effects of urbanisation.

SA Team suggestion: This exercise should also consider Sites of Ecological and Geological Importance. Information relating to environmental designations should be noted and the SA team will comment on the risk associated with proximity of the site to environmental designations once the initial assessment is complete. In the case of the nature conservation

designations the SA team's commentary should consider the level of protection afforded to the site and the reasons for designation. The risk of adverse effect on European designated sites should also be dealt with through Habitats Regulations screening. The specific distances mentioned in the text above with regard to measuring encroachment are not necessarily appropriate.

Information relating to existing planning applications that are extant / outstanding on the sites being considered will be appraised to ascertain whether they pose a potential constraint on the use of the site for waste management facilities.

Physical constraints and deliverability

Physical constraints to each site which may affect deliverability will be assessed. This will include discounting sites which are in areas likely to flood or with excessive groundwater and where this would affect suitability for development as well as minimising the risk of environmental impact through waste water pollution. If possible the consultants will obtain Environment Agency flood risk data prior to the site visit; in the event that this is not possible then a post visit assessment will take place. Information about site topography will be noted particularly, sites which have significant sloping / potentially restrictive topography, using Mastermap data. Other features such as pylons which would greatly inhibit development through increased development costs will also be identified (also to be confirmed through site visits).

SA team suggestion: information on flood risk zones (1-3) should be noted. Sensitivity of nearby watercourses should be noted (using Environment Agency web-based data) as well as information about groundwater sensitivity.

Where sites have been highlighted as having physical constraints the site visit will assess the impact the physical constraints will have on the development potential for waste facilities.

Following the desk-top analysis the sites that remain compliant will be identified. These sites will be visited and a site survey undertaken for more detailed site analysis. The on-site criteria to be considered are outlined below.

Site survey

The consultants will review all sites remaining as potential waste management sites, testing their compliance within the criteria outlined below. Focusing on those highlighted as having some physical constraint or encroaching upon an environmental constraint for further assessment.

The on site survey will include photographing the sites and the completion of a site *proforma* designed specifically for this analysis. A range of generic information for each site will be gathered, including:

- Site name and observed location;
- Confirmation of boundaries;
- Current use – housing, mixed use, employment, other;
- Surrounding, neighbouring uses;

- Public sector land ownership;
- Accessibility; and
- Principal site features – vegetation, existing structures, etc.

SA Team suggestions for the site proforma: The SA Team suggests that the proforma should include the following additional criteria:

- *Are there any nearby public rights of way with views of the site?*
- *Note whether there are any surface water features on the site or visible within the surrounding environment. If so describe the feature/s (i.e. standing water in a pond/pool, running water, ditches or marshy areas);*
- *Identify if any of the following are present and whether development of the site is likely to be accommodated without the need for removal of these features:*
 - *Mature trees;*
 - *Belts of trees or woodland areas;*
 - *Hedges; and*
 - *Grassland.*
- *It should be noted whether the site contains any derelict buildings;*
- *Is there any nearby rail freight access?; and*
- *Do surrounding land uses include any historical buildings such as churches?*

Proximity to Waste Arisings

Each site's proximity to waste arisings will be assessed and whether the site is at a suitable distance not to adversely impact on surrounding uses, but close enough to ensure that the source of waste is in close proximity to minimise transfer distances, thus aiming to reduce costs and environmental impact.

SA Team suggestion: the distance between the site and location of waste arisings should be noted and the nature of the waste arisings described e.g. municipal waste or commercial waste. With regard to waste transfer/recycling sites, the final treatment point should be noted.

Adjacent Uses

A number of local issues will arise from the construction and working of waste facilities. Anticipated effects include increases in traffic, subsequent noise and vibration and from the facilities workings, dust and air emissions including odour, and increased vermin and birds, therefore it is vital that we assess what types of property and land will be affected by the proposed use and how this could be minimised. The location of such facilities would ideally be in an area of current industrial / employment use as opposed to open space or residential areas.

SA Team suggestion: this information will be used to inform the SA of the specific sites.

Visual Intrusion

Waste facilities have the potential to impact upon the visual environment and as such consultants will be looking to assess whether the surrounding landscape will suffer from the location of waste facilities including large sheds and chimney flues. Consultants will take a visual analysis of the surrounding areas and use professional judgement to assess whether the visual environment would be unduly impacted upon.

SA Team suggestion: this information will be used to inform the SA of the specific sites

Ground Stability

The on site assessment will include a visual inspection of any obvious signs of ground instability for example poor drainage, largely uneven ground surface on a large scale review of the area. Full ground condition surveys are not planned.

Once all the sites have been assessed for the above criteria it is envisaged that a number of sites should be suitable for the location of waste facilities. This list will be cross referenced with planning data to identify any existing permissions and sites under construction in adjacent areas which may create a future conflict with the proposed waste use.

At the end of the survey period an initial review of the survey data will be undertaken to confirm completeness and draw out any immediate findings. Any data and images captured will be reviewed and checked prior to entry into the GIS database to ensure accuracy and agreement.

SA Team suggestion: this information will be used to inform the SA of the specific sites

Task 4 – Site Allocation

Following site assessment, the next step will be to assess the suitability of each site for the different types of waste management technology. A matrix will be used by consultants to consider the characteristics and potential impacts (e.g. noise) of each type of technology and this will be applied to the remaining short list of sites.

4 Results of the Issues Assessment Process

4.1 Assumptions made during the Assessment

Sustainability appraisal relies on expert judgement, which is guided by knowledge of the likely impacts of the plan, the baseline data available and responses and information provided by consultees and other stakeholders. The assessment has been carried out and reported using a matrix enabling an expert, judgement-led qualitative assessment to be made in most cases. A 'precautionary approach' is taken, especially with qualitative judgements and mitigation is suggested if there is any doubt as to the effect of the plan.

4.2 Summary of the Results of the Appraisal of the Waste Management DPD Issues and Options Paper

The full results of the appraisal are presented in matrices in Annex A. A summary of the results is detailed below. The elements of the paper that have been appraised are listed in Section 3.2.

4.2.1 Issue 1: Internal waste management

There are 5 options presented for the issue of how waste is management within Bradford. The options are presents in Section 3.2 and includes: a proportion of waste being managed outside of Bradford District (option 1), managing all waste in Bradford District (option2) and potentially managing waste from other areas (option 3). The options also include working with neighbouring authorities to identify waste management sites / facilities which ensure waste is managed as close to source as possible (option 4) and minimising waste production (option 5). The performance of each of the options against the SA Objectives is discussed below:

Option 1

This option has a mixed performance with regard to the SA Objectives. The option could result in increased mileage per tonne of waste, as some waste would need to be transported to neighbouring areas for management. The potential impact of transporting waste to neighbouring areas could be emissions of air pollutants and greenhouse gases from vehicles. As the option does not propose the development of new waste management sites / facilities it is assumed that the option would not introduce waste traffic to areas which currently do not receive this type of traffic. This option does not perform well against the SA Objectives which are concerned with proximity of waste management infrastructure to current and future centres of population, improving access to waste management facilities and ensuring that local communities take more responsibility for their own waste.

As the option does not propose the development of new waste management sites / facilities within Bradford District (it proposes the consolidation and increasing capacity at existing facilities), this option performs well with regard to some of the environmental SA Objectives, such as those relating to safeguarding water and soil resources, reducing the number of people affected by noise and dust, protecting and enhancing biodiversity and landscape quality, the quality of the built environment, historic assets and archaeology, avoiding impacts on open space, cultural, leisure and recreation opportunities and reducing the

impact of the waste industry on people's safety and security, health and quality of life. This option also performs well with regard to supporting employment as it is assumed that the consolidation and increasing capacity at existing waste management facilities would include the creation of new jobs.

Option 2

The performance of option 2 differs significantly from the performance of option 1 because it provides additional waste management sites and capacity to manage growing waste arisings within the district. This option therefore performs well with regard to the SA Objectives which are concerned with proximity of waste management infrastructure to current and future centres of population, improving access to waste management facilities and ensuring that local communities take more responsibility for their own waste as these are all objectives which this option should be able to significantly work towards achieving. However, although this option could potentially reduce the mileage per tonne of waste by locating more waste management sites within Bradford, there is a chance that in some cases a facility in a neighbouring authority area might be closer to a source of waste.

This option should also provide new jobs within the waste industry through providing new sites and facilities and increasing capacity within the Bradford District.

There is a lot of uncertainty with regard to this option because, by providing new waste management sites and facilities, it has the potential to result in adverse effects such as nuisance from transport and dust and noise on communities, adverse effects on biodiversity and landscape, adverse effects on the built environment, historic assets and archaeology and result in adverse impacts on open space, cultural, leisure, and recreational opportunities. However, the potential for these effects occurring would depend on the location of the new waste management sites identified. For example, they could be on brownfield land and might not therefore result in adverse effects relating to built heritage and archaeology, recreation opportunities, and landscape.

This option would not necessarily help to minimise growth in waste or increase the amount reused, recycled and recovered. By developing more waste management sites and facilities, this option will make use of natural resources in construction and will need land to be provided for such sites. However, the waste management sites could make use of brownfield land, which would reduce the effect of new waste management sites on land and soil resources and a number of other potential effects, as mentioned above.

Option 3

Option 3 performs similarly to option 2 because it intends to provide additional waste management sites within the District. However, the option also includes providing capacity for waste management facilities within the district to deal with more waste than is produced within Bradford District allowing scope to import and handle waste from other places in the future. Option 3 could result in an increase in waste related traffic and associated air pollution and could increase the mileage that waste travels, by transporting waste into the district from other areas. However, depending on the location of a waste site relative to the source of waste arisings within another Local Authority area, this option could also potentially reduce waste mileage travelled.

Job security in the waste industry may be strengthened in this option by allowing scope to accommodate waste from other areas in the future.

Option 4

It is unclear whether option 4 would require new waste management facilities within the district and therefore there is uncertainty regarding most of the environmental SA Objectives, such as those concerning biodiversity, landscape quality, soil and water resources, noise and dust, traffic impacts on communities, the built environment, historic assets and archaeology and open space, cultural, leisure and recreational opportunities. Effects associated with these topics would depend on the nature and location of any new waste sites required. The option refers to identifying appropriate sites for waste management but it has not been assumed that the test of 'appropriateness' would include environmental impacts such as those listed.

This option will not necessarily help to minimise growth in waste or increase the amount reused, recycled and recovered. This option could also result in waste being managed outside of Bradford District which means that the District would not be self-sufficient with regards to dealing with its own waste arisings.

This option should minimise the distance travelled from source to waste management site and therefore performs well with regard to reducing greenhouse gas emissions. This will also ensure good accessibility of waste sites from the main centres of population.

This option may increase the number of waste sites within the district and/or potentially within neighbouring areas and it is assumed would therefore increase the number of jobs in the sector, but not necessarily within the district.

Option 5







This option performs well with regards to the minimisation of the growth in waste and the efficient use of natural resources. This option should also help to minimise the amount of waste that will require treatment and should therefore help to minimise the energy demand and greenhouse gas emissions associated with waste treatment and transport.




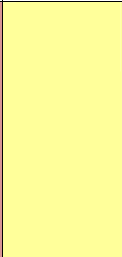
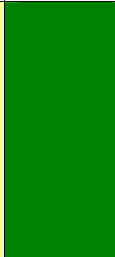











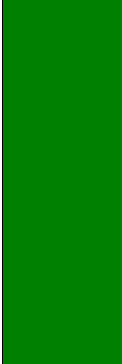


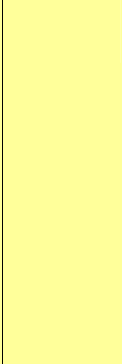
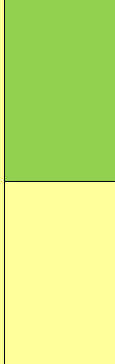
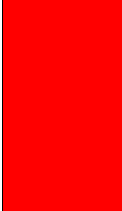



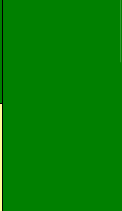




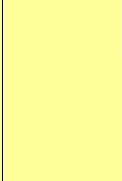






It is not clear whether new waste management facilities will be required as a part of this option and therefore there is uncertainty in the appraisal of many of the environmental objectives, such as in relation to biodiversity, landscape quality, soil and water resources, noise and dust, traffic impacts on communities, the built environment, historic assets and archaeology and open space, cultural, leisure and recreational opportunities.

It is also uncertain whether this option would improve the accessibility of waste management sites. The option may not result in job creation within the waste industry. It aims to reduce waste production, however, it could result in new waste management sites should they be required. A neutral performance was recorded in relation to this SA Objective.

The Issue 1 summary table below presents a summary of the performance of each option considered for issue 1. Cells within the summary table are sometimes split, indicating a mixed performance, for example, where there is potential for the option to move towards the

achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key		Move away significantly		Move away marginally		Move towards marginally		Move towards significantly		Neutral		Uncertain
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Issue 1 Summary Table					
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy. Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.					
Reduce the District's impact on climate change and vulnerability to its effects.					
Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.	 				
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats. To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes. Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.					
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.			 		
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.					
Improve the quality of the built environment, protect and enhance historic assets and make					

Issue 1 Summary Table					
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5
efficient use of land.					
Avoid, protect and enhance historic assets.					
Improve the quality and range of services available within communities and connections to wider networks.					
Ensure local communities take more responsibility for their own waste					
Avoid impacts on open space, cultural, leisure and recreation opportunities					
Reduce the impact of the waste industry on people's safety and security, health and quality of life					
Support employment in the waste industry for local people.					
Ensure the provision of adequate waste management capacity.					

4.2.2 Issue 2: Location of waste sites

Two options were put forward for the issue of the location of waste sites. Option 1 is to concentrate waste management facilities in a small number of strategic sites and option 2 involves the identification of a large number of small sites dispersed across the District for waste management. The options both had a mixed performance and neither would clearly help achieve all of the SA Objectives more than the other option.

Option 2 may not provide the larger sites suitable for certain technologies but might be more likely to provide waste management sites which produced recycled products which were closely associated with the markets for those materials because smaller sites are more likely to be previously developed land located within urban areas, where markets may exist for recycled products. Some technologies only require small sites but these could potentially be co-located or combined on several large sites in option 1.

Option 1 may result in more waste related trips around the district and would not improve accessibility of waste management sites or achieve waste management near to the point of source across the district. Option 1 could therefore result in greater mileage per tonne of waste and greater emissions of greenhouse gases and other pollutants from transport.

However, the benefits of option 1 are that it would limit the effects of waste management sites, such as noise, dust, landscape, traffic impacts and construction impacts such as loss of soils, adverse effects on biodiversity, open space and leisure and recreation.







The appraisal of option 1 has assumed that the option makes use of existing waste management sites and would not require development of Greenfield land. Issue 3 relates to whether Greenbelt land (which is largely Greenfield) should be considered for waste management sites. It is unclear whether option 1 will limit the capacity of waste management within the district and whether waste would need to be managed outside of the district.

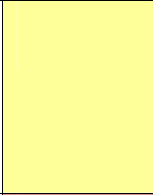
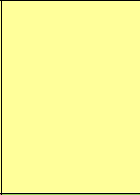
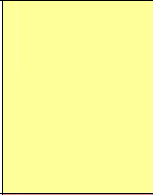
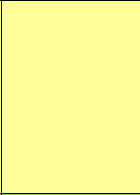




Option 2 should reduce trips and mileage per tonne of waste by locating numerous waste sites across the district. This would provide a range of waste sites which are easily accessible to the public but it could also create waste related traffic in areas which are currently unaffected by waste traffic and HGVs.

A greater number of waste sites across the district could also spread the adverse effects of waste sites, such as noise, pollution and landscape issues across the district so that they affect more people. This could affect people's quality of life. The development of new waste sites could be associated with adverse effects on biodiversity, historic assets, open space and cultural assets, leisure and recreation opportunities, however, this would depend on the nature, location and distribution of facilities proposed.

It is not clear whether either option 1 or 2 will create more jobs than the other option in the waste industry. Both would need to provide a certain amount of capacity and therefore there is not likely to be any difference between the options with regard to job creation.

The Issue 2 summary table below presents a summary of the performance of each option considered for issue 2. Cells within the summary table are sometimes split, indicating a mixed performance, for example, where there is potential for the option to move towards the achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key		Move away significantly		Move away marginally		Move towards marginally		Move towards significantly		Neutral		Uncertain
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Issue 2 Summary Table		
SA Objectives	Option 1	Option 2
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.		
Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.		
Reduce the District's impact on climate change and vulnerability to its effects.		
Safeguard and improve air, water and soil resources and reduce the		

Issue 2 Summary Table		
SA Objectives	Option 1	Option 2
number of people affected by noise and dust from waste management sites.		
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats. To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes. Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.		
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.		
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.		
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.		
Avoid, protect and enhance historic assets.		
Improve the quality and range of services available within communities and connections to wider networks.		
Ensure local communities take more responsibility for their own waste.		
Avoid impacts on open space, cultural, leisure and recreation opportunities		
Reduce the impact of the waste industry on people's safety and security, health and quality of life		
Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.		

4.2.3 Issue 3: Identifying sites for waste management facilities

This issue deals with whether sites within the Green belt should be considered for waste management. Option 1 excludes sites within the Green belt, other than existing facilities. Option 2 includes considering new potential waste sites within the Green Belt.







A lot of uncertainty is recorded in the appraisal matrix for both of the options, for example, because it cannot be assumed that development in the Green Belt could have a greater



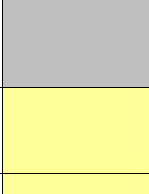
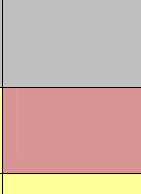




potential for adverse impacts on soils resources / land take (because there could be Brownfield land available for development within the Green Belt) and it cannot be assumed that historic assets and archaeology are only located within the Green belt and not on non-Green Belt land. However, it is assumed that there is a greater likelihood of habitats and wildlife corridors being adversely affected by development in the Green Belt and therefore option 1 performs better than option 2 in this respect. Option 1 is also more likely that option 2 to avoid adverse effects on landscape quality. Option 1 is more likely to guide development away from versatile agricultural land.

Option 1 may not help to minimise the mileage per tonne of waste because it could limit the locations of waste management sites and therefore require longer journey lengths around the district. Option 1 could also limit the range and accessibility of waste management facilities and may not allow greater proximity of the source of waste and the treatment of waste. Option 1 could also limit the proximity of facilities which produce recycled products and the markets for those products.

Option 2 may create a greater flexibility to locate waste management facilities across the district in a manner which reduces the amount of travelling for waste treatment / management, however this option may also introduce waste traffic into areas which are currently not affect. However, this would depend on the location of land that is available for waste management outside of and within the Green Belt. The areas potentially at risk from flooding within the district mainly follow the watercourses and some of these areas are located within the Green Belt. The testing of sites within and outside of the Green Belt would, however, consider flood risk.

The Issue 3 summary table below presents a summary of the performance of each option considered for issue 3. Some cells within the summary table are split, indicating a mixed performance, for example, where there is potential for the option to move towards the achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key	 Move away significantly	 Move away marginally	 Move towards marginally	 Move towards significantly	 Neutral	 Uncertain
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Issue 3 Summary Table		
SA Objectives	Option 1	Option 2
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.		
Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.		
Reduce the District’s impact on climate change and vulnerability to its effects.		
Safeguard and improve air, water and soil resources and reduce the number		

Issue 3 Summary Table		
SA Objectives	Option 1	Option 2
of people affected by noise and dust from waste management sites.		
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.		
To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.		
Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.		
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.		
Reduce nuisance caused to communities by waste transport.		
Encourage a modal shift away from road freight.		
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.		
Avoid, protect and enhance historic assets.		
Improve the quality and range of services available within communities and connections to wider networks.		
Ensure local communities take more responsibility for their own waste		
Avoid impacts on open space, cultural, leisure and recreation opportunities		
Reduce the impact of the waste industry on people's safety and security, health and quality of life		
Support employment in the waste industry for local people.		
Ensure the provision of adequate waste management capacity.		

4.2.4 Issue 5: Management of Construction and Demolition Waste

There are three options presented for the issue of managing construction and demolition waste. Option 1 requires the maximisation of on-site recycling and reuse of construction and demolition waste as part of the development process. Option 2 promotes a criteria based approach to locating new and expanded construction and demolition waste management facilities and option 3 is a combination of options 1 and 2.







The key benefit of option 1 is that it encourages the efficient use of natural resources, reduces the amount of waste that needs to be managed in the district, reduces the amount


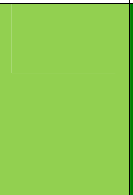





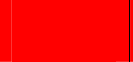

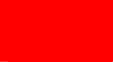

of waste transportation and avoids the potential environmental effects of developing new or expanding existing waste management sites in order to deal with construction and demolition waste (involved in option 2).

However, the benefit of option 2 is that additional waste sites that deal with construction and demolition waste would enable the waste that comes from small construction sites (which could be considerable) to be re-used, recycled and recovered through the waste management sites rather than this waste going straight to landfill. Option 1 may not be feasible for small construction sites.

Option 3, the combination of both options 1 and 2, generally performs well against the SA Objectives, but because it involves the development of new or expanded waste sites to deal with construction and demolition waste it works against some of the environmental SA Objectives, such as biodiversity and landscape, nuisance and in relation to reducing mileage of waste travelled and greenhouse gases from transport. Through developing waste management sites to deal with construction and demolition waste, options 2 and 3 could potentially enable the sale of construction and demolition waste products as a potential economic benefit. These options may also support jobs at such waste management facilities.

The Issue 5 summary table below presents a summary of the performance of each option considered for issue 5. Some cells within the summary table are split, indicating a mixed performance, for example, where there is potential for the option to move towards the achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key		Move away significantly		Move away marginally		Move towards marginally		Move towards significantly		Neutral		Uncertain
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Issue 5 Summary Table			
SA Objective	Option 1	Option 2	Option 3
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy. Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.			
Reduce the District's impact on climate change and vulnerability to its effects.			
Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.		 	 

Issue 5 Summary Table			
SA Objective	Option 1	Option 2	Option 3
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.	Green	Red	Red
To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.	Green	Yellow	Yellow
Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.	Green	Yellow	Yellow
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.	Light Green	Red	Light Green
Reduce nuisance caused to communities by waste transport.	Light Green	Red	Light Green
Encourage a modal shift away from road freight.	Light Green	Red	Light Red
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	Light Green	Yellow	Yellow
Avoid, protect and enhance historic assets.	Light Green	Red	Red
	Light Green	Yellow	Yellow
Improve the quality and range of services available within communities and connections to wider networks.	Grey	Grey	Grey
Ensure local communities take more responsibility for their own waste	Green	Green	Green
Avoid impacts on open space, cultural, leisure and recreation opportunities	Light Green	Red	Red
	Light Green	Yellow	Yellow
Reduce the impact of the waste industry on people's safety and security, health and quality of life	Light Green	Red	Red
	Light Green	Yellow	Yellow
Support employment in the waste industry for local people.	Grey	Light Green	Light Green
Ensure the provision of adequate waste management capacity.	Grey	Light Green	Light Green

4.2.5 Issue 6: Management of 'Other' Waste Streams

There are four options presented for this issue which relates to the disposal of hazardous waste and agricultural waste. Option 1 includes planning for additional hazardous waste disposal capacity in the short term. However, a need for more capacity to deal with hazardous waste within the district has not been identified within the short term, and therefore option 2 does not plan for providing additional capacity. Option 3 involves developing a criteria based policy approach for locating 'other' waste management facilities, including hazardous and agricultural waste and option 4 involves developing a policy approach combining either option 1 or 2 with option 3. The options have a number of factors in common. None of the options promotes renewable energy, such as might be generated from agricultural waste and none of the options reduce hazardous waste arisings. It has been difficult to identify environmental effects of hazardous waste facilities because such sites will be rigorously tested with regards to potential for pollution in order to gain an environmental permit. However, it has been possible to comment on some potential environmental impacts, such as landscape. The performance of each option is summarised below.

Option 1

Although this option identifies sites for hazardous waste management in the short term, it is assumed that waste management sites would not actually be developed until the capacity was required. This option should provide the necessary capacity in order to avoid hazardous waste being transported long distances outside of the district for disposal. This option should also therefore support the provision of jobs in the waste industry. A lot of uncertainty has been identified with regard to many of the SA Objectives (particularly those relating to environmental effects) because although such sites will be rigorously tested for in order to gain an environmental permit, it cannot be assumed that no environmental effects (or traffic effects) will occur as a result of such facilities in construction and in operation.

Option 2

This option does not identify hazardous waste facilities because they are not required in the short term. It is not clear whether this option will require new hazardous waste facilities to be identified within Bradford district in the same time periods as for option 1. There is therefore a lot of uncertainty recorded within the SA matrix with regard to potential environmental effects of developing new hazardous waste sites because it is not clear whether this will occur. It is assumed that this option will involve the transportation of hazardous and agricultural wastes outside of Bradford District for treatment and therefore this option does not work towards the achievement of options relating to reducing mileage of waste travelled and reducing emissions of greenhouse gases from transport. It is uncertain whether communities would be affected by traffic associated with the transportation of hazardous waste. This option does not secure capacity for the treatment of hazardous waste in the long term and therefore significantly works against the SA Objective 'Ensure the provision of adequate waste management capacity'. It also works against the SA Objective 'Support employment in the waste industry for local people'.







Option 3

This policy involves using a criteria based approach for locating ‘other’ waste management facilities, to include hazardous and agricultural waste. This option will involve the identification of hazardous waste facilities in the short term and should provide the necessary capacity in order to avoid waste being transported long distances outside of the district for disposal. This option should also therefore support the provision of jobs in the waste industry. This option also includes a criteria based approach for the location of ‘other’ waste facilities (including hazardous and agricultural waste) and therefore it is assumed that that the criteria would include environmental effects and therefore that the development of such a facility would avoid causing pollution nuisance and/or increase the number of people affected by noise, dust and traffic impacts. It is also assumed that the criteria would include biodiversity and landscape considerations although this is less certain as new waste management facilities would require land take which increases the risk of such effects occurring. The same applies for the built environment and historic assets.

Option 4

It has been difficult to appraise option 4 because it involves both planning in the short term for additional capacity for hazardous waste facilities but at the same time either not identifying sites for hazardous waste management in the short time or using a criteria based policy for locating ‘other’ waste management facilities, including hazardous and agricultural waste. This option includes either of two conflicting actions (options 1 and 2) and it is suggested that the option should have been considered as two separate options, one which combined options 1 and 3 and one option which combined options 2 and 3. For the purposes of the appraisal it has been assumed that this option will involve the identification of hazardous waste facilities in the short or long term and should provide the necessary capacity in order to avoid waste being transported long distances outside of the district for disposal. This option should also therefore support the provision of jobs in the waste industry. This option also includes a criteria based approach for the location of ‘other’ waste facilities (including hazardous and agricultural waste) and therefore it is assumed that that the criteria would include environmental effects and therefore that the development of such a facility would avoid causing pollution nuisance and or increase the number of people affected by noise, dust and traffic impacts. It is also assumed that the criteria would include biodiversity and landscape considerations although this is less certain as new waste management facilities would require land take which increases the risk that such effects could occur. The same applies for built environment and historic assets. The option therefore has a similar performance to option 3.

The Issue 6 summary table below presents a summary of the performance of each option considered for issue 6. Some cells within the summary table are split, indicating a mixed performance, for example, where there is potential for the option to move towards the achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key	 Move away significantly	 Move away marginally	 Move towards marginally	 Move towards significantly	 Neutral	 Uncertain
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Issue 6 Summary Table				
SA Objectives	Option 1	Option 2	Option 3	Option 4
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy. Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.	Red	Red	Red	Red
Reduce the District's impact on climate change and vulnerability to its effects.	Light Red	Light Red	Light Red	Light Red
Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.	Yellow	Yellow	Green	Green
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats. To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes. Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.	Yellow	Yellow	Yellow	Yellow
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.	Light Green	Red	Light Green	Light Green
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.	Yellow	Yellow	Light Green	Light Green
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	Light Green	Yellow	Light Green	Light Green
Avoid, protect and enhance historic assets.	Yellow	Yellow	Light Green	Light Green
Improve the quality and range of services available within communities and connections to wider networks.	Grey	Grey	Grey	Grey
Ensure local communities take more responsibility for their own waste	Green	Red	Green	Green
Avoid impacts on open space, cultural, leisure and recreation opportunities	Yellow	Yellow	Light Green	Light Green
Reduce the impact of the waste industry on people's safety and security, health and quality of life	Yellow	Yellow	Light Green	Light Green
Support employment in the waste industry for local people.	Green	Red	Green	Green

Issue 6 Summary Table

SA Objectives	Option 1	Option 2	Option 3	Option 4
Ensure the provision of adequate waste management capacity.				

4.2.6 Issue 7: Management of residual waste

This issue relates to how residual waste (after re-use, recycling and recovery) is disposed of and options are put forward which relate to landfill capacity and locations of landfill. The options include limiting landfill capacity and encouraging alternative methods of treatment (option 1), providing additional landfill capacity within the district (option 2), a combination of options 1 and 2 (option 3) and option 4 which includes utilising the existing sub-regional landfill capacity in the first instance but provide additional landfill capacity within the DPD through the identification of suitable sites. In option 4, any additional landfill capacity would only be utilised when the sub-regional capacity nears exhaustion. The performance of each option is summarised below.

Option 1

This option limits landfill capacity in the district and involves the inclusion of criteria based policies to encourage the use of alternative technologies for the treatment of residual waste. This option generally performs well against the SA Objectives but there is some uncertainty regarding the potential effects of the alternative methods of dealing with residual waste, such as what the associated greenhouse gas emissions might be and whether they would be associated with nuisances such as noise and traffic impacts. It is assumed that the alternative methods for treating residual waste would not require as large a land take as landfill and therefore it is assumed they would have a lower risk of adverse effects, such as in relation to biodiversity, landscape, soils, water resources and archaeology.

Option 2

This option does not perform well with regard to a number of the SA Objectives because it will lead to new and/or expanded landfill sites within the district and does not include limiting waste arisings or encourage re-use, recycling and recovery. The option will increase the amount of greenhouse gases released from landfill sites and would be associated with nuisance effects on communities, land take, loss of soils, potential effects on biodiversity, landscape, historic assets and open space and recreation opportunities. The benefits of option 2 are that it provides capacity for waste management facilities within the district and will support the provision of jobs. This also means that this option works towards the achievement of the SA Objective ‘Ensure local communities take more responsibility for their own waste’. By providing waste management facilities within the district this option should minimise the mileage per tonne of waste as waste would not need to be transported outside of the district for disposal in landfill.

Option 3

Option 3 is a combination of options 1 and 2. It is assumed that option 3 will therefore provide limited additional capacity for landfill and will encourage the use of alternative treatment of residual waste through limiting landfill capacity within the district. The appraisal

records a number of mixed performances, as both the pros and cons of options 1 and 2 combine but do not cancel each other out. For example, option 3 will not avoid environmental effects of landfill, such as emissions of greenhouse gases, but may promote renewable energy and the recovery of waste through encouraging alternative technologies for dealing with residual waste. Option 3 provides capacity for waste management facilities within the district and will support the provision of jobs. This also means that this option works towards the achievement of the SA Objective 'Ensure local communities take more responsibility for their own waste'. By providing waste management facilities within the district this option should minimise the mileage per tonne of waste as waste would not need to be transported outside of the district for disposal in landfill. With regard to the coverage of the SA Objectives, option 3 supports more of the SA Objectives than option 2 but not as many as option 1.







Option 4






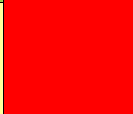

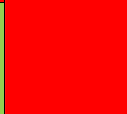
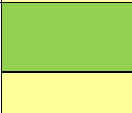
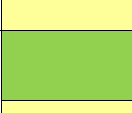




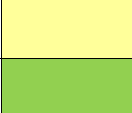


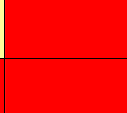

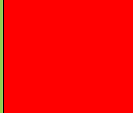

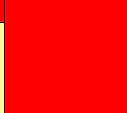




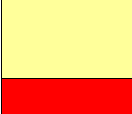


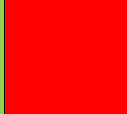




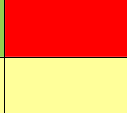





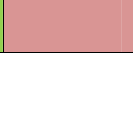




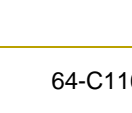
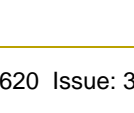




This option includes the identification of additional landfill capacity within the district but this will only be used once the existing sub-regional capacity is exhausted. In the meantime, the existing sub-regional capacity will be utilised which will result in waste travelling out of the district for disposal in the short and medium term. This could increase the mileage per tonne of residual waste as it may potentially have to travel further distances as the sub-regional landfill capacity comes closer to exhaustion and individual landfill sites are closed. This therefore does not work towards the achievement of the SA Objective concerned with reducing emissions of greenhouse gases and reducing contributions to climate change. By increasing landfill capacity within Bradford District in the long term this option will also increase emissions of greenhouse gases from landfill sites.

Similar to option 2, option 4 will eventually result in new landfill sites within Bradford District and therefore could be associated with nuisance effects on communities, land take, loss of soils, potential effects on biodiversity, landscape, historic assets and open space and recreation opportunities.

Option 4 may not support jobs within the waste industry within Bradford district in the short to medium term but may support jobs in the waste industry in the longer term and therefore a mixed performance is recorded. This option may also not ensure that there is adequate capacity to dispose of waste within the sub-region or Bradford District.

The Issue 7 summary table below presents a summary of the performance of each option considered for issue 7. Some cells within the summary table are split, indicating a mixed performance, for example, where there is potential for the option to move towards the achievement of an SA objective, but there is also some uncertainty regarding whether this will happen. More detail is provided within the matrices in Annex A.

Key		Move away significantly		Move away marginally		Move towards marginally		Move towards significantly		Neutral		Uncertain
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Issue 7 Summary Table				
SA Objectives	Option 1	Option 2	Option 3	Option 4
Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.				
Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.				
Reduce the District's impact on climate change and vulnerability to its effects.	 		 	
Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.	 			
To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.				
To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.				
Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.				
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.	 			
Reduce nuisance caused to communities by waste transport.				
Encourage a modal shift away from road freight.				
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.				
Avoid, protect and enhance historic assets.				

Issue 7 Summary Table				
SA Objectives	Option 1	Option 2	Option 3	Option 4
Improve the quality and range of services available within communities and connections to wider networks.	Grey	Grey	Grey	Grey
Ensure local communities take more responsibility for their own waste	Green	Green	Green	Red
Avoid impacts on open space, cultural, leisure and recreation opportunities	Light Green	Red	Light Red	Red
		Yellow	Yellow	Yellow
Reduce the impact of the waste industry on people's safety and security, health and quality of life	Green	Red	Light Red	Red
	Yellow	Red	Light Red	Red
Support employment in the waste industry for local people.	Light Green	Light Green	Light Green	Red
Ensure the provision of adequate waste management capacity.	Light Green	Light Green	Light Green	Red

5 Conclusions and Next Steps

This report presents the findings of the appraisal of the options set out within the Issues and Options paper (November 2009). The purpose of the appraisal and SA commentary on the potential waste management sites is to help inform the selection of the preferred option and these findings will now be taken on board in the development of the preferred options.

The appraisal of the preferred option will provide information on mitigating any identified effects and opportunities for enhancement where relevant.

Annex A: Issues and Options Paper Appraisal Matrices

Key	--	Move away significantly	-	Move away marginally	+	Move towards marginally	++	Move towards significantly	0	Neutral	?	Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 1: Internal waste management									
		Option 1: Focus on consolidating and increasing capacity at existing facilities across the District, and recognise that some waste will need to be managed outside Bradford.		Option 2: Provide additional sites and capacity to manage growing waste arisings within the District.		Option 3: Provide additional sites and capacity to manage more waste than is produced in the District, allowing scope to import and handle waste from other places in the future.		Option 4: Work with adjacent authorities to identify appropriate sites / facilities to accommodate waste arisings as closely as possible to their source.		Option 5: Minimise waste production / arisings across the District through appropriate planning policies, therefore minimising site allocations required.	
<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? Lead to a reduction of the amount of waste that will require treatment? Minimise any adverse impacts on water resources at all stages of waste 	0	This option may limit the use of natural resources in the construction of waste management facilities by avoiding the development of new facilities through the consolidation / increasing capacity at existing facilities. This option will not necessarily have an impact with regard to	-	This option would require the use of natural resources in order to build new waste management facilities and would result in land take (although development could be on brownfield land). This option will not necessarily have an impact with regard to minimising growth in waste	-	This option would require the use of natural resources in order to build new waste management facilities and would result in land take (although development could be on brownfield land). This option will not necessarily have an impact with regard to	?	It is unclear whether this option will result in the development of new facilities and therefore whether it will require the use of natural resources. This option will not necessarily have an impact with regard to minimising growth in waste or	++	This option will minimise the amount of waste that will require treatment and will minimise the growth in waste.

	<ul style="list-style-type: none"> management? Put in place adequate and sustainable treatment facilities? Help the District to meet its recovery and recycling targets? Help the authority meet its quota under the LATS? Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 		minimising growth in waste or increasing the amount re-used, recycled and recovered.		or increasing the amount re-used, recycled and recovered.		minimising growth in waste or increasing the amount re-used, recycled and recovered.		increasing the amount re-used, recycled and recovered.		
Reduce the District's impact on climate change and vulnerability to its effects.	<ul style="list-style-type: none"> Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste management facilities to the effects of climate 	-	It is unclear whether this option would reduce vulnerability to climate change because this depends on the nature of facilities and their location. This option	?	It is unclear whether this option would reduce vulnerability to climate change because this depends on the nature of facilities and their location. This option may	?	It is unclear whether this option would reduce vulnerability to climate change because this depends on the nature of facilities and their location. This option	+	It is unclear whether this option would reduce vulnerability to climate change because this depends on the nature of facilities and their location.	++	This option will minimise the amount of waste that will require treatment and will therefore help to minimise greenhouse gas emissions from waste

	<p>change (including increased flooding)?</p> <ul style="list-style-type: none"> • Encourage the development of renewables and energy efficiency within the waste sector? 		<p>could result in increased trips and journey lengths to transport waste outside of Bradford District and therefore could increase greenhouse gas emissions from transport.</p>	<p>minimise travel and therefore minimise greenhouse gas emissions associated with transporting waste but there is some uncertainty because in some cases a facility may exist in a neighbouring authority which is closer to the source of waste.</p>	<p>may reduce distances travelled for waste arisings within Bradford District but might encourage more trips from outside of the District and therefore increase greenhouse gas emissions from transport.</p>	<p>This option should minimise travel and therefore minimise greenhouse gas emissions associated with transporting waste.</p>	<p>management. This option will encourage energy efficiency through minimising waste arisings and therefore the energy required to transport and treat waste. It is unclear whether this option would reduce vulnerability to climate change because this depends on the nature of facilities and their location.</p>
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<p>Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.</p>	<ul style="list-style-type: none"> • Change the amount of pollution and nuisance caused by waste management? • Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	<p>++</p> <p>This option should avoid increasing the number of people affected by pollution from waste management sites but may increase air pollution through the requirement to transport waste outside of Bradford District. Therefore a mixed performance is recorded.</p> <p>-</p>	<p>--</p> <p>This option involves the development of additional sites for waste management which could result in increasing the number of people / receptors for noise and dust. This option could also result in potential adverse effects on soil and water resources, through the construction and operation of additional facilities, although this would depend on the nature and location of the sites.</p> <p>?</p>	<p>--</p> <p>This option involves the development of additional sites for waste management which could result in increasing the number of people / receptors affected by noise and dust. This option could also result in potential adverse effects on soil and water resources, through the construction and operation of additional facilities, although this would depend on the nature and location of the sites. This option could also result in increased traffic and air pollution from the transportation</p> <p>?</p>	<p>+</p> <p>This option aims to ensure that appropriate sites are identified within Bradford or within neighbouring areas for waste management facilities which should reduce the potential for adverse effects. However, it is not clear whether this option will result in the development of new facilities and therefore whether these types of environment effects could result from construction and therefore an uncertain performance is also recorded.</p> <p>?</p>	<p>+</p> <p>This option will minimise the amount of waste that will require treatment and will therefore minimise these environmental impacts associated with waste management. However, this option does not necessarily avoid the need for new sites and therefore the performance is uncertain as well as potentially moving towards the achievement of this SA Objective.</p>
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							of waste from neighbouring areas.				
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.</p> <p>Ensure restoration to biodiversity end</p>	<ul style="list-style-type: none"> • Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? • Include actions that will cause habitat loss or fragmentation or restoration, expansion or enhancement of wildlife networks or habitats? • Include actions that help to reach targets or compromise targets of BAPs? • Include actions to 	<p>++</p>	<p>This option does not involve the development of new sites for waste management facilities and therefore this option supports the protection of biodiversity and landscape character, value and diversity.</p>	<p>?</p>	<p>This option may result in the development of new waste management sites which could have adverse effects with regard to biodiversity and landscape. However, this would depend on the nature and location of the waste management sites and therefore an uncertain performance is recorded.</p>	<p>?</p>	<p>This option may result in the development of new waste management sites which could have adverse effects with regard to biodiversity and landscape. However, this would depend on the nature and location of the waste management sites and therefore an</p>	<p>?</p>	<p>This option may result in the development of new waste management sites which could have adverse effects with regard to biodiversity and landscape. However, the option refers to ensuring that sites are appropriate and therefore there is uncertainty</p>	<p>+</p>	<p>This option will minimise the growth in waste arisings and will minimise the need for new waste management sites, therefore potentially protecting biodiversity and habitats and landscapes. However, this option does not necessarily avoid the</p>

<p>use for waste (landfill) sites and contribute to realising local and national BAP targets.</p>	<p>ensure restoration to biodiversity is a priority where appropriate?</p> <ul style="list-style-type: none"> • Protect, restore and enhance the landscape? 						<p>uncertain performance is recorded.</p>		<p>regarding these SA Objectives, because this could mean that sites are identified in neighbouring areas which are less constrained by ecological / landscape effects.</p>		<p>need for new sites and therefore the performance is uncertain as well as potentially moving towards the achievement of this SA Objective. This option will not affect the restoration of waste sites for biodiversity benefit.</p>
<p>Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in</p>	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for 	--	<p>This option does not necessarily increase the proximity of waste management infrastructure to the current and future centres of population.</p>	++	<p>This option should allow new waste management facilities to be located close to current and future centres of population.</p>	++	<p>This option should allow new waste management facilities to be located close to current and future centres of population. However, it may encourage higher mileage travelled from</p>	++	<p>The purpose of this option is to ensure that waste transport is minimised and waste management is undertaken as close as possible to the sources of waste arisings,</p>	?	<p>This option does not address this SA Objective and will not influence the proximity of waste management sites to the location of waster arisings. This policy should</p>

new development.	separate storage and collection systems?					?	neighbouring areas. However, depending on the location of a waste site relative to the source of waste arisings within another Local Authority area, this option could also potentially reduce waste mileage travelled. Therefore an uncertain performance is also recorded.		regardless of local authority boundaries.		minimise the number of new site allocations required but it is not clear whether this option could be associated with new waste management sites.
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental importance? • Include actions that would encourage a shift from road freight to rail freight? 	○	This option will not necessarily reduce nuisance caused by waste management facilities but would not introduce additional waste traffic into areas that currently are not affected. Overall the performance is considered to be neutral.	?	By developing new waste management sites within Bradford District, there is a risk that waste traffic could be introduced to areas which are currently unaffected by waste traffic. However, new sites could make use of rail freight in order to minimise road	?	By developing new waste management sites within Bradford District, there is a risk that waste traffic could be introduced to areas which are currently unaffected by waste traffic. This option could increase waste transport from	?	This option aims to minimise the distance that waste needs to travel to be treated / managed but this does not necessarily mean that nuisance to communities will be reduced and therefore an uncertain performance	+	This option supports the first SA Objective by reducing waste that needs to be transported. It would not influence the mode of transport used to move waste.

					traffic. The performance is therefore uncertain.		neighbouring areas in the future which could increase waste traffic. However, new sites could make use of rail freight in order to minimise road traffic. The performance is therefore uncertain.		is recorded.		
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	<ul style="list-style-type: none"> Reduce the impact of waste management on the quality of the built environment? Maximise use of previously developed land where possible? 	++	This option does not propose the development of new waste management sites and should avoid any adverse effects on historic assets. By increasing capacity at existing facilities this should ensure the efficient use of land.	?	This option proposes the development of additional sites for waste management which could increase the risk of adverse effects with regards to historic assets and the built environment. However, new waste management sites might be developed on brownfield land and could make efficient use of land and therefore an	?	This option proposes the development of additional sites for waste management which could increase the risk of adverse effects with regards to historic assets and the built environment. However, new waste management sites might be developed on brownfield land and could make efficient use of land and therefore	?	This option may result in the development of new waste management sites which could have adverse effects with regard to historic assets. However, the option refers to ensuring that sites are appropriate and therefore there is uncertainty regarding this SA Objective, because this	?	This option aims to reduce the amount of waste produced and minimise the number of site allocations required. However, this option does not necessarily avoid the need for new sites and therefore the performance is uncertain.

					uncertain performance is recorded.		an uncertain performance is recorded.		could mean that sites are identified in neighbouring areas which are brownfield and/or are not constrained by historic assets.		
Avoid, protect and enhance historic assets.	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	++	This option does not propose the development of new waste management sites and should avoid any adverse effects on historic assets.	?	This option proposes the development of additional sites for waste management which could increase the risk of adverse effects with regards to historic assets and archaeology. However, new waste management sites might not affect historic assets and therefore an uncertain performance is recorded.	?	This option proposes the development of additional sites for waste management which could increase the risk of adverse effects with regards to historic assets and the built environment. However, new waste management sites might not affect historic assets and therefore an uncertain performance is recorded.	?	This option may result in the development of new waste management sites which could have adverse effects with regard to historic assets. However, the option refers to ensuring that sites are appropriate and therefore there is uncertainty regarding this SA Objective, because this could mean that sites are identified in neighbouring areas are not	?	This option aims to reduce the amount of waste produced and minimise the number of site allocations required and therefore the risk of adverse effects on historic assets. However, this option does not necessarily avoid the need for new sites and therefore the performance is uncertain.

								constrained by historic assets.			
Improve the quality and range of services available within communities and connections to wider networks.	<ul style="list-style-type: none"> Improve the accessibility of waste management and treatment services to centres of population? 	--	This option would not improve the accessibility of waste management and treatment services to centres of population.	++	By providing additional sites this option could improve accessibility to waste management and treatment services to centres of population.	++	By providing additional sites this option could improve accessibility to waste management and treatment services to centres of population.	++	By providing additional sites this option could improve accessibility to waste management and treatment services to centres of population, regardless of local authority boundaries.	?	This option aims to reduce the need for additional waste management sites but it is uncertain whether it would not improve the accessibility of waste management and treatment services to centres of population and therefore an uncertain performance is recorded.
Ensure local communities take more responsibility for their own waste	<ul style="list-style-type: none"> Reduce the amount of waste that is treated outside of the District? 	--	This option significantly moves away from the achievement of this SA Objective.	++	This option significantly moves towards the achievement of this SA Objective.	++	This option significantly moves towards the achievement of this SA Objective.	-	This option marginally moves away from the achievement of this SA Objective as it may not necessarily result in more Bradford waste being treated	?	This option would minimise waste arisings which supports the achievement of this objective but would not necessarily reduce the amount of

								outside of the District.		waste that is treated outside of the district and therefore an uncertain performance is recorded.	
Avoid impacts on open space, cultural, leisure and recreation opportunities	<ul style="list-style-type: none"> Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	++	This option does not propose the development of new waste sites and it is unlikely that the consolidation or increase in capacity of existing sites will result in impacts on open space, cultural, leisure and recreational opportunities.	?	This option provides new waste sites and could therefore potentially result in adverse effects on open space, cultural, leisure and recreational opportunities. However, this would depend on the new sites identified. They could be brownfield land and such adverse effects could be avoided. An uncertain performance is therefore recorded.	?	This option provides new waste sites and could therefore potentially result in adverse effects on open space, cultural, leisure and recreational opportunities. However, this would depend on the new sites identified. They could be brownfield land and such adverse effects could be avoided. An uncertain performance is therefore recorded.	?	This option provides new waste sites and could therefore potentially result in adverse effects on open space, cultural, leisure and recreational opportunities. However, this would depend on the new sites identified. They could be on brownfield land and such adverse effects could be avoided. An uncertain performance is therefore recorded.	?	This option aims to reduce the amount of waste produced and minimise the number of site allocations required and therefore the risk of adverse effects on open space, cultural, leisure and recreational opportunities. However, this option does not necessarily avoid the need for new sites and therefore the performance is uncertain.
Reduce the impact of the	<ul style="list-style-type: none"> Cause a change in the number of 	+	By avoiding the development of	?	This option will provide new	?	This option will provide new	?	This option will provide	?	This option aims to

waste industry on people's safety and security, health and quality of life	<p>people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated?</p> <ul style="list-style-type: none"> • Cause a cumulative impact on certain communities? 		new waste management sites this option should not increase the number of people affected by waste management sites.		waste management sites which could potentially increase the impact of the waste industry on people within the district. However, this would depend on the number, location and nature of technology/use of the site and therefore the affect is uncertain.		waste management site which could potentially increase the impact of the waste industry on people within the district. However, this would depend on the number, location and nature of technology/use of the site and therefore the affect is uncertain.		new waste management site which could potentially increase the impact of the waste industry on people within and outside of the district. However, this would depend on the number, location and nature of technology/use of the site and therefore the affect is uncertain. The option refers to a site being appropriate for waste management.		minimise waste arisings and therefore reduce the need for additional waste sites, which works towards the achievement of this SA Objective. However, uncertainty is recorded because this option may involve new waste sites and could potentially result in adverse impacts on peoples lives.
Support employment in the waste industry for local people. Ensure the provision of adequate waste	<ul style="list-style-type: none"> • Include actions that change the number of local people directly employed in skilled jobs in the waste industry? • Include actions that ensure the 	+	This option will not increase the number of waste sites within the district but will involve increasing capacity at existing sites	++	This option will increase the number of waste sites within the district and it is assumed would therefore increase the number of jobs	++	This option will increase the number of waste sites within the district and it is assumed would therefore increase the	+	This option may increase the number of waste sites within the district and/or potentially within neighbouring areas and it is	O	This option aims to minimise waste arisings and may therefore not increase jobs within the sector. However, this

management capacity.	plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability?		which could include the creation of new jobs.		within this sector.		number of jobs within this sector. Job security may be strengthened through allowing scope to accommodate waste arisings from neighbouring areas in the future.		assumed would therefore increase the number of jobs in the sector, but not necessarily within the district.		option could result in additional waste management sites and therefore does not work against this SA Objective. A neutral performance is therefore recorded.
It is assumed that all of the options will ensure provision of an adequate waste management capacity. It is not possible to differentiate between the options with regards to the provision of <u>skilled</u> jobs in the waste industry.											

Key	-- Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	0 Neutral	? Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 2: Location of waste sites			
		Option 1: Concentrate waste management facilities in a small number of strategic sites.		Option 2: Identify a large number of small sites dispersed across the District for waste management purposes.	
<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? Lead to a reduction of the amount of waste that will require treatment? Minimise any adverse impacts on water resources at all stages of waste management? Put in place adequate and sustainable treatment facilities? Help the District to meet its recovery and recycling targets? Help the authority meet its quota under the LATS? Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 	?	<p>This option may not provide the smaller sites needed for certain facilities / technologies.</p> <p>This option may minimise the use of natural resources required to construct waste management sites / facilities but this would depend on the type of facility proposed.</p> <p>Overall, the performance of this option is considered to be uncertain.</p>	?	<p>By providing a large number of small sites this option may ensure that waste management facilities which deal with recycled materials could be closely located/co-located with markets for recycled materials because smaller sites are more likely to be previously developed land located within urban areas, where markets may exist for recycled products.</p> <p>This option may not provide the large sites needed for certain facilities / technologies.</p> <p>Overall, the performance of this option is considered to be uncertain.</p>
Reduce the District's impact on climate change and vulnerability to its	<ul style="list-style-type: none"> Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste 	-	This option may require more waste transport trips around the District and may therefore produce more greenhouse gas	+	This option may require less waste transport trips around the District and may therefore produce less

effects.	<p>management facilities to the effects of climate change (including increased flooding)?</p> <ul style="list-style-type: none"> Encourage the development of renewables and energy efficiency within the waste sector? 		emissions from transport compared with option 2.		greenhouse gas emissions from transport compared with option 1.
<p>Neither option will have any influence over the development of renewable and energy efficiency. It is difficult to determine whether either option will have a different outcome with regard to greenhouse gas emissions from processing. The size of the sites proposed could determine the type of technology that is suitable on each site but each option could involve a variable combination of different technologies and these will not be directly determined by these options.</p>					
Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.	<ul style="list-style-type: none"> Change the amount of pollution and nuisance caused by waste management? Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	+	This option would produce less widespread pollution in the District through concentrating waste management activities in a small number of areas. However, this could result in concentrations of nuisance in these areas. The performance is therefore recorded as both moving towards and moving away from the SA Objective.	--	This option would create nuisance / pollution in more areas across the district and could potentially result in the loss of land and soils resources for waste sites.
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.</p> <p>Ensure restoration to biodiversity end use for waste (landfill)</p>	<ul style="list-style-type: none"> Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? Include actions that will cause habitat loss or fragmentation or restoration, expansion or enhancement of wildlife networks or habitats? Include actions that help to reach targets or compromise targets of BAPs? Include actions to ensure restoration to biodiversity is a priority where appropriate? Protect, restore and enhance the landscape? 	+	By concentrating waste management facilities in a small number of sites this option should minimise impact on biodiversity, nature conservation sites and the landscape.	--	By providing more waste management sites, this option could result in greater impacts on biodiversity, nature conservation sites and landscape compared with option 1.

sites and contribute to realising local and national BAP targets.					
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems? 	--	This option does not reduce the mileage travelled per tonne of waste.	++	This option should reduce the mileage travelled per tonne of waste.
		Neither option will have any effect with regards to waste segregation in homes.			
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental importance? • Include actions that would encourage a shift from road freight to rail freight? 	-	This option may create concentrations of waste traffic, such as HGVs, in certain areas. It is not known whether this option would avoid new waste management facilities or whether only existing facilities would be used, with increased capacities.	-	This option may create more waste traffic movements in areas which do not currently experience any impact from waste traffic.
		?	It is not possible to differentiate between the options with regard to the mode of transport of waste. Both options have the potential to result in adverse traffic impacts but the nature of the impacts would depend on the facilities proposed and the locations of the sites and therefore mixed performances are recorded.		
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	<ul style="list-style-type: none"> • Reduce the impact of waste management on the quality of the built environment? • Maximise use of previously developed land where possible? 	+	By providing a small number of sites this option may make efficient use of land, but this assumes that this option makes use of existing waste management sites and that no new Greenfield sites are	-	It is assumed that this option will involve the creation of new waste management sites and that this could give rise to a greater risk of adverse effects on historic assets

			proposed.	?	and would not be result in the efficient use of land. However, the risk of such effects is uncertain as it depends on the sites proposed and therefore a mixed performance is recorded.
Avoid, protect and enhance historic assets.	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	+	By providing a small number of sites this option may avoid effects on archaeology and historic environment character, but this assumes that this option makes use of existing waste management sites and that no new Greenfield sites are proposed.	-	It is assumed that this option will involve the creation of new waste management sites and that this could give rise to a greater risk of adverse effects on archaeology and historic environment character. However, the risk of such effects is uncertain as it depends on the sites proposed and therefore a mixed performance is recorded.
Improve the quality and range of services available within communities and connections to wider networks.	<ul style="list-style-type: none"> • Improve the accessibility of waste management and treatment services to centres of population? 	--	By providing a smaller number of large waste management sites, this option will not improve the range and accessibility of waste management and treatment services to the centres of population.	++	By providing a larger number of small waste management sites, this option should improve the range and accessibility of waste management and treatment services to the centres of population.
Ensure local communities take more responsibility for their own waste	<ul style="list-style-type: none"> • Reduce the amount of waste that is treated outside of the District? 	?	This option may limit the capacity and suitability of sites for waste management which may result in waste continuing to be treated outside of the District. However,	+	By providing a larger number of small waste management sites this option may increase the potential for waste to be

			this issue is not the subject of these options and therefore an uncertain performance is recorded.	?	treated within the District. However, this issue is not the subject of these options and therefore a mixed performance is recorded.
Avoid impacts on open space, cultural, leisure and recreation opportunities	<ul style="list-style-type: none"> Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	++	By concentrating waste management activities in a small number of large sites this option should minimise impacts on open space, cultural, leisure and recreation opportunities.	--	By dispersing waste management activities on a larger number of small sites this option may increase the potential for adverse effects on open space, cultural, leisure and recreation opportunities.
Reduce the impact of the waste industry on people's safety and security, health and quality of life	<ul style="list-style-type: none"> Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? Cause a cumulative impact on certain communities? 	++	By concentrating waste management activities in a small number of large sites this option should minimise impacts on communities.	--	By dispersing waste management activities on a larger number of small sites this option may increase the potential for adverse effects on communities. It is difficult to determine whether this option could result in a cumulative impact on a community without knowing where waste sites were to be located.
Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.	<ul style="list-style-type: none"> Include actions that change the number of local people directly employed in skilled jobs in the waste industry? Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability? 	?	This option may limit the capacity and suitability of sites for waste management which may result in waste continuing to be treated outside of the District. However, this issue is not the subject of these options and therefore an uncertain performance is recorded. This option may not necessarily result in fewer jobs in the waste industry compared with option 2.	?	This option will result in a large number of small waste management sites but this does not necessarily mean that this option will create more jobs in the waste industry compared with option1 and therefore an uncertain performance is recorded.

Key	-- Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	○ Neutral	? Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 3: Identifying Sites for Waste Management Facilities			
		Option 1: Test all sites on the initial long list within the area of search, excluding those in the Green Belt other than existing facilities.		Option 2: Test all sites on the initial long list, including new potential sites in the Green Belt.	
<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? Lead to a reduction of the amount of waste that will require treatment? Minimise any adverse impacts on water resources at all stages of waste management? Put in place adequate and sustainable treatment facilities? Help the District to meet its recovery and recycling targets? Help the authority meet its quota under the LATS? Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 	○	There is no relationship between this option and these SA Objectives.	○	There is no relationship between this option and these SA Objectives.
Reduce the District's impact on climate change and vulnerability to its effects.	<ul style="list-style-type: none"> Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste management facilities to the effects. 	?	By located waste management sites outside of the green belt this option may not minimise distances that need to be travelled for waste management,	-	This option includes testing sites which are in the green belt. The testing of sites would determine their vulnerability to flooding and potential to increase flooding

	<p>effects of climate change (including increased flooding)?</p> <ul style="list-style-type: none"> Encourage the development of renewables and energy efficiency within the waste sector? 		<p>however, this is highly dependent on the location of proposed sites and therefore an uncertain performance is recorded.</p>		<p>elsewhere, however, there are some areas within the green belt which are at risk of flooding (generally close to the rivers) and therefore this option is considered to move away from this SA Objective.</p>
<p>Neither option will have any impact with regards to the renewable sector and energy efficiency.</p>					
<p>Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.</p>	<ul style="list-style-type: none"> Change the amount of pollution and nuisance caused by waste management? Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	?	<p>It is uncertain whether this option will result in less pollution and nuisance compared within option 2. This option is more likely to guide development towards previously developed land and away from versatile agricultural land but a mixed performance is recorded due to uncertainty.</p>	?	<p>It is uncertain whether this option will result in less pollution and nuisance compared within option 1. This option presents an increased risk of development occurring on valuable land (such as versatile agricultural land) compared with option 1. However, previously developed land could be available for development of waste facilities, such as within disused quarries and therefore a mixed performance is recorded.</p>
		+		-	
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.</p> <p>Ensure restoration to biodiversity end use</p>	<ul style="list-style-type: none"> Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? Include actions that will cause habitat loss or fragmentation or restoration, expansion or enhancement of wildlife networks or habitats? Include actions that help to reach targets or compromise targets of BAPs? Include actions to ensure restoration to biodiversity is a priority where appropriate? Protect, restore and enhance the landscape? 	++	<p>This option presents less risk to biodiversity and landscape by avoiding development of waste management facilities within the green belt where this is a greater likelihood of habitats and wildlife corridors being adversely affected by development.</p>	--	<p>There are more valued areas for biodiversity including biodiversity networks within the green belt and therefore this option could result in a greater risk of adverse effects on biodiversity compared with option 1. This option could result in adverse effects on landscape. Such effects would be considered in the testing of sites.</p>

for waste (landfill) sites and contribute to realising local and national BAP targets.					
Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems? 	++	This option is more likely to locate waste management facilities close to centres of population compared with option 2.	?	There is a risk that this option would not locate waste management facilities which are close to centres of population but this depends on the location of sites considered and therefore an uncertain performance is recorded.
Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental importance? • Include actions that would encourage a shift from road freight to rail freight? 	?	This option is unlikely to create waste traffic impacts within areas which are currently unaffected. However, this option may also not offer the flexibility required to ensure that waste management facilities are located across the district in a way which minimises waste traffic. An uncertain performance is therefore recorded.	?	This option may present greater flexibility for locating waste management facilities across the district in a manner which reduces the amount of travelling for waste treatment in terms of matching the sources of waste to the location of treatment, however, this option may also introduce traffic impacts into areas of the green belt which are currently unaffected. An uncertain performance is recorded.
Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.	<ul style="list-style-type: none"> • Reduce the impact of waste management on the quality of the built environment? • Maximise use of previously developed land where possible? 	?	See comment below which applies to both options.	?	See comment below which applies to both options.
It cannot be assumed that historic assets are only located within the countryside / green belt and therefore it is difficult to differentiate between the two options. Both options are therefore considered to have an uncertain performance.					

<p>Avoid, protect and enhance historic assets.</p>	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	<p>?</p>	<p>See comment below which applies to both options.</p>	<p>?</p>	<p>See comment below which applies to both options.</p>
<p>It cannot be assumed that historic assets are only located within the countryside / green belt and therefore it is difficult to differentiate between the two options. Both options are therefore considered to have an uncertain performance.</p>					
<p>Improve the quality and range of services available within communities and connections to wider networks.</p>	<ul style="list-style-type: none"> • Improve the accessibility of waste management and treatment services to centres of population? 	<p>?</p>	<p>This option may reduce the flexibility in terms of the location of waste management facilities which could prevent an improvement in the range and accessibility of waste services is within Bradford District. However, it is uncertain whether restricting waste management facilities to non-green belt land would restrict accessibility to waste services and therefore an uncertain performance is recorded.</p>	<p>+</p>	<p>This option may provide greater flexibility in terms of the location of waste management facilities which could ensure that the range and accessibility of waste services is improved within Bradford District.</p>
<p>Ensure local communities take more responsibility for their own waste.</p>	<ul style="list-style-type: none"> • Reduce the amount of waste that is treated outside of the District? 	<p>?</p>	<p>This option may limit the amount of waste that could be treated within the district and therefore increase the risk that some waste will need to continue to be treated outside of the district. However, this is uncertain and therefore an uncertain performance is recorded.</p>	<p>+</p>	<p>This option may enable more waste management facilities to be located within the Bradford District and therefore it may reduce the amount of waste being treated outside of the district.</p>
<p>Avoid impacts on open space, cultural, leisure and recreation opportunities.</p>	<ul style="list-style-type: none"> • Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	<p>?</p>	<p>It is uncertain whether this option could result in adverse effects on open space, cultural, leisure and recreation opportunities. If non-green belt</p>	<p>?</p>	<p>It is uncertain whether this option could result in adverse effects on open space, cultural, leisure and recreation opportunities. This option would</p>

			land that is available for waste management facilities is limited then this may present a risk that open space, cultural, leisure and recreation land or land adjacent to it is considered for waste management sites.		consider sites within the green belt where open space, leisure and recreation opportunities tend to be located (although they are also located within urban areas and non-green belt land). An uncertain performance is therefore recorded.
Reduce the impact of the waste industry on people's safety and security, health and quality of life.	<ul style="list-style-type: none"> • Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? • Cause a cumulative impact on certain communities? 	?	By limiting waste management sites to non-green belt land (other than existing facilities) this option would avoid impacts on communities within the green belt but could increase impacts on communities in non-green belt land. An uncertain effect is therefore recorded.	-	By considering sites for waste management in the green belt this option may increase the potential for adverse effects on communities located within the green belt. It is difficult to determine whether this option could result in a cumulative impact on a community without knowing where waste sites were to be located. A mixed performance is recorded due to uncertainty.
Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.	<ul style="list-style-type: none"> • Include actions that change the number of local people directly employed in skilled jobs in the waste industry? • Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability? 	0	There is not relationship between these SA Objectives and this option.	0	There is not relationship between these SA Objectives and this option.

Key	-- Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	0 Neutral	? Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 5: Management of Construction and Demolition Waste			
		Option 1: Include criteria based policies in the Waste Management DPD that require the maximisation of on-site recycling and re-use of construction and demolition waste as part of the development process to minimise waste arisings.	Option 2: Include a criteria based policy for locating new and expanded construction and demolition waste management facilities.	Option 3: A combination of Options 1 and 2.	
<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? Lead to a reduction of the amount of waste that will require treatment? Minimise any adverse impacts on water resources at all stages of waste management? Put in place adequate and sustainable treatment facilities? Help the District to 	<p>+ This option will result in a reduction of waste that will require treatment and will encourage the re-use and recycling of C&D waste. This option may be difficult to achieve on small construction sites. This option would encourage minimisation of the use of natural resources in construction.</p>	<p>+ This option will result in a reduction of waste that will require treatment and will encourage the re-use and recycling of C&D waste. This option would allow the processing of C&D waste from small construction sites as well as large construction sites. However, this option does not necessarily encourage materials to be re-used and recycled in construction and may not encourage the efficient use of natural resources in construction.</p>	<p>++ This option combines the benefits of both options and therefore performs better than options 1 and 2. This option encourages the re-use and recycling of C&D waste in construction and will enable materials from construction sites to be reused and recycled.</p>	

	<p>meet its recovery and recycling targets?</p> <ul style="list-style-type: none"> • Help the authority meet its quota under the LATS? • Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 						
Reduce the District's impact on climate change and vulnerability to its effects.	<ul style="list-style-type: none"> • Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste management facilities to the effects of climate change (including increased flooding)? • Encourage the development of renewables and energy efficiency within the waste sector? 	+	This option will reduce the transport of C&D waste and therefore transport related emissions of greenhouse gases.	-	This option will not reduce the transport of C&D waste and therefore will not reduce emissions of greenhouse gases from transport.	+	By encouraging the re-use and recycling of C&D waste on site at certain construction sites (it is assumed this would be large construction sites), this option will help to reduce the transport of C&D waste and therefore transport related emissions of greenhouse gases.

<p>Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.</p>	<ul style="list-style-type: none"> • Change the amount of pollution and nuisance caused by waste management? • Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	<p>++</p>	<p>This option should avoid increasing any nuisance to people from waste management sites through avoiding the need to provide more sites to deal with C&D waste.</p>	<p>--</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may increase the number of people affected by noise and dust from waste management sites and could result in land take and loss of soil resources. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>	<p>--</p>	<p>This option includes the identification of new sites or expanding existing sites for the sorting and recycling of C&D waste and therefore this option may also increase the number of people affected by noise and dust from waste management sites and could result in land take and loss of soil resources. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of natural</p>	<ul style="list-style-type: none"> • Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? • Include actions that will cause habitat loss or fragmentation or restoration, expansion 	<p>++</p>	<p>This option should minimise adverse impacts on biodiversity and landscape from waste management sites through avoiding the need to provide more sites to deal with C&D waste.</p>	<p>--</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on biodiversity, nature conservation sites and landscape character, value and diversity. However, the impacts</p>	<p>--</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on biodiversity, nature conservation sites and landscape character, value and diversity. However, the impacts would depend on the location of sites and</p>

<p>and man-made landscapes.</p> <p>Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.</p>	<p>or enhancement of wildlife networks or habitats?</p> <ul style="list-style-type: none"> • Include actions that help to reach targets or compromise targets of BAPs? • Include actions to ensure restoration to biodiversity is a priority where appropriate? • Protect, restore and enhance the landscape? 			?	<p>would depend on the location of sites and therefore a mixed performance is recorded.</p>	?	<p>therefore a mixed performance is recorded.</p>
<p>Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.</p>	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems? 	+	<p>This option will reduce the mileage travelled per tonne of C&D waste, but realistically this may only be achieved on large construction sites where the re-use and recycling of C&D waste will be practicable.</p>	--	<p>This option would require C&D waste to be transported off construction sites and therefore would increase the mileage travelled per tonne.</p>	+	<p>This option would minimise the mileage travelled per tonne of C&D waste from some construction sites (it is assumed that this will be large construction sites) but C&D waste from small construction sites will still need to be transported to waste management facilities.</p>
<p>None of the options will have any influence over waste segregation in homes.</p>							
<p>Reduce nuisance caused to communities by waste transport. Encourage a modal</p>	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects 	+	<p>This option would minimise transportation of C&D waste by requiring material to be re-used and recycled on site, however, some C&D might still</p>	--	<p>This option would result in the highest mileage travelled per tonne of C&D waste as all construction C&D waste would be transported to</p>	+	<p>This option would minimise the mileage travelled per tonne of C&D waste (presumably from large construction sites) but would not limit mileage</p>

<p>shift away from road freight.</p>	<p>communities or areas valued for their environmental importance?</p> <ul style="list-style-type: none"> • Include actions that would encourage a shift from road freight to rail freight? 	<p></p>	<p>need to be transported off site, particularly from small construction sites. This option would therefore minimise nuisance of traffic from waste transport with regards to C&D waste.</p>	<p></p>	<p>waste management sites. This option could therefore result in nuisance to communities from waste transport with regards to C&D waste.</p>	<p>-</p>	<p>travelled per tonne of C&D waste from small construction sites and could therefore result in nuisance to communities. A mixed performance is therefore recorded.</p>
<p>It is not known whether any of the options would be able to encourage a shift from road to rail freight.</p>							
<p>Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.</p>	<ul style="list-style-type: none"> • Reduce the impact of waste management on the quality of the built environment? • Maximise use of previously developed land where possible? 	<p>+</p>	<p>This option should minimise adverse impacts on historic assets from waste management sites through avoiding the need to provide more sites to deal with C&D waste.</p>	<p>-- ?</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on historic assets. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>	<p>-- ?</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on historic assets. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>
<p>Avoid, protect and enhance historic assets.</p>	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	<p>+</p>	<p>This option should minimise adverse impacts on historic assets and archaeology from waste management sites through avoiding the need to provide more sites to deal with C&D waste.</p>	<p>-- ?</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on historic assets and archaeology. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>	<p>-- ?</p>	<p>By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on historic assets and archaeology. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.</p>

Improve the quality and range of services available within communities and connections to wider networks.	<ul style="list-style-type: none"> Improve the accessibility of waste management and treatment services to centres of population? 	○	This SA Objective is not relevant to these options.	○	This SA Objective is not relevant to these options.	○	This SA Objective is not relevant to these options.
Ensure local communities take more responsibility for their own waste	<ul style="list-style-type: none"> Reduce the amount of waste that is treated outside of the District? 	++	It is assumed that this option would avoid any transportation of waste out of the district.	++	It is assumed that this option would avoid any transportation of waste out of the district.	++	It is assumed that this option would avoid any transportation of waste out of the district.
Avoid impacts on open space, cultural, leisure and recreation opportunities	<ul style="list-style-type: none"> Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	+	This option should minimise adverse impacts on open space, cultural, leisure and recreation opportunities from waste management sites through avoiding the need to provide more sites to deal with C&D waste.	-- ?	By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on open space, cultural, leisure and recreation opportunities. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.	-- ?	By identifying new sites or expanding existing sites for the sorting and recycling of C&D waste this option may result in adverse impacts on open space, cultural, leisure and recreation opportunities. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.
Reduce the impact of the waste industry on people's safety and security, health and quality of life	<ul style="list-style-type: none"> Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? Cause a cumulative impact on certain communities? 	+	This option should minimise adverse effects on people from waste management activities through limiting waste arisings. However, it is realistic to assume that C&D waste will still need to be transported to waste facilities for processing / disposal from small construction sites.	-- ?	This option has the potential to increase the number of people adversely affected by waste management facilities, as it includes the identification of new sites for the processing of C&D waste. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.	-- ?	This option has the potential to increase the number of people adversely affected by waste management facilities, as it includes the identification of new sites for the processing of C&D waste. However, the impacts would depend on the location of sites and therefore a mixed performance is recorded.

<p>Support employment in the waste industry for local people.</p> <p>Ensure the provision of adequate waste management capacity.</p>	<ul style="list-style-type: none"> • Include actions that change the number of local people directly employed in skilled jobs in the waste industry? • Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability? 	○	<p>This option does not support or work against the SA Objectives and therefore the performance is considered to be neutral.</p>	+	<p>This option may result in the provision of waste facilities which enable the sale of C&D waste for re-use or use as a recycled material which could assist local markets and businesses. This option may also support jobs at sites which process C&D waste.</p>	+	<p>This option may result in the provision of waste facilities which enable the sale of C&D waste for re-use or use as a recycled material which could assist local markets and businesses. This option may also support jobs at sites which process C&D waste.</p>
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Key	-- Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	0 Neutral	? Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 6: Management of 'Other' Waste Streams			
		Option 1: Identify potential new sites for managing hazardous waste now even though such capacity may not be required in the short term plan period.	Option 2: Do not identify potential new sites for managing hazardous waste as they are not required in the short term period.	Option 3: Develop a criteria based policy approach for locating 'other' waste management facilities, including hazardous and agricultural waste.	Option 4: Develop a policy approach combining either Option 1 or 2 with Option 3.
<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? Lead to a reduction of the amount of waste that will require treatment? Minimise any adverse impacts on water resources at all stages of waste management? Put in place adequate and sustainable treatment facilities? 	-- See comment below.	-- See comment below.	-- See comment below.	-- See comment below.
<p>None of the options will minimise the growth in waste and increase the recovery of agricultural waste, such as through anaerobic digestion. None of the options therefore support renewable energy and all of them therefore move away from the SA Objectives. This move away is considered to be significant because none of the options aims to reduce hazardous waste arisings.</p>					

	<ul style="list-style-type: none"> • Help the District to meet its recovery and recycling targets? • Help the authority meet its quota under the LATS? • Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 				
<p>Reduce the District's impact on climate change and vulnerability to its effects.</p>	<ul style="list-style-type: none"> • Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste management facilities to the effects of climate change (including increased flooding)? • Encourage the development of renewables and energy efficiency within the waste sector? 	<p>- See comment below.</p>	<p>- See comment below.</p>	<p>- See comment below.</p>	<p>- See comment below.</p>
		<p>Similar to the comments above, none of the options promote renewable energy production using agricultural waste. All of the options have the same performance as none promotes renewable energy production using agricultural waste and reducing greenhouse gas emissions and the options cannot be differentiated on the basis of vulnerability to climate change. The performance is considered to be marginal as the siting of any hazardous waste facility would be rigorously tested and would not be located within an area at risk from flooding or where the facility could increase flooding elsewhere.</p>			

<p>Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.</p>	<ul style="list-style-type: none"> Change the amount of pollution and nuisance caused by waste management? Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	<p>?</p>	<p>In the short term this option would have no effect with regard to this SA Objective, however, in the long term, a new hazardous waste facility could lead to the loss of soil resources and may produce noise and dust. However, any new hazardous waste facility will be rigorously tested in order to gain an environmental permit and therefore the risk of adverse effects occurring is uncertain.</p>	<p>?</p>	<p>This option may result in hazardous and agricultural wastes being transport outside of the District for disposal in the long term if there is no facility available within Bradford District. It is unknown whether this would support the achievement of this SA Objective.</p>	<p>+</p> <p>+</p>	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include environmental effects and therefore that the development of such a facility would avoid causing pollution nuisance and or increase the number of people affected by noise and dust.</p>	<p>++</p>	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include environmental effects and therefore that the development of such a facility would avoid causing pollution nuisance and or increase the number of people affected by noise and dust.</p>
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of</p>	<ul style="list-style-type: none"> Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? Include actions that will cause habitat loss or fragmentation or restoration, expansion or enhancement of 	<p>?</p>	<p>In the short term this option would have no effect with regard to this SA Objective, however, in the long term, a new hazardous waste facility could lead to adverse effects on biodiversity and landscape. However, this would depend on</p>	<p>?</p>	<p>This option may result in hazardous and agricultural wastes being transport outside of the District for disposal in the long term if there is no facility available within Bradford District. It is</p>	<p>?</p>	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include environmental effects and therefore that the development of such a facility would minimise adverse effects with</p>	<p>?</p>	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include environmental effects and therefore that the development of such a facility would minimise adverse effects with regard to</p>

<p>natural and man-made landscapes.</p> <p>Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.</p>	<p>wildlife networks or habitats?</p> <ul style="list-style-type: none"> • Include actions that help to reach targets or compromise targets of BAPs? • Include actions to ensure restoration to biodiversity is a priority where appropriate? • Protect, restore and enhance the landscape? 		<p>the location of facilities and therefore the performance is uncertain.</p>		<p>unknown whether this would support the achievement of this SA Objective.</p>		<p>regard to biodiversity and landscape. However, any negative effects may be difficult to mitigate and therefore an uncertain performance is identified.</p>		<p>biodiversity and landscape. However, any negative effects may be difficult to mitigate and therefore an uncertain performance is identified.</p>
<p>Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.</p>	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems? 	+	<p>This option will provide a hazardous waste facility within Bradford District which will avoid hazardous and agricultural waste travelling long distances for disposal in the long term.</p>	--	<p>This option may result in hazardous and agricultural wastes being transport long distances in the long term if there is no facility available within Bradford District.</p>	+	<p>This option will provide a hazardous waste facility within Bradford District which will avoid hazardous and agricultural waste travelling long distances for disposal in the long term.</p>	+	<p>This option will provide a hazardous waste facility within Bradford District which will avoid hazardous and agricultural waste travelling long distances for disposal in the long term.</p>
<p>Reduce nuisance caused to communities by waste transport.</p> <p>Encourage a modal shift away from road freight.</p>	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental 	?	<p>In the short term this option would not have an effect with regard to this SA Objective, however, in the long term, a new hazardous waste</p>	?	<p>This option avoids the identification for a hazardous waste site in the short term and therefore may not result in a</p>	+	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include</p>	+	<p>This option includes using a criteria based approach for locating 'other' waste management facilities and either providing for a new facility in the short</p>

	<p>importance?</p> <ul style="list-style-type: none"> • Include actions that would encourage a shift from road freight to rail freight? 		<p>facility could lead to increased nuisance for communities from waste transport, but this would depend on the location of the site and the mode of transport. Any new hazardous waste facility will also be rigorously tested in order to gain an environmental permit and therefore the risk of adverse effects occurring is uncertain.</p>		<p>change in traffic. It is uncertain how hazardous waste would be dealt with in the long term in this option. Either a new site would need to be identified to dispose of the hazardous and agricultural waste in Bradford District or the waste would be transport outside the district. The performance is therefore uncertain.</p>		<p>considerations such as traffic nuisance and mode of transport and therefore that the development of such a facility would support the achievement of this SA Objective.</p>		<p>term (option 1) or not providing for a new facility in the short term (option 2). It is assumed that the criteria would include considerations such as traffic nuisance and mode of transport and therefore that the development of such a facility would support the achievement of this SA Objective.</p>
<p>Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.</p>	<ul style="list-style-type: none"> • Reduce the impact of waste management on the quality of the built environment? • Maximise use of previously developed land where possible? 	+	<p>In the short term this option would not have an effect with regard to this SA Objective, however, in the long term, a new hazardous waste facility could result in impacts on historic assets but it is likely to be located some distance from other built environment and</p>	?	<p>This option avoids the identification for a hazardous waste site in the short term and therefore would not affect the built environment. It is uncertain how hazardous waste would be dealt with in the long term in this option. Either a</p>	+	<p>This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include considerations such as the built environment and historic assets and therefore that the development of such a facility would support the</p>	+	<p>This option includes using a criteria based approach for locating 'other' waste management facilities and either providing for a new facility in the short term (option 1) or not providing for a new facility in the short term (option 2). It is assumed that the criteria would include considerations such as the built</p>

			therefore is unlikely to affect the quality of the built environment.		new site would need to be identified to dispose of the hazardous and agricultural waste in Bradford District or the waste would be transport outside the district. The performance is therefore uncertain.		achievement of this SA Objective.		environment and historic assets and therefore that the development of such a facility would support the achievement of this SA Objective.
Avoid, protect and enhance historic assets.	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	?	In the short term this option would not have an effect with regard to this SA Objective, however, in the long term, a new hazardous waste facility could result in impacts on historic assets and archaeology but this would depend on the location of facilities and therefore the performance is uncertain.	?	This option avoids the identification for a hazardous waste site in the short term and therefore would not affect the built environment. It is uncertain how hazardous waste would be dealt with in the long term in this option. Either a new site would need to be identified to dispose of the hazardous and agricultural waste in	+	This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include considerations such as historic assets and archaeology and therefore that the development of such a facility would support the achievement of this SA Objective.	+	This option includes using a criteria based approach for locating 'other' waste management facilities and either providing for a new facility in the short term (option 1) or not providing for a new facility in the short term (option 2). It is assumed that the criteria would include considerations such as historic assets and archaeology and therefore that the development of such a facility would support the achievement of this SA Objective.

					Bradford District or the waste would be transport outside the district. The performance is therefore uncertain.				
Improve the quality and range of services available within communities and connections to wider networks.	<ul style="list-style-type: none"> Improve the accessibility of waste management and treatment services to centres of population? 	○	See comment below.	○	See comment below.	○	See comment below.	○	See comment below.
This SA Objective relates to facilities used by the general public and therefore does not relate to hazardous waste or agricultural waste.									
Ensure local communities take more responsibility for their own waste	<ul style="list-style-type: none"> Reduce the amount of waste that is treated outside of the District? 	++	This option should reduce the amount of waste which is treated outside of the District.	--	It is assumed that there is a risk that if a hazardous waste facility is not identified for use in the long term then hazardous waste may be transported outside of the district for disposal.	++	This option should reduce the amount of waste which is treated outside of the District.	++	This option should reduce the amount of waste which is treated outside of the District.
Avoid impacts on open space, cultural, leisure and recreation opportunities	<ul style="list-style-type: none"> Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	?	In the short term this option would not have an effect with regard to this SA Objective, however, in the long term, a new hazardous waste	?	This option avoids the identification for a hazardous waste site in the short term and therefore would not affect the	+	This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include	+	This option includes using a criteria based approach for locating 'other' waste management facilities and either providing for a new facility in the short

			facility could result in impacts on open space, cultural, leisure and recreation opportunities.		built environment. It is uncertain how hazardous waste would be dealt with in the long term in this option. Either a new site would need to be identified to dispose of the hazardous and agricultural waste in Bradford District or the waste would be transport outside the district. The performance is therefore uncertain.		considerations such as open space, cultural, leisure and recreation opportunities and therefore that the development of such a facility would support the achievement of this SA Objective.		term (option 1) or not providing for a new facility in the short term (option 2). It is assumed that the criteria would include considerations such as open space, cultural, leisure and recreation opportunities and therefore that the development of such a facility would support the achievement of this SA Objective.
Reduce the impact of the waste industry on people's safety and security , health and quality of life	<ul style="list-style-type: none"> • Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? • Cause a cumulative impact on certain communities? 	?	In the short term this option would not have an effect with regard to this SA Objective, however, in the long term, a new hazardous waste facility could result in impacts on communities with regard to health, security and quality of life. Any new	?	This option avoids the identification for a hazardous waste site in the short term and therefore would not affect the built environment. It is uncertain how hazardous waste would be dealt with in the long term in this	+	This option includes using a criteria based approach for locating 'other' waste management facilities. It is assumed that the criteria would include considerations such as peoples' health and quality of life and therefore that the development of such a facility would support the	+	This option includes using a criteria based approach for locating 'other' waste management facilities and either providing for a new facility in the short term (option 1) or not providing for a new facility in the short term (option 2). It is assumed that the criteria would include considerations such

			hazardous waste facility will need to be rigorously tested in order to gain an environmental permit and therefore the risk of adverse effects occurring is uncertain.		option. Either a new site would need to be identified to dispose of the hazardous and agricultural waste in Bradford District or the waste would be transport outside the district. The performance is therefore uncertain.		achievement of this SA Objective.		as peoples' health and quality of life and therefore that the development of such a facility would support the achievement of this SA Objective.
Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.	<ul style="list-style-type: none"> • Include actions that change the number of local people directly employed in skilled jobs in the waste industry? • Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of waste management capability? 	++	This option will ensure that there is adequate capacity for the disposal of hazardous waste. This option will support employment for people in the waste industry.	--	This option will not ensure that there is adequate capacity for the disposal of hazardous waste in the long term. This option will not necessarily support employment for people in the waste industry.	++	This option will ensure that there is adequate capacity for the disposal of hazardous waste in the long term. This option will support employment for people in the waste industry.	++	This option will ensure that there is adequate capacity for the disposal of hazardous waste in the long term. This option will support employment for people in the waste industry.

Key	-- Move away significantly	- Move away marginally	+ Move towards marginally	++ Move towards significantly	0 Neutral	? Uncertain
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SA Objectives	Appraisal questions. Will the plan...?	Issue 7: Management of Residual Waste			
		Option 1: Through the inclusion of appropriate criteria based policies, encourage the use of alternative technologies for the treatment of residual waste through limiting landfill capacity within the District.	Option 2: Provide additional landfill capacity within the District through the identification of suitable sites within the Waste Management DPD.	Option 3: Provide a combination of both Options 1 and 2.	Option 4: Utilise the existing sub-regional capacity in the first instance, but still provide additional landfill capacity within the District through the identification of suitable sites within the Waste Management DPD. Any identified additional landfill capacity only to be utilised when the sub-regional capacity nears exhaustion.

<p>Ensure the prudent and efficient use of energy and natural resources and the promotion of renewable energy.</p> <p>Minimise the growth in waste and increase the amount of waste which is re-used, recycled and recovered.</p>	<ul style="list-style-type: none"> • Encourage the use of sustainable materials (with low embodied carbon) or materials with low environmental impacts in the construction of waste management facilities? • Lead to a reduction of the amount of waste that will require treatment? • Minimise any adverse impacts on water resources at all stages of waste management? • Put in place adequate and sustainable treatment facilities? • Help the District to meet its recovery and recycling targets? • Help the authority meet its quota under the LATS? • Encourage the use of and markets for waste derived products? (e.g. use of Incinerator Bottom Ash Aggregate in civil construction projects where it is displacing the consumption of new quarried materials). 	<p style="text-align: center;">+</p>	<p>By limiting landfill this option should limit impact on waste resources through limiting leachate. This option supports the provision of more sustainable treatment facilities and should help the District meet it's recovery targets. This option may also minimise growth in waste through sending out a positive message but it may not reduce waste arisings alone and alternative treatment methods may require a guaranteed / constant amount of waste inputs. A mixed performance is therefore recorded.</p>	<p style="text-align: center;">--</p>	<p>This option will not limit the environmental effects of landfill and will not necessarily promote renewable energy or minimise the growth in waste.</p>	<p style="text-align: center;">--</p>	<p>This option will not limit the environmental effects of landfill but may promote renewable energy and recovery of waste. A mixed performance is therefore recorded.</p>	<p style="text-align: center;">--</p>	<p>This option will not limit the environmental effects of landfill in Bradford within the long term.</p>
		<p style="text-align: center;">?</p>				<p style="text-align: center;">+</p>			

<p>Reduce the District's impact on climate change and vulnerability to its effects.</p>	<ul style="list-style-type: none"> Reduce the potential for greenhouse gas emissions caused by waste management and reduce vulnerability of waste management facilities to the effects of climate change (including increased flooding)? Encourage the development of renewables and energy efficiency within the waste sector? 	+	<p>This option would reduce the amount of greenhouse gases released into the atmosphere in landfill gases, but alternative treatment facilities may not necessarily avoid the release of greenhouse gases. This option may encourage the development of renewables and energy efficiency. A mixed performance is recorded.</p>	--	<p>This option will increase the amount of greenhouse gases released into the atmosphere in landfill gases.</p>	--	<p>This option may not limit the release of greenhouse gases from landfill but may promote renewable energy and recovery of waste. A mixed performance is therefore recorded.</p>	--	<p>This option may not limit the release of greenhouse gases from landfill in Bradford district in the long term. This option could involve long distance transfer of MSW across the sub-region which would release greenhouse gases from vehicles.</p>
<p>Safeguard and improve air, water and soil resources and reduce the number of people affected by noise and dust from waste management sites.</p>	<ul style="list-style-type: none"> Change the amount of pollution and nuisance caused by waste management? Guide waste management towards areas that help to improve the land resource (for example, towards previously used land and away from valuable agricultural land)? 	+	<p>By limiting landfill this option should minimise impacts on air, water and soil resources, however, alternative methods of treatment will need to be provided and these may have associated</p>	--	<p>This option works against this SA Objective and could increase nuisance and air, water and soil impacts through providing new or extended landfill sites in the district.</p>	?	<p>This option may not limit the effects of landfill on air, water and soil. This option would also involve providing some alternatives treatment methods to landfill but their environmental impact is uncertain. Therefore an uncertain</p>	--	<p>This option may not limit the effects of landfill on air, water and soil in Bradford District in the long term.</p>

			environmental and nuisance effects, therefore the performance is mixed.			performance is recorded.			
<p>To conserve, restore, expand and enhance the internationally, nationally and locally valued wildlife species and habitats.</p> <p>To maintain, restore and enhance the character, value and diversity of natural and man-made landscapes.</p> <p>Ensure restoration to biodiversity end use for waste (landfill) sites and contribute to realising local and national BAP targets.</p>	<ul style="list-style-type: none"> • Include actions that directly or indirectly affect Natura 2000 sites, SSSIs, RIGS or other designated sites? • Include actions that will cause habitat loss or fragmentation or restoration, expansion or enhancement of wildlife networks or habitats? • Include actions that help to reach targets or compromise targets of BAPs? • Include actions to ensure restoration to biodiversity is a priority where appropriate? • Protect, restore and enhance the landscape? 	+	By limiting landfill this option would have positive effects with regard to biodiversity, habitat connectivity, BAP targets and landscape. The alternative treatment methods may have some impacts with regards to these issues but are not likely to have such a large landtake compared with landfill. Overall, it is considered that this option supports this SA Objective.	--	New landfill sites are likely to result in landscape and biodiversity effects. This option may make use of former quarry sites for landfill in Bradford District which could have been restored to create habitats and improve biodiversity. However, after use, landfill sites can be restored for nature conservation value and therefore any negative effects may be mitigable in some way in the future.	--	New landfill sites are likely to result in landscape and biodiversity effects although this option may involve a lower capacity of landfill provision compared with option 2. This option may make use of former quarry sites for landfill in Bradford District which could have been restored to create habitats and improve biodiversity. However, after use, landfill sites can be restored for nature conservation value and therefore any negative effects may be mitigable in some way in the future.	--	New landfill sites are likely to result in landscape and biodiversity effects. In the long term, this option will involve the creation of new landfill capacity in Bradford District. This option may make use of former quarry sites for landfill in Bradford District which could have been restored to create habitats and improve biodiversity. However, after use, landfill sites can be restored for nature conservation value and therefore any negative effects may be mitigable in some way in the future.

<p>Increase proximity of waste management infrastructure to current and future centres of population in order to reduce mileage travelled and encouraging waste segregation in new development.</p>	<ul style="list-style-type: none"> • Include actions that change mileage travelled per tonne of waste? • Allow residents in new developments to segregate their waste, both inside and outside their homes by provision of sufficient space for separate storage and collection systems? 	<p>?</p> <p>--</p>	<p>+</p>	<p>This option would not have an effect on waste segregation in new development. This option should not increase the mileage travelled per tonne of waste created, although for the small proportion of residual waste that cannot be diverted from landfill, the mileage that this has to cover may increase over time. However, this is uncertain.</p>	<p>+</p>	<p>By providing additional landfill facilities this option may reduce or not increase the mileage travelled per tonne of waste created. This option would not have an effect on waste segregation in new development.</p>	<p>--</p>	<p>By using sub-regional landfill capacity this option would increase the mileage travelled per tonne of waste created over the short-medium term. In the longer term landfill will need to be provided within Bradford District which would reduce the mileage travelled.</p>
<p>Reduce nuisance caused to communities by waste transport. Encourage a modal shift away from road freight.</p>	<ul style="list-style-type: none"> • Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental 	<p>+</p>	<p>--</p>	<p>It is assumed that this option is less likely to result in traffic nuisance on communities from landfill related HGVs. However,</p>	<p>?</p>	<p>It is assumed that new landfill provided through this option could affect sensitive areas in terms of traffic / HGV movements although this is</p>	<p>?</p>	<p>This option is likely to result in the longest distances for residual MSW to travel but it is unknown whether this traffic would affect communities. See</p>

	<p>importance?</p> <ul style="list-style-type: none"> • Include actions that would encourage a shift from road freight to rail freight? 	?	<p>alternative treatment methods will be provided and their location and traffic impact is unknown.</p>	?		<p>uncertain. It is also uncertain whether alternatives to landfill would produce HGV movements and the areas that these might affect.</p>	<p>also comment below.</p>		
<p>It is not clear whether any of the options would encourage a shift from road freight to rail freight. It is also difficult to identify whether any additional lorry movements, for example, in association with Option 4, would affect communities or areas valued for their environmental importance.</p>									
<p>Improve the quality of the built environment, protect and enhance historic assets and make efficient use of land.</p>	<ul style="list-style-type: none"> • Reduce the impact of waste management on the quality of the built environment? • Maximise use of previously developed land where possible? 	+	<p>By limiting landfill this option would not adversely effect the built environment and historic assets. The alternative treatment methods may have some impacts with regards to these issues but are not likely to have such a large landtake compared with landfill. Overall, it is considered that this option supports this SA Objective.</p>	-	<p>New landfill sites could have adverse effects on historic assets and built heritage although this would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that this option does not support this SA Objective.</p>	-	<p>This option includes the provision of new landfill sites. New landfill sites could have adverse effects on historic assets and built heritage although this would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that this option does not support this SA Objective.</p>	-	<p>This option will not include the provision of new landfill sites in the short to medium term and would therefore support this SA Objective. However, new landfill sites will need to be provided in the long term in this option and new landfill sites could have adverse effects on historic assets and built heritage. This would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that</p>

								this option does not support this SA Objective.	
Avoid, protect and enhance historic assets.	<ul style="list-style-type: none"> • Preserve and where relevant enhance sites of built and archaeological heritage and their settings? • Aim to steer development away from archaeologically sensitive sites? • Preserve, manage or enhance the historic environment character and opportunity areas? 	+	By limiting landfill this option would not adversely effect historic assets and archaeology. The alternative treatment methods may have some impacts with regards to these issues but are not likely to have such a large landtake compared with landfill. Overall, it is considered that this option supports this SA Objective.	-	New landfill sites could have adverse effects on historic assets and archaeology although this would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that this option does not support this SA Objective.	-	This option includes the provision of new landfill sites. New landfill sites could have adverse effects on historic assets and archaeology although this would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that this option does not support this SA Objective.	-	This option will not include the provision of new landfill sites in the short to medium term and would therefore support this SA Objective. However, new landfill sites will need to be provided in the long term in this option and new landfill sites could have adverse effects on historic assets and archaeology. This would depend on the location of such facilities. As space is limited in which to identify new landfill sites within the district, it is assumed that there is risk that this option does not support this SA Objective.
Improve the quality and range of services available within communities and connections to wider	<ul style="list-style-type: none"> • Improve the accessibility of waste management and treatment services to centres of population? 	○	See comment below.	○	See comment below.	○	See comment below.	○	See comment below.
This SA Objective relates to facilities used by the general public and therefore does not relate to									

networks.		landfill sites or alternative treatment facilities for residual MSW.							
Ensure local communities take more responsibility for their own waste	<ul style="list-style-type: none"> Reduce the amount of waste that is treated outside of the District? 	++	This option supports the achievement of this objective through limiting landfill and providing alternative methods for treatment of residual MSW.	++	This option supports the achievement of this objective through the provision of landfill within the district to dispose of the district's waste.	++	This option supports the achievement of this objective through the provision of landfill and alternatives to landfill within the district to dispose of the district's waste.	--	This option works against this SA Objective through transferring waste to landfill in other parts of the sub-region in the short to medium term.
Avoid impacts on open space, cultural, leisure and recreation opportunities	<ul style="list-style-type: none"> Ensure that open space, cultural, leisure and recreation opportunities are not affected by waste management? 	+	This option limits landfill capacity and should therefore minimise effects on open space, cultural, leisure and recreation opportunities. The alternative treatment methods may have some impacts with regards to these issues but are not likely to have such a large landtake compared with landfill. Overall, it is considered that this option supports this SA Objective.	--	This option will provide additional landfill capacity and therefore may work against the achievement of this SA Objective, as landfill sites tend of require a large landtake. However, this effect would depend on the location of the landfills and therefore a mixed performance is recorded.	-	This option will provide additional landfill capacity and therefore may work against the achievement of this SA Objective, as landfill sites tend of require a large landtake. However, this option also include the provision of alternative methods of treatment and therefore may result in less landfill capacity being provided. The effect would depend on the location of the landfills and therefore a mixed performance is recorded.	--	This option would not effect open space, cultural, leisure and recreation opportunities in the short to medium term, as residual MSW waste is sent outside the district for landfill. However, in the long term, as additional landfill capacity is provided within Bradford District, this option could work against this SA Objective. The effect would depend on the location of the landfills and therefore a mixed performance is

								recorded.	
Reduce the impact of the waste industry on people's safety and security, health and quality of life	<ul style="list-style-type: none"> • Cause a change in the number of people directly affected by waste management (living in close proximity to a site or an access route) whose impact cannot be mitigated? • Cause a cumulative impact on certain communities? 	<p>++</p> <p>?</p>	This option should reduce the number of people adversely affected by landfill sites but it is not clear whether alternatives methods of treating residual MSW would avoid effects on peoples' quality of life and therefore a mixed performance is recorded.	--	This option will increase landfill capacity and therefore could potentially increase the number of people adversely affected by landfill in terms of health and quality of life.	-	This option will increase landfill capacity (although possibly to a lesser degree than option 2) and therefore could potentially increase the number of people adversely affected by landfill in terms of health and quality of life.	--	This option will increase landfill capacity within Bradford District in the long term and therefore could potentially increase the number of people adversely affected by landfill in terms of health and quality of life.
Support employment in the waste industry for local people. Ensure the provision of adequate waste management capacity.	<ul style="list-style-type: none"> • Include actions that change the number of local people directly employed in skilled jobs in the waste industry? • Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining an adequate provision of 	+	This option will limit landfill capacity but it cannot be assumed that the alternatives to landfill will not provide adequate capacity. This option should support the provision of jobs	+	This option should support the provision of jobs in the waste industry within the district. This option will provide landfill capacity, assuming that suitable sites exist within the district.	+	This option should support the provision of jobs in the waste industry within the district. This option will provide landfill capacity, assuming that suitable sites exist within the district.	--	This option may not support jobs within the waste industry within Bradford district in the short to medium term. This option may also not ensure that there is adequate capacity to dispose of waste within the sub-

	waste management capability?		in the waste industry within the district.					region or Bradford District.
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