

Surrey County Council Minerals and Waste Planning Policy

Surrey Waste Local Plan

Technical Assessments: Non-technical Summary Report

January 2019

| Version | Date published | Amendments | Reason |
|----------------|----------------|--|---|
| September 2018 | | | |
| January 2019 | 14.01.2019 | Inclusion of Landscape and Visual Options Study for Lambs Business Park. Removal of section on Draft HRA. | Updated to include results of this additional study. HRA published separately. |

If you have any questions about the consultation or you are having difficulty in accessing the documents please contact Surrey County Council:



Phone: 03456 009 009



Email: wasteplan@surreycc.gov.uk



Letter: Planning and Development Service,
Room 385 County Hall, Penrhyn Road,
Kingston upon Thames, KT1 2DW

Table of Contents

| | |
|---|----|
| | 1 |
| Table of Contents..... | 3 |
| 1. Purpose of this report..... | 4 |
| 1.1 Preparing a new Surrey Waste Local Plan | 4 |
| 1.2 Site identification and evaluation | 4 |
| 1.3 Sites for allocation | 5 |
| 1.4 Scope of Assessment work | 5 |
| 2. Air Quality Impact Assessment | 6 |
| 2.1 Methodology..... | 6 |
| 2.2 Results of Assessment..... | 6 |
| 3. Health Impact Assessment..... | 8 |
| 3.1 Methodology..... | 8 |
| 3.2 Results..... | 8 |
| 4. Landscape and Visual Sensitivity Study | 10 |
| 4.1 Methodology..... | 10 |
| 4.2 Results..... | 10 |
| 5. Landscape and Visual Options Study: Lambs Business Park..... | 12 |
| 5.1 Purpose | 12 |
| 5.2 Methodology..... | 12 |
| 5.3 Results..... | 13 |
| 6. Protected Species Survey..... | 14 |
| 6.1 Methodology..... | 14 |
| 6.2 Results..... | 14 |
| 7. Strategic Flood Risk Assessment..... | 14 |
| 7.1 Methodology..... | 14 |
| 7.2 Results..... | 14 |
| 8. Transport Assessment..... | 16 |
| 8.1 Method | 16 |
| 8.2 Results..... | 16 |
| Definitions..... | 18 |

1. Purpose of this report

1.1 Preparing a new Surrey Waste Local Plan

- 1.1.1 Surrey County Council in its role as the Waste Planning Authority (WPA) is preparing a new waste local plan (“the Plan”).
- 1.1.2 There are several stages in preparing the Plan as set out in legislation¹, many of which offer opportunities for residents, businesses and other key stakeholders to comment. The Draft Plan Consultation was held between November 2017 and February 2018. The WPA plans to gather of responses on the pre-submission version of the Plan from December 2018 – January 2019. The WPA aims to submit these responses alongside the plan to the Secretary of State by March 2019.



Figure 1 Image showing stages of preparing the new Surrey Waste Local Plan

1.2 Site identification and evaluation

- 1.2.1 In the Draft Plan, nine sites were proposed for allocation meaning that these sites were considered suitable for some form of waste related development. The nine sites were selected from a long list of sites that were identified across the county through a process of sieving. The details of this process and the criteria that were used can be found in the Site Identification and Evaluation report (November 2017) published alongside the Draft Plan Consultation.

¹ Town and Country Planning (Local Planning) (England) Regulations 2012

1.3 Sites for allocation

1.3.1 The nine sites that were proposed for allocation are:

- Former Weylands Sewage Treatment Works
- Land to the north east of Slyfield Industrial Estate
- Land adjoining Leatherhead Sewage Treatment Works
- Land to the west of Earlswood Sewage Treatment Works
- Land adjacent to Lyne Lane Sewage Treatment Works
- Land adjacent to Trumps Farm
- Oakleaf Farm
- Land at Lambs Business Park
- Land at Martyrs Lane

1.4 Scope of Assessment work

1.4.1 The WPA carried out several detailed assessments of the nine sites which were proposed for waste related development in the Draft Plan to further assess their suitability for various types of waste management facilities.

1.4.2 These assessments included:

- Air Quality Impact Assessment
- Health Impact Assessment
- Landscape and Visual Sensitivity Study
- Landscape and Visual Options Study: Lambs Business Park
- Protected Species Survey
- Strategic Flood Risk Assessment
- Transport Assessment

1.4.3 The reports contain a large amount of technical detail and can use different terms. This report seeks to bring together the terms used and headline results from the individual assessments and to help explain how these assessments have been used to inform the Plan.

2. Air Quality Impact Assessment

2.1 Methodology

- 2.1.1 The Air Quality Impact Assessment (AQIA) focuses on the likely effects of emissions from thermal waste treatment processes and road traffic in detail. Experience in the UK shows that good management practices are able to effectively control emissions of dust, bio-aerosols and odorous substances, even where sensitive receptors are in close proximity to waste management facilities.
- 2.1.2 The AQIA used detailed dispersion models which predict how much of a given pollutant is expected to arise at certain locations. Scenarios used information from several different types of thermal treatment processes to see if there were any significant effects to local receptors. The scenarios also looked at combined effects of operating thermal treatment technologies at multiple sites. Table 1 Summary of acceptability criteria using the methodology from the AQIA

Table 1 Summary of acceptability criteria using the methodology from the AQIA

| Symbol | Definition | Acceptability |
|---------------|--|----------------------|
| | Viability of facility at each site based on likely emissions to air and emission limit values. | Acceptable |

2.2 Results of Assessment

- 2.2.1 The results found that in principle, subject to more detailed information e.g. technology type and emissions, there are no restrictions on the type of treatment that could be carried out at any of the nine sites. The outcomes of the AQIA have been used to prepare key development criteria for each of the sites that are proposed for allocation.

Table 2 Acceptability of proposed waste development based on the results of the AQIA

| Site name | Recycling ² | Composting | Anaerobic Digestion | Mixed waste processing | Pyrolysis & Gasification | Other thermal treatment ³ |
|--|------------------------|------------|---------------------|------------------------|--------------------------|--------------------------------------|
| Former Weylands Sewage Treatment Works | | | | | | |
| Land to the north east of Slyfield Industrial Estate | | | | | | |
| Land adjoining Leatherhead Sewage Treatment Works | | | | | | |
| Land to the west of Earlswood Sewage Treatment Works | | | | | | |
| Land adjacent to Lyne Lane Sewage Treatment Works | | | | | | |
| Land adjacent to Trumps Farm | | | | | | |
| Oakleaf Farm | | | | | | |
| Land at Lambs Business Park | | | | | | |
| Land at Martyrs Lane | | | | | | |

² Materials Recovery Facility

³ Including Energy Recovery, Energy from Waste

3. Health Impact Assessment

3.1 Methodology

- 3.1.1 The Health Impact Assessment (HIA) looked at the policies in the Plan and the nine allocated sites to understand if through these policies or sites waste related development could give rise to impacts on human health that would be unacceptable. A HIA is not required as part of the plan making process, but it was considered to be good practice, and demonstrate that planners had thought about resident's health and wellbeing.
- 3.1.2 The methodology included a review of different categories of waste management facilities, and their likely impacts on human health, a review of the draft policies in the emerging Plan and a review of receptors near to the proposed sites and identifying potential impacts from development.

Table 3 Summary of acceptability criteria using the methodology from the HIA

| Symbol | Definition | Mitigation | Acceptability |
|---------------|-------------------------------|--|---|
| | Low risk to human health | Waste related development likely to be acceptable given appropriate mitigation. | Acceptable |
| | Moderate risk to human health | Waste related facility may be acceptable but will depend on the feasibility of appropriate mitigation. | May be acceptable |
| | High risk to human health | Waste related facility unlikely to be acceptable but will depend on the feasibility of appropriate and significant mitigation. | Unlikely to be acceptable but depends on mitigation |

3.2 Results

- 3.2.1 The results found that some treatment types presented a risk to human health. However, on all sites the suitability of certain technologies was dependent on the mitigation which could be put in place. There is a further recommendation for detailed assessment at the time when an application is put forward.

Table 4 Acceptability of proposed waste development based on the results of the HIA

| Site name | Recycling ⁴ | Composting | Anaerobic Digestion | Mixed waste processing | Pyrolysis & Gasification | Other thermal treatment ⁵ |
|--|------------------------|------------|---------------------|------------------------|--------------------------|--------------------------------------|
| Former Weylands Sewage Treatment Works | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land to the north east of Slyfield Industrial Estate | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land adjoining Leatherhead Sewage Treatment Works | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land to the west of Earlswood Sewage Treatment Works | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land adjacent to Lyne Lane Sewage Treatment Works | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land adjacent to Trumps Farm | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Oakleaf Farm | Red | Red | Yellow | Red | Red | Red |
| Land at Lambs Business Park | Yellow | Yellow | Green | Yellow | Yellow | Yellow |
| Land at Martyrs Lane | Yellow | Yellow | Green | Yellow | Yellow | Yellow |

⁴ Materials Recovery Facility

⁵ Including Energy Recovery, Energy from Waste

4. Landscape and Visual Sensitivity Study

4.1 Methodology

- 4.1.1 The Landscape and Visual Sensitivity Study (LVSS) assessed the landscape and visual sensitivity of each site to different types of potential waste management facility based on different types of facilities in a report produced by government⁶.

Table 5 Summary of acceptability criteria using the methodology from the LVSS

| Symbol | Definition | Acceptability |
|---------------|--|---|
| H | High ability to accommodate development | Acceptable |
| MH | Moderate - high ability to accommodate development | Acceptable |
| M | Moderate ability to accommodate development | May be acceptable |
| ML | Moderate - low ability to accommodate development | May be acceptable |
| L | Low ability to accommodate development | Unlikely to be acceptable but depends on mitigation |

4.2 Results

- 4.2.1 The results of the LVSS indicated which sites were more or less likely to be able to accommodate different types of waste management facility, based on a high ability to accommodate (i.e. development is acceptable) to a low ability to accommodate (i.e. development is less acceptable).

⁶ Planning for Waste Management Facilities; A Research Study (August 2004) Enviro Consulting, Office of the Deputy Prime Minister

Table 6 Acceptability of proposed waste development based on the results of the LVSS

| Site name | Recycling ⁷ | Composting | Anaerobic Digestion | Mixed waste processing | Pyrolysis & Gasification | Other thermal treatment ⁸ |
|--|------------------------|------------|---------------------|------------------------|--------------------------|--------------------------------------|
| Former Weylands Sewage Treatment Works | MH | H | MH | MH | M | M |
| Land to the north east of Slyfield Industrial Estate | H | H | H | MH | ML | M |
| Land adjoining Leatherhead Sewage Treatment Works | MH | H | H | MH | ML | ML |
| Land to the west of Earlswood Sewage Treatment Works | MH | H | H | MH | M | M |
| Land adjacent to Lyne Lane Sewage Treatment Works | H | H | H | H | M | M |
| Land adjacent to Trumps Farm | H | H | H | H | M | M |
| Oakleaf Farm | H | H | H | H | MH | M |
| Land at Lambs Business Park | MH | H | H | MH | L | L |
| Land at Martyrs Lane | H | H | H | MH | MH | M |

⁷ Materials Recovery Facility

⁸ Mass burn incinerator

5. Landscape and Visual Options Study: Lambs Business Park

5.1 Purpose

- 5.1.1 The Surrey Landscape and Visual Sensitivity Study (LUC, 2018) concluded that the land at Lambs Business Park would have between a high and medium-high ability to accommodate all forms of waste development except for a pyrolysis / gasification plant or a waste burn incinerator, which the site would have a low ability to accommodate (see section 5 above). These findings were based on a worst case assumption about the size of buildings and stack heights.
- 5.1.2 As the land at Lambs Business Park has been identified as a preferred option for allocation in the Submission Surrey Waste Local Plan⁹, this further Landscape and Visual Options Study (LVOS) explored different development scenarios at the site and assessed whether there are circumstances that would mean the site would have a high to moderate ability to accommodate a gasification / pyrolysis plant or a mass burn incinerator.

5.2 Methodology

- 5.2.1 The Landscape and Visual Options Study for Lambs Business Park reviewed the landscape and visual baseline to identify the key landscape and visual receptors. A number of development scenarios were then tested to understand their impact on the landscape or views.
- 5.2.2 The study also considered parameters that could enhance the ability of the site to accommodate these types of development, such as:
- Locations of buildings and chimney stack height within the site,
 - Different heights of buildings and stack; and,
 - The design of buildings, including use of materials.
- 5.2.3 Further to this, the study considered potential cumulative impact of waste related development alongside potential development at South Godstone Garden Village.

Table 7 Summary of acceptability criteria using the methodology from the LVOS

| Symbol | Definition | Acceptability |
|--------|--|---|
| H | High ability to accommodate development | Acceptable |
| MH | Moderate - high ability to accommodate development | Acceptable |
| M | Moderate ability to accommodate development | May be acceptable |
| ML | Moderate - low ability to accommodate development | May be acceptable |
| L | Low ability to accommodate development | Unlikely to be acceptable but depends on mitigation |

⁹ Based on the sieving process outlined in the Site Identification and Evaluation Report (November 2017) Surrey County Council

5.3 Results

- 5.3.1 The results of the Landscape and Visual Options Study indicated that a building of 30m in height could be accommodated on the site with minimal effects on the landscape and visual receptors due to the wooded character of the area.
- 5.3.2 It was found that a chimney stack of up to 40m in height would also integrate into the landscape with little effect on landscape character and visual amenity. Whilst a 50m stack will be more visible, it will only just protrude from the wooded skyline and this visibility could be minimised by careful use of building material and colour. It was noted that chimney heights above this would form prominent features in the landscape and could be noticeable from AONBs, introducing an industrial element into a rural landscape. In such cases the design of the stack would be integral to its integration into the landscape. Either a sleek stack with a light coloured material or even an artistic landmark design might increase the ability of the site to accommodate taller stack heights compared to a standard bulky concrete design.

Table 8 Summary of acceptability criteria using the methodology from the LVOS

| Development | Height of development | Ability to accommodate development |
|--------------------|------------------------------|---|
| Building | 15m | H |
| | 20m | H |
| | 25m | H |
| | 30m | MH |
| Stack | 30m | H |
| | 40m | MH |
| | 50m | M |
| | 60m | ML |
| | 70m | L |
| | 80m | L |

6. Protected Species Survey

6.1 Methodology

- 6.1.1 The Surrey Biodiversity Information Centre (SBIC) provided a desktop assessment of all protected species falling within a two kilometre search area centred on each of the nine sites.

6.2 Results

- 6.2.1 The results are a list of species found within the search area. The results do not make any recommendations about the acceptability of each site. The results of the desktop study have been used to prepare key development criteria for each of the sites proposed for allocation.

7. Strategic Flood Risk Assessment

7.1 Methodology

- 7.1.1 The Level 2 Strategic Flood Risk Assessment (SFRA) considered the risk of flooding at nine proposed sites based on a desktop assessment to inform which waste management types would be suitable from a flood risk perspective. The assessment of flood risk at each site is based on: data provided by key stakeholders, including the Environment Agency, Surrey County Council, the relevant Water Authority and District/Borough Level 1 SFRAs.

7.2 Results

- 7.2.1 Six out of the nine sites are at very low risk of flooding from rivers and only small areas within two of the remaining three sites are at risk of flooding from rivers. One site is shown to be entirely within an area at medium risk of river flooding. The risk of flooding from artificial sources is negligible at each site.
- 7.2.2 The potential increase in surface water runoff as a result of development at the sites means that a suitable Surface Water Drainage Strategy will be required, which will outline how this increase in surface water runoff is managed and ensure that flood risk is not increased as a result of development.
- 7.2.3 From a flood risk perspective each of the nine shortlisted sites would be suitable for the development of any of the waste facility types considered, providing that appropriate flood risk mitigation is provided.

Table 9 Summary of acceptability criteria using the methodology from the SFRA

| Symbol | Definition | Acceptability |
|--------|--|---------------|
| | Based on risk of flooding from rivers and artificial sources | Acceptable |

Table 10 Acceptability of proposed waste development based on the results of the SFRA

| Site name | Recycling ¹⁰ | Composting | Anaerobic Digestion | Mixed waste processing | Pyrolysis & Gasification | Other thermal treatment ¹¹ |
|--|-------------------------|------------|---------------------|------------------------|--------------------------|---------------------------------------|
| Former Weylands Sewage Treatment Works | | | | | | |
| Land to the north east of Slyfield Industrial Estate | | | | | | |
| Land adjoining Leatherhead Sewage Treatment Works | | | | | | |
| Land to the west of Earlswood Sewage Treatment Works | | | | | | |
| Land adjacent to Lyne Lane Sewage Treatment Works | | | | | | |
| Land adjacent to Trumps Farm | | | | | | |
| Oakleaf Farm | | | | | | |
| Land at Lambs Business Park | | | | | | |
| Land at Martyrs Lane | | | | | | |

¹⁰ Materials Recovery Facility

¹¹ Mass burn incinerator

8. Transport Assessment

8.1 Method

- 8.1.1 The assessment sought to confirm whether each site would be suitable for waste related development in transport terms. It also made an initial assessment of the types and scales of facility that are likely to be suitable at each site.
- 8.1.2 The assessment was based on the number of vehicle movements generally associated with different types and scales of waste management facility that could come forward at the sites and key transport characteristics of each site. These characteristics included the nature of the existing access, collision data, congestion and existing vehicle flows, nearby local developments and possible mitigation that could be implemented.

Table 8 Summary of acceptability criteria using the methodology from the SFRA

| Symbol | Definition | Mitigation | Acceptability |
|--------|---|--|-------------------|
| | High ability to accommodate development based on the typical number of vehicle movements associated with each development type. | Development likely to be acceptable given appropriate mitigation. | Acceptable |
| | Low ability to accommodate development based on the typical number of vehicle movements associated with each development type. | Development may be acceptable but this will depend on scale of the facility and the extent of mitigation proposed. | May be acceptable |

8.2 Results

- 8.2.1 The assessment sets out the scales of waste related development that each site is likely to be able to accommodate, based on the number of additional trips that would occur as a result of this development.
- 8.2.2 Two of the sites are considered likely to be able to accommodate small facilities (with capacities less than 50,000 tpa). Six sites are considered likely to be able to accommodate medium facilities (capacities up to 120,000 tpa), and of these sites two could possibly accommodate larger facilities if suitable mitigation can be implemented. One site is considered likely to be able to accommodate large facilities (capacity greater than 120,000 tpa).

Table 12 Acceptability of proposed waste development based on the results of the Transport Assessment

| Site name | Recycling ¹² | Composting | Anaerobic Digestion | Mixed waste processing | Pyrolysis & Gasification | Other thermal treatment ¹³ | Size/capacity of facility that is likely to be suitable |
|--|-------------------------|------------|---------------------|------------------------|--------------------------|---------------------------------------|--|
| Former Weylands Sewage Treatment Works | | | | | | | Medium sized facility types (capacities up to 120,000 tpa). Potentially greater if sufficient mitigation is implemented. |
| Land to the north east of Slyfield Industrial Estate | | | | | | | Medium sized facilities (capacities up to 120,000 tpa). |
| Land adjoining Leatherhead Sewage Treatment Works | | | | | | | High capacity (capacities up to and exceeding 200,000 tpa). |
| Land to the west of Earlswood Sewage Treatment Works | | | | | | | Small sized facility types (under 50,000 tpa). |
| Land adjacent to Lyne Lane Sewage Treatment Works | | | | | | | Medium sized facilities (up to 120,000 tpa). |
| Land adjacent to Trumps Farm | | | | | | | Small sized facility types (under 50,000 tpa). |
| Oakleaf Farm | | | | | | | Medium sized facilities (capacities up to 120,000 tpa). Potentially greater if sufficient mitigation is implemented. |
| Land at Lambs Business Park | | | | | | | Medium sized facilities (capacities up to 120,000 tpa). |
| Land at Martyrs Lane | | | | | | | Medium sized facilities (capacities up to 120,000 tpa). |

¹² Materials Recovery Facility

¹³ Mass burn incinerator

Definitions

A table of definitions can be found below. A glossary of terms can also be found in the Plan document itself.

| Term | Definition |
|-----------------------|---|
| Thermal treatment | A waste management operation that involves the use of heat to process waste and generally involves the production of energy. Incineration is a thermal treatment but 'Energy from waste' is the term more generally used to describe waste management involving incineration. |
| Receptor | Existing land uses that could be affected by the proposed development at the site allocations. Some examples of receptors include: residential dwellings, hospitals, commercial premises and footpaths. |
| Energy Recovery | Covers a number of established and emerging technologies, though most energy recovery is through incineration technologies. Many wastes are combustible, with relatively high calorific values – this energy can be recovered through processes such as incineration with electricity generation, gasification or pyrolysis. |
| Energy from Waste | The process of managing waste to create energy - usually in the form of electricity or heat but also potentially biofuels - from the thermal treatment of a waste source. Many wastes are combustible, with relatively high calorific values – this energy can be recovered through processes such as incineration with electricity generation, gasification or pyrolysis. Energy from waste generally falls within the 'other recovery' category in the waste hierarchy. |
| Mass burn incinerator | Large, complex facilities which are used to burn waste at very high temperatures. |
| Pyrolysis | The combustion of waste in the absence of oxygen, resulting in the production of liquid, gas, char, whose after-use depends on the type of waste incinerated. |
| Gasification | A technology that converts carbon containing material (including waste) into gas (mostly methane) at high temperature. The gas can either be used as a substitute for natural gas or used to power electricity generation. |
| Anaerobic digestion | A biological process where microorganisms break down biodegradable waste into a 'digestate' and biogas in the absence of oxygen. AD facilities are usually fully enclosed in an industrial type building, with some infrastructure required such as storage tanks. AD of waste generally falls within the 'other recovery' category in the waste hierarchy but for the |

| | |
|--------------------------------------|---|
| | purposes of this plan AD of food waste is classed as 'recycling'. |
| Composting | The breaking down of organic matter aerobically into a stable material that can be used as a fertiliser or soil conditioner. |
| Recycling | Recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. Includes the reprocessing of organic material but not energy recovery or the reprocessing into materials that are to be used as fuels or for backfilling operations. |
| Waste transfer | Process where waste is taken from waste producers, and taken for treatment, recycling and/or disposal. |
| Materials Recovery Facility | A facility where waste can be taken in bulk for separation, recycling or recovery of waste materials. This may also involve the crushing and screening of construction, demolition and excavation waste. MRFs fall within the 'recycling' category in the waste hierarchy. |
| Mixed Waste Processing | Operations primarily of a mechanical and/or biological nature, which are designed to process household waste. |
| Surrey Waste Local Plan ("the Plan") | The development plan document that sets out the planning framework for the development of waste management facilities in Surrey. With an expectation the Plan will last ten years from adoption. |