

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### RU04: Land adjacent to Lyne Lane Sewage Treatment Works, Chertsey

<b>Surface Water</b>		<p><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Site boundary</p> <p>Risk of flooding from surface water</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4b4b9b; margin-right: 5px;"></span> High – 1 in 30 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4b99c9; margin-right: 5px;"></span> Medium – 1 in 100 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #99c9ff; margin-right: 5px;"></span> Low – 1 in 1000 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffffcc; margin-right: 5px;"></span> Very Low - less than 1 in 1000 annual probability</li> </ul>	
<b>Development Proposal</b>	<p>Waste use, key facility types proposed:</p> <ul style="list-style-type: none"> <li>Processing of Recyclables (MRFs)</li> <li>Mixed Waste Processing</li> <li>Composting</li> <li>Pyrolysis and gasification</li> <li>Anaerobic digestion; and</li> <li>Other thermal treatment, including mass burn incineration.</li> </ul>	<b>Vulnerability Classification</b>	<p>All proposed waste types classified as Less Vulnerable (“Waste treatment”)</p>



## Surrey County Council

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#### RU04: Land adjacent to Lyne Lane Sewage Treatment Works, Chertsey

	Flood Zones	Flood Risk Vulnerability Classification				
<b>Flood Zone Compatibility</b>		Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test required	✓	✓	✓
	Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
	Zone 3b *	Exception Test required *	X	X	X	✓*
<p><b>Key:</b></p> <p>✓ Development is appropriate</p> <p>X Development should not be permitted.</p>						
<b>Applicable Climate Change Allowances</b>	<p>The +15% peak river flow climate change allowance should be used to assess a range of climate change scenarios. This is based on the EA's guidance for climate change allowance in Flood Risk Assessments (February 2016) for a site located within the Thames River Basin District, with a Less Vulnerable use, in Flood Zone 1 and with a commercial lifespan (i.e. total potential change anticipated for the '2050s').</p>					
<b>Climate Change Extents</b>	<p>The 1 in 100 annual probability, with 20% allowance for climate change, floodplain extent modelled by the EA does not affect the site.</p>					
<b>1 in 100 annual probability +15% climate change allowance</b>		<p>0% of the site is located within this flood extent.</p>				
<b>Description of Flood Risk</b>	<b>Flood Depth</b>					
	Negligible- site located entirely within Flood Zone 1.					
	<b>Flow Routes</b>					
Overland flow within the site would be towards the north of the site based on the site's topography. There are no flow routes indicated on the surface water flood risk mapping.						
<b>Flood Warning and Period of Inundation</b>						
The site is not located within an EA Flood Warning Area. Areas of floodplain associated with the Bourne to the west of the site area located in the <i>Chertsey Bourne at Thorpe Green</i> EA Flood Warning Area.						

## Surrey County Council

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#### RU04: Land adjacent to Lyne Lane Sewage Treatment Works, Chertsey

	<p><b>Velocity of Flood Waters</b> Negligible- site located entirely within Flood Zone 1.</p>
Planning Recommendations	<p><b>Flood Defences</b> The railway embankment to the south-west of the site acts as an informal defence.</p>
	<p><b>Historic Records and Other Sources of Flooding</b></p> <p>There are no historic incidences of fluvial flooding recorded on the Bourne within the immediate vicinity of the site. There are incidences of flooding recorded upstream and downstream of the site.</p> <p>The entire site is at 'very low' risk, with less than a 1 in 1,000 annual probability of surface water flooding. The Runnymede SFRA indicates a wetspot is located at the eastern edge of the site.</p> <p>The north east of the site has potential for groundwater flooding of property below ground level. The remainder of the site has limited potential for groundwater flooding.</p> <p>Correspondence with Thames Water has confirmed that there have been no incidences of historical sewer flooding within the vicinity of the site.</p> <p>The residual risk of flooding from artificial sources is low.</p>
	<p><b>Overview of Flood Risk</b> A summary of the flood risk to the site is provided below:</p> <ul style="list-style-type: none"> <li>▪ The entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding;</li> <li>▪ The majority of the site is at 'very low' risk of surface water flooding, there is a wetspot located at the eastern edge of the site;</li> <li>▪ An area at the north east of the site has potential for groundwater flooding below ground level;</li> <li>▪ There is low residual risk of flooding from artificial sources;</li> <li>▪ Continuous access and egress is available.</li> </ul> <p>The site is shown to be at low probability of fluvial flooding, very low risk of surface water flooding and may be susceptible to groundwater flooding below ground level. There are no recorded historical flooding events within the site. The site is therefore at low risk of flooding and it is considered feasible that the site could be developed safely and in accordance with the requirements of the NPPF once any small potential risks of these sources of flooding are mitigated.</p>
	<p><b>Spatial Planning</b> The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding. A review of flood risk within the site has been carried out and it is considered feasible to utilise the site in such a way that it remains safe throughout the lifetime of the development.</p> <p>It is essential that the following recommendations are incorporated into the design process from the conceptual stage. As the site is over 1 hectare in size, a detailed site-based Flood Risk Assessment will be required as an integral part of the planning application stage, which should be carried out in accordance with national and local planning policy requirements and in line with the 'Site-specific Flood Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) and associated</p>



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### RU04: Land adjacent to Lyne Lane Sewage Treatment Works, Chertsey

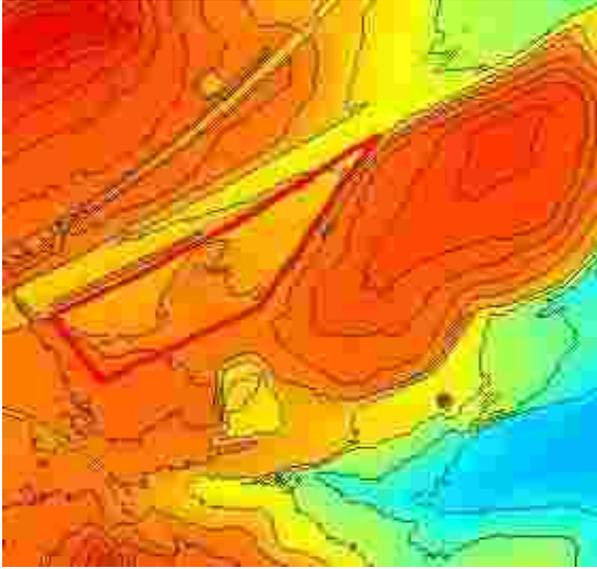
Planning Practice Guidance. The Flood Risk Assessment should inform the local planning authority of the expected changes in flood risk and vulnerability that result from the proposed development.

#### Design Recommendations

1. Finished floor levels within the site should be a minimum of 300mm above the 1 in 100 annual probability event, with 15% allowance for climate change on the Bourne to the west of the site.
2. Any critical/sensitive plant required for the waste facility at this site, such as plant used for small scale power generation (for pyrolysis and gasification and other thermal treatment, including mass burn incineration) should be located in the higher areas of the site to minimise being affected from residual risk.
3. Where appropriate, buildings should adopt flood resilient design techniques to minimise the damage and disruption sustained following a flooding event. Further guidance can be found in BRE Digest DG523 'Flood Resilient Building' and the Department for Communities and Local Government document 'Improving the Flood Performance of New Buildings – Flood Resilient Construction'.
4. Any proposed lowering of the site levels as a result of development should ensure that new flow routes are not created that may cause detrimental flood risk beyond the site. An uninterrupted corridor should be retained at existing ground level, separating the potential source of flooding from any land lowering to manage this.
5. Safe access would be available in the current 1 in 100 annual probability flood event. The impacts on the route should be assessed for the 1 in 100 annual probability +15% climate change allowance as part of the site's Flood Risk Assessment. Future users of the site should be made aware of the potential risks of flooding.
6. Sustainable Drainage Systems (SuDS) should be incorporated into the site to address changes in impermeable surfacing, aiming to achieve greenfield runoff rates, if feasible, in accordance with SCC and national guidance. It is important that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible. The site is not located within a Source Protection Zone and online soil mapping shows the area to be loamy and clayey with impeded drainage; therefore, infiltration techniques are likely to be unsuitable at this site due to low soil permeability and the possibility of relatively shallow groundwater levels. Furthermore, the Runnymede SFRA indicates that very significant constraints are identified with regarding to infiltration drainage at the site. Landscaping of SuDS features should be designed within the site to avoid blocking overland flow routes. Appropriate water treatment measures should be incorporated into the SuDS system to ensure no detrimental impacts on water quality in the receiving system.
7. Residual risk to the development should be investigated against the 1 in 100 annual probability +15% allowance for climate change flood event.

## Surrey County Council Level 2 Strategic Flood Risk Assessment

**RU02: Land adjacent to Trumps Farm, Kitsmead Lane, Longcross**

Grid Reference	499326 (E) 166306 (N)			Post Code	GU25 4JA			
<b>Topography</b>				<p>LiDAR imagery legend:</p> <ul style="list-style-type: none"> <li><span style="color: blue;">—</span> 23m AOD</li> <li><span style="color: blue;">—</span> 26m AOD</li> <li><span style="color: cyan;">—</span> 29m AOD</li> <li><span style="color: cyan;">—</span> 32m AOD</li> <li><span style="color: cyan;">—</span> 35m AOD</li> <li><span style="color: yellow;">—</span> 38m AOD</li> <li><span style="color: yellow;">—</span> 41m AOD</li> <li><span style="color: orange;">—</span> 44m AOD</li> <li><span style="color: orange;">—</span> 47m AOD</li> <li><span style="color: red;">—</span> 50m AOD</li> <li><span style="color: red;">—</span> 53m AOD</li> <li><span style="color: red;">—</span> 56m AOD</li> <li><span style="color: red;">—</span> 59m AOD</li> <li><span style="color: red;">—</span> 62m AOD</li> <li><span style="color: red;">—</span> 65m AOD</li> </ul> <p>The topography of the site is predominantly flat at between 38m AOD to 44m AOD. The site falls in a northerly direction towards the M3.</p>				
<b>Flood Zone Map</b>				<ul style="list-style-type: none"> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Site boundary</li> <li><span style="color: blue; font-weight: bold;">—</span> Main river</li> <li><span style="background-color: lightblue; border: 1px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 3</li> <li><span style="background-color: lightcyan; border: 1px solid cyan; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 2</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 1</li> </ul> <p>The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of flooding.</p>				
<b>Proportion of site in Flood Zone</b>	<b>Flood Zone 1</b>	100%	<b>Flood Zone 2</b>	N/A	<b>Flood Zone 3a</b>	N/A	<b>Flood Zone 3b</b>	N/A

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### RU02: Land adjacent to Trumps Farm, Kitsmead Lane, Longcross

<b>Surface Water</b>		<p><span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> Site boundary</p> <p>Risk of flooding from surface water</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #000080; margin-right: 5px;"></span> High – 1 in 30 annual probability</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #0000FF; margin-right: 5px;"></span> Medium – 1 in 100 annual probability</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #ADD8E6; margin-right: 5px;"></span> Low – 1 in 1000 annual probability</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #FFFF00; margin-right: 5px;"></span> Very Low - less than 1 in 1000 annual probability</li> </ul>	
<b>Development Proposal</b>	<p>Waste use, key facility types proposed:</p> <ul style="list-style-type: none"> <li>Processing of Recyclables (MRFs)</li> <li>Mixed Waste Processing</li> <li>Composting</li> <li>Pyrolysis and gasification</li> <li>Anaerobic digestion; and</li> <li>Other thermal treatment, including mass burn incineration.</li> </ul>	<b>Vulnerability Classification</b>	<p>All proposed waste types classified as Less Vulnerable (“Waste treatment”)</p>

## Surrey County Council Level 2 Strategic Flood Risk Assessment

RU02: Land adjacent to Trumps Farm, Kitsmead Lane, Longcross																																					
<b>Flood Zone Compatibility</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; text-align: left;">Flood Zones</th> <th colspan="5" style="text-align: center;">Flood Risk Vulnerability Classification</th> </tr> <tr> <th></th> <th style="text-align: center;">Essential infrastructure</th> <th style="text-align: center;">Highly vulnerable</th> <th style="text-align: center;">More vulnerable</th> <th style="text-align: center;">Less vulnerable</th> <th style="text-align: center;">Water compatible</th> </tr> </thead> <tbody> <tr> <td>Zone 1</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Zone 2</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">Exception Test required</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Zone 3a †</td> <td style="text-align: center;">Exception Test required †</td> <td style="text-align: center;">X</td> <td style="text-align: center;">Exception Test required</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Zone 3b *</td> <td style="text-align: center;">Exception Test required *</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">✓*</td> </tr> </tbody> </table> <p>Key:                      ✓ Development is appropriate                      X Development should not be permitted.</p>	Flood Zones	Flood Risk Vulnerability Classification						Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible	Zone 1	✓	✓	✓	✓	✓	Zone 2	✓	Exception Test required	✓	✓	✓	Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓	Zone 3b *	Exception Test required *	X	X	X	✓*
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<b>Applicable Climate Change Allowances</b>	The +15% peak river flow climate change allowance should be used to assess a range of climate change scenarios. This is based on the EA's guidance for climate change allowance in Flood Risk Assessments (February 2016) for a site located within the Thames River Basin District, with a Less Vulnerable use, in Flood Zone 1 and with a commercial lifespan (i.e. total potential change anticipated for the '2050s').																																				
<b>Climate Change Extents</b>	It is anticipated that the site would not be affected during the 1 in 100 annual probability event, with allowance for climate change, as the site and surrounding area is not affected during the extreme 1 in 1,000 annual probability event.																																				
<b>1 in 100 annual probability +15% climate change allowance</b>	0% of the site is located within this flood extent.																																				
<b>Description of Flood Risk</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Flood Depth</b></td> <td>Negligible- site located entirely within Flood Zone 1.</td> </tr> <tr> <td><b>Flow Routes</b></td> <td>Flow routes across the site would follow existing topography towards the M3 at the northern site boundary.</td> </tr> <tr> <td><b>Flood Warning and Period of Inundation</b></td> <td>The site is not located within the vicinity of an EA Flood Warning Area.</td> </tr> </table>	<b>Flood Depth</b>	Negligible- site located entirely within Flood Zone 1.	<b>Flow Routes</b>	Flow routes across the site would follow existing topography towards the M3 at the northern site boundary.	<b>Flood Warning and Period of Inundation</b>	The site is not located within the vicinity of an EA Flood Warning Area.																														
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## Surrey County Council

### Level 2 Strategic Flood Risk Assessment

#### RU02: Land adjacent to Trumps Farm, Kitsmead Lane, Longcross

	<p><b>Velocity of Flood Waters</b> Negligible- site located entirely within Flood Zone 1</p>
Planning Recommendations	<p><b>Flood Defences</b> EA mapping indicates that there are no flood defences within the vicinity of the site.</p>
	<p><b>Historic Records and Other Sources of Flooding</b></p> <p>There are no historic incidences of fluvial flooding recorded within the immediate vicinity of the site.</p> <p>The majority of the site is at 'very low' risk, with less than a 1 in 1,000 annual probability of surface water flooding. There are isolated areas at 'low' risk within the east of the site, with between a 1 in 100 and 1 in 1,000 annual probability, and a small area along the northern boundary at 'high' risk, with a greater than 1 in 30 annual probability, possibly associated with the drainage of the M3 to the north of the site.</p> <p>The site has limited potential for groundwater flooding.</p> <p>Correspondence with Thames Water has confirmed that there have been no incidences of historical sewer flooding within the vicinity of the site.</p> <p>There are no artificial waterbodies located within the vicinity of the site and as such, the site is not at risk of flooding from artificial sources.</p>
	<p><b>Overview of Flood Risk</b> A summary of the flood risk to the site is provided below:</p> <ul style="list-style-type: none"> <li>▪ The entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding;</li> <li>▪ The majority of the site is at 'very low' risk of surface water flooding; there are localised areas at 'low' and 'high' risk of surface water flooding within and immediately adjacent to the site;</li> <li>▪ The site has limited potential for groundwater flooding;</li> <li>▪ The site is not at risk of flooding from artificial sources;</li> <li>▪ Continuous access and egress is available.</li> </ul> <p>The site is shown to be at low probability of fluvial flooding, very low risk of surface water flooding and is not susceptible to groundwater flooding. There are no recorded historical flooding events within the site. The site is therefore at low risk of flooding and it is considered feasible that the site could be developed safely and in accordance with the requirements of the NPPF once any small potential risks of these sources of flooding are mitigated.</p>
	<p><b>Spatial Planning</b> The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding. A review of flood risk within the site has been carried out and it is considered feasible to utilise the site in such a way that it remains safe throughout the lifetime of the development.</p> <p>It is essential that the following recommendations are incorporated into the design process from the conceptual stage. As the site is over 1 hectare in size, a detailed site-based Flood Risk Assessment will be required as an integral part of the planning application stage, which should be carried out in accordance with national and local planning policy requirements and in line with the 'Site-specific Flood</p>



## Surrey County Council

### Level 2 Strategic Flood Risk Assessment

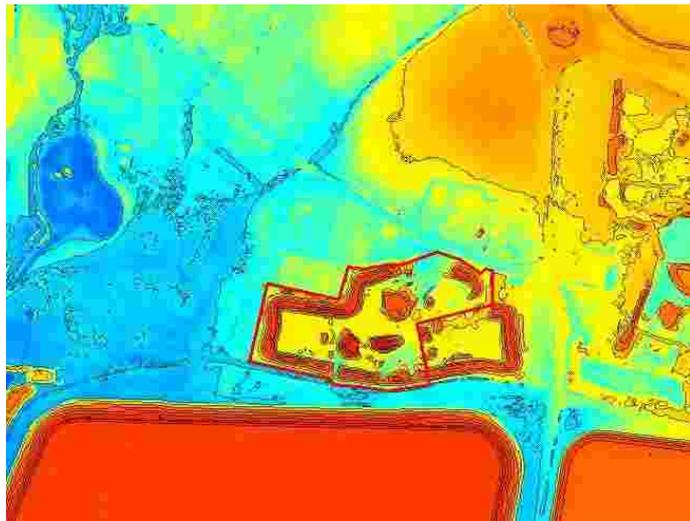
#### RU02: Land adjacent to Trumps Farm, Kitsmead Lane, Longcross

	<p>Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance. The Flood Risk Assessment should inform the local planning authority of the expected changes in flood risk and vulnerability that result from the proposed development.</p>
	<p><b>Design Recommendations</b></p> <ol style="list-style-type: none"> <li>1. Finished floor levels within the site should be a minimum of 300mm above the 1 in 100 annual probability event, with 15% allowance for climate change.</li> <li>2. Any critical/sensitive plant required for the waste facility at this site, such as plant used for small scale power generation (for pyrolysis and gasification and other thermal treatment, including mass burn incineration) should be located in the higher areas of the site to minimise being affected from residual risk.</li> <li>3. Where appropriate, buildings should adopt flood resilient design techniques to minimise the damage and disruption sustained following a flooding event. Further guidance can be found in BRE Digest DG523 'Flood Resilient Building' and the Department for Communities and Local Government document 'Improving the Flood Performance of New Buildings – Flood Resilient Construction'.</li> <li>4. Any proposed lowering of the site levels as a result of development should ensure that new flow routes are not created that may cause detrimental flood risk beyond the site. An uninterrupted corridor should be retained at existing ground level, separating the potential source of flooding from any land lowering to manage this.</li> <li>5. Safe access would be available in the current 1 in 100 annual probability flood event. The impacts on the route should be assessed for the 1 in 100 annual probability +15% climate change allowance as part of the site's Flood Risk Assessment. Future users of the site should be made aware of the potential risks of flooding.</li> <li>6. Sustainable Drainage Systems (SuDS) should be incorporated into the site to address changes in impermeable surfacing, aiming to achieve greenfield runoff rates, if feasible, in accordance with SCC and national guidance. It is important that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible. The site is not located within a Source Protection Zone and online soil mapping shows the area to be loamy and naturally wet; infiltration techniques are likely to be unsuitable at this site due to the possibility of relatively shallow groundwater levels. Furthermore, the Runnymede SFRA indicates that very significant constraints are identified with regarding to infiltration drainage at the site. Landscaping of SuDS features should be designed within the site to avoid blocking overland flow routes. Appropriate water treatment measures should be incorporated into the SuDS system to ensure no detrimental impacts on water quality in the receiving system.</li> <li>7. Residual risk to the development should be investigated against the 1 in 100 annual probability +15% allowance for climate change flood event.</li> </ol>



## Surrey County Council Level 2 Strategic Flood Risk Assessment

**SP02: Oakleaf Farm, Stanwell Moor**

<b>Grid Reference</b>	504473 (E) 174379 (N)			<b>Post Code</b>	TW19 6AF			
<b>Topography</b>					<p><b>LiDAR imagery legend:</b></p> <ul style="list-style-type: none"> <li><span style="color: cyan;">—</span> 19m AOD</li> <li><span style="color: yellow;">—</span> 21m AOD</li> <li><span style="color: orange;">—</span> 23m AOD</li> <li><span style="color: brown;">—</span> 25m AOD</li> <li><span style="color: red;">—</span> 27m AOD</li> <li><span style="color: darkred;">—</span> 29m AOD</li> <li><span style="color: darkred;">—</span> 31m AOD</li> </ul> <p>The site is surrounded by an earth embankment with a crest level of approximately 31m AOD. Within the site the topography is predominantly flat at between 19m AOD to 23m AOD. Peaks in the south shown on the LiDAR image (left) are associated with the former quarry works.</p>			
<b>Flood Zone Map</b>					<p><b>Legend:</b></p> <ul style="list-style-type: none"> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Site boundary</li> <li><span style="border-bottom: 2px solid blue; width: 15px; display: inline-block;"></span> Main river</li> <li><span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Areas benefiting from flood defences</li> <li><span style="background-color: #ccccff; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Flood Zone 3</li> <li><span style="background-color: #add8e6; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Flood Zone 2</li> <li><span style="border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Flood Zone 1</li> </ul> <p>The site is located on online EA mapping to be entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of flooding.</p>			
<b>Proportion of site in Flood Zone</b>	<b>Flood Zone 1</b>	100%	<b>Flood Zone 2</b>	N/A	<b>Flood Zone 3a</b>	N/A	<b>Flood Zone 3b</b>	N/A

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### SP02: Oakleaf Farm, Stanwell Moor

<b>Surface Water</b>			
<b>Development Proposal</b>	<p>Waste use, key facility types proposed:</p> <ul style="list-style-type: none"> <li>▪ Processing of Recyclables (MRFs)</li> <li>▪ Mixed Waste Processing</li> <li>▪ Composting</li> <li>▪ Pyrolysis and gasification</li> <li>▪ Anaerobic digestion; and</li> <li>▪ Other thermal treatment, including mass burn incineration.</li> </ul>	<b>Vulnerability Classification</b>	<p>All proposed waste types classified as Less Vulnerable (“Waste treatment”)</p>



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### SP02: Oakleaf Farm, Stanwell Moor

<b>Flood Zone Compatibility</b>	<b>Flood Zones</b>	<b>Flood Risk Vulnerability Classification</b>				
		Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test required	✓	✓	✓
	Zone 3a †	Exception Test required †	x	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	x	x	x	✓*	
<b>Key:</b> ✓ Development is appropriate x Development should not be permitted.						
<b>Applicable Climate Change Allowances</b>	The +15% peak river flow climate change allowance should be used to assess a range of climate change scenarios. This is based on the EA's guidance for climate change allowance in Flood Risk Assessments (February 2016) for a site located within the Thames River Basin District, with a Less Vulnerable use, in Flood Zone 1 and with a commercial lifespan (i.e. total potential change anticipated for the '2050s').					
<b>Climate Change Extents</b>	Detailed model data not received from the EA at the time of writing.					
<b>Description of Flood Risk</b>	<b>Flood Depth</b>					
	Negligible- site located entirely within Flood Zone 1.					
	<b>Flow Routes</b>					
	Overland flows would be contained within the site due to the surrounding earth embankment.					
<b>Flood Warning and Period of Inundation</b>						
Areas of Flood Zone 3 shown to affect Horton Road to the north of the site are located within the <i>River Colne and Frays River at West Drayton and Stanwell Moor</i> EA Flood Warning Area.						
<b>Velocity of Flood Waters</b>						
Negligible- site located entirely within Flood Zone 1						



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### SP02: Oakleaf Farm, Stanwell Moor

#### Flood Defences

EA Flood Zone mapping indicates that areas of floodplain associated with the tributary of the River Colne to the west of the site, including Horton Road, benefits from flood defences. The nature of these defences, the standard of protection they offer, and the ownership and maintenance arrangements are not currently known.

#### Historic Records and Other Sources of Flooding

The EA historic flood map indicates two separate isolated historic incidences of flooding within the site. The source of this historic flooding is not known. Thames Water have confirmed that these historic flood events are not attributable to surcharging public sewers.

The majority of the site is at 'very low' risk, with less than a 1 in 1,000 annual probability of surface water flooding. The EA Surface Water Flood Map shows an historic pond associated with the former quarry at the site and is therefore unlikely to be reliable to inform surface water flood risk as the site has since been developed. The DPD SFRA states that Stanwell Moor is *an area with a history of surface water flooding problems, particularly around Hithermoor Road*, approximately 100m west of the site.

The Spelthorne SFRA states *the construction of reservoirs, and backfilling of gravel pits with materials of different permeability to those present originally, could have altered groundwater storage and flow paths*. There is no other information available on the site's potential susceptibility to groundwater flooding.

Correspondence with Thames Water has confirmed that there have been no incidences of historical sewer flooding within the vicinity of the site.

The residual risk of flooding from artificial sources is low.

#### Overview of Flood Risk

A summary of the flood risk to the site is provided below:

- Online EA mapping shows that the entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding;
- Online EA mapping shows that the majority of the site is at 'very low' risk of surface water flooding; there are historic surface water flooding problems on Hithermoor Road to the west of the site;
- The susceptibility to groundwater flooding at the site is unknown;
- There is low residual risk of flooding from artificial sources;
- Continuous access and egress is available.

The site is shown to be at low probability of fluvial flooding, and very low risk of surface water flooding. Details regarding historical flood events within the site are not available. Given the stringent monitoring and maintenance requirements for artificial waterbodies the risk from artificial sources is deemed to be low. The site is therefore at low risk of flooding and it is considered feasible that the site could be developed safely and in accordance with the requirements of the NPPF once any small potential risks of these sources of flooding are mitigated.

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### SP02: Oakleaf Farm, Stanwell Moor

<b>Planning Recommendations</b>	<p><b>Spatial Planning</b></p> <p>The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding. A review of flood risk within the site has been carried out and it is considered feasible to utilise the site in such a way that it remains safe throughout the lifetime of the development.</p> <p>It is essential that the following recommendations are incorporated into the design process from the conceptual stage. As the site is over 1 hectare in size, a detailed site-based Flood Risk Assessment will be required as an integral part of the planning application stage, which should be carried out in accordance with national and local planning policy requirements and in line with the 'Site-specific Flood Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance. The Flood Risk Assessment should inform the local planning authority of the expected changes in flood risk and vulnerability that result from the proposed development.</p>
	<p><b>Design Recommendations</b></p> <ol style="list-style-type: none"> <li>1. Finished floor levels within the site should be a minimum of 300mm above the 1 in 100 annual probability event, with 15% allowance for climate change on the River Colne to the west of the site.</li> <li>2. Any critical/sensitive plant required for the waste facility at this site, such as plant used for small scale power generation (for pyrolysis and gasification and other thermal treatment, including mass burn incineration) should be located in the higher areas of the site to minimise being affected from residual risk.</li> <li>3. Where appropriate, buildings should adopt flood resilient design techniques to minimise the damage and disruption sustained following a flooding event. Further guidance can be found in BRE Digest DG523 'Flood Resilient Building' and the Department for Communities and Local Government document 'Improving the Flood Performance of New Buildings – Flood Resilient Construction'.</li> <li>4. Any proposed lowering of the site levels as a result of development should ensure that new flow routes are not created that may cause detrimental flood risk beyond the site. An uninterrupted corridor should be retained at existing ground level, separating the potential source of flooding from any land lowering to manage this.</li> <li>5. Safe access would be available in the current 1 in 100 annual probability flood event. The impacts on the route should be assessed for the 1 in 100 annual probability +15% climate change allowance as part of the site's Flood Risk Assessment. Future users of the site should be made aware of the potential risks of flooding.</li> <li>6. Sustainable Drainage Systems (SuDS) should be incorporated into the site to address changes in impermeable surfacing, aiming to achieve greenfield runoff rates, if feasible, in accordance with SCC and national guidance. It is important that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible. The site is not located within a Source Protection Zone and online soil mapping shows the area to be freely draining and infiltration techniques may be feasible at the site, depending on the depth of groundwater. Landscaping of SuDS features should be designed within the site to avoid blocking overland flow routes. Appropriate water treatment</li> </ol>



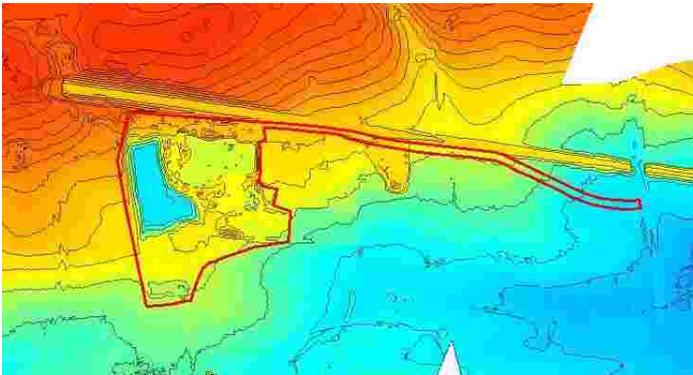
## Surrey County Council Level 2 Strategic Flood Risk Assessment

### SP02: Oakleaf Farm, Stanwell Moor

measures should be incorporated into the SuDS system to ensure no detrimental impacts on water quality in the receiving system.

7. Residual risk to the development should be investigated against the 1 in 100 annual probability +15% allowance for climate change flood event.

## Surrey County Council Level 2 Strategic Flood Risk Assessment

TA10: Land at Lambs Business Park, South Godstone								
Grid Reference	534839 (E) 148477 (N)			Post Code	RH9 8LJ			
<b>Topography</b>					<p>LiDAR imagery legend:</p> <ul style="list-style-type: none"> <li><span style="color: cyan;">—</span> 71m AOD</li> <li><span style="color: lightgreen;">—</span> 73m AOD</li> <li><span style="color: yellow;">—</span> 75m AOD</li> <li><span style="color: orange;">—</span> 77m AOD</li> <li><span style="color: gold;">—</span> 79m AOD</li> <li><span style="color: brown;">—</span> 81m AOD</li> <li><span style="color: darkorange;">—</span> 83m AOD</li> <li><span style="color: red;">—</span> 85m AOD</li> </ul> <p>The site is predominantly flat at between 77m AOD to 81m AOD but generally falls in a southerly direction away from the railway at the northern site boundary.</p>			
<b>Flood Zone Map</b>					<ul style="list-style-type: none"> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Site boundary</li> <li><span style="color: blue; font-weight: bold; margin-right: 5px;">—</span> Main river</li> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 3</li> <li><span style="background-color: cyan; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 2</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Flood Zone 1</li> </ul> <p>The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of flooding.</p>			
<b>Proportion of site in Flood Zone</b>	<b>Flood Zone 1</b>	100%	<b>Flood Zone 2</b>	N/A	<b>Flood Zone 3a</b>	N/A	<b>Flood Zone 3b</b>	N/A

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### TA10: Land at Lambs Business Park, South Godstone



<b>Development Proposal</b>	<p>Waste use, key facility types proposed:</p> <ul style="list-style-type: none"> <li>▪ Processing of Recyclables (MRFs)</li> <li>▪ Mixed Waste Processing</li> <li>▪ Composting</li> <li>▪ Pyrolysis and gasification</li> <li>▪ Anaerobic digestion; and</li> <li>▪ Other thermal treatment, including mass burn incineration.</li> </ul>	<b>Vulnerability Classification</b>	All proposed waste types classified as Less Vulnerable (“Waste treatment”)
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<b>Flood Zone Compatibility</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Flood Zones</th> <th colspan="5" style="text-align: center; padding: 5px;">Flood Risk Vulnerability Classification</th> </tr> <tr> <th style="padding: 5px;"></th> <th style="padding: 5px;">Essential infrastructure</th> <th style="padding: 5px;">Highly vulnerable</th> <th style="padding: 5px;">More vulnerable</th> <th style="padding: 5px;">Less vulnerable</th> <th style="padding: 5px;">Water compatible</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Zone 1</td> <td style="text-align: center; padding: 5px;">✓</td> </tr> <tr> <td style="padding: 5px;">Zone 2</td> <td style="text-align: center; padding: 5px;">✓</td> <td style="text-align: center; padding: 5px;">Exception Test required</td> <td style="text-align: center; padding: 5px;">✓</td> <td style="text-align: center; padding: 5px;">✓</td> <td style="text-align: center; padding: 5px;">✓</td> </tr> <tr> <td style="padding: 5px;">Zone 3a †</td> <td style="text-align: center; padding: 5px;">Exception Test required †</td> <td style="text-align: center; padding: 5px;">X</td> <td style="text-align: center; padding: 5px;">Exception Test required</td> <td style="text-align: center; padding: 5px;">✓</td> <td style="text-align: center; padding: 5px;">✓</td> </tr> <tr> <td style="padding: 5px;">Zone 3b *</td> <td style="text-align: center; padding: 5px;">Exception Test required *</td> <td style="text-align: center; padding: 5px;">X</td> <td style="text-align: center; padding: 5px;">X</td> <td style="text-align: center; padding: 5px;">X</td> <td style="text-align: center; padding: 5px;">✓*</td> </tr> </tbody> </table> <p style="margin-top: 10px;">Key:</p> <ul style="list-style-type: none"> <li>✓ Development is appropriate</li> <li>X Development should not be permitted.</li> </ul>	Flood Zones	Flood Risk Vulnerability Classification						Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible	Zone 1	✓	✓	✓	✓	✓	Zone 2	✓	Exception Test required	✓	✓	✓	Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓	Zone 3b *	Exception Test required *	X	X	X	✓*
Flood Zones	Flood Risk Vulnerability Classification																																				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible																																
Zone 1	✓	✓	✓	✓	✓																																
Zone 2	✓	Exception Test required	✓	✓	✓																																
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓																																
Zone 3b *	Exception Test required *	X	X	X	✓*																																



## Surrey County Council

### Level 2 Strategic Flood Risk Assessment

#### TA10: Land at Lambs Business Park, South Godstone

<b>Applicable Climate Change Allowances</b>	The +15% peak river flow climate change allowance should be used to assess a range of climate change scenarios. This is based on the EA's guidance for climate change allowance in Flood Risk Assessments (February 2016) for a site located within the Thames River Basin District, with a Less Vulnerable use, in Flood Zone 1 and with a commercial lifespan (i.e. total potential change anticipated for the '2050s').
<b>Climate Change Extents</b>	It is anticipated that the site would not be affected during the 1 in 100 annual probability event, with allowance for climate change, as the site and surrounding area is not affected during the extreme 1 in 1,000 annual probability event.

<b>1 in 100 annual probability +15% climate change allowance</b>	0% of the site is located within this flood extent.
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<b>Description of Flood Risk</b>	<p><b>Flood Depth</b> Negligible- site located entirely within Flood Zone 1.</p> <p><b>Flow Routes</b> Flows within the site would follow the site's topography in a southerly direction, and locally towards the pond at the west of the site.</p> <p><b>Flood Warning and Period of Inundation</b> There are no EA Flood Warning areas within the vicinity of the site.</p> <p><b>Velocity of Flood Waters</b> Negligible- site located entirely within Flood Zone 1.</p> <p><b>Flood Defences</b> There are no known flood defences within the vicinity of the site.</p> <p><b>Historic Records and Other Sources of Flooding</b> There are no historical records of flooding within the vicinity of the site.</p> <p>The majority of the site is at 'very low' risk, with less than a 1 in 1,000 annual probability of surface water flooding. The EA Surface Water Flood Map shows there are small isolated areas along the access road shown to be at 'low' risk, with between a 1 in 100 and 1 in 1,000 annual probability of flooding, 'medium' risk, with between a 1 in 100 and 1 in 30 annual probability, and 'high' risk, with a greater than 1 in 30 annual probability of surface water flooding. The areas associated with the existing ponds within the site are shown to be at risk of surface water flooding, however, the flooding is not shown to extend beyond the pond extents.</p> <p>The site is deemed to have negligible risk of flooding from groundwater due to the nature of the local geological deposits. The EA has confirmed that the site is not underlain by an aquifer and is not at risk of groundwater-related flooding. The site is not in hydraulic continuity with the nearest Source Protection Zone, over 3km to the north of the site.</p> <p>Correspondence with Southern Water has confirmed that there have been no incidences of historical sewer flooding within the vicinity of the site.</p>
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## Surrey County Council Level 2 Strategic Flood Risk Assessment

### TA10: Land at Lambs Business Park, South Godstone

	<p>There are no artificial waterbodies located within the vicinity of the site and as such, the site is not at risk of flooding from artificial sources.</p> <hr/> <p><b>Overview of Flood Risk</b> A summary of the flood risk to the site is provided below:</p> <ul style="list-style-type: none"> <li>▪ The entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding;</li> <li>▪ The majority of the site is at 'very low' risk of surface water flooding; although there are areas of greater surface water flood risk along the access road and associated with the existing ponds located within the site;</li> <li>▪ There is negligible risk of flooding from groundwater at the site;</li> <li>▪ The site is not at risk of flooding from artificial sources.</li> <li>▪ Continuous access and egress is available.</li> </ul> <p>The site is shown to be at low probability of fluvial flooding, and very low risk of surface water flooding and negligible risk of groundwater flooding. There are no recorded historical flooding events within the vicinity of the site. The site is therefore at low risk of flooding and it is considered feasible that the site could be developed safely and in accordance with the requirements of the NPPF once any small potential risks of these sources of flooding are mitigated.</p>
<b>Planning Recommendations</b>	<p><b>Spatial Planning</b> The site is located entirely within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding. A review of flood risk within the site has been carried out and it is considered feasible to utilise the site in such a way that it remains safe throughout the lifetime of the development.</p> <p>It is essential that the following recommendations are incorporated into the design process from the conceptual stage. As the site is over 1 hectare in size, a detailed site-based Flood Risk Assessment will be required as an integral part of the planning application stage, which should be carried out in accordance with national and local planning policy requirements and in line with the 'Site-specific Flood Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance. The Flood Risk Assessment should inform the local planning authority of the expected changes in flood risk and vulnerability that result from the proposed development.</p> <hr/> <p><b>Design Recommendations</b></p> <ol style="list-style-type: none"> <li>1. Finished floor levels within the site should be a minimum of 300mm above the 1 in 100 annual probability event, with 15% allowance for climate change.</li> <li>2. Any critical/sensitive plant required for the waste facility at this site, such as plant used for small scale power generation (for pyrolysis and gasification and other thermal treatment, including mass burn incineration) should be located in the higher areas of the site to minimise being affected from residual risk.</li> <li>3. Where appropriate, buildings should adopt flood resilient design techniques to minimise the damage and disruption sustained following a flooding event. Further guidance can be found in BRE Digest DG523 'Flood Resilient Building' and the Department for Communities and Local Government document 'Improving the Flood Performance of New Buildings – Flood Resilient Construction'.</li> </ol>



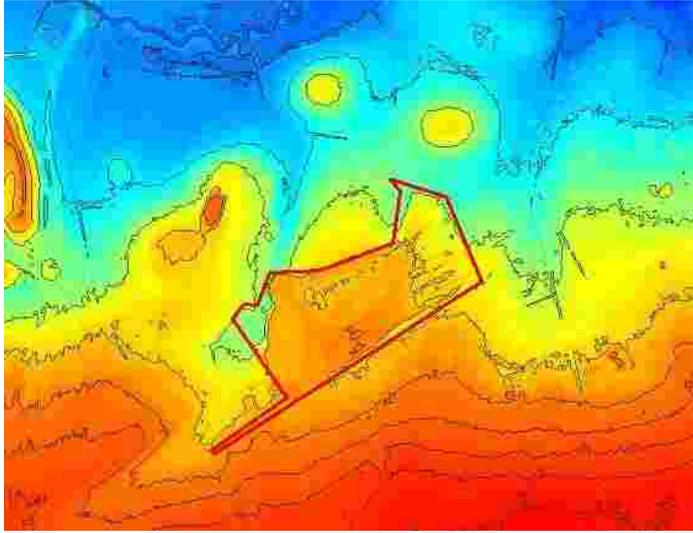
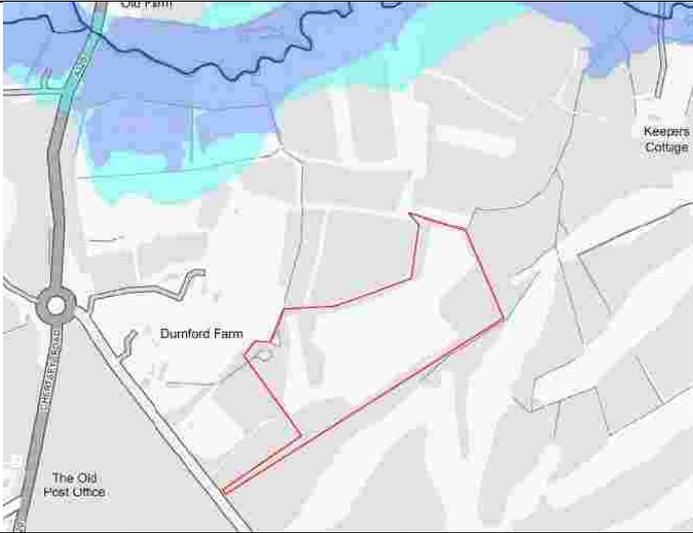
## Surrey County Council Level 2 Strategic Flood Risk Assessment

### TA10: Land at Lambs Business Park, South Godstone

4. Any proposed lowering of the site levels as a result of development should ensure that new flow routes are not created that may cause detrimental flood risk beyond the site. An uninterrupted corridor should be retained at existing ground level, separating the potential source of flooding from any land lowering to manage this.
5. Safe access would be available in the current 1 in 100 annual probability flood event. The impacts on the route should be assessed for the 1 in 100 annual probability +15% climate change allowance as part of the site's Flood Risk Assessment. Future users of the site should be made aware of the potential risks of flooding.
6. Sustainable Drainage Systems (SuDS) should be incorporated into the site to address changes in impermeable surfacing, aiming to achieve greenfield runoff rates, if feasible, in accordance with SCC and national guidance. It is important that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible. The site is not located within a Source Protection Zone and online soil mapping shows the area to be slowly permeable; infiltration techniques may therefore be suitable at this site. Landscaping of SuDS features should be designed within the site to avoid blocking overland flow routes. Appropriate water treatment measures should be incorporated into the SuDS system to ensure no detrimental impacts on water quality in the receiving system.
7. Residual risk to the development should be investigated against the 1 in 100 annual probability +15% allowance for climate change flood event.

## Surrey County Council Level 2 Strategic Flood Risk Assessment

### WO09: Land at Martyrs Lane, Woking

Grid Reference	502176 (E) 161403 (N)			Post Code	GU21 5NJ			
Topography				<p><b>LiDAR imagery legend:</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">—</span> 20m AOD</li> <li><span style="color: cyan;">—</span> 22m AOD</li> <li><span style="color: yellow;">—</span> 24m AOD</li> <li><span style="color: orange;">—</span> 26m AOD</li> <li><span style="color: red;">—</span> 28m AOD</li> <li><span style="color: darkred;">—</span> 30m AOD</li> <li><span style="color: brown;">—</span> 32m AOD</li> <li><span style="color: darkred;">—</span> 34m AOD</li> </ul> <p>The topography of the site is predominantly flat with ground levels between 24m AOD and 27m AOD. The site falls to the north east and west. At the west of the site there is a low of approximately 23m AOD. The site is located at significantly higher elevation than the Addlestone Bourne to the north.</p>				
Flood Zone Map				<p><b>Legend:</b></p> <ul style="list-style-type: none"> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Site boundary</li> <li><span style="border-bottom: 2px solid blue; width: 20px; display: inline-block;"></span> Main river</li> <li><span style="background-color: lightblue; border: 1px solid blue; display: inline-block; width: 15px; height: 10px;"></span> Flood Zone 3</li> <li><span style="background-color: cyan; border: 1px solid cyan; display: inline-block; width: 15px; height: 10px;"></span> Flood Zone 2</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Flood Zone 1</li> </ul> <p>The Addlestone Bourne is located approximately 400m to the north of the site and flows in an easterly direction. The entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of flooding.</p>				
Proportion of site in Flood Zone	Flood Zone 1	100%	Flood Zone 2	0%	Flood Zone 3a	0%	Flood Zone 3b	0%



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### WO09: Land at Martyrs Lane, Woking

<b>Surface Water</b>		<p><b>Site boundary</b></p> <p><b>Risk of flooding from surface water</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #1a3d54; border: 1px solid black; margin-right: 5px;"></span> High – 1 in 30 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682b4; border: 1px solid black; margin-right: 5px;"></span> Medium – 1 in 100 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #add8e6; border: 1px solid black; margin-right: 5px;"></span> Low – 1 in 1000 annual probability</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffffff; border: 1px solid black; margin-right: 5px;"></span> Very Low – less than 1 in 1000 annual probability</li> </ul>	
<b>Development Proposal</b>	<p>Waste use, key facility types proposed:</p> <ul style="list-style-type: none"> <li>Processing of Recyclables (MRFs)</li> <li>Mixed Waste Processing</li> <li>Composting</li> <li>Pyrolysis and gasification</li> <li>Anaerobic digestion; and</li> <li>Other thermal treatment, including mass burn incineration.</li> </ul>	<b>Vulnerability Classification</b>	<p>All proposed waste types classified as Less Vulnerable (“Waste treatment”)</p>



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### WO09: Land at Martyrs Lane, Woking

Flood Zone Compatibility	Flood Zones	Flood Risk Vulnerability Classification				
		Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test required	✓	✓	✓
	Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
	Zone 3b *	Exception Test required *	X	X	X	✓*
<b>Key:</b> ✓ Development is appropriate X Development should not be permitted.						
<b>Applicable Climate Change Allowances</b>	The +15% peak river flow climate change allowance should be used to assess a range of climate change scenarios. This is based on the EA's guidance for climate change allowance in Flood Risk Assessments (February 2016) for a site located within the Thames River Basin District, with a Less Vulnerable use, in Flood Zone 1 and with a commercial lifespan (i.e. total potential change anticipated for the '2050s').					
<b>Climate Change Extents</b>	It is anticipated that the site would not be affected during the 1 in 100 annual probability event, with allowance for climate change, as the site and surrounding area is not affected during the extreme 1 in 1,000 annual probability event.					
<b>1 in 100 annual probability +15% climate change allowance</b>		0% of the site is located within this flood extent.				
<b>Description of Flood Risk</b>	<b>Flood Depth</b> Negligible- site located entirely within Flood Zone 1.					
	<b>Flow Routes</b> Overland flow would be directed towards the west and north-east of the site.					
	<b>Flood Warning and Period of Inundation</b> The site is not located within an EA Flood Alert Area; however, the area adjacent to the Addlestone Bourne to the north of the site (within Flood Zones 2 and 3) is within the <i>Windle Brook and Hale, Mill and Addlestone Bourne</i> flood warning area.					

## Surrey County Council

### Level 2 Strategic Flood Risk Assessment

#### WO09: Land at Martyrs Lane, Woking

	<p><b>Velocity of Flood Waters</b> Negligible- site located entirely within Flood Zone 1.</p>
Description of Flood Risk	<p><b>Flood Defences</b> EA Flood Zone mapping indicates that there are no flood defences on the Addlestone Bourne to the north of the site.</p>
	<p><b>Historic Records and Other Sources of Flooding</b> There are no records of historical flooding within the site.</p> <p>The majority of the site is shown to be at 'very low' risk of surface water flooding, with less than a 1 in 1,000 annual probability of flooding. There are small areas adjacent to the north eastern and southern site boundaries shown to be at 'high' (greater than 1 in 30 annual probability) risk of surface water flooding. There are isolated areas within the site shown to be at 'low' (between a 1 in 100 and 1 in 1,000 annual probability) and 'medium' (between a 1 in 100 and 1 in 30 annual probability) risk of surface water flooding. SCC records indicate that there are no wetspots within the site.</p> <p>In central and eastern parts of the site there is potential for groundwater flooding to properties below ground level (e.g. basements).</p> <p>Correspondence with Thames Water has confirmed that there have been no incidences of historical flooding within the vicinity of the site.</p> <p>Basingstoke Canal is located approximately 600m to the south of the site. Development would not affect the integrity of the canal or alter the level of potential flood risk. The canal does not pose a risk of flooding to the site.</p> <p>There are no artificial waterbodies located within the vicinity of the site and as such, the site is not at risk of flooding from artificial sources.</p>
	<p><b>Overview of Flood Risk</b> A summary of the flood risk to the site is provided below:</p> <ul style="list-style-type: none"> <li>▪ The entire site is located within Flood Zone 1, with a less than 1 in 1,000 annual probability of fluvial flooding;</li> <li>▪ The majority of the site is at 'very low' risk of surface water flooding, with isolated topographical low points at 'low', 'medium' and 'high' risk;</li> <li>▪ The site has potential for groundwater flooding to occur below ground level;</li> <li>▪ The site is not at risk of flooding from artificial sources;</li> <li>▪ Continuous access and egress is available.</li> </ul> <p>The site is shown to be at low probability of fluvial flooding, low risk of surface water flooding and may be susceptible to groundwater flooding below ground level, subject to confirmation through site specific geotechnical investigation of groundwater levels. It is therefore considered feasible that the site could be developed safely and in accordance with the requirements of the NPPF.</p>



## Surrey County Council Level 2 Strategic Flood Risk Assessment

### WO09: Land at Martyrs Lane, Woking

<b>Planning Recommendations</b>	<p><b>Spatial Planning</b></p> <p>The site is located entirely within Flood Zone 1. A review of flood risk within the site has been carried out and it is considered feasible to utilise the site in such a way that it remains safe throughout the lifetime of the development.</p> <p>It is essential that the following recommendations are incorporated into the design process from the conceptual stage. As the site is over 1 hectare in size, a detailed site-based Flood Risk Assessment will be required as an integral part of the planning application stage, which should be carried out in accordance with national and local planning policy requirements and in line with the 'Site-specific Flood Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance. The Flood Risk Assessment should inform the local planning authority of the expected changes in flood risk and vulnerability that result from the proposed development.</p> <p><b>Design Recommendations</b></p> <ol style="list-style-type: none"> <li>1. Finished floor levels within the site should be a minimum of 300mm above the 1 in 100 annual probability event, with 15% allowance for climate change on the Addlestone Bourne to the north of the site.</li> <li>2. Any critical/sensitive plant required for the waste facility at this site, such as plant used for small scale power generation (for pyrolysis and gasification and other thermal treatment, including mass burn incineration) should be located in the higher areas of the site to minimise being affected from residual risk.</li> <li>3. Where appropriate, buildings should adopt flood resilient design techniques to minimise the damage and disruption sustained following a flooding event. Further guidance can be found in BRE Digest DG523 'Flood Resilient Building' and the Department for Communities and Local Government document 'Improving the Flood Performance of New Buildings – Flood Resilient Construction'.</li> <li>4. Any proposed lowering of the site levels as a result of development should ensure that new flow routes are not created that may cause detrimental flood risk beyond the site. An uninterrupted corridor should be retained at existing ground level, separating the potential source of flooding from any land lowering to manage this.</li> <li>5. Safe access would be available in the current 1 in 1,000 annual probability flood event.</li> <li>6. Sustainable Drainage Systems (SuDS) should be incorporated into the site to address changes in impermeable surfacing, aiming to achieve greenfield runoff rates, if feasible, in accordance with SCC and national guidance. It is important that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible. The site is not located within a Source Protection Zone and online soil mapping shows the area to be naturally wet and loamy; therefore, infiltration techniques are likely to be unsuitable at this site due to low permeability soils and the possibility of relatively shallow groundwater levels. Landscaping of SuDS features should be designed within the site to avoid blocking overland flow routes. Appropriate water treatment measures should be incorporated into the SuDS system to ensure no detrimental impacts on water quality in the receiving system.</li> </ol>
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|  | 7. Residual risk to the development should be investigated against the 1 in 100 annual probability +15% allowance for climate change flood event. |
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## Appendix C Summary Table

Source of flooding	EL07	GU23	MO03	RE09	RU04	RU02	SP02	TA10	WO09
<b>Fluvial</b>	Flood Zone 1	Partially Flood Zones 2 & 3	Flood Zone 1 (based on initial results of modelling)	Fringe of site in Flood Zone 3	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1
<b>Surface Water</b>	Low	Low	Low	Low	Low	Low	Low	Low	Low
<b>Groundwater</b>	Negligible	Potential at surface	Negligible	Negligible	Potential below surface at NW of site	Negligible	No information available	Negligible	Potential below surface
<b>Sewer</b>	None recorded	None recorded	None recorded	None recorded	None recorded	None recorded	None recorded	None recorded	None recorded
<b>Artificial</b>	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
<b>Historical</b>	1968 (defences raised since)	1968, 2000 in area within Flood Zone 2	1968, 1990	None recorded	None recorded	None recorded	Yes (source unknown, not surcharging public sewers)	None recorded	None recorded
<b>Suitable waste types</b>	All	All	All	All	All	All	All	All	All

### Legend

	<b>Low/Negligible Risk</b> – No noticeable impact to site and not considered to be a constraint to development
	<b>Medium Risk</b> – Issue requires consideration but not a significant constraint to development
	<b>High Risk</b> – Major constraint to development requiring active consideration in mitigation proposals

## Appendix D Glossary

- ABI – Association of British Insurers**
- AEP – Annual Event Probability (%)**
- BS – British Standard**
- CDM – Construction, Design and Management**
- CFMP – Catchment Flood Management Plan**
- DCO – Development Consent Order**
- DEFRA – Department for Environment, Food and Rural Affairs**
- EA – Environment Agency**
- EBC – Elmbridge Borough Council**
- ES – Environmental Statement**
- FHR – Flood Hazard Rating**
- FRA – Flood Risk Assessment**
- FRMS – Flood Risk Management Strategy**
- GBC – Guildford Borough Council**
- IDB – Internal Drainage Board**
- L1 SFRA – Level 1 Strategic Flood Risk Assessment**
- L2 SFRA – Level 2 Strategic Flood Risk Assessment**
- LFRMS – Local Flood Risk Management Strategy**
- LiDAR – Light Detection and Ranging (topographic data)**
- LLFA – Lead Local Flood Authority**
- LPA – Local Planning Authority]**
- MVDC – Mole Valley District Council**
- NPPF - National Planning Policy Framework**
- PBA – Peter Brett Associates**
- PFRA – Preliminary Flood Risk Assessment**
- PPG – Planning Practice Guidance**
- RBBC – Reigate and Banstead Borough Council**

**RBC – Runnymede Borough Council**

**SARP – Slyfield Area Regeneration Project**

**SBC – Spelthorne Borough Council**

**SCC – Surrey County Council**

**SFRA – Strategic Flood Risk Assessment**

**SPZ – Source Protection Zone**

**STW – Sewage Treatment Works**

**SuDS – Sustainable Drainage Systems**

**SW – Southern Water**

**TDC – Tandridge District Council**

**TW – Thames Water**

**WBC – Woking Borough Council**

**WFD – Water Framework Directive**