

**Waste Core Strategy
Site Options Consultation**

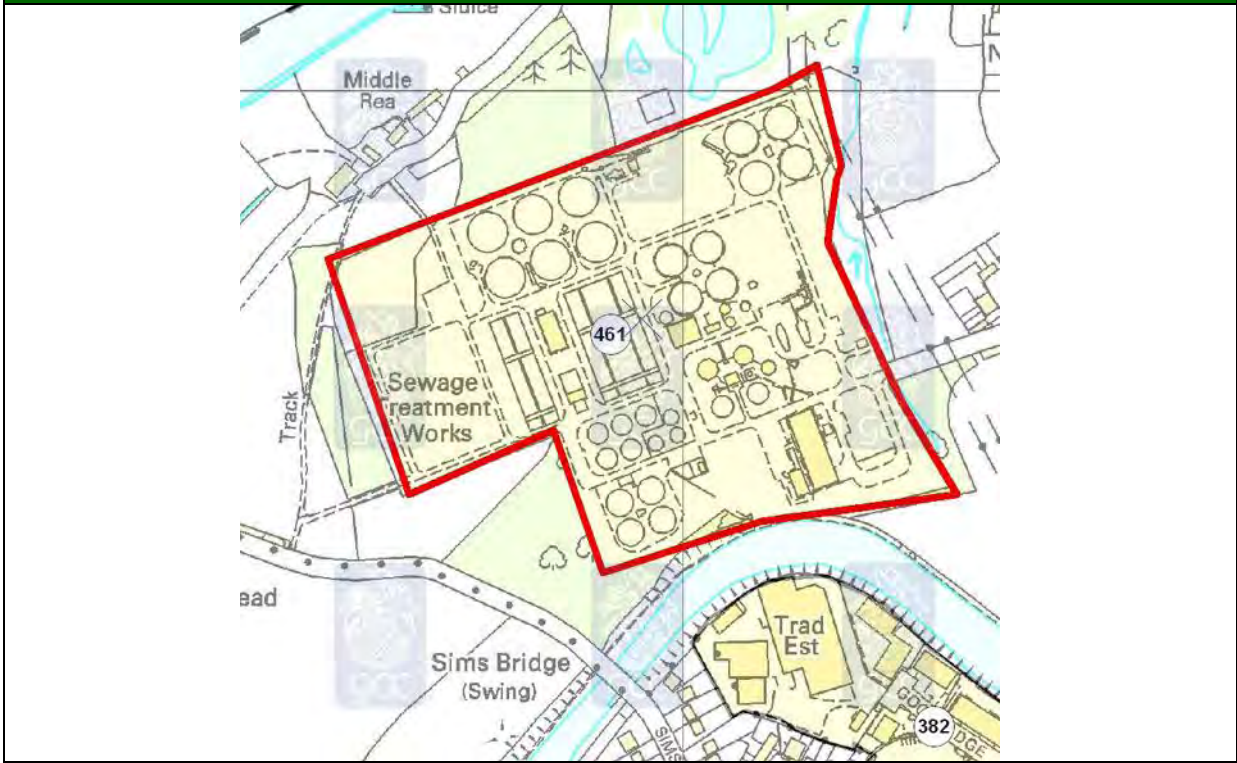
Waste Site Assessment

Appendix C.59: Site 461 - Netheridge STW

October 2009

Site Maps and Images

Site Map



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Aerial Photo



Imagery copyright Getmapping PLC. www.getmapping.com

Appendix C.59: Site 461 - Netheridge STW

Site Images



Locational Information

| Site Details | | | |
|---|---|----------|--------|
| District | Gloucester | | |
| Parish | Gloucester Non-Parish | | |
| Easting | 380970 | Northing | 215799 |
| Approximate Site Area (hectares) | 12 | | |
| Reasons for inclusion <i>NB: Slight anomalies in site boundaries may have arisen from 'clustering' of sites from more than one source and/or the absence of detailed site plans in source documents.</i> | The site contains existing waste management facilities. | | |
| Date of WPA officer visit | 12th September 2008 | | |
| Broad Description of Site (including current activities on site, location and neighbouring uses) | <p>This is a large sewage treatment works (STW). The site was viewed mainly from the Goodridge Trading Estate and from outside the locked gates. The officers did not attempt to gain entry into the site. There was a strong odour from the site at Netheridge Close. Nearby businesses on Goodridge Trading Estate and houses very close by (Netheridge Close) The site is also very close to the canal and there is a Barn Owl centre nearby.</p> <p>Additional Sensitive Receptors: None.</p> | | |

Appendix C.59: Site 461 - Netheridge STW


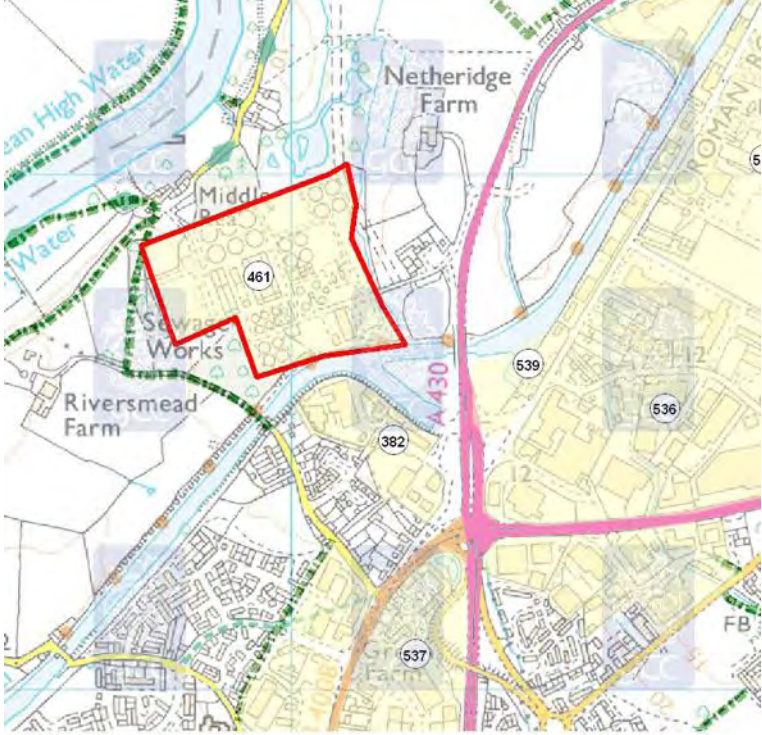
Site Assessment Factors/Criteria for Consideration

| Landscape | |
|---------------------|--|
| Comments | The site is located on land that has been developed and is not within or adjacent to a national landscape designation such as AONB. |
| Landscape Character | Floodplain Farmland. Mainly: The Rea, Maisemore, Ham and Longford, Floodplain Farmland. Part Hempsted, Part Cotswolds Settled Unwooded Vale. |

| Green Belt | |
|------------|--|
| Comments | The site is outside of the Gloucester/Cheltenham Green Belt. |

| Highways <i>(Based on information provided by Gloucestershire County Council's Highways Development Co-ordination team)</i> | | | |
|---|--|------------|--|
| Routes to access Strategic Network <i>This denotes the assumed roads that would be used in order for vehicles to travel to and from the proposed site and the wider road network.</i> | minor, A430 | | |
| Proximity to Strategic Highway Network <i>Assessment of the proximity of the site to different types of road (as specific entrance points are not known have made assumptions about where entrance might be), with reference to the GCC Advisory Freight Route Map (notwithstanding obvious changes arising from new roads etc).</i> | Medium | Definition | Access from (or in close proximity to) routes identified for local journeys (A and B roads). |
| Sustainable Transport <i>Potential for operational access to the site to be by (or involve) non-road modes of transport, based on broad consideration of distance from water/rail and general location, rather than knowledge that it may or may not be technically practical.</i> | High | Definition | Site has potential for rail and/or water based transport to play a significant role (site will generally back directly on to water/rail). |
| Employee Accessibility <i>Potential for employees to be able to access the site using non-car modes.</i> | Low | Definition | Site is located some distance from residential areas, and has limited scope for non-car access. |
| Other Transport Issues <i>This column comments on any other relevant transport issues for the site, which will have partly arisen from discussions with area/stakeholder managers.</i> | Away from immediate housing but not easy access. | | |
| Recommendation <i>This category provides an overall view of the potential of the site to be used as a strategic waste facility in transport terms.</i> | Possible | Definition | Site has some concerns from a transport perspective, and could still be taken forward depending on views of other disciplines, but may require significant mitigation. |

Appendix C.59: Site 461 - Netheridge STW

| Public Rights of Way (Based on information provided by Gloucestershire County Council's Public Rights of Way (PRoW) team) | |
|--|--|
| Score | 0 |
| Score Definition | Presence of Public Rights of Way network but no re-routing required. |
| Additional Comments | No diversion necessary - No enhancements likely. |
| Map Legend |  Public Right of Way |
| PRoW Map |  |

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| Aerodrome Safeguarding (based on safeguarding maps provided by Gloucestershire Airport and the Ministry of Defence (MOD)) | |
|---|---|
| Comments | The site lies within the Gloucestershire Airport zone for - All buildings, structures, erections and works exceeding 90 metres in height (295.3 feet) plus all applications involving major tree planting schemes, mineral extraction or quarrying, a refuse tip, a reservoir, a sewage disposal works, a nature reserve or a bird sanctuary and all applications connected with an aviation use. |
| NB. Where a site lies across more than one safeguarding zone the entire site has been defaulted to lowest height category for consultation. | |

Appendix C.59: Site 461 - Netheridge STW

| Ecology/Biodiversity (Based on information provided by Gloucestershire County Council's Ecologist and the Gloucestershire Centre for Environmental Records (GCER)) | |
|---|---|
| Score | 0* |
| Score Definition | Overall impact on biodiversity could be potentially negative, uncertain or positive. Identified important ecological constraint up to and including 250metres distant Scores 0* indicate designated aquifer fed/surface water/flood water dependent site(s) over 1km distant which may be affected (where chosen waste technology and development design poses a risk to the water environment) |
| Additional Comments | Scores with * indicate designated aquifer fed/surface water/flood water dependent site(s) over 1km distant which may be affected, site as named above. |
| Nearby Internationally & Nationally Designated Sites Recorded | None |
| Other Internationally & Nationally Designated Sites (wetlands) | Walmore Common SPA/Ramsar/SSSI [5,770m], Severn Estuary SAC/SPA/Ramsar/SSSI [10,000m] |
| Ecology Legend | <ul style="list-style-type: none"> SSSI Site of Special Scientific Interest Key Wildlife Site - area SAC Site Ramsar Site SPA Site |
| Constraints Map | |

Appendix C.59: Site 461 - Netheridge STW

Geodiversity (Based on information provided by the Gloucestershire Geology Trust at the Geological Records Centre)

| | |
|----------|---|
| Comments | There was a Geological Local Site within 250m of the site: New Cut [GGT Site No. 259] A temporary exposure to allow re-routing of the canal cutting into the Lower Jurassic 'Charmouth Mudstone Formation'. A zonal ammonite, <i>Asteroceras obtusum</i> , was found on site. |
|----------|---|

Archaeology and the Historic Environment (Based on information provided by Gloucestershire County Council's Archaeology team)

| | |
|---------------------|---|
| Score | ++ |
| Score Definition | The site fulfils one or more of the following:- * No known historical or archaeological remains * Has no known archaeological potential * Previous development is known to have removed archaeological deposits from all or part of the site |
| Additional Comments | No known archaeology on the site although this could survive in undeveloped areas. |

Contaminated Land (Based on information provided by the appropriate district council)

| | |
|---------|--|
| Comment | The site or adjoining land is not classified as 'contaminated land' under the Environment Act 1995, but Gloucester City Council identified the site or adjoining area as a site of potential concern. Gloucester City Council also provided the following information in relation to the site "Current STW site. No specific information about contamination. Development of a waste facility would enable remediation of the site." |
|---------|--|

Flood Risk (Based on information provided by Halcrow)

| | |
|---|--|
| Site Description | Site is located between the River Severn and the Gloucester and Sharpness Canal on the site of Netheridge STW. A drain runs along the eastern boundary of the site which flows towards the River Severn. A series of drains and a pond are located to the north of the site. Flood Zone maps indicate that the site is subject to flooding from the River Severn although the watercourse does not flow through the site itself. |
| Watercourse(s) | River Severn and Unnamed Drain |
| Flood Zone | 1, 2, 3a and 3b |
| Flood Zone Information (Method used to derive Flood Zones & Confidence in Flood Zone information) | Modelled flood outlines exist for the River Severn. The Level 1 SFRA used modelled outlines for Flood Zones 3a and 3b. However, analysis of the modelled flood outlines for Flood Zone 2 indicated differences with the existing Flood Zone maps. Following consultation with the Environment Agency, it was recommended that the existing Flood Zones were used for Flood Zone 2. JFLOW outlines - low confidence. Flood Zone 3a used to represent 3b. |
| Fluvial Flood Risk Posed to Site (including climate change) | Site is predominantly in Flood Zone 1 but is affected by Flood Zones 2, 3a and 3b on the eastern side. |
| Historic Flooding/Flooding From Other Sources | The site flooded in 1947 on the eastern side. Various other historic events have occurred very close to the site, including 2007, but did not encroach the site itself. |
| Canals (Raised - breach/overtopping) | The Gloucester and Sharpness canal runs to the south of the site. There are no raised sections or records of previous failure. |

Appendix C.59: Site 461 - Netheridge STW

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|--|--|--|---------------------------------------|--|--|--|--|--|------------------|--|-----------------------------|--|---|--|-------------------------|--|-----------------------------------|--|-----------------------------------|--|-------------------|--|----------------------------------|--|-----------------------------|--|-------|--|---------------------------------------|--|-----------------------------|
| Flood Defences (Location/Type/SoP/Residual Risk) | There are defences around the site area but none that appear to directly defend the site. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Culverts (Location/Type/Watercourse/Residual Risk) | No culverts are known to exist in the site. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Score | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Score Definition | Site is mainly in Flood Zone 2 (Historical flood risk, flood risk from other sources and residual risk has been incorporated into the determination of the suitability score). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional Comments | None. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Legend | <table border="0"> <tr> <td></td> <td>Council Boundary</td> <td></td> <td>Environment Agency Flood Defence</td> <td></td> <td>Recorded Flooding - Impounded Water Bodies</td> </tr> <tr> <td></td> <td>Council Boundary</td> <td></td> <td>Council Owned Flood Defence</td> <td></td> <td>Recorded Flooding - Artificial Drainage</td> </tr> <tr> <td></td> <td>Watercourse Centre Line</td> <td></td> <td>Flood Zone 2 (Medium Probability)</td> <td></td> <td>Recorded Flooding - Surface Water</td> </tr> <tr> <td></td> <td>Minor Watercourse</td> <td></td> <td>Flood Zone 3a (High Probability)</td> <td></td> <td>Recorded Flooding - Fluvial</td> </tr> <tr> <td></td> <td>Canal</td> <td></td> <td>Flood Zone 3b (Functional Floodplain)</td> <td></td> <td>Recorded Flooding - Unknown</td> </tr> </table> | | Council Boundary | | Environment Agency Flood Defence | | Recorded Flooding - Impounded Water Bodies | | Council Boundary | | Council Owned Flood Defence | | Recorded Flooding - Artificial Drainage | | Watercourse Centre Line | | Flood Zone 2 (Medium Probability) | | Recorded Flooding - Surface Water | | Minor Watercourse | | Flood Zone 3a (High Probability) | | Recorded Flooding - Fluvial | | Canal | | Flood Zone 3b (Functional Floodplain) | | Recorded Flooding - Unknown |
| | Council Boundary | | Environment Agency Flood Defence | | Recorded Flooding - Impounded Water Bodies | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Council Boundary | | Council Owned Flood Defence | | Recorded Flooding - Artificial Drainage | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Watercourse Centre Line | | Flood Zone 2 (Medium Probability) | | Recorded Flooding - Surface Water | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Minor Watercourse | | Flood Zone 3a (High Probability) | | Recorded Flooding - Fluvial | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Canal | | Flood Zone 3b (Functional Floodplain) | | Recorded Flooding - Unknown | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flood Map | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Source Protection Zones (SPZs)

Comments | N/A

Groundwater/Aquifer details

Comments | Site 461 is partially lying over a Minor Aquifer Intermediate 1.

Land Ownership and General Deliverability Issues (Based on research undertaken in-house)

The landowner has expressed an interest in the site being able to offer an anaerobic digestion solution to the organic proportion of MSW.

Appendix C.59: Site 461 - Netheridge STW

General Comments

Officer comments: Site boundaries would need modification to remove areas of flood risk, Severn Trent would also need to be contacted in relation to deliverability of the site.

PRoW/Ecology/Biodiversity/Geodiversity: Further consultation would be required in order to assess any potential impacts upon the above mentioned areas.

Safeguarding: Gloucestershire Airport may need to provide comments on safeguarding in relation to this site. This may be difficult for them to do so without knowing a specific technology for the site.

Contaminated Land: Further investigative work may be required.

Groundwater/Aquifer: Information would be required from the Environment Agency as to the potential impacts upon the above mentioned areas.

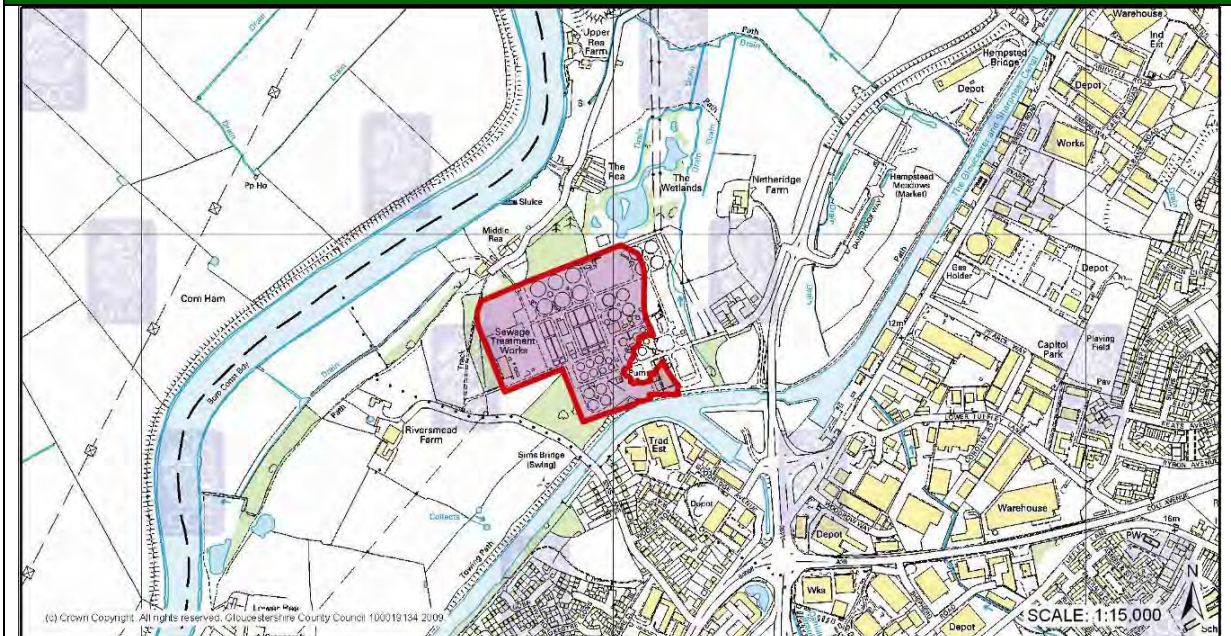
Potential for Further Discussion within the WCS

At this stage, there is no evidence to suggest that the site is unsuitable, therefore it is recommended that further technical assessments should be carried out on the [modified] site as shown in the map below .

HRA summary:

The nearest European site is Walmore Common SPA / Ramsar and the implication of this and the potential impacts on other European sites are detailed in: SA Reports under Objective 8: Biodiversity, HRA Baseline Reports and the Site Options HRA Report which forms part of this consultation.

Modified Site Map



Appendix C.59: Site 461 - Netheridge STW

| Landscape and Visual Impact Assessment (Provided by Atkins) | |
|--|---|
| Introduction | <p>The purpose of this Landscape and Visual Impact Assessment is to ascertain the potential effects of the proposals for a built Waste Facility, of two to five hectares within the Netheridge Sewage Treatment Works site, on the landscape resources and impacts on the visual amenity of the area.</p> <p>The assessment considered the possible building height and land take for three (3 No.) different facility sizes (2000-6000m², up to 20m height / 3000-7000m², up to 30m height / 4000-9000m², up to 40m height) each with a potential for an emissions stack of 40, 60 or 80m height.</p> <p>The site is located on the south western urban edge of Gloucester, 0.5km from the A38. The Netheridge Sewage Treatment Works site is an operating industrial site covering approximately 12.5 hectares.</p> <p>The immediate landscape setting is the urban fringe with both residential and industrial development to the east and with open arable land and the River Severn to the west.</p> |
| Assessment Methodology | <p>A desk study was carried out comprising a review of published texts and maps to develop an understanding of the site in terms of general landscape character, special values and interests, local value and its wider landscape context.</p> <p>Baseline information on the landscape of the area was collected through a preliminary desktop study of maps, plans and documents. Documentation used in the desk study included:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Countryside Character Volume 5: West Midlands, Natural England; <input type="checkbox"/> Gloucestershire Landscape Character Assessment, Gloucestershire County Council; <input type="checkbox"/> Multi-Agency Geographic Information for the Countryside (Magic) website; <input type="checkbox"/> 1:50 000 Scale Digital Ordnance Survey Maps; and <input type="checkbox"/> Aerial Photography. <p>To identify those elements of the landscape which notably contribute to the character of the landscape, an assessment of existing landscape features was carried out.</p> <p>The desk study was followed by a field survey carried out by Atkins Consultants Ltd in June 2009, to identify key issues and constraints in respect of the impact of the development on views into the proposed site, effects on the landscape of the site and the relationship between the development and the surrounding landscape to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Validate and qualify the results of the desk study; <input type="checkbox"/> Identify key visual receptors; and <input type="checkbox"/> Record an assessment of the landscape on both an objective and subjective basis. |
| Baseline Landscape Character and Designations: Desk Survey | <p>Countryside Character Volume 5 West Midlands (Natural England): Landscape Character Area: 106, Severn and Avon Vales</p> <p>Key characteristics:</p> <ul style="list-style-type: none"> • Diverse range of flat and gently undulating landscapes, united by broad river valley character. • Riverside landscapes with little woodland, often very open. • Variety of land uses from small pasture fields and commons in the west to intensive agriculture to the east. • Distinct and contrasting vales: Evesham, Berkeley, Gloucester, Leadon, Avon. • Many ancient market towns and large villages along the rivers. • Nucleated villages with timber frame and brick buildings. • Prominent views of hills – such as the Cotswolds, Bredon and the Malverns – at the edges of the character area. |

Appendix C.59: Site 461 - Netheridge STW

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| <p>Gloucestershire Landscape Character Assessment (Gloucestershire County Council):</p> | <p>County Landscape Character Type: Floodplain Farmland County Landscape Character Area: The Rea, Maisemore Ham and Longford Key characteristics:</p> <ul style="list-style-type: none"> • Flat floodplain landscape, with areas subject to annual winter flooding which provides fertile farmland and productive lush meadows and pastures for summer grazing; • An open and expansive area as a result of the flat landform and very limited tree cover; • Extensive pattern of ditches, streams, brooks, rivers and rhynes draining the floodplain landscape, a number of which provide important wetland habitats; • A predominantly pastoral landscape with unimproved and improved grassland, with some areas of arable farming; • Both active and disused canals present within the landscape; • Urban and industrial land uses and influences in the vicinity of Gloucester together with road and rail infrastructure; • Access very limited with occasional roads, often linking to existing bridging points and former ford or ferry river crossings; • Recreational activities, including camping and caravan sites and public houses, the latter often associated with former river crossing points or supply points; and Areas of wetland meadows, designated as SSSIs and Key Wildlife Sites, and Local Nature Reserves, and managed to retain high biodiversity interest. |
| <p>Designations Relating to Landscape:</p> | <p>Landscape designations are applied to areas of special value at international, national, regional or local level in response to particular qualities or historical or cultural associations. No part of the study area is so designated; however the site is in close proximity to:</p> <ul style="list-style-type: none"> • A public right of way runs along the south western boundary of the site which intersects another public right of way at the northwest corner before heading south west and west across the River Severn. Additional to this there is a public right of way that runs alongside the canal to the south of the site in a south west – north east direction. |
| <p>Baseline Landscape Character and Features: Site Survey</p> | <p>The site comprises an active sewage treatment plant. There is a canal to the south of the site, which separates the site and the business park to the south. Residential terraced housing borders the western edge of the business park, with a few properties that have possible, oblique angled views into the site.</p> <p>The canal is well used with a public right of way that runs alongside it.</p> <p>The development is enclosed to the west and northern sides with dense pockets of woodland which screen the site from any possible views from nearby properties. The topography of the study area and locality is flat at approximately 10m AOD. The wider character area is a gently rolling landscape of woodland and open field. The topography rises to 25m AOD north of the site at the village of Hempsted where a few residential properties making up the southern fringe of the village have potential partial views from their first floor. The area of land between the site and Hempsted comprises of arable land, clumps of woodland and well established hedgerows, which act as effective buffers both for visual and odour mitigation.</p> |
| <p>Landscape Quality, Condition and Capacity to Accommodate Change: Site Survey</p> | <p>There are few potential impacts on sensitive landscape receptors, with potential views primarily from the A430 and adjacent canal, the business park to the opposite bank of the canal, a few residential properties to the west of the park and glimpsed distant views from the community at Hempsted. The combination of the existing development on site, and the extensive screening from areas of woodland and dense well established hedgerows to the north, east and west boundaries of the site contribute to minimise the potential adverse impact a waste facility would likely have on the wider rural landscape.</p> <p>The canal footpath that passes alongside the southern boundary of the site has an established planted bund that screens much of the site, although the noise and odour of the existing sewage works is prevalent. Development within this portion of the site could be screened through reinforcement of the planted bund. The main</p> |

Appendix C.59: Site 461 - Netheridge STW

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| | visual receptor would be from the A430 which passes along the east of the site; although due to the existing development on the site the impact of a proposed waste facility would be negligible. Due to this reason the site would have a high capacity to accept change. | | |
| Potential Landscape Impacts | <input type="checkbox"/> Further impact on the canal and public footpath to the south. <input type="checkbox"/> Erection of an emissions stack (40 – 80m in height) would create a significant vertical landmark. | | |
| Potential Landscape Mitigation Measures | <input type="checkbox"/> Sensitive site planning of facilities within the site to minimise impact on the higher quality surrounding landscape especially to the south in terms of the canal and public footpath. <input type="checkbox"/> Reinforcement of native and evergreen woodland planting around site boundaries to screen views into the site, especially to the south along the bund. On site screen planting could further benefit the wider area by helping to mitigate the impact on the landscape. Planting should reinforce the hedgerow and field pattern of the local area, link into and make good any gaps in existing hedgerows. | | |
| Visual Receptors | Sensitivity of Receptor | Potential Impact on Receptor | Potential Visual Mitigation Measures |
| Business park south of the site | Low | Slight Adverse and existing site condition | <input type="checkbox"/> Restriction of building height and associated emissions stack <input type="checkbox"/> Minimal lighting and use of lower columns <input type="checkbox"/> Use of matt, neutral colours and avoidance of shiny or reflective materials <input type="checkbox"/> Sensitive location of large structures to minimise visual impact on views into the site <input type="checkbox"/> Reinforced structure planting around the site boundary |
| Residential properties east of the Business park. | High | Slight Adverse due to the oblique angle of view and existing site condition | |
| A430 Road Users | Low | Slight Adverse due to the limited period of exposure and existing site condition | |
| Residential properties to the southern fringe of Hempsted Village | High | Slight Adverse due to distance from the site and intervening vegetation | |
| Public right of way users alongside the canal | Medium | Substantial Adverse due to proximity to the site | |
| Summary: Residual Landscape and Visual Impacts | <p>Due to the potential for mitigation, evidenced by the existing screen planting, as well as the proximity to the A430 and existing development, the site has a high capacity to accommodate change. The main visual impacts on potential visual receptors could be substantially mitigated through sensitive site planning and reinforced screen planting.</p> <p>As far as possible, development within the southern section of the site should be limited. A significant planting buffer should be established around any development, the style of which should be in keeping with the locally characteristic hedgerows and shelterbelts.</p> <p>Careful site planning could avoid the loss of the mature vegetation within the site and alongside its boundaries and allow for significant enhancements for biodiversity. Mitigation should include clearing out any dead or diseased planting and replacement where gaps in the screening are present.</p> <p>As such, the Netheridge site can be said to be of high landscape suitability for consideration as a potential strategic waste site, with a preference for any medium or larger facility to be located to the north of the study area.</p> | | |

Appendix C.59: Site 461 - Netheridge STW

| Further Highways Assessments (Provided by Gloucestershire County Council's Highways Development Co-ordination team) | |
|--|--|
| Existing Site Usage | Existing usage at the site generates relatively few traffic movements, and it is understood that a significant amount of waste arrives via pipe |
| Predicted Net Traffic effect of new Strategic Waste facility | Net increase in traffic |
| Strategic Road Network Access | Reasonable access to/from the south using the A430 Hempsted bypass and then the A38 to Junction 12 of M5. Traffic from north can use the A430 to Over r/bout |
| Environmental and residential impacts | The site is not particularly close to residences and the routing for HGV's would not generally result in passing significant residential properties |
| Potential Junction Impacts | The site is close to the A38/A430 new signalled junction (Cole Ave), and further south to Cross Keys r/bout and Junction 12 of M5, which may require some improvement. Also some capacity constraints to north of site, including Over r/bout. |
| Sustainable Transport potential (rail/water) | The site backs on to the Gloucester & Sharpness Canal, which is a working canal although commercial flows are currently low on this section. There is therefore an option of using water for forward distribution of waste by-products. It is understood that a wharf/jetty exists although this would possibly need to be refurbished or rebuilt. Further progression of this option would require liaison with British Waterways |
| Employee Accessibility by Sustainable Modes | The site is reasonably placed for employee accessibility, although the nearby canal reduces the walk/cycle accessibility to some extent. There is some nearby bus access, although not all the way into the site. |

Conclusion

This site is identified in the WCS Site Options Consultation document as Site 9, Netheridge Sewage Treatment Works, Gloucester.