



Land at Arlington Works, Arlington Road, Twickenham, TW1 2BB

Site suitability for alternative waste uses

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Comments

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1. Introduction

1.1 The brief

Waterman Infrastructure & Environment Ltd (Waterman) was instructed by Sharpe's Recycle Oil Ltd (hereafter "Sharpe's" or the "Applicant" as the case may be) to explore the potential for its waste facility at Arlington Works, Arlington Road, Twickenham to support alternative waste management uses.

1.2 Report structure

At Section 2 we provide a description of the site including its history and various uses. Section 3 sets out relevant waste planning policies included in The London Plan and the West London Waste Plan and our responses to these policies. At Section 4 we summarise further planning considerations associated with waste management facilities, and at Section 5 we assess the site against criteria set out in relevant policy. Section 6 draws together the conclusions of this work.

1.3 Limitations

This report was undertaken in accordance with a scope of works agreed between Waterman and Sharpe's as documented in Waterman fee letter (including: WIE12815-100-170223-MM-FeeProp) and with Waterman's standard Terms of Appointment.

The benefit of this report is made to Sharpe's Recycle Oil Ltd.

Waterman has endeavoured to assess all information provided to them during this work, but makes no guarantees or warranties as to the accuracy or completeness of this information.

The scope of this investigation does not include an assessment for the presence of asbestos containing materials within or below buildings or in the ground at the site.

The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

2. The site

This report concerns a site known as “Arlington Works”. The site, and the “Works” that lie within it, are at Arlington Road, Twickenham, approximate post code TW1 2BB. Arlington Road is generally residential in character, with elegant and impressive detached and semi-detached houses, punctuated by maisonettes and relatively low rise blocks of flats. The site is accessed from Arlington Road and lies in a pocket of land between residential development to the north, Twickenham Studios to the east and south and a railway line to the west. The Works perform a waste management activity, and this use has been “safeguarded” by the Development Plan. Appendix A includes a site location plan.

2.1 Site description

Arlington Works is accessed from a relatively long and narrow site road oriented south east – north west. The north western end of the access turns sharply by 90 degrees to form a central spine road continuing to the south western boundary of the site. It is noted that uses lie either side of this spine road:

- to the north west - structures associated with the treatment of waste oil, including tanks and bunding;
- to the east - car parking and workshops;
- to the south east - two late Victorian terraced buildings; and
- to the south west - telecommunications equipment (mast).

The site is somewhat irregular in shape, being approximately 77m long and 40m wide, narrowing to approximately 20m wide at the southern boundary with Twickenham Studios.

2.2 Historic and current use of the site

The applicant reports the Works was purchased with sitting tenants in 1958 and was initially used as a metal drum reconditioning plant (emptying, cleaning, reconditioning and finally spraying) with close association with B.P. at Sunbury upon Thames. It explains flatbed trucks were used to transport the drums in and out of the site initially and later, when oil recycling commenced, small tankers were used to collect waste engine oil from the local area. We understand the oil was heated, filtered and was called Recycled Fuel Oil (RFO); the RFO was supplied to laundries to produce heat for their cleaning process, sold to road stone quarries where it was used to produce heat to dry the road stone before the tarmac was laid and sold to coal fired power stations where it was applied to coal to speed up the initial start-up process to enable the coal to burn more quickly. The applicant explains that in time, 40 tonne tankers were used to transport larger volumes of oil creating economies of scale and a greener footprint, the applicant no longer uses its own transport but is fully reliant on the many waste carrier companies (e.g. Veolia, Viridor, Cleansing Service Group).

The applicant explains that changes in legislation prevented the quarries from burning RFO as these were not deemed to be compliant with the Waste Incineration Directive (WID) and in addition the number of coal power stations has declined considerably over the years as the industry moved away from fossil fuels and its ageing infrastructure. The applicant informs us that fuels contaminated with water and water contaminated with oils (such as interceptor waste and engineering soluble/cutting/emulsions) were treated on site and opened up the door for other external waste carriers bringing waste to the site for recovery and disposal. The majority of the applicant’s business is now with water contaminated with up to about 5% oil. Waste engine oils and redundant fuels such as gas oil/diesel are still accepted but are a small component of the business.

The watery wastes are treated with heat, filtration and chemicals. The treated water is discharged into the foul sewer (a Thames Water trade effluent consent is in place); the processed RFO is sold within the waste industry (some is re-refined back into a base oil in England, France and Germany and the rest is burnt for energy recovery in WID compliant plants often in Europe) and the solids and sludges from tank cleaning and filtering are tankered off site for further treatment and disposal. All the RFO and its sludges are moved off site outside the London area. The applicant informs that: waste carriers collect from all over the UK with very little collected from London, as there are few engineering works in this area anymore; some waste appears to come from the London area but this waste is amalgamated at a transfer station, located in Wembley, and then tankered to the site for recycling and disposal. The applicant reports that waste engine oil collected at the Works is transported to Stoke-on-Trent for re-refining back into base oil using large tankers.

The applicant also confirms that: since before 1958 other tenants, both residential and commercial, have operated from the site mainly as sole traders with varying professions; today there are 17 tenants on site with trades that include car body repairs; carpentry; upholstery; the recording, composing and practising of music; metal fabrication and storage facilities, the majority of tenants have been actively working from the site for over 10 years.

3. Safeguarding

Relevant waste planning policies include those set out in The London Plan¹, and the West London Waste Plan (WLWP)². Policy WLWP 2 deals with “Safeguarding and Protection of Existing and Allocated Waste Sites”. It states:

“Land accommodating existing waste management uses in West London will be protected for continued use for waste management.

Existing sites which have been allocated as having the potential for capacity expansion by redevelopment (Table 5-1) and new sites with potential for development for waste management facilities (Table 5-2) are also [to] be safeguarded.

To ensure no loss in existing capacity, re-development of any existing waste management sites must ensure that the quantity of waste to be managed is equal to or greater than the quantity of waste for which the site is currently permitted to manage, or that the management of the waste is being moved up the waste hierarchy.

Development for non-waste uses will only be considered on land in existing waste management use, or land allocated in Table 5-2 if compensatory and equal provision of capacity for waste, in scale and quality, is made elsewhere within the West London Boroughs”.

Appendix 2 of the WLWP provides a list of the known (lawfully permitted) waste management sites in the area, we extract as in the table below.

Table 1: Extract from Appendix 2 of WLWP

Operator Name	Facility Name	Site Activity	Borough	Counted Against Apportionment? ³
Sharpe’s Recycle Oil Ltd	Arlington Oil Reclamation Facility, Twickenham	Oil Reclamation Facility	Richmond	✓

3.1 The London Plan

The London Plan explains that the Mayor’s waste strategies set out to achieve approaches that deliver the greatest climate change mitigation benefits. The strategies include:

- becoming self-sufficient:
 - which involves creating “*positive environmental and economic impacts from waste processing*”⁴; and
- enhancing waste capacity by:
 - increasing processing capacity, including:
 - introducing new capacity; and
 - co-locating waste facilities and manufacturing activities;

¹ Mayor of London, “*The London Plan – the spatial development strategy for London consolidated with alterations since 2011*”, March 2015.

² Published jointly by the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow, Richmond upon Thames and Old Oak and Park Royal Development Corporation, “*West London Waste Plan*”, July 2015.

³ London Plan (2011) Apportionment means “*A given proportion of London’s total MSW [Municipal Solid Waste] and C&I [Commercial and Industrial Waste] waste (expressed in tonnes) allocated to each individual borough for which the borough must identify sufficient sites for managing and processing waste within their Local Plans.*”

⁴ London Plan Policy 5.16 (A)(b).

- ensuring planning decisions (for waste management development) take account of various criteria including:
 - locational suitability and impact on amenity;
 - the nature and scale of the proposed activity;
 - the proximity of the waste source to the receiving site;
 - the transport and environmental impact of collection, transfer and disposal movements;
- ensuring policy formulation takes account of various matters including:
 - providing adequate capacity⁵ for apportioned waste⁶; and
 - making good the loss of an existing waste management site⁷ - through planning policy in local plans.

3.1.1 Response

Waterman has established that 83% of the material received at Arlington Works comes from sources outside of London. The sources lie across east and west Midlands, east, south east, south and southwest England and South Wales. Specifically identified sources include those (clockwise from north) in: Northampton, Milton Keynes, Basildon, Thanet, Brighton and Hove, Portsmouth, Poole and Stroud. Clearly these sources are not proximal and transportation over such distances consumes resources in both environmental and economic terms.

Waterman established that Arlington Works received about:

- 3% (or about 1,200 tonnes) of regionally generated waste⁸; and
- 8% (or about 950 tonnes) of locally generated waste⁹.

In terms of taking steps to enhance the waste capacity at Arlington Works challenges include that:

- the access route to the site is ill-equipped for waste delivery vehicles¹⁰, including that vehicles must travel through relatively narrow streets; and
- the site lies adjacent to residential receptors and the operations are such that impacts to amenity (including noise and odour) are difficult to prevent.

We note also that policy formulation work at the local level included ranking site suitability. The work demonstrated that the site has unfavourable characteristics and was ranked 286th out of the 309 assessed sites¹¹.

⁵ London Plan Policy 5.17 (F and G(a)).

⁶ Apportioned waste is: "A given proportion of London's total MSW and C&I waste (expressed in tonnes) allocated to each individual borough for which the borough must identify sufficient sites for managing and processing waste within their Local Plans". But note however the apportionment targets **only** concern municipal and commercial & industrial wastes (including the hazardous element).

⁷ London Plan Policy 5.17 (H).

⁸ At a regional level about 38,000 tonnes of the typical waste streams (received at Arlington Works) arise in London itself. About 3% (1,000 tonnes) of this is received at Arlington Works.

⁹ At a local level about 12,000 tonnes of the typical waste streams (received at Arlington Works) arise in the West London Waste Authority (WLWA) area. About 8% of this is received at Arlington Works.

¹⁰ Typically, the site is attended by HGV tankers of up to 33,000 litre capacity.

¹¹ Over 300 sites potentially suitable for waste use, including the Arlington site, were ranked in terms of suitability as part of the policy formation of the WLWP. This process is detailed in one of the WLWP evidence base documents, the 'Site Selection and Assessment Process – Summary Report' prepared by BPP Consulting in July 2014. The site scored poorly against the WLWP site selection criteria, and was ranked 286 out of the 309 sites initially selected.

3.2 WLWP

The WLWP responds to the planning policy formulation requirement of London Plan policy 5.17 (H). It provides, at Policy WLWP 2, that the loss of an existing waste management use is to be made good by:

- “*compensatory and equal provision of capacity... within the West London Boroughs*”.

Paragraph 6.3.2 of the written statement to the WLWP amplifies that the safeguarding applies:

- “*...unless an equal and compensatory suitable, acceptable and deliverable site **can** be provided...*”¹²

3.2.1 Response

Policy therefore caters for the redevelopment of an existing waste site prior to the actual delivery of the compensatory capacity. The requirement for Local Development Frameworks (LDFs) to be prepared in this way speaks to London’s strategic vision which includes managing growth without “*having unacceptable impacts on the environment*”¹³; and ensures London becomes a city that is “*...a world leader in improving the environment locally and globally...*”¹⁴. Of course both the WLWP and the London Plan intend to exert their effect over a time horizon¹⁵, the WLWP looks forward to 2031, and the London Plan to the period 2036-2041. Accordingly then, it would appear consistent with policy to embark on proposals for the redevelopment of Arlington Works providing that appropriate compensation can be provided over the plan period. Presumably, the policy approach in the WLWP caters for candidate waste sites to be brought forward for consideration and screened in the normal way during the evolution and adoption of allocations.

As to the size of the compensatory capacity, if the replacement use (to cater for the “*refining of waste oil*”¹⁶) is to avoid drawing in waste from far and wide then it may be appropriate to settle on a figure of about 1,000 tonnes per annum, since this level appears to be of an appropriate scale to deliver against strategic matters, including for example self-sufficiency and proximity.

¹² Embolden provided by the author.

¹³ London Plan Policy 1.1 (B)(b).

¹⁴ London Plan Policy 1.1 (C)(e).

¹⁵ The “Plan Period”.

¹⁶ As per the use at Arlington Works under reference 94/2139/S191, London Borough of Richmond Upon Thames, Certificate of Lawful Use or Development granted for “Use for the refining of waste oil (other than petroleum products) (to include the use of fuel storage tanks in this connection)”, dated 18 October 1994.

4. Relevant policy and guidance

The national, regional and local policy and guidance summarised in the following section set out various planning considerations associated with waste management facilities. These considerations are translated into criteria that can be used to assess the suitability of sites for new or enhanced waste management facilities.

4.1 Planning for Waste Management Facilities: A Research Study (ODPM, 2004)¹⁷

This research study examined the planning considerations associated with waste management facilities. It contains profiles for twelve different types of waste management facility, each of which include indicative site criteria, such as site area, and a scoping matrix to facilitate the identification of any potentially significant effects of the facility, such as typical vehicle movements and emissions. The twelve types of waste management facility considered are referred to as the twelve “principal waste management facility types” and include composting, anaerobic digestion, processing of recyclables and landfill.

The twelve principal waste management facility types are typically those for the management of household and similar commercial and industrial waste (or municipal wastes). Therefore, the study does not consider in detail sites for the management of industrial wastes such as construction and demolition wastes, oily wastes, agricultural wastes, extractive industries waste or waste water. However, it includes a summary of key issues likely to be relevant to these sorts of sites such as land contamination, noise, visual impact and air emissions / odours.

It is noted this research study is potentially out of date.

4.2 National Planning Policy for Waste¹⁸

The National Planning Policy for Waste sets out detailed waste planning policies. It outlines that waste planning authorities should identify sites and / or areas for new or enhanced waste management facilities in appropriate locations. It establishes the following steps waste planning authorities should follow in preparing their Local Plans:

- *“identify the broad type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area in line with the waste hierarchy, taking care to avoid stifling innovation;*
- *plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant;*
- *consider opportunities for on-site management of waste where it arises;*
- *consider a broad range of locations including industrial sites, looking for opportunities to co-locate waste management facilities together and with complementary activities. Where a low carbon energy recovery facility is considered as an appropriate type of development, waste planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers; and*
- *give priority to the re-use of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.”*

¹⁷ Office of the Deputy Prime Minister (2004) ‘Planning for Waste Management Facilities: A Research Study’.

¹⁸ Department for Communities and Local Government (2014), ‘National Planning Policy for Waste’.

In addition, it sets out the following criteria against which waste planning authorities should assess the suitability of sites and / or areas for new or enhanced waste management facilities:

- *“the extent to which the site or area will support the other policies set out in this document;*
- *physical and environmental constraints on development, including existing and proposed neighbouring land uses, and having regard to the factors [...] to the appropriate level of detail needed to prepare the Local Plan;*
- *the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport; and*
- *the cumulative impact of existing and proposed waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential.”*

It provides further locational criteria to be used in testing the suitability of sites and areas in the preparation of Local Plans, including protection of water quality, land instability, traffic and access, and potential land use conflict.

4.3 London Plan Waste Site Criteria

Policy 5.17, Waste Capacity, of the London Plan sets out the following criteria against which proposals for waste management should be evaluated:

- *“local suitability;*
- *proximity to the source of waste;*
- *the nature of the activity proposed and its scale;*
- *minimising waste and achieving high reuse and recycling performance;*
- *achieving a positive carbon outcome of waste treatment methods and technologies (including the transportation of waste, recyclates and waste derived products) resulting in greenhouse gas savings. Facilities generating energy from waste will need to meet, or demonstrate that steps are in place to meet, a minimum CO₂eq performance of 400 grams of CO₂eq per kilowatt hour (kwh) of electricity produced. Achieving this performance will ensure that energy generated from waste activities is no more polluting in carbon terms than the energy source it replaces;*
- *the environmental impact on surrounding areas, particularly noise emissions, odour, air quality and visual impact and impact on water resources; and*
- *the full transport and environmental impact of all collection, transfer and disposal movements and, in particular, the scope to maximise the use of rail and water transport using the Blue Ribbon Network.*

The following will be supported:

- *developments that include a range of complementary waste facilities on a single site;*
- *developments for manufacturing related to recycled waste;*
- *developments that contribute towards renewable energy generation, in particular the use of technologies that produce a renewable gas; and*
- *developments for producing renewable energy from organic/ biomass waste.*

Wherever possible, opportunities should be taken to provide combined heat and power and combined cooling heat and power.

Developments adjacent to waste management sites should be designed to minimise the potential for disturbance and conflicts of use.

Suitable waste and recycling storage facilities are required in all new developments.”

4.4 West London Waste Plan

The West London Waste Plan (WLWP)¹⁹ was prepared jointly by the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow, Richmond upon Thames, and the Old Oak and Park Royal Development Corporation. It sets out how and where waste will be managed to 2031 and identifies sufficient sites to deal with all waste in the plan area.

Policy WLWP 4 deals with “Ensuring High Quality Development” and states all waste development proposals will be required to demonstrate the following:

- *“development will be permitted only where it can be shown that unacceptable impact to local amenity will not arise from the construction and operation of a facility;*
- *adequate means of controlling noise, vibration, dust, litter, vermin, odours, air and water-borne contaminants and other emissions are incorporated into the scheme;*
- *the development is of a scale, form and character appropriate to its location and incorporates a high quality of design, to be demonstrated through the submission of a Design and Access statement as appropriate;*
- *active consideration has been given to the transportation of waste by modes other than road, principally by water and rail and this has been incorporated into the scheme or proven not to be practicable;*
- *transport directly and indirectly associated with the development will not exceed the capacity of the local road network or result in any significant adverse impact on the amenities of the area. Where necessary, this is to be demonstrated by a Transport Assessment;*
- *an appropriate BREEAM²⁰ or CEEQUAL²¹ rating, as specified in Borough and OPDC development plans, will be achieved;*
- *the development has no significant adverse effects on local biodiversity and it can be demonstrated that there will be no significant adverse impacts or effects on the integrity of an area designated under the “Habitats Directive”;*
- *there would not be a significant impact on the quality of surface and groundwater. The development incorporates the principles of Sustainable Drainage Systems (SUDS) unless evidence is provided to justify alternative drainage methods;*
- *there will be no increased flood risk, either to the immediate area or indirectly elsewhere. Where necessary, this is to be demonstrated by a Flood Risk Assessment;*
- *Green Travel Plans have been considered, where appropriate;*
- *the site does not contain features, or will not lead to substantial harm to, or loss of significance of, any heritage assets such as conservation areas, archaeological sites, listed buildings etc.; and*

¹⁹ West London Waste Plan (2015), available from <http://www.wlwp.net/index.html> (accessed 25/07/2017)

²⁰ BREEAM: Building Research Establishment Environmental Method – an established method of assessing, rating and certifying the sustainability of buildings.

²¹ CEEQUAL: Civil Engineering Environmental Quality Assessment and Award Scheme – a UK industry evidence scheme for assessing environmental and sustainability performance in civil engineering, infrastructure, landscaping and public realm projects.

- *there is no foreseeable adverse impact on health, and where necessary this is to be demonstrated by a Health Impact Assessment.*

In addition:

- *adjacent development proposals which would prevent or prejudice the use of safeguarded sites for waste purposes will be resisted unless suitable.”*

4.4.1 WLWP Site Selection and Assessment Process²²

Over 300 sites were initially selected and assessed as part of the WLWP site selection process. Through a process of assessing constraints and deliverability, the list of suitable sites was reduced to those contained in the proposed submission plan. The deliverability assessment identified new and existing sites suitable for future development as waste management sites. One of the WLWP evidence base documents, the Site Selection and Assessment Process summary report²³, catalogued and summarised the process applied to identify sites for inclusion in the WLWP. Three types of assessment criteria were used to screen the long list of sites to produce a short list.

Criteria 1: Absolute criteria or “show stoppers”

- sites of national or international conservation interest and listed buildings identified within the site;
- sites within Flood Zone 3b; and
- insufficient site area (sites of less than 0.5 ha were considered likely to be too small for waste management uses to meet WLWP needs).

Criteria 2: Computer based criteria

Using GIS, proximity to the following features from the site boundaries were identified:

- areas of nature conservation;
- archaeological features;
- flood zones 3 and 2;
- historic land and buildings;
- Public Rights of Way; and
- conservation areas (architectural).

Sites were assigned a score of 1, 3 or 5 with the higher score corresponding to distance from the feature; a higher score indicates a potentially more suitable use. Sites were scored higher the nearer they were to access points to infrastructure such as the Transport for London Road Network (TLRN), the Strategic Road Network (SRN), railheads and navigable waterways / canals.

Criteria 3: site visit criteria

The criteria included site configuration, existing uses / buildings, visual intrusion on surrounds, and potential for advantageous co-location of facilities with existing industrial, commercial or mixed use developments.

²² Based on the findings of the ‘Site Selection and Assessment Process – Summary Report’ prepared by BPP Consulting in July 2014 (Version 1.2, Final Issue) which formed part of the WLWP evidence base.

²³ BPP Consulting (2014) ‘Site Selection and Assessment Process – Summary Report’, version description ‘Final Issue – updated’, version number 1.2.

Other criteria

Further weighting was applied to additional criteria to reflect local significance, such as distance from residential areas, schools and hospitals and routing of vehicles (e.g. conflict with residential roads, roads past schools). A site's score was increased the further it was from these criteria.

Development of shortlist

Using the scoring process described above, a shortlist of new and existing sites suitable for future development as waste management sites was compiled. Shortlisted sites came from either of four categories:

- sites in existing waste use;
- land adjacent to sites in existing waste use;
- land within existing industrial areas; or
- land adjacent to existing industrial areas.

Subsequently, the sites identified as broadly suitable for waste use were assessed in terms of the likelihood of their deliverability during the Plan Period of the WLWP. The deliverability assessment used the following criteria:

- the area of the site was greater than 0.5 ha;
- the site scored well in the original assessment; and
- for existing sites, there were no constraints that would reduce potential for redevelopment e.g. Greenbelt.

Following this assessment, the final list of sites was established. A total area available for waste management development was identified as 15.47 ha, considered sufficient to accommodate facilities with capacity to deliver the apportionment requirements of the London Plan.²⁴

²⁴ London Plan (2011) Apportionment means "A given proportion of London's total MSW [Municipal Solid Waste] and C&I [Commercial and Industrial Waste] waste (expressed in tonnes) allocated to each individual borough for which the borough must identify sufficient sites for managing and processing waste within their Local Plans."

5. Site suitability assessment

5.1 Site area

In turning to assess the site's potential to support alternative waste uses, we begin by establishing the size of the existing waste management site.

5.1.1 Total site area

The total site area, as described in section (2.1), amounts to about 0.3ha²⁵.

5.1.2 Site area expressed in the WLWP

The WLWP states the site as being 0.23 ha²⁶ in size.

5.1.3 Area dedicated to the waste use

Waterman was puzzled as to why there was a difference between the areas identified in section (5.1.1) of 0.3ha and section (5.1.2) of 0.23ha. It was therefore decided to investigate whether other land uses were in progress at the site and we report our findings below.

Non-waste uses

Having visited the site, and having understood more of the planning history, the occupation and uses the land has been put to over time, we understand the following uses have been ongoing for an unbroken period of at least the last ten years:

- manufacturing (e.g. the making of articles (such as furniture and metalwork), altering, maintaining, ornamenting, repairing and adapting for sale);
- music composition, recording and rehearsal;
- offices;
- stores; and
- vehicle body work repair and refurbishment.

Areas of shared use include:

- the site access and spine road;
- vehicle parking; and
- toilet facilities.

²⁵ For the avoidance of doubt this measurement includes the access road.

²⁶ WLWP evidence base, "Potential Sites Assessment", Mouchel, January 2011. This report: lists Arlington Works as one of the "existing waste management facilities in west London to be safeguarded"; identifies the site as an existing Transfer Station; and assumes the site area to be 0.23 hectares.

Waste facility

We understand the functionally connected elements of the waste facility include:

- 1) a boiler room;
- 2) laboratory, offices and stores (clustered together in part of the terrace referred to above); and
- 3) a tank farm.

Taken together, the elements dedicated to the waste use amount to approximately 0.05 ha²⁷.

5.1.4 Discussion

There is an importance to establishing the size of the site and, on the face of it, it appears there is ambiguity as to what size one should consider. A means of resolving this is to recall that planning policy, and in this case the WLWP, safeguarded those sites “*lawfully permitted*”²⁸ to manage waste. It is therefore important to recollect here that the London Borough of Richmond upon Thames (LBRuT) issued a certificate confirming the lawful use in 1994. The certificate confirms the use:

- “...*the refining of waste oil (other than petroleum products) (to include the use of fuel storage tanks in this connection)*”;

and, by means of a plan, the area over which the use the applies, namely:

- “...*the land specified in the Second Schedule hereto and [edged] RED...*”

It is of course a principle of planning law that the details of any such certificate shall be conclusively presumed from the certificate itself. For the avoidance of doubt then, the lawfully permitted use may only be taken to apply to the area shown in the Second Schedule.

We reproduce the certificate²⁹ in Appendix B, and as will be seen the area is broadly comparable with the area we identify at section (5.1.3). Accordingly, though we do not measure with extreme precision in this report, the magnitude to take forward for our suitability analysis should be a site size in the region of 0.05ha.

5.2 Sizing of facilities

5.2.1 Typical site areas

The national and regional guidance summarised above establish criteria that can be used to assess the suitability of sites for new or enhanced waste management facilities. One of the key criteria that, in the WLWP particularly, determines a site’s suitability for a waste use is that of site area. Suitable site areas (or perhaps more commonly, “land take”) identified in both the ODPM study and the WLWP evidence base are detailed below.

ODPM

The ODPM study reviewed what it considered to be the twelve principal waste management facility types and identified the land take for each facility type, which we summarise in the table below.

²⁷ Brookes Architects Ltd, dated 23/06/2017.

²⁸ Footnotes 28 and 31 of the WLWP.

²⁹ Reference 94/2139/S191, LBRuT, Certificate of Lawful Use or Development, “*Use for the refining of waste oil (other than petroleum products) (to include the use of fuel storage tanks in this connection)*”, issued 18 October 1994.

Table 2: Typical size and area of waste management facilities (ODPM study)

Type of waste management facility	Throughput (tonnes/annum)	Typical site area (hectares)
Anaerobic digestion – small scale plant	5,000	0.15
Small scale facilities – civic amenity sites / bring sites	10,000 – 50,000	> 0.5 – 1
Anaerobic digestion – centralised plant	40,000	0.6
Waste transfer	120,000	0.7
Mechanical and biological treatment	50,000	< 1 – 2
Small scale thermal treatment	50,000	< 1 – 2
Composting – kitchen / catering waste covered by the Animal By-products Order	25,000	1 – 2
Processing of recyclables	50,000	1 – 2
Pyrolysis and gasification	50,000	1 – 2
Composting – green waste only	25,000	2 – 3
Large scale thermal treatment	250,000	2 – 5
Landfill	250,000	5 – 50

WLWP

The land take identified in the WLWP evidence base was based on three sources of information, one of which was the throughput figures given in the 2008 version of the London Plan (which has since been superseded by the 2016 version). These throughput figures are summarised in the table below.

Table 3: Throughput and land take of different types of waste facility according to the London Plan 2008

Facility type	Throughput per facility (tonnes/annum)	Land take per facility (ha)
Materials reclamation facility (recycling)	42,000	0.9
Anaerobic digestion	15,000	1
Composting	19,000	1.25
Mechanical biological treatment	125,000	1.75
Gasification / pyrolysis	114,000	2.25

The WLWP also recognises that sites of less than 0.5 ha are likely to be too small for waste management uses. As part of the WLWP site selection process, sites less than 0.5 ha in area were deemed to be less than optimal for waste management uses and were immediately excluded from the selection process. Note that Arlington Works was only taken through the complete assessment process for the purpose of maintaining an audit trail of all existing waste facilities.

However, as it was deemed that the WLWP area is one with constrained site availability, it was considered appropriate to assess against the smallest / most compact site footprint possible for various types of waste facility. This approach led to the identification of minimum footprint requirements, which we present in the table below.

Table 4: Minimum site footprint requirements for waste management facility types, adapted from WLWP data compendium³⁰

Facility type	Tonnage	Building footprint	Site footprint	Notes
RDF (refuse derived fuel)	40,000	0.34	0.41	Lancing 40ktpa (kilo-tonnes per annum) excluding pre-processing
ABT (anaerobic biological treatment)	90,000	0.08	0.65	Building footprint = vessel excluding maturation pad
MHT (mechanical heat treatment)	150,000	0.28	0.78	Autoclave
EfW (energy from waste)	60,000	0.40	0.96	Exeter EfW 60ktpa
MRF (materials recovery facility)	50,000	0.28	1.00	ODPM
ATT (advanced thermal treatment)	96,000	0.34	1.68	Gasification
MBT (mechanical biological treatment)	100,000	0.44	1.80	Defra 2013

The areas of the sites proposed for allocation in the WLWP, and therefore considered suitable for waste management use, ranged from 0.91 to 3.2 ha.

5.2.2 Discussion

The least demanding of land take we identify (ODPM study) is that for small scale anaerobic digestion, requiring a site area of at least 0.15 ha. The facility type with the smallest land take demand identified in the WLWP data compendium is for the manufacture of refuse derived fuel (RDF), requiring a site area of 0.41 ha. The approach underpinning the WLWP, as set out in the data compendium, considered the smallest / most compact site footprints possible for various waste facilities. The footprint for an RDF site therefore represents an absolute minimum.

The safeguarded site (that is to say the portion lawfully permitted to manage waste) is of a scale insufficient to support any of the waste management facility types identified in the ODPM study or the WLWP.

³⁰ WLWP 'Evidence Base: Data Compendium' report, Version 1.1, issued July 2014. Available from <http://wlp.net/documents.html> (accessed 09/08/2017).

5.3 WLWP assessment

The WLWP assessed Arlington Works and scored it poorly against the site selection criteria:

- it ranked 286th out of the 309 assessed sites (attaining a score of 67 out of approximately 115³¹);
- 87 of the 309 sites were existing waste management facilities, and Arlington Works ranked 75th out of these 87.

We note the site was not one of the existing waste transfer sites submitted to the WLWP Site Deliverability Assessment, and therefore was not considered to have potential for development as a waste management facility.

5.4 Other WLWP assessment criteria

Three types of assessment criteria, absolute, computer based and site visit criteria, were used to screen potentially suitable sites as part of the WLWP site selection process. As well as site area, these criteria included the presence of listed buildings, flood risk, proximity to areas of nature conservation and access to infrastructure.

A scoring system of 1 to 5 was attributed to each of the criteria. As the local significance of some criteria was considered more important than others, weighting was applied to effectively double the score attributed to those criteria. Weighted criteria comprised the following:

- proximity to the Transport for London road network and strategic road network;
- vehicle routing;
- distance from residential areas, schools and hospitals; and
- proximity to sustainable transport options.

The site was screened against each of the criteria and given an overall score of 67. We present the WLWP assessment at Appendix C.

³¹ The WLWP evidence base documents do not clarify the highest possible score, so this number has been estimated on the basis of available information.

6. Conclusions

The site commonly referred to as “Arlington Works” hosts various activities and uses. The element lawfully permitted to manage waste, and which is protected in planning policy through safeguarding, amounts to approximately 0.05ha in size.

Waterman has reviewed the size of the permitted site against documents stating the likely land take of alternative waste management uses finding that the smallest land take, of 0.15ha, was found to relate to small scale anaerobic digestion. Overall, the impression Waterman form is that the site is of a scale insufficient to support the waste management facility types identified in the ODPM study, or the WLWP.

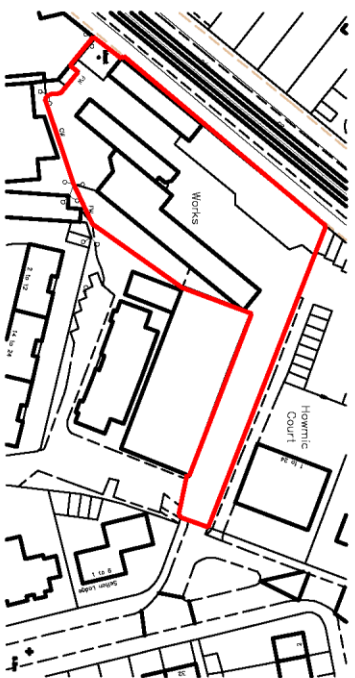
Notwithstanding the physical size of the safeguarded site, the suitability of it being able to support waste management development warrants further investigation. We note for example it scored poorly in independent studies undertaken for the WLWP. Challenges with using the site include the access route and that it lies close to potentially sensitive receptors.

The safeguarding provided to the site through planning policy ensures that development for non-waste uses will only be considered “...if compensatory and equal provision of capacity...” is made. The WLWP amplifies that the safeguarding applies “...unless an equal and compensatory suitable, acceptable and deliverable site can be provided...”. The use of the word “can” may imply that planning policy caters for the redevelopment of a waste facility to a non-waste use prior to the actual delivery of the compensatory capacity itself. If the compensatory capacity is sized to avoid drawing in waste from far and wide then it may be appropriate to settle on a figure of about 1,000 tonnes per annum (p.a.), since this level appears to be consistent with delivering against strategic objectives, such as self-sufficiency and proximity (the figure of 1,000 tonnes p.a. would appear to cater for regionally and locally generated waste arisings).

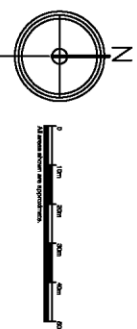
APPENDICES

A. Location Plan

- **Brookes Architects' plan (as used for initial pre-application liaison exercise with LBRuT)**



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PLANNING

Site/Description		Area	Use Class

Client: Sharpe Refractory Service Ltd

Project: Redevelopment of Arlington Works Twickenham TW1 2BB

Drawing: EXISTING Site Location Plan (Promap Base)

DATE	ISSUE	REVISION	BY
1:1250 @ A4	Nov '16	CS	CH

Brookes Architects
 7000 Old Kent Road, London SE5 8PR
 Tel: +44 (0)20 7925 9300
 Fax: +44 (0)20 7925 9301
 Email: info@brookesarchitects.co.uk
 www.brookesarchitects.co.uk

Project No.	4786	2	01	-
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B. Certificate of Lawful Use or Development

Appendices

Land at Arlington Works, Arlington Road, Twickenham, TW1 2BB

Document Reference: WIE12815-100

WIE12815-100-R-2-2-2-SiteSuitability

Certificate of Lawful Use or Development

94/2139/S191

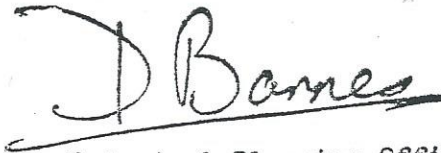
The^(a) London Borough of Richmond upon Thames

Council

hereby certify that on^(b) 23rd August 1994

the [use] ~~[operations]~~ ~~[matter]~~ described in the First Schedule hereto in respect of the land specified in the Second Schedule hereto and [edged] ~~[hatched]~~ ~~[coloured]~~ ^(c) RED on the plan attached to this Certificate, [was] ~~[would have been]~~ lawful within the meaning of section 191 of the Town and Country Planning Act 1990 (as amended) for the following reason[s]

The use began more than ten years before the date of this application.



Signed
Principal Planning Officer
authorised officer

On behalf of^(a)

Date 18 October 1994

Delete any words in square brackets which do not apply

FIRST SCHEDULE (d)

Use for the refining of waste oil (other than petroleum or petroleum products) (to include the use of fuel storage tanks in this connection).

- (a) Insert name of Council
(b) Insert date of application to Council
(c) Insert colour used on plan
(d) Full description of use, operations or other matter, if necessary by reference to details in the application or submitted plans, including a reference to the use class, if any, of the Use Classes Order within which the certificated use falls

CONTINUED OVERLEAF

SECOND SCHEDULE (e)

Land at Arlington Works, Arlington Road, Twickenham

Notes:

- 1 This certificate is issued solely for the purpose of section [191] [192] of the Town and Country Planning Act 1990 (as amended).
- 2 It certifies that the [use] [operations] [matter] specified in the First Schedule taking place on the land described in the Second Schedule [was] [would have been] lawful on the specified date and, thus, [was not] [would not have been] liable to enforcement action under section 172 of the 1990 Act on that date.
- 3 This certificate applies only to the extent of the [use] [operations] [matter] described in the First Schedule and to the land specified in the Second Schedule and identified on the attached plan. Any [use] [operations] [matter] which is materially different from that described or which relates to other land may render the owner or occupier liable to enforcement action.
- 4 The effect of the certificate is also qualified by the proviso in section 192(4) of the 1990 Act, as amended, which states that the lawfulness of a described use or operation is only conclusively presumed where there has been no material change, before the use is instituted or the operations begun, in any of the matters relevant to determining such lawfulness.]

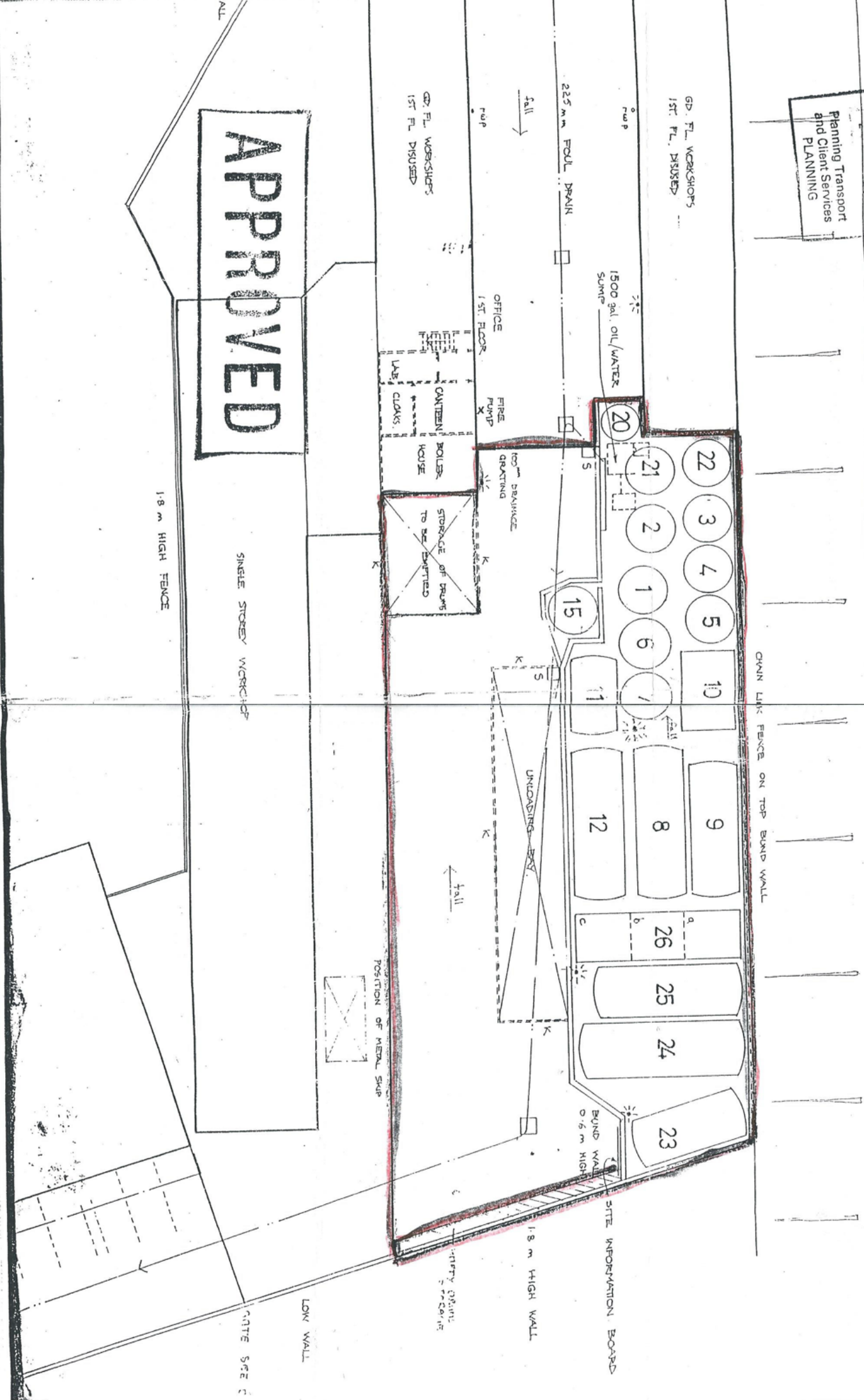
Delete any words in square brackets which do not apply

(e) Insert address or location of the site

LONDON BOROUGH OF RICHMOND UPON THAMES
1994

Planning Transport and Client Services
PLANNING

94/2139/91





C. WLWP Site Assessment Process

Appendices

Land at Arlington Works, Arlington Road, Twickenham, TW1 2BB

Document Reference: WIE12815-100

WIE12815-100-R-2-2-2-SiteSuitability

Site Report for 335

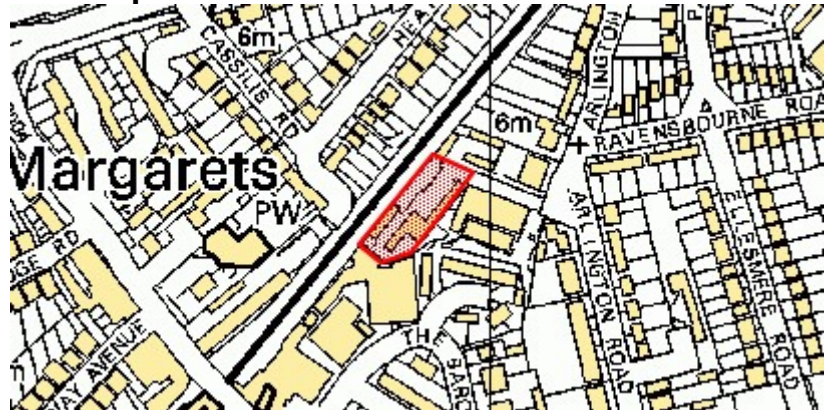
General Information

Borough: Richmond
Area: 0.23

Description:
Arlington Works

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London Borough of Brent: 100025260
London Borough of Ealing: 100019807
London Borough of Harrow: 100019206
London Borough of Hillingdon: 100019283
London Borough of Hounslow: 100019263
London Borough of Richmond: 100019441
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Location Map



Score & Ranks

Show Stoppers

SSSI	False
SPA	False
SAC	False
RAMSAR	False
NNR	False
Int & Nat Historic Importance	False
Greenfield & Flood Zone 3b Area	False
Crossrail Safeguard	True
All	False

Screening Criteria

Protected Views	1
Greenbelt, Open Space & MOL	5
Flood Zone	1
SPZ	5
Sustainable Transport	6
SRN	10
PROW	5
Local Conservation Area	3
Nature Conservation	5
Locally Important NCA	5
Archaeological Site	5
Land Stability	5
HE and Built Heritage	1
Total	57

Manual Screening Criteria

Site Configuration	3	The site is small and rectangular
Existing Use /Buildings On Site	1	There are two rows of small two storey brick houses/workshops, one storey sheds, exterior oil storage tanks and a 10-12m chimney.
Proximity To Residential Areas	2	The site is screened fairly well by office buildings from the residential properties in the area. Only the flats on the south west corner can see straight on to the site.
Vehicle Routing	2	The routing is via a narrow access road and then on to residential roads.
Visual Intrusion	1	Any developments on site should aim to minimise the visual impacts to the flats near the south west corner of the site.
Potential for co-location	1	The site is too small for co-location.
General	0	The site is very confined by the railway and surrounding buildings.
Total	10	
Grand Total	67	

The site is proximal to waste arising from the following borough/boroughs:
Richmond

UK and Ireland Office Locations

