

SILVERTOWN TUNNEL

Volume 8

Development Consent Order Application

Response to ExA's First Written Questions:

8.15 Principal Issue: Material Resources

The Infrastructure Planning (Examination Procedure)

Rules 2010

November 2016

Silvertown Tunnel

Response to ExA's First Written Questions:

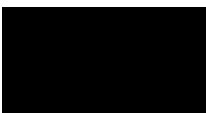
Material Resources

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Silvertown Tunnel

Development Consent Order Application Response to ExA's First Written Questions: Material Resources

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Silvertown Tunnel

Response to ExA's First Written Questions:

Material Resources

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MR MATERIAL RESOURCES

MR.1 Question

ES paragraph 12.5.17 [APP-031] states that a mobile treatment plant licence may be required for treatment of contaminated soils on site prior to their re-use.

(a) Please clarify whether such a mobile treatment plant (and the associated licence or permit from the EA) would be required?

(b) If so, what format would the treatment plant take (e.g. treatment of soils in an open storage area or within a contained vessel)?

(c) Where on the construction site(s) would this occur? Please provide a plan drawn to a recognised scale showing this facility in the context of the rest of the proposed construction site(s)?

(d) How much soil would be stored/treated at any one time?

Response

Response Part (a)

MR.1.1 Paragraph 12.5.51 of the ES [APP-031], (updated for deadline 1) states *"TfL has committed to transport 50% by weight of all materials associated with the Scheme by River, as further described in the CoCP (Document Reference 6.10). All suitable tunnel arisings will be removed without treatment. In the event that transport by river is unsuitable, soil arisings may be treated (stabilised) before loading onto barges. If on-site treatment is required, the regulator would be consulted and any requisite licenses (e.g. Mobile Treatment Permit) sought. It is noted that the determination period for a Mobile Treatment Plant Licence takes around 13 weeks, so adequate time would be allowed from when these applications are submitted prior to treatment works commencing."*

MR.1.2 The decision on how contaminated land (to the extent encountered) is handled, treated and transported will rest with the appointed Contractor who will be responsible for construction of the Scheme.

MR.1.3 The extent of contaminated land will be subject to further investigation prior to construction, and the decision on whether to select a mobile

treatment solution will be subject to review at that time. Should a mobile treatment solution be selected by the Contractor, then licensing for its establishment and operation will be required.

MR.1.4 Paragraph 12.5.22 of the ES (updated for deadline 1) states that *“As part of the pre-construction process, permits and licences that may be needed for excavation and dewatering purposes are outlined below. An application will be required at the detailed design stage, as insufficient detail is currently available to include them as part of the DCO application:*

- *Environmental Permit - a Discharge Licence (e.g. for discharge of excavation water into a watercourse should waste water meet the Environmental Quality Standards (EQS) for discharge); and*
- *Environmental Permit - a Mobile Treatment Plant Licence (e.g. for treatment of contaminated soils prior to their re-use on site).”*

MR.1.5 The CoCP [APP-092] (updated for deadline 1), also states at paragraph 9.2.9 that *“In the event that on-site treatment of excavated material is required, the regulator would be consulted and any requisite licences (e.g. Mobile Treatment Permit) sought.”*

Response Part (b)

MR.1.6 The decision on whether mobile treatment of contaminated land is required has not been taken at the current planning stage. Therefore the particular details of any treatment method which may be selected will be confirmed at the detailed design stage.

Response Part (c)

MR.1.7 The envisaged method of construction has identified areas on the Silvertown Worksite where spoil handling will be undertaken, and if mobile treatment of contaminated land is selected, then it is likely to be undertaken in this area. The arrangement of worksite processes is illustrated on plan in drawings of the CMS (APP-046), Appendix B.

Response Part (d)

MR.1.8 Further to the response above, the proprietary nature of any site treatment of contaminated land, and the uncertainty as to the volume to be handled, and in turn the required capacity of equipment necessary (or volume stored), means that defining particular quantities of material for treatment has not been made.

MR.2 Question

(a) In view of the possibility of unknown hydrocarbons and asbestos under the Greenwich site, how does the Applicant propose to undertake monitoring and removal of contaminated soils?

(b) Where would Construction Demolition and Excavation (CDE) wastes contaminated with hydrocarbons be taken for treatment/disposal?

(c) Where would CDE wastes contaminated with asbestos be taken for disposal?

Response

Response Part (a)

MR.2.1 The Contractor will be legally obliged to characterise and manage the excavated material. Prior to removal, there is a legal Duty of Care (Reference: section 34 of the Environmental Protection Act 1990) that the Contractor (or waste generator) should have a thorough understanding of the material produced from the Scheme's construction. The Duty of Care obligation is also captured within the updated Code of Construction Practice, Appendix C, Section 4.2.11 (Document Ref: APP-092).

MR.2.2 Wastes shall be monitored by recording the quantity and type of waste generated. Forecasted and actual waste volumes and types shall be recorded within a site waste management plan and reported on a quarterly basis. These requirements are set out within the Code of Construction Practice (Document Ref APP-092), Section 3.2.12 and 13.3.2) and the Site Waste Management Plan (Section 6) located within Appendix E of the Code of Construction Practice respectively.

Response Part (b)

MR.2.3 There are a range of permitted facilities that material impacted with hydrocarbons could be taken to. The Code of Construction Practice (Document Ref: APP-092, Chapter 13, as updated for deadline 1) details the appropriate management of waste in line with the principles of sustainability, for example the materials treatment (if feasible) and re-use, rather than disposal.

MR.2.4 An example draft of the Preliminary Viability Assessment (PVA) is attached (MR Appendix A) which was undertaken as part of the Receptor

Site Assessment (RSA), located within Appendix D of the Code of Construction Practice (Document Ref: APP-092). The PVA provides an appraisal of existing waste sites currently available and permitted for the treatment/disposal/recovery of excavated materials from the Scheme at the time of assessment.

- MR.2.5 For reference, the example PVA "MR Appendix A" includes the first two steps of the RSA, namely the long list and the short list.
- The long list of receptor sites encompasses all possible permitted receptor sites within 100km of the Scheme. The Environment Agency's list of permitted and exempt facilities was used as the main source for the creation of the long list.
 - The short list was developed through an assessment of the long list against high level criteria (outlined in the RSA) in order to identify a short list of potentially viable receptor sites.
- MR.2.6 It should be noted that TfL has not prescribed any specific facilities within the application, but TfL has mandated, through the Code of Construction Practice, prioritising facilities that recover, re-use etc. rather than disposal. The procurement choice of waste receptor sites, will rest with the appointed Contractor, who will make their selection based on the RSA methodology.
- MR.2.7 It should be noted that the RSA and the long list and short list (part of the PVA) have been prepared to establish that there are sufficient options for off-site disposal. This work represents the available receptor sites at the time of assessment, it is likely that other sites may become available and suitable before construction commences.
- MR.2.8 As set out in Section 13 of the Code of Construction Practice (Ref. APP-092), the Contractor will be required to follow the RSA methodology in order to select receptor sites. The PVA may be undertaken again by the appointed Contractor if necessary.

Response Part (c)

- MR.2.9 Materials that contain asbestos can be taken to a range of permitted facilities. Refer to the example PVA for a long list and short list of potential receptor sites as per part (b).

MR.3 Question

The ES [APP-031] gives a commitment from the Applicant for 80% (by weight) of CDE waste to be taken to schemes which use it “for beneficial use”.

(a) How is this commitment to be monitored and reported upon during construction?

(b) How would this commitment be secured in the dDCO?

Response

Response Part (a)

MR.3.1 The requirements for monitoring this commitment are outlined within the Code of Construction Practice and its appendices (APP-092) ('the CoCP'), namely the Construction Demolition and Excavated ('CD&E') Materials Commitments, Appendix C, Section 4.2 and the Site Waste Management Plan, Appendix E, Section 6. During the works the Contractor will be required to report key performance indicators (KPIs), some of which will be aligned to the commitment. The frequent reporting of these KPI's will monitor performance, identify breaches and indicate where a remedy plan may be required. KPI breaches may also trigger increased monitoring by TfL and an increase in the frequency of Contractor reporting. Further to this, TfL will retain a presence on site during the works, which will assist in monitoring and checking progress against the commitment.

MR.3.2 The role of the Site Waste Management Plan is also discussed in the response to DC94.

Response Part (b)

MR.3.3 Paragraph 13.2.2 of the CoCP requires the Contractor to manage CD&E material in accordance with the CD&E Commitments. Section 4.2 of Appendix C of this document sets out the 80% commitment. Requirement 5 of Schedule 2 to the dDCO requires compliance with the CoCP. Compliance with the CD&E Commitments is therefore secured through the dDCO.

MR.4 Question

(a) How is the commitment of 50% (by weight) of waste arisings to be transported by river to be monitored and reported upon during the construction phase as set out in the CoCP [APP-092]? How does this relate to the 100% of "suitable excavated material" referred to in the Update Report [AS-021]. That Report also refers to the amount of construction materials to be transported by river to be increased to 55%.

(b) How would all these intentions be secured in the dDCO?

Response

Response Part (a)

- MR.4.1 The river transport commitment of 50% (by weight) relates to all materials associated with the Scheme. This includes incoming and outgoing materials, not only waste arisings.
- MR.4.2 The monitoring and reporting of material being transported by river shall be by quarterly reports, prepared by the Contractor and issued to TfL. These reports include the performance of the Scheme in relation to the commitment. This requirement is outlined within Section 3.2.12 of the Code of Construction Practice (APP-092).
- MR.4.3 'Suitable excavated material' is defined within Section 3.2.5 and 3.2.6 of the Code of Construction Practice (APP-092), which states that it is a material that does not require treatment were it to be disposed of to a permitted facility.
- MR.4.4 Suitable excavated material is just one of many types of material that will make up part of the 50% figure of the materials associated with the Scheme that will be transported by river. However, the commitment makes clear that within the 50% overall commitment, 100% of the suitable excavated material shall be transported by river.
- MR.4.5 With regard to the increase from 50% to 55%, the monitoring and reporting process described above covers all materials associated with the Scheme. As such, any change (either an increase or decrease) in the amount being transported by river would be accounted for and reported.

Response Part (b)

- MR.4.6 The river transport commitments, and their monitoring and reporting, form section 3.2 of the Code of Construction Practice. Compliance with the Code of Construction Practice is secured by Requirement 5 to the dDCO. As detailed in Table 1-1 of the Code of Construction Practice, the Construction Site River Strategy will include details of the approach adopted by the Contractor to maximise river transport for construction and excavated materials and to meet the commitments in respect of the use of river transport set out in the Code of Construction Practice.

MR.5 Question

ES Paragraph 13.5.5 [APP-031] describes the aspiration for 95% (by weight) of the CDE waste to be recycled, re-used or put to beneficial use. How would this be monitored and reported upon during the construction phase?

(b) How would this be secured in the dDCO?

Response

- MR.5.1 (a) The requirements for monitoring this aspiration are outlined within the Code of Construction Practice and its appendices (APP-092) ('the CoCP'), namely the Construction Demolition and Excavated Materials Commitments, Appendix C, Section 4.2 and the Site Waste Management Plan, Appendix E, Section 6. The role of the Site Waste Management Plan is also discussed in the response to DC94.
- MR.5.2 During the works the Contractor will be required to report key performance indicators (KPIs), some of which will be aligned to the commitment. The frequent reporting of these KPI's will monitor performance, identify breaches and indicate where a remedy plan may be required. KPI breaches may also trigger increased monitoring by TfL and an increase in the frequency of Contractor reporting. Further to this, TfL will retain a presence on site during the works, which will assist in monitoring and checking progress against the commitment.
- MR.5.3 (b) Paragraph 13.2.2 of the CoCP requires the Contractor to manage CD&E material in accordance with the CD&E Commitments. Paragraph 4.2.8 of Appendix C to this document sets out this 95% aspiration. Requirement 5 of Schedule 2 to the DCO requires compliance with the CoCP. Compliance with the CD&E Commitments is therefore secured through the dDCO.

MR.6 Question

Please check the assumptions made in ES paragraph 13.4.5, and table 13.9 [APP-031] regarding total waste capacity available over the scheme construction period, and provide a revision as necessary.

The ExA considers that landfill and recovery project void space is incorrectly accounted for in the table, as these would be 'one off' volumes which would reduce year on year, whereas treatment facilities including MRFs and composting facilities would have the same capacity year on year while operational.

Response

- MR.6.1 Table 13-9 *Example waste facilities within reasonable proximity of the Scheme* of the ES [APP-031] has been updated to make the distinction between the finite capacity of a landfill and the annual throughput of a treatment centre more apparent. The capacity of the facilities have not been used in the assessment conclusions so these are not changed. Updated Chapter 13 Material Resources and Waste is submitted at Deadline 1.
- MR.6.2 The Receptor Site Assessments (RSA) will refine the available capacity for specific waste streams identified in the revised Table 13-9 through further direct contact with potential receiving sites to enable off site receiver sites to be located to receive the waste arisings. The detailed methodology for this RSA process is contained within Appendix D Receptor Site Assessment of the CoCP [APP-092].

MR.7 Question

Please provide details of the nearest available hazardous waste facilities that are permitted to take the hazardous waste streams that would arise from the project, and the permit limits for each of those sites?

Response

- MR.7.1 An example draft of the Preliminary Viability Assessment (PVA) is attached (MR Appendix A) which was undertaken as part of the Receptor Site Assessment (RSA), located within Appendix D of the Code of Construction Practice (Document Ref: APP-092). The PVA provides an appraisal of existing waste sites currently available and permitted for the treatment/disposal/recovery of excavated materials from the Scheme at the time of assessment.
- MR.7.2 An extract of the short list (developed as part of the MR Appendix A) is shown in Table 1. This table lists a number of permitted facilities within the vicinity of the Scheme which may accept hazardous soil and stones (17 05 03*). A number of facilities did not provide information with regards to the permit, so there is a possibility that other facilities may accept hazardous waste which are not included in this list.
- MR.7.3 The range of waste types that are likely to be produced is included within The Site Waste Management Plan, located within Appendix E of the Code of Construction Practice (Document Ref: APP-092).
- MR.7.4 For reference, the example PVA (MR Appendix A) includes the first two steps of the RSA, namely the long list and the short list.
- The long list of receptor sites encompasses all possible permitted receptor sites within 100km of the Scheme. The Environment Agency's list of permitted and exempt facilities was used as the main source for the creation of the long list.
 - The short list was developed through an assessment of the long list against high level criteria (outlined in the RSA) in order to identify a short list of potentially suitable receptor sites.
- MR.7.5 It should be noted that TfL has not prescribed any specific facilities within the application, but TfL has mandated through the Code of Construction Practice, prioritising facilities that recover, re-use etc. rather than disposal. The procurement choice of waste receptor sites, will rest with the

appointed Contractor, who will make their selection based on the RSA methodology.

MR.7.6 It should be noted that the RSA and the long list and short list (part of the PVA) have been prepared to establish that there is sufficient options for off-site disposal. This work represents available receptor sites at the time of assessment and it is likely that other sites may become available and suitable before construction commences.

MR.7.7 As set out in Section 13 of the Code of Construction Practice (Ref. APP-092), the Contractor will be required to follow the RSA methodology in order to select receptor sites. The PVA may be undertaken again by the appointed Contractor if necessary.

Table 1 Excerpt from Short List of Permitted Facilities which accept hazardous soil and stone waste (17 05 03*)

No.	Site Name	Site Address	Operator	Permit	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Capacity (tonnes per annum)
2	Calvert Landfill Site	Brackley Lane, Calvert, Buckinghamshire, MK18 2HF	FCC Waste Services (UK) Limited	BS8605IQ	17 05 04 17 05 03*	4,520,000
4	Powerday Waste Recycling & Recovery Centre	Old Oak Sidings, Off Scrubs Lane, Willesden, London, NW10 6RJ	Powerday P L C	PP3093EE (80723)	17 05 04 17 05 03*	1,600,000
13	Bletchley Landfill Site	Guernsey Road, Bletchley, Bucks, MK3 5FR/JU	FCC Waste Services (UK) Limited	BM4635IH	17 05 04 17 05 03*	700,000
19	Redhill Landfill (North East Quadrant)	Cormongers Lane, Nutfield, Redhill, Surrey, RH1 4ER	Biffa Waste Services Ltd	BU8126IY	17 05 04 17 05 03*	120,000 (inert waste) 750,000 (total waste)
20	Sutton Courtenay	Waste Recycling Group, Appleford Sidings, Sutton Courtenay, Abingdon, Oxfordshire, OX14 4PW	Waste Recycling Group (Central) Limited	BV7001IK	17 05 04 17 05 03*	Not explicitly stated on permit.

No.	Site Name	Site Address	Operator	Permit	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Capacity (tonnes per annum)
21	Westmill II Waste Management Facility	Westmill Road, Ware, Hertfordshire, SG12 0ES	Biffa Waste Services Ltd	DP3431PC	17 05 04 17 05 03*	399,999 (non- hazardous waste). No restriction on inert waste.
25	Mc Grath Bros (Waste Control)	54-60 River Road, Creekmouth, Barking, Essex, IG11 0DW	Mc Grath Brothers (Waste Control) Ltd	TP3697NP (80535)	17 05 04 17 05 03*	Not explicitly stated on permit.

MR.8 Question

Of the landfills and recovery projects identified in ES Table 13-9 [APP-031], please can the Applicant and/or the EA provide updated figures showing their void capacities remaining at the beginning of 2016, or the most recent data that is available from the EA's waste data interrogator, as well as the waste types accepted?

Response

- MR.8.1 As outlined in Chapter 13 of the ES (as updated for deadline 1), Table 13-9 was an example of the types of receiver site available in the vicinity of the Scheme and that further assessment would be undertaken. A preliminary assessment has now commenced using the Scheme's Receptor Site Assessment (RSA) (Appendix D of the updated CoCP (submitted at deadline 1) so Table 13-9 has now been superseded. The results of the assessment are shown in the Preliminary Viability Assessment (PVA) which is appended to the updated CoCP. This PVA reflects information issued post submission of the DCO application.
- MR.8.2 The PVA has completed a rigorous review of 61 potential waste receiver sites. The methodology followed is outlined in the RSA document but has identified a short list of 37 sites based on the following criteria:
- Criteria 1: Receptor Site Capacity. The capacity of the receptor site to receive, treat and/or dispose of volumes of excavated material in excess of 200,000 tonnes.
- Criteria 2: Validity of Permit/Exemption. The operator holds a valid permit or exemption, which allows them to receive, treat and/or dispose of the principal excavated material type(s), i.e. soil and stones.
- Criteria 3: Receptor Site Availability. The anticipated availability of the receptor site to receive, treat and/or dispose of the excavated material during the Scheme's construction (from year 2019 specifically).
- Criteria 4: Enforcement Notices, Court Cases and Cautions.
- Criteria 5: Receptor Site Accessibility.
- MR.8.3 The 37 sites have been contacted directly and found to meet the 5 criteria set out.

MR.9 Question

ES Paragraph 13.4.29 [APP-031] explains that only 130,850 tonnes of waste arisings will be classified as 'inert' wastes.

Please provide an estimated breakdown of the remaining CDE wastes that would be generated by the development (1,044,150 tonnes), in terms of whether they are non-hazardous or hazardous wastes?

Response

- MR.9.1 The estimated breakdown of the CDE wastes streams anticipated to be generated by the Scheme are detailed within The Site Waste Management Plan (SWMP) (Appendix E of Code of Construction Practice (Document Ref: APP-092)).
- MR.9.2 Within the SWMP (as detailed above), Appendix A provides a Waste Forecast Table which lists the estimated quantities of waste by classification (inert, non-hazardous and hazardous wastes). Appendix A of the SWMP as submitted in the dDCO highlights estimated waste streams from permanent works only. Table 2 below extends this to include temporary works; the additions are highlighted in bold.

Table 2 Updated Waste Forecast Table (Appendix A of the SWMP)

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Excavation	Packaging	plastic packaging	plastic packaging	15 02 02	Off-site destination	###	###	###	###	A.N Other
Excavation	Inert - Soil & stones	soil and stones (inert) other than those mentioned in 17 05 03	Material from surface works.	17 05 04	Off-site segregated		56,319	45055.20	56319.00	S. Panesar
Excavation	Non Haz (Non Inert) - Soil & stones	Topsoil (non inert)	Material from surface works and tunnel boring.	17 05 04	Off-site segregated		740,005	592004.00	740005.00	S. Panesar
Excavation	Segregated Haz - Soil & stones	soil and stones containing dangerous substances	Material from surface works and tunnel boring.	17 05 03*	Off-site segregated		194,965	155972.00	194965.00	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	Grout (tunnel) - miss pours and surplus - industry waste rate 7.5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated	1,003		1003.00	1273.81	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	STL (secondary tunnel lining) in situ concrete - miss pours and surplus concrete, industry waste rate 2.5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated	375		375.00	476.25	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	PTL (primary tunnel lining) - segmental concrete - damage to components - based on industry average waste rate of 5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated		1,662	1308.66	1662.00	S. Panesar

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	Structural concrete - miss pours and surplus - based on industry average waste rate of 2.5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated	3,074		3074.00	3903.98	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	Mass concrete - miss pours and surplus - based on industry average waste rate of 2.5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated	374		374.00	474.98	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	Structural concrete - utility building - miss pours and surplus - based on industry average waste rate of 2.5%. Values from Cost Estimate (Feb 2016).	17 01 01	Off-site segregated		78	61.42	78.00	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Rubble and hardcore-utility building - damage to components, miss pours and surplus concrete / screed / blinding - based on industry average waste rate of 2.5%. Values from Cost Estimate (Feb 2016).	17 01 07	Off-site mixed		18	14.52	18.00	S. Panesar
Construction	Metals	iron and steel	Structural steel - off cuts based on industry average waste rate of 7.55%. Values from Cost Estimate (Feb 2016).	17 04 05	Off-site segregated		110	268.29	110.00	S. Panesar

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Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Construction	Metals	iron and steel	Structural steel (reinforcing bar) - off cuts - based on industry average waste rate of 7.55%. Values from Cost Estimate (Feb 2016).	17 04 05	Off-site segregated	1,438		1438.00	589.58	S. Panesar
Construction	Inert - Glass	glass	Structural glass- based on industry average waste rate of 5%. Values from Cost Estimate (Feb 2016).	17 02 02	Off-site segregated		1	1.64	1.00	S. Panesar
Construction	Metals	mixed metals	VRS offcuts or surplus material. Based on 29kg per m. Value taken from Cost Estimate (Feb 2016)	17 04 07	Off-site segregated		1	2.38	1.00	S. Panesar
Construction	Metals	mixed metals	Non ferrous - offcuts - calculated on 1% of total length of service buildings in metres. Values from tunnel service building quantities (Feb 2016)	17 04 07	Off-site segregated		4	9.52	4.00	S. Panesar
Construction	Metals	iron and steel	Structural steel / reinforcements (utilities buildings) - offcuts - based on industry average waste rate of 7.55%. Values from tunnel service building quantities (Feb 2016)	17 04 05	Off-site segregated		136	331.71	136.00	S. Panesar

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Construction	Inert - mixture of concrete, bricks, tiles etc.	bricks	Bricks -off cuts, damaged and surplus material - based on industry average waste rate of 5%. Values from tunnel service building quantities (Feb 2016)	17 01 02	Off-site segregated		218	181.67	218.00	S. Panesar
Construction	Inert - mixture of concrete, bricks, tiles etc.	tiles and ceramics	Tiles - offcuts, damaged and surplus material - based on industry average waste rate of 5%. Values from tunnel service building quantities (Feb 2016)	17 01 03	Off-site segregated		2	3.39	2.00	S. Panesar
Construction	Gypsum (17 08 02)	gypsum-based construction materials other than those mentioned in 17 08 01	Gypsum from utilities buildings. 5% wastage rate. Values from Cost estimate (Feb 2016).	17 08 02	Off-site segregated		12	36.36	12.00	S. Panesar
Construction	Packaging	mixed packaging	Packaging from all components delivered to the site for works. No data available so assumed 1% of total waste as a result of imported material from the service buildings	15 01 06	Off-site mixed		126	600.00	126.00	S. Panesar
Construction	Other C&D segregated waste	track ballast other than those mentioned in 17 05 07	Type 1 sub base - surplus. Based on industry average waste rate of 13%. Values from Cost Estimate (Feb 2016)	17 05 08	Off-site segregated	3,405		3405.00	3701.92	S. Panesar

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Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Excavation	Inert - Soil & stones	soil and stones (inert) other than those mentioned in 17 05 03	From construction work- imported fill (soil); surplus material. Based on industry average waste rate of 13%. Values from Cost Estimate (Feb 2016).	17 05 04	Off-site segregated	7,906		7906.00	9882.50	S. Panesar
Construction	Mixed C&D waste (17 09 04)	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	Lighting - offcuts, damaged and surplus material. Based on 1% of total length of tunnels in metres. Values taken from Cost Estimate (July 2015) and (Feb 2016).	17 09 04	Off-site mixed	28		28.00	24.36	S. Panesar
Construction	Other C&D segregated waste	bituminous mixtures other than those mentioned in 17 03 01	Bitumen surfacing - including roads and tunnels - miss pours and surplus material. Assumed to include kerbs, pathways, cycleways). Waste rate of 4.9%. Values taken from Cost Estimate (Feb 2016)	17 03 02	Off-site segregated	619		619.00	507.58	S. Panesar
Construction	Wood	wood	Timber from utilities buildings. Based on industry average waste rate of 3.8%. Values from Cost Estimate (Feb 2016).	17 02 01	Off-site segregated		17	50.00	17.00	S. Panesar

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Construction	Other C&D segregated waste	household plastics	Drainage pipes, cables and ducts: offcuts - damaged and surplus material. Based on 1% of total length in metres. Value taken from Cost Estimate (Feb 2016)	20 01 39	Off-site segregated	368		368.00	51.52	S. Panesar
Demolition	Wood	wood	timber from building demolition	17 02 01	Off-site segregated	566		566.00	192.44	S. Panesar
Demolition	Gypsum (17 08 02)	gypsum-based construction materials other than those mentioned in 17 08 01	gypsum from building demolition	17 08 02	Off-site segregated	963		963.00	317.79	S. Panesar
Demolition	Metals	mixed metals	nonferrous metal from building demolition	17 04 07	Off-site segregated	482		482.00	202.44	S. Panesar
Demolition	Metals	iron and steel	Ferrous metal from building demolition.	17 04 05	Off-site segregated	28,825		28825.00	11818.25	S. Panesar
Demolition	Inert - Glass	glass	Glass from building demolition.	17 02 02	Off-site segregated	48		48.00	29.28	S. Panesar
Demolition	Inert - mixture of concrete, bricks, tiles etc.	tiles and ceramics	Tiles form building demolition.	17 01 03	Off-site segregated	157		157.00	92.63	S. Panesar
Demolition	Inert - mixture of concrete, bricks, tiles etc.	bricks	Bricks from building demolition.	17 01 02	Off-site segregated	7,688		7688.00	9225.60	S. Panesar
Demolition	Inert - mixture of concrete, bricks, tiles	concrete	Concrete from building demolition.	17 01 01	Off-site segregated	17,296		17296.00	21965.92	S. Panesar

Silvertown Tunnel

Response to ExA's First Written Questions:

Material Resources

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
	etc.									
Demolition	Inert - mixture of concrete, bricks, tiles etc.	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Rubble/hardcore from building demolition.	17 01 07	Off-site segregated	4,178		4178.00	5180.72	S. Panesar
Demolition	Mixed Hazardous - C&D waste (17 09 03*)	other construction and demolition wastes containing dangerous substances	Hazardous waste from building demolition.	17 09 03*	Off-site segregated	602		602.00	523.74	S. Panesar
Demolition	Inert - mixture of concrete, bricks, tiles etc.	concrete	Reinforced concrete from demolition / breakout of slabs / walls.	17 01 01	Off-site segregated	12,635		12635.00	16046.45	S. Panesar
Demolition	Metals	iron and steel	Steel from the demolition of a steel panel wall.	17 04 05	Off-site segregated	9		9.00	3.69	S. Panesar
Demolition	Inert - mixture of concrete, bricks, tiles etc.	concrete	Concrete from the breakout of pre-cast concrete kerbs.	17 01 01	Off-site segregated	95		95.00	120.65	S. Panesar
Excavation	Non Haz (Non Inert) - Dredgings	dredging spoil other than those mentioned in 17 05 05	Dredging and displaced material from piles. Conversion factor of 1.8 applied to m3 quant provided from Cost Estimates (Feb 2016).	17 05 06	Off-site segregated		94,500	185040.14	94500.00	S.Panesar

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Construction	Inert - mixture of concrete, bricks, tiles etc.	concrete	Temporary works: structural concrete-damage to components, miss pours and surplus concrete/screed/blinding - based on industry average waste rate of 2.5%. Values from Cost Estimates (Feb 2016).	17 01 01	Off-site segregated	3.5		3.50	4.45	S.Panesar
Construction	Metals	iron and steel	Reinforcement members/structural steel and piles- off cuts and damaged components. Based on an industry waste rate 7.55%. Values from Cost Estimates (Feb 2016).	17 04 05	Off-site segregated		15.5	37.80	15.50	S.Panesar
Construction	Packaging	mixed packaging	Temporary works: packaging from all components delivered to the site for works- assumed 5% of total incoming material.	15 01 06	Off-site mixed	2		2.00	0.42	S.Panesar
Demolition	Inert - mixture of concrete, bricks, tiles etc.	concrete	Temporary works: structural concrete-demolition of jetty at the end of the scheme. Values from Cost Estimates (Feb 2016).	17 01 01	Off-site mixed	135		135.00	171.45	S.Panesar

Silvertown Tunnel

Response to ExA's First Written Questions:

Material Resources

Forecast Waste						Forecast Quantities		Calculated Quantities (Converting between m ³ and t)		Forecast provided by
C, D or E Activity	Waste Stream	Material Type	Further description of waste - optional	Suggested LOW Code	Waste or Re-Use	(m ³)	(tonnes)	(m ³)	(tonnes)	
Demolition	Metals	iron and steel	Temporary works: reinforcement members/structural steel- removal of members during demolition of jetty. Values from Cost Estimates (Feb 2016).	17 04 05	Off-site segregated		34	82.93	34.00	S.Panesar
Demolition	Wood	wood	Temporary works: timber formwork disposal. Values from Cost Estimates (Feb 2016).	17 02 01	Off-site segregated	135		135.00	45.90	S.Panesar

MR.10 Question

Please provide a draft copy of the waste receptor site assessment to the Examination for the range of waste types that is likely to be produced with details of existing waste sites that are permitted for their treatment/disposal/recovery?

The ExA understands that some sites may close and others may open between now and the start of construction, so this would need to be updated later, but it would help the Examination to have existing site details. ES Paragraph 13.5.40 [APP-031] provides details of waste streams that would be likely to be segregated.

Response

- MR.10.1 The Receptor Site Assessment (RSA) methodology is included within Appendix D of the Construction Code of Practice (Document Ref: APP-092). The RSA provides a step by step process that is used to develop a preferred list of receptor sites for receiving, treating and/or disposing of the incoming material from the Scheme.
- MR.10.2 It is assumed that the ExA is requesting a copy of the Preliminary Viability Assessment (PVA) which is part of the RSA. An example PVA is attached (MR Appendix A) which provides an appraisal of existing waste sites currently available and permitted for the treatment/disposal/recovery of excavated materials from the Scheme at the time of assessment.
- MR.10.3 The range of waste types that is likely to be produced is included within Appendix A of the Site Waste Management Plan (Appendix E of the Code of Construction Practice (Document Ref: APP-092)).
- MR.10.4 For reference, the example PVA (MR Appendix A) includes the first two steps of the RSA, namely the long list and the short list.
- The long list of receptor sites encompasses all possible permitted receptor sites within 100km of the Scheme. The Environment Agency's list of permitted and exempt facilities was used as the main source for the creation of the long list.
 - The short list was developed through an assessment of the long list against high level criteria (outlined in the RSA) in order to identify a short list of potentially suitable receptor sites.

- MR.10.5 It should be noted that TfL has not prescribed any specific facilities within the application, but TfL has mandated through the Code of Construction Practice, prioritising facilities that recover, re-use etc. rather than disposal. The procurement choice of waste receptor site, will rest with the appointed Contractor, who will make their selection based on the RSA methodology.
- MR.10.6 It should be noted that the RSA and the long list and short list (part of the PVA) have been prepared to establish that there are sufficient options for off-site disposal. This work represents available receptor sites at the time of assessment and it is likely that other sites may become available and suitable before construction commences.
- MR.10.7 As set out in Section 13 of the Code of Construction Practice (Ref. APP-092), the Contractor will be required to follow the RSA methodology in order to select receptor sites. The PVA may be undertaken again by the appointed Contractor if necessary.

MR.11 Question

Paragraph 10.5.1 and Table 10-15 in the ES [APP-031] refers to a waste disposal strategy, to mitigate impacts on marine ecology. The dDCO refers to a requirement for a site waste management plan. Bullet point five in paragraph 10.5.1 of the ES [APP-031] states that a detailed waste disposal strategy would be informed by a “review of the site specific data (including the contamination data) to inform the detailed waste disposal strategy)”

(a) Can the Applicant carry out the review of contamination data now?

(b) Is the waste disposal strategy the same document as the site waste management plan? If so, the terminology and interpretations should match.

(c) If it is not the same document, the Applicant is requested to explain the difference.

(d) Please provide a draft (or updated) copy of these documents to the Examination?

Response

MR.11.1 a) With regard to waste classification, Para 13.4.15 of the ES (as updated for deadline 1) states that “Although sediment test results show a few samples could potentially be classified as hazardous waste, dredgings from the construction of the proposed jetty are considered to be non-hazardous”. A review of the contamination data has been undertaken in Chapter 16 of the ES [APP-031] with regard to impact on water quality and the updated WFD, and it is considered the statement in Para 13.4.15 is still valid. It should however be noted that during the construction phase dredgings will be tested prior to disposal to confirm waste classification.

MR.11.2 (b) The waste disposal strategy is the same document as the Site Waste Management Plan. As set out in section 13 of the Code of Construction Practice (APP-092), the management of material dredged from the River Thames to facilitate the construction and operation of the temporary jetty at the Silvertown site will be in accordance with the SWMP. Chapter 10 (Marine Ecology) of the ES has been updated to ensure the used terminology is consistently used throughout the Environmental Statement and all other DCO documents.

Silvertown Tunnel

Response to ExA's First Written Questions:

Material Resources

MR.11.3 (c) Please refer to bullet point (b).

MR.11.4 (d) An updated copy of Chapter 16 Water Quality, Chapter 10 Marine Ecology and Appendix 10.A Water Framework Assessment Compliance have been submitted to the examination.

MR.12 Question

MR12 - The CMS paragraph 5.1.14 [APP-031] says that pre-cast tunnel linings will either be manufactured off-site or at Silvertown.

a) Where in the dDCO would these works be authorised?

b) Where in the ES [APP-031] is a pre-cast tunnel lining manufacturing process described in terms of location, size of building, hours of operation and noise impacts?

Response

- MR.12.1 The procurement choice of whether to manufacture pre-cast concrete tunnel segments offsite, or have them manufactured on the Silvertown worksite, will rest with the appointed Contractor, who will make their selection based on experience, supply chain arrangements and preferences.
- MR.12.2 These works are authorised within the dDCO by paragraph (y) of 'other works and development' after Work 20 in Schedule 1 to the DCO, which refers to works which are necessary or expedient for the purposes of, or for purposes associated with or ancillary to, the construction, operation or maintenance of the authorised development. This work would be necessary as they are associated with Work 1 - the tunnel.
- MR.12.3 The pre-cast tunnel lining manufacturing process has not been specifically assessed in Chapter 14 of the ES (APP-031) as details of the process would not be confirmed until the detailed design stage.
- MR.12.4 However, it should be noted that Section 11.2 (paragraphs 11.2.1 to 11.2.3) of the CoCP (submitted at deadline 1) provides for section 61 consents to be obtained at detailed design and for an updated construction noise assessment to be carried out to inform a Noise and Vibration Management Plan to be approved by the relevant planning authority.
- MR.12.5 The CoCP also sets out that the Noise and Vibration Management Plan referred to above must either reflect the mitigation measures included in the environmental statement or, where the mitigation proposed materially differs from the mitigation identified in the environmental statement, the Contractor must provide evidence with the Noise and Vibration Management Plan submitted that the mitigation proposed would not give rise to any materially new or materially worse adverse environmental

effects than those reported in the environmental statement taking into account the mitigation identified in it.

MR.12.6 Thus, any effects arising from the use of a tunnel lining manufacturing plant on site would be considered as part of the revised noise assessment and must be reported to the local planning authority, part of which must demonstrate that the effects arising from it fall within the parameters of the ES. Its use would therefore be controlled through these provisions of the CoCP.

Appendix A. Preliminary Viability Assessment - Receptor Site Assessment (for Excavated Materials)



SILVERTOWN TUNNEL

Preliminary Viability Assessment

Receptor Site Assessment (for Excavated Materials)

TR010021

October 2016

Silvertown Tunnel

Preliminary Viability Assessment (for Excavated Materials)

PINS Reference Number: XXXX

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Silvertown Tunnel

TR010021 Preliminary Viability Assessment

Receptor Site Assessment (for Excavated Materials)

Planning Act 2008

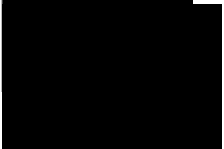

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

TfL Document Reference: xxxxxxxxxxxxxx

Atkins Document Reference: STWTN-ATK-EGN-XXXX-RP-EN-0004

Regulation Number: xxxxxxxxxxxxxx

Author: Transport for London

Rev.	Date	Approved By	Signature	Description
0	20/05/2016	David Rowe (TfL Lead Sponsor)		
1	01/11/2016	David Rowe (TfL Lead Sponsor)		

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List of Abbreviations

AQMA	Air Quality Management Areas
CD&E	Construction, Demolition and Excavation
CL:AIRE	Contaminated Land: Applications in Real Environments
DCO	Development Consent Order
Defra	Department of Environment, Food and Rural Affairs
EMOA	Excavated Materials Options Assessment
FOI	Freedom of Information
HGV	Heavy Goods Vehicle
HMRC	Her Majesty Revenue and Customs
km	Kilometres
LoW	List of Waste Code
m	Metres
NSIP	Nationally Significant Infrastructure Projects
RSA	Receptor Site Assessment (for Excavated Materials)
SWMP	Site Waste Management Plan
TfL	Transport for London

Glossary of Terms

Contractor	Anyone who directly employs or engages construction workers or manages construction work. Contractors include sub-contractors, any individual self-employed worker or a business that carries out, manages or controls construction work.
Detailed Options Assessment	A phase of the Receptor Site Assessment which assesses the receptor sites on the short list in more detail. The output is a preferred list of suitable receptor sites that meet the principles as outlined in the methodology. Each receptor site is scored against the criteria in each principle, with successful sites being included on the preferred list and remaining sites in the reserve list.
Excavated Material	Ground or other material removed during a construction process, usually by mechanical means.
Proximity Principle	Managing, treating and/or disposing of materials close to the material source in order to reduce environmental and costs impacts.
Receptor Site Assessment	A phased methodology and evaluation criteria to assess suitable sites to receive, treat and/or dispose of the excavated materials from the Scheme. The methodology provides a transparent process to stakeholders to ensure that the excavated material will be managed and treated with the least impact to the environment and communities.
Development Consent Order	The means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects. This includes energy, transport, water and waste projects.
List of Waste	A series of waste classification codes for all hazardous and non-hazardous wastes. List of Waste codes are often referred to as European Waste Catalogue codes.
Preliminary Viability Assessment	A phase of the Receptor Site Assessment which assesses the long list against high level criteria in order to identify a short list of potentially suitable receptor sites for the excavated materials from the Scheme
Reserve List	Receptor sites that fail to successfully pass the Detailed Options Assessment but may become viable/suitable prior to construction starting.

The Scheme	The construction of a new bored tunnel under the River Thames between the Greenwich Peninsula and Silvertown, as well as necessary alterations to the connecting road network and the introduction of user charging at both Silvertown and Blackwall tunnels.
Transport for London (TfL)	<p>A London government body responsible for most aspects of the transport system in Greater London. Its role is to implement transport strategy and to manage transport services across London.</p> <p>These services include: buses, the Underground network, Docklands Light Railway, Overground and Trams. TfL also runs Santander Cycles, London River Services, Victoria Coach Station and the Emirates Air Line.</p> <p>As well as controlling a 580km network of main roads and the city's 6,000 traffic lights, TfL regulates London's private hire vehicles and the Congestion Charge scheme.</p>

SUMMARY

- S.1.1 The Silvertown Tunnel scheme (herein after referred to as ‘the Scheme’) is a new road tunnel under the River Thames connecting the Greenwich Peninsula and Silvertown. The Scheme involves the construction of a twin bore road tunnel providing a new connection between the A102 Blackwall Tunnel Approach on Greenwich Peninsula (Royal Borough of Greenwich) and the Tidal Basin roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way (London Borough of Newham). The Silvertown Tunnel would be approximately 1.4km long and would be able to accommodate large vehicles including double-deck buses. The Boord Street footbridge over the A102 would be replaced with a pedestrian and cycle bridge.
- S.1.2 The Scheme aims to minimise disposal to landfill and promote safe management of materials at local facilities. In order to achieve this, a Receptor Site Assessment (for Excavated Materials) will be undertaken in order to identify the most suitable sites to receive, treat and/or dispose of the excavated material.
- S.1.3 This report summarises the methodology and results of an example Preliminary Viability Assessment which was undertaken as part of the Receptor Site Assessment (for Excavated Materials) (hereby known as ‘RSA’). The RSA follows a standardised methodology and evaluation criteria which meets the vision and commitments set forth within the Scheme’s Construction, Demolition and Excavated Materials Commitments document (Appendix C of the Code of Construction Practice (Document Ref: TR010021)). It also provides a transparent process to stakeholders in order to ensure that the excavated material will be managed and treated with the least impact to the environment and communities.
- S.1.4 The Receptor Site Assessment consists of four key steps:
1. The development of a long list of receptor sites which encompasses all possible receptor sites for the excavated materials from the Scheme;
 2. A Preliminary Viability Assessment to assess the long list against high level criteria in order to identify a short list of potentially suitable receptor sites for the excavated materials from the Scheme;
 3. A Detailed Options Assessment to assess the short list against a more detailed set of criteria in order to identify a preferred list of suitable receptor sites for the Scheme’s excavated material. A reserve list is

generated from sites that fail to successfully pass through the Detailed Options Assessment but may become viable/suitable prior to construction; and

4. The preferred list is taken forward and used by Transport for London to inform contractors who tender for the Scheme.
- S.1.5 The application of the high level criteria, as part of the Preliminary Viability Assessment, assessed the long list and identified a short list of 37 potentially suitable receptor sites for the excavated materials from the Scheme at the time of the assessment. This translates to a potential capacity of approximately 16 million tonnes. Capacity refers to the total capacity of the sites without considering the available capacity (or void space) remaining at the sites to receive/treat/dispose of the excavated material from the Scheme.
- S.1.6 Following the Preliminary Viability Assessment, the 37 sites on the short list can be taken through the Detailed Options Assessment in order to develop a preferred and a reserve list of receptors sites. It is considered that at this stage 37 sites would offer a level of resilience within the waste market that would be sufficient for receiving the Schemes excavated arisings.

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1. INTRODUCTION

1.1 Overview

- 1.1.1 The Silvertown Tunnel scheme (herein after referred to as ‘the Scheme’) is a new road tunnel under the River Thames connecting the Greenwich Peninsula and Silvertown. The Scheme involves the construction of a twin bore road tunnel providing a new connection between the A102 Blackwall Tunnel Approach on Greenwich Peninsula (Royal Borough of Greenwich) and the Tidal Basin roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way (London Borough of Newham). The Silvertown Tunnel would be approximately 1.4km long and would be able to accommodate large vehicles including double-deck buses. The Boord Street footbridge over the A102 would be replaced with a pedestrian and cycle bridge.
- 1.1.2 New portal buildings would be located close to each tunnel portal to house the plant and equipment necessary to operate the tunnel.
- 1.1.3 The introduction of free-flow user charging on both the Blackwall and Silvertown Tunnels would play a fundamental part in managing traffic demand and would help to support the funding of the construction and operation of the Silvertown Tunnel.
- 1.1.4 The design of the Silvertown Tunnel would include a dedicated bus/coach and HGV lane, which would provide opportunities for TfL to provide additional cross-river bus routes.
- 1.1.5 Main construction works would likely commence in early 2019 and would last approximately 4 years with the new tunnel opening in 2022/23. The main construction compound would be located at Silvertown, utilising the existing barge facilities at Thames Wharf along with a new temporary jetty for the removal of spoil and delivery of materials by river. A secondary site compound would be located adjacent to the alignment of the proposed cut and cover tunnel on the Greenwich Peninsula.
- 1.1.6 A large portion of the material that will be generated during the construction phase of the Scheme will be excavated material. The Scheme is committed to minimising disposal to landfill and promoting safe management of materials at local facilities. As such, a Preliminary Viability Assessment, which is part of the Receptor Site Assessment (for Excavated Materials)

(herein after referred to as 'RSA'), was undertaken in order to identify the most suitable receptor sites to receive, treat and/or dispose of the excavated material.

1.2 Aim

- 1.2.1 This report provides an example Preliminary Viability Assessment which was undertaken as part of the RSA. The aim of the Preliminary Viability Assessment is to assess the long list against high level criteria in order to identify a short list of potentially suitable receptor sites included in the short list.
- 1.2.2 The resulting short list can be used in the Detailed Options Assessment to identify a preferred and a reserve list of suitable receptor sites for the excavated materials from the Scheme.
- 1.2.3 It is important to note that although the RSA relates to excavated material from the Scheme only, this methodology can also be applied (if necessary) to identify receptor sites for other materials, such as construction and demolition materials.
- 1.2.4 The RSA represents available receptor sites of potential suitability at the time of assessment and it is likely that other sites may become available before construction commences. Sites that fail to successfully pass through the Detailed Options Assessment but could potentially pass in the future (e.g. due to pending permit applications or land acquisition) will be placed onto the reserve list.
- 1.2.5 This document is intended to support the application for Development Consent Order (DCO) for the Scheme.

2. METHODOLOGY

2.1 Overview

- 2.1.1 The RSA provides a standard methodology and evaluation criteria which should be used in conjunction with the requirements and commitments set forth within the Construction, Demolition and Excavated Materials Commitments document (Appendix C of the Code of Construction Practice (Document Ref: TR010021)). The RSA also provides a transparent process to stakeholders to ensure that the excavated material will be managed and treated commensurate with the least impact to the environment and communities.
- 2.1.2 The receptor sites identified as part of the Preliminary Viability Assessment are those available at the time of the assessment (December 2015 to March 2016).
- 2.1.3 New facilities may become available prior to the construction of the Scheme, should consideration be given to their use, the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021) should be applied and the new facilities assessed.
- 2.1.4 As previously mentioned, this report details the methodology and high level criteria used to develop both the long and short list. A summary of the RSA process is provided for reference in Section 2.3 but the full methodology can be found in the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021).

2.2 Assumptions

- 2.2.1 The following assumptions are made throughout the Preliminary Viability Assessment:
- Materials arising from the Scheme will be separated at source;
 - As per the proximity principle, only receptor sites which are within 100 km radius of the Scheme will be evaluated, unless such sites are unavailable and a receptor site is available at a greater distance beyond 100 km;
 - New receptor sites, which may be available after the assessment is complete, are not included;

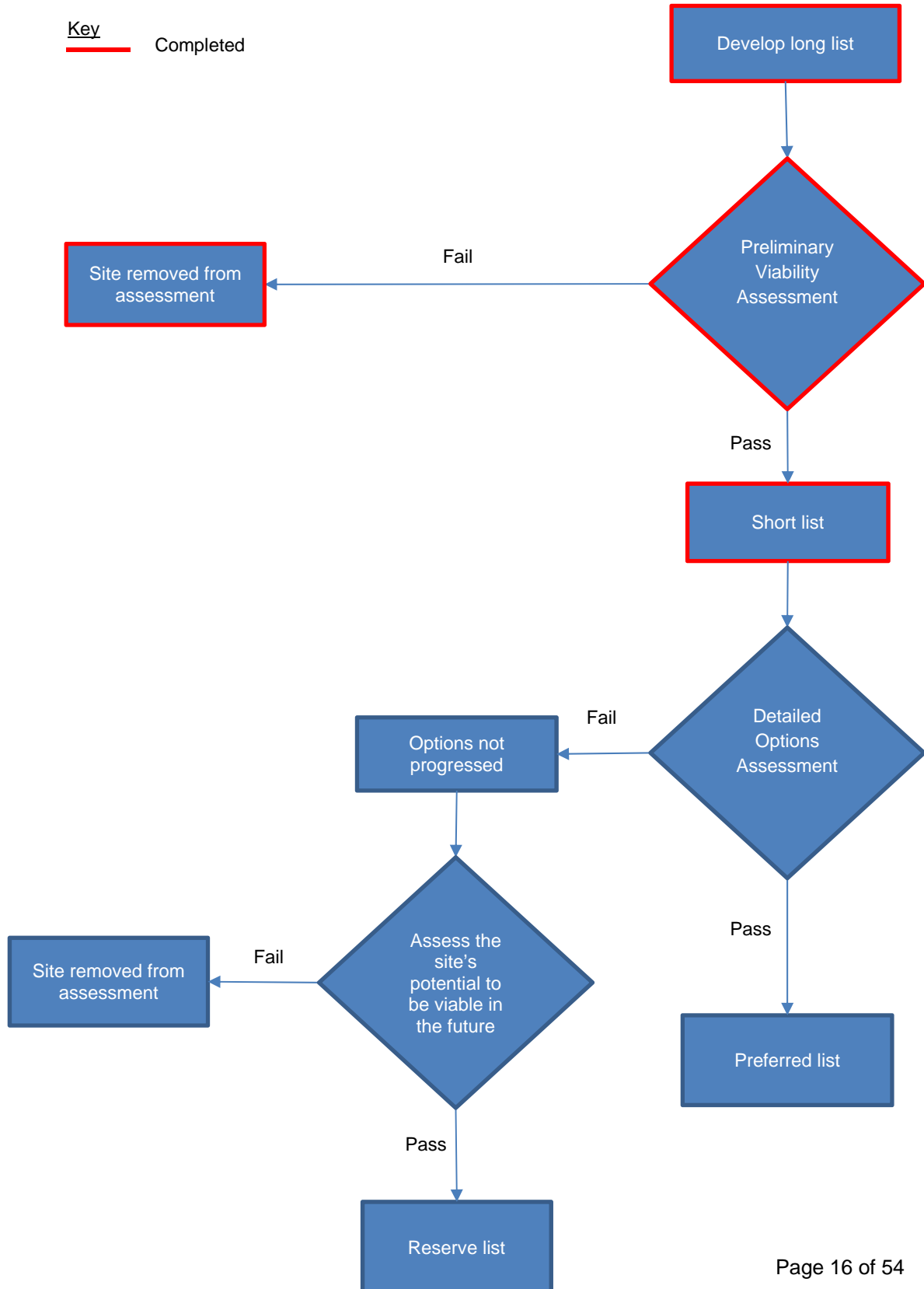
- Material quantities and composition may change following the development of the Scheme's detailed design completion and contract appointment; and
- Scheme timescales may change following the development of the Scheme's detailed design, completion and contract appointment.

2.3 Overview of the Receptor Site Assessment Process

2.3.1 Figure 2-1, **Error! Reference source not found.** provides an overview of the steps followed in the RSA methodology. The figure highlights the stages of the RSA process completed to date, as indicated by red boxes. A description of each of the key steps is provided below:

- **Develop long list:** Develop a long list of sites which will encompass all possible receptor sites for the excavated materials from the Scheme;
- **Preliminary Viability Assessment:** This stage assesses the long list against high level criteria in order to identify a short list of potentially suitable receptor sites. The assessment consists of a series of basic requirements which may determine the operational suitability of the receptor site. Sites that pass through this assessment are included on the short list;
- **Detailed Options Assessment:** Receptor sites on the short list are taken through a more detailed assessment in order to identify a preferred list of suitable receptor sites. The assessment will use the principles as outlined in the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021) as criteria to determine the receptor site's suitability to receive, treat and/or dispose of material and any impacts to the facilities environment and communities. Each receptor site will be scored against the criteria, with successful sites being included on the preferred list; and
- **Preferred list and reserve list:** The preferred list of receptor sites will be used by contractors who tender for the Scheme. A reserve list of receptor sites will be generated from sites that fail to successfully pass the Detailed Options Assessment but may become viable/suitable prior to construction starting.

Figure 2-1: Overview of Methodology



2.4 Step 1: Develop Long List

- 2.4.1 The first step of the assessment aimed to develop a long list of sites which will encompass all possible receptor sites that may receive, treat and/or dispose of the excavated materials from the Scheme (i.e. sites that either hold an environmental permit, or registered with an exemption).
- 2.4.2 In order to conform to the proximity principle, a criteria of 100 km straight-line radius from the Scheme was used to identify a list of potential receptor sites. This ensured that the search was focused on receptor sites within London, the east and the south east of England. No other pre-considerations relating to the suitability of the sites (cost, capacity, etc.) or environmental impacts were applied. For organisations which operate more than one potential receptor site, each site was recorded separately on the list.
- 2.4.3 The Environment Agency's list of permitted and exempt facilities¹ was used as the main source for the creation of the long list.
- 2.4.4 Sites which receive, treat and/or dispose of materials which were not relevant to the Scheme were also removed from the long list. Examples of receptor sites which were excluded from the long list include sites which process single waste streams not associated with 'soil and stones', such as electrical and electronic appliances, clinical wastes and metals.

2.5 Step 2: Preliminary Viability Assessment

- 2.5.1 The second stage of the assessment, the Preliminary Viability Assessment, evaluated the operational capacity and high level viability of the receptor sites identified in the long list. This stage of the assessment aimed to remove all sites that fail to comply with basic requirements of viable receptor sites.
- 2.5.2 The criteria used in the Preliminary Viability Assessment included:
- **Criteria 1: Receptor Site Capacity.** The capacity of the receptor site to receive, treat and/or dispose of volumes of excavated material in excess of 200,000 tonnes.
 - **Criteria 2: Validity of Permit/Exemption.** The operator holds a valid permit or exemption, which allows them to receive, treat and/or dispose of the principal excavated material type(s), i.e. soil and stones.

¹ Environment Agency 'Waste Data Interrogatory', <http://www.geostore.com/environment-agency/>.

- **Criteria 3: Receptor Site Availability.** The anticipated availability of the receptor site to receive, treat and/or dispose of the excavated material during the Scheme's construction (from year 2019 specifically).
- **Criteria 4: Enforcement Notices, Court Cases and Cautions.** Any enforcement notices, court cases (assumed to mean guilty by the Crown Prosecution Service in either a Magistrates Court or the Crown Court) and cautions will be gathered from the Environment Agency public register database². This criteria would not preclude sites from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.
- **Criteria 5: Receptor Site Accessibility.** The receptor site is accessible via road (i.e. lorry), water (i.e. barge) and/or rail. This criteria would not preclude a receptor site from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.

2.5.3 Information relating to each evaluation indicator was obtained using one or more of the following:

- Web based sources and online literature;
- Direct contact (via telephone and email); and
- Information received directly from the Environment Agency (e.g. permit and licencing information).

2.5.4 Each of the criteria used for the assessment of the receptor sites is described below.

2.6 Criteria 1: Receptor Site Capacity

2.6.1 The Scheme is anticipated to generate approximately 1,086,000 tonnes of excavated material. It is considered impractical for the material to be sent to a large number of receptor sites. Thus, all potential receptor sites on the long list with an annual capacity of less than 200,000 tonnes per annum were removed from assessment.

² Environment Agency Public Register Database.

2.6.2 Capacity refers to the total (originally permitted) capacity of the sites, without considering the available capacity (or void space) remaining at the sites.

2.6.3 Information relating to the receptor site capacity was validated by the sources below.

2.6.4 For permitted sites, capacity information is found in the following:

- Environmental permit issued by the Environment Agency under Regulation 13 or 17 of the Environmental Permitting (England and Wales) Regulations 2010; or
- Latest variation to the environmental permit issued by the Environmental Agency under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000.

2.6.5 For exempt sites: Capacity information is dependent upon the exemption type. A list of sites with exemptions was obtained from the Environment Agency as well as the paragraph number, as outlined in Schedule 3 of The Environmental Permitting (England and Wales) Regulations 2010.

2.7 Criteria 2: Valid Permits/Exemptions

2.7.1 The Scheme and the appointed contractor will only transfer waste to receptor sites which have valid permits or exemptions to accept the excavated material streams. This was confirmed through the information in the table below.

Table 2-1 Permit/Exemption Validity Sub-Criteria

Permit/Exemption	Sub-Criteria
Permitted sites	<p>An assessment of either the environmental permit or any recent variation will be undertaken to establish if the receptor site is licenced to receive, treat and/or dispose of the following:</p> <p>Inert and non-hazardous (non-inert) soils and stones (List of Waste (LoW Code: 17 05 04);</p> <p>Hazardous soils and stones (LoW Code: 17 05 03*).</p> <p>These excavated materials streams are the two LoW codes identified in the Site Waste Management Plan (SWMP) (located within Appendix E of the Code of Construction Practice (Document Ref: TR010021)).</p>

Permit/Exemption	Sub-Criteria
	<p>Receptor sites which are permitted to receive, treat and/or dispose of either 17 05 04 only or 17 05 04 and 17 05 03* will be taken through to next stage of the assessment.</p>
<p>Exempt sites</p>	<p>A list of sites with exemptions can be obtained from the Environment Agency and filtered by the paragraph number, as outlined in Schedule 3 of The Environmental Permitting (England and Wales) Regulations 2010. Only sites with the following paragraph numbers are taken forward as they demonstrate receptor sites which could receive, treat and/or dispose of the materials likely to be produced from excavation (LoW codes: 17 05 04 and 17 05 03*).</p> <ul style="list-style-type: none"> • Disposal of Waste - D5 - Depositing waste samples for testing or analysis; • Treating Waste - T5 - Screening and blending waste; • Use of Waste - U1 - Use of waste in construction; • Use of Waste - U8 - Using waste for a specified purpose; • Use of Waste - U10 - Spreading waste to benefit agricultural land; and • Use of Waste - U11 - Spreading waste to benefit non-agricultural land. <p>Storage of waste exemptions were not considered as they apply to the temporary storage of waste only, and not at the point of production.</p>

2.7.2 Note that any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Article 1(4), first indent, of Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

2.7.3 All exempt sites were discarded from the assessment as the maximum capacity of each of the exemptions codes is significantly less than the 200,000 tonne limit as per Criteria 1 (see the table below).

Table 2-2 Exemption Limits

Waste Exemption	Waste Code	Capacity
D5	N/A	<ul style="list-style-type: none"> Up to 10 tonnes of waste at any one time Up to 12 months or longer if ordered by a court
T5	17 05 04	<ul style="list-style-type: none"> Up to 50,000 tonnes of bituminous mixtures for making roadstone Up to 5,000 tonnes of other waste under this exemption
U1	17 05 04	<ul style="list-style-type: none"> Up to 1,000 tonnes
U8	17 05 04	<ul style="list-style-type: none"> Total of 50,000 tonnes
U10	17 05 04	<ul style="list-style-type: none"> 50 tonnes (per hectare per year) 200 tonnes (storage)
U11	17 05 04	<ul style="list-style-type: none"> 50 tonnes (per hectare per year) 200 tonnes (storage)

2.8 Criteria 3: Receptor Site Availability

2.8.1 The excavation works are expected to begin in 2019. Receptor sites on the long list were asked via email or telephone if their site would be able to receive material from/in 2019.

2.8.2 If receptor sites stated they were planning to create additional space to remain operational in/beyond 2019, they remained on the short list.

2.9 Criteria 4: Enforcement Notices, Court Cases and Cautions

2.9.1 Any enforcement notices, court cases (assumed to mean guilty by the Crown Prosecution Service in either a Magistrates Court or the Crown Court) and cautions was gathered from the Environment Agency public register database.³ The following information was recorded for each of the sites on the long list:

- Appropriate reference numbers;

³ Environment Agency Public Register.

- Applicable date(s);
- A summary description; and
- The act/action issued.

2.9.2 This criteria would not preclude sites from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.

2.10 Criteria 5: Receptor Site Accessibility

2.10.1 The receptor site is accessible via road (i.e. lorry), water (i.e. barge) and/or rail. A set of sub-criteria used to assess this criteria is shown in Table 2-3 below.

Table 2-3 Accessibility Evaluation Sub-Criteria

Transportation	Sub-Criteria
Road	<ul style="list-style-type: none"> • Accessible via road.
River	<ul style="list-style-type: none"> • Accessible if there is a jetty or the site has access to a jetty located within 3.2 km (2 miles) of the receptor site. • Exclude brooks, culverts and streams that are less than 2 m wide or go underground to reach a river.
Rail	<ul style="list-style-type: none"> • Accessible if there is a rail head or the site has access to a rail head located within 3.2 km (2 miles) of the receptor site.

2.10.2 The evaluations were undertaken using google maps and the distances to the nearest rail head/jetty defined by road travel.

2.10.3 This criteria would not preclude sites from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.

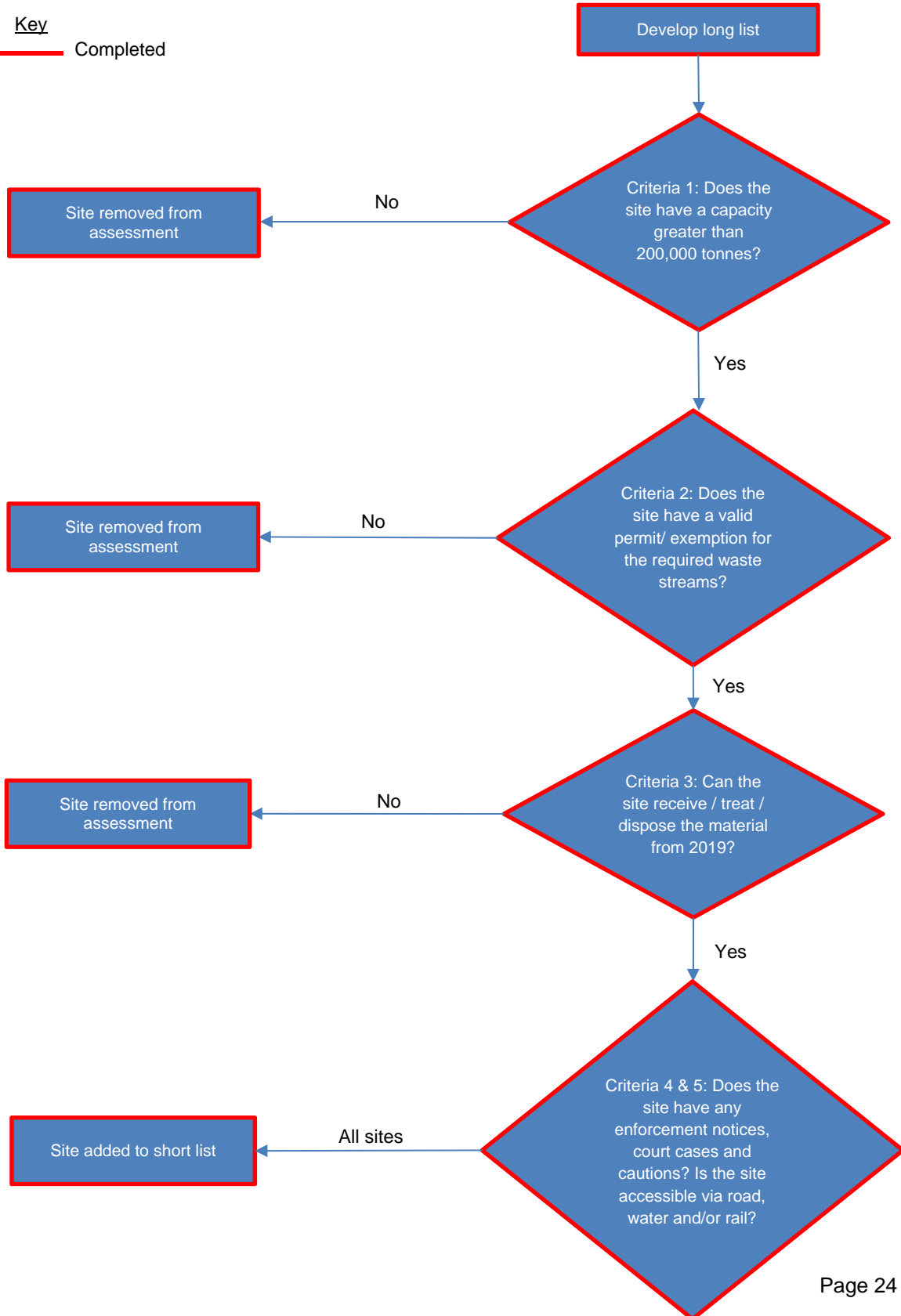
2.11 Overall Assessment

2.11.1 A flow diagram showing the steps taken within the Preliminary Viability Assessment to obtain the short list is provided in Figure 2-2.

2.11.2 Following completion of this stage all receptor sites that passed the criteria defined above were progressed onto the short list. Any sites that failed to comply with one or more of the criteria were not progressed further unless they have the potential to become viable in the future.

- 2.11.3 Future viability is measured by identifying receptor sites which can meet the criteria in the future. Examples include receptor sites which are expanding to increase capacity or receptor sites which are in the process of applying for permits or variations.
- 2.11.4 In addition, receptor sites for which evaluation information was unavailable have been progressed onto the short list, should the evaluation criteria not be available at the next stage the receptor sites will be removed. Receptor sites which refused to provide information were not proceeded to the next stage.
- 2.11.5 All receptor sites were contacted a minimum of three times in order to obtain the applicable evaluation information.

Figure 2-2: Preliminary Viability Assessment Evaluation Criteria



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3. PRELIMINARY VIABILITY ASSESSMENT RESULTS

3.1 Overview

- 3.1.1 A total of 61 potential suitable sites were identified on the long list after the application of the evaluation criteria detailed in Section 2.4. The long list is provided in Appendix A.
- 3.1.2 The 61 receptor sites on the long list were taken through to the Preliminary Viability Assessment (as shown in Appendix A).
- 3.1.3 Criteria 1 to 5 detailed in Section 2.5 were applied which resulted in a short list of 37 receptor sites, summarised in Table 3-1 below and provided in more detail within Appendix B.
- 3.1.4 The short list sites represent a potential capacity of approximately 16 million tonnes. Capacity refers to the total capacity of the sites without considering the available capacity (or void space) remaining at the sites to receive/treat/dispose of the excavated material from the Scheme.
- 3.1.5 The 37 receptor sites can be taken forward to the Detailed Options Assessment. It is considered that at this stage 37 sites would offer a level of resilience within the waste market that would be sufficient for receiving the Schemes excavated arisings.

Table 3-1 Summary of the Potentially Suitable Receptor Sites

Site Name	Operator
Brookhurst Wood Landfill Site	Biffa Waste Services Ltd.
Calvert Landfill Site	FCC Waste Services Ltd.
Brentford Aggregate Materials Recycling Facility	Day Group Ltd.
Powerday Waste, Recycling and Recovery Centre	Powerday PLC
Airlinks Golf Club	Oakland Golf and Leisure Ltd.
Stone Lane Quarry	Fox (Owmbly) Ltd.
East Tilbury Quarry	S Walsh and Son Ltd.
Hermitage Quarry Inert Landfill	Gallagher Aggregates Ltd.
Mitcham Transfer Station	Sita South East Ltd
Willesden Freight Terminal	L Lynch Plant Hire & Haulage Ltd.
Edmonton (Atlas) MRF	Biffa G S Environmental Ltd.
Pitsea Landfill	Veolia ES Landfill Ltd.
Bletchley Landfill Site	FCC Waste Services Ltd.
Rainham Landfill	Veolia ES Landfill Ltd.
Victoria Deep Water Terminal	H Sivyer Ltd.
Little Belhus Restoration	Rural Arisings Ltd.
Tyttenhanger Landfill Site	Lafarge Aggregates Ltd.
Goshems Farm	Ingrebourne Valley Ltd.
Redhill Landfill (North East Quadrant)	Biffa Waste Services Ltd.
Sutton Courtenay	Waste Recycling Group Ltd.
Westmill II Waste Management Facility	Biffa Waste Services Ltd.
Sipson North East Inert Landfill	Henry Streeter Ltd.
Springfield Farm Landfill	Veolia ES Landfill Ltd.
Beddington Farmlands Landfill Site	Viridor Waste Management Ltd.
Mc Grath Bros (Waste Control)	Mc Grath Brothers Ltd.
Shelford Landfill Site	Viridor Waste Management Ltd.
Elsenham Landfill Site	Viridor Waste Management Ltd.

Kennett Hall Farm	Mick George Ltd.
Day Aggregates	Day Group Ltd.
Britaniacrest Recycling Ltd	Britaniacrest Recycling Ltd.
London Gateway Parkland**	London Gateway Parkland Ltd.
Stewartby Landfill**	FCC Waste Services Ltd.
Camden Plant**	Camden Plant Ltd.
Eversley Quarry**	Cemex Materials Ltd.
Waterbeach Waste Management Facility**	AmeyCespa Ltd.
Marshgate Sidings**	D B Schenker Rail (U K) Limited
W Riverside S W T S**	Cory Environmental Ltd

3.1.6 Note any site marked with a (**) has not provided applicable information.

3.1.7 The suitable sites have either met the initial assessment criteria as outlined above, or were unable to supply the applicable information within the required timeframe. Applicable information remained outstanding for seven receptor sites.

3.1.8 Details of the suitable sites are summarised in Appendix B. A note of where applicable information is outstanding has been included where necessary.

3.1.9 The sites in the long list which were not progressed to the short list were found to be unsuitable to receive, treat and/or dispose of waste from the Scheme as they did not meet one or more of the assessment criteria. Some sites were also discounted as they refused to provide information for the assessment.

3.1.10 Within Appendix A the discounted sites are listed alongside the suitable sites, which also provides the justification behind potential receptor sites being removed from the assessment.

4. NEXT STEPS

4.1.1 Receptor sites on the short list can be taken through to the Detailed Options Assessment. This is a more in depth evaluation of the receptor sites suitability in relation to the seventeen principles described in the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021) and outlined in Table 4-1, below.

4.1.2 The seventeen principles provide the overarching criteria which will be used to evaluate the receptor sites. They have been divided into four categories which address impacts to the environment and the public, promote sustainable transport options and evaluate the capability and operations of the receptor sites.

Table 4-1 The Principles used in the Receptor Site Assessment

Category	Principle
Environment	1. To follow the waste hierarchy.
	2. To address and reduce contribution to climate change.
	3. To reduce impact on air quality and noise.
	4. To protect the quality of water.
	5. To protect and enhance biodiversity.
	6. To ensure efficient use of land and resources.
	7. To protect cultural heritage.
Public	8. To protect local public amenities.
	9. To reduce visual impact on surrounding areas.
	10. To provide opportunities for a diverse workforce.
Transport	11. To promote sustainable transportation.
	12. To manage materials locally, as per the proximity principle.
Operations	13. To identify receptor sites with suitable capacity and operational capability.
	14. To use receptor sites with appropriate permits/exemptions.
	15. To ensure health and safety guidelines are followed
	16. To ensure legal compliance.
	17. To develop solutions which minimise costs

- 4.1.3 The evaluation criteria used to address each of the above principles is outlined below and will be defined in greater detail, both quantitatively and qualitatively, in the Detailed Options Assessment report.
- 4.1.4 The receptor sites on the short list will be given a red, amber or green colour ('traffic light' grading system), along with an additional scoring grade for each evaluation criteria defined for each principle.
- 4.1.5 Those sites that perform best will progress to the preferred list based on:
- The overall score awarded to the site;
 - Number of red, amber and greens awarded to each site; and
 - Professional judgement as to whether any individual red grade (or combination of grades) makes a particular site unsuitable.
- 4.1.6 All of the receptor sites on the short list will be contacted again to obtain further details to inform the Detailed Options Assessment. More in depth telephone discussions and/or face to face interviews will be held with the site operators (for further information refer to the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021)). This will be done to ensure that all relevant topics are covered and that the sites can be effectively scored against each criteria with a detailed suite of supporting information.
- 4.1.7 To supplement and corroborate information received from the operators, an additional review of the receptor site's planning consents and environmental permits/exemptions will be undertaken. Additionally, secondary sources will be used to determine the environmental baseline of the site and obtain more detailed data on the receptor site operations. Secondary sources will be inclusive of, but not limited to:
- Magic website⁴ (includes environmental and cultural designations, potential receptors, etc.);
 - Her Majesty's Revenue and Customs (HMRC) list of operators⁵;
 - CL:AIRE Register of Materials list of donor and receiver sites⁶;

⁴ Magic, 'Map Application'.

⁵ HM Revenue & Customs, 'Landfill Site Operators'.

- Air Quality Management Areas (AQMA)⁷;
- 'What's in my Backyard' Environment Agency tool⁸ (includes flood zone areas, aquifers, permitted activities);
- Defra Greenhouse Gas Conversion Factor Repository⁹; and
- Other relevant documents, consents and plans.

4.1.8 The full RSA will be completed prior to the commencement of construction.

4.1.9 Receptor sites that successfully pass through the Detailed Options Assessment by achieving the required score threshold will be placed on the preferred list.

4.1.10 The preferred list and reserve list will be used by contractors tendering for the Scheme. The inclusion of a receptor site on the preferred list or reserve list does not ensure that the site would be ultimately utilised as a receptor site for the excavated material arising from the Scheme. Should additional receptor sites be identified in the future, they would go through the same assessment process, as detailed in this document.

4.1.11 In the instance that suitable sites on the preferred and reserve list are not available, or materials cannot be placed at a suitable facility either on site (subject to necessary consents and licences) or on these lists, or they do not allow for the Contractor to meet other commitments outlined by TfL, Contractors should assess receptor sites beyond the 100 km radius criteria (including transfrontier sites) using the RSA methodology. For transfrontier sites, the effect of local legislation should be taken into account when applying the RSA methodology and evaluation criteria.

4.1.12 TfL aims to minimise disposal by only using receptor sites which meet or exceed the criteria presented in the RSA methodology document located within Appendix D of the Code of Construction Practice (Document Ref: TR010021).

⁶ CL:AIRE, 'Register of Materials'.

⁷ Defra, 'Air Quality Management Areas'.

⁸ Environment Agency, 'What's in my Backyard?'.

⁹ Defra, 'Greenhouse Gas Conversion Factor Repository'.

Silvertown Tunnel

Preliminary Viability Assessment (for Excavated Materials)

PINS Reference Number: XXXX

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Appendix A. Long List of Receptor Sites

The following table provides a list of sites in the long list which were assessed against the Preliminary Viability Assessment criteria.

Criteria 1, 2 and 3 are shown since they were used to progress sites to the short list. Criteria 4 and Criteria 5 are not shown on this list as this criteria did not preclude a receptor site from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.

A complete list of the short list receptor sites and Criteria 1 through 5 are shown in Appendix B.

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Key:

Sites Met Criteria	✓
Sites Did Not Meet Criteria	X

No.	Site Name	Site Address	Operator	Permit/ Exemption Number	Criteria 1: Capacity to receive, treat and/or dispose of waste (>200,000 tonnes p.a.) (✓/X)	Criteria 2: Has a valid permit/exemption to receive, treat and/or dispose of the required waste streams? (✓/X)	Criteria 3: Can receive, treat and/or dispose of waste from 2019? (✓/X)
Receptor Sites Added to Short List							
1	Brookhurst Wood Landfill Site	Langhurstwood Road, Warnham, West Sussex. RH12 4QD	Biffa Waste Services Ltd.	BV9896Y	✓	✓	✓
2	Calvert Landfill Site	Brackley Lane, Calvert, Buckinghamshire. MK18 2HF	FCC Waste Services Ltd.	BS8605IQ	✓	✓	✓
3	Brentford Aggregate Materials Recycling Facility	Transport Avenue, Brentford, Middlesex. TW8 9HF	Day Group Ltd.	BB3232RX	✓	✓	✓
4	Powerday Waste, Recycling and Recovery Centre	Old Oak Sidings, Off Scrubs Lane, Willesden, London. NW10 6RJ	Powerday PLC	PP3093EE	✓	✓	✓
5	Airlinks Golf Club	Southall Lane, Hounslow, London. TW5 9PE	Oakland Golf and Leisure Ltd.	NB3539AY	✓	✓	✓
6	Stone Lane Quarry	Woburn Road, Heath & Reach, Leighton Buzzard, Beds. LU7 0AP	Fox (Owmy) Ltd.	FP3399VV	✓	✓	✓
7	East Tilbury Quarry	Princess Margaret Road, East Tilbury, Essex. RM18 8PH	S Walsh and Son Ltd.	SP3439LE	✓	✓	✓
8	Hermitage Quarry Inert Landfill	Hermitage Lane, Barming, Maidstone, Kent, ME16 9NT	Gallagher Aggregates Ltd.	QP3135SX	✓	✓	✓
9	Mitcham Transfer Station	Benedict Wharf, Benedict Road, Mitcham, Surrey. CR4 3BQ	Sita South East Ltd.	AB3603ZD	✓	✓	✓
10	Willesden Freight Terminal	Off Channel Gate Road, Willesden, London. NW10 6UQ	L Lynch Plant Hire & Haulage Ltd.	BB3304UC	✓	✓	✓
11	Edmonton (Atlas) MRF	Unit 2, Aztec 406, 12, Ardra Road, Enfield, London. N9 0BD	Biffa G S Environmental Ltd.	HP3098EW	✓	✓	✓
12	Pitsea Landfill	Pitsea Hall Lane, Pitsea, Essex. SS16 4UH	Veolia ES Landfill Ltd.	EP3936GP	✓	✓	✓
13	Bletchley Landfill Site	Guernsey Road, Bletchley, Bucks. MK3 5FR/JU	FCC Waste Services Ltd.	BM4635IH	✓	✓	✓
14	Rainham Landfill	Coldharbour Lane, Off Ferry Lane, Essex. RM13 9DA	Veolia ES Landfill Ltd.	EP3136GK	✓	✓	✓
15	Victoria Deep Water Terminal	Tunnel Avenue, Greenwich, London. SE10 0QE	H Sivyer Ltd.	LP3395VN	✓	✓	✓
16	Little Belhus Restoration	Arisdale Avenue, South Ockendon, Essex. RM15 5DP	Rural Arisings Ltd.	AB3331RU	✓	✓	✓
17	Tyttenhanger Landfill Site	Courses Road, St.Albans, Hertfordshire. AL4 0RY	Lafarge Aggregates Ltd.	BP3893EW	✓	✓	✓

No.	Site Name	Site Address	Operator	Permit/ Exemption Number	Criteria 1: Capacity to receive, treat and/or dispose of waste (>200,000 tonnes p.a.) (√/X)	Criteria 2: Has a valid permit/exemption to receive, treat and/or dispose of the required waste streams? (√/X)	Criteria 3: Can receive, treat and/or dispose of waste from 2019? (√/X)
18	Goshems Farm	Station Road, East Tilbury, Tilbury, Essex. RM18 8QR	Ingrebourne Valley Ltd.	WP3094EP	√	√	√
19	Redhill Landfill (North East Quadrant)	Cormongers Lane, Nutfield, Redhill, Surrey. RH1 4ER	Biffa Waste Services Ltd.	BU8126IY	√	√	√
20	Sutton Courtenay	Appleford Sidings, Sutton Courtenay, Abingdon, Oxfordshire. OX14 4PW	Waste Recycling Group Ltd.	BV7001IK	√	√	√
21	Westmill II Waste Management Facility	Westmill Road, Ware, Hertfordshire. SG12 0ES	Biffa Waste Services Ltd.	DP3431PC	√	√	√
22	Sipson North East Inert Landfill	Sipson Lane, Sipson Road, West Drayton, Middlesex. UB7 0JG	Henry Streeter Ltd.	BT7183IA	√	√	√
23	Springfield Farm Landfill	Broad Lane, Beaconsfield, Bucks. HP9 1XD	Veolia ES Landfill Ltd.	WP3438KV	√	√	√
24	Beddington Farmlands Landfill Site	105 Beddington Lane, Croydon, Surrey. CR0 4TD	Viridor Waste Management Ltd.	VP3039SW	√	√	√
25	Mc Grath Bros (Waste Control)	54-60 River Road, Creekmouth, Barking, Essex. IG11 0DW	Mc Grath Brothers Ltd.	TP3697NP	√	√	√
26	Shelford Landfill Site	Shelford Farm Estate, Shalloak Road, Kent. CT2 0PU	Viridor Waste Management Ltd.	XP3434HX	√	√	√
27	Elsenham Landfill Site	Hall Road, Elsenham, Bishop's Stortford, Herts. CM22 6DJ	Viridor Waste Management Ltd.	MP3435KP	√	√	√
28	Kennett Hall Farm	Dane Hill Road, Kennet, Cambridgeshire. CB8 7QX	Mick George Ltd.	BP3790LV	√	√	√
29	Day Aggregates	Murphy's Wharf, Lombard Wall, Greenwich, London. SE7 7SH	Day Group Ltd.	DP3490EU	√	√	√
30	Britaniacrest Recycling	26 Reigate Road, Hookwood, Horley. Surry. RH6 0HJ	Britaniacrest Recycling Ltd.	BP3390EB	√	√	√
31	London Gateway Parkland	The Manorway, Stanford Le Hope, Essex. SS17 9PD	London Gateway Parkland Ltd.	YP3691EK	No applicable information received.		
32	Stewartby Landfill	Green Lane, Stewartby, Bedford, Bedfordshire. MK43 9LY	FCC Waste Services Ltd.	BV4576IK	No applicable information received.		
33	Camden Plant	Lower Hall Lane, Chingford, London. E4 8JG	Camden Plant Ltd.	DP3891NP	No applicable information received.		
34	Eversley Quarry	Fox Lane, Reading Road, Eversley, Hampshire. RG27 0NQ	Cemex Materials Ltd.	FP3497SF	No applicable information received.		
35	Waterbeach Waste Management Facility	Ely oad, Waterbeach, Cambridgeshire. CB25 9PG	AmeyCespa Ltd.	BK5037IQ	No applicable information received.		
36	Marshgate Sidings	Pudding Mill Lane, Bow, London. E15 2PJ	D B Schenker Rail Ltd.	BP3698EQ	No applicable information received.		
37	W Riverside S W T S	Wandsworth, London. SW18 1JS	Cory Environmental Ltd	KP3690EV	No applicable information received.		
Receptor Sites Not Added to Short List							

No.	Site Name	Site Address	Operator	Permit/ Exemption Number	Criteria 1: Capacity to receive, treat and/or dispose of waste (>200,000 tonnes p.a.) (√/X)	Criteria 2: Has a valid permit/exemption to receive, treat and/or dispose of the required waste streams? (√/X)	Criteria 3: Can receive, treat and/or dispose of waste from 2019? (√/X)
38	Borough Green Landfill	Wrotham Road, Borough Green, Tonbridge, Kent. TN15 8DN	Robert Body Haulage Ltd.	LB3631AU			X
39	Land At North Tilbury	Dock Road, Tilbury, Essex. RM18 7BL	S Walsh And Sons Ltd.	BB3205XE	X		X
40	Westerham Golf Club	Brasted Road, Westerham, Kent. TN16 1LJ	Keltbray Environmental Materials Management Ltd.	NB3430RA	X		X
41	Lidsey Landfill Site	Lidsey Road, Woodgate, Bognor Regis, West Sussex. PO22 9PL	Lidsey Landfill Ltd.	CP3735SM	X		X
42	Cranfield Golf Centre	Whalebone Lane, North Romford, Romford, Kent. RM6 6SB	Carzo Ltd.	BB3735AU	X		X
43	Wallasea Island Wildcoast Project	Havering	B A M Nuttall Ltd.	DP3798VD			X
44	Ingrebourne Links	Station Road, East Tilbury, Tilbury, Essex. RM18 8QR	Ingrebourne Valley Ltd.	LP3995VS			X
45	Docklands Waste Transfer Site	Barking & Dagenham	B A M Nuttall Ltd.	HB3330AW			X
46	Gerrards Cross Landfill	Wapseys Wood, Oxford Road, Buckinghamshire. SL9 8TE	Veolia ES Landfill Ltd.	XP3636KW			X
47	Harwell Western Groundwater Plant	Harwell, Didcot, Oxfordshire. OX11 0RA	Magnox Ltd.	CB3608CT			X
48	Caddington Golf Club	Chaul End Road, Caddington Luton, Beds, LU1 4AX	Caddington Golf Club Ltd.	BB3135AW			X
49	Bunkers Quarry Landfill Site	Waterhal Quarry, Lower Hatfield Road, Hertford, Hertfordshire. SG13 8LF	Lyons Francis Michael	WP3090VT			X
50	Stone Pit 2 Inert Landfill	St. James Lane, Stone, Dartford, Kent. DA9 9DT	Stonepit Restoration Ltd.	BS6726IL			X
51	Crayfords Materials Recycling Facility	Crayford, Dartford, Greater London. DA1 4QG	Viridor Waste Management Ltd.	WP3190EA			X
52	Cringle Dock Ts, Cringle St, Sw8	Cringle Dock S W T S, Cringle Street, Battersea, London, SW8 5BX	Cory Environmental Ltd.	GP3790EN	X	X	
53	Cherry Lodge Golf Club	Jail Lane, Biggin Hill, Westerham, Kent, TN16 3AX	Woodland Environmental Ltd.	XP3392EL			X
54	Sundon Former Landfill	Church Street, Upper Sundon, Bedfordshire. LU3 EPF	Central Bedfordshire Council	DB3633RA			X
55	Sandon Quarry	Sandon Quarry, Southend Road, Chelmsford.	Brett Aggregates Ltd.	TP3191EW	Refusal to supply information		
56	Letchworth Golf Club	Letchworth Lane, Letchworth Garden City. SG6 3NQ.	Woodland Environmental Ltd.	AB3200LV			X
57	Jenkins Lane WM Facility	Jenkins Lane, Barking, Essex. IG11 0AD	Shanks Waste Management Ltd.	WP3433BY		X	X
58	Frog Island WM Facility	Frog Island, Manor Way, Rainham, Essex. RM13 8UM	Shanks Waste Management Ltd.	ZP3533BS		X	X
59	Southwark Integrated Waste Management	43, Devon Street, London. SE15 1AL	Veolia ES Southwark Ltd.	PP3737GT		X	

No.	Site Name	Site Address	Operator	Permit/ Exemption Number	Criteria 1: Capacity to receive, treat and/or dispose of waste (>200,000 tonnes p.a.) (√/X)	Criteria 2: Has a valid permit/exemption to receive, treat and/or dispose of the required waste streams? (√/X)	Criteria 3: Can receive, treat and/or dispose of waste from 2019? (√/X)
	Facility						
60	Northfleet Temporary Inert Waste Transfer Facility	Gravesend, Kent. DA11 9AN	B A M Nuttal Ltd.	RP3194EY		X	
61	Reading Quarry	Berry's Lane, Burghfield Bridge, Reading, Berkshire. RG30 3XA	J. Mould	JB3132AR	X		

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Appendix B. Short List of Receptor Sites

The following figure and table contains the short list of receptor sites with the results of Criteria 1 to Criteria 5.

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
1	Brookhurst Wood Landfill Site	Langhurstwood Road, Warnham, West Sussex, RH12 4QD	Biffa Waste Services Ltd	✓	BV98961Y	400,000	17 05 04	✓	1) NW/3/2000/99 30311/01 2) SW/A/2000/99 50290/01 3) S/E/2005/204 2103/01 4) M/O/2006/201 0952/01 5) M/5/2012/201 2449/01 6) T/J/2013/2062 338/01 7) M/O/2004/201 0530/01 8) NW/3/2003/20 30096/01 9) M/O/2002/991 1117/01 10) M/P/2002/991 1012/01 11) M/N/2001/178 76/01 12) A/L/2003/990 0958/01 13) M/N/2001/991 0510/01 14) SW/A/2000/99 50290/01 15) M/O/2006/201 1102/01	1) Breach of licence conditions 2) Take steps to comply with licence conditions 3) Notice to take specified steps in order to comply with licence conditions 4) Closure Notice 5) Notice to take steps re a breach/anticipated breach of permit conditions 6) Take steps in relation to a breach of permit conditions 7) Notice requiring compliance with WML licence conditions 8) Notice to take specified steps in order to comply with licence conditions 9) Breach of licence conditions 10) Breach of licence conditions 11) Breach of licence conditions 12) Notice to comply with conditions 13) Controlled waste on land without a WML 14) Take steps to comply with licence conditions 15) Notice stating	1)Environmental Protection Act 1990-Section 42(5) 2)Environmental Protection Act 1990-Section 42(5) 3)Environmental Protection Act 1990-Section 42(5) 4) Landfill (E & W) Regulations 2002-Regulation 16 5)Environmental Permitting (E&W) Regulations 2010-Regulation 36 6)Environmental Permitting (E&W) Regulations 2010-Regulation 36 7)Environmental Protection Act 1990-Section 42(5) 8)Environmental Protection Act 1990-Section 42(5) 9)Environmental Protection Act 1990-Section 42(5) 10)Environmental Protection Act 1990-Section 42(5) 11)Environmental Protection Act 1990-Section 42(5) 12)Environmental Protection Act 1990-Section 42(5) 13)Environmental Protection Act 1990-Section 42(5) 14)Environmental Protection Act 1990-Section 42(5) 15)Environmental Protection Act 1990-Section 42(5) 16)Environmental Protection Act 1990-Section 42(5) 17)Environmental Protection Act 1990-Section 42(5) 18)Environmental Protection Act 1990-Section 42(5) 19)Environmental Protection Act 1990-Section 42(5) 20)Environmental Protection Act 1990-Section 42(5) 21)Environmental Protection Act 1990-Section 42(5)	1)01/2000 2)11/2000 3)12/2004 4)11/2005 5)06/2012 6)03/2013 7)10/2004 8)05/2003 9)05/2002 10)02/2002 11)11/2001 12)10/2001 13)12/2000 14)11/2002 15)07/2006 16)02/2007 17)03/2007 18)09/2007 19)09/2007 20)03/2008 21) 03/2009 22) 10/2009 1) 09/2012 2) 09/2012 3) 09/2012 4) 02/2013 5) 02/2013 6) 02/2013 7) 02/2013 8) 04/2012 9) 07/2011 10) 07/2011 11) 10/2009 12) 10/2009 13) 05/2009 14) 05/2009 15) 05/2009 16) 11/2007 17) 11/2007 18) 11/2007 19) 11/2007 20) 07/2007 21) 07/2007	Road; Rail

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
									16) T/I/2007/2060 736/01 17) M/O/2007/201 1365/01 18) M/5/2007/201 1489/01 19) M/5/2007/201 1489/01 20) M/5/2008/201 1630/01 21) A/M/2009/200 0571/01 22) T/J/2009/2061 472/01 1) M/4/2012/201 2439/01 (c) 2) M/4/2012/201 2440/01 (c) 3) M/4/2012/201 2441/01 (c) 4) NE/X/2013/20 2174/01 (cc) 5) NE/X/2013/20 2175/01 (cc) 6) NE/X/2013/20 2173/01 (cc) 7) NE/X/2013/76 8666/01 (cc) 8) A/K/2012/200 1054/01 (cc) 9) NE/X/2011/72 4517/01 (cc) 10) NE/X/2011/20	the reason, steps to be taken 16) Suspension of authorisation to carry on activities 17) Notice stating the reason for closure of a landfill 18) Notice withdrawing authorisation 19) Notice withdrawing authorisation 20) Notice requiring compliance with WML licence conditions 21) Enforcement Notice permit contravened 22) Take steps in relation to a breach of permit condition 3.4.1 1) Contravene Permit Condition 2) Contravene Permit Condition 3) Contravene Permit Condition 4) Breach of condition 3.3.1. of Permit BU80251R/V001 5) Breach of condition 3.2.3 of permit BU80451R/V001 6) Breach of conditions 4.3.1. and 3.2.1. of permit BU80451R/V001 7) Breach of permit condition 3.1.1. of permit BU80451R/V001 8) Operate a waste facility without a	Act 1990-Section 42(5) 12) Environmental Protection Act1990-Section 42(5) 13) Environmental Protection Act 1990-Section 42 (5) 14) Environmental Protection Act 1990-Section 42(5) 15) Landfill (E&W) Regulations 2002-Regulation 16 16) Environment Act 1995-Section 41(6) 17) Landfill (E&W) Regulations 2002-Regulation 16 18) Pollution prevention and control regulations 2000-Reguation 25 19) Pollution prevention and control regulations 2000-Regulation 25 20) Environmental Protection Act 1990-Section 42(5)(A) 21) Environmental Permitting	22) 07/2007 23) 07/2004 24) 07/2004 25) 09/2002 26) 09/2002	

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
									1916/01 (cc) 11)	permit 9) Did fail to comply with condition 3.4.1. of Environmental Permit BU8045	(E&W) Regulations 2007- Regulation 36 22)		
									M/6/2009/495 899/01 (cc) 12)	Odour Levels	Environmental Permitting (E&W) Regulations 2007- Regulation 36		
									M/6/2009/201 2007/01(cc) 13)	10) Did fail to comply with condition 3.4.1. of Environmental Permit BU8045 Re	1) Environmental Permitting (E&W) Regulations 2007- Regulation 36		
									M/5/2009/201 1941/01 (cc) 14)	Odour levels	1) Environmental Permitting (E&W) Regulations 2007- Regulation 38		
									M/5/2009/201 1942/01 (cc) 15)	11) Contravene Waste Management Licence	2) Environmental Permitting (E&W) Regulations 2007- Regulation 38		
									M/5/2009/201 1940/01 (cc) 16)	12) Contravene Waste Management Licence	2) Environmental Permitting (E&W) Regulations 2007- Regulation 38		
									T/J/2007/2060 485/02 (cc) 17)	13) Fail to comply with requirements of enforcement notice	3) Environmental Permitting (E&W) Regulations 2007- Regulation 38		
									T/J/2007/2060 480/02 (cc) 18)	14) Breach condition and control regulations 2000	3) Environmental Permitting (E&W) Regulations 2010- Regulation 38(2) 4)		
									T/J/2007/2060 484/02 (cc) 19)	15) Breach condition of permit	4) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									T/J/2007/2060 486/02 (cc) 20)	16) Failed to comply with condition of permit/kept household waste	4) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									A/M/2007/200 0332/01 (cc) 21)	17) Failed to comply with condition of permit/kept household waste	4) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									A/M/2007/200 0330/01 (cc) 22)	18) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									A/M/2007/200 0331/01 (cc) 23)	19) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									M/O/2004/201 0499/01 (cc) 24)	20) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									M/O/2004/201 0499/01 (cc) 25)	21) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									S/G/2002/994 0282/01 (cc) 26)	22) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		
									SW/D/2002/6 0085/01 (cc)	23) Failed to comply with condition of permit/kept household waste	5) Environmental Permitting (E&W) Regulations 2010- Regulation 38		

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
										20) Failure to comply with duty of care-incorrectly described waste 21) Failure to comply of duty of care-incorrectly described waste 22) Failure to comply of duty of care-incorrectly described waste 23) Deposit and breach of licence conditions 24) Deposit and breach of licence conditions 25) Breach of WML condition 26) Deposit controlled waste on land	(2) 6) Environmental Permitting (E&W) Regulations 2010-Regulation 38 (2) 7) Environmental Permitting (E&W) Regulations 2010-Regulation 38 (2) 8) Environmental Permitting (E&W) Regulations 2010-Regulation 12 (1) 9) Environmental Permitting (E&W) Regulations 2007-Regulation 38 (1) (B) 10) Environmental Permitting (E&W) Regulations 2007-Regulation 38 (1)(B) 11) Environmental Protection Act 1990-Section 33 (6) 12) Environmental Protection Act 1990-Section 33 (6)		

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
											13) Pollution prevention and control regulations 2000-Regulation 32 (1) (D) 14) Pollution prevention and control regulations 2000-Regulation 32 (1) (B) 15) Pollution prevention and control regulations 2000-Regulation 32 (1) (B) 16) Pollution Prevention and Control Regulations 2000-Regulation 32 (1) (B) 17) Pollution prevention and control Regulations 2000-Regulation 32 (1) (B) 18) Pollution prevention and control regulations 2000-Regulation 32 (1) (B) 19) Pollution prevention and control Regulations 2000-Regulation 32 (1) (B) 20) Environmental		

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
											Protection Act 1990-Section 34 (1) (C) (II) 21) Environmental Protection Act 1990-Section 34(1) (C) (II) 22) Environmental Protection Act 1990-Section 34(1) (C) (II) 23) Environmental Protection Act 1990-Section 33 (1) (B) 24) Environmental Protection Act 1990-Section 33 (6) 25) Environmental Protection Act 1990-Section 33 (6) 26) Environmental Protection Act 1990-Section 33 (1) (C)		
2	Calvert Landfill Site	Brackley Lane, Calvert, Buckinghamshire, MK18 2HF	FCC Waste Services (UK) Limited	✓	BS86051 Q	4,520,000	17 05 04 17 05 03*	✓	N/A	N/A	N/A	N/A	Road; Rail

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
3	Brentford Aggregate Materials Recycling Facility	Transport Avenue, Brentford, Middlesex, TW8 9HF	Day Group Ltd	✓	BB3232 RX (103193)	775,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road; Rail
4	Powerday Waste Recycling & Recovery Centre	Old Oak Sidings, Off Scrubs Lane, Willesden, London, NW10 6RJ	Powerday P L C	✓	PP3093 EE (80723)	1,600,000	17 05 04 17 05 03*	✓	1) T/J/2002/9960 545/01 2) T/J/2002/9960 455/01 1) T/J/2013/9960 579/03 (cc) 2) T/J/2002/9960 579/01 (cc) 3) T/J/2002/9960 579/01 (cc)	1) Take steps to comply 2) Take steps to comply 1) Keeping and depositing waste on land without a waste and management licence 2) Keeping and depositing waste on land without a waste management licence 3) Keeping and depositing waste on land without a waste management licence	1) Environmental Protection Act 1990-Section 42 (5) (B) 2) Environmental Protection Act 1990-Section 42 (5) 1) Environmental Protection Act 1990-Section 33 (1) (B) 2) Environmental Protection Act 1990-Section 33(1) (A) 3) Environmental Protection Act 1990-Section 33 (1) (B)	1) 11/2000 2) 03/2000 1) 03/2003 2) 07/2002 3) 07/2002	Road; Rail; River
5	Airlinks Golf Club	Southall Lane, Hounslow, London, TW5 9PE	Oakland Golf And Leisure Limited	✓	NB3539 AY (400090)	756,688	17 05 04	✓	N/A	N/A	N/A	N/A	Road; Rail; River
6	Stone Lane Quarry	Woburn Road off A4146, Heath & Reach, Leighton Buzzard, Beds, LU7 0AP	Fox (Owmbby) Limited	✓	FP3399 VV (101312)	554,440	17 05 04	✓	N/A	N/A	N/A	N/A	Road
7	East Tilbury Quarry	Princess Margaret Road, East Tilbury, Essex, RM18 8PH	S Walsh And Son Limited	✓	SP3439 LE (71266)	300,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road; Rail

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
8	Hermitage Quarry Inert Landfill	Hermitage Lane, Barming, Maidstone, Kent, ME16 9NT	Gallagher Aggregates Ltd	✓	QP3135 SX (210072)	585,000	17 05 04	✓	1) S/E/2010/204 2409/01 2) S/E/2007/204 2274/01	1) Notice in relation to breach/anticipated breach of permit conditions 2) Notice to comply with permit conditions	1) Environmental Permitting (E & W) Regulations 2010-Regulation 36 2) Pollution Prevention and Control Regulations 2000-Regulation 24	1) 06/2010 2) 08/2007	Road
9	Mitcham Transfer Station	Benedict Wharf, Benedict Road, Mitcham, Surrey, CR4 3BQ	Sita South East Limited	✓	AB3603 ZD (83184)	275,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road
10	Willesden Freight Terminal	Willesden Freight Terminal, Off Channel Gate Road, Willesden, London, NW10 6UQ	L Lynch (Plant Hire & Haulage) Ltd	✓	BB3304 UC (104421)	500,000	17 05 04	✓	T/J/2004/2060 217/01 (cc)	Endangering stability of river bank	N/A	09/2004	Road; Rail; River
11	Edmonton (Atlas) M R F	Unit 2, Aztec 406, 12, Ardra Road, Enfield, London, N9 0BD	Biffa G S Environmental Limited	✓	HP3098 EW (100373)	500,000	17 05 04	✓	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Road

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
12	Pitsea Landfill	Pitsea Hall Lane, Pitsea, Essex, SS16 4UH	Veolia ES Landfill Limited	✓	EP3936 GP	500,000	17 05 04	✓	1) M/5/2010/2012071/01 2) M/5/2008/2011745/01 3) NW/3/2008/2031260/01 1) S/E/2009/2042365/01 (cc) 2) S/E/2009/2042365/01 (cc) 3) NW/3/2009/394283/01 (cc) 4) NW/3/2009/394283/01 (cc) 5) S/F/2007/44200/01 (cc) 6) A/M/2007/2000318/01 (cc)	1) Partial suspension and requirement to take steps 2) Notice to take specified steps in relation to a breach/anticipated breach 3) Contravened Conditions of Permit 1) Illegal removal of hazardous waste and failure in duty of care 2) Illegal removal of hazardous waste and failure in duty of care 3) Treated controlled waste and failed to comply with conditions of licence 4) Treated controlled waste and failed to comply with conditions of licence 5) Unauthorised keeping of waste at Bulverhythe depot 6) Failure to comply with the duty of care	1) Environmental Permitting (E&W) Regulations 2010-Regulation 37 2) Environmental Permitting (E&W) Regulations 2007-Regulation 36 3) Pollution Preventions and Control Regulations 2000 1) Environmental Protection Act 1990-Section 34 (1) (C) (II) 2) Hazardous Waste (E& W) Regs 2005, Regulation 35 (1) (A) 3) Environmental Protection Act 1990-Section 33 (1) (C) 4) Environmental Protection Act 1990-Section 33 (6) 5) Environmental Protection Act 1990-Section 33 (1) (B) 6) Environmental Protection Act 1990-Section 34 (1) (C) (II)	1) 04/2010 2) 07/2008 3) 12/2007 1) 08/2009 2) 08/2009 3) 01/2009 4) 01/2009 5) 08/2007 6) 07/2007	Road

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
13	Bletchley Landfill Site	Guernsey Road, Bletchley, Bucks, MK3 5FR/JU	FCC Waste Services (UK) Limited	✓	BM4635 IH	700,000	17 05 04 17 05 03*	✓	N/A	N/A	N/A	N/A	Road
14	Rainham Landfill EPR/EP3 136GK/V0 03	Coldharbour Lane, Off Ferry Lane, Rainham, Essex, RM13 9DA	Veolia ES Landfill Limited	✓	EP3136 GK	700,000	17 05 04	✓	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Road; River
15	Victoria Deep Water Terminal	Tunnel Avenue, Greenwich, London, SE10 0QE	H Sivyer (Transport) Limited	✓	LP3395 VN (101878)	400,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road; Rail; River
16	Little Belhus Restoration	Arisdale Avenue, South Ockendon, Essex, RM15 5DP	Rural Arisings Ltd	✓	AB3331 RU (103003)	1,156,894	17 05 04	✓	N/A	N/A	N/A	N/A	Road
17	Tythenham Landfill Site	Courses Road, St.Albans, Hertfordshire, AL4 0RY	Lafarge Aggregates Limited	✓	BP3893 EW (80737)	600,000	17 05 04	✓	1) T/J/2006/2060 500/01 2) M/N/2005/201 0883/01 1) A/K/2010/200 0819/01 (cc)	1) Closure notice 2) Notice requiring remediation of contravention of notice 1) Over abstraction exceeding licence limit	1) Landfill (England and Wales) Regulations 2002- Regulation 16 2) Pollution prevention and control regulations 2000 1) Water Resources Act 1991-Section 24 (1) (A)	1) 03/2006 2) 11/2005 1) 12/2010	Road
18	Goshems Farm	Station Road, East Tilbury, Tilbury, Essex, RM18 8QR	Ingrebourne Valley Limited	✓	WP3094 EP (102617)	759,000	17 05 04	✓	1) A/K/2005/200 0087/01	1) Notice to remove waste	1) Environmental Act Protection Act 1990- Section 59 (1) (A) and (B)	1) 06/2005	Road
19	Redhill Landfill (North East)	Cormongers Lane, Nutfield, Redhill, Surrey, RH1	Biffa Waste Services Ltd	✓	BU8126 IY	120,000 (inert waste) 750,000 (total waste)	17 05 04 17 05 03*	✓	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood)	Road; Rail

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
	Quadrant)	4ER										Landfill Site)	
20	Sutton Courtenay EPA/BV7001IK/V009	Waste Recycling Group, Appleford Sidings, Sutton Courtenay, Abingdon, Oxfordshire, OX14 4PW	Waste Recycling Group (Central) Limited	✓	BV70011K	Not explicitly stated on permit.	17 05 04 17 05 03*	✓	1) S/E/2011/2042438/01 2) T/J/2005/2060277/01 3) S/E/2002/9940205/01 1) T/I/2011/2061714/01 (cc) 2) T/I/2011/2061715/01 (cc) 3) T/J/2004/169673/01 (cc) 4) T/H/2004/158953/01 (cc) 5) S/E/2003/2042013/01 (cc)	1) Notice in relation to breach of permit condition 2) Notice to take specific steps to comply with licence conditions 3) S.42 (5) Notice 1) Failed to comply with condition 3.3.5 of permit number BWO240IT 2) Failed to comply with condition 1.1.1 of permit number BW0240IT 3) Pollution (Namely leachate) 4) Breaching condition of licence causing unnecessary odours 5) Breach of waste management licence condition	1)Environmental Permitting (E&W) Regulations 2010-Regulation 36 2)Environmental Protection Act 1990-Section 42 (5) 3)Environmental Protection Act 1990-Section 42(5) 1)Environmental Permitting (E&W) Regulations 2007-Regulation 38 (1) (B) 2)Pollution prevention and control regulations 2000-Regulation 32 (1) (B) 3)Water Resources Act 1991-Section 85 (1) 4)Environmental Protection Act 1990-Section 33(6) 5)Environmental Protection Act 1990- Section 33 (6)	1) 03/2011 2) 02/2005 3) 01/2002 1) 01/2011 2) 01/2011 3) 05/2004 4) 04/2004 5) 05/2003	Road; River
21	Westmill II Waste Management Facility EA/EPR/	Westmill Road, Ware, Hertfordshire, SG12 0ES	Biffa Waste Services Ltd	✓	DP3431 PC	399,999 (non-hazardous waste). No restriction on inert waste.	17 05 04 17 05 03*	✓	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Same as Site 1 (Brookhurst Wood Landfill Site)	Road; River

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
	DP3431P C/V004												
22	Sipson North East Inert Landfill	Sipson Lane, Off Sipson Road, West Drayton, Middlesex, UB7 0JG	Henry Streeter (Sand & Ballast) Ltd	✓	BT71831 A (80594)	250,000	17 05 04	✓	T/J/2006/2852 92/01 (cc)	Diesel pollution of the river ash	Water Resources Act 1991-Section 85 (1)	01/2006	Road
23	Springfield Farm Landfill	Springfield Farm Landfill Broad Lane, Beaconsfield, Buckinghamshire, HP9 1XD	Veolia ES Landfill Limited	✓	WP3438 KV	624,000	17 05 04	✓	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Same as Site 12 (Pitsea Landfill)	Road
24	Beddington Farmlands Landfill Site	105 Beddington Lane, Beddington, Croydon, Surrey, CR0 4TD	Viridor Waste Management Ltd	✓	VP3039 SW	990,000	17 05 04	✓	1) SW/B/2004/20 50165/01 (cc) 2) SW/B/2004/20 50162/01 (cc) 3) SW/B/2004/20 50163/01 (cc) 4) SW/B/2004/20 50160/01 (cc) 5) SW/B/2004/20 50166/01 (cc) 6) SW/B/2004/20 50161/01 (cc) 7) SW/B/2004/20 50164/01 (cc)	1) Breach of licence conditions 2) Breach of licence conditions 3) Breach of licence conditions 4) Breach of licence conditions 5) Breach of licence conditions 6) Breach of licence conditions 7) Breach of licence conditions	1)Environmental Protection Act 1990-Section 33 (6) 2)Environmental Protection Act 1990-Section 33 (6) 3)Environmental Protection Act 1990-Section 33 (6) 4)Environmental Protection Act 1990-Section 33 (1) (A) 5)Environmental Protection Act 1990- Section 33 (6) 6)Environmental Protection Act 1990-Section 33 (6) 7)Environmental Protection Act 1990-Section 33 (6)	1) 09/2004 2) 09/2004 3) 09/2004 4) 09/2004 5) 09/2004 6) 09/2004 7) 09/2004	Road
25	Mc Grath Bros (Waste Control)	54-60 River Road, Creekmouth, Barking, Essex, IG11	Mc Grath Brothers (Waste Control) Ltd	✓	TP3697 NP (80535)	Not explicitly stated on permit.	17 05 04 17 05 03*	✓	1) T/J/2011/2061 855/01 2) T/J/2011/2061	1) Take steps in relation to a breach of permit condition 1.1.1 2) Take steps in	1)Environmental Permitting (E&W) Regulations 2010-	1) 12/2011 2) 09/2011 3) 04/2010	Road

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
		ODW							831/013) T/J/2010/2061 531/01	relation to a breach of condition 2.1.1 3) Take steps in relation to a breach of permit conditions	Regulation 36 2)Environmental Permitting (E&W) Regulations 2010- Regulation 36 3)Environmental Permitting (E&W) Regulations 2007- Regulation 36		
26	Shelford Landfill Site	Shelford Landfill, Shelford Farm Estate, Shalloak Road, Kent, CT2 0PU	Viridor Waste Management Ltd	✓	XP3434 HX	495,000 (non-hazardous waste) 230,000 (inert waste)	17 05 04	✓	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Road
27	Elsenham Landfill Site EPR/MP3 435KP/V0 05	Elsenham Quarry, Hall Road, Elsenham, Bishop's Stortford, Hertfordshire, CM22 6DJ	Viridor Waste Management Limited	✓	MP3435 KP	800,000 (non-hazardous waste) 800,000 (inert waste) 800,000 (total must not exceed)	17 05 04	✓	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Same as Site 24 (Beddington Farmlands Landfill Site).	Road
28	Kennett Hall Farm	Hall Farm, Dane Hill Road, Kennet, Cambridgeshire, CB8 7QX	Mick George Ltd	✓	BP3790 LV (100565)	Intert waste 300,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road
29	Day Aggregates	Murphy's Wharf, Lombard Wall, Greenwich, London, SE7 7SH	Day Group Limited	✓	DP3490 EU (83515)	650,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road; River
30	Britaniacrest Recycling Ltd	26 Reigate Road, Hookwood, Horley. Surry, RH6 0HJ	Britaniacrest Recycling Limited	✓	BP3390 EB (83204)	200,000	17 05 04	✓	N/A	N/A	N/A	N/A	Road

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
31	London Gateway Parkland	The Manorway, Stanford Le Hope, Essex, SS17 9PD	London Gateway Parkland Ltd	X	YP3691 EK (102849)	No applicable information received.		N/A	N/A	N/A	N/A	Road, Rail; River	
32	Stewartby Landfill	Green Lane, Stewartby, Bedford, Bedfordshire, MK43 9LY	FCC Waste Services (UK) Limited	X	BV45761 K	No applicable information received.		N/A	N/A	N/A	N/A	Road; Rail	
33	Camden Plant	Land / premises At, Lower Hall Lane, Chingford, London, E4 8JG	Camden Plant Ltd	X	DP3891 NP (80355)	No applicable information received.		N/A	N/A	N/A	N/A	Road	
34	Eversley Quarry	Fox Lane, Reading Road, Eversley, Hampshire, RG27 0NQ	Cemex U K Materials Ltd	X	FP3497 SF (101333)	No applicable information received.		1) T/I/2007/2060 754/01 1) S/G/2011/759 182/01 (c)	1) Suspension of authorisation to carry on activities 1) Contravention of Environmental Permit	1)Environment Act 1995-Section 41 (6) 1)Environmental Permitting (E&W) Regulations 2007-Regulation 38 (1) (B)	1) 02/2007 1) 11/2011	Road	
35	Waterbeach Waste Management Facility	Waterbeach Waste Management Park, Ely oad, Waterbeach, Cambridgeshire, CB25 9PG	AmeyCespa (East) Limited	X	BK50371 Q	No applicable information received.		N/A	N/A	N/A	N/A	Road	
36	Marshgate Sidings	Pudding Mill Lane, Bow, London, E15 2PJ	D B Schenker Rail (U K) Limited	X	BP3698 EQ (100245)	No applicable information received.		N/A	N/A	N/A	N/A	Road; Rail	

No.	Site Name	Site Address	Operator	Permit Received (✓/X)	Permit	Criteria 1: Capacity to receive/ treat/ dispose of waste ^a (tpa)	Criteria 2: Valid Permit/ Exemption to receive/ treat/ dispose of required waste streams	Criteria 3: Available at start of construction (✓/X)	Criteria 4 ^b : Enforcement Notices, Court Cases ^c and Cautions				Criteria 5 ^b : Access
									Case Reference	Description	Relevant Act-Section	Date	
37	W Riverside S W T S , Smugglers Way, Sw18	Wandsworth, London, SW18 1JS	Cory Environmental Ltd	X	GP3690 EV	No applicable information received.			1) A/K/2012/2001098/01 2) A/K/2003/9901001/01 3) A/K/2012/2001037/01	1) Notice to take specified steps in relation to a breach of permit 2) Take steps to comply 3) Failed to take measures to prevent escape of waste	1)Environmental Permitting (E&W) Regulations 2010-Regulation 36 2)Environmental Protection Act 1990-Section 42 (5) 3)Environmental Protection Act 1990-Section 34 (1) (B)	1) 08/2012 2) 07/2002 3) 03/2012	Road; River; Rail

Notes:

Any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Article 1(4), first indent, of Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

^a Capacity refers to the total capacity of the sites without considering the available capacity (or void space) remaining at the sites.

^b Criteria would not preclude a receptor site from being taken to the short list and the outcomes will be subject to further assessment during the Detailed Options Assessment.

^c Court cases are assumed to mean guilty by the Crown Prosecution Service in either a Magistrates Court or the Crown Court.

Key

- 1 – Brookhurst Wood Landfill Site
- 2 – Calvert Landfill Site
- 3 – Brentford Aggregate Materials Recycling Facility
- 4 – Powerday Waste, Recycling and Recovery Centre
- 5 – Airlinks Golf Club
- 6 – Stone Lane Quarry
- 7 – East Tilbury Quarry
- 8 – Hermitage Quarry Inert Landfill
- 9 – Mitcham Transfer Station
- 10 – Willesden Freight Terminal
- 11 – Edmonton (Atlas) MRF
- 12 – Pitsea Landfill
- 13 – Bletchley Landfill Site
- 14 – Rainham Landfill
- 15 – Victoria Deep Water Terminal
- 16 – Little Belhus Restoration
- 17 – Tyttenhanger Landfill Site
- 18 – Goshems Farm
- 19 – Redhill Landfill (North East Quadrant)
- 20 – Sutton Courtenay
- 21 – Westmill II Waste Management Facility
- 22 – Sipson North East Inert Landfill
- 23 – Springfield Farm Landfill
- 24 – Beddington Farmlands Landfill Site
- 25 – Mc Grath Bros (Waste Control)
- 26 – Shelford Landfill Site
- 27 – Elsenham Landfill Site
- 28 – Kennett Hall Farm
- 29 – Day Aggregates
- 30 – Britaniacrest Recycling Ltd
- 31 – London Gateway Parkland
- 32 – Stewartby Landfill
- 33 – Camden Plant
- 34 – Eversley Quarry
- 35 – Waterbeach Waste Management Facility
- 36 – Marshgate Sidings
- 37 – W Riverside S W T S

