

SILVERTOWN TUNNEL

Volume 6

6.3 Environmental Statement Appendices

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**Environmental Statement
Appendix 1.A (6.3.1.1)**

**National Policy Statement
for National Networks
Compliance**

April 2016

Silvertown Tunnel

Appendix 1.A: National Policy Statement for National Networks Compliance

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Table 1.A-1 National Policy Statement for National Networks Compliance

Environmental Statement Chapter	Paragraph Number / extract from National Policy Statement for National Networks (NN NPS)	NN NPS compliance
<p>Chapter 6 Air Quality (Document Reference 6.1.6)</p>	<p>5.6 Where the impacts of the project (both on and off-scheme) are likely to have significant air quality effects in relation to meeting EIA requirements and / or affect the UKs ability to comply with the Air Quality Directive, the applicant should undertake an assessment of the impacts of the proposed project as part of the environmental statement.</p> <p>5.7 The environmental statement should describe:</p> <ul style="list-style-type: none"> • existing air quality levels; 	<p>The existing baseline information has been provided in Section Error! Reference source not found. of the ES Chapter. Both monitoring and modelling has been used to describe the existing air quality levels.</p>
	<ul style="list-style-type: none"> • forecasts of air quality at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of the impact of the scheme; and 	<p>The ES has assessed the impact of the Scheme in the opening year, air quality modelling has been used to predict future concentrations of pollutants for comparison against the air quality strategy objectives and EU Limit Values. The results of the future air quality under the reference case scenario have been described in Section 6.6 of the ES Chapter.</p>

	<ul style="list-style-type: none"> any significant air quality effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project. 	<p>Significance has been determined in the ES. Significance of operational air quality effects has been assessed as being not significant (described in Section 6.6 of the ES Chapter). Construction phase impacts are also not considered to be significant with the application of appropriate mitigation measures as described in Section Error! Reference source not found. of the ES Chapter and Appendix 6.A – <i>Construction Dust Assessment</i> (Document Reference 6.3.6.1).</p>
	<p>5.8 Defra publishes future national projections of air quality based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. Applicant’s assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts.</p>	<p>The assessment has utilised the Defra published guidance and tools for the prediction of future air quality. Detailed air quality modelling has been undertaken using these tools. The Design Manual for Roads and Bridges (DMRB) advice outlined in Highways England Interim Advice Note (IAN) 170/12v3 has been utilised to ensure that the projections are not too optimistic. Variable temporal emission rates in ADMS Roads dispersion modelling have also been used to account for the diurnal traffic profile.</p>

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	<p>5.9 In addition to information on the likely significant effects of a project in relation to EIA, the Secretary of State must be provided with a judgement on the risk as to whether the project would affect the UK's ability to comply with the Air Quality Directive.</p>	<p>An EU compliance risk assessment as per the methodology stated in Highways England IAN 175/13 has been undertaken as part of the assessment. The impact of the Scheme on the UK's ability to comply with the air quality directive is described in Section 6.6 of the ES Chapter. The result of the assessment is that the Scheme would not affect the UK's ability to comply with the Air Quality Directive.</p>
	<p>Decision making 5.10 The Secretary of State should consider air quality impacts over the wider area likely to be affected, as well as in the near vicinity of the scheme.</p> <p>In all cases the Secretary of State must take account of relevant statutory air quality thresholds set out in domestic and European legislation. Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures with a view to ensuring so far as possible that those thresholds are not breached.</p>	<p>Traffic data has been screened against the criteria for assessment as detailed on page 3/3 of Highways England 207/07 DMRB Vol 11, Section 3, Part 1 to define our study area. It covers an area well beyond the 'near vicinity' of the Scheme. Drawing 6.1 – <i>Study Area</i> (Document Reference 6.2) details the air quality study area for the local air quality assessment.</p> <p>Additionally assessment of significance undertaken in accordance with IAN 174/13 uses relevant statutory thresholds to define significance.</p> <p>The air quality assessment has focused on the impacts of the Scheme in relation to exceedences of the air quality strategy objectives and the EU Limit Value in coming to a decision regarding the significance of the Scheme's impacts.</p>

	<p>5.11 Air quality considerations are likely to be particularly relevant where schemes are proposed:</p> <ul style="list-style-type: none"> • within or adjacent to Air Quality Management Areas (AQMA); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England); 	<p>Air Quality Management Areas (AQMAs) have been considered in this assessment as well as Air Quality Focus Areas and sensitive areas highlighted by local authority Environmental Health Officers.</p> <p>Those designated conservation sites have been assessed where roads affected by the Scheme are within 200m of the site. In the ES a qualitative statement is provided describing the likely impacts based on changes in NOx concentration at the ecological site.</p> <p>One designated site was found to be within 200m of the affected road network. The Scheme impacts on this site were not considered to be significant, as described in Section 6.6 of the ES Chapter.</p>
	<ul style="list-style-type: none"> • where changes are sufficient to bring about the need for a new AQMA; 	<p>A number of AQMAs cover the study area for Annual Mean NO₂ and 24 hour PM₁₀ concentrations.. The impacts of the Scheme have been assessed as not likely to require amendment of an existing AQMA or designation of a new AQMA.</p>
	<ul style="list-style-type: none"> • or change the size of an existing AQMA; or bring about changes to exceedences of the Limit Values, or where they may have the potential to impact on nature conservation sites. 	<p>The assessment has shown that some AQMAs receive an improvement in air quality and others experience a deterioration.</p> <p>Air quality is a particularly relevant consideration on this project owing to the existing nature of the study area; in that air quality is relatively poor in and around the Scheme.</p>

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	<p>5.12 The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and / or where they lead to a deterioration in air quality in a zone/agglomeration.</p>	<p>Following the advice Highways England in IAN 174/13 and 175/13, to assess whether the Scheme would not lead to a significant impact on air quality or lead to a deterioration in air quality in the Greater London Urban Area that would delay the timescales within which Defra have reported the zone would be compliant with the Air Quality Directive.</p>
	<p>5.13 The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:</p> <ul style="list-style-type: none"> • result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or • affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision. 	<p>Currently the relevant zone (Greater London) is non-compliant. A compliance risk assessment has been undertaken in accordance with the Highways England IAN 175/13 to identify whether the Scheme risks impacting on the reported date Defra have determined the zone will be compliant. The results of the compliance risk assessment are summarised in Section 6.6 of the ES Chapter. The Scheme would not affect the ability of the Greater London Urban Area to achieve compliance within the timescale Defra reported (winter 2015) to the European Commission at the time of the decision.</p>

	<p>Mitigation</p> <p>5.14 The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage. The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales.</p> <p>5.15 Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots beyond the immediate locality of the scheme.</p> <p>Measures could include, but are not limited to, changes to the route of the new scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control. The implementation of mitigation measures may require working with partners to support their delivery.</p>	<p>The assessment indicates that the assessed charge would not lead to a significant impact, the user charge would ensure traffic is managed to achieve this. In addition TfL have committed to ensure that Buses using the new bus links will be of a Euro VI standard or equivalent. No other mitigation measures are therefore deemed necessary to avoid a delay to the point at which the zone will meet compliance timescales.</p> <p>The Construction Code of Practice (CoCP) (Document Reference 6.10) presents Best Practice Measures (BPM) which should be adopted during the construction phase.</p>
<p>Chapter 7 Community</p>	<p>3.3 requires that <i>'reasonable opportunities to deliver environmental and social benefits as</i></p>	<p>It is considered that the Scheme complies with the requirements of the NN NPS through the delivery of</p>

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<p>and Private Assets (Document Reference 6.1.7)</p>	<p><i>part of schemes'</i> should be considered and that environmental and social impacts should be mitigated in line with the principles set out in the National Planning Policy Framework (NPPF) and the Government's planning guidance.</p>	<p>environmental and social benefits including supporting economic development through improved access to jobs and services, improved journey time reliability, and increased cross-river connectivity. The Scheme will also result in improved public transport provision, which will deliver social benefits and opportunities. Improvements to the pedestrian and cycle network are also proposed in the vicinity of the tunnel portals.</p>
	<p>5.89 discusses what considerations may need to be given to a scheme of management and mitigation to reduce any loss to amenity as a result of emissions of odour, dust, steam, smoke or artificial light from the Scheme.</p>	<p>Mitigation for relevant environmental effects in relation to community and private assets has been identified in Section 7.5 of the ES Chapter. Impacts on residential amenity (for example from noise, air quality or visual impacts) are described. Further mitigation measures are set out in further detail in the Code of Construction Practice (CoCP) (Document Reference 6.10).</p>
	<p>5.165 and 5.166 state that the applicant should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project, or preventing a development or use on a neighbouring site from continuing.</p>	<p>Existing and proposed land uses near the Scheme are identified within the description of baseline conditions in Section 7.4 of the ES Chapter, which includes a future baseline. The effects of the Scheme on existing developments / land uses are considered within the assessment of land-take for the Scheme an impacts on development land.</p>

<p>Chapter 8 Cultural Heritage and Archaeology (Document Reference 6.1.8)</p>	<p>5.124 of the NN NPS requires that non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments should be considered subject to the policies for designated heritage assets.</p>	<p>The assessment has not identified any such non-designated assets as described in Section 8.4 of the ES Chapter.</p>
	<p>5.126 Where the development is subject to EIA the applicant should undertake an assessment of any likely significant heritage impacts of the proposed project as part of the Environmental Impact Assessment and describe these in the Environmental Statement.</p>	<p>As assessment of the likely significant heritage impacts has been undertaken and is described in Section 8.6 of the ES Chapter.</p>
	<p>5.127 The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed</p>	<p>The significance of heritage assets affected, including any contribution made by their setting has been undertaken as part of the assessment. The Historic Environment Record was consulted, as described in Section 8.3 of the ES. A desk-based assessment was undertaken as described in Section 8.4 of the ES Chapter.</p>

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	<p>includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.</p>	
	<p>5.129 of the NN NPS requires that in considering the impact of a proposed development on any heritage asset, the Secretary of State should take into account the significance of the heritage asset.</p>	<p>This assessment enables an informed judgement to be reached as to the likely impact, if any, on the significance of the heritage asset as all the identified heritage assets of interest are given a relative value by reference to objective criteria as described in Section 6.3 of the ES Chapter.</p>
	<p>5.131 states that substantial harm to or loss of Grade II listed buildings and Grade II registered parks and gardens should be exceptional and that substantial harm to, or loss of, scheduled monuments, Grade I and II* listed buildings and Grade I and II* registered parks and gardens should be wholly exceptional.</p>	<p>This assessment demonstrates that none of these classes of heritage asset will experience substantial harm or loss as a result of the Scheme as set out in Section 8.6 of the ES Chapter.</p>
	<p>5.132 states that any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater</p>	<p>This assessment demonstrates the proposed mitigation will reduce the predicted significance of effect on the Grade II listed Blackwall Tunnel entrance</p>

	<p>the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.</p>	<p>building to Neutral, there will be no harmful impact on the significance of this designated asset.</p>
	<p>5.141 provides that the Secretary of State may add requirements to the DCO to ensure that any archaeological mitigation that has been identified in relation to the Scheme is undertaken in accordance within an agreed timetable and to appropriate standards.</p>	<p>The assessment has identified archaeological mitigation that is required and which will be secured through the DCO. The mitigation will be undertaken in accordance with a Written Scheme of Investigation produced in consultation with Greater London Archeology Advisory Service during the detailed design stage and updated as works progress.</p>
<p>Chapter 9 Terrestrial Ecology (Document Reference 6.1.9)</p>	<p>5.22 Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on</p>	<p>Potential impacts on designated sites have been taken into account through the ES assessment. Drawing 9.1 shows statutory designated sites within 2km and Drawing 9.2 shows non-statutory designated sites within 2km of the Limits of the Order Limits (Document Reference 6.2). Potential impacts on international sites within 5km (30km for sites designated for bats) of the Order Limits have been assessed in Appendix 9.G - <i>Habitat Regulations Assessment</i> (Document Reference 6.2).</p>

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	ecosystems.	
	<p>5.25 As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.</p>	<p>Mitigation, outlined in Section 9.5 of the ES Chapter has been incorporated into the Scheme design to reduce significant impacts on important ecological features. Residual significant effects will be mitigated within the Order Limits or offset within the wider area as set out in Section 9.6 and according to the principles set out in Appendix 9.H - <i>Biodiversity Action Plan and Mitigation Strategy</i> (Document Reference 6.3.9.8). Compliance with this document will be secured by the Design Principles (Document Reference 7.4), which is secured by the Development Consent Order (DCO).</p>
	<p>Paragraph 5.36 Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. In particular, the applicant should demonstrate that:</p> <ul style="list-style-type: none"> • during construction, they will seek to ensure that activities will be confined to the minimum areas required for the 	<p>Section 9.5 of the ES Chapter details the mitigation incorporated into the design. In temporary construction areas habitats will be retained and protected where practicable. Any habitat that is lost or damaged will be replaced in the same state and condition.</p> <p>Ecological best practice will be followed during construction and operation to limit the effect of the Scheme on important ecological features, as set out in the Code of Construction Practice (CoCP) (Document</p>

	<p>works;</p> <ul style="list-style-type: none"> • during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised (including as a consequence of transport access arrangements); • habitats will, where practicable, be restored after construction works have finished; and • developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable. <p>Opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge.</p>	<p>Reference 6.10).</p> <p>Green corridors have been retained or replaced within the Order Limits where possible. Appendix 9.H - <i>Biodiversity Action Plan and Mitigation Strategy</i> (Document Reference 6.3.9.8) includes design principles for all operational soft landscaped areas to mitigate the ecological effects of the Scheme. Compliance with this document will be secured by the Design Principles (Document Reference 7.4), which is secured by the DCO.</p>
<p>Chapter 10 Marine</p>	<p>5.22 Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant</p>	<p>The NN NPS aims to reduce overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks. The ES</p>

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<p>Ecology</p>	<p>effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.</p>	<p>Chapter outlines the likely significant effects on internationally, nationally and locally designated sites of marine ecological conservation importance.</p>
	<p>5.25 As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.</p>	<p>The mitigation measures described in Section 10.5 of the ES Chapter will be implemented to ensure no Scheme related significant adverse effects arise in relation to relevant marine ecological interests.</p>

<p>Chapter 11 Effects on all Travellers (Document Reference 6.1.11)</p>	<p>The NN NPS contains the following statement in Section 2 (Summary of need) setting out the Government’s vision and strategic objectives for nationally significant networks:</p> <p>The Government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:</p> <ul style="list-style-type: none"> • Networks with the capacity and connectivity to support national and local economic activity and facilitate growth and create jobs; • Networks which support and improve journey quality, reliability and safety; • Networks which support the delivery of environmental goals and the move to a low carbon economy; and • Networks which join up our communities and link effectively to each other. 	<p>Cross-river connectivity in east London is poor for all highway users. The Scheme seeks to provide a reliable and improved connection to the north and south of the River Thames aiming to facilitate the movement of people and encourage economic growth. As part of the Scheme, localised pedestrian and cycle improvements are provided. The Scheme also provides an opportunity for enhancing cross-river bus services and for enabling new services to become operational.</p> <p>TfL has included within its ‘Assessed Case’ a discount for low emission vehicles, which aligns with other schemes such as the Ultra-Low Emission Discount arrangements within the central London Congestion Charging scheme.</p>
	<p>2.27 explicitly notes that new links that cross a river or estuary (such as the Silvertown Tunnel), may be needed to increase capacity</p>	<p>N/A</p>

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	<p>and connectivity to meet the needs created by economic and demographic growth.</p>	
	<p>3.22 states that where appropriate applicants should seek to deliver improvements that reduce community severance and improve accessibility.</p> <p>Applicants should consider reasonable opportunities to support other transport modes in developing infrastructure. The applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance issues that act as a barrier to non-motorised users.</p>	<p>The Scheme will improve accessibility for bus users by providing an opportunity for new and enhanced cross-river bus services and improve accessibility for vehicle travellers by creating a new road link across the River Thames and improving reliability and resilience on the Blackwall Tunnel, as described in Section 11.6 of the ES Chapter. As part of the Scheme the following localised improvements will, in addition to new and enhanced cross-river bus services, improve accessibility for non-motorised users:</p> <ul style="list-style-type: none"> • a pedestrian and cycle bridge with ramps over the A102 serving the pedestrian and cyclist desire lines to and from Boord Street; • new pedestrian and cycle facilities within the new Tidal Basin Roundabout; and • a lane for buses and heavy goods vehicles, which will help to improve connections by bus between both sides of the river. <p>TfL has reconsidered the potential to include provision for pedestrians and cyclists within the structure of the Silvertown Tunnel itself. The length of the Tunnel means that a poor and potentially intimidating ambience is inevitable, and there is concern over</p>

		<p>safety and security implications. In the context of the existing Emirates Air Line which follows broadly the same alignment but ties more directly into the local centres of activity, it would likely prove unattractive to most potential users. Additionally, cost impacts would likely be very significant. Further information can be found in the Case for the Scheme (Document Reference 7.1).</p> <p>A Pedestrian Environment Review System (PERS) assessment and a Cyclist Level of Service (CLOs) assessment has been carried out around the proposed sites of the two Scheme portals (full details are provided in appendices G and H of the Transport Assessment (Document Reference 6.5).</p>
<p>Chapter 12 Geology, Soils and Hydrogeology (Document Reference 6.1.12)</p>	<p>5.20 sets out the value of geological conservation relating to sites that are designated for their geology and / or their geomorphological importance. These include Sites of Special Scientific Interest (SSSI) and Regional and Local Sites of Geological Interest. Geological conservation relates to the sites that are designated for their geology and / or their geomorphological importance.</p>	<p>The Scheme is not located within an area of important geology and no statutory designated sites of geological interest have been identified within the study area, as described in Section 12.4 of the ES Chapter. As a part of the construction process, appropriate mitigation measures as set out in Section 12.5 will be put in place to minimise the effect of construction activities upon the site and the surrounding area, through the Code of Construction Practice (CoCP) (Document Reference 6.10).</p>

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	<p>5.22 States where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of geological conservation importance.</p>	<p>The assessment clearly sets out any likely significant effects of the Scheme on geology, soils and hydrogeology in Section 12.6 of the ES Chapter.</p>
	<p>5.117 States where necessary, land stability should be considered in respect of new development, as set out in the National Planning Policy Framework and supporting planning guidance.</p>	<p>A Ground Investigation was undertaken in July 2015 indicating the potential risks relating to earthworks, excavations and tunnel boring/piling activities.</p> <p>Land stability and the potential effects of settlement are assessed in Section 12.6 of the ES Chapter and mitigation measures are set out in the CoCP (Document Reference 6.10).</p>
<p>Chapter 13 Materials Resources and Waste (Document Reference 6.1.13)</p>	<p>5.42 The applicant should set out the arrangements that are proposed for managing any waste produced. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that the alternative is the best</p>	<p>Chapter 13 Material Resources and Waste presents a forecast of the waste likely to arise from the Scheme and assesses the quantity of waste likely to arise from the Scheme against the capacity of the study area’s waste management facilities.</p> <p>The delivery of the mitigation measures set out in the mitigation section of this chapter will support adherence to the requirements of the NN NPS through the application of the waste hierarchy. The Scheme will</p>

	<p>overall environmental outcome.</p>	<p>apply the waste hierarchy by moving waste management practices as far up the hierarchy as practicable, and by minimising disposal and maximising reuse and recycling.</p>
	<p>5.43 The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from the construction and operation of the proposed development. The Secretary of State should be satisfied that the process sets out:</p> <ul style="list-style-type: none"> • any such waste will be properly managed, both on-site and off-site; • the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and • adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where an 	<p>A Site Waste Management Plan (SWMP) has been developed for the Scheme detailing how all wastes will be managed and will be submitted with the application as an appendix to the CoCP (Document Reference 6.10). The SWMP will be refined and updated as the design and the Scheme progresses in accordance with the requirements of the CoCP.</p> <p>The delivery of the mitigation measures set out in the mitigation section of this chapter supports adherence to the requirements of the NN NPS through the application of the waste hierarchy.</p> <p>The Construction, Demolition and Excavated Materials Commitments (appended to the CoCP, Document Reference: 6.10) has considered the waste hierarchy including a commitment to 80% (by weight) of CD&E materials to be re-used on site or removed from site for beneficial use. This is supported by the Receptor Site Assessment (for Excavated Materials) (appended to the CoCP, Document Reference: 6.10) which provides the methodology and evaluation criteria of selecting a receptor site as well as the process to ensure that the excavated material is managed and</p>

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	alternative is the most sustainable outcome overall.	treated with the least impact to the environment and communities.
Chapter 14 Noise and Vibration	5.189 Where a development is subject to EIA and significant noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment, which should form part of the environment statement: <ul style="list-style-type: none"> a description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise. 	<p>The noise and vibration assessment has predicted noise levels and implemented mitigation into the Scheme design to avoid significant adverse impacts on health and quality of life.</p> <p>The operational road traffic noise assessment has been based upon the most likely mix of light vehicles and heavy goods vehicles over an 18 hour period during the daytime and 8 hours during the night. A description of likely noise sources has been provided in the construction noise assessment and ventilation noise assessment. The assessment of any tonal or impulsive characteristics from the tunnel ventilation has been taken into account in accordance with British Standard 4142 '<i>Methods for rating and assessing industrial and commercial sound</i>'.</p>
	<ul style="list-style-type: none"> Identification of noise sensitive premises and noise sensitive areas that may be affected. 	Noise sensitive premises and areas have been identified with the detailed study area and are presented in Drawing 14-4 - <i>Noise Important Areas and Other Sensitive Receptors</i> (Document Reference 6.2).
	<ul style="list-style-type: none"> The characteristics of the existing noise 	Short term and long term noise surveys during the

	<p>environment.</p>	<p>daytime and night time have been undertaken at 25 locations within 1km of the Scheme to understand the existing noise environment and are detailed in Section 14.4 of the ES Chapter.</p>
	<ul style="list-style-type: none"> • A prediction on how the noise environment will change with the proposed development in the shorter term such as during the construction period 	<p>Short term noise impacts from construction have been considered in accordance with British Standard 5228. The assessment has also considered short term impacts from the operation of the Scheme in the opening year.</p>
	<ul style="list-style-type: none"> • A prediction on how the noise environment will change with the proposed development in the longer term during the operating life of the infrastructure; 	<p>The assessment has considered long term operational noise impacts by assessing future road traffic noise fifteen years after opening in Section 14.6 of the ES Chapter. Noise impacts during the night time (23:00 to 07:00) and daytime (07:00 to 23:00) have been assessed for construction, operational road traffic noise and tunnel ventilation noise.</p>
	<ul style="list-style-type: none"> • A prediction on how the noise environment will change with the proposed development at particular times of the day, evening and night as appropriate. 	<p>Short term noise impacts from construction have been considered in accordance with British Standard 5228. The assessment has also considered short term impacts from the operation of the Scheme in the opening year.</p>
	<ul style="list-style-type: none"> • An assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas. 	<p>This has been considered in Section 14.6 of the ES Chapter virtue of dwellings and other sensitive receptors.</p>
	<ul style="list-style-type: none"> • Measures to be employed in mitigating 	<p>Mitigation measures for the Scheme have been</p>

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	<p>the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.</p>	<p>recommended in Section 14.5 of the ES Chapter.</p>
	<ul style="list-style-type: none"> The nature and extent of the noise assessment should be proportionate to the likely noise impact. 	<p>The assessment has been undertaken using DMRB guidance and relevant British Standards and is considered proportionate to the likely noise impact of the Scheme area.</p>
	<p>5.191 Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise. The prediction of noise from new railways should be based on the method described in Calculation of Railway Noise. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.</p>	<p>Operational noise predictions have been undertaken in accordance with Calculation of Road Traffic Noise and assessed in accordance with DMRB.</p> <p>Construction impacts have been predicted and assessed in accordance with BS 5228 parts 1 and 2 and tunnel ventilation noise has been assessed in accordance with BS4142.</p>
<p>Chapter 15 Townscape and Visual Amenity (Document Reference</p>	<p>5.144 Where the development is subject to EIA the applicant should undertake an assessment of any likely significant landscape and visual impacts in the environmental impact assessment and describe these in the environmental assessment including reference</p>	<p>The Scheme has been carefully designed in response to its townscape and visual amenity context, as outlined in the Design and Access Statement (Document Reference 7.3). A townscape (urban landscape) and visual impact assessment has been undertaken. The findings of the assessment, which</p>

<p>6.1.15)</p>	<p>to any relevant policies in local development documents, relevant landscape character assessment and associated studies.</p> <p>5.145 The applicant’s assessment should include any significant effects during the construction of the project and/or the significant effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).</p> <p>5.146 The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation;</p> <p>5.149 Landscape effects depend on the nature of the existing landscape likely to be affected and nature of the effect likely to occur. Both of these factors need to be considered in judging the impact of a project on landscape. Projects need to be designed carefully, taking account</p>	<p>indicate that the Scheme would not result in significant townscape and visual effects, are presented in this chapter. This includes consideration of the night-time visual effects of lighting, which has the potential to affect tranquillity. Other impacts which can affect tranquillity, such as noise, are considered in the Health and Equalities Impact Assessment (Document Reference 6.8), Chapter 14 – Noise and Vibration (Document Reference 6.1.14) and other relevant chapters of the ES.</p>
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	<p>of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.</p>	
<p>Chapter 16 Water Environment (Document Reference 6.1.16)</p>	<p>5.92 Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):</p> <ul style="list-style-type: none"> • Flood Zones 2 and 3, medium and high probability of river and sea flooding; <p>Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.</p> <p>5.93 This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account</p> <p>5.94 In preparing an FRA the applicant should:</p>	<p>As the Scheme encroaches into Flood Zone 3, an FRA has been prepared and can be found in Appendix 16.A of the ES (Document Reference 6.3.16.1). The FRA assesses flood risk to the Scheme from all forms of flooding, as well as the potential for the Scheme to impact on flood risk to others. The FRA is informed by a combination of Environment Agency data and bespoke hydraulic modelling.</p> <p>These requirements are fulfilled in Section 4 (Forms of Flooding) and Section 6 (Flood Mitigation Measures) of the FRA. Appendix 16.A of the ES (Document Reference: 6.3.16.1).</p> <p>The FRA assesses the impacts of climate change with regard to tide levels in the River Thames (Section 5.3) and on surface water/flooding from the land (Section</p>

	<ul style="list-style-type: none"> • consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the project, and demonstrate how these risks will be managed and, where relevant, mitigated, so that the • development remains safe throughout its lifetime; • take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made; • consider the vulnerability of those using the infrastructure including arrangements for safe access and exit; • include the assessment of the remaining (known as ‘residual’) risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project; • consider if there is a need to remain operational during a worst case flood event over the development’s lifetime; • provide the evidence for the Secretary 	<p>4.4). Access and egress arrangements are considered as part of the Flood Warning and Evacuation Plan that has been prepared and will be updated during the detailed design and approved by the Environment Agency, as secured by the CoCP. Prior to commencement of operations the FWEP will be further updated and approved by the Environment Agency as set out in the FRA, compliance with which is secured by the DCO. Residual flood risk has been assessed as detailed in Section 5.4 of the ES chapter. The Scheme is discussed in the context of the Sequential and Exception Tests in Sections 3.9 and 3.10 of the FRA.</p>
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	<p>of State to apply the Sequential Test and Exception Test, as appropriate.</p>	
	<p>5.221 Applicants should make early contact with the relevant regulators, including the Environment Agency, for abstraction licensing and with water supply companies likely to supply the water. Where a development is subject to EIA and the development is likely to have significant adverse effects on the water environment, the applicant should ascertain the existing status of, and carry out an assessment of the impacts of the proposed project on water quality, water resources and physical characteristics as part of the environmental statement.</p>	<p>Regular contact has been made with relevant regulators, including the Environment Agency regarding all relevant aspects of the development proposals, including the requirements with regard to licensing and permits. The Environment Agency have advised that Flood Defence and Discharge Consents linked to dewatering activities will be needed. The Marine Management Organisation have advised that any works below MHWS, such as for construction of the Jetty, will require a marine licence. Utilities providers have also been engaged to secure the required resources to supply the construction phase of the development (power and water).</p> <p>An assessment has been undertaken of the effects of the Scheme on the local water environment. The scope of this assessment includes water quality, hydrology, flood risk and surface water drainage. Environmental design measures have been incorporated into the Scheme to prevent or minimise adverse effects on the water environment. The Scheme is therefore considered to achieve compliance with this aspect of the NN NPS.</p>
	<p>5.223 Any environmental statement should</p>	<p>The baseline characteristics of the water environment</p>

	<p>describe:</p> <ul style="list-style-type: none"> • the existing quality of waters affected by the proposed project; • existing water resources affected by the proposed project and the impacts of the proposed project on water resources; • existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these • characteristics; • any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions; and • any cumulative effects. 	<p>local to the scheme, including water quality, physical characteristics and existing water resources, have been described using a variety of sources of environment data.</p> <p>Hydrodynamic modelling for the Silvertown Jetty has been undertaken and has shown that that jetty will not have any significant impacts on the existing flow or sediment transport regimes of the Thames.</p> <p>A NPPF compliant Flood Risk Assessment has also been prepared, informed by bespoke hydraulic modelling and Environment Agency data.</p> <p>The ES Chapter of the also includes a cumulative impact assessment.</p>
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