

Transport and Works Act 1992

London Underground (Northern Line Extension) Order

Environmental Statement Addendum

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Non-Technical Summary

Introduction

1. This document presents a Non-Technical Summary (NTS) of the further environmental assessment undertaken in respect of the Northern Line Extension (NLE) scheme and reported in the Environmental Statement Addendum (ESA).
2. The ESA has been produced to update the Environmental Statement (ES) which accompanied TfL's application to the Secretary of State for Transport for a Transport and Works Act Order (TWAO) on 30 April 2013.
3. The ESA updates the ES in three key aspects as follows:
 - To describe and assess two proposed modifications of the Scheme;
 - To present additional information on the Scheme; and
 - To address a small number of corrections (errata) to the details presented in the ES.
4. Full details of the proposed modifications to the Scheme, additional information and corrections are provided in the ESA that URS has prepared on behalf of Transport for London (TfL). This information is presented in the form of an addendum to each chapter of the ES. Where updates to the ES Appendices are required, these have also been provided. The ES and ESA together comprise the assessment of the environmental effects of the Scheme.
5. This NTS:
 - Provides a brief description of the two proposed modifications to the Scheme and the additional information provided in respect of the Scheme;
 - Explains in summary, topic by topic, the changes to the results of the Environmental Impact Assessment (EIA); and
 - Identifies amendments to the NTS of the ES.

Proposed Modifications of the Scheme

6. In summary, the two proposed modifications of the Scheme are:
 - The omission of the proposal to provide a replacement community facility at Kennington Park; and
 - The selection of Construction Option B and the exclusion of Construction Option A.

Additional Information on the Scheme

7. In summary, additional information on the Scheme relates to:
 - The possible use of further land to the north of Kennington Green for the provision of accommodation works, for the gin distillery at Montford Place and for additional NLE construction worksite accommodation;
 - The assessment of traffic and transport impacts of the Scheme in 2020 and 2031;
 - A Preliminary Navigation Risk Assessment (pNRA) that has been produced in relation to the proposed removal of spoil by barge;

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- Further explanation of the possible provision of temporary accommodation to relocate part of the Battersea Dogs and Cats Home;
- Further explanation regarding the possible provision of a temporary replacement for Covent Garden Market Authority's Boiler House;
- Further explanation of utilities works proposed to be undertaken; and
- Further explanation of predicted ground settlement effects.

Changes to the ES NTS

8. The changes to the ES NTS are presented under the relevant section heading / sub-heading.

2. Project Overview

Site Specific Options and Alternatives

9. The text below replaces paragraph 2.9 of Section 2 of the NTS.

2.9 *In developing the preferred scheme design, consideration was given to a number of key components of the project:*

- *The optimal alignment (route and depth) of the tunnels;*
- *The location and design of the two new stations, one at BPS and one at Nine Elms (broadly at the corner of Wandsworth Road and Pascal Street); and*
- *The location of three permanent ventilation and intervention shafts required along the route and the associated above-ground structure referred to as a head house:*
 - *One for the northbound tunnel in the vicinity of Kennington Green;*
 - *One for the southbound tunnel in the vicinity of Kennington Park; and*
 - *One where the running tunnels converge in the Claylands Road area.*
- ~~*The location of two temporary shafts (one for the northbound tunnel and one for the southbound tunnel) to stabilise the ground and make the connection to the existing railway on the Kennington Loop.*~~

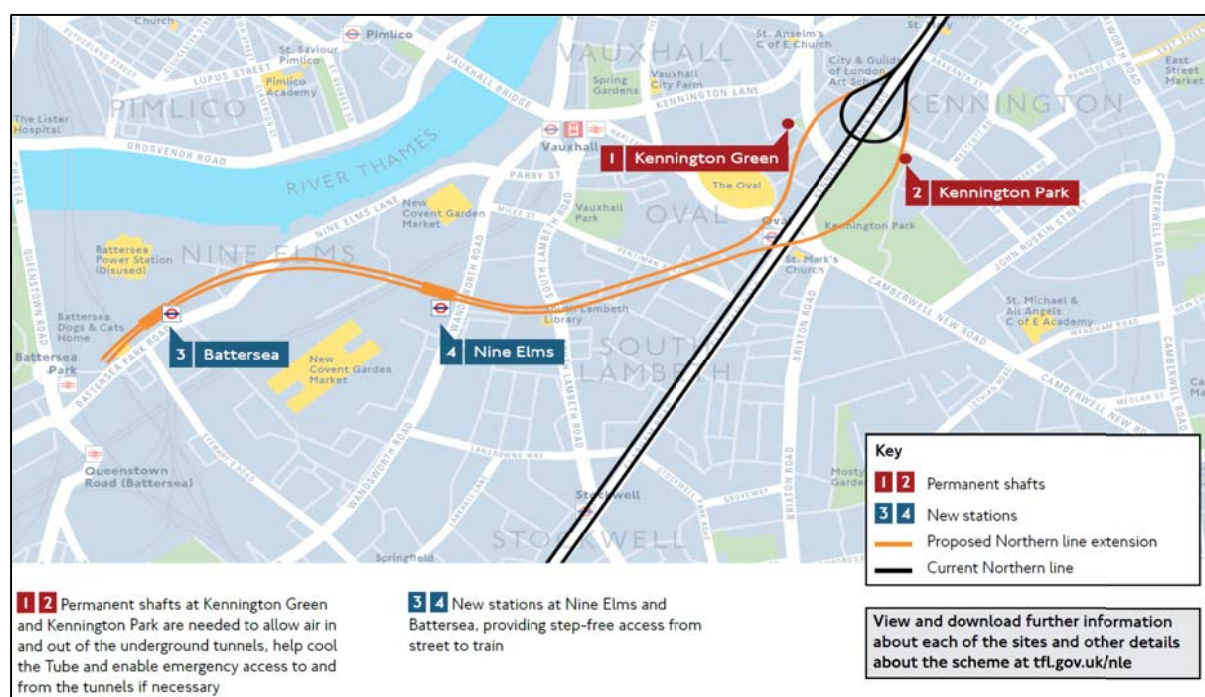
10. Paragraph 2.15 of Section 2 of the NTS no longer applies and has been deleted.

3. Description of the Northern Line Extension

11. As one of the proposed modifications to the Scheme, Construction Option B has been selected as the chosen construction method and Construction Option A has been excluded. Figure 3 has been updated and replaced with Figure 3A to reflect this proposed modification, as shown overleaf.

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Figure 3A: The route and principal features of the NLE



Construction Details

12. The text below replaces paragraph 3.5 of Section 3, to reflect the selection of Construction Option B whereby TBMs are used between the Battersea and the Kennington Shafts only.

3.5 ~~There are two main construction methodologies (both of which were assessed by the EIA) proposed for the tunnels between the Kennington shafts and the connections to the existing Kennington Loop that comprises the use of either TBMs or sprayed concrete lining to construct the tunnels up to the junctions with the Kennington Loop. This One method would require temporary shafts to be constructed and the other would require gallery tunnels below ground to be constructed.~~

13. Paragraph 3.6 has now been deleted.

Construction Programme

14. The text below replaces paragraph 3.9 of Section 3.

3.9 ~~At Kennington Green and Kennington Park, works are likely to run for approximately 3 years and 2 months (163 weeks), and 3 years and 9 7 months (187 weeks) respectively, depending on the chosen construction method (it would last longer without the temporary shafts). If the selected construction method requires the use of the temporary shafts, this is likely to last for approximately 2 years and 2 months at these locations.~~

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Construction Worksites

15. The text below replaces paragraph 3.10 of Section 3.
- 3.10 *Construction will be undertaken from a series of construction worksites situated along the route as follows:*
- *A site at both proposed stations: Battersea and Nine Elms; and*
 - *A site at both proposed permanent shafts, Kennington Park and Kennington Green; and*
 - ~~*A site at both proposed temporary shafts, Radcot Street and Harmsworth Street (only if the construction method chosen requires them).*~~
16. The text below provides additional information in relation to the potential acquisition and use of additional land that may be used as a construction worksite for Kennington Green. It is inserted following paragraph 3.10 of Section 3 of the ES NTS.
- 3.10A *There is also potential for the use of additional land to the north of the Kennington Green for accommodation works for the gin distillery at Montford Place and for additional NLE construction worksite accommodation, subject to the acquisition of this land by TfL by agreement and to the grant of planning permission.*

Kennington Park and Kennington Green Worksites

17. The London Borough (LB) of Lambeth have confirmed to TfL that they intend to relocate Bee Urban (the current occupiers of Kennington Park Lodge) and the Friends of Kennington Park from Kennington Lodge to an alternative location. TfL propose to omit the community building from the scheme and instead agreed to compensate LB Lambeth for the loss of the Lodge. As LB Lambeth intend to relocate the occupiers independently the text below replaces paragraph 3.14 of Section 3.
- 3.14 *The Kennington Park worksite will occupy an area of approximately 3,000-2,500m². The Kennington Park shaft and head house will be located in the north-east corner of the park between Kennington Park Place and St Agnes Place. This will require the demolition of the lodge (referred to as Kennington Park Lodge) at this site, currently used as a community facility. Temporary replacement facilities are proposed until permanent replacement facilities are available following the completion of construction works. LBL has confirmed that they intend to find an alternative facility for Bee Urban and they would likely be relocated in advance of the NLE works. TfL has agreed to pay LBL compensation for its loss of the Lodge.*
18. The text below replaces paragraph 3.15 of Section 3.
- 3.15 *The Kennington Green worksite will occupy an area of approximately 2,300m². The Kennington Green shaft will be located within the green itself and the head house will be located within the land owned by the Beefeater Gin distillery on the corner of Montford Place and*

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Kennington Road. This will require demolition of the existing boundary wall. A water tank is to be provided for the distillery on land adjacent to the north-west of the distillery on Montford Place, as an accomodation work. However, there is potential for the purchase of additional land to the north of the distillery. Should this land be acquired, it would provide additional area (2,540m²) for storage of materials, welfare, and accommodation units for construction contractors. The land would provide alternative access and additional space for the distillery's proposed new water tank and associated pump house, and a relocated ethanol filling station.

19. In response to comments from the London Borough (LB) of Wandsworth, the text below replaces paragraph 3.23 of Section 3, to reflect that Wandsworth Road is not part of the formal strategic road network.

3.23 *All of the worksites have good existing access to the strategic road network. It is assumed that access routes to worksites will be via south London, with lorries generally using the following **strategic** roads:*

- *Kennington Park Road/ Clapham Road;*
- *Kennington Road;*
- *Wandsworth Road; and*
- *Nine Elms Lane/ Battersea Park Road.*

Temporary Construction Shafts

20. Paragraphs 3.16 to 3.19 no longer apply and have been deleted.

Utilities

21. The text below provides additional information regarding the utilities works that are proposed to be undertaken. It is inserted under a new section titled 'Utilities', following paragraph 3.19 of Section 3 of the ES NTS.

3.19A *Enabling and utilities works will be undertaken as part of the construction works. This will include measures that will allow the NLE tunnels to pass near to other existing tunnels (for example, existing sewer, water and cable tunnels) and for settlement effects to be mitigated.*

Construction Traffic

22. Paragraph 3.25 no longer applies and has been deleted.

Kennington Park and Kennington Green Shafts and Head Houses

23. The text below replaces paragraph 3.37 of Section 3.

3.37 *At Kennington Park, the head house will provide at least 45m² of external louvres to allow for main tunnel ventilation, and a ~~replacement community facility (81m²)~~ and outdoor garden space. It will also incorporate provision for a traction substation below ground to provide power to the railway. Images showing the functionality and*

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appearance are provided in Figures 14 and 15.

24. The text below replaces paragraph 3.38 of Section 3.

3.38 *Illustrative landscape masterplans for these permanent shafts are shown in Figure 16c-16Ad at the end of this document.*

5. Summary of Environmental Effects

Traffic and Transport

25. The text below replaces paragraph 5.4 of Section 5.

5.4 *Suspension Closure of part of the bus lanes on Kennington Road and Battersea Park Road during works at Kennington Green and Battersea Power Station will not significantly impact bus operations as two-way traffic can be maintained.*

26. Paragraph 5.7 of Section 5 has been deleted, to reflect the selection of Construction Option B.

5.7 *Access to and from the construction sites via the major road network is good ~~and the only minor road closures would be at Radcot Street and Harmsworth Street should this method be chosen. This would only affect local traffic.~~*

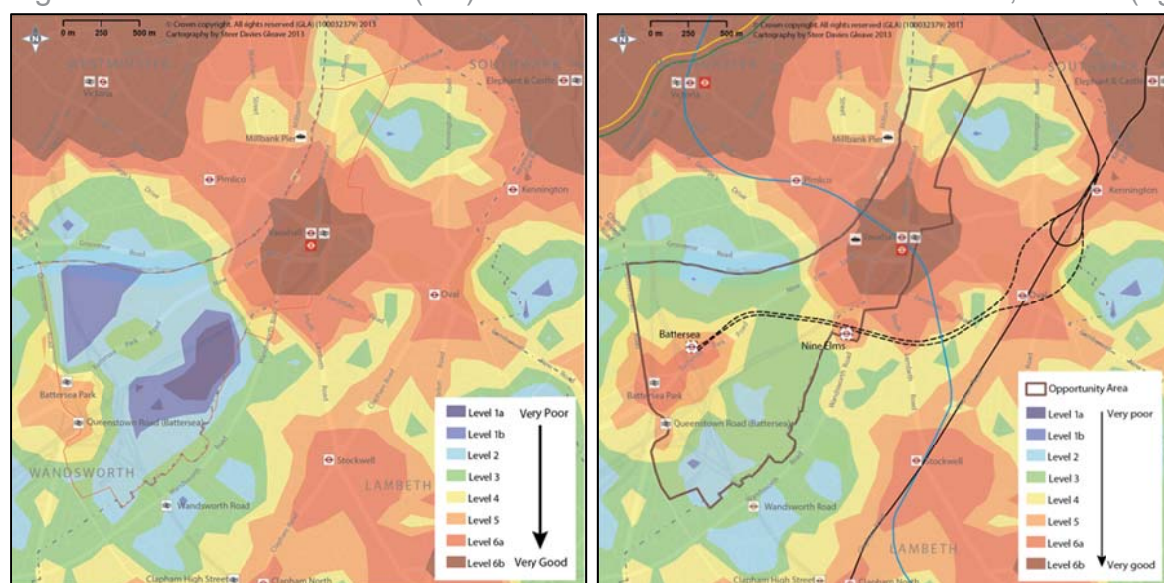
27. The text below provides additional information in response to consultation with relevant stakeholders. The Nine Elms Reach area was identified for further consideration for navigational issues in relation to the proposed removal of excavated material by barge. The following paragraph is inserted after paragraph 5.10 of Section 5.

5.10A *A preliminary Navigation Risk Assessment (pNRA) has been undertaken to support the conclusions of the ES, demonstrating that there will be no critical navigational risks or fundamental issues associated with additional river traffic generated by the NLE removal of material by barge. The preliminary Navigation Risk Assessment is presented in Appendix C7 of the ESA).*

28. Figure 9 has been updated and replaced with Figure 9A, with the updated PTAL maps, as shown overleaf.

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Figure 9A: Current PTAL (left) and forecast PTAL with the NLE, 2031 (right)



29. Following the selection of Construction Option B, the effects during construction are less than those presented in the ES, although the significance remains the same.
30. The possible use of additional land to the north of Kennington Green does not give rise to any materially different effects to those identified in the ES.
31. Public transport models have been updated in terms of the 2020 AM and PM peak and 2031 PM peak information. The updated modelling has no effect on the conclusions presented in the ES NTS.

Socio-Economics

Employment

32. The text below replaces paragraph 5.18 of Section 5, to reflect updates in employment generation set out in the NLE Economic and Business Case.
 - 5.18 *During operation, it is estimated that the total net employment for the NLE will be 434 153 employees, of which 447 133 will be from Greater London.*

Community Facilities

33. As the London Borough of Lambeth (LBL) intends to relocate the current occupiers in advance of the proposed works, it is no longer necessary to provide a replacement for the existing facility on the Kennington Park site, for which LBL will be compensated by TfL. The text below replaces paragraph 5.28 of Section 5, to reflect the omission of the proposal to provide a replacement community facility at Kennington Park.
 - 5.28 *Kennington Park Lodge will be demolished as a result of the construction works. The lodge is currently used by community organisations who will need to be relocated by the London Borough of Lambeth (LBL) before to the commencement of works for the NLE. New temporary replacement buildings for the occupiers have*

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~~been proposed by TfL nearby within Kennington Park and will be constructed prior to demolition of the lodge.~~

34. Paragraph 5.29 has been deleted.

35. Figure 10 has now been deleted.

Archaeology and Built Heritage

36. The text below replaces paragraph 5.31 of Section 5.

5.31 *Parts of the NLE lie within or adjacent to the following designated heritage assets:*

- *The head house above the southbound tunnel is located in the northern edge of Kennington Park, a Grade II listed Registered Park and Garden. The lodge building is not listed;*
- *Although none of the sites of above ground works contain listed buildings, they are within the setting of a number of listed buildings of high sensitivity. ~~The Radcot Street temporary shaft is within the Kennington Conservation Area.~~ The works at Kennington Park are within the St Mark's Conservation Area, ~~Kennington Park~~ and a number of listed buildings of high sensitivity. The works at Kennington Green are within the Kennington Conservation Area, Kennington Green and a number of listed buildings of high sensitivity. The Nine Elms station site contains 19th and 20th century industrial buildings of low to moderate sensitivity. The Battersea station site is within the setting of the Grade II* listed BPS and a locally listed building (Whittington Lodge) of medium sensitivity;*
- *Kennington station, where new passenger cross passages are proposed, is Grade II listed; and*
- *The northern sections of the proposed route (northbound and southbound) cross two Archaeological Priority Areas (APA) in Lambeth. The southern section of the proposed route (northbound and southbound) crosses an APA in Wandsworth.*

37. The text below replaces paragraph 5.32 of Section 5.

5.32 *Archaeological potential is varied across the ~~six~~ sites. The potential for agricultural remains ranges from uncertain at Kennington Park and low to moderate at ~~Harmsworth Street, Radcot Street and Kennington Green~~ with a corresponding very low to medium sensitivity. The archaeological potential for prehistoric and Roman remains ranges from unknown/ uncertain at ~~Harmsworth Street, Radcot Street,~~ Kennington Park and Nine Elms station to low at Battersea station with a corresponding low to high sensitivity depending on date, nature, extent and preservation. Kennington Green and Nine Elms station have low to moderate potential for*

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remains of late 18th / mid-19th century buildings and railway features which are considered to be of low sensitivity, and the potential for 20th century remains of railway features and buildings at Battersea station is high but with a low sensitivity. Geo- archaeological and palaeo-environmental remains at Nine Elms and Battersea stations are considered to be of moderate and high sensitivity respectively and of medium sensitivity. Finally, there is a high potential for remains of the Vauxhall Water Works reservoir to be present although the sensitivity of such remains is considered to be low, and a moderate potential with medium significance of riverside structures and organic remains to be present at the Battersea station site.

Noise and Vibration

38. The proposed modifications do not require any changes to the Noise and Vibration section of the ES NTS.
39. The possible use of land to the north of the distillery will not result in the introduction of significant construction noise effects into the area. Therefore, the potential use of this land for the Kennington Green worksite or for use by the gin distillery has no effect upon the conclusions presented in the ES NTS.

Air Quality

40. The proposed modifications do not require any changes to the Air Quality section of the ES NTS.
41. The possible use of land to the north of the distillery will not result in the introduction of significant construction air quality (dust) effects into the area. Therefore, the potential use of this land for the Kennington Green worksite or for use by the distillery has no effect upon the conclusions presented in the ES NTS.

Electromagnetic Compatibility

42. The proposed modifications do not require any changes to the Electromagnetic Compatibility section of the ES NTS.

Surface Water and Flood Risk

43. The proposed modifications do not require any changes to the Surface Water and Flood Risk section of the ES NTS.

Land Quality and Groundwater

44. The text below replaces paragraph 5.58 of Section 5, to reflect the selection of Construction Option B.

5.58 *Ground settlement as a result of the NLE has the potential to affect a range of buildings directly above and along the route of the NLE. However, the extent of effects will depend on the ~~construction methodology~~, the distance of above ground buildings from the excavation works and specific ground conditions encountered under the various sensitive receptors. Mitigation measures will be implemented to reduce any ground settlement effects as far as reasonably practicable. It is anticipated that ground settlement will largely be avoided or reduced through the use of TBMs and also through injection of a substance known as grout, which stabilises the*

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ground affected by tunnelling works. Further mitigation measures may be needed, including strengthening the structure of affected buildings, installation of a physical barrier between the foundation of the affected building and tunnel to reduce ground movement and diversion or replacement of locally existing services.

Ecology

45. The text below replaces paragraph 5.61 of Section 5, to reflect the selection of Construction Option B.

5.61 *The ecological interest at each of the construction sites was established through baseline desk studies and field surveys. This established the following:*

- *The Battersea station site has low ecological value, consisting mainly of hardstanding and disturbed bare ground. The conveyor belt carrying spoil from the station box to the jetty will be elevated across similar site conditions. The site is considered to have limited foraging habitat for Black Redstarts or bats;*
- *The jetty works will require some dredging in the River Thames, which is designated as a Site of Metropolitan Importance for Nature Conservation. No direct loss of inter-tidal or mudflat habitat is anticipated, although there may be some temporary loss of sub-tidal habitat. This is expected to revert back to its natural state once the barge movements cease. Effects on fish are considered to be minor;*
- *The Nine Elms station site is largely comprised of buildings and hard standing areas with a few scattered trees throughout the site, and is considered to be of low ecological value;*
- *Although Kennington Park is designated as a Site of Local Importance for Nature Conservation, the worksite will occupy an area largely comprising low quality amenity grassland considered to have low ecological value. The worksite will, however, require the loss of some trees, which do provide some local biodiversity value;*
- *Kennington Park is considered to be locally important for foraging and commuting bats, which could potentially be disturbed by any night-time works during the bat activity season. However, any such disturbance would be temporary and would not lead to the severance of any commuting route, and would not affect the ability of the local bat population to commute and forage within the local area; and*

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- *The Kennington Green worksite comprises an area of low quality amenity grassland considered to have low ecological value. The works will, however, require some loss of trees, which do provide some local biodiversity value; and*
 - ~~*The temporary shaft sites are considered to have negligible ecological value.*~~
46. The text below replaces paragraph 5.63 of Section 5, to reflect the omission of the proposed replacement of the community facility.

5.63 *In accordance with London Underground's Biodiversity Action Plan, TfL will seek not only to replace habitats lost during construction, but will seek to enhance the biodiversity value of the worksites. This will include the incorporation of a green roof on the new head house and community building at Kennington Park.*

47. The text below replaces paragraph 5.64 of Section 5, to reflect the proposed modifications to the Scheme.

5.64 *The planting and landscaping strategy for Kennington Green and Kennington Park is shown in Figure 16c-16Ad.*

Townscape and Visual Amenity

48. The Scheme includes the likely provision of temporary accommodation to relocate part of the Battersea Dogs and Cats Home, and temporary replacement for Covent Garden Market Authority's Boiler House. Along with the possible use of land to the north of the distillery, this will not result in the introduction of significant construction effects on townscape and view. Therefore, these prospects would have no effect on the construction conclusions presented in the Townscape and Visual Amenity section of the ES NTS.
49. Figures 14 and 15 have been updated with Figures 14A and 15A respectively, to reflect the omission of the replacement of the community facility, as shown overleaf.

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Figure 14A: Operational Function of the Kennington Park shaft and head house

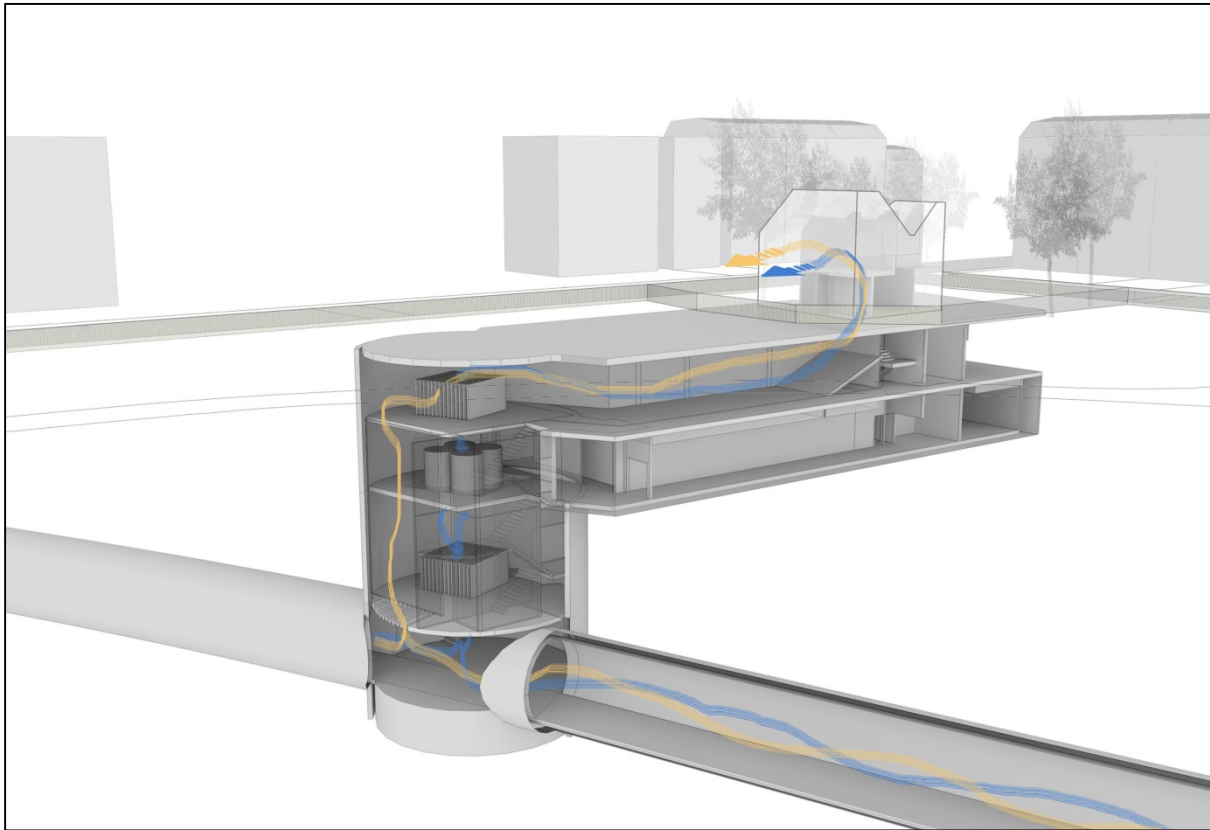


Figure 15A: Visualisation of Kennington Park head house (looking west from Kennington Park Place)



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50. Paragraph 5.68 has been deleted.
51. The text below replaces paragraph 5.69 of Section 5, to reflect the omission of the proposed replacement community facility.
- 5.69 *The northern boundary of the park will be restored following construction with an avenue of London Plane trees set within meadow and amenity grass and new metal railings to the boundary with Kennington Park Place. The new head house ~~and community buildings~~ will be located in the north-eastern corner of Kennington Park, replacing the existing Kennington Park Lodge and garden. A new physical connection will be formed between the new buildings and Kennington Park to the south. ~~The buildings will be contemporary in design and linked by a pergola.~~ The garden will be planted with a range of trees, ornamental shrubs and climbing plants to integrate the buildings with their setting. As the plants mature, the overall effect will be to enhance the townscape and views. Overall, there will be ~~a localised improvement in the quality of the~~ beneficial effects upon townscape and views.*

Climate Change Adaptation and Mitigation

52. Whilst the Climate Change Adaptation and Mitigation section of the ES NTS is not directly affected by the proposed design modifications and additional information, the text below replaces paragraph 5.80 of Section 5, to reflect the updated traffic and transport modelling summarised in paragraph 31. This demonstrates that operational emissions show an overall decrease due to the NLE encouraging a shift towards public transport use and away from road transport use.
- 5.80 *The difference between the ‘Without NLE’ and ‘With NLE’ operational scenarios shows an overall ~~increase~~ decrease in carbon emissions. This is due to the operational scenario encouraging a shift towards public transport use and away from road transport use accounting for a greater population and number of jobs in the area. ~~The increase in development will support the building of the NLE, but also has the negative effect of potentially creating more car users in the area. Car use is a driver of the operational footprint as the emissions factor per kilometre is much higher than that of public transport. However, the assessment shows that a shift away from bus and rail use towards use of the tube network (including the NLE). This shift results in a lower carbon-intensity method of public transport, as the emissions associated with the tube are approximately 19% lower than bus transport. The emissions from bus ~~and rail~~ use decrease in the operational scenario compared to the baseline, despite there being greater development in the area. This indicates that the NLE would encourage more sustainable modes of public transport use in the area.~~*
53. Figure 16d has been updated and replaced with Figure 16Ad, as shown overleaf, to reflect the proposed modifications to the Scheme.

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Figure 16A: Illustrative public realm and landscape proposals at d) Kennington Park



In-Combination Effects

54. The text below replaces paragraph 5.84 of Section 5, to reflect the omission of the proposed replacement community facility.

5.84 *For the completed and operational NLE, potential impact interactions are predominantly beneficial. The public transport network will experience a major beneficial effect. This will also provide both direct and indirect minor beneficial effects for pedestrian and cycle network safety and amenity, neighbouring commercial properties and local business. Local residents, and amenity areas, will experience minor beneficial effects as a result of restoration plans, which will improve the value of landscape and community amenity features.*

Residual Effects and Conclusions

55. The text below replaces paragraph 5.85 of Section 5, to reflect the selection of Construction Option B.

5.85 *The proposed NLE is the result of an extensive examination of alternative transport solutions, alternative routes and alternative*

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locations and designs for the stations and shafts. Consultation with stakeholders (such as the London boroughs of Lambeth, Southwark and Wandsworth, statutory consultees, and landowners) and the public has been important in this process. This consideration of alternatives has been informed by the EIA process and has allowed design choices ~~(and methods of construction)~~ to be made with an understanding of the environmental effects. This has resulted in certain potential adverse effects being avoided or minimized.

6. The Next Steps and How to get More Information

56. Following publication of the ESA, there is an opportunity to make representations to the Secretary of State for Transport regarding the further environmental information contained within it.
57. Any representations about the ESA should be sent on or before Tuesday 8 October 2013 to the Secretary of State for Transport, by post c/o Transport and Works Act Orders Unit, General Counsel's Office, Department for Transport, Zone 1/18, Great Minster House, 33 Horseferry Road, London SW1P 4DR, or by e-mail to transportandworksact@dft.gsi.gov.uk.
58. Any such representation must:
 - Be received by the Secretary of State on or before Tuesday 8 October 2013;
 - Be made in writing (whether sent by post or by e-mail);
 - State the grounds of the representation;
 - Indicate who is making the representation; and
 - Give an address to which correspondence relating to the representation may be sent.

Conclusion

59. Whilst changes to certain impacts have been identified as a result of the proposed modifications to the Scheme and additional information, these do not alter the significance level of in-combination effects of the scheme.
60. As identified above, and throughout the ESA, proposed modifications to the Scheme and additional information are minor in nature. Residual effects associated with Construction Option A have been removed. Other identified residual effects either remain unchanged or improve as a result of continuing consultation with stakeholders.

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Introduction

Purpose of the ES Addendum

1. This document forms an addendum to the Environmental Statement (ES) which accompanied the Transport and Works Act Order (TWAO) application for the proposed Northern Line Extension (NLE) submitted to the Secretary of State for Transport on 30 April 2013. It reports further environmental assessment undertaken in respect of the Scheme.
2. This ES Addendum (ESA) has been produced to update the ES in three key respects.
3. First, it describes and assesses two proposed modifications of the Scheme itself. In summary, these are:
 - the omission of the proposal to provide a replacement community facility at Kennington Park; and
 - the selection of Construction Option B and the exclusion of Construction Option A.
4. In so far as they result in any change to the assessment of the Scheme reported in the ES, these modifications are considered to be minor in nature. Nonetheless, they represent important changes which are being proposed in response to matters raised by consultees since submission of the TWAO application. A full description of the modifications is provided in *Chapter 4A: Description of the NLE* whilst their implications for the assessment set out in the ES is addressed in the subsequent chapters of this ESA.
5. Secondly, this ESA presents additional information on the Scheme to that contained within the ES, largely in response to comments and requests made by consultees since submission of the TWAO application. In summary, this additional information relates to:
 - the possible use of further land to the north of Kennington Green for the provision of accommodation works for the gin distillery at Montford Place and for additional NLE construction worksite accommodation, subject to the acquisition of this land by TfL by agreement and to the grant of planning permission;
 - traffic and transport impacts of the Scheme in 2020 and 2031;
 - a Preliminary Navigation Risk Assessment (pNRA) that has been produced in relation to the proposed removal of excavated material by barge;
 - further explanation of the likely provision of accommodation to relocate temporarily part of the Battersea Dogs and Cats Home;
 - further explanation regarding the likely provision of a temporary replacement for Covent Garden Market Authority's Boiler House;
 - further information regarding utilities works proposed to be undertaken; and
 - further explanation of predicted ground settlement effects.

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6. Consultees have also suggested that a second ticket hall be provided at the western end of Nine Elms station. TfL considers that a second ticket hall is not required and that therefore the cost of it cannot be justified. For this reason, it is not part of the Scheme.
7. Nonetheless TfL has reviewed the current design and there is potential for passive provision to be made for a second ticket hall to be incorporated at a later date, with lifts accessing the platforms. However, given the timescales for progressing the project, TfL would need to commit to making this passive provision prior to contract award for construction of the main NLE works, currently planned for Easter 2014. After this date, the cost of incorporating a second ticket hall in the absence of having made prior passive provision would increase substantially. TfL would therefore require a third party commitment to pay for the cost of incorporating this passive provision in the station design/scope of the NLE before Easter 2014, if this passive provision were to be included in the overall project. Subsequently triggering the passive provision would also have to be externally funded, in terms of the cost of installing the lifts and the ticket hall and then operating them.
8. Given that TfL has made this offer, the possibility of a second ticket hall being incorporated has been assessed and the results reported in this ESA.
9. Where the additional information adds to the description of the Scheme, it is provided in *Chapter 4A: Description of the NLE* and in so far as additional assessment is reported this can be found in the subsequent chapters of this ESA. The additional information validates the findings presented in the ES.
10. Thirdly, this ESA addresses a small number of corrections (errata) to the details presented in the ES, which have been identified since submission of the TWAO application.
11. The proposed modifications of the Scheme, additional information and errata are also reflected in updated sections of ES Appendices, including the the Traffic and Transport Appendix (*ES Volume II: Appendix C*), the *Representative Views Analysis (ES Volume II: Appendix K3)*, the Climate Change Calculations and Assumptions (*ES Volume II: Appendix L*), the Design and Access Statement (DAS, *ES Volume II: Appendix M*), and Code of Construction Practice (CoCP, *ES Volume II: Appendix N*).
12. The ES and this ESA together comprise the assessment of the environmental effects of the Scheme.

Structure of the ESA

13. This ESA reports where the findings of the ES, regarding the likely significant effects of the Scheme, have the potential to be materially affected by the proposed modifications or additional information. A review has been undertaken to determine the extent to which the proposed modifications to the Scheme and additional information require the assessment presented in *ES Volume I* to be updated. The results of this exercise are presented in Table 1-1. Table 1-1 also includes a summary of how the proposed modifications, additional information and errata have been addressed in each of the ES chapters. The same approach has been adopted for *ES Volume II: Technical Appendices* and the results are summarised in Table 1-2.

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14. The changes to the information presented in the ES have been recorded on a chapter by chapter basis, following the structure of the ES. In most cases, this simply records, through deletions, the information that is no longer relevant. Where new information is provided, including as a result of new assessment, this has been presented within the relevant topic chapter.
15. Amendments to the ES chapters have been recorded using the following format:
 - Where text has been deleted within a paragraph, this has been struck through.
 - Where an entire paragraph, table or figure has been deleted, the relevant paragraph, table or figure number has been identified.
 - Where part of the content of a table has been deleted, this has been appropriately described.
 - Where additional text has been included this has been underlined.
 - Where a new figure has been included, this has also been identified.
16. The *ES Non-technical Summary* (NTS) presents information to a wide and non-technical audience, providing a concise description of the NLE, development and alternatives, environmental impacts, mitigation measures and residual effects. At the front of this document a Non-technical Summary provides a concise description of the proposed modifications and additional information and their implications as presented in this ESA. Any amendments required to the *ES NTS* are also identified.

Table 1-1 Summary of changes to ES Volume I

ES Volume I Chapter	Implication
1 Introduction	There are minor amendments to this chapter. See <i>Chapter 1A: Introduction</i> .
2 EIA Methodology	There are minor amendments and corrections to this chapter. See <i>Chapter 2A: EIA Methodology</i> .
3 Options and alternatives	There are minor amendments to this chapter. See <i>Chapter 3A: Options and Alternatives</i> .
4 Description of the Northern Line Extension	There are minor amendments to this chapter. An addendum to this chapter has been produced to reflect the proposed minor modifications and additional information described in the Introduction to this ESA. See <i>Chapter 4A: Description of the Northern Line</i> .
5 Planning Policy Context	This chapter remains unchanged.
6 Traffic and transport	The impacts associated with Construction Option A no longer apply. <i>ES Volume I, Chapter 6</i> already includes an assessment of the impacts associated with Construction Option B. The opportunity has also been taken to present an assessment of the traffic and transport effects in the year of opening 2020, before the Vauxhall, Nine Elms and Battersea Opportunity Area

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ES Volume I Chapter	Implication
	<p>(VNEB OA) development is complete. This is presented in <i>ESA Appendix C6</i>.</p> <p>Additional transport modelling for 2031 has been presented to validate the effects identified in the ES once the VNEB OA development is complete.</p> <p>The results of this additional assessment are presented in <i>ESA Chapter 6: Traffic and Transport and appendices C6, C8, C9 and C10</i>.</p> <p>A Preliminary Navigation Risk Assessment has been undertaken to examine river capacity in relation to spoil removal by barge for the NLE scheme. This is presented in <i>ESA Appendix C7</i>.</p>
7 Socio-economics	<p>There are minor amendments to this chapter. See <i>ESA Chapter 7A: Socio-Economics</i>.</p> <p>The proposed modifications and additional information will not alter or introduce additional significant environmental effects to those already assessed and presented in the ES.</p>
8 Archaeology and Built Heritage	<p>There are minor amendments to this chapter. See <i>ESA Chapter 8A: Archaeology and Built Heritage</i>.</p> <p>The negligible environmental effects to archaeological resources/ buried heritage assets associated with Construction Option A as reported in the ES no longer apply as this option is no longer being pursued.</p> <p>The proposed modifications and additional information will not alter or introduce additional significant environmental effects to those already assessed and presented in the ES.</p>
9 Noise and Vibration	<p>There are minor amendments to this chapter. See <i>ESA Chapter 9A: Noise and Vibration</i>. The effects associated with Construction Option A no longer apply as this option is no longer being pursued.</p> <p>The potential purchase and use of additional land at Kennington Green would introduce new receptors during construction. However, the construction activities proposed would not be the noisiest and therefore would not introduce additional significant adverse noise effects.</p> <p>Changes to construction traffic associated with this potential additional land do not alter or introduce additional significant environmental effects beyond those already assessed and</p>

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ES Volume I Chapter	Implication
	presented in the ES.
10 Air Quality	<p>There are minor amendments to this chapter. See <i>ESA Chapter 10A: Air Quality</i>.</p> <p>The effects associated with Construction Option A no longer apply as this option is no longer being pursued.</p> <p>The additional traffic and transport information presented in <i>ESA Chapter 6A</i>, including the 2020 year of opening assessment, does not alter or introduce additional significant environmental effects beyond those already assessed and presented in the ES.</p>
11 Electromagnetic Compatability (EMC)	<p>There are minor amendments to this chapter. See <i>ESA Chapter 11A: Electromagnetic Compatibility</i>.</p> <p>The proposed modifications and additional information will not alter or introduce additional significant environmental effects to those already assessed and presented in the ES.</p>
12 Surface Water Resources and Flood risk	<p>There are minor amendments to this chapter. See <i>ESA Chapter 12A: Surface Water Resources and Flood Risk</i>.</p> <p>The negligible environmental effects on surface water resources, drainage and flood risk associated with Construction Option A no longer apply.</p> <p>The proposed modifications and additional information will not alter or introduce new significant environmental effects to those already assessed and presented in the ES.</p>
13 Land Quality and Groundwater	<p>There are minor amendments to this chapter. See <i>ESA Chapter 13A: Land Quality and Groundwater</i>.</p> <p>The negligible environmental effects to land quality and groundwater associated with Construction Option A no longer apply.</p> <p>The opportunity has been taken to provide additional information in relation to ground settlement effects.</p> <p>The proposed modifications and additional information will not alter or introduce additional significant environmental effects to those already assessed and presented in the ES.</p>
14 Ecology	<p>There are minor amendments to this chapter. See <i>ESA Chapter 14A: Ecology</i>.</p> <p>No significant environmental effects on ecological resources</p>

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ES Volume I Chapter	Implication
	<p>associated with Construction Option A or B were identified in <i>ES Volume I, Chapter 14: Ecology</i>.</p> <p>The proposed modifications and additional information will not alter or introduce additional significant environmental effects to those already assessed and presented in the ES.</p>
15 Townscape and Visual Amenity	<p>The environmental effects on townscape and visual amenity associated with Construction Option A as reported in the ES no longer apply as this option is no longer being pursued.</p> <p>The proposed modifications at Kennington Park and additional information for Kennington Green have the potential to alter the findings presented in <i>ES Volume I, Chapter 15 Townscape and Visual Amenity</i> and have therefore been assessed and reported in this ESA.</p> <p>The further explanation of the temporary facilities at BDCH and relocation of facilities at CGMA confirms the findings of the ES are valid and the works are not expected to alter or introduce additional significant environmental effects beyond those already assessed.</p> <p>The results of the assessment are presented in <i>ESA Chapter 15: Townscape and Visual Amenity</i>.</p>
16 Climate Change Adaptation and Mitigation	<p>Additional transport information has been used to update the Climate Change Model, specifically in relation to the baseline and the operational scenarios.</p> <p>The results of this assessment are presented in <i>ESA Chapter 16A: Climate Change Adaptation and Mitigation</i>.</p>
17 In combination Effects Assessment	<p>There are minor amendments to this chapter. See <i>ESA Chapter 17A: In-combination Effects Assessment</i>.</p> <p>Whilst changes to certain impacts have been identified as a result of the proposed modifications and additional information assessed in this ESA, the scale, magnitude and extent of the impacts and value or sensitivity of the receptors affected, do not alter the significance level of the in-combination effects.</p>
18 Mitigation, Residual Effects and Conclusions	<p>There are minor amendments to this chapter. Where the proposed modifications or additional information have changed the mitigation or residual effects reported <i>ES Volume I, Chapter 18</i>, these have been identified in <i>ESA Chapter 18A: Mitigation, Residual; Effects and Conclusions</i>.</p>

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Table 1-2 Summary of changes to ES Volume II

ES Volume II Appendix	Implication
Appendix A: Scoping and EIA Consultation	There are minor amendments to this appendix in relation to references to temporary grouting shafts is no longer applicable, as Construction Option A is no longer being pursued.
Appendix B: NLE Materials Management Strategy	<p>There are minor amendments and corrections to this appendix. Construction materials and waste associated with Construction Option A (including the temporary worksites) no longer apply as this option is no longer being pursued.</p> <p>The proposed minor amendments and corrections are presented in <i>ESA Chapter 4A</i>.</p>
Appendix C: Traffic and Transport	Appendices presented in <i>ES Volume IIb: Appendix C</i> have been updated to reflect the assessment presented in <i>ESA Chapter 6A: Traffic and Transport</i> . Additional appendices are provided presenting further information on the traffic and transport impacts of the scheme in 2020 and 2031 and a Preliminary Navigation Risk Assessment. See <i>Appendix CA</i> .
Appendix D: Archaeology and Built Heritage	There are minor amendments to this appendix. Information associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued.
Appendix E: Noise and Vibration	There are minor amendments to this appendix. Information associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued.
Appendix F: Air Quality	This appendix remains unchanged.
Appendix G: Electromagnetic Compatibility	This appendix remains unchanged.
Appendix H: Surface Water and Flood Risk	There are minor amendments to this appendix. Information and flood risk protection methods associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued.
Appendix I: Land Quality and Groundwater	<p>There are minor amendments to this appendix. Information associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued.</p> <p>Additional information regarding settlement mitigation is presented in <i>ESA Volume I Chapter 13A</i>.</p> <p><i>Appendix IA</i> now includes LUL Standard S1050 and the NLE Settlement Deed.</p>

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ES Volume II Appendix	Implication
Appendix J: Ecology and Trees	There are minor amendments to this appendix. Information associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued. This includes the Radcot Street and Harmsworth Street Phase 1 Habitat Reports, and the Radcot Street Survey of the Arboricultural Impact Assessment.
Appendix K: Townscape and Visual Amenity	There are minor amendments to this appendix. References to Construction Option A (including the temporary worksites) no longer apply as this option is no longer being pursued. A replacement Comparative Assessment has been produced to reflect the proposed modifications at Kennington Park.
Appendix L: Climate Change Calculations and Assumptions	An addendum to Appendix L (<i>Appendix LA</i>) has been produced to reflect the changes to the climate change model introduced by the updated transport information.
Appendix M: Design and Access Statement	To reflect the minor modifications and additional information an addendum to Appendix M (<i>Appendix MA</i>) has been produced.
Appendix N: Code of Construction Practice and Construction Noise Mitigation	Minor revisions to Part A of the Code of Construction Practice (CoCP) have been made to reflect the removal of Construction Option A and the removal of the replacement community facility at Kennington Park. A revised CoCP Part A is presented in <i>Appendix NA</i> .
Appendix O: Energy and Sustainability	There are minor amendments to this appendix. Information associated with Construction Option A (including the temporary worksites) no longer applies as this option is no longer being pursued.

Chapter 1A: Introduction

17. This addendum to *ES Volume I, Chapter 1: Introduction* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA.

Changes to the ES Chapter

18. The changes to the ES chapter are presented under the relevant chapter heading/sub-heading.

Scheme Overview

Route Development Options

19. The text below replaces paragraph 1.14 of Chapter 1 of the ES.

1.14 *The NLE works also include:*

- *Accommodation works for affected landowners / occupiers including (but not limited to):*
 - *Temporary facilities for Battersea Dogs and Cats Home and Covent Garden Market Authority;*
 - ~~*Temporary and permanent facilities for occupiers of the park lodge at Kennington Park; and*~~
 - *The installation of a water tank for the benefit of the Beefeater Gin Distillery.*
- *Temporary works including worksites at the locations of the proposed stations and shafts / head houses, ~~temporary shafts at Radcot Street and Harmsworth Street~~ and a temporary conveyor and associated alterations to the jetty at BPS to facilitate the transfer of material onto barges.*

20. Within Figure 1-2, the references to Harmsworth Street and Radcot Street no longer apply.

Chapter 2A: EIA Methodology

21. This addendum to *ES Volume I, Chapter 2: EIA Methodology* is to address a minor correction at paragraph 2.34 and clarify the temporal scope applied to the assessment of the NLE. This is presented under the heading/sub-heading within the ES chapter.

EIA Methodology

Temporal Scope

22. The text below replaces paragraph 2.34 of Chapter 2 of the ES.
- 2.34 *The 'Without NLE' scenario assumes that all of the consented schemes (as set out in the cumulative assessment and listed in Table 2-5 within VNEB OA) are built out according to their planning consents as of January 2013, with the exception of specific phases of Battersea Power Station. Battersea Power Station includes a Grampian Condition which means that only Phase 1 (Development Zone RS-1) and the residential areas within the Power Station can be built prior to the NLE becoming open to the public, or it being demonstrated that the NLE would be open to the public before Phase 1 is occupied. The remaining phases of the development therefore cannot come forward under the current consent without the NLE. The number of homes and estimated population and jobs expected under this scenario is set out in Table 2-3.*
23. The text below replaces paragraph 2.35 of Chapter 2 of the ES clarify the temporal scope applied to the assessment of the NLE.
- 2.35 *The environmental effects of the NLE, once operational, are assessed on completion of the VNEB OA in 2031 as this represents a suitable scenario in terms of operational effects. ES Chapters 6: Traffic and Transport, and 15: Townscape and Visual Amenity assess the environmental effects of the NLE, once operational at two points in the future as follows:*
- *At the point of NLE opening, which is assumed to be Q1 of 2020 before the VNEB OA development is complete; and*
 - *At 2031, when the NLE would be operating at standard capacity, and the TfL programme of Transport Network Upgrades has been realised.*

Appendices

24. Within *Appendix A1: May 2011 Scoping Report; A2: May 2011 Scoping Response; and A3: Strategy for Cumulative Impact Assessment* references to temporary grouting shafts is no longer applicable, as Construction Option A is no longer being pursued.
25. Minor amendments have been made to Part A of *Appendix N1: TfL Code of Construction Practice (CoCP)*, to reflect the removal of Construction Option A and the omission of the replacement community facility. This appendix has now been superseded by *Appendix N1A: TfL CoCP*.

Chapter 3A: Options and Alternatives

26. *ES Volume 1, Chapter 3: Options and Alternatives* explains the evolution of the NLE Scheme and includes reference to the temporary construction shaft sites required for Construction Option A. Although this option is no longer being pursued by TfL, the information presented in ES Chapter 3 remains valid as an account of the options considered.

Changes to the ES Chapter

27. The only change to ES Chapter 3 relates to the loss of the replacement community facility at Kennington Park Lodge in response to consultation with the London Borough of Lambeth (LBL) and Friends of Kennington Park. The relevant paragraph has been amended accordingly, using the heading/sub-heading used in the ES Chapter.

Establishment of Preferred Shaft Sites

Southbound Permanent Shaft, Kennington Park

28. The text below replaces paragraph 3.72 of Chapter 3 of the ES.

3.72 *The second option would situate the shaft directly above the southbound running tunnel and avoid above ground construction in this location which would entail the permanent loss of amenity land from the historic Kennington Park. Although Kennington Park Lodge currently houses a community facility the head house could be constructed in such a way as to include a well-designed replacement facility, subject to the views of LBL and local amenity and resident groups (who have been engaged in the development of potential options). The environmental effects of construction would be similar under all options, with a dog walking area within the park requiring temporary relocation.*

Chapter 4A: Description of the Northern Line Extension

29. This chapter includes minor amendments to *ES Volume I, Chapter 4: Description of the Northern Line Extension*, including replacement text and tables that reflect the proposed modifications, additional information and corrections. Any implications on the potential significant effects have been considered for each relevant assessment chapter, where necessary amendments to those chapters are reported in this ESA.

Introduction

30. The text below replaces paragraph 4.1 of Chapter 4 of the ES to reflect the selection of Construction Option B.

4.1 *As described in Chapter 3: Options and Alternatives, a broad range of strategic and project level options have been considered by Transport for London (TfL) in order to best serve the transport requirements of the regeneration of the Vauxhall, Nine Elms and Battersea Opportunity Area (VNEB OA). This chapter provides a description of the Northern Line Extension (NLE), and comprises:*

- *A scheme description overview;*
- *Construction Assumptions and Description of Works;*
 - *A summary of the order of main construction activities, including the outline programme;*
 - *Battersea station worksite activities;*
 - *Nine Elms worksite activities (plus ancillary works);*
 - *Construction of the running tunnels, cross passages and step plate junctions;*
 - ~~*Description of the two potential construction options at the eastern end*~~
 - *Assumed Construction Method;*
 - *Activities associated with the permanent and temporary shafts and worksites under each construction options (plus ancillary works);*
 - *Construction of Kennington station cross passages; and*
 - *Overview of Code of Construction Practice (CoCP) and how materials are managed.*
- *A summary of the operational NLE once completed including;*
 - *Battersea station and illustrative public realm;*
 - *Nine Elms station and illustrative public realm;*
 - *Above ground elements at the permanent shaft sites (e.g. head houses and illustrative public realm);*
 - *Train operations; and*
 - *Stations' operations and ventilation overview.*

Scheme Description Overview

31. The text below replaces paragraph 4.7 of Chapter 4 of the ES to reflect the removal of the temporary shaft sites.

Chapter 4A: Description of the Northern Line Extension

- 4.7 The NLE works also include:
- Accommodation works for affected landowners / occupiers including (but not limited to):
 - Temporary facilities for Battersea Dogs and Cats Home and Covent Garden Market Authority;
 - Temporary and permanent facilities for occupiers of the park lodge at Kennington Park; and
 - The installation of a water tank for the benefit of the Beefeater Gin Distillery.

Temporary works including worksites at the locations of the proposed stations and shafts / head houses, ~~temporary shafts at Radcot Street and Harmsworth Street~~ and a temporary conveyor and associated alterations to the jetty at BPS to facilitate the transfer of material onto barges.

32. The text below provides additional information regarding the enabling works. It is inserted following paragraph 4.7 of Chapter 4 of the ES.

Utilities

- 4.7A The proposed works include associated enabling and utilities works, including measures that will allow the NLE tunnels to pass near to other existing tunnels (existing sewer, water and cable tunnels and the existing Victoria Line and Northern Line running tunnels) and for the settlement or heave effects to be mitigated.
- 4.7B The potential effects on existing shallow depth services are reported in the ground settlement report in Appendix I2 of the ES, sufficient to identify the services that are critically affected; detailed designs for diversion and mitigation will be undertaken as part of the main works design and the site works either as enabling works or as part of the main construction works.
- 4.7C The key existing deep tunnels which pass near to the proposed NLE are:
- Thames Water London Ring Main (just east of Battersea station)
 - Thames Water South West Storm Relief Sewer (east of Battersea station)
 - UK Power Networks (formerly EDF) Cable tunnel (east of Battersea Station)
 - London Underground Victoria Line running tunnels (between Nine Elms and Kennington); and
 - London Underground Northern Line (Morden Branch) running tunnels (between Nine Elms and Kennington – above southbound NLE only).
- 4.7D All of the works (including enabling utilities) completed under the powers of the Order will follow the Code of Construction Practice (ESA Appendix NA).

Chapter 4A: Description of the Northern Line Extension

Indicative Construction Programme

33. The text below replaces paragraph 4.14 of Chapter 4 of the ES to reflect the selection of Construction Option B and associated removal of the temporary shaft sites.

- 4.14 *The construction of the NLE is expected to be carried out in the following broad sequence of activities:*
- *Enabling works, utilities and excavation of two station boxes at the worksites of Battersea and Nine Elms stations;*
 - *Launching of two tunnel boring machines (TBMs) from the Battersea worksite that will follow the proposed route, via Nine Elms to two 'permanent shafts' at Kennington Park and Kennington Green worksites;*
 - ~~*Here, two construction options are being considered, one of which will require the construction of 'temporary shafts' at Radcot Street and Harmsworth Street worksites in order to enable the safe construction of the step plate junctions to connect with the existing Kennington Loop and build a reception chamber to enable the TBMs to be dismantled;*~~
 - ~~*At a similar time to this, Further works will occur at the station and permanent shaft worksites that involve the construction of the above ground elements (i.e. stations and head houses); and*~~
 - *The commissioning of the NLE will then occur, followed by commencement of passenger services.*

34. The text below replaces paragraph 4.15 of Chapter 4 of the ES to reflect the selection of Construction Option B.

- 4.15 ~~*Tables 4-1 and 4-2 sets out the key construction activities and their indicative duration. As described later in this chapter, there are two construction options, Option A (Table 4-1), and Option B (Table 4-2). It is expected that under both options site enabling works would commence in Q4 of 2014/Q1 of 2015, and the NLE would be operational by 2020.*~~

35. The selection of Construction Option B now means that Table 4-1 is not relevant to the assessment and is deleted.

Battersea Dogs and Cats Home (BDCH)

36. The text below provides additional information regarding the proposed temporary accommodation works for the possible temporary relocation of part of Battersea Dogs and Cats Home and is inserted following paragraph 4.22 of Chapter 4 of the ES.

4.22A *Proposed tunneling works beneath and adjacent to the Battersea Dogs and Cats Home are anticipated to require protective works to the foundations of the existing building known as Kent House. These works may require the temporary relocation of part of BDCH to an alternative location. It assumed*

Chapter 4A: Description of the Northern Line Extension

that these works would be located on land within Plots 20105 and 20106, identified on Sheet No. 2 of the Deposited Plans and Sections.

4.22B This area of land is located to the west of the railway viaduct and the east and north of the Battersea Gas Holders. The land is currently occupied by Battersea Dogs and Cats Home and includes car parking areas, hardstanding and single storey ancillary buildings.

4.22C The detailed design of the temporary accommodation is not currently fixed but to assess the likely effects of the works it has been assumed that the works would include approximately 4,100m² of floor area, providing a comparable level of accommodation to the existing building. It has been assumed that the works would include the following development:

- **Kennels and cattery, administrative/office accommodation:** provided within a modular building approximately 5 storeys in height (15m), located on a concrete foundation base.
- **Reception, entrance and shop counter:** provided within a single storey modular building approximately 3m in height, located on a concrete foundation base.
- **Veterinary facilities, including clinic, recovery kennels and ancillary areas:** provided within a single storey modular building, located on top of a raised podium platform, approximately 3m above the retained car park area, providing a building approximately 7m above the ground.

4.22D The modular buildings would be temporary structures that do not require significant below ground construction works. The temporary works are anticipated to be in place for a period up to around 18 months, following which the facilities and the land would be fully reinstated as soon as practically possible to the condition they were in before those works were carried out.

Covent Garden Market Authority (CGMA) Boiler House

37. The text below provides additional information regarding the proposed temporary accommodation works for the CGMA Boiler House and replaces paragraph 4.27 of Chapter 4 of the ES.

4.27 CGMA are also understood to be preparing proposals to redevelop this part of their site, likely to comprise a residential led mixed use development. A boiler house and chimney forms part of the CGMA land which provides heating and cooling to the market buildings. It remains to be determined whether or not the current boiler house facility requires removal and/or relocation to facilitate the construction of the NLE. In the event that no alternative solution is agreed with CGMA regarding their boiler house, it is likely that a temporary boiler house will be provided on

Chapter 4A: Description of the Northern Line Extension

land parcel 40015 to the north west of the existing boiler house and adjacent to NLE worksite. The temporary boiler house would be a modern efficient facility and would be considerably smaller than the existing boiler house (which is currently operating well below capacity due to the condition and age). The temporary facility would be seen in the context of the worksite and the nearby railway viaduct. It is assumed that it would be within of the same height and of a modern modular appearance and is most likely to lead to lower environmental effects to those of the existing plant and has been appropriately considered within this assessment. This element can be decoupled from the main works construction programme as it can be constructed when required.

Tunnel Construction Method Options

38. As noted at paragraph 4.44 of the ES, the preferred construction option could only be prudently selected once the procurement process had progressed further. Since the TWAO application submission the procurement process has advanced to a sufficient stage to enable TfL to confirm that Option B is considered to be an appropriate technical option. When taking into account proposed mitigation, both options were considered to be acceptable in environmental terms, but Option B would not require the temporary shafts, eradicating construction work in Radcot Street and Harmsworth Street and it might also result in a shorter overall construction programme. To reflect this scheme refinement, paragraph 4.43 has now been deleted and paragraph 4.44 of Chapter 4 of the ES would be replaced as follows:

~~4.44 For Construction Option A, the TBMs will run from Battersea to the step plate junctions. For Construction Option B, SCL will is anticipated to be used for the final section of tunnels between the Kennington shafts and the step plate junctions. The preferred construction option will and can only prudently be selected once the procurement process has progressed further. Both construction options have been considered in the relevant topic chapters of this ES and the proposed mitigation has been prepared to take account of both options.~~

~~Construction Option A~~

39. Paragraphs 4.45 and 4.46 have now been deleted as these relate to Construction Option A.

Permanent Shaft Worksites

40. The text below replaces paragraph 4.51 of Chapter 4 of the ES to reflect the selection of Construction Option B and associated removal of the temporary shaft sites.

4.51 ~~The permanent shaft worksites at Kennington Park and Kennington Green will be required under both construction options. However, for Construction Option B, these permanent shaft worksites will also require will include grouting preparation areas associated with~~

Chapter 4A: Description of the Northern Line Extension

grouting works from the gallery tunnels.

Kennington Green Worksite

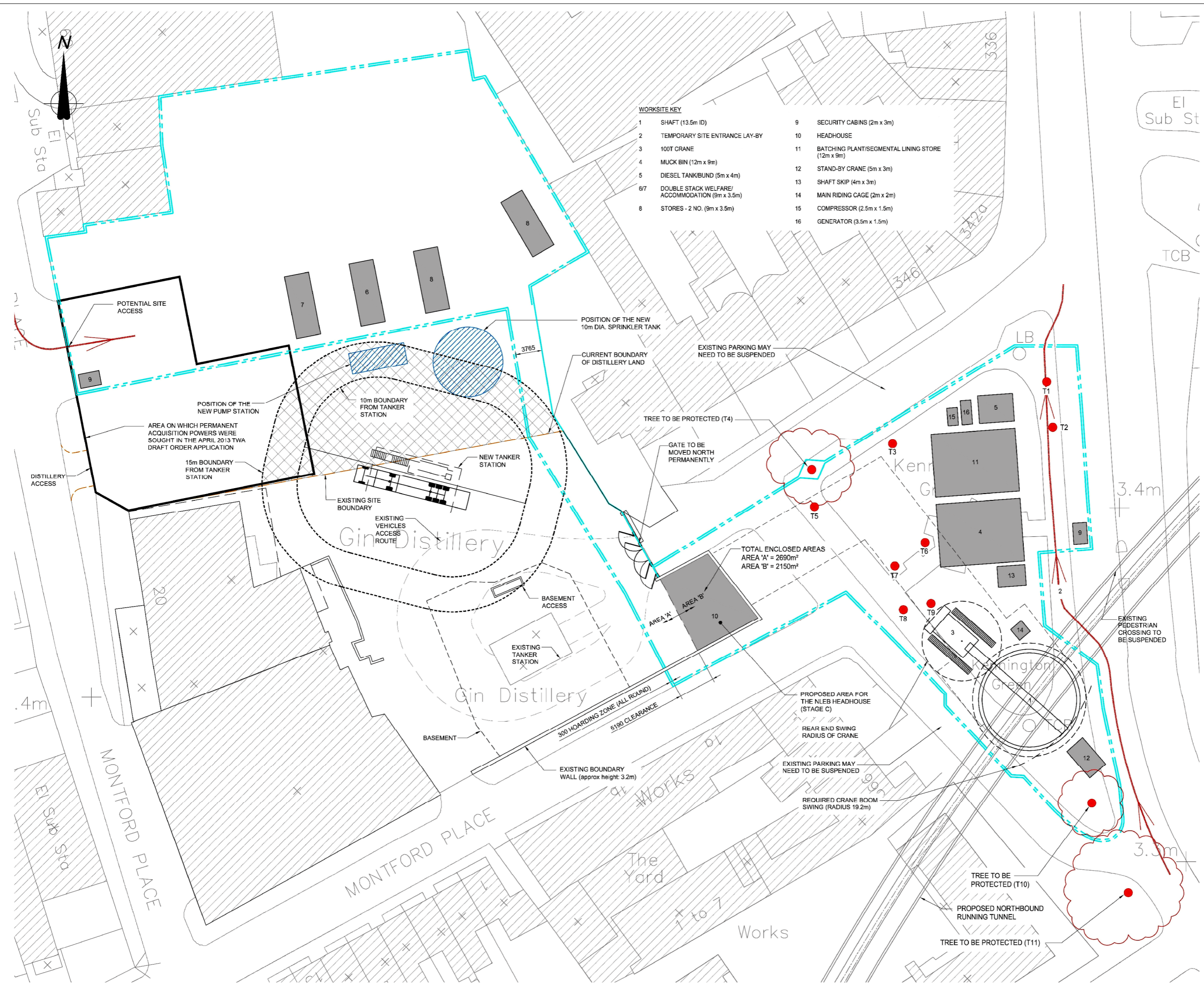
41. The text below provides further information regarding the potential acquisition and use of additional land that may be used as a construction worksite. It is inserted following paragraph 4.56 of Chapter 4 of the ES. Figure 4-6A is also provided to supplement Figure 4-6, illustrating the possible additional land that may be used.

4.56A *Since submission of the application TfL has been in discussion with a nearby landowner with a view to agreeing the purchase of additional land to be used as part of the construction site area. If this additional land is acquired, as is currently expected to be the case, it would provide an additional area for storage of materials and welfare and accommodation units for construction contractors, as well as an alternative access and additional operational land for the distillery. The land will provide space for the distillery's proposed new water tank and associated pump house and a relocated ethanol filling station. This alternative configuration has been assessed in this assessment and is illustrated on Figure 4-6A.*

4.56B *As the land in question has yet to be secured, TfL continues to seek powers under the TWAO application for its original proposals. If the additional land is acquired, the water tank and associated pump house will be dealt with under a separate planning application under the Town and Country Planning Act (1990) by the Distillery as will the relocation of the ethanol filling station by the distillery. If the land is acquired, the possible use of part of it for NLE construction would also be progressed by TfL submitting a separate planning application under the Town and Country Planning Act 1990.*

Table 4-5 Kennington Green Permanent Shaft Construction Summary

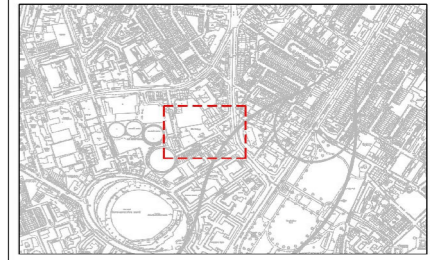
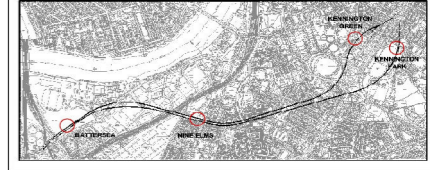
42. Table amended to delete the rows / text relating to Construction Option A that is no longer applicable to this assessment.



WORKSITE KEY

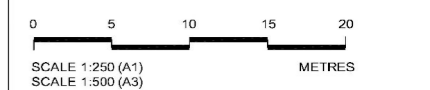
1	SHAFT (13.5m ID)	9	SECURITY CABINS (2m x 3m)
2	TEMPORARY SITE ENTRANCE LAY-BY	10	HEADHOUSE
3	100T CRANE	11	BATCHING PLANT/SEGMENTAL LINING STORE (12m x 9m)
4	MUCK BIN (12m x 9m)	12	STAND-BY CRANE (5m x 3m)
5	DIESEL TANK/BUND (5m x 4m)	13	SHAFT SKIP (4m x 3m)
6/7	DOUBLE STACK WELFARE/ACCOMMODATION (9m x 3.5m)	14	MAIN RIDING CAGE (2m x 2m)
8	STORES - 2 NO. (9m x 3.5m)	15	COMPRESSOR (2.5m x 1.5m)
		16	GENERATOR (3.5m x 1.5m)

Location Plan



- Notes:**
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - SITE HAS A MEDIUM TO LARGE 360° TRACKED EXCAVATOR TO LOAD MUCK LORRIES.

- General Key:**
- TREE
 - TREE CANOPY SPREAD
 - SITE ACCESS ROUTE
 - 2.4m HIGH HOARDING
 - SITE BOUNDARY



Rev	By	Chkd	App	Date	Description
02	JP	KH	SL	02.08.13	GENERAL UPDATES
01	JP	KH	SL	25.07.13	FIRST DRAWN

Client:
Transport for London



Halcrow Group Ltd.
A CH2M HILL COMPANY
Elms House, 43 Brook Green
HammerSmith, London W6 7EF
TEL: 020 3479 8000
FAX: 020 3479 8001
www.halcrow.com

Project:
NORTHERN LINE EXTENSION TO BATTERSEA TWAO FOR TFL

Title:
POSSIBLE ADDITIONAL LAND FOR KENNINGTON GREEN VENTILATION SHAFT CONSTRUCTION WORKSITE & ADDITIONAL OPERATIONAL LAND FOR THE BEEFEATER DISTILLERY

Suitability:
S4 FORMAL ISSUE TO CLIENT

Drawn by: JP Date: 25/07/2013
Checked by: KH Date: 25/07/2013
Approved by: SL Date: 25/07/2013

Drawing Scale: 1:250 @ A1

From Drawing Ref: GRNLEB-HGL-TU-XX-DR-TUN-23005 Revision: 02

Drawing No: **Figure 4-6A**

Chapter 4A: Description of the Northern Line Extension

Kennington Park Worksite

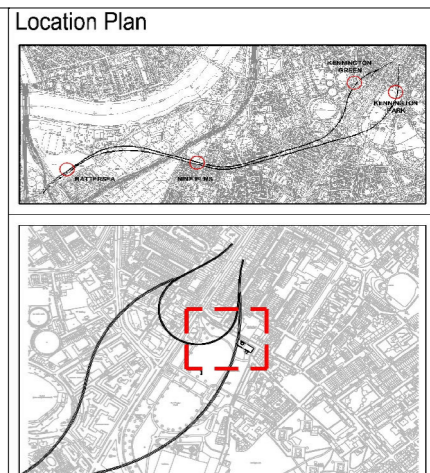
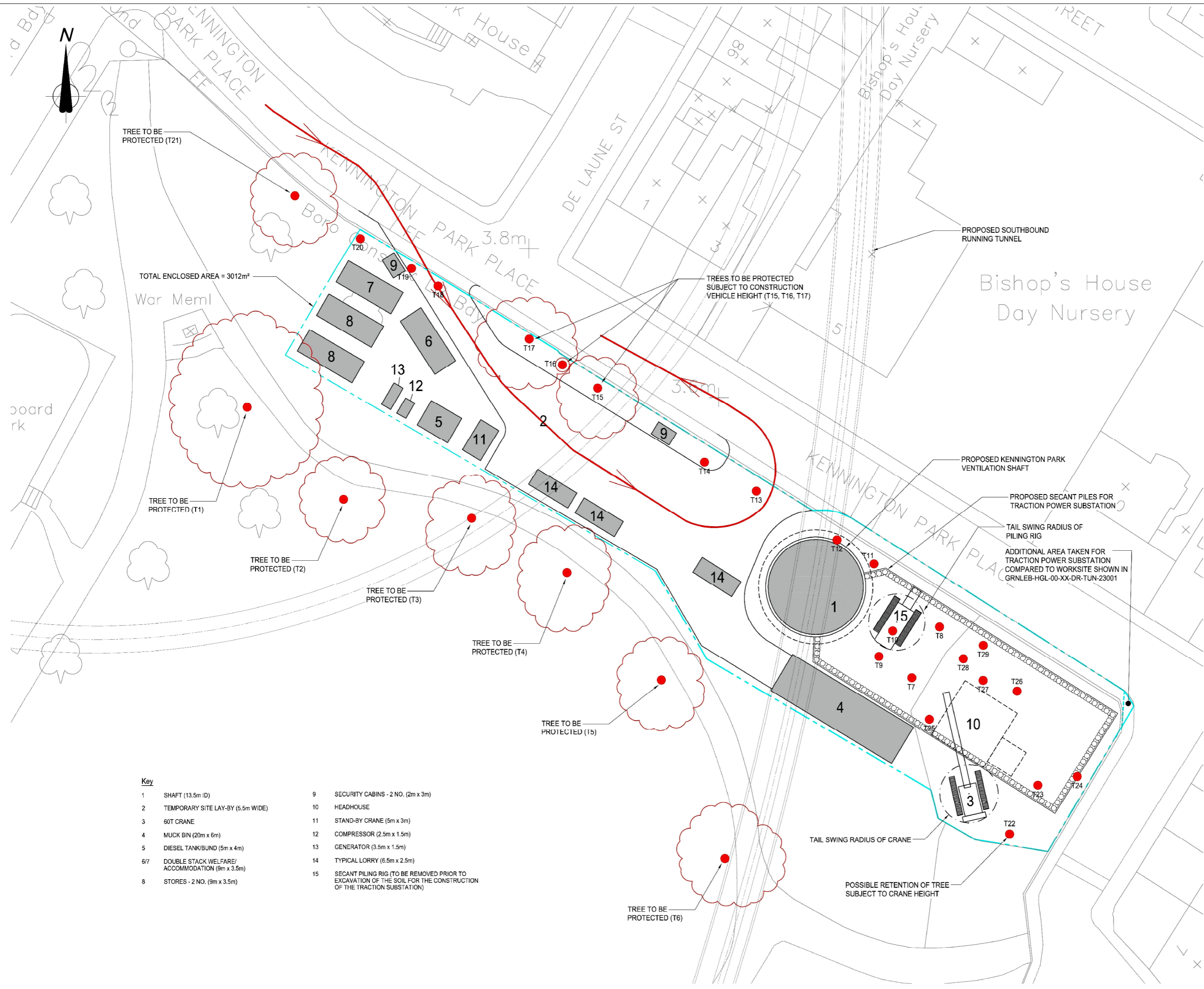
43. Since submission of the TWAO, LBL have confirmed to TfL that they intend to relocate Bee Urban (the current occupiers of Kennington Park Lodge) and the Friends of Kennington Park from Kennington Lodge to an alternative location in advance of the commencement NLE construction works. TfL have agreed to pay LBL compensation for their loss of the Lodge. As LB Lambeth intend to relocate the occupiers independently from the NLE, the temporary Apiary facilities illustrated on Figure 4-8 are now no longer required. Figure 4-8 has been deleted accordingly and paragraph 4.64 of Chapter 4 of the ES is deleted. Figure 4-7 has been updated to reflect removal of the replacement community building. This is replaced by Figure 4-7A.

Table 4-6 Kennington Park Permanent Shaft Construction Summary

44. Table amended to delete the rows / text relating to Construction Option A that is no longer applicable to this assessment.

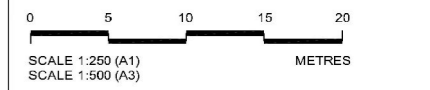
Temporary Shaft Worksites

45. Paragraph 4.66 to 4.80 of Chapter 4 of the ES relate to the temporary shaft construction worksites and are deleted to reflect the selection of Construction Option B. Table 4-7 and Table 4-8 have now been deleted.
46. Figures 4-9 and 4-10 have now been deleted as these related to the temporary shaft worksites at Radcot Street and Harmsworth Street.



- Notes:**
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - SITE HAS A MEDIUM TO LARGE 360° TRACKED EXCAVATOR TO LOAD MUCK LORRIES.

- General Key:**
- TREE
 - TREE CANOPY SPREAD
 - SITE ACCESS ROUTE
 - 2.4m HIGH HOARDING



Rev	By	Chk'd	App	Date	Description
03	JP	BGS	SL	01/08/13	COMMUNITY BUILDING REMOVED
02	LS	BS	SL	15/03/13	HEADHOUSE REVISED: BUILDING ADDED
01	JP	BS	SL	17/01/13	FIRST DRAWN

Client:
Transport for London

URS

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Buro Happold
Consulting Engineers

Halcrow

Halcrow Group Ltd.
AECOM HILL COMPANY
Elms House, 43 Brook Green
HammerSmith, London W6 7EF
TEL: 020 3479 8000
FAX: 020 3479 8001
www.halcrow.com

Project:
**NORTHERN LINE EXTENSION
TO BATTERSEA
TWO FOR TFL**

Title:
**ILLUSTRATIVE KENNINGTON PARK
TRACTION POWER SUB-STATION
CONSTRUCTION WORKSITE
REQUIREMENTS**

Suitability:
S4 FORMAL ISSUE TO CLIENT

Drawn by: JP Date: 17/01/2013
Checked by: BS Date: 17/01/2013
Approved by: SL Date: 17/01/2013

Drawing Scale:
From Drawing Ref: GRNLEB-HGL-00-XX-DR-TUN-23002 Revision: 03
Drawing No: **Figure 4-7A**

- Key**
- | | |
|--|--|
| 1 SHAFT (13.5m ID) | 9 SECURITY CABINS - 2 NO. (2m x 3m) |
| 2 TEMPORARY SITE LAY-BY (5.5m WIDE) | 10 HEADHOUSE |
| 3 60T CRANE | 11 STAND-BY CRANE (5m x 3m) |
| 4 MUCK BIN (20m x 6m) | 12 COMPRESSOR (2.5m x 1.5m) |
| 5 DIESEL TANK/BUND (5m x 4m) | 13 GENERATOR (3.5m x 1.5m) |
| 6/7 DOUBLE STACK WELFARE/
ACCOMMODATION (9m x 3.5m) | 14 TYPICAL LORRY (6.5m x 2.5m) |
| 8 STORES - 2 NO. (9m x 3.5m) | 15 SECANT PILING RIG (TO BE REMOVED PRIOR TO
EXCAVATION OF THE SOIL FOR THE CONSTRUCTION
OF THE TRACTION SUBSTATION) |

Chapter 4A: Description of the Northern Line Extension

Distillery Water Tank

47. The text below replaces paragraph 4.84 of Chapter 4 of the ES, and provides further information (4.84A and 4.84B) to reflect the updated position regarding the Distillery Water Tank.

- 4.84 *As a result of the construction of the head house within the Beefeater Gin Distillery, a water tank that was intended to be constructed by the distillery owners on the same site is now proposed to be constructed in an alternative location. The TWAO includes powers to locate a water tank on land to the north of the distillery on Montford Place owned by Tesco. A section of the TWAO water tank included in the Scheme is shown in Figure 4-12.*
- 4.84A *TfL are continuing to negotiate with Tesco and Beefeater regarding the position of the alternative location within the Tesco land where a water tank and also an ethanol loading and discharge facility can be sited. Beefeater have recently submitted a planning application for a location different to that proposed under the powers sought in the TWAO, as shown on Figure 4-12A, and TfL are in the process of acquiring the land that would allow Beefeater to proceed with this option. This alternative location has been taken into account in this assessment which has been confirmed that the alternative siting would not give rise to any new or materially different significant environmental effects than those already assessed.*
- 4.84B *If the Tesco land is acquired and Beefeater's proposals for the alternative water tank and ethanol loading and discharge facility are granted planning permission, TfL would not need to exercise the comparable powers being sought in the TWAO in respect of the water tank.*

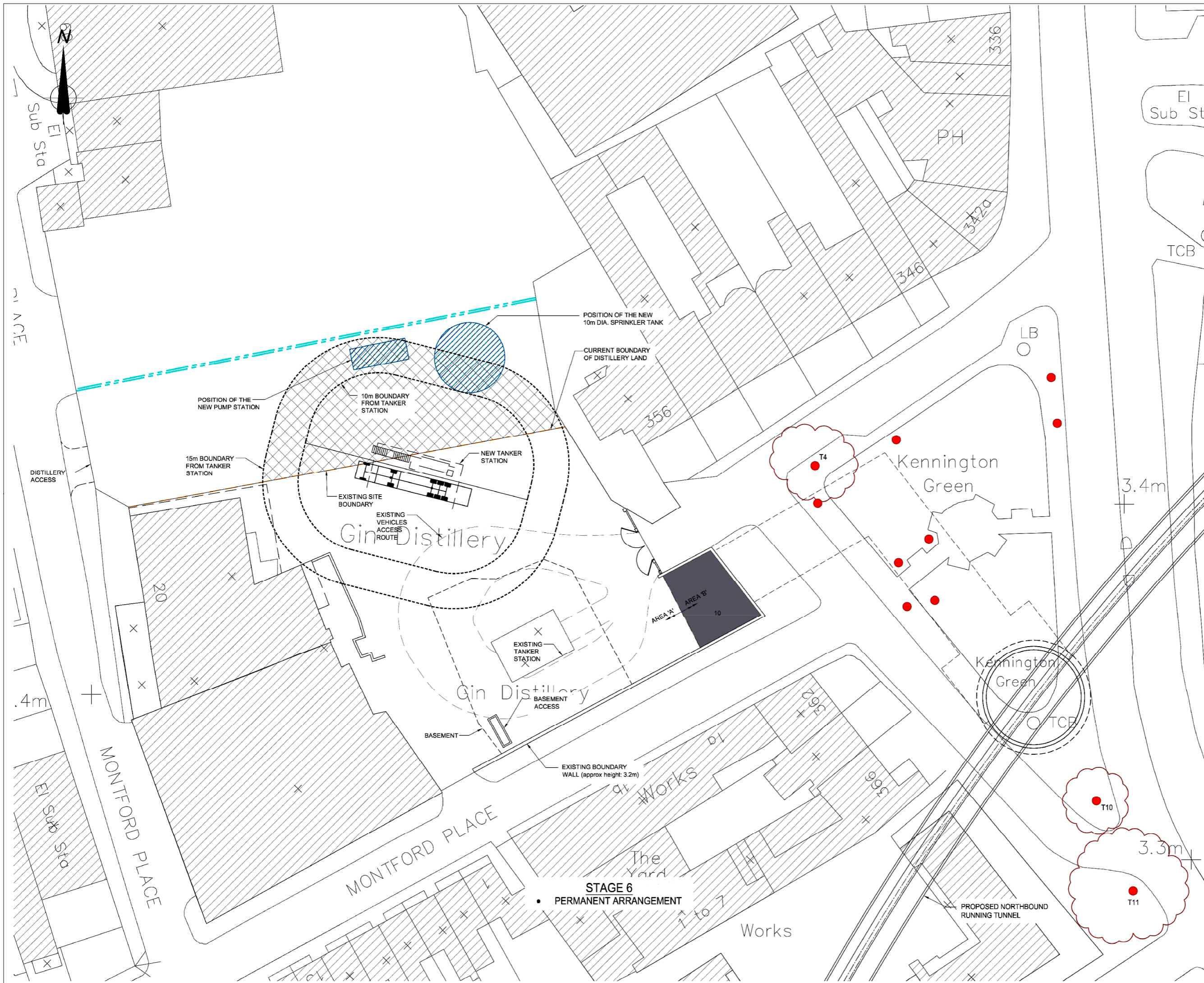
Materials Strategy Summary

48. The text below replaces paragraph 4.94 of Chapter 4 of the ES to reflect the selection of Construction Option B.

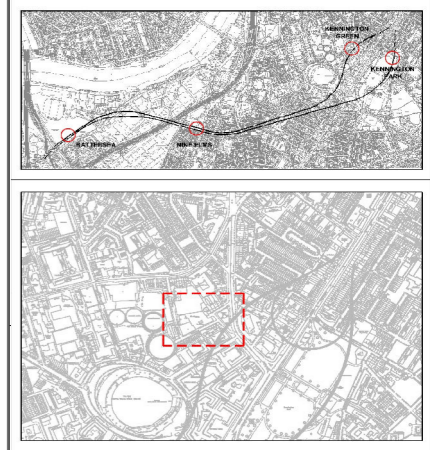
- 4.94 *Wherever practicable, any excavated material that is not contaminated will be loaded via an inclined conveyor into a hopper. Material will then be transported via a series of conveyors to the jetty to the north of the worksite, where it will be loaded into the barges. ~~Under Option A and Option B an estimated 70% and 68% (by volume) respectively of material is expected to be removed by barge, with the remainder by road.~~*

Table 4-9 Clean Excavated Material Generated by the NLE

49. Within Table 4-9, the columns relating to Construction Option A and rows relating to Temporary Shafts are no longer applicable and have been deleted. A correction has been made, in the remaining Construction Option B, of typographical errors to the column "Volume of Excavated Materials" which is the as-dug volume. The typographical errors occurred in the rows for Nine Elms station and the portion of the running tunnels transported by



Location Plan



- Notes:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 2. SITE HAS A MEDIUM TO LARGE 360° TRACKED EXCAVATOR TO LOAD MUCK LORRIES.

- General Key:**
- TREE
 - TREE CANOPY SPREAD
 - SITE ACCESS ROUTE
 - 2.4m HIGH HOARDING
 - SITE BOUNDARY



Rev	By	Chk	App	Date	Description
01	JP	KH	SL	08.08.13	FIRST DRAWN

Client:
Transport for London

URS

studiodareARCHITECTS

Buro Happold Consulting Engineers

Halcrow Group Ltd.
A CH2M HILL COMPANY
Elms House, 43 Brook Green
Hammermith, London W6 7EF
TEL: 020 3479 8000
FAX: 020 3479 8001
www.halcrow.com

Halcrow

Project:
NORTHERN LINE EXTENSION TO BATTERSEA TWAO FOR TfL

Title:
ALTERNATIVE PROPOSALS FOR THE DISTILLERY'S WATER TANK, INCLUDING AN ETHANOL LOADING AND DISCHARGE FACILITY - PLANNING APPLICATION PROPOSAL

Suitability:
S4 FORMAL ISSUE TO CLIENT

Drawn by: JP Date: 08/08/2013
Checked by: KH Date: 08/08/2013
Approved by: SL Date: 08/08/2013

Drawing Scale:
From Drawing Ref: GRNLEB-HGL-TU-XX-DR-TUN-23016 Revision: 01
Drawing No: **Figure 4-12A**

Chapter 4A: Description of the Northern Line Extension

road. Corresponding corrections are also made to Table 1-4 of the Materials Management strategy in *Appendix B1*.

50. The Bulk Volume of Excavated Materials column contained several typographical errors. The correct bulked volumes, which were used in the analysis of vehicle movements and removal of material by river have now been included.
51. The corrections have been made by the inclusion of a replacement table. The assessment presented in the ES was based on the original, and correct, source material, so the corrections presented in ES Table 4-9 and Table 4-1 of Appendix B1 does not alter the assessment presented in the submitted ES.

Chapter 4A: Description of the Northern Line Extension

Table 4-9A Clean Excavated Material Generated by the NLE

Works	As Dug Volume of Excavated Material (m³)	Bulked Volume of Excavated Material (m³)
Nine Elms Station Box	110,310 <u>150,305</u>	241,380 <u>210,427</u>
Battersea Station Box	76,340	15,910 <u>106,876</u>
Overrun Tunnels and Platform Tunnels at Battersea	12,170	24,130 <u>17,038</u>
Crossover at Battersea	71,200	131,010 <u>99,680</u>
Running Tunnels	141,730 (of which 5,520 <u>8,010</u> transported by road)	283,710 <u>225,166</u>
Step Plate Junctions	9,030	18,060 <u>12,642</u>
Kennington Park (Permanent Shaft) and Substation	12,500	25,000 <u>17,500</u>
Kennington Green (Permanent Shaft)	6,730	13,150 <u>9,422</u>
Cross Passages	2,160	4,870 <u>3,024</u>
Gallery Tunnels	6,290	12,580 <u>8,806</u>
Total	448,460 <u>488,455</u>	486,090 <u>710,581</u>

Chapter 4A: Description of the Northern Line Extension

The Completed and Operational NLE

Nine Elms station

52. Further to the details provided in paragraph 7 of this ESA, the text below provides additional and replacement text in relation to the Nine Elms station, clarifying the position regarding the potential western ticket hall.

4.110A *The illustrative Nine Elms station design does not currently include an additional western ticket hall to the station, as it is not a necessary requirement of the NLE. The powers sought in the TWAO would, however, accommodate a western ticket hall, with lifts accessing the platforms.*

Kennington Green Head House and Public Realm Improvements

53. The ES identifies an illustrative public realm landscape masterplan for Kennington Green on completion of works. After further consideration, three level access points to the central grassed area of Kennington Green as proposed to allow all users to enjoy this open space.
54. Figure 4-22 has been updated to reflect this and included in this ESA as Figures 4-22A.

Kennington Park Head House, Traction Substation, ~~Community Facility~~ and Public Realm Improvements

55. The ES identifies provision of a replacement community building in the north-east corner of the park adjacent to the proposed head house to replace the community facilities lost through the demolition of Kennington Park Lodge. As noted at paragraph 44 of this ESA LB Lambeth intend to relocate the existing occupiers in advance of the NLE Construction works. The replacement community building included in the TWAO is therefore no longer required and it is proposed to remove this structure. To reflect this change paragraph 4.120 of Chapter 4 of the ES is replaced with the following text.

4.120 *Kennington Park Lodge is proposed to be demolished, with the head house and traction substation ~~and replacement community facility~~ located on its current footprint. There is the potential opportunity to increase the area of the park by approximately 400m². Outdoor garden space will also be re-provided for community uses.*

56. The text below replaces paragraph 4.122 of Chapter 4 of the ES.

4.122 *The ground and mezzanine levels of the head house ~~and community facility~~ are shown in Figure 4-23A. Sections of the Kennington Park shaft, traction substation and head house are shown in Figure 4-24A.*

4.123 *The illustrative Landscape Masterplan site is shown in*

Chapter 4A: Description of the Northern Line Extension

Figure 4-25A.

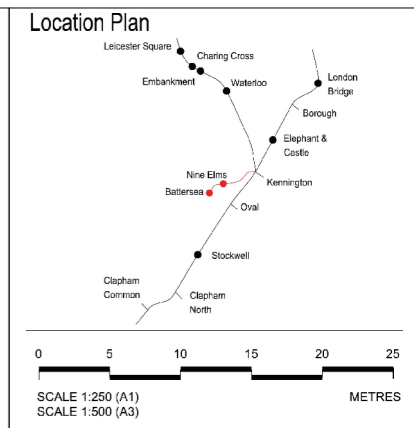
57. Figures 4-23 to 4-25 have been updated to reflect these changes and included in this ESA as Figures 4-23A, 4-24A and 4-25A.

Appendices

58. The paragraphs below identify the corrections to the text within *Appendix B: NLE Materials Management Strategy*, volumes of excavated material.
59. Within paragraphs 1.8, 1.11, 1.52, 1.57, 1.106, 1.111, and 1.112, text relating to Construction Option A and temporary shafts is no longer applicable and has been deleted due to Construction Option A no longer being pursued.
60. Paragraph 1.10 has been deleted as it is no longer applicable, as Construction Option A is no longer being pursued.
61. Within Table 1-3, the row of text relating to the 'Temporary Shaft (Option A only)' is no longer applicable and has been deleted due to this option no longer being pursued.
62. Within Table 1-4, the column of text relating to the 'Temporary Shaft (Option A only)' is no longer applicable and has been deleted due to this option no longer being pursued.
63. Within paragraph 1.69, text relating to the explanation for both construction options is no longer applicable and has been deleted due to Construction Option A no longer being pursued.
64. Table 1-5 still stands but this only applies to Construction Option B as Construction Option A is no longer being pursued.
65. In addition, within Appendix B, references to Construction Option A (and temporary shafts) is no longer applicable, as this option is no longer being pursued.
66. *Appendix M: Design and Access Statement* has been updated to reflect the changes introduced by the proposed modifications to the scheme, such as the omission of the replacement community facility at Kennington Park. In addition, within Appendix M, references to temporary shafts at Radcot Street and Harmsworth Street are no longer applicable, as Construction Option A is no longer being pursued.
67. Within *Appendix O1: Outline Energy Strategy* and *Appendix O2: Project Sustainability Appraisal Report* references to Construction Option A and temporary shafts at Radcot Street / Harmsworth Street are no longer applicable, as Construction Option A is no longer being pursued. In addition, text associated with the omission of the proposed replacement of the community facility is no longer applicable.



- Key**
1. Outline of underground structure (in black dotted line)
 2. Stone paved footpath
 3. Stone paved carriage way (existing width and parking area maintained)
 4. Stone paved raised crossing
 5. Flat grassed area
 6. Seating
 7. Potential location for future artwork (design and exact location to be confirmed)
 8. Retained existing tree
 9. New tree
 10. Proposed head house
 11. Access to gin distillery
 12. Retained existing light / CCTV column
 13. Street light column
 14. Litter bin
 15. Telephone box
 16. Gin distillery service yard
 17. Cycle stands
 18. Low post and chain fence
 19. Pelican crossing
 20. Level access point to grassed area



Changes since submission of TVAO in April 2013 relate to:
 - Level access point to grassed area
 - Extent of low post and chain fence

This drawing is illustrative only.



Rev	By	Chkd	App	Date	Description
14	RH	KW	HA	19/08/13	Minor amendments
13	RH	KW	HA	15/08/13	Revision notes added
12	YT	KW	HA	02/08/13	Minor amendments
11	YT	KW	HA	26/07/13	Revised for August 2013 submission, suffix A added to POD no.
10	YT	KW	HA	18/07/13	Formal issue to client
09	YT	KW	HA	16/07/13	Formal issue to client
08	YT	KW	HA	27/03/13	Formal issue to client
07	YT	KW	HA	25/03/13	Formal issue
06	YT	KW	HA	21/03/13	Minor amendments
05	YT	KW	HA	18/03/13	Minor amendments
04	YT	KW	HA	11/03/13	Planning direction drawing number amended
03	YT	KW	HA	07/03/13	Planning direction drawing number added
02	YT	KW	HA	04/03/13	Engineering changes and minor amendments
01	YT	KW	HA	27/02/13	Draft
00	YT	KW	HA	19/02/13	Draft

Client:
Transport for London

URS

JOHN McASLAN + PARTNERS
studiodareARCHITECTS

Buro Happold
Consulting Engineers

Halcrow Group Ltd.
A CH2M HILL COMPANY
Elms House, 43 Brook Green
Hammersmith, London W6 7EF
TEL: 020 3479 8000
FAX: 020 3479 8001
www.halcrow.com

Project:
**NORTHERN LINE EXTENSION TO BATTERSEA
PLANNING DIRECTION DRAWINGS**

Title:
**ILLUSTRATIVE
KENNINGTON GREEN
HEAD HOUSE PROPOSED
LANDSCAPE MASTERPLAN**

Suitability:
S4 FORMAL ISSUE TO CLIENT

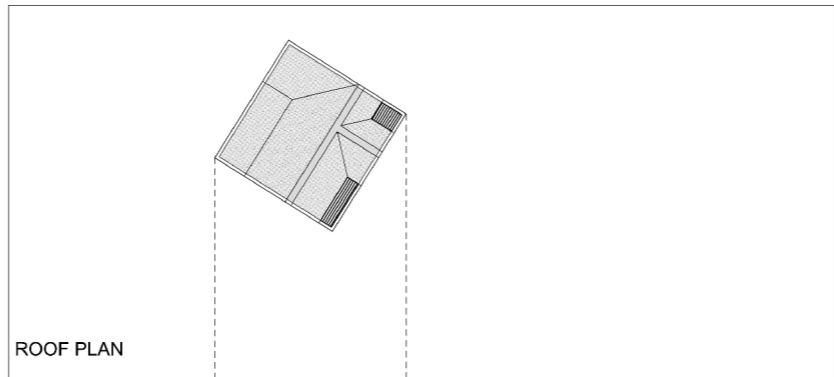
Drawn by: WS Date: 19/02/13
 Checked by: KW Date: 19/02/13
 Approved by: HA Date: 19/02/13

Drawing Scale: 1:250 @ A1 or 1:500 @ A3

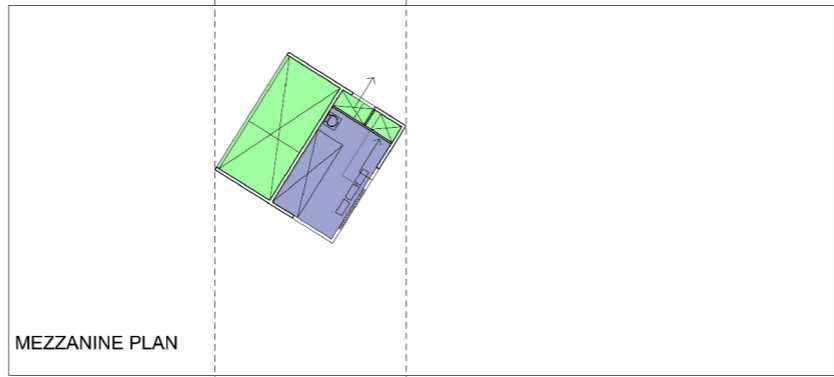
From Drawing Ref: 1453-KG-G710-P-00
 Drawing No: Figure 4-22A

Revision: 14

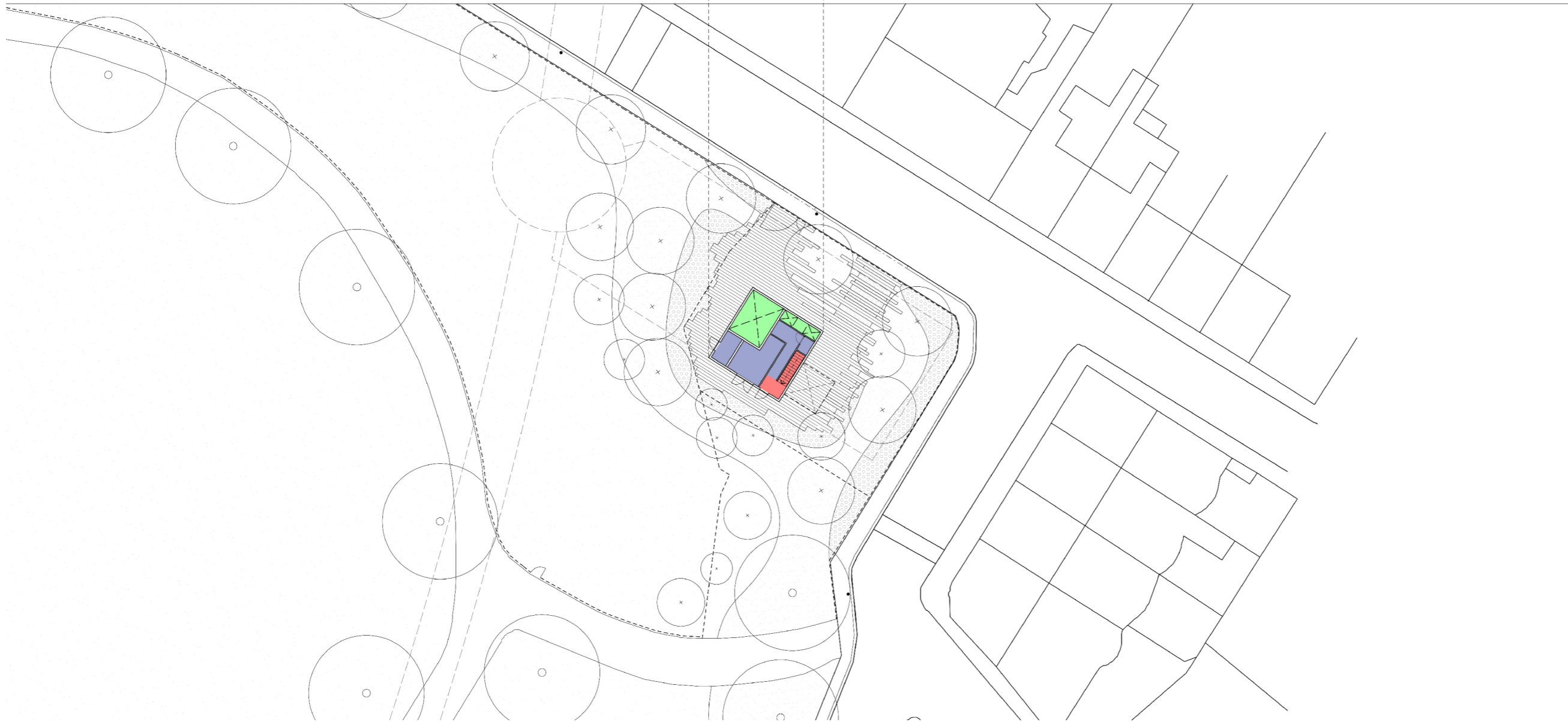
PLANNING DIRECTION DRAWING NUMBER 68A



ROOF PLAN



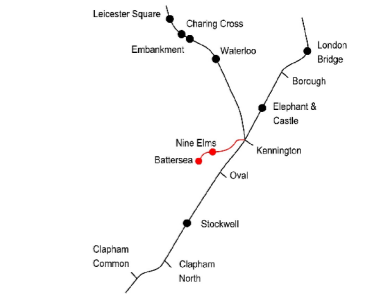
MEZZANINE PLAN



GROUND FLOOR PLAN

PLANNING DIRECTION DRAWING NUMBER 46A

Location Plan



0 5 10 15 20 25 METRES
 SCALE 1:250 (A1)
 SCALE 1:500 (A3)

This drawing is for approval save for internal layouts which are illustrative only.
 Changes since submission of TWA0 in April 2013 relate to deletion of proposed Kennington Park Community Centre

Canopy/ Rooflight
Forecourt
Tickethall / Entrance
Paid Concourse
Internal Accommodation
Ducts / Risers
Lift
Emergency Lift (plant replacement)
Escape Route

Rev	By	Chkd	App	Date	Description
12	KD	PR	PR	19/08/13	Minor Amendments to Note
11	RH	RR	PR	13/08/13	Minor Amendments
10	KD	KW	KW	01/06/13	Minor Amendments
09	KD	KW	KW	25/07/13	Revised for August 2013 submission, suffix A added
08	LB	KW	KW	02/04/13	Formal Issue
07	KD	KW	KW	25/03/13	Formal Issue
06	KD	KW	KW	15/03/13	Minor Amendments
05	RR	KW	KW	13/03/13	Minor Amendments
04	RR	KW	KW	11/03/13	Planning Direction Drawing Number Amended and Minor Amendments
03	RR	KW	KW	07/03/13	Planning Direction Drawing Number Added
02	RR	KW	KW	04/03/13	Engineering Changes and Minor Amendments
01	RR	KW	KW	27/02/13	Engineering Changes

Client:
Transport for London

URS
JOHN McASLAN + PARTNERS
 studiodareARCHITECTS
 Burro Happold Consulting Engineers

Halcrow Group Ltd.
 A CH2M HILL COMPANY
 Elms House, 43 Brook Green
 Hammersmith, London W6 7EF
 TEL: 020 3479 8000
 FAX: 020 3479 8001
 www.halcrow.com

Project:
 NORTHERN LINE EXTENSION
 TO BATTERSEA
 PLANNING DIRECTION DRAWINGS

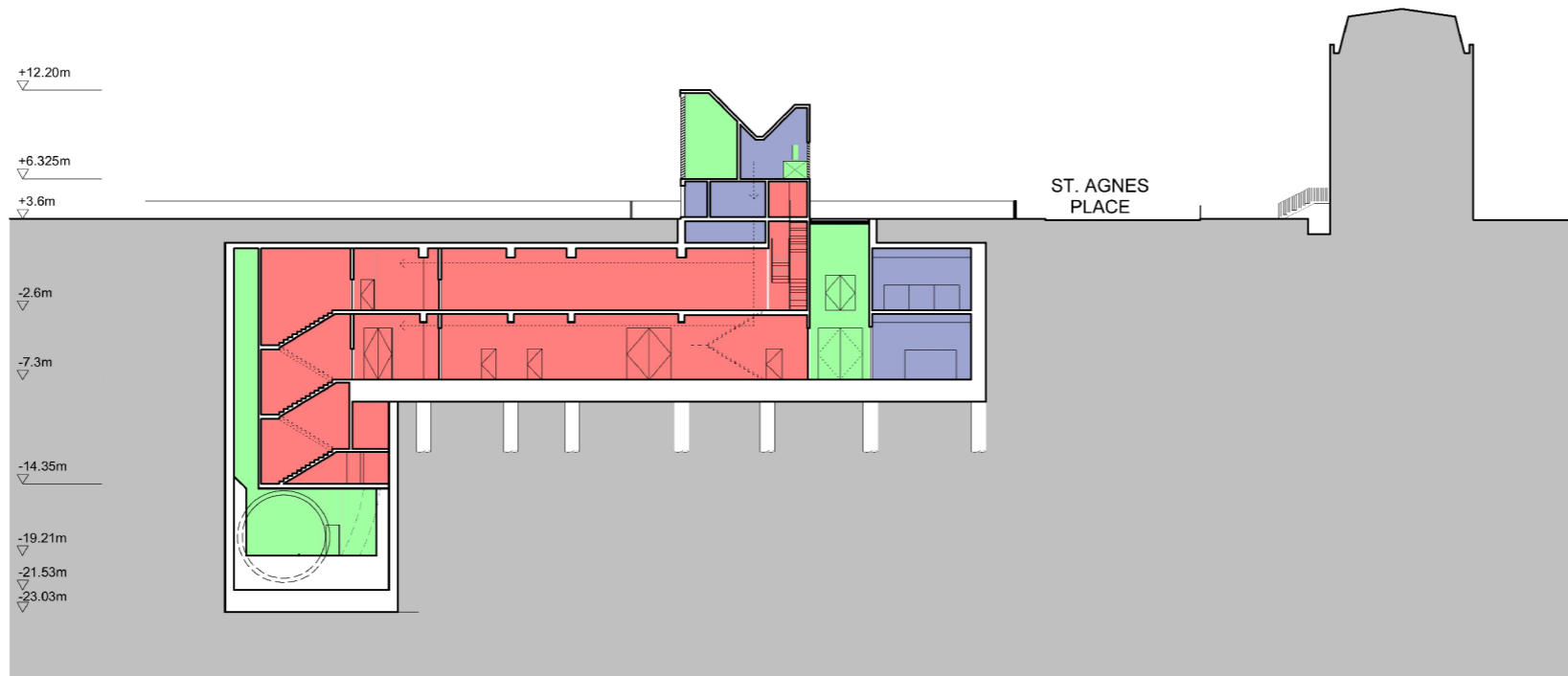
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 HOUSE PROPOSED GROUND
 FLOOR, MEZZANINE PLAN
 & ROOF PLAN

Suitability:
S4 FORMAL ISSUE TO CLIENT

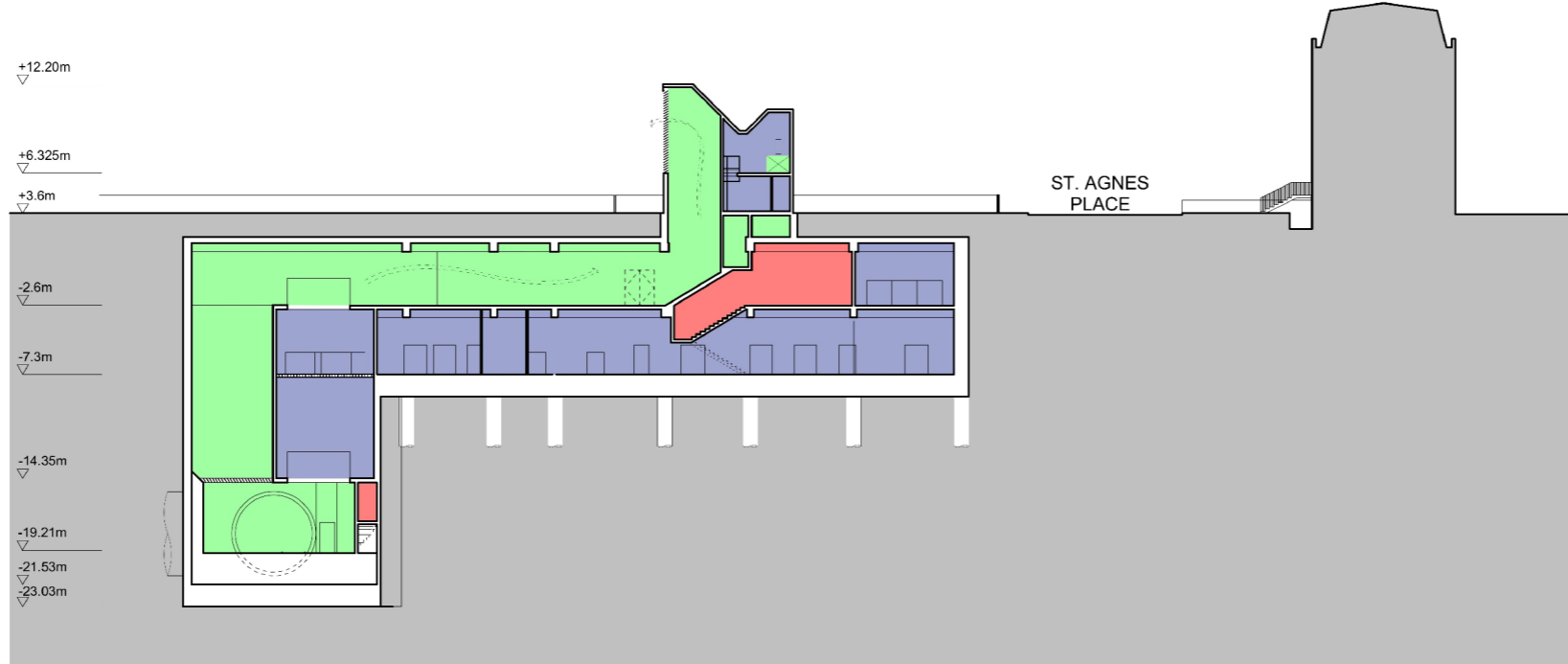
Drawn by: WS Date: 19/02/13
 Checked by: KW Date: 19/02/13
 Approved by: HA Date: 19/02/13

Drawing Scale: 1:250 @ A1 or 1:500 @ A3

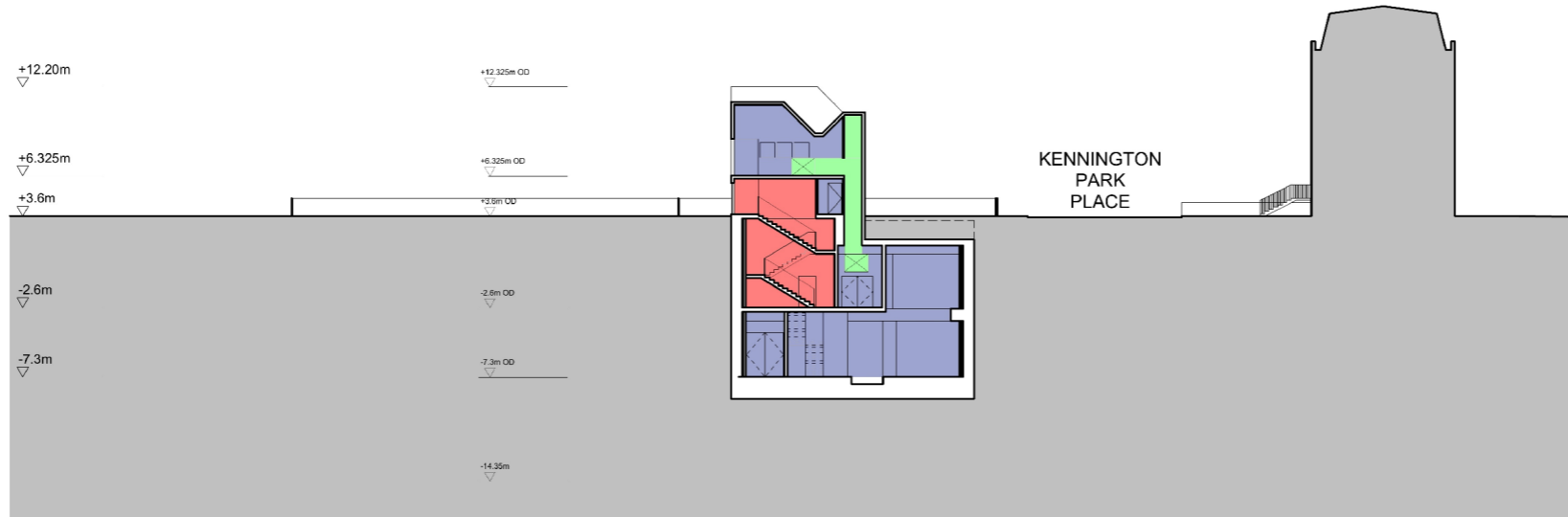
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 Drawing No: Figure 4-23A
 Revision: 12



SECTION AA

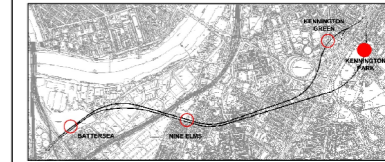
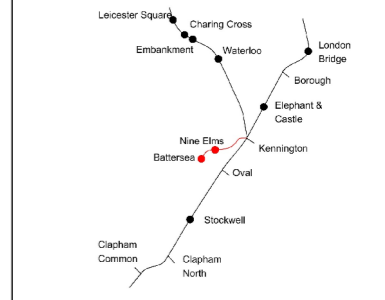


SECTION BB



SECTION CC

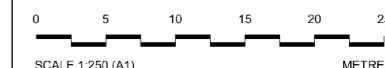
Location Plan



Canopy / Rooflight
Forecourt / Access
Tickethall / Entrance
Paid Concourse
Internal Accommodation
Ducts / Risers
Lift
Emergency Lift (plant replacement)
Escape Route

Change since submission of TWAO in April 2013 only relates to:
 - removal of community building (see Rev 06)
 - boundary fence amended (see Rev 10)

Internal layouts are illustrative only. Detailed design for above ground elements will be subject to further approvals.



SCALE 1:250 (A1)

Rev	By	Chkd	Apprv	Date	Description
10	SM	FM	SL	19/08/13	Boundary Fence Amended
09	SM	FM	SL	15/08/13	Boundary Fence Amended
08	SM	FM	SL	09/08/13	Boundary Fence Amended
07	SM	FM	SL	01/08/13	Boundary Fence Omitted
06	SM	FM	SL	20/07/13	Community Building Omitted
05	SM	FM	SL	13/04/13	General Update
04	SM	FM	SL	25/03/13	Formal Issue
03	SM	FM	SL	20/03/13	General Update
02	SM	FM	SL	11/03/13	General Update
01	SM	FM	SL	24/03/13	First Drawn

Client:
Transport for London



Halcrow Group Ltd.
 ACH2M HILL COMPANY
 Elms House, 43 Brook Green
 Hammersmith, London W6 7EP
 TEL: 020 3479 8000
 FAX: 020 3479 8001
 www.halcrow.com



Project:
 NORTHERN LINE EXTENSION
 TO BATTERSEA
 TWAO FOR TfL

Title:
 KENNINGTON PARK
 SECTIONS AA, BB, CC

Suitability:
S4 FORMAL ISSUE TO CLIENT

Drawn by: SM Date: 04/03/2013
 Checked by: FM Date: 04/03/2013
 Approved by: SL Date: 04/03/2013

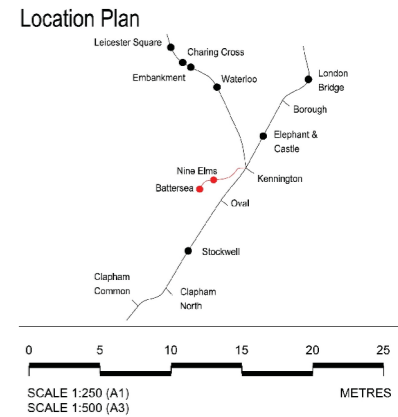
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From Drawing Ref: GRNLEB-SDA-TU-XX-DR-ARC-43507 Revision: 10

Drawing No: Figure 4-24A



- Key**
1. Outline of underground structure (in black dotted line)
 2. Head house with sedum roof
 3. New structure tree
 4. New flowering trees
 5. Existing evergreen oak trees
 6. Existing park trees
 7. Maintenance access to head house
 8. Dog walking area
 9. Meadow grass / wildflower
 10. Retained existing light column
 11. Shrub planting
 12. Entrance to dog walking area
 13. Demountable fence panel for major plant replacement access



Changes since submission of TWAO in April 2013 relate to:

- Removal of community building
- Fence extent and types around head house
- Trees and garden bed layout around head house
- Access to head house from St Agnes Place & Kennington Park
- Extent of dog walking area
- Access to dog walking area
- Paving around head house to allow for maintenance access

This drawing is illustrative only.

Rev	By	CHK'd	App	Date	Description
15	RH	KW	HA	15/08/13	Revision notes added
14	RH	KW	HA	09/08/13	Minor Amendments
13	YT	KW	HA	01/08/13	Minor Amendments
12	YT	KW	HA	26/07/13	Revised for August 2013 submission, suffix A added to PDD no.
11	YT	KW	HA	02/04/13	Formal issue to client, minor amendments
10	YT	KW	HA	27/03/13	Formal issue to client
09	YT	KW	HA	25/03/13	Formal issue
08	YT	KW	HA	21/03/13	Minor Amendments
07	YT	KW	HA	18/03/13	Minor Amendments
06	YT	KW	HA	13/03/13	Minor Amendments
05	YT	KW	HA	11/03/13	Planning direction drawing number amended, minor changes
04	YT	KW	HA	07/03/13	Planning direction drawing number added
03	YT	KW	HA	04/03/13	Engineering changes and minor amendments
02	YT	KW	HA	27/02/13	Draft
01	YT	KW	HA	21/02/13	Draft
00	YT	KW	HA	19/02/13	Draft

Client: **Transport for London**

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JOHN McASLAN + PARTNERS
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Elms House, 43 Brook Green
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TEL: 020 3479 8000
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Project: **NORTHERN LINE EXTENSION TO BATTERSEA**
PLANNING DIRECTION DRAWINGS

Title: **ILLUSTRATIVE KENNINGTON PARK HEAD HOUSE PROPOSED LANDSCAPE MASTERPLAN**

Suitability: **S4 FORMAL ISSUE TO CLIENT**

Drawn by: **WS** Date: **19/02/13**
Checked by: **KW** Date: **19/02/13**
Approved by: **HA** Date: **19/02/13**

Drawing Scale: **1:250 @ A1 or 1:500 @ A3**
From Drawing Ref: **1453-KG-G710-P-00** Revision: **15**

Drawing No: **Figure 4-25A**

PLANNING DIRECTION DRAWING NUMBER 55A

Chapter 5A: Planning Policy Context

68. **The proposed modifications do not require any changes to *ES Volume I, Chapter 5: Planning Policy Context*.**

Chapter 6A: Traffic and Transport

69. This addendum to *ES Volume 1, Chapter 6: Traffic and Transport* for the proposed NLE has been prepared in response to the proposed modifications, additional information and errata has been taken into account in this chapter and any implications on the potential significant effects have been considered and where necessary amendments are reported in relation to the relevant section of this chapter.

Changes to the ES Chapter

70. It also presents updated transport modelling outputs for 2031 AM Peak, and in response to consultation also includes 2020 AM and PM peak and 2031 PM peak information – included as Appendix C6 to this chapter.
71. The addendum also corrects typographical errors.
72. The conclusions in relation to both the construction and operational effects of the NLE are consistent with those presented in the ES.
73. Appendices C1, C3, C4 and C5 of the ES have been updated to take account of the changes outlined above. These appendices should be read in conjunction with Appendices C1A, C3A (C8 for the PM peak), C4A (C9 for the PM peak) and C5A (C10 for the PM peak) included with this ESA. Appendices C6 and C7 provide additional information to that presented in the ES. The appendices are as follows:
- C1A – Construction Traffic, Parking and Pedestrian Impact Assessment;
 - C3A – Northern line stations PEDS analysis AM peak, 2031;
 - C4A – Legion modelling report on Kennington Station AM peak, 2031;
 - C5A – Static station assessment: Battersea Park AM peak, 2031;
 - C6 – Traffic and transport outputs, 2020 & 2031, AM & PM peak;
 - C7 – Preliminary Navigation Risk Assessment;
 - C8 – Northern line stations PEDS Analysis, PM Peak, 2031;
 - C9 – Legion modelling report on Kennington station, PM peak, 2031; and
 - C10 – Static station assessment: Battersea Park, PM peak, 2031.
74. Following the removal of the temporary shafts, the effects during construction are less than those presented in the ES (although the significance remains the same).
75. Meanwhile the difference between the effects presented in the ES and ESA in relation to the operational effects of the NLE on the public transport and highway networks is marginal, with these changes having no worse impact and not affecting the conclusions presented in the ES. In terms of this updated information, Tables 6-8, 6-14 and 6-20 – 6-42 and Figures 6-10 and 6-15 – 6-19 of the ES are replaced.
76. The possible additional land to the north of Kennington Green and the additional operational land and access for the distillery has been considered in this ESA and does not give rise to any materially different effects to those already identified in the ES.

Chapter 6A: Traffic and Transport

Assessment Methodology and Significance Criteria

Study Area

77. Figure 6-1 from Chapter 6 of the ES has been replaced by Figure 6-1A below to reflect the selection of Construction Option B.

Figure 6-1A VNEB OA and Proposed NLE Worksites



Source: TfL

Chapter 6A: Traffic and Transport

Significance Criteria

78. The following row of Table 6-2 from Chapter 6 of the ES has been corrected as shown below because of a typographical error.

Table 6-2A Operational Adverse Assessment Criteria – Definition of ‘Significant’

Topic	Assessment Criteria
<i>Accidents and safety</i>	<p><i>Those junctions that have experienced more than ten personal injury accidents in a three-week year period ending in 2012 for which data is available; or</i></p> <ul style="list-style-type: none"> • <i>Links for which data is available that have experienced an average of more than ten personal injury accidents per 100-metre length in a three year period ending in 2010 or 2011; and</i> • <i>The junctions or links would be subject to an increase of 10% or more in the total 12-hour weekday traffic flow.</i>

Baseline and Future Baseline Conditions

London Underground

Future Baseline

London Underground Stations

79. Table 6-8 in Chapter 6 of the ES has been replaced with Table 6-8A below.

Table 6-8A Future Baseline – Patronage at Kennington and Vauxhall Underground Stations, AM peak period (07:00–10:00)

Station	Entering	Exiting	Interchange
<i>Kennington</i>	<i>5,800</i>	<i>2,200</i>	<i>12,100</i>
<i>Vauxhall</i>	<i>17,700</i>	<i>11,500</i>	<i>n/a</i>

Source: TfL Regional Railplan model, factored using RODS data according to London Undergrounds combination forecasting methodology

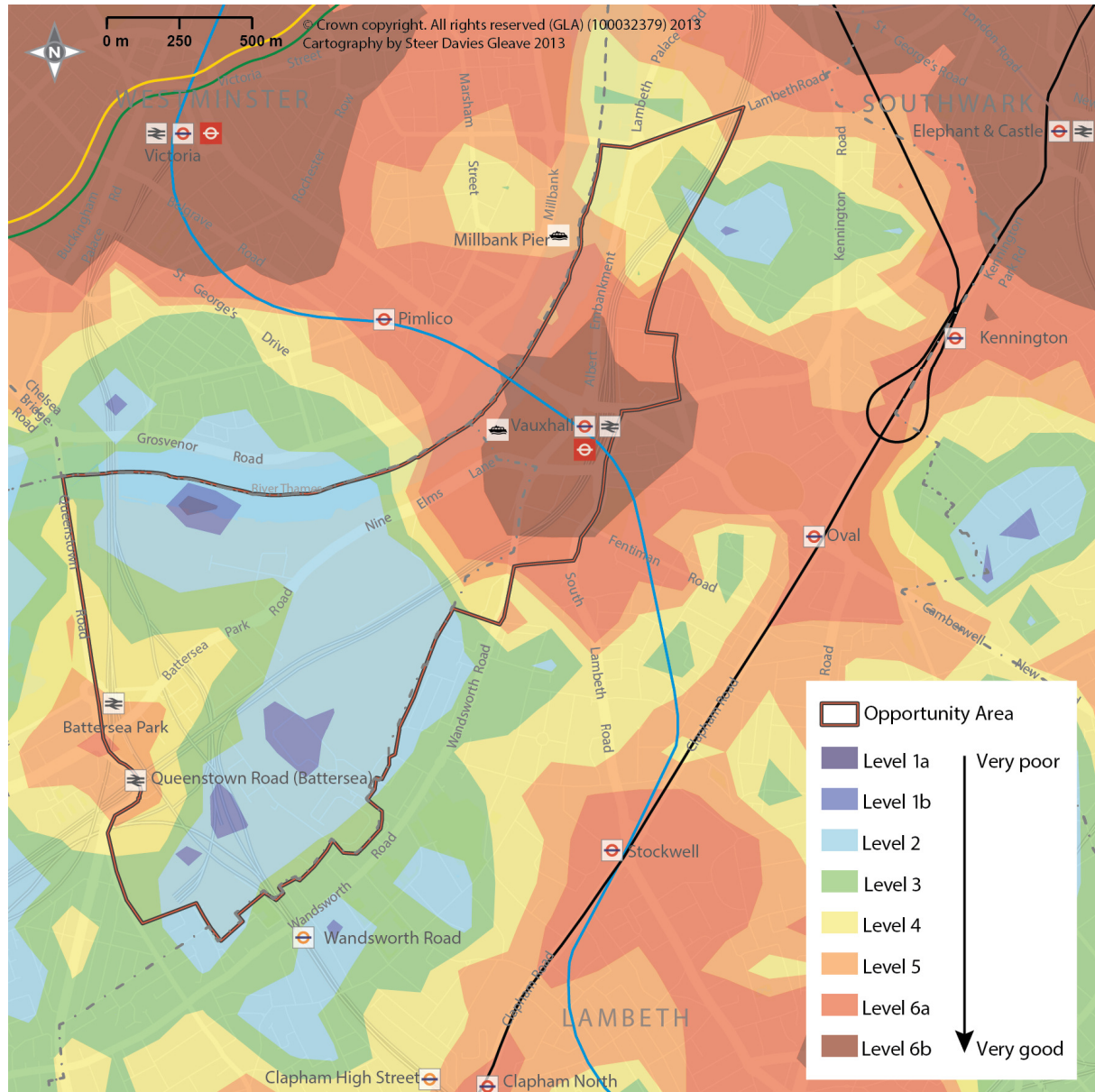
Chapter 6A: Traffic and Transport

Public Transport Accessibility

Future Baseline

80. Figure 6-10 from Chapter 6 of the ES has been replaced by Figure 6-10A below.

Figure 6-10A Future Baseline – Public Transport Accessibility Levels



Source: TfL

Chapter 6A: Traffic and Transport

Local Highway Network

Future Baseline

81. Table 6-14 in Chapter 6 of the ES has been replaced with Table 6-14A below.

Table 6-14A Increase in 2-Way Traffic (PCUs) – Current to Future Baseline, AM Peak Hour (08:00-09:00)

Road	Current Baseline (2009)	Future Baseline (2031)	Percentage Change (current to future baseline)	Future baseline Volume to Capacity Ratio
Vauxhall Bridge	3,150	3,680	17%	63%
Albert Embankment (A3036)	780	1,010	30%	12%
Nine Elms Lane (A3205)	1,710	2,060	20%	44%
Battersea Park Road (A3205)	1,730	2,040	18%	44%
Kennington Park Road (A3)	1,350	1,400	4%	35%
Harleyford Road (A202)	1,590	1,790	13%	65%
Kennington Lane (A3204)	1,310	1,450	11%	69%
Kennington Road (A23)	940	1,500	59%	55%
South Lambeth Road (A203)	1310	1,560	20%	16%
Queenstown Road (A3216)	1,240	1,470	15%	87%
Wandsworth Road (Principal route)	910	1,240	36%	30%

Source: TfL Central London Highway Assignment Model (CLoHAM)

Pedestrians

Current Baseline

82. Table 6-15 in Chapter 6 of the ES has been replaced with Table 6-15A below to reflect the selection of Construction Option B and a typographical error.

Chapter 6A: Traffic and Transport

Table 6-15A Current Baseline – Two-Way Pedestrian Movements

<i>Worksite</i>	<i>7:00-10:00</i>	<i>10:00–16:00</i>	<i>16:00–19:00</i>	<i>Total</i>
<i>Kennington Green¹</i>	<i>780</i>	<i>1,920</i>	<i>990</i>	<i>3,610</i>
<i>Kennington Park²</i>	<i>400</i>	<i>630</i>	<i>470</i>	<i>1,500</i>
<i>Nine Elms (Wandsworth Road/Pascal Street)</i>	<i>980</i>	<i>1,270</i>	<i>1,100</i>	<i>3,260</i>
<i>Battersea (Battersea Park Road)</i>	<i>200</i>	<i>250</i>	<i>200</i>	<i>650</i>

Source: TfL survey data (2012)

Cyclists

Current Baseline

- 83.** Paragraph 6.113 of Chapter 06 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.113 Figure 6-11 sets out the major road network in the OA and around the Kennington worksites. The TLRN represents strategic roads which carry a high volume of traffic and for which TfL is the highway authority. The London boroughs of Lambeth and Wandsworth are the highway authorities for the other major roads and all of the local roads in the OA. The London boroughs of Lambeth and Southwark are responsible for the major and local roads around the proposed constructions sites at ~~Radcot Street, Harmsworth Street, Kennington Park and, Kennington Green~~, with the exception of Kennington Road and Kennington Park Road, both of which are part of the TLRN.

Potential Impacts and Mitigation Measures (with NLE)

Construction Phase

- 84.** Paragraph 6.144 of Chapter 6 of the ES has been replaced with the following text to reflect the selection of Construction Option B.

6.144 The gallery tunnel method chosen to construct the NLE will require four construction sites - two permanent shaft worksites at Kennington Green and Kennington Park (in the London Borough of Lambeth) and two station worksites at Nine Elms and Battersea (in the London boroughs of Lambeth and Wandsworth respectively).

¹ Includes movements on Montford Place

² Does not include movements in the park itself

Chapter 6A: Traffic and Transport

85. Paragraphs 6.145 and 6.146 of Chapter 6 of the ES have been deleted to reflect the selection of Construction Option B.

Highway Effects

86. Paragraph 6.156 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.156 This section considers traffic levels and delays, including accidents and safety, in respect of NLE construction traffic at both a strategic and local junction level. ~~Overall, both construction options generate very similar levels of traffic but since Construction Option A affects a greater number of locations, the assessments consider the effects of this methodology. Appendix C1 sets out the difference between the two construction options.~~

Changes to the Road Network During Construction

87. Paragraph 6.159 of Chapter 6 of the ES has been deleted to reflect the selection of Construction Option B.

Strategic Level Assessment of Effect of NLE Construction Traffic

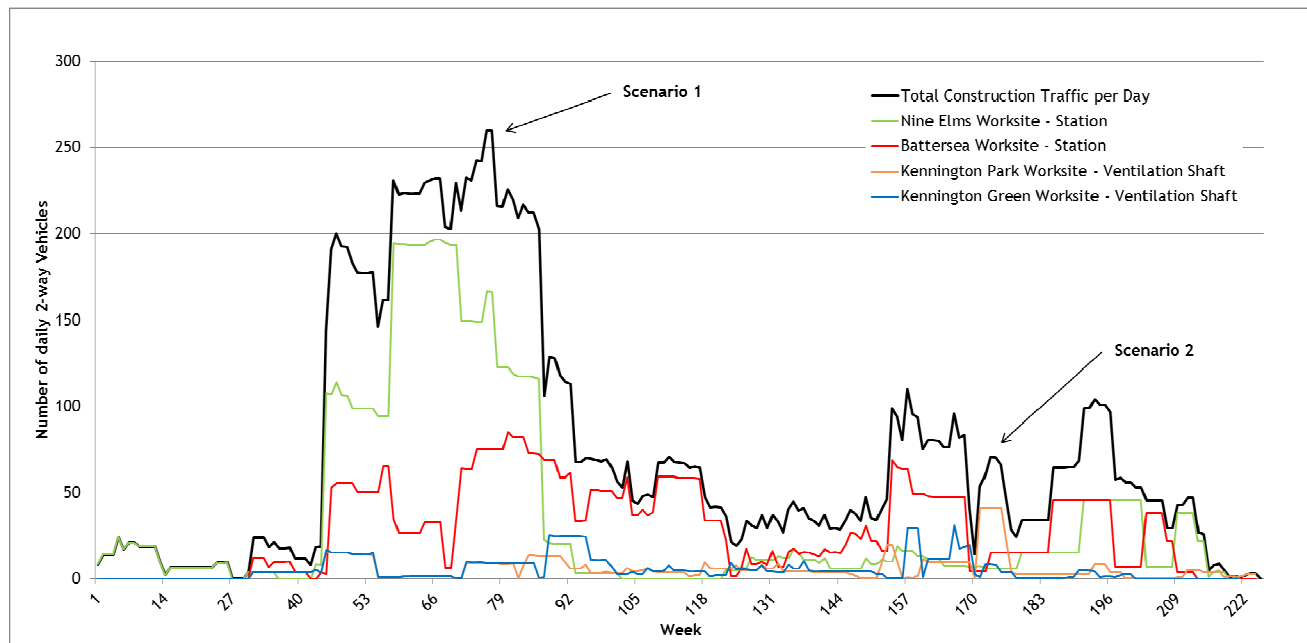
88. Paragraph 6.164 of Chapter 6 of the ES has been replaced with the following text to reflect the selection of Construction Option B.

6.164 At a strategic level, a 'worst case' scenario (identified as Scenario 1 in Figure 6-1A), where construction vehicle movements generated by the NLE are at their highest, has been tested using the CLoHAM strategic highway model. A second scenario has been tested where vehicle movements are highest in the Kennington Area. This area wide traffic assessment compares the effect of the NLE construction traffic during the two scenarios against a Baseline 2009 traffic flows (see Table 6-17 for the number of vehicles).

89. Figure 6-14 in Chapter 6 of the ES has been replaced with the following figure to reflect the selection of Construction Option B.

Chapter 6A: Traffic and Transport

Figure 6-14A Construction Phase, Daily Vehicle Movements



Source: TfL

Local Level Assessment of Effect of NLE Construction Traffic

90. Paragraph 6.168 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.168 Traffic generated by construction varies significantly throughout the programme therefore two scenarios have been developed to help understand the impact of NLE traffic on the highway network at different time periods. The analysis presented here considers the worst case scenarios under Construction Option AB, when traffic generated by NLE construction is at its highest.

91. Paragraph 6.169 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.169 Scenario 1 occurs in Q4 2015 during week 76 where the majority of trips are generated at the Nine Elms and Battersea worksites and Scenario 2 occurs in Q1 2018 during Week 173 where vehicle trips are spread throughout the Kennington, Nine Elms and Battersea areas. For each of these scenarios, the daily vehicle numbers during these peaks are set out in Table 6-17.

92. Table 6-17 in Chapter 6 of the ES has been replaced with the following table to reflect the selection of Construction Option B.

Chapter 6A: Traffic and Transport

Table 6-17A Daily NLE Two-Way Construction Vehicle Trips by Location, Peak Scenarios

<i>Worksite</i>	<i>Scenario 1 – Week 76</i>	<i>Scenario 2 – Week 173</i>
<i>Kennington Green</i>	10	9
<i>Kennington Park</i>	9	42
<i>Nine Elms</i>	167	6
<i>Battersea</i>	75	16
<i>Total</i>	261	73

Source: TfL

93. Paragraph 6.170 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.170 This assessment is based on there being one inward and one outward route to and from each worksite. The routes considered in this assessment are those that provide the most direct feasible access to the major road network. The junctions assessed were:

- ~~*Kennington Road / Stannary Street – providing access to the Radcot Street worksite;*~~
- *Kennington Park Road / Kennington Park Place – providing access to the ~~Harmsworth Street~~ and Kennington Park worksites;*
- *Kennington Road / Kennington Green (north) and Kennington Road / Kennington Green (south) – providing access to the Kennington Green worksite;*
- *Pascal Street / Wandsworth Road – providing access to the Nine Elms worksite; and*
- *Battersea Park Road / Battersea station construction worksite access.*

Chapter 6A: Traffic and Transport

94. Table 6-18 in Chapter 6 of the ES has been replaced with the Table 6-18A below to reflect the selection of Construction Option B.

Table 6-18A TRANSYT Results

Junction	Degree of Saturation (%)			Mean Delay (Secs)			Mean Max Queue (PCU)		
	Base	Scenario		Base	Scenario		Base	Scenario	
		1	2		1	2		1	2
Kennington Park Road Northbound (PM peak)	90	90	92	48.3	49.0	52.1	17	17	18
Wandsworth Road Northbound (AM peak)	91	94	88	46.0	55.4	43.5	20	23	18

Source: TfL

Parking Effects

95. Paragraph 6.183 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B.

6.183 The analysis based on the parking surveys shows that at a wider neighbourhood level there is sufficient spare parking capacity to accommodate the expected reduction in parking due to NLE construction. However, the loss of parking spaces at the ~~Radcot Street, Harmsworth Street,~~ Kennington Park, Kennington Green and Nine Elms worksites will be an inconvenience to residents at a local level and is considered to have a significant effect based on the criteria set out in Table 6-1 since more than five on-street bays would be suspended for a period of more than four weeks. This impact is considered moderate adverse since it has a limited impact.

96. Paragraph 6.184 of Chapter 6 of the ES has been deleted to reflect the selection of Construction Option B.

Chapter 6A: Traffic and Transport

97. Table 6-19 in Chapter 6 of the ES has been replaced with Table 6-19A to reflect the selection of Construction Option B.

Table 6-19A Number of Parking Spaces to be Temporarily Suspended, by Location

	Parking spaces suspended during construction period				Ad-hoc additional removal for short periods
Location	Duration (approx.)	Constructi on site	10m rigid & Large tipper	Total	Low loader
Kennington Green	3 – 3.5 years	10	0	10	0
	3 months	2	0	2	0
Kennington Park	3.5 - 4 years	13	0	13	3
Nine Elms	4 years	4 (car) 5 (motor cycle)	9	13 (car) 5 (motor cycle)	0
Battersea	4 years	0	0	0	0

Source: TfL

Bus Effects

98. The following paragraph has been added after paragraph 6.187 of Chapter 6 of the ES to reflect a typographical error in the ES.

6.178 *The new temporary junction to allow access to the Battersea worksite will require the suspension of approximately 110m of bus lanes along Battersea Park Road. The bus lane restrictions would be suspended and the lanes would be available for use as general traffic lanes. As the capacity of the road remains the same, there is no increase in journey times. The suspension of the bus lanes will have a negligible effect.*

Pedestrian Effects

99. Paragraph 6.189 of Chapter 6 of the ES has been modified as follows to reflect the selection of Construction Option B and a typographical error.

6.189 ~~Construction Option A will require the following changes to pedestrian facilities:~~

- ~~• Narrowing of the north-western footway on Radcot Street. This will have a minor adverse effect.~~
- ~~• Closure of the western footway on the southern side of Harmsworth Street, with the eastern footway remaining open~~

Chapter 6A: Traffic and Transport

~~to provide 24 hour emergency access to Bishop's House Day Nursery. This will have a minor adverse effect.~~

- ~~Closure of the footways around Kennington Green and the pedestrian crossing on Kennington Road, requiring pedestrians to divert to alternative footways and crossings. For the majority of the time the worksite is in situ and this will have a minor adverse effect, however for a 12 week period when the worksite boundary is extended westwards resulting in the closure of Montford Place Kennington Road, west of the Green, there will be a moderate adverse effect.~~
- Closure of the footway that abuts Kennington Park on Kennington Park Place. This will have a minor adverse effect.
- Closure of the footway on the western side of Wandsworth Road, including two crossings at Pascal Street and closure of the eastern side of Pascal Street. This will have a moderate adverse effect.
- Introduction of a temporary signal controlled junction at the Battersea station site that will incorporate the existing dual pelican crossing on Battersea Park Road (near Thessaly Street) into the temporary junction with demand-actuated traffic signals. This will be approximately 70m from the existing crossing and the effect will be negligible.

Cycling Effects

100. Paragraph 6.197 of Chapter 6 of the ES has been deleted to reflect the selection of Construction Option B.
101. Paragraph 6.198 of Chapter 6 of the ES has been deleted to reflect the selection of Construction Option B.

Cycling Mitigation and Significant Residual Effects

102. Paragraph 6.198 of Chapter 6 of the ES has been replaced as follows to reflect the selection of Construction Option B.

6.198 To ensure the safety of cyclists on local cycling routes in the vicinity of the ~~Radcot Street, Harmsworth Street~~ and Kennington Park worksites, diversions to alternative cycling routes will be implemented. TfL will work closely with boroughs and local cycling groups to determine the most appropriate routes and ensure these are communicated effectively. Alternatively, if cyclists do not wish to divert, they will be able to dismount while passing the worksites and use the footways.

Pier/River Effects

103. Paragraph 6.202 of Chapter 6 of the ES has been modified to reflect the selection of Construction Option B and in response to consultation with relevant stakeholders. The Nine Elms Reach area was identified for further consideration for navigational issues in relation to the proposed removal of excavated material by barge. The modified paragraph is as follows below.

6.202 ~~Under Option A and Option B aAn~~ estimated 70% and 68% by volume respectively of material will be removed by barge, with the remainder by road. For waterborne transport, movements would be

Chapter 6A: Traffic and Transport

controlled and managed so as to minimise impacts on the waterways and other waterway users. ~~The effects on river traffic are broadly the same under each construction option.~~

104. The following paragraph has been added after paragraph 6.203 of Chapter 6 of the ES following production of a Preliminary Navigation Risk Assessment.

6.203 A *A preliminary Navigation Risk Assessment, presented in Appendix C7, has been prepared and has concluded that there are no critical navigational risks or fundamental issues associated with the additional river traffic generated by the NLE removal of excavated material in Nine Elms Reach, nor will the additional river traffic conflict significantly with other river users or fixed installations.*

Operational Phase (“end state”)

London Underground Effects

Northern Line Passenger Flows

105. Table 6-20 from Chapter 6 of the ES has been replaced by Table 6-20A below.

Table 6-20A Forecast Patronage on the NLE, 2031

From	To	<i>AM peak period (07:00–10:00)</i>
Northbound		
<i>Battersea</i>	<i>Nine Elms</i>	<i>4,200</i>
<i>Nine Elms</i>	<i>Kennington</i>	<i>8,300</i>
Southbound		
<i>Kennington</i>	<i>Nine Elms</i>	<i>6,300</i>
<i>Nine Elms</i>	<i>Battersea</i>	<i>4,200</i>

Source: TfL Regional Railplan model

Chapter 6A: Traffic and Transport

106. Table 6-21 from Chapter 6 of the ES has been replaced by Table 6-21A below.

Table 6-21A Forecast Change in Patronage – Northern Line Charing Cross Branch, North of Kennington Station, AM Peak Period (07:00–10:00), 2031

From	To	Without NLE	With NLE	Absolute Change	% Change
Northbound					
Kennington	Waterloo	14,400	18,800	4,400	+31%
Waterloo	Embankment	26,600	29,600	3,000	+11%
Embankment	Charing Cross	26,000	27,800	1,800	+7%
Southbound					
Charing Cross	Embankment	19,400	21,600	2,200	+11%
Embankment	Waterloo	12,000	15,100	3,100	+26%
Waterloo	Kennington	3,100	7,000	3,900	+126%

Source: TfL Regional Railplan model

107. Table 6-22 from Chapter 6 of the ES has been replaced by Table 6-22A below.

Table 6-22A Forecast Change in Patronage – Northern Line Bank Branch, North of Kennington Station, AM Peak Period (07:00–10:00), 2031

From	To	Without NLE	With NLE	Absolute Change	% Change
Northbound					
Kennington	Elephant & Castle	37,100	38,600	1,500	+4%
Elephant & Castle	Borough	38,200	39,600	1,400	+4%
Borough	London Bridge	37,900	39,200	1,300	+3%
Southbound					
London Bridge	Borough	19,600	20,400	800	+4%
Borough	Elephant & Castle	16,600	17,500	900	+5%
Elephant & Castle	Kennington	13,700	14,700	1,000	+7%

Source: TfL Regional Railplan model

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108. Table 6-23 from Chapter 6 of the ES has been replaced by Table 6-23A below.

Table 6-23A Forecast Change in Patronage – Northern Line, South of Kennington Station, AM Peak Period (07:00-10:00), 2031

<i>From</i>	<i>To</i>	<i>Without NLE</i>	<i>With NLE</i>	<i>Absolute Change</i>	<i>% Change</i>
Northbound					
<i>Clapham North</i>	<i>Stockwell</i>	51,400	51,100	-300	-1%
<i>Stockwell</i>	<i>Oval</i>	44,000	42,700	-1,300	-3%
<i>Oval</i>	<i>Kennington</i>	46,100	44,700	-1,400	-3%
Southbound					
<i>Kennington</i>	<i>Oval</i>	15,000	14,500	-500	-3%
<i>Oval</i>	<i>Stockwell</i>	14,200	13,700	-500	-4%
<i>Stockwell</i>	<i>Clapham North</i>	16,300	16,200	-100	-1%

Source: TfL Regional Railplan model

Victoria Line Passenger Flows

109. Table 6-24 from Chapter 6 of the ES has been replaced by Table 6-24A below.

Table 6-24A Forecast Change in Patronage – Victoria Line, Around Vauxhall Station, AM Peak Period (07:00-10:00), 2031

<i>From</i>	<i>To</i>	<i>Without NLE</i>	<i>With NLE</i>	<i>Absolute Change</i>	<i>% Change</i>
Northbound					
<i>Stockwell</i>	<i>Vauxhall</i>	31,800	32,100	300	+1%
<i>Vauxhall</i>	<i>Pimlico</i>	46,000	45,400	-600	-1%
<i>Pimlico</i>	<i>Victoria</i>	45,500	44,800	-700	-2%
Southbound					
<i>Victoria</i>	<i>Pimlico</i>	24,700	23,500	-1,200	-5%
<i>Pimlico</i>	<i>Vauxhall</i>	16,200	14,900	-1,300	-8%
<i>Vauxhall</i>	<i>Stockwell</i>	8,800	8,600	-200	-2%

Source: TfL Regional Railplan model

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London Underground Crowding Levels

110. Table 6-25 from Chapter 6 of the ES has been replaced by Table 6-25A below.

Table 6-25A Forecast Crowding Levels – Northern Line Charing Cross Branch, North of Kennington Station, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
Northbound						
<i>Kennington</i>	<i>Waterloo</i>	<i>0.0</i>	<i>0.8</i>	<i>No</i>	<i>+800%</i>	<i>No</i>
<i>Waterloo</i>	<i>Embankment</i>	<i>2.3</i>	<i>2.8</i>	<i>No</i>	<i>+22%</i>	<i>No</i>
<i>Embankment</i>	<i>Charing Cross</i>	<i>2.1</i>	<i>2.4</i>	<i>No</i>	<i>+14%</i>	<i>No</i>
Southbound						
<i>Charing Cross</i>	<i>Embankment</i>	<i>0.5</i>	<i>0.8</i>	<i>No</i>	<i>+60%</i>	<i>No</i>
<i>Embankment</i>	<i>Waterloo</i>	<i>-0.6</i>	<i>-0.2</i>	<i>No</i>	<i>+67%</i>	<i>No</i>
<i>Waterloo</i>	<i>Kennington</i>	<i>-1.7</i>	<i>-1.0</i>	<i>No</i>	<i>+41%</i>	<i>No</i>

Source: TFL Regional Railplan model

111. Table 6-26 from Chapter 6 of the ES has been replaced by Table 6-26A below.

Table 6-26A Forecast Crowding Levels – Northern Line Bank Branch, North of Kennington Station, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
Northbound						
<i>Kennington</i>	<i>Elephant & Castle</i>	<i>3.5</i>	<i>3.7</i>	<i>Yes</i>	<i>+6%</i>	<i>No</i>
<i>Elephant & Castle</i>	<i>Borough</i>	<i>3.7</i>	<i>3.9</i>	<i>Yes</i>	<i>+5%</i>	<i>No</i>
<i>Borough</i>	<i>London Bridge</i>	<i>3.7</i>	<i>3.9</i>	<i>Yes</i>	<i>+5%</i>	<i>No</i>
Southbound						
<i>London Bridge</i>	<i>Borough</i>	<i>0.8</i>	<i>0.9</i>	<i>No</i>	<i>+13%</i>	<i>No</i>
<i>Borough</i>	<i>Elephant & Castle</i>	<i>0.6</i>	<i>0.8</i>	<i>No</i>	<i>+33%</i>	<i>No</i>
<i>Elephant & Castle</i>	<i>Kennington</i>	<i>0.0</i>	<i>0.2</i>	<i>No</i>	<i>+200%</i>	<i>No</i>

Source: TfL Regional Railplan model

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112. Table 6-27 from Chapter 6 of the ES has been replaced by Table 6-27A below.

Table 6-27A Forecast Crowding Levels – Northern Line, South of Kennington Station, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
Northbound						
<i>Clapham North</i>	<i>Stockwell</i>	5.4	5.4	Yes	0%	No
<i>Stockwell</i>	<i>Oval</i>	4.5	4.3	Yes	-4%	No
<i>Oval</i>	<i>Kennington</i>	5.0	4.8	Yes	-4%	No
Southbound						
<i>Kennington</i>	<i>Oval</i>	-0.1	-0.2	No	-100%	No
<i>Oval</i>	<i>Stockwell</i>	0.0	-0.1	No	-100%	No
<i>Stockwell</i>	<i>Clapham North</i>	-0.1	-0.1	No	0%	No

Source: TfL Regional Railplan model

113. Table 6-28 from Chapter 6 of the ES has been replaced by Table 6-28A below.

Table 6-28A Forecast Crowding Levels – Victoria Line Around Vauxhall Station, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
Northbound						
<i>Stockwell</i>	<i>Vauxhall</i>	1.9	1.9	No	0%	No
<i>Vauxhall</i>	<i>Pimlico</i>	3.2	3.1	Yes	-2%	No
<i>Pimlico</i>	<i>Victoria</i>	3.4	3.3	Yes	-3%	No
Southbound						
<i>Victoria</i>	<i>Pimlico</i>	0.0	-0.1	No	-100%	No
<i>Pimlico</i>	<i>Vauxhall</i>	-0.5	-0.6	No	-20%	No
<i>Vauxhall</i>	<i>Stockwell</i>	-1.2	-1.2	No	0%	No

Source: TfL Regional Railplan model

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Stations

Kennington Station

114. Table 6-29 from Chapter 6 of the ES has been replaced by Table 6-29A below.

Table 6-29A Forecast Passenger Flows at Kennington Station, AM Peak Period (07:00-10:00), 2031

	Without NLE	Without NLE	Without NLE	Without NLE
<i>Entries/Exits</i>	7,900	8,100	200	+3%
<i>Interchange between branches</i>	12,100	15,400	3,300	+27%
<i>Total</i>	20,000	23,500	3,500	+18%

Source: TfL Regional Railplan model, factored using RODS data according to London Underground's combination forecasting methodology

Vauxhall Station

115. Table 6-30 from Chapter 6 of the ES has been replaced by Table 6-30A below.

Table 6-30A Forecast Passenger Flows at Vauxhall Station, AM Peak Period (07:00-10:00), 2031

	Without NLE	Without NLE	Without NLE	Without NLE
<i>Entries/Exits</i>	29,200	26,200	-3,000	-10%

Source: TfL Regional Railplan model, factored using RODS data according to London Underground's combination forecasting methodology

National Rail Effects

National Rail Services

116. Table 6-31 from Chapter 6 of the ES has been replaced by Table 6-31A.

Table 6-31A Forecast Change in Patronage on National Rail Services To/From Battersea Park Station, AM Peak Period (07:00-10:00), 2031

From	To	Without NLE	With NLE	Absolute Change	% Change
<i>Northbound</i>					
<i>Clapham Junction</i>	<i>Battersea Park</i>	13,500	13,900	400	+3%
<i>Battersea Park</i>	<i>London Victoria</i>	12,400	12,200	-200	-2%
<i>Southbound</i>					
<i>London Victoria</i>	<i>Battersea Park</i>	1,400	1,400	0	0%

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<i>Battersea Park</i>	<i>Clapham Junction</i>	1,600	1,600	0	0%
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Source: TfL Regional Railplan model

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117. Table 6-32 from Chapter 6 of the ES has been replaced by Table 6-32A below.

Table 6-32A Forecast Change in Patronage on National Rail Services To/From Queenstown Road Station, AM Peak Period (07:00-10:00), 2031

From	To	Without NLE	With NLE	Absolute Change	% Change
<i>Northbound</i>					
<i>Clapham Junction</i>	<i>Queenstown Road</i>	17,500	17,600	100	+1%
<i>Queenstown Road</i>	<i>Vauxhall</i>	17,400	17,100	-300	-2%
<i>Southbound</i>					
<i>Vauxhall</i>	<i>Queenstown Road</i>	6,800	6,400	-400	-6%
<i>Queenstown Road</i>	<i>Clapham Junction</i>	6,800	6,800	0	0%

Source: TfL Regional Railplan model

118. Table 6-33 from Chapter 6 of the ES has been replaced by Table 6-33A below.

Table 6-33A Forecast Change in Patronage on National Rail Services To/From Vauxhall Station, AM Peak Period (07:00-10:00), 2031

<i>From</i>	<i>To</i>	Without NLE	With NLE	Absolute Change	% Change
<i>Northbound</i>					
<i>Clapham Junction</i>	<i>Vauxhall</i>	54,200	54,100	-100	0%
<i>Vauxhall</i>	<i>London Waterloo</i>	37,800	37,500	-300	-1%
<i>Southbound</i>					
<i>London Waterloo</i>	<i>Vauxhall</i>	8,800	8,500	-300	-3%
<i>Vauxhall</i>	<i>Clapham Junction</i>	10,600	10,500	-100	-1%

Source: TfL Regional Railplan model

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119. Table 6-34 from Chapter 6 of the ES has been replaced by Table 6-34A below.

Table 6-34A Forecast Crowding Levels on National Rail Services To/From Battersea Park Station, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
<i>Northbound</i>						
<i>Clapham Junction</i>	<i>Battersea Park</i>	2.2	2.3	No	+5%	No
<i>Battersea Park</i>	<i>London Victoria</i>	2.2	2.2	No	0%	No
<i>Southbound</i>						
<i>London Victoria</i>	<i>Battersea Park</i>	-3.0	-3.0	No	0%	No
<i>Battersea Park</i>	<i>Clapham Junction</i>	-2.6	-2.5	No	+4%	No

Source: TfL Regional Railplan model

120. Table 6-35 from Chapter 6 of the ES has been replaced by Table 6-35A below.

Table 6-35A Forecast Crowding Levels on National Rail Services To/From Queenstown Road and Vauxhall NR Stations, AM Peak Period (07:00-10:00). Absolute Standing Pax/Sqm Ratio, 2031

From	To	<i>Without NLE</i>	<i>With NLE</i>	<i>Base > 3 pax/sqm</i>	<i>% Change</i>	<i>Meets Criteria</i>
<i>Northbound</i>						
<i>Clapham Junction</i>	<i>Queenstown Road</i>	5.0	5.0	Yes	0%	No
<i>Queenstown Road</i>	<i>Vauxhall</i>	5.0	5.0	Yes	0%	No
<i>Vauxhall</i>	<i>London Waterloo</i>	3.5	3.4	Yes	-3%	No
<i>Southbound</i>						
<i>London</i>	<i>Vauxhall</i>	-1.8	-1.8	No	0%	No

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<i>Waterloo</i>						
<i>Vauxhall</i>	<i>Queenstown Road</i>	-1.4	-1.5	No	-7%	No
<i>Queenstown Road</i>	<i>Clapham Junction</i>	-1.4	-1.5	No	-7%	No

Source: TfL Regional Railplan model

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National Rail Stations

121. Table 6-36 from Chapter 6 of the ES has been replaced by Table 6-36A below.

Table 6-36A Forecast Passenger Flows at National Rail Stations in the OA, AM Peak Period (07:00-10:00), 2031

Station	Flows – 3 hour AM peak, (07:00-10:00)			
	Without NLE	With NLE	Absolute Change	% Change
Battersea Park	2,000	2,600	600	30%
Queenstown Road	2,100	1,800	-300	-14%
Vauxhall	18,100	18,200	100	1%

Source: TfL Regional Railplan model, factored using survey data according to London Underground's combination forecasting methodology

Bus Effects

122. Paragraph 6.245 of Chapter 6 of the ES has been modified as follows.

6.245 Overall, there will be a reduction in bus demand for trips into and out of the OA with the NLE when compared to a situation without the NLE. Table 6-37A indicates that the combination of the NLE and the additional development enabled by the NLE is expected to reduce bus demand by around ~~12%~~ 4% on services in the area, with the vast majority of these being ~~inbound~~ outbound trips. There is only forecast to be a ~~very minor~~ small change in total ~~outbound~~ inbound trips.

Table 6-37 from Chapter 06 of the ES has been replaced by Table 6-37A below.

Table 6-37A Forecast Bus Passenger Flows on Total OA Bus Services, AM Peak Period (07:00-10:00), 2031

Direction of flow	Without NLE	With NLE	Absolute Change	% Change
Inbound	15,800	16,600	800	5%
Outbound	17,800	15,800	-2,000	-11%
Total	33,600	32,400	-1,200	-4%

Source: TfL Regional Railplan model

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123. Table 6-38 from Chapter 6 of the ES has been replaced by Table 6-38A below.

Table 6-38A Forecast Bus Passenger Flows on Nine Elms Lane /Battersea Park Road Bus Services near Battersea station, AM Peak Period (07:00-10:00), 2031

<i>Direction of flow</i>	Without NLE	Without NLE	Without NLE	Without NLE
<i>Nine Elms Lane east of Battersea station</i>				
<i>Eastbound</i>	3,300	3,000	-300	-9%
<i>Westbound</i>	2,100	2,000	-100	-5%
<i>Battersea Park Road west of Battersea station</i>				
<i>Eastbound</i>	2,900	3,900	1000	34%
<i>Westbound</i>	1,900	2,400	500	26%

Source: TfL Regional Railplan model

124. Table 6-39 from Chapter 6 of the ES has been replaced by Table 6-39A below.

Table 6-39A Forecast Bus Passenger Flows on Wandsworth Road Bus Services near Nine Elms station, AM Peak Period (07:00-10:00), 2031

<i>Direction of flow</i>	Without NLE	Without NLE	Without NLE	Without NLE
<i>Wandsworth Road east of Nine Elms station</i>				
<i>Eastbound</i>	4,000	2,100	-1,900	-48%
<i>Westbound</i>	1,500	1,000	-500	-33%
<i>Wandsworth Road west of Nine Elms station</i>				
<i>Eastbound</i>	4,000	4,200	200	5%
<i>Westbound</i>	1,500	1,400	-100	-7%

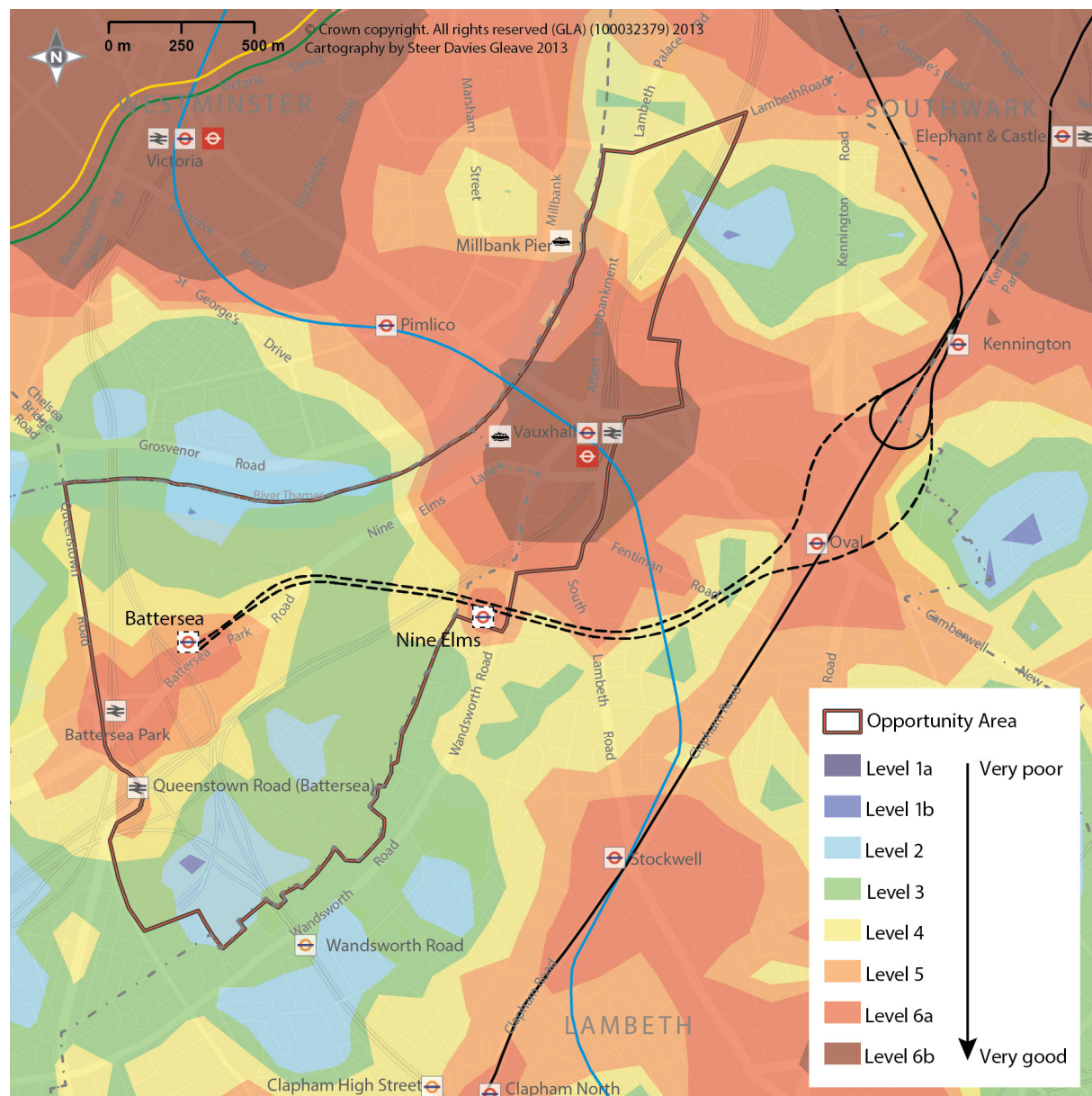
Source: TfL Regional Railplan model

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Public Transport Accessibility

125. Figure 6-15 from Chapter 6 of the ES has been replaced by Figure 6-15A below.

Figure 6-15A Forecast Public Transport Accessibility Levels With the NLE, 2031

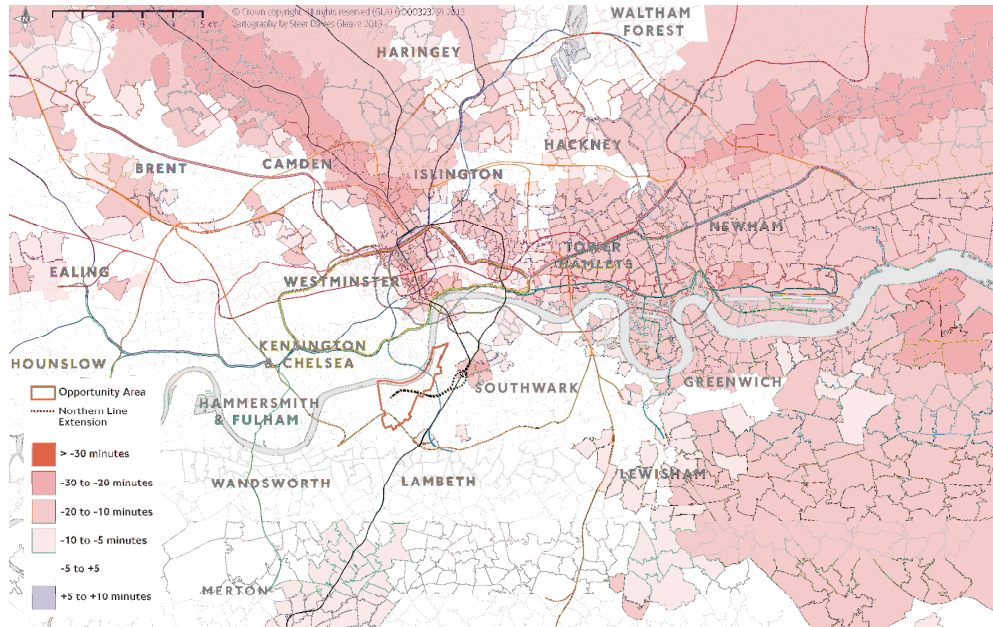


Source: TfL

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126. Figure 6-16 from Chapter 6 of the ES has been replaced by Figure 6-16A below.

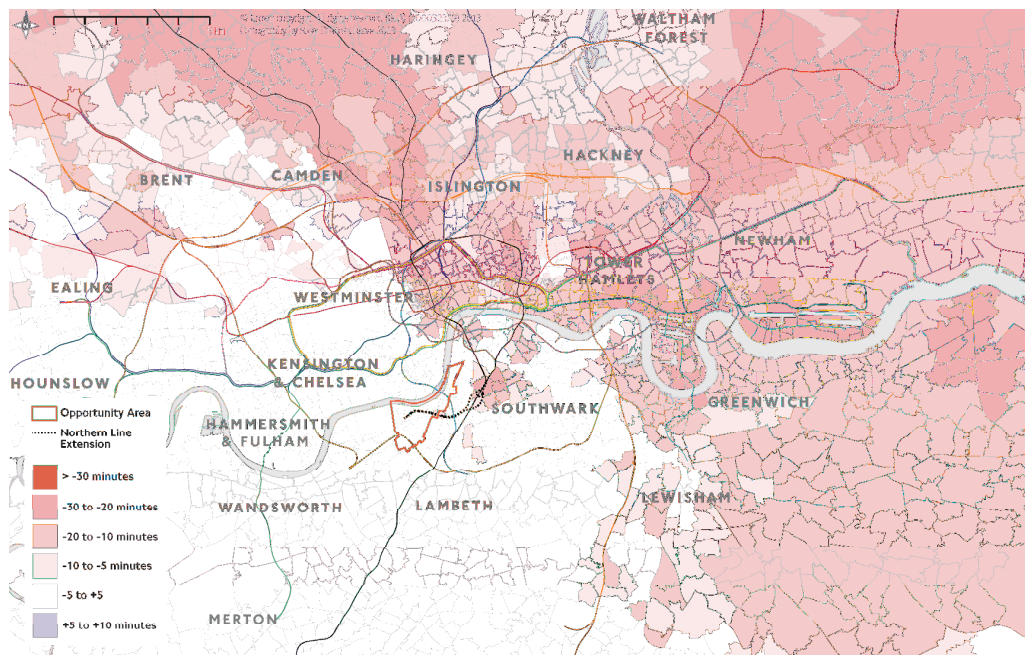
Figure 6-16A Forecast Change in Generalised Journey Time From Battersea Resulting From the NLE, 2031



Source: TfL Regional Railplan model

127. Figure 6-17 from Chapter 6 of the ES has been replaced by Figure 6-17A below.

Figure 6-17A Forecast Change in Generalised Journey Time to Battersea Resulting From the NLE, 2031

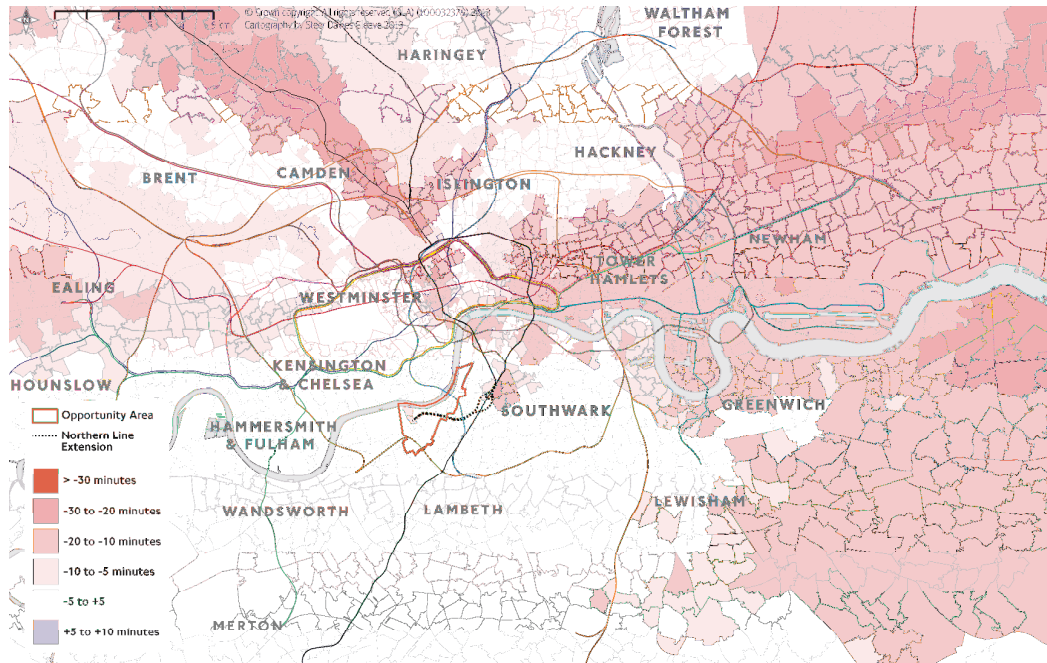


Source: TfL Regional Railplan model

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128. Figure 6-18 from Chapter 6 of the ES has been replaced by Figure 6-18A below.

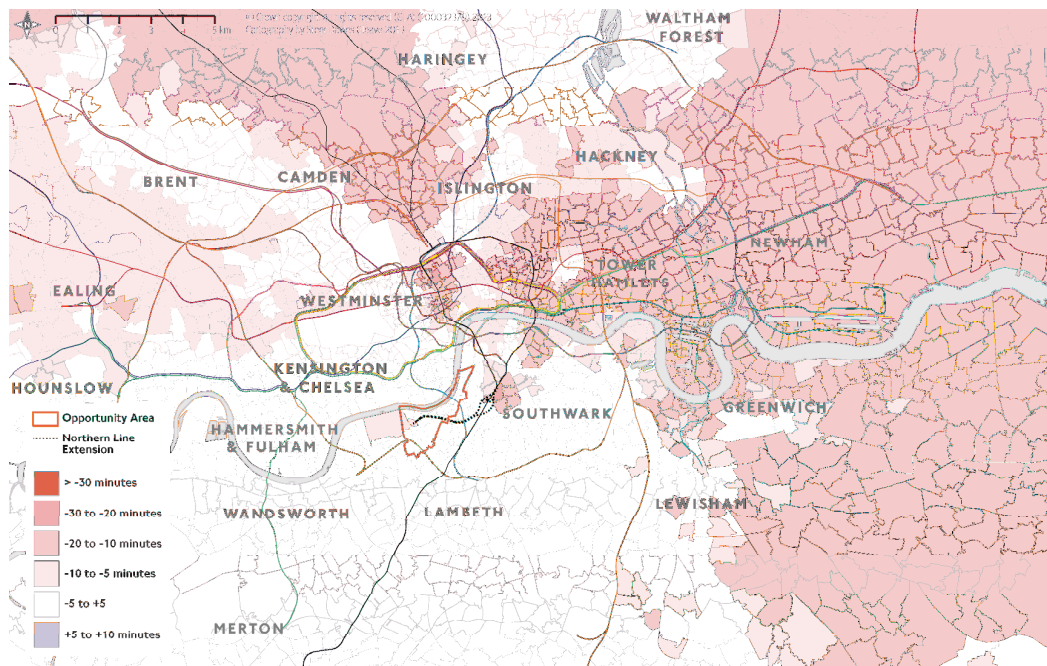
Figure 6-18A Forecast Change in Generalised Journey Time From Nine Elms Resulting From the NLE, 2031



Source: TfL Regional Railplan model

129. Figure 6-19 from Chapter 6 of the ES has been replaced by Figure 6-19A below.

Figure 6-19A Forecast Change in Generalised Journey Time to Nine Elms Resulting From the NLE, 2031



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Highway Effects

Changes in Traffic Levels

130. Table 6-40 from Chapter 6 of the ES has been replaced by Table 6-40A below.

Table 6-40A Forecast Percentage Change in Two-Way Hourly Traffic Flow Due to the NLE on Key Links, 2031

Link	AM peak (08:00–09:00)	Inter-peak (average hour 10:00-16:00)
Vauxhall Bridge	-1%	-5%
Albert Embankment (A3036)	-1%	0%
Nine Elms Lane (A3205)	2%	1%
Battersea Park Road (A3205)	9%	15%
Kennington Park Road (A3)	1%	-1%
Harleyford Road (A202)	0%	0%
Kennington Lane (A3204)	0%	0%
Kennington Road (A23)	1%	-1%
S Lambeth Road (A203)	-1%	2%
Queenstown Road (A3216)	-2%	2%
Wandsworth Road (Principal route)	3%	0%

Source: TfL Central London Highway Assignment Model (CLoHAM)

131. Paragraph 6.258 of Chapter 6 of the ES has been modified as follows.

6.258 ~~Table 6-40A shows the largest increase in flows on Battersea Park Road (10% 9% and 12% 15% in the AM and inter-peak periods respectively) adjacent to the BPS development. Modest increases in flow would occur on Nine Elms Lane (2% peak and 4% 1% inter-peak) and at Queenstown Road in the inter-peak (5% 2% increase). Based on the criteria set out in Table 6-2 the AM peak increase at Battersea Park Road is considered to represent a moderate adverse effect on this link of the highway network as the increases exceed 10% in the AM peak. Based on the criteria set out in Table 6-2, no links exceed a 10% increase in flow and thus the effect is considered minor adverse. It must also be noted that this~~ The change in flow also accounts for the gross impacts of those developments that are assumed to come forward with the NLE in place but does not take account of the mitigation that they would bring. Additionally, the relative impact of this change in flows should be considered in the context of the volume-capacity ratio on these links as set out in Table 6-42A, which would still be

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below 50%.

Impact on Capacity and Congestion

132. Paragraph 6.261 of Chapter 6 of the ES has been modified as follows.

6.261 Tables 6-41A and 6-42A show that the links experiencing the largest increase in flow, Battersea Park Road, has ~~(Battersea Park Road and Nine Elms Lane)~~ both have comparatively low levels of delay indicated by volume to capacity ratios of ~~between 43% and 48%~~ 47% and 46% in the AM peak and inter-peak periods respectively. The low volume to capacity ratio, even with NLE, show that ~~these links~~ this link will operate within capacity and will therefore be capable of accommodating the increase in traffic flow. The overall impact on ~~these links~~ this link is therefore expected to be negligible.

133. Table 6-41 from Chapter 6 of the ES has been replaced by Table 6-41A below.

Table 6-41A Forecast Volume to Capacity on Key Links, With and Without NLE (Two-Way Average), AM Peak Hour (08:00–09:00), 2031

Link	Current Baseline	Future Baseline Without NLE	With NLE
Vauxhall Bridge	54%	63%	62%
Albert Embankment (A3036)	9%	12%	11%
Nine Elms Lane (A3205)	36%	44%	44%
Battersea Park Road (A3205)	37%	44%	47%
Kennington Park Road (A3)	34%	35%	35%
Harleyford Road (A202)	57%	65%	65%
Kennington Lane (A3204)	64%	69%	69%
Kennington Road (A23)	36%	55%	55%
S Lambeth Road (A203)	13%	16%	16%
Queenstown Road (A3216)	74%	87%	86%
Wandsworth Road (Principal route)	22%	30%	31%

Source: TfL Central London Highway Assignment Model (CLoHAM)

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134. Table 6-42 from Chapter 6 of the ES has been replaced by Table 6-42A below.

Table 6-42A Forecast Volume to Capacity on Key Links, With and Without NLE (Two-Way Average, Inter-Peak), 2031

<i>Link</i>	<i>Current Baseline</i>	<i>Future Baseline without NLE</i>	<i>With NLE</i>
<i>Vauxhall Bridge</i>	48%	67%	64%
<i>Albert Embankment (A3036)</i>	10%	11%	11%
<i>Nine Elms Lane (A3205)</i>	37%	46%	46%
<i>Battersea Park Road (A3205)</i>	36%	39%	46%
<i>Kennington Park Road (A3)</i>	30%	34%	33%
<i>Harleyford Road (A202)</i>	33%	45%	45%
<i>Kennington Lane (A3204)</i>	64%	62%	62%
<i>Kennington Road (A23)</i>	27%	42%	41%
<i>S Lambeth Road (A203)</i>	15%	19%	19%
<i>Queenstown Road (A3216)</i>	83%	90%	94%
<i>Wandsworth Road (Principal route)</i>	19%	29%	29%

Source: TfL Central London Highway Assignment Model (CLoHAM)

135. Paragraph 6.263 of Chapter 6 of the ES has been modified as follows.

6.263 *The volume to capacity ratio for Queenstown Road indicates that there is congestion on this link (above 85%) both with and without the NLE, albeit the level of congestion will be higher with the NLE in the inter-peak, and slightly lower in the AM peak. As inter-peak traffic flows are expected to rise by only 5% ~~4% in the off-peak~~, compared to the threshold criterion of 30%, this is therefore considered to have a moderate adverse effect when considered against the criteria in Table 6-2.*

Chapter 6A: Traffic and Transport

Change in Traffic Speeds

136. Table 6-43 from Chapter 6 of the ES has been replaced by Table 6-43A below.

Table 6-43A Forecast Percentage Change in Traffic Speeds on Key Links Due to the NLE, 2031

Link Name	AM peak (08:00–09:00)	Inter-peak (average hour 10:00-16:00)
Vauxhall Bridge	6%	6%
Albert Embankment (A3036)	0%	0%
Nine Elms Lane (A3205)	0%	0%
Battersea Park Road (A3205)	-19%	-29%
Kennington Park Road (A3)	0%	0%
Harleyford Road (A202)	1%	0%
Kennington Lane (A3204)	0%	0%
Kennington Road (A23)	-1%	0%
S Lambeth Road (A203)	0%	0%
Queenstown Road (A3216)	-11%	-26%
Wandsworth Road (Principal route)	0%	0%

Source: TfL Central London Highway Assignment Model (CLoHAM)

137. Paragraph 6.266 of Chapter 6 of the ES has been modified as follows.

6.266 *The table shows that the impact of traffic speeds is greatest along Battersea Park Road and Queenstown Road, which are both the closest to the BPS development. During the AM peak traffic speeds decrease in excess of 10% on Battersea Park Road (a non-congested link) and in excess of 5% on Queenstown Road (a congested link). During the inter-peak there are decreases of ~~28%~~ 29% on Battersea Park Road and ~~25%~~ 26% on Queenstown Road but no decreases in excess of 30%. When based on the assessment criteria in Table 6-2 there is therefore expected to be a moderate adverse effect on traffic speeds on Battersea Park Road and Queenstown Road in the AM peak.*

Chapter 6A: Traffic and Transport

Residual Impact Assessment and Conclusion

Residual Impact Assessment

138. The following row from Table 6-44 of Chapter 06 of the ES has been modified as shown below to reflect the selection of Construction Option B.

Table 6-44A Significant and Residual Effects of NLE

<i>Transport Receptor</i>	<i>Potential Impact</i>	<i>Significance of Effect (Pre-Mitigation)</i>	<i>Mitigation Measures</i>	<i>Significance of Residual Effect (Post-Mitigation)</i>
<i>Demolition and construction</i>				
<i>Parking</i>	<i>Temporary loss of parking spaces at Radeot Street, Harmsworth Street, Nine Elms, Kennington Park and Kennington Green worksites causing inconvenience to local residents</i>	<i>Moderate adverse</i>	<i>Use of alternative parking provision nearby will be possible, which is able to accommodate demand</i>	<i>Minor adverse</i>

Chapter 7A: Socio-Economics

139. This addendum to *ES Volume I, Chapter 7: Socio-Economics* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*. This principally relates to the omission of the proposal to provide a replacement community facility at Kennington Park.

Changes to the ES Chapter

140. Since submission of the TWAO, LBL have confirmed to TfL that they intend to relocate Bee Urban (the current occupiers) from Kennington Park Lodge in advance of the commencement NLE construction works to an alternative location. TfL have agreed to pay a financial contribution towards this relocation. Therefore, there is no longer a requirement for TfL to provide a temporary community facility during construction, or to provide the previously proposed replacement facility next to the head house.
141. These changes are reflected in the following amendments to ES Chapter 7, which are shown under the headings/sub-headings used within the ES chapter.

Potential Effects and Mitigation Measures

Construction Phase

Construction Employment

142. Since the socio-economic assessment assumed the same level of construction labour for both Construction Option A and Option B, Paragraph 7.86 has now been deleted.

Open Space

143. The text below replaces paragraph 7.99.

7.99 *The duration of the construction works at these sites is classified as being a medium term effect, lasting for approximately 3 years and 2 months (163 weeks) at Kennington Green and 3 years and 9 7 months (187 weeks) at Kennington Park.*

Community Facility

144. The text below replaces paragraph 7.113.

7.113 *The construction works at Kennington Park will require the demolition of Kennington Park Lodge, a community facility currently occupied by Bee Urban would be demolished as a result of the NLE. This would result in the occupiers being displaced for the duration of the works at this site (approximately 3 years and 11 months based on Construction Option A). LBL has found an alternative facility for Bee Urban and they will be relocated in advance of the NLE works. TfL has agreed to pay LBL compensation for their loss of the Lodge.*

145. Paragraph 7.114 has now been deleted.

Chapter 7A: Socio-Economics

Operational Phase

Operational Employment

146. The text below replaces the figures provided within paragraphs 7.116 and 7.117 to reflect an update to operational employment figures that are provided within the NLE Economic and Business Case. Whilst this is an improvement to employment figures, it does not give rise to any materially different effects to those identified in the ES. Tables 7-8 and 7-9 have also been replaced to reflect this.

7.116 *Table 7-8A provides a breakdown of jobs created by the operational phase of the NLE. Taken together, it is estimated that the NLE will create ~~79~~90 direct full time equivalent (FTE) jobs once in operation*

7.117 *Assuming a leakage of 13% outside Greater London and a 1.7 multiplier, it is estimated that the total net employment associated with the NLE will be ~~134~~153 employees, of which ~~117~~133 will be from the Greater London area. This is presented in Table 7-9A.*

Table 7-8A Employment Generation of the NLE in Operation

<i>Role</i>	<i>Employment (employees)</i>
<i>Train operation</i>	30 <u>41</u>
<i>Station staffing (both stations)</i>	29 <u>29</u>
<i>Maintenance</i>	20 <u>20</u>
<i>Total</i>	79 <u>90</u>

Source: Information provided by TfL

Table 7-9 Total Net Employment Created During the Operational Phase of the NLE

	<i>Employees</i>		
	<i>Greater London</i>	<i>Outside Greater London</i>	<i>Total</i>
<i>Direct Employment</i>	69 <u>78</u>	10 <u>12</u>	79 <u>90</u>
<i>Indirect Employment (with 1.7 multiplier)</i>	48 <u>55</u>	7 <u>8</u>	55 <u>63</u>
<i>Total Net Employment</i>	117<u>133</u>	17<u>20</u>	134<u>153</u>

Source: URS Calculations 2013. Note that figures do not always add up due to rounding

Community Facility (Kennington Park lodge)

147. Paragraphs 7.123 and 7.124 have now been deleted.

Chapter 7A: Socio-Economics

Residual Effects Assessment and Conclusion

148. The text below replaces the 'explanation' provided within the 'Community Facility (Kennington Park lodge)' row, under the 'Construction Phase' section of Table 7-11.

Table 7-11 *~~Construction works at Kennington Park will require the demolition of Kennington Park lodge, a community facility currently occupied by Bee Urban. LBL has decided to find an alternative facility for Bee Urban and they will be relocated in advance of the NLE works. TfL has agreed to pay LBL compensation for the loss of their Lodge would be demolished as a result of the NLE. This would result in the occupiers being displaced for approximately the 3 years and 11 month duration of the works. The occupiers would be housed in alternative facilities and there would be opportunity for the occupiers to return to larger facilities.~~*

149. The text below replaces the 'explanation' provided within the 'Employment creation' row, under the 'Operational Phase' section of Table 7-11.

Table 7-11 *~~There will be an estimated direct employment of 79 90 full time jobs, and net employment of 134 153, arising from induced and indirect impacts. Of the 134 153 net jobs 117 133 are likely to be taken up by workers from the Greater London area. Jobs would be long-term.~~*

150. Within Table 7-11, the 'Community Facility (Kennington Park Lodge)' row under the 'Operational Phase' section has been deleted.

Chapter 8A: Archaeology and Built Heritage

151. This addendum to *ES Volume I, Chapter 8: Archaeology and Built Heritage* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

152. The changes to ES Chapter 8 principally relate to the deletion of references to Construction Option A. The changes are presented below under the relevant heading/sub-heading in the ES chapter.

Introduction

153. The text below replaces paragraph 8.4 of Chapter 8 of the ES.

8.4 *The proposed NLE will entail construction of two new stations (Battersea and Nine Elms) and two ventilation/access shafts (at Kennington Green and Kennington Park). Under Construction Option A, two temporary grout shafts would also be opened, at Harmsworth Street and Radcot Street. The ES assesses the effects of the NLE within the sites of the new stations and shafts for both options. For built heritage assets, the ES assesses the physical impacts from demolition and other works as well the potential impacts of any physical mitigation works implemented against the effects of settlement along the route.*

Assessment Methodology and Significance Criteria

Assessment Methodology

Scope

154. The text below replaces paragraph 8.21 of Chapter 8 of the ES.

8.21 *The principal impacts on archaeological remains would arise in the two station sites and two permanent shaft sites (and the associated distillery water tank construction), with the addition of two temporary shafts under the alternative construction option. All these sites have been assessed individually. Whole-route impacts on built and buried assets arising from settlement mitigation are also considered.*

Baseline Conditions

Topography and Geology

155. Within Figure 8-2, the Northbound Kennington Grouting Worksite and Southbound Kennington Grouting Worksite no longer apply.

Archaeological and Built Heritage Potential

Harmsworth Street, temporary grouting shaft worksite

156. Paragraphs 8.61 to 8.63 have now been deleted.

Chapter 8A: Archaeology and Built Heritage

Radcot Street, temporary grouting shaft worksite

157. Paragraphs 8.64 to 8.66 have now been deleted.

Potential Effects

Construction phase

Archaeological effect of mitigation for ground settlement (whole-route impact)

158. The text below replaces paragraph 8.87 of Chapter 8 of the ES.

8.87 *Mitigation for ground settlement may have an archaeological impact, in terms of any ~~grouting~~ shafts opened from ground level and the solidification of any archaeological layers in the area of impact. The location, extent and method of mitigation for ground settlement are described in ES Volume II: Appendix I2, and ~~consequently the archaeological environmental effect and appropriate mitigation will be assessed once this is known~~ an appropriate range of mitigation options is presented in the Code of Construction Practice (see ESA Appendix NA).*

Harmsworth Street, temporary grouting shaft worksite

159. Paragraphs 8.89 to 8.90 and Table 8-5 have now been deleted.

Radcot Street, temporary grouting shaft worksite

160. Paragraphs 8.91 to 8.92 and Table 8-6 have now been deleted.

Kennington Park worksite

161. The text below replaces paragraph 8.93 of Chapter 8 of the ES.

8.93 *Works at this shaft would entail excavation of the 13.5m ID shaft down to c -23m OD (c 27.0m below ground level) and construction of a 9.0m x 9.0m head house to c 8.6m high in the north-east corner of the Park. The following effects have been identified within the site:*

- *Preparatory groundworks which extend beyond/beneath any modern made ground would truncate or remove entirely any archaeological remains in the area of impact;*
- *Construction of retaining wall will remove any archaeological remains within its footprint;*
- *Excavation for the shaft, sub-station and head house basement will remove any potential archaeological remains within their footprint; and*
- *Demolition of Kennington Park Lodge built in 1938 (unlisted but in the St Mark's CA and within Kennington Park, though not forming part of the public area), removal of adjacent railings and a head house constructed ~~and a new~~ community facility provided.*

Chapter 8A: Archaeology and Built Heritage

Residual Effects

162. The text below replaces the 'Vent and Grouting Shafts' row of Table 8-12.

Table *Vent and Grouting Shafts*
8-12

Appendices

163. Within *Appendix D: Archaeology and Built Heritage*, references to temporary shafts at Radcot Street / Harmsworth Street are no longer applicable, as Construction Option A is no longer being pursued.

Chapter 9A: Noise and Vibration

164. This addendum to *ES Volume I, Chapter 9: Noise and Vibration* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

165. The selection of Construction Option B means that the construction noise and vibration effects associated with the temporary grout shafts are removed. As identified in the ES, Option B may increase the duration of some of the identified construction noise effects at the permanent shafts. The use of the Code of Construction Practice and the Section 61 process will enable these works to be carried out without any change to the previous conclusion that no significant effects (negligible to minor adverse) are expected.
166. The potential use of the land to the north of the distillery to facilitate the construction of the Kennington Green permanent shaft will potentially introduce construction noise effects into an area where there were previously expected to be no significant noise effects. The use of this land, however, would be for less noisy activities such as welfare facilities and materials storage areas, and therefore significant noise effects at new receptors are not expected.
167. This additional analysis, together with any other amendments due to the proposed modifications and additional information, is presented below under the relevant headings/sub-headings in the ES chapter.

Assessment Methodology and Significance Criteria

Construction Noise and Vibration

Construction Noise and Vibration Prediction Methodology

168. The text below replaces paragraph 9.50 of Chapter 9 of the ES.

9.50 *The highest levels of noise will arise from the ~~six~~—surface construction sites. However, the construction of the tunnels will give rise to groundborne noise that may be audible inside properties above the route of the proposed scheme. The prediction of groundborne noise from the construction of the tunnels has been taken from the prediction method outlined in BS 5228-2:2009.*

Baseline Conditions

169. The text below replaces paragraph 9.96 of Chapter 9 of the ES.

9.96 *A number of environmental noise surveys were undertaken to establish the baseline conditions at key noise sensitive receptor locations. These locations represent the sites that are potentially affected by noise from the ~~six~~—surface sites during the construction and operational phases of the scheme. These include the Kennington Green and Kennington Park ventilation shafts, Nine Elms station and Battersea station.*

170. Within Figure 9-2, S9, S10 and S11 no longer apply.

Chapter 9A: Noise and Vibration

Baseline Environmental Survey Results

171. Within Table 9-10, rows relating to S9, S10 and S11 have been deleted.

Harmsworth Street

172. Paragraphs 9.117 to 9.119 have now been deleted.

173. Table 9-15 has now been deleted.

Radcot Street

174. Paragraphs 9.120 to 9.121 have now been deleted.

175. Table 9-16 has now been deleted.

Environmental Impacts and Significance of Effects

Construction

Noise from Surface Construction Sites

176. The text below replaces paragraph 9.125 of Chapter 9 of the ES.

9.125 ~~Two construction options are under consideration for this project. Option A includes two temporary shaft sites for compensation grouting and tunnel boring plant removal at the end of the construction phase. In Option B the TBM will finish at the ventilation shaft sites and the final length of tunnel boring will be undertaken manually with a spray concrete lining applied. Option A represents the worst-case scenario (as it includes the two additional work sites) and has been assessed below.~~

177. The text below replaces paragraph 9.126 of Chapter 9 of the ES.

9.126 ~~Construction noise predictions have been completed for each of the six surface construction sites required for Option A:~~

- *Battersea station;*
- *Nine Elms station;*
- *Kennington Park ventilation and intervention shaft; and*
- *Kennington Green ventilation and intervention shaft;*
- ~~*Harmsworth Street temporary grouting shaft; and*~~
- ~~*Radcot Street temporary grouting shaft.*~~

178. Within Table 9-17, rows relating to Harmsworth Street (S9) and Radcot Street (S10) have been deleted.

Ventilation and Intervention Shafts

Kennington Green

179. The text below introduces a new paragraph (9.143A) following paragraph 9.143 of Chapter 9 of the ES.

9.143A *Whilst the possible use of land to north of the distillery will potentially introduce construction noise effects into the area, it has not been possible to obtain representative baseline data*

Chapter 9A: Noise and Vibration

due to the current use of the land for construction works. However, the activities proposed for this land will not be the noisiest works and, as such, are not expected to give rise to noise levels in excess of those predicted in Table 9-21. The predicted levels in Table 9-21 are for shaft excavation works and the use of land for welfare and materials storage will produce noise levels much lower than predicted in Table 9-21. The use of the Code of Construction Practice and the Section 61 process will enable these works to be carried out without the introduction of any additional significant effects.

Temporary Shafts

180. Paragraphs 9.144 to 9.145 have now been deleted.

Harmsworth Street

181. Paragraphs 9.146 to 9.148 and Table 9-22 have been deleted.

182. *Within Figure 9-5, the Harmsworth Street related noise sensitive receptors no longer apply.*

Radcot Street

183. Paragraphs 9.149 to 9.150 and Table 9-23 have been deleted.

184. Figure 9-7 no longer applies and has been deleted.

Appendices

185. *Within Appendix E1: Baseline Noise Survey Report and Appendix E2: Construction Noise and Vibration Prediction Report, references to temporary shafts and Radcot Street / Harmsworth Street temporary shafts are no longer applicable, as Construction Option A is no longer being pursued.*

186. *Appendix E3: Ventilation Shaft and Station Noise and Vibration Prediction Report; and Appendix A4: Groundborne Noise and Vibration Prediction Report remain unchanged.*

187. *Appendix N2: Construction Noise and Vibration Mitigation Scheme also remains unchanged.*

Chapter 10A: Air Quality

188. This addendum to *ES Volume I, Chapter 10: Air Quality* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

189. The changes presented below relate to the deletion of references to Construction Option A and the replacement community facility at Kennington Park. These are presented under the headings/sub-headings in the ES chapter.
190. The potential use of the land to the north of the distillery for the construction of the Kennington Green permanent shaft will potentially introduce construction phase dust emissions into an area where there were previously expected to be no significant air quality effects. The use of this land for welfare facilities and a materials storage area, is not expected to cause significant dust arisings, and no additional significant air quality or dust effects are expected.

Introduction

Scope and Objectives

191. The text below replaces paragraph 10.5 of Chapter 10 of the ES.

10.5 ~~The air quality assessment considers emissions of dust and PM₁₀ from construction activities, emissions of (NO₂) and PM₁₀ from construction site plant, emissions of NO₂, PM₁₀ and PM_{2.5} from construction related vehicle movements, and emissions of particulate matter from the proposed ventilation shafts associated with NLE. It considers the effects associated with these emissions from two potential construction options. The first option (Construction Option A) includes for the construction of two additional temporary shafts on the Kennington Loop. The second option (Construction Option B) does not include these temporary shafts. A detailed description of these options is provided in Chapter 4: Description of NLE.~~

192. The text below replaces paragraph 10.8 of Chapter 10 of the ES.

10.8 ~~The potential for changes to long term and short term mean concentrations of particulate matter (PM₁₀ and PM_{2.5}) and NO₂ to occur as a result of the predicted increase in road traffic movements on the local road network have been considered specifically for the following scenarios (Construction Options A and B are described in more detail in Chapter 4: Description of NLE):~~

- 2011 Baseline Scenario (used for air quality model verification only);
- 2012 Baseline;
- ~~2012 Construction Phase (Option A) Scenario (worst-case construction year with development);~~
- 2012 Construction Phase (Option B) Scenario (worst-case construction year with development).

Chapter 10A: Air Quality

Methodology for the Assessment of Effects

Air Quality Sensitive Receptors

Receptors Potentially Affected by Construction Phase Dust Emissions

193. The text below replaces paragraph 10.68 of Chapter 10 of the ES.

10.68 *The worksites associated with the construction of the NLE are described in detail in Chapter 4: Description of the NLE. There are a number of receptors that are sensitive to dust in the immediate vicinity of the NLE construction work sites. The location of these receptors is shown in Figure 10-1. A summary is provided below:*

- *Battersea station worksite:*
 - ~~residential properties on Battersea Park Road to the south.~~
- *Nine Elms station worksite:*
 - ~~residential properties on Apple Blossom Court to the south;~~
 - ~~residential properties on Bramley Crescent to the south; and~~
 - ~~residential properties off Wandsworth Road to the east.~~
- *Kennington Green ventilation shaft worksite:*
 - ~~residential properties on Kennington Road to the north, south and west.~~
- *Kennington Park ventilation shaft worksite:*
 - ~~residential properties on Kennington Park Place to the north;~~
 - ~~nursery on Kennington Park Place to the north; and~~
 - ~~residential properties on St Agnes Place to the east.~~
- ~~*Harmsworth Street temporary works shaft worksite:*~~
 - ~~residential properties on De Laune Street to the west;~~
 - ~~residential properties on Sharsted Street to the north; and~~
 - ~~residential properties on Harmsworth Street to the east.~~
- ~~*Radcot Street temporary works shaft worksite:*~~
 - ~~residential properties on Radcot Street to the north;~~
 - ~~residential properties on Ravensdon Street to the east and west; and~~
 - ~~residential properties on Stannary Street to the south~~

Chapter 10A: Air Quality

194. Within Figure 10-1, references to Radcot Street and Harmsworth Street no longer apply.

Prediction of Road Traffic Emission Impacts

Traffic Data

195. The text below replaces paragraph 10.79 of Chapter 10 of the ES.

10.79 *The baseline traffic data used within this assessment has been sourced from the London Atmospheric Emissions Inventory, which was provided by TfL / LUL. The construction phase vehicle movements associated with each worksite for both construction options (Option A) and Option B) has been provided by Halcrow. The data was converted into emission rates for 2012 using Defra's current Emission Factor Toolkit (V5.2) (Ref. 10-41). A summary of the traffic data used within this assessment is provided in ES Volume II: Appendix F.*

196. Within Figure 10-1, Harmsworth Street and Radcot Street have been deleted.

197. The text below replaces paragraph 10.133 of Chapter 10 of the ES.

10.133 *The worst-case receptors located close enough to each worksite to be adversely affected by the works during demolition, earthworks, construction and trackout, include the residential properties located off Battersea Park Road in Wandsworth, Pascal Street, Wandsworth Road, and Kennington Road, ~~Radcot Street, Ravensdon Street and Stannary Street~~ in Lambeth, and Kennington Park Place, and St Agnes Place, ~~De Laune Street and Harmsworth Street~~ in Southwark.*

Impact Assessment

Construction Phase Effects

Construction Phase Dust Impacts

Earthworks

198. Paragraph 10.153 has been deleted.

199. The text below replaces paragraph 10.160 of Chapter 10 of the ES.

10.160 *Construction works relating to the ventilation shafts ~~and temporary construction shafts~~ are limited to the installation of plant and infrastructure within the shafts themselves, with the exception of two head houses being erected off Kennington Road and Kennington Park Place. Each shaft will be lined by pre-cast concrete segments and a reinforced concrete base slab. The concrete used will be ready-mixed and delivered to site as required.-*

Trackout

200. The text below replaces paragraph 10.165 of Chapter 10 of the ES.

Chapter 10A: Air Quality

10.165 *Locations where trackout effects may potentially affect sensitive receptors are:*

- *Adjacent to Battersea Park Road, as construction traffic egresses the Battersea station worksite;*
- *Adjacent to Pascal Street and Wandsworth Road, as construction traffic egresses the Nine Elms station worksite;*
- *Adjacent to Kennington Road and Kennington Park Road, as construction traffic egresses the Kennington Green worksite; and*
- *Adjacent to Kennington Park Place and Kennington Park Road, as construction traffic egresses the Kennington Park worksite; and*
- ~~*Adjacent to De Laune Street, Kennington Park Place and Kennington Park Road, as construction traffic egresses the Harmsworth Street worksite; and*~~
- ~~*Adjacent to Stannary Street, Ravensdon Street and Kennington Park Road, as construction traffic egresses the Radcot Street worksite.*~~

Road Traffic Emissions

201. The text below replaces paragraph 10.173 of Chapter 10 of the ES.

10.173 *During the construction phase of the NLE (~~under Construction Option A and B~~), annual mean concentrations of NO₂ would continue to exceed the national air quality objective for that pollutant. Annual mean concentrations are predicted to range from 56µg/m³ (R1) to around 60µg/m³ (R8) at the sensitive receptors considered in this assessment.*

202. The text below replaces paragraph 10.174 of Chapter 10 of the ES.

10.174 *The predicted annual mean NO₂ concentrations during the construction of the NLE (~~under Construction Option A and B~~) are close to or in excess of the annual mean equivalent value (60µg/m³) for the hourly mean NO₂ objective, as identified by research described above. Therefore, there is a risk that the hourly mean national air quality objective for NO₂ may be exceeded across the study area.*

203. The text below replaces paragraph 10.175 of Chapter 10 of the ES.

10.175 *Construction phase (~~Construction Option A and B~~) annual mean concentrations of PM₁₀, PM_{2.5} and the number of exceedances of the 24 hour PM₁₀ objective are well below their respective national air quality objectives for the respective pollutants at all receptor locations considered.*

204. Within Tables 10-13 and 10-14, rows relating to Construction Option A no longer apply and have been deleted.

205. The text below replaces paragraph 10.177 of Chapter 10 of the ES.

10.177 *During the construction phase (~~Construction Option A and B~~), the additional vehicle movements associated with the construction worksites would lead to an imperceptible to small change to*

Chapter 10A: Air Quality

annual mean concentrations of NO₂, PM₁₀ and PM_{2.5}, and the number of exceedances of the 24 hour PM₁₀ objective, at all of the sensitive receptors considered. The greatest effect would occur at receptors located adjacent to Wandsworth Road (R9 and R10), where construction vehicles pass to and from the Nine Elms station worksite. The effect of road traffic emissions at these locations would be minor adverse and negligible elsewhere. Overall, road traffic emissions associated with the construction of the NLE would have an effect of minor adverse significance.

Appendices

206. Within *Appendix F: Air Quality*, references to Construction Option A are no longer applicable as this option is no longer being pursued.

Chapter 11A: Electromagnetic Compatibility

207. This addendum to *ES Volume I, Chapter 11: Electromagnetic Compatibility* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

208. The only minor change to Chapter 11 is recorded below under the headings/sub-headings in the ES chapter.

Assessment Methodology and Significance Criteria

Assessment Methodology

209. Paragraph 11.21, which states that, for the purposes of the EMC assessment, the Construction Options A and B are not considered to differ, has been deleted.

Appendices

210. Within *Appendix G: Electromagnetic Compatibility*, references to Radcot Street / Harmsworth Street are no longer applicable as Construction Option A is no longer being pursued.

Chapter 12A: Surface Water and Flood Risk

211. This addendum to *ES Volume I, Chapter 12: Surface Water and Flood Risk* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

212. The changes presented below relate to the deletion of references to Construction Option A and the replacement community facility at Kennington Park. These are presented under the headings/sub-headings in the ES chapter.

Introduction

213. The text below replaces paragraph 12.2 of Chapter 12 of the ES.

12.2 *The proposed NLE construction will involve ~~six~~ construction sites, at ~~Radcot Street, Harmsworth Street, Kennington Green, Kennington Park, Battersea station and Nine Elms station~~ (see Chapter 4: Description of the NLE). References to the site in this assessment refer to all ~~six~~ construction sites, unless specified otherwise.*

Impact Assessment and Mitigation Measures

Construction Impacts

Suspended Sediments

214. The text below replaces paragraph 12.80 of Chapter 12 of the ES.

12.80 *Potential sources of suspended sediments during the construction of the NLE include excavations and groundwater control of excavations, exposed ground and stockpiles, ~~grouting~~, plant and wheel washing and dust and sediment generated. Groundwater control or depressurisation may be required during both the SCL running tunnels and the step plate junction construction to control the inflow of ground water during the construction. Similar local groundwater control will also be required for the Kennington Park and Kennington Green shafts ~~and also the temporary shafts~~ during shaft construction. Extracted groundwater can contain elevated levels of suspended sediments.*

Disturbance of Contaminated Land

215. The text below replaces paragraph 12.98 of Chapter 12 of the ES.

12.98 *Disturbance of potentially contaminated soils during the construction works may adversely affect the River Thames. Chapter 13: Land Quality and Groundwater of this ES concludes that some areas of the site, namely Nine Elms and Battersea stations, have previously been used for activities that have had potential to cause a low-moderate level for soil contamination. A review of historical mapping of the sites at ~~Radcot Street, Harmsworth Street, Kennington Green and Kennington Park~~ indicate that the land has been in residential use since at least 1875 and there is therefore considered to be a low potential for*

Chapter 12A: Surface Water and Flood Risk

contamination of soils.

Operation/Completed Development

Flood Risk

216. The text below replaces paragraph 12.122 of Chapter 12 of the ES.

12.122 *A benefit to the TWUL combined sewers will be provided in terms of a reduction in storm water discharge volumes entering the system. The Promoter is committed to meeting the essential standard of the London Plan, requiring attenuation to 50% of the existing peak runoff. This will be achieved through a range of SuDS, re-routing drainage for 94% of the land of the Battersea NLE station site so that it drains directly to the River Thames as opposed to the TWUL network. Measures that will be incorporated through a range of SuDS into the design include the following:*

- *Living (green) roofs for water attenuation at the lodge in the northeastern corner of Kennington Park (hereafter referred to as 'Kennington Park Lodge');*
- *Incorporation of a water attenuation tank at Nine Elms station; and*
- *Other measures such as permeable areas, including both soft and hard landscaping.*

Appendices

217. *Within Appendix H1: Buro Happold Flood Risk Assessment and Appendix H2: Water Framework Directive Report text associated with Construction Option A and temporary shafts at Radcot Street / Harmsworth Street is no longer applicable.*

Chapter 13A: Land Quality and Groundwater

218. This addendum to *ES Volume I, Chapter 13: Land Quality and Groundwater* for the proposed NLE has been prepared in response to proposed design modifications to the project and additional information, as described in the *ESA Chapter 4A*.

Changes to the ES Chapter

219. Chapter 13 of the ES is not significantly affected by the proposed design modifications. Where amendments have been made in relation to the Construction Option, temporary shafts or replacement of the community facility at Kennington Park, and no longer apply, changes have been made to Chapter 13 to reflect this.
220. Within *ES Volume II: Appendix I2* references to temporary grouting shafts at Radcot Street and Harmsworth Street no longer apply. Section 5.3 and 6.2 of Appendix I2 refers to a technical note drafted to inform mitigation options in relation to settlement. A summary of these options is provided below.
221. These changes are presented below.

Summary of the NLE

Subsurface

222. The text below replaces paragraph 13.62 of Chapter 13 of the ES.

13.62 *The following subsurface design elements are proposed as part of the NLE and are of relevance to land quality and groundwater resources:*

- *Northbound and southbound running tunnels;*
- *Intermediate station at Nine Elms;*
- *Terminus and crossover box at the BPS site (Battersea station);*
- *Overrun and platform tunnels at Battersea station;*
- *Cross passages from the overrun tunnels, ventilation shafts and stations;*
- *Two ventilation shafts located just off the Kennington Loop at Kennington Green and within Kennington Park;*
- *Two running tunnels from ventilation shafts to step-plate junction; and*
- *Two gallery tunnels from ventilation shafts to step-plate junction. ~~(for Construction Option B); and~~*
- ~~*Two temporary grouting shafts at Radcot Street and Harmsworth Street (for Construction Option A).*~~

223. Within Table 13-5, text relating to Construction Option A, Radcot Street, Harmsworth Street or temporary shafts has been deleted.

Chapter 13A: Land Quality and Groundwater

Baseline Conditions - Groundwater

Geological Conditions

Site Investigation

224. Within Figure 13-3, BH 08 and BH 09 no longer apply.

Hydrogeological Conditions

Groundwater Source Protection Zones

225. The text below replaces paragraph 13.101 of Chapter 13 of the ES.

13.101 ~~The temporary shafts at Radcot Street and Harmsworth Street, Kennington ventilation shafts, associated cross passages, running tunnels and gallery tunnels are located outside of these SPZ's.~~

Baseline Conditions – Land Quality

Contamination Potential

226. The text below replaces paragraph 13.113 of Chapter 13 of the ES.

13.113 ~~The potential for on-site soil and groundwater contamination (a source of potential impact) has been based on a review of the land-use history at the temporary grouting and ventilation shaft construction sites, the proposed new stations associated with the NLE and the general area through which the running tunnels are to be constructed.~~

Historic On-site Uses

Radcot Street and Harmsworth Temporary Grouting Shafts

227. Paragraph 13.116 has been deleted.

Unexploded Ordnance

228. The text below replaces paragraph 13.155 of Chapter 13 of the ES.

13.155 ~~The general area around the proposed Harmsworth Street grouting shaft ranges from minor blast damage in nature to total destruction on the north western border of Kennington Park. The area around Radcot Street grouting shaft is also recorded to have suffered damage ranging from minor blast damage to total destruction. A V1 flying bomb is reported to have hit the area just to the north-west of the junction of Kennington Road and Kennington Park Road, approximately 100 m south-west of the proposed Kennington Green ventilation shaft site.~~

Summary of Land Quality Baseline Conditions

Radcot Street and Harmsworth Grouting Shafts /Kennington Green and Kennington Park Ventilation Shafts

229. The text below replaces paragraph 13.163 of Chapter 13 of the ES.

13.163 ~~A review of historical mapping indicates that the areas around the two temporary grouting shaft sites have comprised residential~~

Chapter 13A: Land Quality and Groundwater

~~land-use since at least 1875. Land-use at both ventilation shaft sites has comprised open space from at least the late 1800s to present day.~~

Construction Effects – Land Quality

Ground Settlement

230. The text below replaces paragraph 13.181 of Chapter 13 of the ES.

13.181 ~~Results of the analysis within the Ground Settlement Report (see ES Volume II: Appendix I2) indicate that, depending on whether construction option A or B is employed, the maximum settlement to occur at any point along the route of the NLE will range from approximately 50mm to 70mm. As a result of this anticipated ground settlement, damages ranging from very slight to moderate damage categories to the existing built environment, including above ground buildings, may occur. In addition, t This includes potential damage to National Rail assets such as the Victoria line. Further details are presented in the Ground Settlement Report.~~

231. The text below introduces a new paragraph (13.181A) following paragraph 13.181 of Chapter 13 of the ES.

13.181A In ES Volume II: Appendix I2, it is identified that the majority of the structures falls within the settlement assessment Damage Categories 0 (Negligible) and 1 (Very Slight). Some structures in proximity to the step plate junctions, permanent shafts and station boxes fall within Damage Category 2 (Slight); and Kent House at Battersea Dogs and Cats Home falls within Damage Category 3 (Moderate) above the overrun tunnels to the west of the Battersea station box.

Construction Mitigation Measures – Land Quality

Ground Settlement

232. The text below introduces new paragraphs (13.192A, B, C, D and E) following paragraph 13.192 of Chapter 13 of the ES.

13.192A The three phases of analysis (green field predictions of settlement; movements imposed on buildings; and separate structure assessment) described in section 4.1 and table 4-1 of the ground settlement report are the stages to be followed up to and including the completion of the detailed design of the project. This phasing allows for areas or structures that require more detailed analysis work to be identified early and for the detailed analysis to be undertaken at the suitable design stage.

13.192B The settlement analysis reported represents completion of phases 1 and 2 and additionally, where the damage category has been found to exceed moderate (category 2) or the structural form is sensitive, some further analysis beyond that required for phase 2 has been undertaken. Recommendations are made within the settlement report for phase 3 analysis of these areas and structures as part of the forthcoming detailed design stage. Post TWAO the detailed design work will be undertaken and the phase 3 settlement analysis work will take place as part of that detailed

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design. This work has identified the likely significant effects of ground settlement and has informed the proposed mitigation measures identified in this chapter and would ensure that the residual effect is negligible as reported in Table 13-14. The settlement analysis is reported further in the Ground Settlement Report Appendix I2 to the ES.

13.192C Remedial measures or ground treatment to control settlement of various assets owned by other parties west of Battersea Box and the Network Rail Nine Elms railway viaduct are described, in the ground settlement report at sections 5.3 and 6.2. The measures considered were:

- Observational approach and repair
- Local track re-fettling (beneath railways)
- Compensation grouting
- Permeation grouting
- Structural solutions such as underpinning, jet grouting, strengthening or jacking or piled deck (to support surface features such as railways), and
- Physical barriers – pipe arch umbrella, contiguous or secant piles

233. The above measures are the measures reported in document (GRNLEB-HGL-00-XX-TNT-MDR-00067-02-01) referenced in paragraphs 5.3 and 6.2 of the ground settlement report (and therefore replace reference to that document).

13.192D The assets considered were:

- NR track at grade or on shallow embankment west of the Battersea Station Box
- Duchess Bridge 330; northern abutments and wingwalls to east
- NR retaining wall between NR access road and BDCH boundary
- NR viaduct to west of BDCH
- NR viaduct west of Nine Elms station
- BDCH – Kent Building and Cattery

13.192E Consultation with the relevant landowners for the above is ongoing. Final precise mitigation selection and design will be developed during detailed design in addition to further monitoring, and analysis following Phase 3 analysis during detailed design. Appendix IA includes LUL Standard S1050 and the NLE Settlement Deed.

Construction Effects – Groundwater Resources

Lowering of Groundwater Levels

234. The text below replaces paragraph 13.213 of Chapter 13 of the ES.

13.213 *Groundwater control of the upper aquifer is anticipated to be required for construction of the ventilation ~~and grouting~~ shafts, the proposed Battersea station, the intermediate Nine Elms station and the associated entry / exit of the TBM (see Table 13-5 for*

Chapter 13A: Land Quality and Groundwater

anticipated geologies). Any pumped discharge would be directed to an appropriate sewer onsite, following any necessary treatment and subject to TWUL approval. The duration of pumping and groundwater volumes would be determined by further site investigation. The magnitude of impact to groundwater levels and flows in the upper aquifer is anticipated to be low, resulting in a decrease in the yield of an aquifer but not affecting the existing users or changing the WFD status, and the subsequent effect to be negligible. No impacts or subsequent effects are anticipated on the identified licensed groundwater source which abstracts from this aquifer, as it is located at over 900m from the construction works (see Table 13-11).

235. The text below replaces paragraph 13.215 of Chapter 13 of the ES.

13.215 *Depressurisation of the Lambeth Group is anticipated to be required for construction of the ventilation and grouting shafts and the step plate junction, where the water-bearing units of the Lambeth Group are intercepted. This would involve drilling wells into the Lambeth Group from the base of the temporary shafts at Radcot Street and Harmsworth Street and pumping to lower the hydraulic pressure in the vicinity of the construction sites. Any pumped discharge would be directed to an appropriate sewer onsite, following any necessary treatment and subject to TWUL approval. The duration of pumping and groundwater volumes would be determined by further site investigation. The Lambeth Group is not classified by the EA as an aquifer and therefore is not considered as a groundwater receptor. Therefore the impacts of depressurisation on groundwater levels in the Lambeth Group are not assessed here.*

236. Within Table 13-15, text relating to temporary grouting shafts has been deleted.

Appendices

237. *Appendix 11: Landmark Envirocheck Report; Appendix 13: Concept Consultants Ltd Site Investigation; Appendix 14: Bomb Damage Maps; and Appendix 15: Buro Happold Battersea Redevelopment Geoenvironmental Interpretive Summary Report* remains unchanged.

238. Minor clarifications have been made to *Appendix 12: Halcrow Ground Settlement Report* as described above. In addition, reference to text associated with Construction Option A and temporary shafts at Radcot Street / Harmsworth Street, is no longer applicable.

239. Additional information is provided in *Appendix A1* including the NLE Settlement Deed and LUL Standard S1050.

Chapter 14A: Ecology

240. This addendum to *ES Volume I, Chapter 14: Ecology* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

241. The changes presented below relate to the deletion of references to Construction Option A and the replacement community facility at Kennington Park. These are presented under the headings/sub-headings in the ES chapter.

Introduction

242. The text below replaces paragraph 14.2 of Chapter 14 of the ES.

14.2 ~~The six above-ground NLE construction sites were subject to ecology surveys in 2012 and early 2013 (see Figure 14-1). These surveys characterise the ecology baseline at each site and provide contextual information upon which this Ecological Impact Assessment (EclA) of the scheme is based. A summary of these surveys are presented within this chapter, with greater detail available in the Phase 1 habitat survey reports contained in ES Volume II: Appendix J1: Extended Phase 1 Habitat Reports. A short introduction to each NLE above-ground site is provided below:~~

- ~~• Harmsworth Street – A temporary grouting shaft is proposed to be located at the junction of Harmsworth Street and De Laune Street. The grouting shaft will be completely contained within the bounds of Harmsworth Street;~~
- ~~• Radcot Street – A temporary grouting shaft is proposed to be located on Radcot Street. The grouting shaft will be completely contained within the bounds of the Radcot Street;~~
- ~~• Kennington Green – A permanent ventilation intervention and shaft is to be installed within the southern bounds of Kennington Green. Kennington Green is an area of amenity grassland, with scattered mature trees;~~
- ~~• Kennington Park – A permanent intervention and ventilation shaft is proposed to be located in the northeast corner of Kennington Park, an area of notable amenity and some ecological interest;~~
- ~~• Nine Elms – An intermediate station (Nine Elms station) is to be built off Wandsworth Road, adjacent to Pascal Street. The site is dominated by buildings and hard standing, with a few scattered trees; and~~
- ~~• Battersea Power Station (BPS) – A station and associated buildings are proposed for the Battersea station site. The site comprises a mosaic of semi-~~

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natural (grassland, scrub and, trees) and man-made (buildings and hard standing) habitats. The site is situated adjacent to the River Thames. For the purposes of this chapter, Battersea station refers to the proposed NLE site, BPS refers to the Battersea Power Station itself, and the wider BPS refers to the entire BPS site (including the proposed Battersea station NLE site and the adjacent land falling within the entire BPS site).

243. Within Figure 14-1, references to Harmsworth Street Grouting Shaft and Radcot Street Grouting Shaft no longer apply.

Scope & Objectives

244. Paragraph 14.4 has been deleted.
245. The text below replaces paragraph 14.6 of Chapter 14 of the ES.

14.6 *The assessment will consider the effects of both the construction and operational phases of the NLE with the construction phase anticipated to last approximately six years, and the operational phase indefinitely. ~~As is stated in Chapter 4: Description of the NLE of this ES, two construction options are proposed – Option A and Option B – although, as these two construction options are not anticipated to influence the EclA, the assessment for both options has been presented as if for a single option~~*

Assessment Methodology and Significance Criteria

Baseline Characterisation

Extended Phase 1 Habitat Survey

246. The text below replaces paragraph 14.52 of Chapter 14 of the ES.
- 14.52 *An extended Phase 1 habitat survey of all ~~six~~ sites (see paragraph 14.95) was undertaken following the Joint Nature Conservation Committee Phase 1 Survey Guidelines (Ref.14-24), and was originally carried out in April 2010 and updated in August and October 2012 to identify any changes that may have occurred in the intervening time. The survey methodology and results for each site are presented within the individual extended Phase 1 Habitat Reports for each NLE site in ES Volume II: Appendix J1.*

Bat Scoping Survey

247. The text below replaces paragraph 14.53 of Chapter 14 of the ES.
- 14.53 *On 25th August 2011 a Natural England licensed bat worker undertook a thorough bat scoping survey of all ~~six~~ sites. As part of this, buildings and trees were assessed to determine their potential to support bats, in accordance with guidelines published by the BCT (Ref. 14-19). The suitability of the habitats for bat foraging, both on and surrounding the sites, were also taken into consideration. In September 2012, the Kennington Park Lodge was resurveyed internally for its potential to support roosting bats. An internal and external assessment was undertaken to check the building for signs of bats or features that could support roosting for*

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bats (see ES Volume II: Appendix J1). Based on the results of the bat scoping surveys, no further bat surveys for any of the sites were considered necessary

Arboricultural Survey

248. The text below replaces paragraph 14.54 of Chapter 14 of the ES.

- 14.54 *An arboricultural survey, carried out in accordance with BS5837, was undertaken for all six sites (see ES Volume II: Appendix J2). The survey recorded the species and condition of all trees on, or adjacent to the sites.*

Baseline Conditions

Desk Study Results

Designated Sites

249. Within Figure 14-1, references to Harmsworth Street Grouting Shaft and Radcot Street Grouting Shaft no longer apply.

Operational Phase

Kennington Park

250. The text below replaces paragraph 14.178 of Chapter 14 of the ES.

- 14.178 *~~A Two~~ structures will be located above ground during the operational phase of the Kennington Park site: a head house (used for access to and maintenance of the NLE facilities) ~~and a community building (which will be used for community activities)~~. ~~These~~is buildings ~~are~~ is unlikely to significantly increase levels of disturbance (light or noise) within the park and are therefore unlikely to affect any notable species (such as bats or birds) which may be present within the area. All habitats will be reinstated in accordance with the LU BAP and Lambeth BAP. No impacts on habitats and species are therefore anticipated at the operational phase for the Kennington Green site*

Appendices

251. *Appendix J1: Phase 1 Habitat Reports* remains unchanged; however the Phase 1 Habitat Reports for Radcot Street and Harmsworth Street are no longer applicable.
252. *Appendix J2: TfL Arboricultural Survey* remains includes minor amendments to reflect the proposed modifications. Text associated with Construction Option A and temporary shafts at Radcot Street / Harmsworth Street is no longer applicable.
253. *Appendix J3: Winter Bird Survey; Appendix J4: LPWG Site Visit Report; Appendix J5: Applied Ecology Winter Birds Survey; Appendix J6: Peregrine Falcon and Black Redstart Management Strategy; and Appendix J7: Applied Ecology Battersea Baseline Report* remain unchanged.

Chapter 15A: Townscape and Visual Amenity

254. This addendum to *ES Volume I, Chapter 15: Townscape and Visual Amenity* has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

255. The assessment presented in ES Chapter 15 has been updated to reflect the omission of the replacement community facility, which was previously to have been located next to the head house. The townscape and visual impact assessments for Kennington Park have been amended accordingly. The other changes relate to the removal of references to Construction Option A and the effects on receptors at Radcot Street and Harmsworth Street.
256. The Comparative Assessment, which includes the results of the Visually Verified Montages (VVMs) for Kennington Park, has also been revised to reflect the omission of the replacement community facility and is presented in *Appendix K3A*.
257. Appendix K1 remains unchanged. Within Appendix K2, references to Radcot Street and Harmsworth Street no longer apply.
258. The changes to ES Chapter 15 are presented below under the headings/sub-headings in the ES chapter.

Introduction

259. Within Figure 15-1, the indicative construction sites at Harmsworth Street and Radcot Street no longer apply.

Baseline Conditions

260. Within Figure 15-2, the indicative construction sites at Harmsworth Street and Radcot Street no longer apply.

Site Context

Harmsworth Street Temporary Grouting Shaft

261. Paragraphs 15.62 to 15.63 have been deleted.

Radcot Street Temporary Grouting Shaft

262. Paragraph 15.64 has been deleted.

Landscape and Townscape Character

Local Townscape Character Areas

263. Within Figure 15-3, the indicative construction sites at Harmsworth Street and Radcot Street no longer apply.

Visual Baseline

Harmsworth Street and Radcot Street – Temporary Grouting Shafts

264. Paragraph 15.108 has been deleted.

Chapter 15A: Townscape and Visual Amenity

Potential Effects and Mitigation Measures

Townscape Impacts during Construction

Harmsworth Street - Temporary Grouting Shaft

265. Paragraphs 15.119 to 15.120 have been deleted.

Radcot Street – Temporary Grouting Shaft

266. Paragraph 15.121 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

267. The text below replaces paragraph 15.122 of Chapter 15 of the ES with respect to the proposed modifications and a minor correction. The assessment of townscape and views at Kennington Park in the ES has been based on the correct figures notwithstanding the correction identified below.

15.122 *There would be direct, albeit localised impacts within the northern parts of TCA 08: Kennington Park, the Grade II registered Kennington Park and the St. Mark's CA. These impacts would result from the removal of up to 22 trees and an area of ornamental vegetation within Kennington Park and the gardens of Kennington Park Lodge, which would also be demolished. The worksite would be enclosed by 2.4m hoarding which would remain in place throughout the construction period. ~~A temporary community facility comprising a building and a separate secure store would be located to the west of the worksite. As a result,~~ Approximately 2500m² of public open space within Kennington Park would be temporarily unavailable for recreation. Overall, the magnitude of impact on TCA 08, the registered Kennington Park and the St. Mark's CA during construction would be medium, resulting in adverse townscape effects of moderate / major significance.*

268. The text below replaces paragraph 15.124 of Chapter 15 of the ES.

15.124 *These impacts would result from the proximity of the active and enclosed worksite in place of the existing open and tranquil parkland setting. The impacts on these receptors during construction would be high, resulting in adverse townscape effects of major significance. ~~The effect of Option A and B would be similar, except construction activities would be slightly more intense under Option A.~~*

Kennington Green – Ventilation and Intervention Shaft

269. The text below replaces paragraph 15.125 of Chapter 15 of the ES.

15.125 *The establishment of the worksite would result in the temporary loss of all public open space at the Green, replaced with construction plant and buildings. The 2.4m high hoarding established around the perimeter of the site would form an enclosure. In total, eight trees located within the green would be removed. Three trees located on the edges of the green would be retained and protected during construction. Temporary road closures and parking restrictions would temporarily effect*

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circulation around the green and Kennington Road. If the additional space to the north of the Beefeater Gin Distillery is used temporarily, this would be an area of currently derelict and vacant land enclosed by walls and buildings. This would be replaced with temporary stores and welfare accommodation buildings. As a result, there would be localised impacts of medium magnitude within TCA 09: Kennington and the Kennington CA. This would result in adverse townscape effects of moderate significance within TCA 09 and moderate / major significance within the Kennington CA. The effect of Option A and B would be similar, except construction activities would be slightly more intense under Option A. Whilst TfL's acquisition of additional land to the north of the Beefeater Gin Distillery would facilitate the location of the water tank and change the boundary of the construction worksite used for the construction of NLE, the overall effects on townscape would be the same as those presented in the ES, of moderate and moderate / major significance within TCA 09 and the Kennington CA respectively.

Nine Elms Station

270. The text below replaces paragraph 15.130 of Chapter 15 of the ES.

- 15.130 *Ancillary works at this site would include the potential removal and/ or relocation of the existing CGMA boiler house and stack. Should the boiler house be relocated, it shall be temporarily sited north-west of the existing boiler house adjacent to the NLE worksite. The new boiler house will be considerably smaller than the existing boiler house. The temporary facility will be seen in the context of the worksite and adjacent railway viaduct and as such the townscape effect will be negligible. ~~The exact location of this will be detailed at a later stage, but it is assured that the replacement structure will be of the same scale, height and appearance and that the townscape effect will be negligible.~~*

Battersea Station

271. The text below replaces paragraph 15.135 of Chapter 15 of the ES.

- 15.135 Temporary direct impacts on TCA 02: Battersea would result from the construction of the temporary four storey modular buildings between the existing gas holders and railway viaduct to the west of Battersea Power Station. This space is narrow and tightly enclosed with no public access. Further temporary single storey modular buildings and car parking would be provided on a wedge of land to the south of the gas holders to house the veterinary clinic. This site is enclosed by existing buildings of the BDCH and the gas holders which lie to the north. Indirect impacts on the northern part of TCA 02: Battersea would result from the proximity of the extensive worksite. Construction vehicles accessing the site would temporarily and indirectly affect traffic flows on Battersea Park Road. As a result of the tight enclosure and industrial context of the sites identified for the temporary kennels and veterinary clinic and the increase temporary traffic flows, the magnitude of impact would be low,

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resulting in adverse effects of minor / moderate significance.

Summary of Townscape Effects during Construction

272. The text below replaces paragraph 15.138 of Chapter 15 of the ES.

15.138 *As a result of construction, direct impacts would occur within ~~six~~ five of the TCAs identified within the study area:*

- *TCA 03: Battersea Power Station – moderate adverse;*
- *TCA 04: River Thames – moderate adverse;*
- *TCA 06: South Lambeth – moderate adverse;*
- *TCA 08: Kennington Park – moderate / major adverse; and*
- *TCA 09: Kennington – moderate / minor and moderate adverse; and*
- ~~*TCA 10: South Newington – minor / moderate adverse.*~~

Summary of Visual Effects During Construction

Harmsworth Street – Temporary Grouting Shaft

273. Paragraph 15.144 has been deleted.

Radcot Street – Temporary Grouting Shaft

274. Paragraph 15.145 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

275. The text below replaces paragraph 15.146 of Chapter 15 of the ES.

15.146 *There would be a range of views of the worksite ~~and temporary community buildings~~ along the length of Kennington Park Place to the north of the worksite and to a lesser extent from St. Agnes Place. Vegetation within Kennington Park would partially screen views of construction activities from the south. In close proximity, the demolition of Kennington Park Lodge and the removal of trees and vegetation would open up views, particularly from the listed buildings facing the north-eastern corner of the site. As a result, there would be adverse effects on views within the ZVI of moderate / major significance.*

Kennington Green – Ventilation and Intervention Shaft

276. The text below replaces paragraph 15.147 of Chapter 15 of the ES.

15.147 *Residents and workers would experience close-distance views of the worksite within Kennington Green and the Beefeater Gin Distillery, and potentially to the rear of the Beefeater Gin Distillery if additional land is acquired and planning permission granted. The hoarding forming the perimeter of the site would screen views at ground level but construction plant would be visible above. There would be longer views, directed along Kennington Road, Montford Place and Milverton Street. Therefore Overall, there would be adverse effects on views within the ZVI of moderate significance.*

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However, should additional land to the north of the distillery be acquired, facilitating the location of the water tank further away from Montford Place, this would result in adverse effects of minor / moderate significance.

Nine Elms Station

277. The text below replaces paragraph 15.149 of Chapter 15 of the ES in relation to the possible relocation of the boiler house and a minor typographical error.

15.149 *As mentioned previously, it is assumed that the relocated boiler house and stack will be substantially smaller than the existing facility ~~of the same appearance~~ and therefore the only thing that would change will be the visual receptors affected. Some will have marginally better visual amenity and some will have marginally worse. Overall, this would result in negligible effects on views. ~~Pedestrian walkway also negligible.~~*

Battersea Station

278. The text below replaces paragraph 15.150 of Chapter 15 of the ES to reflect a typographical correction.

15.150 *The hoarding which would enclose ~~enclosure~~ the worksite would largely screen construction activities at ground level. Plant, including tower cranes and the bentonite farms would be visible above the hoarding, particularly from the residential properties facing Battersea Park Road.*

Views of the temporary kennels and veterinary clinic would largely be screened by the brick railway viaducts and gas holders which tightly enclose the site. It is possible that there would be glimpsed views of the tops of these buildings from passing trains on the neighbouring railway lines (BS01).

There would an overall adverse effect on views within the ZVI of moderate / minor significance.

Operational Phase

Year 1 of Operation - Townscape Effects

Harmsworth Street– Temporary Grouting Shaft

279. Paragraphs 15.152 to 15.53 have been deleted.

Radcot Street – Temporary Grouting Shaft

280. Paragraph 15.154 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

281. The text below replaces paragraph 15.155 of Chapter 15 of the ES.

15.155 *On completion of the construction phase, the part of Kennington Park occupied by the temporary worksite ~~and the temporary community facility~~ would be returned to grass. This would be managed to create a consistent and high quality sward of amenity*

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*grass within the dog walking area. There would also be an area of species-rich meadow grass along the northern edge to provide habitat and seasonal interest and variety. This would restore the open parkland setting of the listed Bishops House, gate pillars and walls. The poor quality trees removed during construction would be replaced with London Plane trees (*Platanus × hispanica*), forming an avenue along the length of Kennington Park Place at the northern edge of the park.*

282. The text below replaces paragraph 15.156 of Chapter 15 of the ES.

15.156 *The proposed head house ~~and community buildings~~ would be form a pair, located at the corner of Kennington Park Place and St. Agnes Place, and would have a footprint of 81m². They would occupy a slightly larger footprint than the existing Kennington Park Lodge and timber community building. The western side of the head house would be similar in height to the ridge of the lodge. However, the rest of the height of the head house and community building would be lower than the existing building. The buildings would be linked by a timber pergola structure. Whereas the existing lodge is positioned diagonally at the corner of Kennington Park Place and St. Agnes Place, the new buildings would be perpendicular to the road layout and closer to further away from the eastern boundary of at St. Agnes Place. A new pedestrian access to the community building would be formed from the south, within Kennington Park, increasing permeability and connection with the park.*

283. The text below replaces paragraph 15.157 of Chapter 15 of the ES.

15.157 *The ~~two~~ buildings would be architecturally distinctive and complimentary in design. It They would be completed to a high standard, constructed in a stock brick with a textured finish to provide architectural interest. ~~Both buildings~~ It would incorporate a distinctive and complex, steeply pitched green roofs. As in the case of the existing lodge, ~~these~~ this roofs would slope away from Kennington Park Place, reducing the impact of the building on the street. The garden setting of the existing buildings would be restored and expanded, surrounding the head house with a high quality scheme of comprising an extensive area of paving and tree and shrub planting. However, the latter would not yet be fully mature and as a consequence the buildings would occupy a more open setting than the existing buildings. A low wall, railings and gates would line the northern and ~~western~~ eastern edges and would be in a similar colour and style to the existing, restoring ~~this~~ these boundary boundaries. The functional requirements of the head house structure would require a substantial louvered grille to the west facing façade, overlooking Kennington Park. This would be partially screened by young shrubs and trees. The close-boarded fence, which currently forms the boundary of the Kennington Park Lodge would be replaced with railings, improving the visual connection of the buildings and gardens with the park. The southern boundary of the head house garden would be defined by metal railings. ~~Gates on the southern boundary would provide a new physical link between Kennington Park and the new~~*

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~~community facility. A new gate and a demountable fence panel in the northern boundary would provide maintenance access into the head house site. These measures would increase visibility and views to and through the site which are currently screened by dense vegetation. Furthermore, the space between the two pavilions would frame views of the park from Kennington Park Place and views of the southern part of the garden and the park beyond would also be available from St. Agnes Place.~~

284. The text below replaces paragraph 15.161 of Chapter 15 of the ES.

15.161 ~~The impacts on the setting of the Grade II listed Nos. 10, 11 and 12 Kennington Park Place would result from the proximity of the new head house and community facilities. In combination, these buildings would present a longer façade to Kennington Park Place than the existing building, slightly increasing the enclosure of the street. The new buildings would be fully enclosed by high quality metal railings within an open setting as the planting surrounding the buildings would have yet to mature. The magnitude of impact would be low, resulting in adverse effects of moderate significance; however this would gradually improve as vegetation matures. ~~with maturation.~~~~

285. The text below replaces paragraph 15.162 of Chapter 15 of the ES.

15.162 ~~The proximity of the new head house, although set back further than the existing building, ~~community building~~ would also affect the setting of the Grade II listed Nos. 1-7 St. Agnes Place. ~~In contrast to the existing building, the new building would present an active frontage to St. Agnes Place, albeit behind railings.~~ The new buildings would be set back further from, and oriented perpendicular to, St Agnes Place within an open setting as the planting surrounding the buildings would have yet to mature. The magnitude of impact would be low, resulting in adverse effects of moderate significance; however this would gradually improve as the planting matures. ~~with maturation.~~~~

Kennington Green – Ventilation and Intervention Shaft

286. The text below replaces paragraph 15.164 of Chapter 15 of the ES.

15.164 ~~Following the completion of the construction phase, Kennington Green would be restored to public open space, set within and raised slightly above an enhanced public realm. This would represent an improvement over the existing layout and its potential for active use. Vehicular and pedestrian access to Montford Place and around the rear of the green would also be re-established, in addition to two further pedestrian access points to Kennington Green.~~

Battersea Station

287. The text below replaces paragraph 15.176 of Chapter 15 of the ES.

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- 15.176 *The slightly elevated position of the entrance pavilion would highlight its status as a new gateway and it would be a focus of pedestrian activity locally and within the surrounding area. The industrial style and bold proportions of the entrance structure would complement the neighbouring former BPS building. The portal would be flanked by two 'totems', which would act as way-finders at street level. Intervention points for emergency access would be located at either end of the station box. When phase 3 of the BPS development is completed, the entrance portal would be framed by two large mixed use blocks, with retail units on the lower floors. The space would form an external ~~mall~~ retail street leading through to the former power station building. The station entrance pavilion would mark the entrance to this ~~mall~~ retail street. The temporary kennels and veterinary clinic at BDCH would be removed following construction and the site restored to its previous state.*

Summary of Townscape Effects

288. The text below replaces paragraph 15.183 of Chapter 15 of the ES.

15.183 *There would be no discernible effect resulting in neutral effects within:*

- *TCA 01: Battersea Park; and*
- *TCA 04: River Thames; and*
- ~~*TCA 10: South Newington*~~

Summary of Visual Effects

Harmsworth Street – Temporary Grouting Shaft

289. Paragraph 15.187 has been deleted.

Radcot Street – Temporary Grouting Shaft

290. Paragraph 15.188 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

291. The text below replaces paragraph 15.189 of Chapter 15 of the ES.

15.189 *The openness of views across the northern part of Kennington Park would be restored once the construction phase is complete. The head house ~~and community building~~ would be prominent in views along Kennington Park Place and St. Agnes Place and the north-eastern corner of Kennington Park. The massing and industrial features of the buildings would detract from views of the park. Planting would not be sufficiently mature to screen or soften the appearance of the buildings at this stage. Overall, the effect on views within the ZVI would be adverse, albeit of minor significance and would gradually improve as vegetation matures. ~~with maturation.~~*

Kennington Green – Ventilation and Intervention Shaft

292. The text below replaces paragraph 15.190 of Chapter 15 of the ES.

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- 15.190 *On completion of the construction phase, views across Kennington Green would be restored. Views would be enhanced by the high quality public realm scheme although planting would have yet to mature. Should additional land to the north of the distillery be acquired, facilitating the location of the water tank further away from Montford Place, this would result in negligible or neutral effects on visual receptors KG01 and KG03.. Views from KG20 to the head house would be obscured by No. 356 Kennington Road, as a consequence the low magnitude of impact and the moderate significance of effect would reduce to neutral. However, ~~the~~ head house would enclose views to the east of Kennington Road, screening views of the Beefeater Gin Distillery industrial complex from some locations. Overall, the completed scheme would result in beneficial effects of moderate / minor significance within the ZVI.*

Battersea Station

- 293.** The text below is an additional paragraph following paragraph 15.193

- 15.193A *The temporary kennels and veterinary clinic at BDCH would be removed following construction and the site restored to its previous state. Therefore, the magnitude of impact and significance of effect would be neutral.*

Mitigation Measures

In-built Design Measures - Operational Development

Harmsworth Street – Temporary Grouting Shaft

- 294.** Paragraph 15.198 has been deleted.

Radcot Street – Temporary Grouting Shaft

- 295.** Paragraph 15.199 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

- 296.** The text below replaces paragraph 15.200 of Chapter 15 of the ES.

- 15.200 *The size of the head house accommodation has been defined by the engineering requirements including ventilation, plant and access to the underground structure. ~~The community building would also provide an replacement of the current community provision which occupies the existing Kennington Park Lodge and the bee keeping facilities in its garden. The buildings and their its garden setting ~~have~~ has been designed to minimise their the impact on the area to better integrate the building with the park to the south.~~*

- 297.** The text below replaces paragraph 15.201 of Chapter 15 of the ES.

- 15.201 *The buildings ~~have~~ has been designed to a high architectural standard, to respect and enhance the setting of Kennington Park. ~~They are small in scale, varying between one and two storeys high. They would form two separate pavilions in order to break up the overall mass of the built form and to frame views into Kennington Park from Kennington Park Place. The mass of the~~*

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~~head house has been further reduced by the introduction of the peaked roof form. On the head house this roof form allows allowing a large surface area on the facade to be given over to louvres whilst keeping the bulk of the building to a minimum. Furthermore, the peaked roof form would allow views across the building into the park from Kennington Park Place and St. Agnes Place. The garden setting of the existing lodge would also be substantially enhanced by a high quality planting scheme of trees, shrubs and climbing plants. Furthermore, a new pedestrian connection would be formed from Kennington Park, finished with a high quality and distinctive paving scheme and leading into a courtyard between the two buildings.~~

Residual Effects and Conclusion

Operational Phase

Townscape Effects

Harmsworth Street– Temporary Grouting Shaft

298. Paragraph 15.214 has been deleted.

Radcot Street – Temporary Grouting Shaft

299. Paragraph 15.215 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

300. The text below replaces paragraph 15.216 of Chapter 15 of the ES.

15.216 ~~The tree planting carried out along the northern boundary of Kennington Park and tree and ornamental planting within the garden of the community building and head house would have begun to mature. This would enhance the setting of the new buildings and restore the setting of the listed buildings facing the park. The maintenance access gates in the northern boundary and breaks in the tree planting would frame views of the head house from Kennington Park Place.~~

301. The text below replaces paragraph 15.217 of Chapter 15 of the ES.

15.217 ~~Overall, as a result of the high quality architecture, paving, trees and shrubs the completed development would directly enhance the quality of the result in impacts of negligible magnitude within TCA 08: Kennington Park, the Grade II registered Kennington Park and the St. Mark's CA by 2031, resulting in residual beneficial effects of minor / moderate significance.~~

302. The text below replaces paragraph 15.218 of Chapter 15 of the ES.

15.218 ~~The magnitude of impacts on the Grade II listed Bishops House and associated gate piers and walls at Kennington Park Place would continue to be negligible, resulting in beneficial effects of minor / moderate significance. Impacts on the setting of the Grade II listed Nos. 10, 11 and 12 Kennington Park Place and the Grade II listed Nos. 1-7 St. Agnes Place and the Kennington Park Road CA would result from the increased distance between the building frontages and the new head house. ~~proximity of new head house~~~~

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~~and community facilities. This would be balanced by enhancements to the garden setting and increased visual connections with Kennington Park. There would be a balance of beneficial and adverse townscape impacts resulting in **neutral** residual effects on the setting of these assets. The impact would be negligible resulting in beneficial effects of minor / moderate significance.~~

Summary of Residual Townscape Effects

303. The text below replaces paragraph 15.231 of Chapter 15 of the ES.

15.231 There would be no discernible change resulting in neutral residual effects within:

- ~~TCA 01: Battersea Park; and~~
- ~~TCA 04: River Thames; and~~
- ~~TCA 10: South Newington~~

304. The text below replaces paragraph 15.232 of Chapter 15 of the ES.

15.232 The setting of the following CAs would also be affected by the operation of the NLE:

- *St. Mark's CA, LBS – minor / moderate beneficial;*
- *Kennington CA, LBL – moderate beneficial; and*
- *Kennington Park Road CA, LBS – neutral.*

Summary of Residual Visual Effects

Harmsworth Street– Temporary Grouting Shaft

Paragraph 15.234 has been deleted.

Radcot Street – Temporary Grouting Shaft

Paragraph 15.235 has been deleted.

Kennington Park – Ventilation and Intervention Shaft

305. The text below replaces paragraph 15.236 of Chapter 15 of the ES.

15.236 *The appearance of the contemporary head house ~~and community buildings~~ would be enhanced by the maturing, ornamental vegetation in the garden and within Kennington Park to the west and south. As a result, views across the northern boundary of Kennington Park and from within the park would be improved. Overall, the residual effects on views would be beneficial.*

Kennington Green – Ventilation and Intervention Shaft

306. The text below replaces paragraph 15.237 of Chapter 15 of the ES.

15.237 *Whilst there would continue to be adverse effects on the views of a small number of receptors, in the majority of cases effects would be beneficial. Maturing vegetation would soften the appearance of the new head house and further enhance the quality and setting on Kennington Green in views locally. Overall, the residual effect on views would be beneficial.*

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Cumulative Effects

Harmsworth Street– Temporary Grouting Shaft

307. Paragraph 15.241 has been deleted.

Radcot Street – Temporary Grouting Shaft

308. Paragraph 15.242 has been deleted.

Appendices

309. *Appendix K1: Methodology for Producing Visually Verified Photomontages* remains unchanged.

310. Within *Appendix K2: Schedule of Visual Receptor and Predicted Impacts* text associated with Construction Option A and temporary shafts at Radcot Street / Harmsworth Street is no longer applicable.

311. Amendments have been made to *Appendix K3: Representative Views Analysis* to reflect the proposed modification to omit of the proposed replacement community facility at Kennington Park.

Chapter 16A: Climate Change Adaptation and Mitigation

312. This addendum to *ES Volume I, Chapter 16: Climate Change Adaptation and Mitigation* for the proposed NLE has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.
313. This chapter, in particular, presents changes in the estimated climate change impacts, due to updated transport modelling as outlined in ESA Chapter 6A. This directly affects the results of the baseline and the operational scenarios, leading to an overall decrease in emissions between the baseline and operation scenarios.

Changes to the ES Chapter

314. Where amendments have been made in relation to the Construction Option, temporary shafts or replacement of the community facility at Kennington Park, and no longer apply, changes have been made to Chapter 16 to reflect this. These changes are presented below.

Climate Change Mitigation

Assessment Methodology

Methodology

Construction and Embodied Carbon

315. Paragraph 16.148 has been deleted.

Assessment Results

316. Within Table 16-11, the row relating to Construction Option A no longer applies and has been deleted.

317. The text below replaces paragraph 16.152 of Chapter 16 of the ES.

16.152 *Operational emissions are those arising during the running of a fully operational NLE. The difference between the baseline and operational scenarios shows an overall increase decrease in emissions. This is due to the operational scenario encouraging a shift towards public transport use and away from road transport use, accounting for a greater smaller population and number of jobs in the area. The increase in development will support the building of the NLE, but also has the negative impact of potentially creating more car users in the area.*

318. The table below replaces Table 16-10 of Chapter 16 of the ES.

Emissions Baseline	Tonnes CO ₂
Scope 3	12,882,950
	<u>12,883,637</u>

319. The table below replaces Table 16-12 of Chapter 16 of the ES.

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<i>Operational Scenario 1</i>	Tonnes CO₂
Scope 1	4
Scope 2 & 3	12,894,316 <u>12,881,778</u>

320. The table below replaces Table 16-13 of Chapter 16 of the ES.

Operation vs. Baseline	Car	Taxi	LGV	OGV	Bus	Tube	Rail	Total tonnes CO ₂ e
Change in total distance (km/year)	21,545,108 - <u>21,191,876</u>	297,351 <u>176,155</u>	4,506,092 <u>-2,549,226</u>	3,274,373 <u>-2,901,326</u>	-24,029,940 <u>-23,358,948</u>	68,774,858 <u>85,731,007</u>	-23,466,421 <u>4,847,882</u>	
Change in total CO ₂ e	-5,040 <u>-4,958</u>	-56 <u>33</u>	-1,350 <u>-764</u>	-2,353 <u>-2,085</u>	-2,404 <u>-2,337</u>	5,608 <u>6,991</u>	-1,576 <u>326</u>	10,427 <u>-2,794</u>

321. The text below replaces paragraph 16.154 of Chapter 16 of the ES.

16.154 *The data in Table 16-13 above is from the transport model (used in the Transport Assessment, as set out in Chapter 6: Traffic and Transport) representing central London and the southern London boroughs around the NLE. The baseline represents the potential level of medium density development that could come forward without building the NLE in the area that could not be supported by the NLE (the 'without NLE scenario'); the operation scenario represents high density development (including retail and office development) that would be enabled by the NLE (the 'with NLE scenario' discussed in Chapter 2: EIA Methodology). Note that the negative differences indicate a decrease in emissions for the operation of the NLE in comparison to the baseline*

322. The text below replaces paragraph 16.155 of Chapter 16 of the ES.

16.155 *The table shows an decrease ~~increase~~ in the use of cars, LGV, OGV and bus from baseline to operation. This indicates that the operation of the NLE is enabling a shift in transport use to the rail and tube network, and away from road-based transport. ~~—this accounts for a greater population and number of jobs in the area during operation. This is as a result of the development enabled by the NLE, rather than as a direct impact of the NLE. Each of these enabled developments will be required to produce their own Environmental Statement to support their planning application, which will have needed to demonstrate mitigation where possible with regard to their carbon footprint. Car use is a driver of the operational footprint as the emissions factor per km is much higher than that of public transport.~~*

323. The text below replaces paragraph 16.156 of Chapter 16 of the ES.

16.156 *The difference between the baseline and operational scenarios also shows a shift away from bus ~~and rail~~ use towards use of the tube network (including the NLE). The emissions from bus and rail private road transport use decrease in the operational scenario*

Chapter 16A: Climate Change Adaptation and Mitigation

compared to the baseline, despite there being greater development in the area. This indicates that the NLE would encourage the use of tube travel, which has a lower emissions factor than bus or ~~rail travel~~ private road transport.

Mitigation Conclusion

324. The text below replaces paragraph 16.170 of Chapter 16 of the ES.

16.170 *Car use is a driver of the operational footprint as the carbon emissions factor per km is much higher than that of public transport. Although beyond the control of LU, there would be potential to decrease this number if future developments in the area were to encourage low car use, e.g. through the use of smart travel plans. New developments within the area will be subject to their own EIA's which should consider the impacts of development on the environment. When the NLE is operational and the additional jobs due to enabled development are introduced, there would be a decrease in car demand, due to a modal shift to public transport that would initially result from the introduction of the NLE. As it is assumed that 87% of jobs in the VNEB area are displaced from outer London, resulting in a decrease in the number of car trips taken for commuting, as jobs in outer London are less accessible by public transport. Therefore, overall, the carbon emissions from car use decrease in the operational phase.*

325. The text below introduces a new paragraph (16.170A) to follow paragraph 16.170 of Chapter 16 of the ES.

16.170A *There would also be an increase in road trips taken by LGVs and OGVs for the operational NLE scenario due to the enabled development and increased jobs in the area. In the transport model, the distance travelled by LGVs and OGVs is decreased, which leads to an overall decrease in emissions compared to the baseline. The new developments enabled by the NLE would create new jobs in the VNEB area which is adjacent to central London, and remove jobs from outer London. The model suggests that if economic activity is more centralised within London then journey origins and destinations will be closer together, resulting in shorter journeys. Therefore overall the carbon emissions from LGV and OGV use decrease in the amended scenario.*

326. The text below replaces paragraph 16.171 of Chapter 16 of the ES.

16.171 *The difference between the baseline and operational scenarios also shows a shift away from bus ~~and rail~~ transport use towards use of the tube network (including the NLE). This shift results in a lower carbon-intensity method of public transport, as the emissions factor per km travelled associated with the tube are approximately 19% lower than bus transport. ~~The emissions from bus and rail use decrease in the operational scenario compared to the baseline, despite there being greater development in the area. This indicates that the NLE would encourage more sustainable~~*

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modes of public transport use in the area.

Appendices

327. Minor amendments have been made to *Appendix L: Climate Change Calculations and Assumptions* to reflect the updated traffic model outputs from *Appendix C: Traffic and Transport*.
328. This is updated in Appendix LA.

Chapter 17A: In-Combination Effects Assessment

329. This addendum to *ES Volume I, Chapter 17: In-Combination Effects Assessment* for the proposed NLE has been prepared to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in *ESA Chapter 4A*.

Changes to the ES Chapter

330. The changes to the assessments presented in the ES included within this ESA do not change the results of the in-combination effects assessment presented in the ES chapter. The only changes relate to the deletion of references to Construction Option A and the replacement community facility. These changes are presented below under the headings/sub-headings in the ES chapter.

Assessment of In-combination Effects

Demolition and Construction

331. Within Table 17-1, text relating to the 'Traffic and Transport (Temporary Closure of Radcot and Harmsworth Street): Minor Adverse' is no longer applicable and has been deleted.
332. Within Table 17-1, text relating to the 'Community Facility' that will be 'temporarily relocated for the duration of the works' is no longer applicable and has been deleted.

Completed and Operational NLE

333. Within Table 17-2, text relating to 'Socio-Economics (Rebuilding Community Facility at Kennington Park Lodge): Minor Beneficial' is no longer applicable and has been deleted.

Explanation of the Potential for Combined Effects

334. The text below replaces paragraph 17.28.

17.28 *The EIA process has identified the potential for a minor beneficial effect in relation to the community facility of Kennington Park being rebuilt, providing a new build facility and improving its value as a community resource, and a minor beneficial effect in relation to open spaces being reinstated to an equal or greater standard of quality. There are also beneficial effects to townscape and visual amenity in these areas. When considered together, these beneficial effects are considered to have the potential to create an overall greater beneficial in combination effect. There is also an in combination benefit related to the reinstatement and improvement of Kennington Green post construction.*

Chapter 18A: Mitigation, Residual Effects and Conclusions

- 335. This addendum to ES Volume I, Chapter 18: Mitigation, Residual Effects and Conclusions to reflect the proposed modifications and additional information summarised in the Introduction to this ESA and described in further detail in ESA Chapter 4A.**

Changes to the ES Chapter

- 336. The changes to Tables 18-1 and 18-2 of Chapter 18 largely reflect the deletion of references to Construction Option A and the replacement community facility. Where there are changes to the proposed mitigation or residual effects, these have also been identified. Only those parts of Tables 18-1 and 18-2 that have been changed have been included. The rest of the table content remains unchanged.**

Chapter 18A: Mitigation, Residual Effects and Conclusions

Table 18-1 Summary of Impacts, Mitigation and Residual Effects – Demolition and Construction

Ref	Potential Impact	Significance of Effect	Mitigation Measures	Securing Mechanism	Residual Effects	Duration of Effect
Traffic and Transport						
CTr1	Parking – Temporary loss of parking spaces to accommodate the Radcot and Harmsworth Street worksites (Construction Option A only) and the Kennington Green, Kennington Park and Nine Elms worksites causing inconvenience to local residents.	Moderate Adverse	Parking surveys have indicated that at a neighbourhood level there is sufficient alternative parking provision nearby to accommodate demand, which residents will be able to use.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B) CoCP (Part 4 – Public Access and Highway)	Minor Adverse	Medium Term
CTr2	Pedestrians – Closure of footways around the Kennington Green worksite, Kennington Park worksite, the Harmsworth St. worksite (Construction Option A only) and the Nine Elms worksite will result in pedestrians needing to use alternative routes.	Moderate Adverse	Existing pedestrian island on Kennington Road will be enhanced and pedestrians will be directed to use this facility. Pedestrians will be directed to use alternative crossing points on Wandsworth Road. The western footway on Pascal Street will remain open and this will provide an alternative route for pedestrians.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B) CoCP (Part 4 – Public Access and Highway)	Minor Adverse	Medium Term
Socio-Economics						
CSo2	Open Space – At Kennington Park and Kennington Green, areas of open space will be temporarily cordoned off and closed for public access for 3 years and 9 <u>7</u> months and 3 years and 2 months (<u>187 and 163 weeks</u>) respectively.	Minor Adverse	The adverse impact from the temporary loss of open space will be mitigated through provisions such as the replacement of dog walking facilities.	Land and Works Agreement with London Borough of Lambeth (LBL)	Negligible	N/A
CSo5	Community Facility – The lodge in the north-eastern corner of the park (Kennington Park Lodge) will be demolished as a result of the NLE. This will result in the two occupiers being displaced for the 3 years and 11	Minor Adverse	Replacement buildings for the two occupiers of the Kennington Park Lodge have been proposed by TfL, for use during the construction phase (see Chapter 7: Socio-Economics of this ES). This will ensure that the occupiers of this community facility will be able to withstand temporary displacement. There will also be opportunity for the occupiers to return to larger	Scheme design Land and Works Agreement with London Borough of Lambeth (LBL)	Negligible	N/A

Chapter 18A: Mitigation, Residual Effects and Conclusions

Ref	Potential Impact	Significance of Effect	Mitigation Measures	Securing Mechanism	Residual Effects	Duration of Effect
	months duration of works.		facilities. <u>The London Borough of Lambeth (LBL) would prefer that the community facility in Kennington Park is not replaced by TfL in the form of a new community building. Instead, it has been agreed that TfL will compensate the London Borough of Lambeth for its loss of the current facility and they will be free to use the resulting funds for community purposes elsewhere in the Park or the surrounding area.</u> <u>LBL have also confirmed to TfL that they intend to relocate Bee Urban (the current occupiers of Kennington Park Lodge) and the Friends of Kennington Park from Kennington Lodge. LBL intend on relocating these occupiers in advance of the commencement NLE construction works to an alternative location.</u>			
Townscape and Visual Amenity						
CTo1	Townscape: Harmsworth Street – Temporary impacts on existing views within the ZVI as a result of the removal of existing surfaces, the establishment of a compound and the operation of plant and machinery.	Minor / Moderate to Moderate Adverse	Measures to mitigate and compensate for impacts upon townscape will be in line with the CoCP. Temporary hoarding will be established around the perimeter of each worksite. Existing trees which are to be retained will be protected in accordance with BS5837. Where possible, the extent of the worksites will be reduced as the works are completed and areas restored.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B)	Minor to Minor / Moderate Adverse	Medium Term
CTo2	Townscape: Radcot Street – Temporary impacts on existing views within the ZVI as a result of the removal of existing surfaces and trees, the establishment of a compound and the operation of plant and machinery.	Minor / Moderate Adverse	Measures to mitigate and compensate for impacts upon townscape will be in line with the CoCP. Temporary hoarding will be established around the perimeter of each worksite. Existing trees which are to be retained will be protected in accordance with BS5837. Where possible, the extent of the worksites will be reduced as the works are completed and areas restored by the implementation of advanced replacement tree planting.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B)	Minor Adverse	Medium Term
CTo3	Townscape: Kennington Park - Temporary impacts on existing views within the ZVI as a result of the demolition of existing structures, the removal of existing trees and other	Moderate / Major to Major Adverse	Measures to mitigate and compensate for impacts upon townscape will be in line with the CoCP. Temporary hoarding will be established around the perimeter of each worksite. Existing trees which are to be retained will be protected in accordance with BS5837. Where possible, the extent of the worksites will be reduced as	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B)	Moderate to Moderate / Major Adverse	Medium Term

Chapter 18A: Mitigation, Residual Effects and Conclusions

Ref	Potential Impact	Significance of Effect	Mitigation Measures	Securing Mechanism	Residual Effects	Duration of Effect
	vegetation, the establishment of a compound and the operation of plant and machinery.		the works are completed and areas restored by the implementation of advanced planting of grass, trees and shrubs.			
CTo7	Views: Radcot Street - Temporary impacts on existing views within the ZVI as a result of the removal of existing surfaces and trees, the establishment of a compound and the operation of plant and machinery. A full description of impacts and effects is given in <i>Appendix K2 of ES Volume II</i> .	Effects on views will range from Minor / Moderate Adverse to Major Adverse	Measures to mitigate and compensate for impacts upon townscape will be in line with the CoCP. Temporary hoarding will be established around the perimeter of the worksite. Additional measures will be incorporated at the detailed design stage.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B)	Residual effects on views will range from Minor Adverse to Moderate / Major Adverse	Medium Term
CTo9	Views: Kennington Green - Temporary impacts on existing views within the ZVI as a result of the demolition of existing structures, the removal of existing trees and other vegetation, the establishment of a compound and the operation of plant and machinery. A full description of impacts and effects is given in <i>Appendix K2 of ES Volume II</i> .	Effects on views will range from Negligible Adverse to Major Adverse	Measures to mitigate and compensate for impacts upon townscape will be in line with the CoCP. Temporary hoarding will be established around the perimeter of the worksite. Additional measures will be incorporated at the detailed design stage.	Planning Conditions (Compliance with Code of Construction Practice and Code of Construction Practice Part B)	Residual Effects on views will <u>be</u> range from Neutral to Moderate / Major Adverse	Medium Term

Chapter 18A: Mitigation, Residual Effects and Conclusions

Table 18-2 Summary of Impacts, Mitigation and Residual Effects – Completion and Operation

Ref	Potential Impact	Significance of Effect	Mitigation Measures	Securing Mechanism	Residual Effects	Duration of Effect
Socio-Economics						
OSo3	Community Facility—The NLE will result in a new build facility, improving its value as a community resource, and for use by either the previous occupiers, should they choose to return, or the local community if otherwise.	Minor Beneficial	As the effect is anticipated to be minor beneficial, no mitigation is required.		Minor Beneficial	Long term
Townscape and Visual Amenity						
OTo1	Townscape: Harmsworth Street—the road and pavements will be returned to pre-construction conditions.	Neutral	N/A		Neutral	N/A
OTo2	Townscape: Radcot Street—the road and pavements will be returned to pre-construction conditions and trees will be replaced.	Minor to Moderate Adverse	Trees removed during construction will be replaced.	Planning Conditions (landscape)	Neutral	N/A
OTo3	Townscape: Kennington Park – the existing Kennington Park Lodge and ancillary buildings will be replaced by a new head-house and community buildings. There will be direct impacts on the Grade II listed Kennington Park, the St. Marks CA and neighbouring listed buildings.	Moderate Adverse to Minor/Moderate Beneficial	Trees and railings will be replaced along the northern boundary of Kennington Park and the open setting returned to grass. The garden of the head house and community building will be planted with ornamental trees, <u>and shrubs and climbing plants</u> , enhancing the townscape and the setting of the heritage assets.	Scheme design Planning Conditions (landscape)	Neutral to Minor / Moderate Beneficial	Long Term
OTo7	Views: Harmsworth Street—views of the road and pavements will be returned to pre-construction conditions.	Neutral	N/A		Neutral	N/A
OTo8	Views: Radcot Street—views of the road and pavements will be returned to pre-construction conditions.	Effects on views in Year 1 will range from Neutral to Major Adverse.	Trees removed during construction will be replaced, restoring the existing view	Planning Conditions (tree replacement)	Neutral	N/A