

Southampton to London Pipeline Project

Deadline 2

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Pipeline Project



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Esso Petroleum Company, Limited

Technical Note: Ancient Woodland and Veteran Trees

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1 Introduction

- 1.1.1 Esso Petroleum Company, Limited (Esso) has made an application for development consent to replace 90km (56 miles) of its existing 105km (65 miles) aviation fuel pipeline that runs from the Fawley Refinery near Southampton, to the Esso West London Terminal storage facility in Hounslow. The replacement pipeline is referred to as the project within this report.
- 1.1.2 The application for Development Consent is based on the project Order Limits, which are generally up to 36m wide. Within the Order Limits, there are the Limits of Deviation, which is the area within which the trench for the 300mm pipeline would be excavated. It is not possible to undertake a detailed Arboricultural Impact Assessment on individual trees within the Order Limits, as the pipeline routing would not be determined until the detailed design stage.
- 1.1.3 The Environmental Statement (ES) set out the assessment of the project on Ancient Woodland and potential ancient woodland. The assessment concluded that there were unlikely to be significant effects in relation to these (see ES Chapter 7 **Application Document APP-047**).
- 1.1.4 During ongoing discussions with Natural England and the Forestry Commission with regards to agreeing the Statements of Common Ground, the Applicant has agreed to provide further information around the assessment of designated trees based on the current project understanding. This has also provided an opportunity to consider standing advice from Natural England and the Forestry Commission (2018) and to provide further details on a mitigation hierarchy for the protection of designated trees.
- 1.1.5 For the purposes of this Technical Note, 'designated trees' comprise of:
- Ancient Woodland (including potential ancient woodland); and
 - Veteran Trees (including potential veteran trees).
- 1.1.6 For the purposes of the project, '*Ancient Woodland*' are areas of woodland identified on the Ancient Woodland Inventory. '*Potential ancient woodland*' are areas of woodland less than 2ha in size that have been identified by the project as potentially being ancient woodland through desk top and / or field surveys but are not on the Ancient Woodland Inventory. '*Veteran Trees*' are trees with veteran status on the Woodland Trust Ancient Tree Inventory. '*Potential veteran trees*' are those identified during the arboricultural surveys undertaken for the project and which are not currently listed on the Woodland Trust Ancient Tree Inventory.
- 1.1.7 No Ancient Trees are recorded within 15m of the Order Limits on the Woodland Trust Ancient Tree Inventory (checked 29 August 2019). No potential ancient trees have been identified during the arboricultural site surveys, therefore, Ancient Trees and potential ancient trees are not considered further within this Technical Note.

2 Project Overview for Trees

2.1 Design Evolution and Commitments

- 2.1.1 ES Chapter 4 (**Application Reference APP-044**) outlines how the project corridor and Order Limits have been defined to avoid important tree groupings, such as Ancient Woodland. There are several areas where the design was changed because of trees, either by narrow working commitments or by amending the Order Limits.
- 2.1.2 Table 2.1 outlines the general commitments that have been made for the project in relation to trees. These are also set out in the Register of Environmental Actions and Commitments (REAC) in ES Chapter 16 (**Application Reference APP-056**). Those commitments related to trees and construction and the locations where narrow working would be undertaken are set out in the Code of Construction Practice for the project (**Application Reference APP-128**), which would be secured through Requirement 5 (Code of Construction Practice) of the draft Development Consent Order (**Application Reference APP-026**).

Table 2.1: Project Commitments Relating to Trees

Ref	Commitment Description
O1	Commitment to only utilise a 10m width when crossing through boundaries between fields where these include hedgerows, trees or watercourses.
O2	Design route alignment to avoid all areas of existing classified Ancient Woodland.
G65	Working widths would be reduced in specific locations where trees or hedges are present. Where notable trees would be retained within or immediately adjacent to the Order Limits, the trees and their root protection areas would be protected where they extend within the Order Limits and are at risk. This would be by means of fencing or other measures.
G86	Works to notable trees, where at risk of damage, would be supervised by the ECoW.
G87	Vegetation clearance, retention, protection and replanting/reinstatement drawings would be produced prior to the construction phase. The contractor(s) would implement these plans including agreed mitigation where practicable.
G88	Where possible, reinstatement of vegetation would generally be using the same or similar species to that removed (subject to restrictions for planting over and around pipeline easements).
G91	The contractor(s) would retain vegetation where practicable and in accordance with, as a minimum, the vegetation retention drawings.
G92	A three-year aftercare period would be established for all mitigation planting and reinstatement.
G95	The contractor(s) would consider and apply, where practicable, the relevant protective principles set out in the National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees ('NJUG Volume 4' (2007)). This would be applied to trees within the Order Limits which would be preserved through the construction phase, and to trees outside of the Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction.
G97	Where woodland vegetation is lost, and trees cannot be replaced due to the restrictions of pipeline easements, native shrub planting approved by Esso would be used as a replacement.
G175	For trenchless crossings TC001 to TC015, TC019, TC021 to TC028, TC030 to TC040, vegetation would be retained except where emergency access is required to trenchless equipment or ecological works have been proposed. At TC029 vegetation would be retained to the east of Hardwick Lane but not to the west side due to the requirement for access. At TC016, TC017 and TC018, there would be limited removal of vegetation along the alignment of the existing pathway to allow for pipe stringing.

2.2 Arboricultural Survey

- 2.2.1 Appendix 3 of the Scoping Report (**Application Reference AS-019**) set out the proposed approach to surveying trees within and in the vicinity of the Order Limits, to provide baseline information for the ES. The survey involved arboricultural specialists surveying trees in accordance with British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (BS 5837:2012). This information has been used to calculate root protection areas (RPAs) and would be used to inform the future detailed routing of the pipeline.

2.3 Mitigation Hierarchy

- 2.3.1 It should be noted that the ES adopts a worst-case scenario whereby, with certain exceptions, it is assumed that all trees within the Order Limits would be removed to facilitate installation of the project. This was because the project assumed Limits of Deviation within which the pipeline trench would be excavated, rather than a specific pipeline alignment, at such an early stage in the design process.
- 2.3.2 Since removal of all trees within the Order Limits is not the intention, this Technical Note sets out the mitigation hierarchy that would be employed during the detailed route alignment design and installation. The starting assumption is that the project will seek to locate the pipeline trench outside of a 15 buffer around designated trees (including the RPAs) where practicable (A1 and B1 in the following sections). If this is not practicable, for example due to engineering or other environmental constraints, then the project would avoid locating the pipeline trench within the RPA (mitigation A2 and B2). Where avoidance of the RPA is also not practicable, a specialist construction measures for use within the RPA would be adopted and set out in a method statement (A3 and B3).
- 2.3.3 An initial assessment has been completed identifying which designated trees are likely to fall within each tier of the mitigation hierarchy. This initial assessment is based on a current project understanding and may change as further details or new constraints become known. However, the mitigation hierarchy would always apply, seeking a 15 buffer first where practicable, then avoiding the RPA, followed by the use of specialist construction techniques within the RPA.
- 2.3.4 The mitigation hierarchy and the schedules of designated trees (Appendices A, B and C) will be included within the project's Code of Construction Practice.

3 Ancient Woodland

3.1 Definition

- 3.1.1 In the Standing Advice '*Ancient Woodland, Ancient Trees and Veteran Trees: protecting them from development*', Ancient Woodland is defined as '*any area that's been wooded continuously since at least 1600 AD* (Natural England and Forestry Commission, 2018). *It includes:*
- *ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration [and]*
 - *plantations on ancient woodland sites - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi.* (Forestry Commission and Natural England, 2018).
 -

3.2 Project Approach to Ancient Woodland

Survey and Assessment

- 3.2.1 All designated Ancient Woodland on the Ancient Woodland Inventory dataset (Natural England, 2018) within 15m of the Order Limits was mapped. (Appendix A). Areas of designated Ancient Woodland are referred to within the ES Appendix 7.3 Ancient Woodland Factual Report (**Application Reference APP-083**).
- 3.2.2 The Order Limits were designed to avoid areas shown on the Ancient Woodland Inventory as per Commitment O2 '*Design route alignment to avoid all areas of existing classified Ancient Woodland*' (Table 16.1 of ES Chapter 16 Environmental Management and Mitigation (**Application Reference APP-056**)).
- 3.2.3 There are 12 areas (which incorporate 14 inventory 'plots', as some larger woodlands are split into more than one plot on the inventory) of designated Ancient Woodland within 15m of the Order Limits, as illustrated on Figure 10.3 of the ES (**Application Document APP-064**). These are listed in Appendix A of this Technical Note.
- 3.2.4 Arboricultural surveys to map the stems of trees at the edge of Ancient Woodlands have helped define the extent of the woodland for determining protective buffers during construction.

Further Mitigation Principles

- 3.2.5 The project has considered the Forestry Commission and Natural England Standing Advice (2018) which states that '*For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage...*'.
- 3.2.6 Appendix A lists each area of Ancient Woodland within 15m of the Order Limits, the potential impact from the project and which tier of the mitigation hierarchy could apply based on current project assumptions.

Table 3.1: Principles of the mitigation hierarchy for Ancient Woodlands

Mitigation hierarchy		Further Mitigation Principle
This would apply where practicable	A1 (15m buffer)	A minimum buffer width of 15m shall be maintained between the pipeline trench and the Ancient Woodland Inventory boundary. Appropriate and readily visible demarcation shall be maintained to define the 15m buffer where this extends within the Order Limits and to control access during construction. Installation of the pipeline will be kept outside of this 15m buffer. Where not practicable to exclude all potentially compacting activities within 15m of Ancient Woodland boundaries, appropriate ground protection measures shall be put in place within the 15m buffer to mitigate the potential effects on trees.
If A1 was not practicable due to other site constraints, A2 would apply,	A2 (RPA buffer)	A minimum buffer equivalent to the extent of the RPA shall be maintained between the pipeline trench and Ancient Woodland boundary. Appropriate and readily visible demarcation shall be maintained to define the RPA buffer where this extends within the Order Limits and to control access during construction. Installation of the pipeline will be kept outside of this RPA buffer. Where not practicable to exclude all potentially compacting activities within the RPA buffer, appropriate ground protection measures shall be put in place to mitigate the potential effects on trees.
If A2 was not practicable due to other site constraints, A3 would apply,	A3 (Specialist techniques)	Where not practicable to exclude the pipeline trench from within the RPA of Ancient Woodland boundaries, site-specific measures that would be employed to mitigate the effects on the RPA, for example, hand digging / vacuum excavation under arboricultural supervision. These would be recorded in a method statement

3.2.7 Table 3.2 summarises the Ancient Woodlands that based on current project assumptions, are likely to fall within each tier of the mitigation hierarchy.

Table 3.2: Summary of mitigation hierarchy for Ancient Woodlands within 15m of the Order Limits

Mitigation hierarchy	Ancient Woodland plots that the mitigation hierarchy would be applied to based on the current project assumptions	Approximate extent of mitigation measure (linear metres)
Not applicable; no likely impact.	Five woodlands: <ul style="list-style-type: none"> • Plantation near Bramdean Common - 1490746; • Woodland south of Neatham Manor - 1490082; • Skains Copse / Combe Wood - 1489102; • Fan Grove – 1493.326; • Greendane Copse - 1487529. 	N/A
A1 (15m buffer)	Six woodlands: <ul style="list-style-type: none"> • Copse near Betty Mundy's Bottom – 1490774 (Exception - see A2); 	30m
	• Joan's Acre Wood - 1490766 / 1491165;	190m
	• Hughes Copse - 1490373;	48m
	• Noar Copse - 1490375 / 1490233;	212m
	• Skains Copse / Combe Wood - 1489100 (except as noted below);	190m
	• Halebourne Copse 1494014.	95m
	• Holme Wood, Broadlands Row - 1491028	12m
A2 (RPA buffer)	Three woodlands: <ul style="list-style-type: none"> • Copse near Betty Mundy's Bottom - 1490774 (south-western corner); 	12m



Mitigation hierarchy	Ancient Woodland plots that the mitigation hierarchy would be applied to based on the current project assumptions	Approximate extent of mitigation measure (linear metres)
	<ul style="list-style-type: none"> Joan's Acre Wood - 1491165 	30m
	<ul style="list-style-type: none"> Holme Wood, Broadlands Row - 1491028 	90m
A3 (Specialist techniques)	One woodland: <ul style="list-style-type: none"> Skains Copse / Combe Wood - 1489100 (in vicinity of NW 33 pinch-point). 	25m

4 Potential Ancient Woodland

4.1 Definition

Forestry Commission and Natural England Standing Advice (2018), states that *'Ancient woodlands smaller than 2 hectares are unlikely to appear on... Natural England's Ancient Woodland inventory'*. Therefore, for the purposes of this strategy, the term 'potential ancient woodland' is used to refer to woodland that corresponds to the definition of designated Ancient Woodland set out in Section 3 of this Technical Note, but is less than 2ha in size and is not recorded on the inventory. The approach taken to the identification of potential ancient woodland is set out below.

4.2 Project Approach to Potential Ancient Woodland

Survey and Assessment

- 4.2.1 A desk study was undertaken to identify areas of potential Ancient Woodland, as set out in ES Appendix 7.3 Ancient Woodland Factual Report (**Application Reference APP-083**). Although it was not possible to avoid all potential ancient woodland within the Order Limits during the pipeline routing, the project approach to the mitigation hierarchy for potential ancient woodlands is to treat them the same as designated Ancient Woodland using the measures outlined in Table 3.1.
- 4.2.2 Since submission of the application for Development Consent, additional desk survey has been undertaken to refine the precautionary assessment undertaken within ES Appendix 7.3 Ancient Woodland Factual Report (**Application Reference APP-083**). The additional work concluded that there are seven potential ancient woodlands within 15m of the Order Limits. The potential impact on these areas of potential ancient woodland is set out in Appendix B.

Further Mitigation Principles

- 4.2.3 Appendix B lists each area of potential ancient woodland within 15m of the Order Limits, the potential impact from the project and which tier of the mitigation hierarchy could apply based on current project assumptions. Table 4.1 summarises the number of potential ancient woodlands that based on current project assumptions, are likely to fall within each tier of the mitigation hierarchy.

Table 4.1: Summary of mitigation hierarchy for Potential Ancient Woodlands within 15m of the Order Limits

Mitigation hierarchy	Potential ancient woodland plots that the mitigation hierarchy would be applied to based on the current project assumptions	Approximate extent of mitigation measure (linear metres)
Not applicable; no likely impact.	One woodland: • AW2.	N/A
A1 (15m buffer)	Five woodlands: • AW3;	78m
	• AW5;	212m



Mitigation hierarchy	Potential ancient woodland plots that the mitigation hierarchy would be applied to based on the current project assumptions	Approximate extent of mitigation measure (linear metres)
	• AW12 (Exception – see A2);	33m
	• AW16;	25m
	• AW30.	217
A2 (RPA buffer)	One woodland <ul style="list-style-type: none"> • AW12 (where Limits of Deviation narrow); 	11m
A3 (Specialist techniques)	One woodland:	
	• AW15a.	52m

5 Veteran and Potential Veteran Trees

5.1 Definition

- 5.1.1 BS 5837:2012 defines a Veteran tree as a *‘tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned’*. BS 5837:2012 also provides a footnote that *‘These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem. [BS 3998:2010]’*

5.2 Project Approach to Veteran and Potential Veteran Trees

Survey Approach

- 5.2.1 At the time of submission of the application for Development Consent, there were no veteran trees recorded on the inventory within 15m of the Order Limits. However, three veteran trees within 15m of the Order Limits have subsequently been added to the inventory (checked 29 August 2019). These are all located along Ashford Road, Staines, and are listed in Appendix C of this Technical Note.
- 5.2.2 Arboricultural surveys have recorded those trees that display features consistent with a potential veteran tree in accordance with BS 5837:2012.
- 5.2.3 There are nine potential veteran trees within the Order Limits and 13 potential veteran trees within 15m of the Order Limits. RPAs have been calculated for each potential veteran tree.

Further Mitigation Principles

- 5.2.4 The project has considered the the Standing Advice on protecting Veteran trees from development which states *‘A buffer zone around[a]... veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree’s canopy if that area is larger than 15 times the tree’s diameter’* (Forestry Commission and Natural England, 2018).
- 5.2.5 For the purposes of the assessment and the application of the mitigation hierarchy, potential veteran trees are assumed to be Veteran Trees. Appendix C lists the Veteran Trees and potential veteran trees within 15m of the Order Limits. It also lists the potential impact from the project and which tier of the mitigation hierarchy could apply based on current project assumptions.

Table 5.1: Principles of further mitigation for Veteran and potential veteran trees

Mitigation hierarchy		Further Mitigation Principle
This would apply where practicable	B1 (Up to 15m buffer)	A buffer width of 5m from the edge of the canopy of the Veteran or potential veteran tree, or up to fifteen times the tree stem diameter* ¹ , whichever is the greater, up to a maximum of 15m* ² from the stem, shall be maintained between the pipeline trench and the veteran or potential veteran tree. Appropriate and readily visible demarcation shall be maintained to define the buffer where this extends within the Order Limits and to control access during construction. Installation of the pipeline will be kept outside of this buffer. Where not practicable to exclude all potentially compacting activities within the buffer (up to 15m), appropriate ground protection measures shall be put in place to mitigate the potential effects on trees.
If B1 was not practicable due to other site constraints, B2 would apply,	B2 (RPA buffer)	A minimum buffer equivalent to the extent of the RPA shall be maintained between the pipeline trench and the Veteran or potential veteran tree. Appropriate and readily visible demarcation shall be maintained to define the RPA buffer where this extends within the Order Limits and to control access during construction. Installation of the pipeline will be kept outside of this RPA buffer. Where not practicable to exclude all potentially compacting activities within the RPA buffer, appropriate ground protection measures shall be put in place to mitigate the potential effects on the RPA.
If B2 was not practicable due to other site constraints, B3 would apply,	B3 (Specialist techniques)	Where not practicable to exclude the pipeline trench from within the RPA of Veteran or potential veteran trees, site-specific measures that would be employed to mitigate the effects on the RPA, for example, hand digging/ vacuum excavation under arboricultural supervision. These would be recorded in a method statement.

5.2.6 Table 5.2 summarises the number of inventory Veteran trees and potential veteran trees that based on current project assumptions, are likely to fall within each tier of the mitigation hierarchy.

*¹Stem diameter, as measured at 1.5m above highest adjacent ground level.

*² The buffer for protecting Veteran and potential veteran trees has been capped at a maximum of 15m, the same buffer dimension in the Natural England/ Forestry Commission standing advice for Ancient Woodland.

Table 5.2: Summary of veteran and potential veteran trees within 15m of the Order Limits

Mitigation hierarchy	Veteran and potential veteran trees that the mitigation hierarchy would be applied to based on the current project assumptions
Not applicable; no likely impact.	N/A
B1 (Up to 15m buffer)	<p>17 potential veteran trees and two potential veteran tree group:</p> <ul style="list-style-type: none"> • T4; • S400-T1; • S400-T2; • S400-T4; • T13; • T105; • S700-T12; • S1200-T4; • G47; • T39; • T40; • T41; • S1800-T6; • S1800-T7; • S1800-T45; • T102; • T56; • T52; • G170.
B2 (RPA buffer)	N/A
B3 (Specialist techniques)	<p>Three Veteran trees:</p> <ul style="list-style-type: none"> • 193108 (Survey ref: S2300-T46); • 193090 (Survey ref: S2300-T12); • 194703 (Survey ref: S2300-T64). <p>One potential veteran tree:</p> <ul style="list-style-type: none"> • T59.

6 References

Forestry Commission and Natural England (November 2018). Ancient woodland, ancient trees and veteran trees: protecting them from development. Accessed 25 July 2019. <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

Woodland Trust (July 2019). Planning for Ancient Woodland Planners' Manual for Ancient Woodland and Veteran Trees. Accessed 9 September 2019. <https://www.woodlandtrust.org.uk/mediafile/100825449/planners-manual-for-ancient-woodland.pdf?cb=d69433f72bf14b388b637d1046700a4f>



Appendix A: Schedule of Ancient Woodland

Table A1: Designated Ancient Woodlands within 15m of the Order Limits

Name and Location ³	Description in Relation to the Project ⁴	Potential Impact Based on Current Project Assumptions	Further Mitigation Principles
ID: 1490774 Copse near Betty Mundy's Bottom	0.36ha of ancient replanted woodland adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities.	A1, except where Order Limits narrow; A2.
ID: 1490766 and 1491165 Joan's Acre Wood	6.03ha of ancient replanted woodland within two contiguous plots adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities.	A1
ID: 1490746 The Plantation near Bramdean Common	6.56ha of ancient replanted woodland approximately 11m from the Order Limits.	None. (Only hedge infilling proposed within Order Limits along existing track.)	Not applicable.
ID: 1490373 Hughes Copse	1.60ha of ancient replanted woodland, with southern tip within approximately 6m of the Order Limits. Nearest stem is approximately 10m from Order Limits.	Potential impact on southern tip of woodland from construction activities.	A1
ID: 1490375 and 1490233 Noar Copse	3.75ha of ancient and semi natural woodland within two contiguous plots adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities.	A1
ID: 1491028 Holme Wood, Broadlands Row	1.64ha of ancient and semi natural woodland adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities.	A3
ID: 1490082 Woodland south of Neatham Manor	0.8ha of ancient and semi natural woodland with north-western corner adjacent to the Order Limits.	None. (Pumping of water to an existing stream.)	Not applicable.

⁴ Assessment only considers plots of designated Ancient Woodland that fall wholly or partially within 15m of the Order Limits.



Name and Location ³	Description in Relation to the Project ⁴	Potential Impact Based on Current Project Assumptions	Further Mitigation Principles
ID: 1489100 Skains Copse / Combe Wood	4.27ha of ancient and semi natural woodland adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities. Impact would be reduced by narrow working (NW33 ⁵) to cross the perpendicular hedgerow and culvert (restricted to approximately 10m width at 'pinch point').	A1, except in vicinity of NW33 pinch-point; A3.
ID: 1489102 Skains Copse / Combe Wood (Overlaps with TPO 90/00380/HDC 689)	19.8ha of ancient and semi natural woodland adjacent to the Order Limits.	Existing access track to be utilised for construction activities/access adjacent to woodland, to avoid impact on RPAs.	Not applicable.
ID: 1487529 Greendane Copse	8.3ha of ancient replanted woodland with adjacent to the Order Limits.	None. (Project assumption is that construction activities would take place within the western side of the carriageway.)	Not applicable.
ID: 1494014 Halebourne Copse	5.66ha of ancient and semi natural woodland adjacent to the Order Limits.	Potential impact on RPA on edge of woodland from construction activities.	A1
ID: 1493326 Fan Grove	3.83ha of ancient and semi natural woodland with south-eastern adjacent to the Order Limits.	None. (Trenchless construction.)	Not applicable.

⁵ 'Narrow working' abbreviated as 'NW'. The number '33' relates to the narrow working commitment number.



Appendix B: Schedule of Potential Ancient Woodland

Table B1: Summary of potential ancient woodland within 15m of the Order Limits

Reference Name and Location	Description in Relation to the Project	Potential Impact Based on Current Project Assumptions	Proposed Further Mitigation
AW2: Woodland west of Nether Hill Lane along Ford Lake Stream, northeast of Boorley Green	0.26ha woodland copse within and immediately adjacent to the Order Limits.	None. (Trenchless crossing)	Not applicable.
AW3: Durley Mill Copse, west of Brown Heath, north of Gregory Lane	0.86ha linear woodland copse, just within the Order Limits at the northern extent and within approximately 6m of the Order Limits at the southern extent.	Potential impact on RPA on edges of woodland from construction activities.	A1
AW5: Copse near Betty Mundy's Bottom (proportion of copse adjacent to Ancient Woodland 1490774)	1.23ha remnant of woodland adjacent to and partially overhanging the Order Limits.	Potential impact on RPA on edge of woodland from construction of activities.	A1
AW12 Overgrown hedgerow/strip of woodland at Neatham Down, west of Monk Wood	549m long overgrown hedgerow/strip of woodland that would be crossed by the Order Limits.	Potential impact on RPA from construction activities, limited by construction being centred along existing gap in trees/field access and narrow working. (Bat mitigation area for installation of bat boxes proposed within majority of woodland strip within Order Limits.)	A1, except where limits of deviation narrow; A3
AW15a: Strip of woodland west of Ewshot Wood	0.16ha strip of woodland, partially within Order Limits.	Potential impact on RPA from construction of activities, despite narrow working (NW33) restricted to approximately 10m width.	A3
AW16 Greendane Copse	0.64ha woodland. A small part of northern woodland edge is just within 15m of the Order Limits.	Potential impact on edge of woodland RPA from construction activities, despite narrow working (NW10).	A1
AW30: Strip of woodland at Silverlands, west of Addlestone and south of B386	1.12ha woodland would be crossed by Order Limits and/or be immediately adjacent to the Order Limits.	Trenchless crossing proposed would limit potential impact. However, potential impact on RPA on southern edge of woodland from construction activities, despite narrow working (NW26).	A1



Appendix C: Schedule of Veteran and Potential Veteran Trees

Table C1: Summary of Veteran Trees within 15m of the Order Limits

Reference Name and Location	Description in Relation to the Project	Potential Impact Based on Current Project Assumptions	Proposed Further Mitigation
Veteran Trees on the Inventory (29 August 2019)			
Tree ID: 193108 (Survey ref: S2300-T46) East of Ashford Road, Staines. (Within group TPO TPO001STA 001STAA001.)	Oak with stem approximately 2.5m from the Order Limits.	Project assumption is that construction activities would take place within the carriageway, resulting in limited impact on RPA.	B3
Tree ID: 193090 (Survey ref: S2300-T12) West of Ashford Road, Staines.	Common ash, with stem approximately 9m from the Order Limits.	Project assumption is that construction activities would take place within the carriageway, resulting in limited impact on RPA.	B3
Tree ID: 194703 (Survey ref: S2300-T64) East of Ashford Road, Staines. (Within group TPO TPO001STA 001STAA001.)	Oak with stem approximately 6m from the Order Limits.	Project assumption is that construction activities would take place within the carriageway, resulting in limited impact on RPA.	B3
Potential Veteran Trees Identified by Project Tree Surveys			
Survey ref: T4 Just east of Minchingfield Lane, to the east of Durley Street.	Oak boundary tree adjacent to the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: S400-T1 South-east of Hinton Ampner.	Old coppice stool of field maple within hedge, adjacent to the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: S400-T2 South-east of Hinton Ampner.	Common ash immediately adjacent to Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: S400-T4 South-east of Hinton Ampner.	Common ash within the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: T13 North of West Tisted.	Oak within the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: T105 South of Petersfield Road, Ropley.	Beech adjacent to the Order Limits.	Potential impact on RPA from construction activities in the vicinity of drill pit to the east.	B1

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Reference Name and Location	Description in Relation to the Project	Potential Impact Based on Current Project Assumptions	Proposed Further Mitigation
Survey ref: S700-T12 Jubilee Clump, Manor Farm, Farringdon.	Beech with stem approximately 7m from the Order Limits.	Potential impact on RPAs from construction activities/access.	B1
Survey ref: S1100-T11 Within potential ancient woodland AW12 at Neatham Down, west of Monk Wood.	Ash with stem within 4m of the Order Limits.	Assessed as part of AW12 in Appendix B.	Refer to AW12 in Appendix B.
Survey ref: S1200-T4 Within woodland south of West End.	Oak with stem approximately 10m from the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: G47 North of Hampton's Farm, Ewshot Lane, Ewshot (within TPO 05/01198/HDC A60925).	Remnant field boundary with oak and field maple within the Order Limits.	Potential impact on RPA/ from construction activities.	B1
Survey ref: T39 On western edge of Church Crookham Football Field.	Oak within the Order Limits.	Potential impact on RPA from construction activities, despite narrow working (NW10).	B1
Survey ref: T40 Southern edge of Southwood Golf Course.	Oak within the Order Limits.	Potential impact on RPA from construction activities. Carriageway to the south would limit impact on RPA from construction activities to the south.	B1
Survey ref: T41 South of Queen Elizabeth Park Carpark West.	Willow within Order Limits.	Potential impact from construction activities/compound. (No impact from trenchless crossing.)	B1
Survey ref: S1800-T6 Near entrance to Farnborough Hill School, Farnborough.	Oak with stem within approximately 12m of the Order Limits.	Potential impact on RPA from construction activities despite narrow working (NW18) restricted to 15m width.	B1
Survey ref: S1800-T7 Near entrance to Farnborough Hill School, Farnborough.	Oak with stem within approximately 8m of the Order Limits.	Potential impact on RPA from construction activities despite narrow working (NW18) restricted to 15m width.	B1
Survey ref: S1800-T45 Near eastern edge of Farnborough Hill School playing field, Farnborough.	Sweet chestnut just within the Order Limits.	Potential impact on RPA from construction activities despite narrow working (NW18) restricted to 15m width.	B1

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Reference Name and Location	Description in Relation to the Project	Potential Impact Based on Current Project Assumptions	Proposed Further Mitigation
Survey ref: T102 On edge of woodland south of Halebourne Copse, Chobham.	Alder with adjacent to the Order Limits.	Potential impact on RPA/ from construction activities.	B1
Survey ref: T106 On edge of Ancient Woodland 1494014, Halebourne Copse, Chobham.	Tree with stem approximately 2m from the Order Limits.	Assessed as part of Ancient Woodland 1494014 in Appendix A.	Refer to Ancient Woodland 1494014 in Appendix A.
Survey ref: T59 South of B386 Longcross Road and west of Accommodation Road, Chertsey.	Oak within field boundary, within the Order Limits.	Potential impact on RPA/ from construction activities.	B3
Survey ref: T56 South of B386 Longcross Road and west of Accommodation Road, Chertsey.	Oak within field boundary, just within the edge of the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: T52 South of B386 Longcross Road and west of Accommodation Road, Chertsey.	Oak within field boundary, with stem approximately 11m from the Order Limits.	Potential impact on RPA from construction activities.	B1
Survey ref: G170 On edge of woodland at Foxhills Golf Club, Chertsey.	Oaks with stem approximately 12m from the Order Limits.	Potential impact from construction activities. (Narrow working (NW26) commitment is aimed at reducing impacts on the golf course (not trees).	B1