Southampton to London Pipeline Project

Deadline 6

Site Specific Plan - Turf Hill (tracked change)

Application Document: 8.58

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Contents

1 Introduction

1.1.1 This plan provides further detail on the potential impacts, construction techniques and mitigation measures in this area as a standalone document that is certified as part of the Development Consent Order (DCO). The project is required to comply with and implement the Site Specific Plan under Requirement 17 of the ~~DCO (**Document Reference 3.1 (5)**)~~ granted DCO.

1.1.2 The methodology covers the following:

- construction programme;
- access;
- vegetation removal;
- security;
- enabling works;
- Open Cut installation; and
- reinstatement.

1.1.3 Esso and its supply chain of contractor(s) will adopt the control measures set out in this Site Specific Plan when undertaking the installation of the pipeline.

2 Construction Programme

2.1.1 Assessment of the intended construction methodology indicates that works between Red Road and the Guildford Road crossing will take approximately six months. This may not be six months of continuous work, as the works will be staged to facilitate safe working and to take account of other constraints.

2.1.2 There is a two-year working window for the construction works, as the programme will need to take account of any seasonality such as ecological constraints and optimum replanting periods. Notwithstanding the above constraints, the detailed scheduling of the works will look to rationalise and work simultaneously where there is the ability to do so, to reduce disturbance to the area. Once the construction plans have been finalised, the local community will be informed and updated in line with the Community Engagement Plan ~~(**Document Reference 8.52**)~~.

2.1.3 Below is a summary of works and approximate durations, but this is subject to detailed programming and uncertainties such as weather and ground conditions.

Table 2.1: Estimated duration of works (based on working 6 days per week)

Works	Estimated Duration
Enabling works (compound 5E)	2–3 weeks
Mobilisation	3 weeks
Open Cut (Red Road to Guildford Road)	12 weeks
Reinstatement	4–6 weeks. Reinstatement will take into account seasonal constraints and will occur in the first available planting season.

2.1.4 Once the construction plans have been finalised, the local community will be informed and updated in line with the Community Engagement Plan.

2.1.5 All works will be planned to take place within the normal working hours as defined by the DCO. It is only in exceptional or emergency circumstances that the works will continue outside of the standard working hours.

3 Description of Works

3.1 Access

3.1.1 The vast majority of Turf Hill will remain accessible during installation for all works. The rolling nature of construction is typically with a 50m long active working area, which together with the network of undesignated paths/tracks in the area, provide opportunities to reduce the disruption to users of Turf Hill.

Table 3.1: Bridleway and usage

Bridleway	Use
Bridleway 129 West End	The use of the path will be maintained, with limited suspension, or a local diversion while the Open Cut installation crosses the bridleway.
Bridleway 66 West End	The use of the path will be suspended for the duration of Open Cut installation for a period of approximately 12 weeks. There are opportunities to limit this suspension by diverting users to undesignated tracks. This will be agreed, in advance, with Surrey Heath Borough Council.

3.1.2 Where there are undesignated paths and accesses into Turf Hill, for example from private properties, if possible diversionary paths that are segregated from the working area will be provided.

3.1.3 Construction access for the majority of the works will be from Guildford Road access.

3.2 Vegetation Removal

3.2.1 The local landscape character of the Order Limits that pass through Turf Hill comprises informal paths within coniferous woodland with some heathland and scrub understorey. There is also non-native invasive Gaultheria along the northern extent of the area. ~~It is anticipated that 17 of the surveyed trees will require removal.~~

3.2.2 Following the completion of the BS:5837 compliant tree survey based on individual trees over 75mm, it is anticipated that on the intended pipeline alignment the following trees will require removal:

- For the pipeline alignment along all three sides of the route at Turf Hill adjacent to The Folly, Heronscourt, Colville Gardens and Guildford Road – 21 trees to be removed. A mix of species and ages. To be reinstated
- Construction compound – 21 pine trees to be removed. No mature trees require removal. To be reinstated as heathland habitat.
- Pipeline alignment from the compound into Guildford Road. This crosses the younger largely self seeded belt of silver birch adjacent to the road – 18 trees to be removed. To be reinstated.

3.2.3 A schedule outlining the trees to be removed is provided in Appendix C. The full aboricultural schedule and plans will be submitted at Deadline 7 in line with Issue Specific Hearing 5 Action Point 37.

~~3.2.2~~3.2.4 Vegetation screening and trees will not be removed from the boundary between the woodland path and the private properties along the northern boundary of Turf Hill.

~~3.2.3 A number of trees will be removed from the compound area.~~

~~3.2.4 The extent of tree removal adjacent to Guildford Road is still to be confirmed following more detailed design on the likely alignment.~~

3.2.5 Sections 3.4 and 3.5 below outline the approach that will be taken during construction to reduce the impact to vegetation and trees within the area, and this is reflected in the construction stage plan in Appendix B. As per Requirement 8(1)(a) of the DCO ~~(**Document Reference 3.1 (5)**),~~, the retention and removal of vegetation ~~within the park~~ must be undertaken in accordance with this Site Specific Plan (including the construction stage plan) unless otherwise agreed by the relevant planning authority.

3.3 Security

3.3.1 The construction compound will be fully secure, with locked gates.

3.3.2 Heras type fencing bolted together, or strong-wall fencing, will be used during the works. All plant and operatives will work within the fencing and compound.

3.3.3 The on-site, 24-hour security team will monitor all working areas.

3.4 Enabling Works

3.4.1 This consists of creating the construction compound (Works 5E~~)~~).

3.4.2 The construction compound ~~5E~~ will be constructed to the west of Guildford Road via the access, on the edge of the heath where a small stand of Scots pine trees is present. ~~Trees and stumps~~

~~3.4.2~~ The trees that form the screen to the edge of Guildford Road will be ~~removed to allow a safe level area.~~

3.4.3 retained except where the temporary vehicle access needs to be formed. Within the working area, trees will be cut down to ground level or lopped by licenced professionals. As with typical woodland management, where safe to do so, tree stumps are left in situ to reduce the ground disruption and left to decompose, providing habitat for invertebrates.

~~3.4.4 Stumps will be removed from along the trench width to allow the installation of the pipeline.~~

~~3.4.5~~3.4.4 The topsoil will be stripped and neatly stored to one side of the construction compound, which will provide additional noise and visual screening of the

construction compound from users of Turf Hill. The area of the construction compound will then be covered with a permeable surface.

3.4.5 The construction compound will be fenced with a 2m high Heras perimeter fence that is double clipped for security and placed on rubber weighted feet for stability.

3.4.6 Lighting will be installed, facing down and away from the nearby properties, and only used while the construction compound is occupied during the working day, with the exception of security lighting. The construction compound will be fully secure, with locked gates and may have CCTV.

~~3.4.6~~3.4.7 A watching security guard will periodically check on the work sites when the works are not operating, such as during the night and on Sundays.

3.4.8 The construction compound will remain in place for the duration of the works within the Turf Hill area.

3.5 Open Cut

3.5.1 The Open Cut (generic) installation approach described in the Code of Construction Practice will be tailored to the conditions of Turf Hill to reduce the amount of vegetation and tree clearance required. Details on how this will be applied at this location are summarised below.

~~3.5.1~~3.5.2 Before any Open Cut works can continue, works to trees identified to be removed will be undertaken by a licenced specialist.

~~3.5.2~~3.5.3 Stumps will be removed from along the trench width to allow the installation of the pipeline. As with typical woodland management, other tree stumps will be left in situ to reduce the ground disruption and for ecological value (for invertebrates during decomposition).

~~3.5.3~~3.5.4 Trees being retained will be protected from installation activity in line with commitment G95: *'The contractor(s) will ~~consider and~~ apply~~,~~ 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~~ British Standard BS5837:2012 - Trees ~~('NJUG Volume 4' (2007).~~in Relation to Design Demolition and Construction. This will be applied to trees within the Order Limits which will be preserved through the construction phase, and to trees adjacent/outside of the Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction.*'

~~3.5.4~~3.5.5 The project Environmental Clerk of Works and arboriculturalist will monitor and provide advice when any works to trees, such as branch removal~~, are required~~ and pruning, are required. Hand digging and air lance techniques or similar British Standard approved techniques will be utilised when excavating within the root protection area.

~~3.5.5~~3.5.6 Footpaths in this area will remain open during vegetation clearance, with the exceptions of tree removal and any activity where there is a risk to passers-by. Warning signage to indicate restricted zones will be erected to alert the public to the

works. All material from the vegetation clearance will be removed from Turf Hill and recycled.

3.5.63.5.7 The Open Cut is likely to begin at the crossing point of Guildford Road and work back to Red Road.

3.5.7 The woodland Open Cut methodology will be followed and tailored to the conditions of Turf Hill to reduce the amount of vegetation and tree clearance required. The key elements of installation through Turf Hill are outlined below.

3.5.8 The Open Cut installation works area will be undertaken in section lengths of 50m and a maximum width of 15m (narrow working commitment N22). A 15m wide fencing/barrier system, will be erected within the Order Limits, this is to segregate the 'live' working area from public accessible areas. As the works progress the fenced area will be relocated/extended so that no more than 50m of continues fencing is in place before a public crossing point. Topsoil will only be stripped from the area required for the trench.

3.5.9 All fabrication works (such as grinding, welding, coating and testing) will be undertaken behind screens or within shelters in order to reduce any impact on the users of the park. These areas will include acoustic protection if required.

3.5.10 The proposed pipe alignment has been designed to avoid the root protection areas of trees in private properties.

3.5.11 The intended working area in Turf Hill will result in the removal of 17 of the surveyed trees.

3.5.123.5.11 Size of plant (vehicles and machinery) will be smaller than traditional Open Cut plant. This is necessary to work safely within the reduced 15m working width.

3.5.133.5.12 For a distance of circaapproximately 500m, the proposed pipeline will be installed adjacent to an existing water main. The project is aware of the presence of the Affinity Water main, has a signed Statement of Common Ground and will continue engagement with Affinity Water. The water main is located toalong the northnorthern boundary of Turf Hill and outside the Limits of Deviation. The project is agreeing Protective Provisions with Affinity Water to control the construction of the pipeline in close proximity to the water main. It should be noted that the project will frequently need to work alongside utility pipelines in many areas of the pipeline's installation.

3.6 Reinstatement

Construction Compound

3.6.1 This area will be allowed to naturally regenerate as heathland. This has been endorsed by Natural England. This will involve replacing the topsoil, but not reseeding. or replanting.

Bridle Paths

3.6.2 The bridle path will be reinstated once the Open Cut works are complete. Like-for-like footpath surfacing will be used for reinstatement, unless otherwise agreed between Esso and Surrey Heath Borough Council.

Vegetation

3.6.3 Vegetation will be reinstated as shown in the reinstatement plan attached in Appendix B. This reinstatement plan will be included within Appendix B of the Landscape and Ecological Management Plan (LEMP) ~~(**Document Reference 8.50**)~~ for the approval of the relevant planning authority as per Requirement 8(1)(b) and Requirement 12 of the DCO ~~(**Document Reference 3.1 (5)**)~~.

3.6.4 Where the topsoil has been stripped and stored, this will then be replaced after the works have been completed and either reseeded, specific to Turf Hill native species and with respect to seasonality, or left to natural regenerate.

3.6.5 Woodland will be reinstated with appropriate native species.

3.6.6 Where trees have been removed, they will be replaced at an adjacent location whilst outside of the 6.3m pipeline easement.

3.6.7 The vegetation will be subject to a five-year aftercare period.

Appendix A – Area Plan

Appendix B – Construction and Reinstatement Plans

Appendix C – Trees to be removed

Tree Survey Schedule Key

Life Stage	Description
NP	Newly planted
Y (Young)	An establishing tree that could easily be transplanted.
SM (Semi Mature)	An established tree still to reach its ultimate height and spread and with considerable growth.
EM (Early Mature)	A tree reaching its ultimate height and whose growth is slowing however it will still increase considerably in stem diameter and crown spread.
M (Mature)	A tree with limited potential for further increase in size although likely to have a considerable safe useful life expectancy.
OM (Over Mature)	A senescent or moribund tree with a limited useful expectancy.
V (Veteran)	A tree older than typical for the species and of great ecological, cultural or aesthetic value

Abbreviations	Description
Stem Ø (mm) at 1.5m	Diameter of stem in millimetres at 1.5m above ground level for single-stemmed trees or in accordance with Annex C of BS 5837 for multi-stemmed trees or trees with low forks or irregular stems.
Stems	Numbers of stems or M/S = Multi-Stemmed
Height of (FSB)	Height of First Significant Branch above ground level.
Crown Spread NSEW	Crown spread at the four points, North, South, East and West.
Condition	Condition of the tree observed at the time of surveying G = Good; F = Fair; P = Poor; D = Dead.

Est Remaining Contribution (Years)	Estimated Remaining Contribution in Years (<10, 10+, 20+, 40+.

BS Category	Description
A	High quality and value (non-fiscal) with at least 40 years remaining life expectancy.
B	Moderate quality and value with at least 20 years remaining life expectancy.
C	Low quality and value with at least 10 years remaining life expectancy, or young trees with a stem diameter below 150mm.
U	Unsuitable for retention. The existing condition is such that the tree/trees cannot be realistically retained as in the context of the current land use for longer than 10 years. Note, category U trees can have existing or potential conservation value which it might be desirable to preserve.
RPA Radius (m)	Root Protection Radius in metres based on stem diameter.
RPA Area (m^2)	Root protection Area. A layout design tool indicating the minimum area surrounding the tree that contains sufficient rooting volume to maintain the trees viability, and where the protection of the roots and soil structure is treated as a priority. Assessed according to the recommendations set out in clause 4.6 of BS 5837. It is calculated by multiplying the radius squared by 3.142. Clause 4.6 of BS 5837 states that the RPA may be changed in shape, taking into account local site factors, species tolerance, condition and root morphology.

Tree Survey Schedule of Trees to be removed at Turf Hill

Table 1.1: Tree Schedule of Trees to be removed at Turf Hill

Tree. No.	Tree Species	Life Stage	Stem Ø (mm) at 1.5m	Height (crown height) (m)	Height of (FSB)	Crown spread				Condition	Comments	Tree Management Recommendations	Est Remaining Contribution (Years)	BS Cat	RPA Radius (m)	RPA area (m^2)
						N	E	S	W							
T22	Quercus robur (Common Oak)	SM	390	17(3)		7	7	4	4	Fair	Minor dead wood.		10+	C2	4.7	69
T23	Betula pendula (Silver Birch)	EM	265	15(5)		5	2	5	5	Fair	Minor dead wood.		10+	C2	3.2	32
T31	Pinus sylvestris (Scots Pine)	SM	420	18(5)		7	3	3	7	Fair			10+	C2	5.0	80
T499	Quercus robur (Common Oak)	SM	150	8(2)	2W	3	3	3	3	Good			10+	C1	1.8	10
T34	Quercus robur (Common Oak)	SM	250	8(4)		4	4	4	4	Fair	Minor dead wood.		10+	C2	3.0	28
T495	Betula pendula (Silver Birch)	SM	170	11(3)		2	2	2	2	Good			10+	C1	2.0	13
T37	Pinus nigra ssp. laricio (Corsican Pine)	M	660	20(7)		6	6	6	6	Fair	Minor dead wood. Sparse crown.		10+	C2	7.9	197
T38	Quercus robur (Common Oak)	SM	250	14		4	4	4	4	Fair			10+	C2	3.0	28
T40	Pinus sylvestris (Scots Pine)	SM	370	21		4	4	4	4	Fair	Minor dead wood.		10+	C2	4.4	62
T41	Pinus sylvestris (Scots Pine)	SM	330	21		4	4	4	4	Fair	Minor dead wood.		10+	C2	4.0	49
T42	Pinus sylvestris (Scots Pine)	SM	470	22		5	4	4	4	Fair	Minor dead wood.		10+	C2	5.6	100
T43	Pinus sylvestris (Scots Pine)	SM	400	22		4	4	4	4	Fair	Minor dead wood.		10+	C2	4.8	72
T444	Quercus robur (Common Oak)	SM	170	8(4)	4NW	2	2	0	4	Good			10+	C1	2.0	13
G437	Sorbus aucuparia (Rowan)	SM	110	9(2)		4	3	2	3	Good	Largest stem diameter recorded.	3 x trees to be removed closest to the path.	10+	C2	1.3	5

Tree. No.	Tree Species	Life Stage	Stem Ø (mm) at 1.5m	Height (crown height) (m)	Height of (FSB)	Crown spread				Condition	Comments	Tree Management Recommendations	Est Remaining Contribution (Years)	BS Cat	RPA Radius (m)	RPA area (m^2)
						N	E	S	W							
T120	Pinus sylvestris (Scots Pine)	M	520	22(7)		4	4	4	4	Good			20+	B2	6.2	122
T122	Pinus sylvestris (Scots Pine)	M	590	20(10)		5	5	5	5	Fair	Minor dead wood.		10+	C2	7.1	158
T126	Pinus sylvestris (Scots Pine)	M	560	22(8)		7	7	7	7	Good	Minor dead wood.		20+	B2	6.7	142
T412	Betula pendula (Silver Birch)	SM	90	10(6)		2	2	2	2	Good			10+	C1	1.1	4
T131	Pinus sylvestris (Scots Pine)	M	470	21(12)		3	3	3	3	Poor	Major dead wood. Soil compaction. Sparse crown.		<10	U	5.6	100

Tree Survey Schedule of Trees to be removed at the Southern End of Guildford Road

Table 1.2: Tree Schedule of Trees to be removed at the Southern End of Guildford Road

Tree. No.	Tree Species	Life Stage	Stem Ø (mm) at 1.5m	Height (crown height) (m)	Height of (FSB)	Crown spread				Condition	Comments	Tree Management Recommendations	Est Remaining Contribution (Years)	BS Cat	RPA Radius (m)	RPA area (m^2)
						N	E	S	W							
G207	Betula pendula (Silver Birch),Quercus robur (Common Oak), Salix caprea (Goat Willow),Pinus sylvestris (Scots Pine),Fagus sylvatica (Common Beech)	SM	100	12(2)	1	2	3	3	2	Good	Forty eight trees: birch x 29, pine x 10, oak x 6, beech x 2, willow x 1. Largest stem diameter recorded.	1 x tree to be removed. E: 493759 N: 161653	10+	C2	1.2	5
T210	Betula pendula (Silver Birch)	SM	198	15(9)	9E	2	3	2	2	Good	Multi-stemmed from base.		10+	C1	2.4	18
T211	Pinus sylvestris (Scots Pine)	EM	340	18(12)	12	3	5	3	2.5	Fair	Sparse crown.		10+	C1	4.1	52
G212	Betula pendula (Silver Birch),Quercus robur (Common Oak), Salix caprea (Goat Willow),Pinus sylvestris (Scots Pine)	SM	160	15(3)		2	3	2	2	Good	Seventeen trees: birch x 7, oak x 5, pine x 4, willow x 1. Largest stem diameter recorded.	15 x trees to be removed.	10+	C2	1.9	12

Tree Survey Schedule of Trees to be removed at the Turf Hill Construction Compound

Table 1.3: Tree Schedule of Trees to be removed at the Turf Hill Construction Compound

Tree. No.	Tree Species	Life Stage	Stem Ø (mm) at 1.5m	Height (crown height) (m)	Height of (FSB)	Crown spread				Condition	Comments	Tree Management Recommendations	Est Remaining Contribution (Years)	BS Cat	RPA Radius (m)	RPA area (m^2)
						N	E	S	W							
T284	Pinus sylvestris (Scots Pine)	EM	470	14(5)	8	4	4	3	4	Fair			20+	C1	5.6	100
T286	Pinus sylvestris (Scots Pine)	EM	430	17(6)	6W	4	2	4	4	Poor	Sparse crown.		10+	C1	5.2	84
T287	Pinus sylvestris (Scots Pine)	EM	480	17(6)	6E	4	4	3	1	Poor	Sparse crown.		10+	C1	5.8	104
T288	Pinus sylvestris (Scots Pine)	EM	430	17(10)	10W	3	2	4	4	Good			20+	B2	5.2	84
T289	Pinus sylvestris (Scots Pine)	EM	520	17(5)	7NE	6	5	4	3	Fair			10+	C1	6.2	122
T290	Pinus sylvestris (Scots Pine)	EM	370	17(7)	7E	4	4	2	4	Fair	Sparse crown.		10+	C1	4.4	62
T291	Pinus sylvestris (Scots Pine)	EM	420	15(6)	6S	3	3	4	4	Poor			10+	C1	5.0	80
T292	Pinus sylvestris (Scots Pine)	EM	320	15(6)	6	3	2	4	4	Fair	Sparse crown.		10+	C1	3.8	46
T293	Pinus sylvestris (Scots Pine)	EM	520	19(3)	8S	4	5	5	5	Fair	Sparse crown.		10+	C1	6.2	122
T294	Pinus sylvestris (Scots Pine)	EM	450	19(8)	8W	3	4	4	5	Fair	Sparse crown.		10+	C1	5.4	92
T295	Pinus sylvestris (Scots Pine)	EM	420	22(13)	15S	3	3	3	3	Good			20+	B2	5.0	80
T333	Pinus sylvestris (Scots Pine)	SM	260	17(10)		2	2	2	2	Fair			10+	C1	3.1	31
T334	Pinus sylvestris (Scots Pine)	EM	350	19(8)	8S	3	3	3	3	Good			20+	B2	4.2	55

Tree. No.	Tree Species	Life Stage	Stem Ø (mm) at 1.5m	Height (crown height) (m)	Height of (FSB)	Crown spread				Condition	Comments	Tree Management Recommendations	Est Remaining Contribution (Years)	BS Cat	RPA Radius (m)	RPA area (m^2)
						N	E	S	W							
T335	Pinus sylvestris (Scots Pine)	SM	270	18(12)	11S	0.5	1	2	2	Fair			10+	C1	3.2	33
T336	Pinus sylvestris (Scots Pine)	EM	340	22(16)	15NW	4	4	4	4	Good			20+	B2	4.1	52
T337	Pinus sylvestris (Scots Pine)	EM	310	21(13)	8	2	2	2	2	Good			20+	B2	3.7	43
T338	Pinus sylvestris (Scots Pine)	EM	390	21(2)	4	4	5	7	6	Good			20+	B2	4.7	69
T339	Pinus sylvestris (Scots Pine)	EM	320	22(7)	8	3	3	3	4	Fair			10+	C1	3.8	46
T406	Pinus sylvestris (Scots Pine)	SM	350	20(15)		3	4	3	3	Good			20+	B2	4.2	55
T407	Pinus sylvestris (Scots Pine)	SM	350	18(5)		1	4	5	2	Good			20+	B2	4.2	55
T408	Pinus sylvestris (Scots Pine)	SM	360	20(7)		3	2	4	4	Good			20+	B2	4.3	59