

# Southampton to London Pipeline Project

## Deadline 6

Site Specific Plan - Turf Hill (clean)

Application Document: 8.58

Planning Inspectorate Reference Number: EN070005

Revision No. 2.0

March 2020





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## **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 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.
- 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.<br>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.

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 arboricultural schedule and plans will be submitted at Deadline 7 in line with Issue Specific Hearing 5 Action Point 37.
- 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.
- 3.2.5 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, the retention and removal of vegetation 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 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.
- 3.4.3 The trees that form the screen to the edge of Guildford Road will be 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 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.



- 3.4.7 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.
- 3.5.2 Before any Open Cut works can continue, works to trees identified to be removed will be undertaken by a licenced specialist.
- 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).
- 3.5.4 Trees being retained will be protected from installation activity in line with commitment G95: *'The contractor(s) will apply the relevant protective principles set out in the British Standard BS5837:2012 - Trees 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.'*
- 3.5.5 The project Environmental Clerk of Works and arboriculturalist will monitor and provide advice when any works to trees, such as branch removal 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.
- 3.5.6 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.
- 3.5.7 The Open Cut is likely to begin at the crossing point of Guildford Road and work back to Red Road.
- 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 continuous 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 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.
- 3.5.12 For a distance of approximately 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 along the northern boundary of Turf Hill. 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.

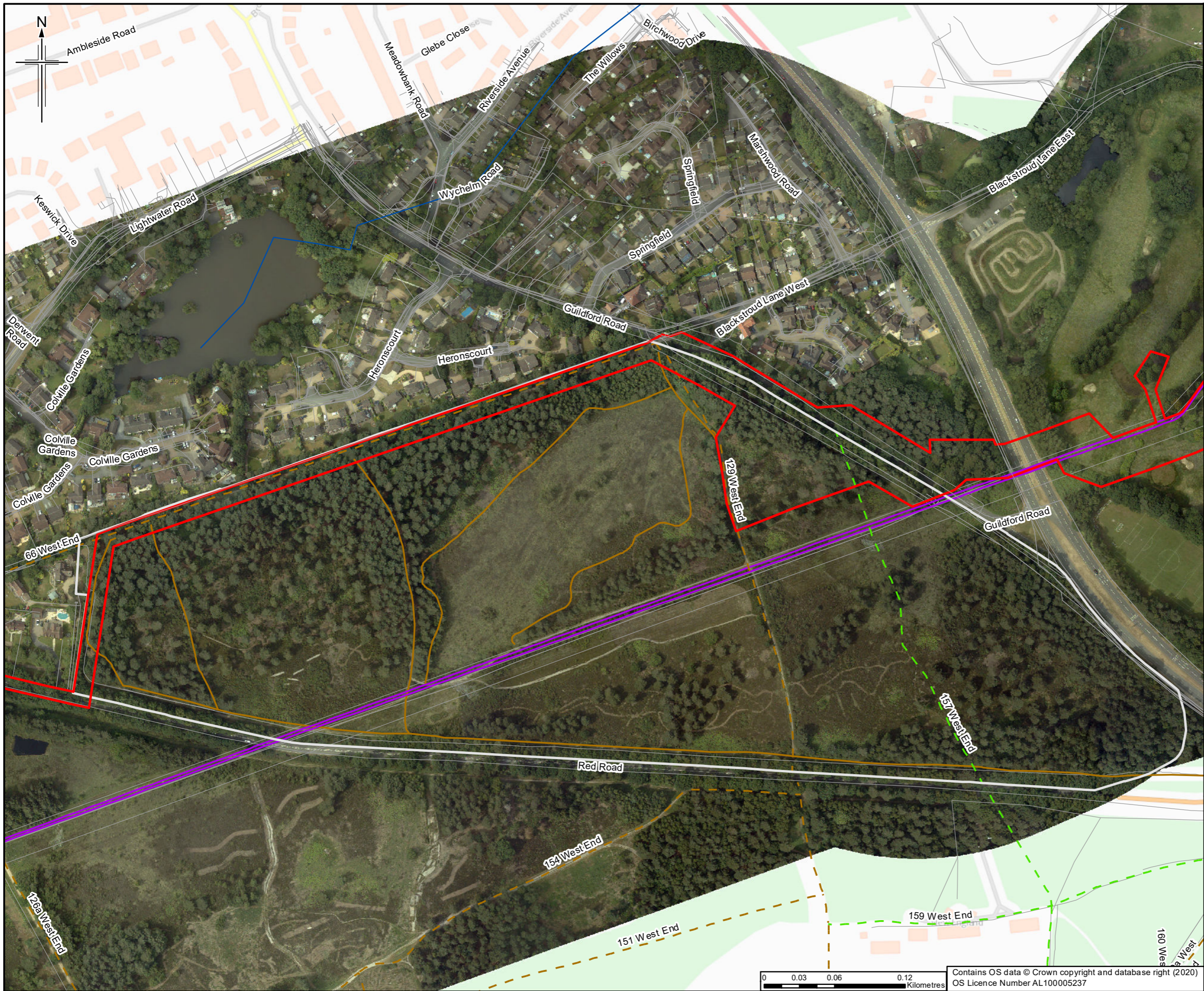
### **Vegetation**

- 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) for the approval of the relevant planning authority as per Requirement 8(1)(b) and Requirement 12 of the DCO.
- 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**



- Legend**
- Order Limits
  - Turf Hill, Thames Basin Heaths SPA (area covered by this site specific plan)
  - Existing aviation pipeline and multifuel lines
  - River
  - Bridleway
  - Footpath
  - Undesignated path
  - Statutory services line

|      |            |                     |          |        |       |         |
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| Rev. | Rev. Date  | Purpose of revision | Orig/Dwn | Checkd | Rev'd | Apprv'd |

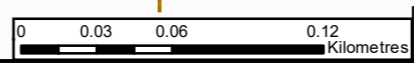
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Project  
 Southampton to London Pipeline Project

Drawing title  
 SITE SPECIFIC PLAN  
 TURF HILL

|                 |              |              |
|-----------------|--------------|--------------|
| Drawing Status  | For Issue    |              |
| Scale           | 1:3,000 @ A3 | DO NOT SCALE |
| Jacobs No.      | B2325300     |              |
| ProjectWise No. |              |              |
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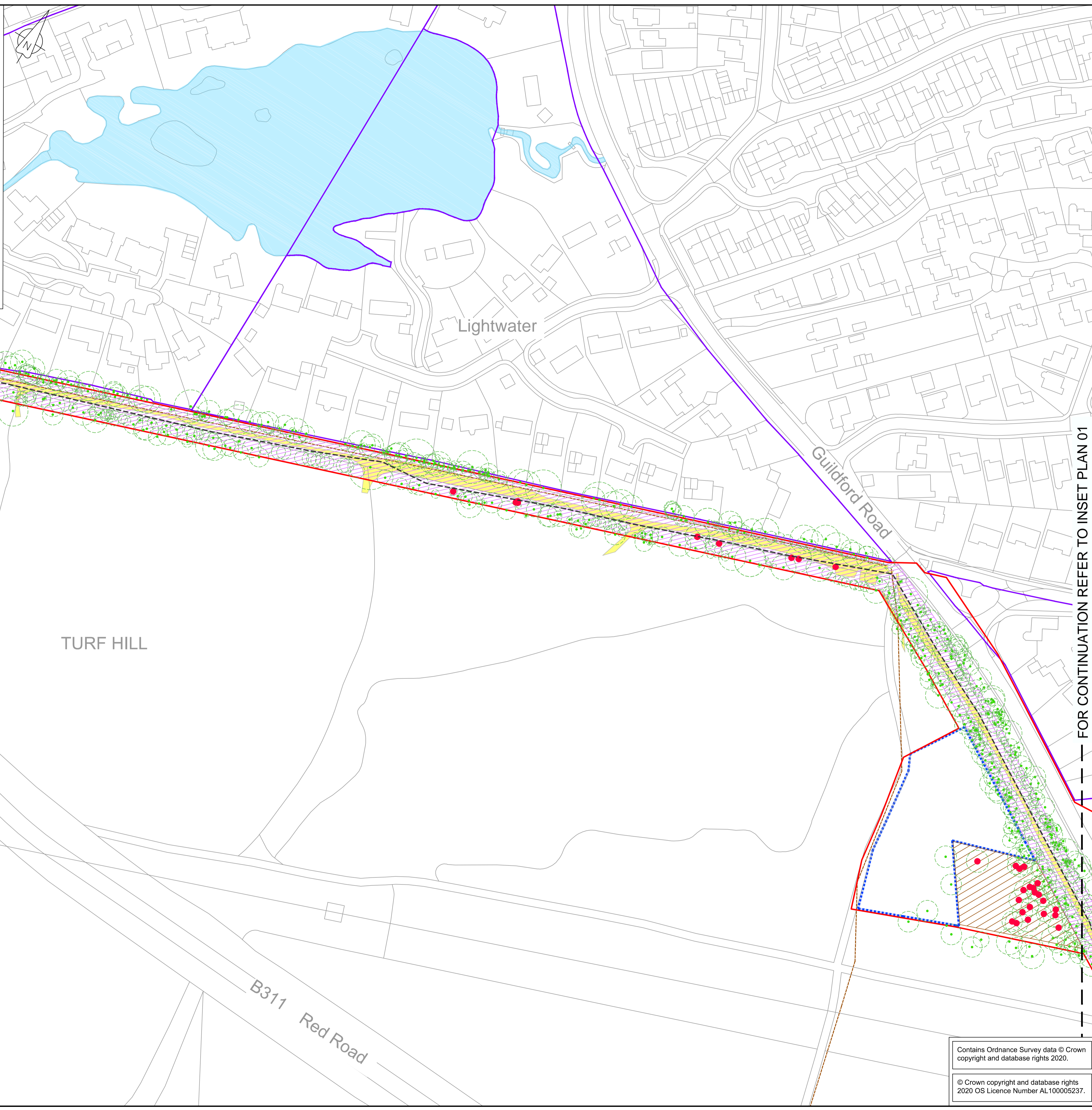
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## **Appendix B – Construction and Reinstatement Plans**

- NOTES**
1. Pipeline centreline alignment is intended only.
  2. Trees to be retained are shown based on the intended pipeline alignment.
  3. The illustration of existing trees on these plans is based on project survey data.
  4. The contractor(s) would retain vegetation where practicable and in accordance with, as a minimum, the vegetation retention drawings (Commitment G91).
  5. Where notable, TPO, Ancient Woodland and Veteran 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 (Commitment G65).
  6. The contractor(s) would apply the relevant protective principles set out in the British Standard 5837:2012 Trees in relation to design, demolition and construction. 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. (Commitment G95).
  7. Works to notable, TPO and Veteran Trees, where at risk of damage, would be supervised by the ECoW (Environmental Clerk of Works) and supported by an experienced arboriculturalist (Commitment G86).
  8. Appropriate techniques would be used for the removal, storage and transplantation of any vegetation which is to be reused, relocated or transplanted (Commitment G89).
  9. The existing footpaths shown on this drawing are based on a combination of Ordnance Survey map data February 2019 and a topographic survey undertaken in 2020.



LOCATION PLAN  
SCALE 1:500,000

**LEGEND**

- ORDER LIMITS
- INTENDED PIPELINE CENTRELINE
- NARROW WORKING AREA NW22
- COMPOUND

**EXISTING CONTEXT**

- ROOT PROTECTION AREAS
- PUBLIC RIGHTS OF WAY (PROW)
- TREE PRESERVATION ORDER (TPO)

**EXISTING FEATURES TO BE RETAINED**

- TREE GROUPS TO BE RETAINED
- OTHER INDIVIDUAL TREES TO BE RETAINED
- OTHER FOOTPATHS

**EXISTING FEATURES TO BE REMOVED**

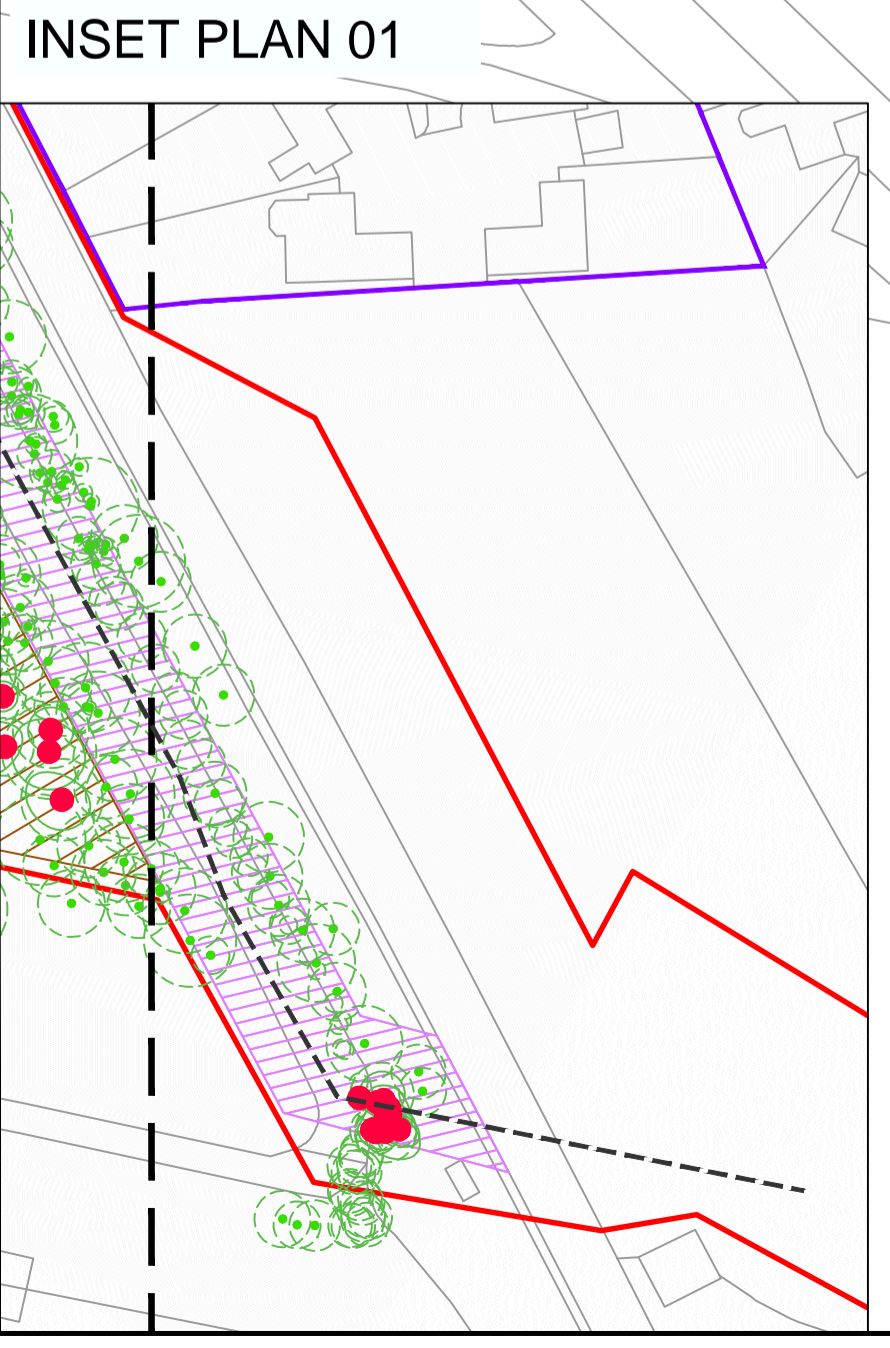
- TREE TO BE REMOVED

**ENVIRONMENTAL MITIGATION AREA**

- ENVIRONMENTAL MITIGATION AREA - HABITAT CREATION

0 10 20 30 40 50 60 70 80 90 100 m  
SCALE 1 : 1000

FOR CONTINUATION REFER TO INSET PLAN 01



|       |           |                       |       |         |       |         |
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| P01.2 | 05/03/20  | DEADLINE 6 SUBMISSION | ---   | ---     | ---   | ---     |
| Rev   | Rev. Date | Purpose of revision   | Drawn | Checked | Rev'd | Apprv'd |

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Project: Southampton to London Pipeline Project

Drawing title: **8.58 SSP TURF HILL: CONSTRUCTION STAGE**

Drawing status: **Fit for Stage Approval**

Scale: 1:1000 **DO NOT SCALE**

Jacobs No. B2325300 Rev P01.2

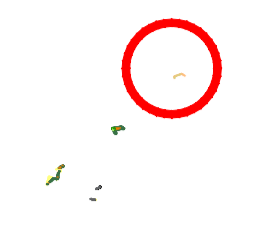
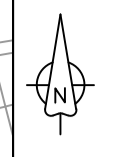
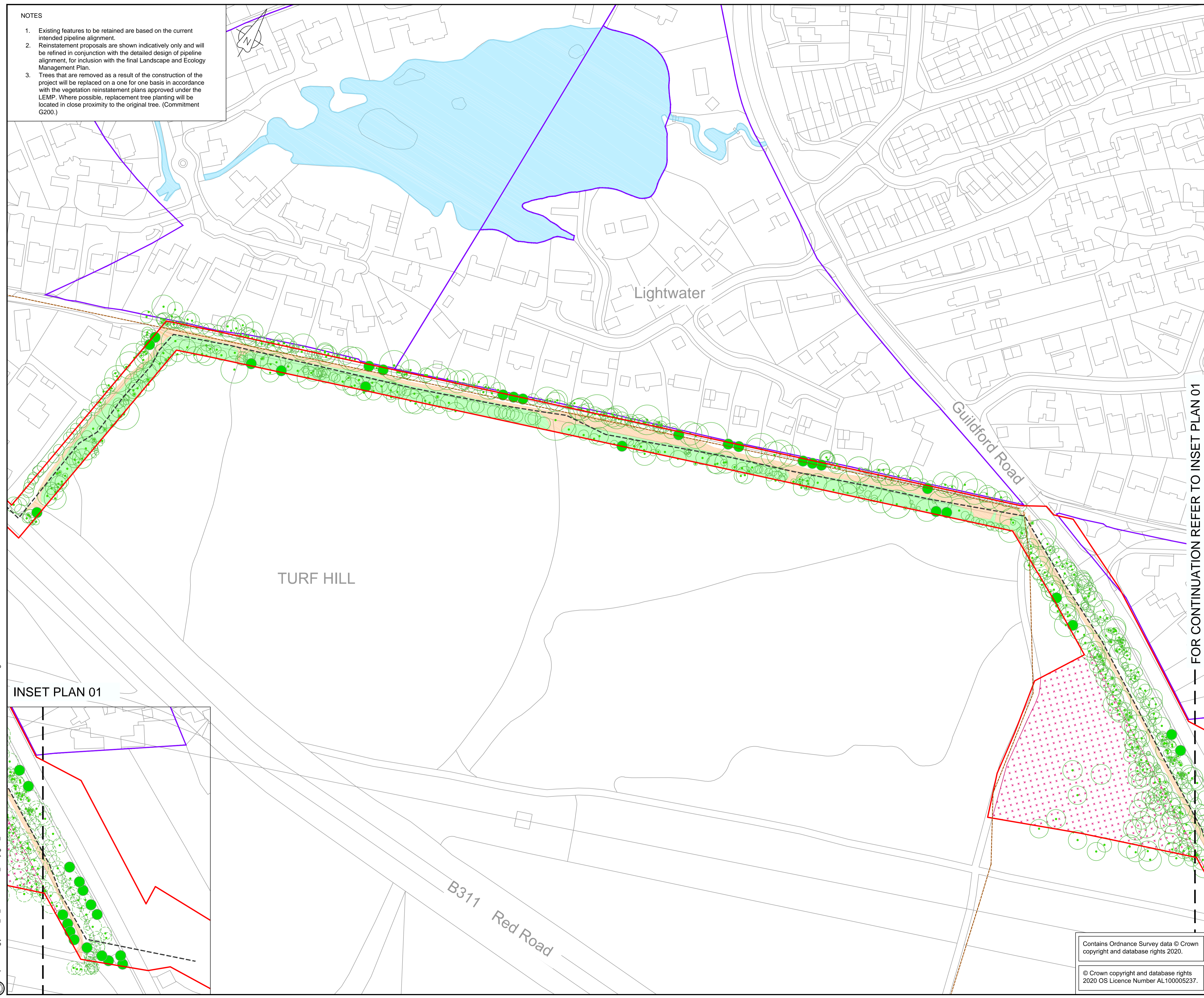
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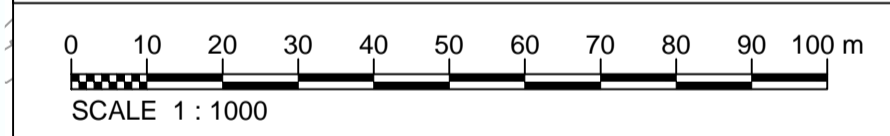
- NOTES**
- Existing features to be retained are based on the current intended pipeline alignment.
  - Reinstatement proposals are shown indicatively only and will be refined in conjunction with the detailed design of pipeline alignment, for inclusion with the final Landscape and Ecology Management Plan.
  - Trees that are removed as a result of the construction of the project will be replaced on a one for one basis in accordance with the vegetation reinstatement plans approved under the LEMP. Where possible, replacement tree planting will be located in close proximity to the original tree. (Commitment G200.)



**LOCATION PLAN**  
SCALE 1:500,000

**LEGEND**

- ORDER LIMITS
- - - INTENDED PIPELINE CENTRELINE
- PUBLIC RIGHTS OF WAY (PROW)
- TREE PRESERVATION ORDER (TPO)
- EXISTING FEATURES RETAINED**
- TREE GROUPS RETAINED
- INDIVIDUAL TREES RETAINED
- FEATURES TO BE REINSTATEMENT**
- SOFT LANDSCAPE**
- INDIVIDUAL TREE REINSTATEMENT PLANTING
- NATURAL REGENERATION FOR CREATION OF HEATHLAND HABITAT
- UNDERSTOREY REINSTATEMENT PLANTING
- HARD LANDSCAPE**
- FOOTPATH SURFACING REINSTATEMENT



| Rev   | Rev. Date | Purpose of revision   | Drawn | Checked | Rev'd | Appr'd |
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**8.58 SSP TURF HILL:  
REINSTATEMENT**

Drawing status  
**Fit for Stage Approval**

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| Client no. |          | <b>P01.2</b> |

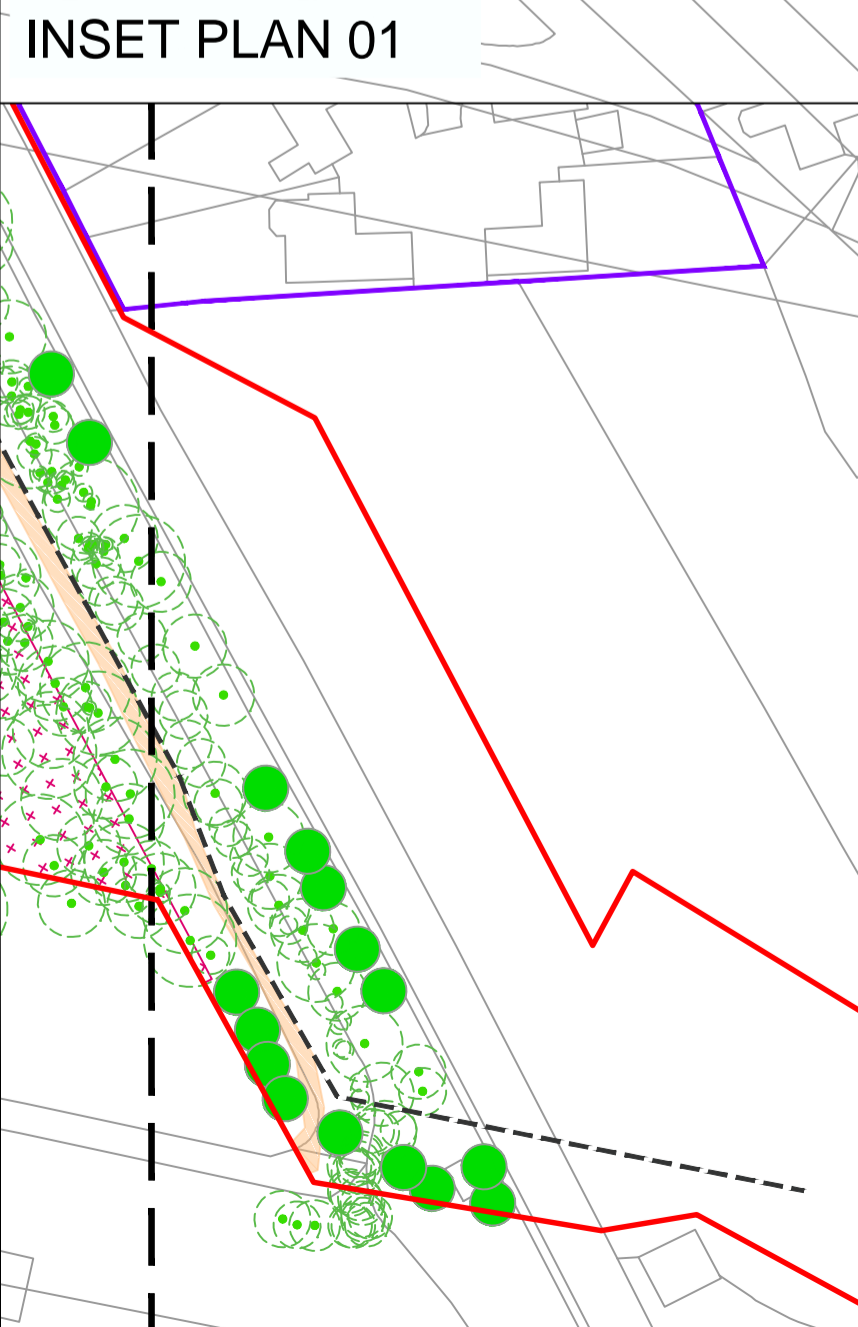
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## Appendix C – Trees to be removed

### 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<br><br>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 <sup>2</sup> ) | 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 <sup>2</sup> ) |
|----------|--|------------|---------------------|---------------------------|-----------------|--------------|---|---|---|-----------|---------------------------------|--|------------------------------------|--------|----------------|----------------------------|
|          |  |            |                     |                           |                 | 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 <sup>2</sup> ) |
|----------|-------------------------------|------------|---------------------|---------------------------|-----------------|--------------|---|---|---|-----------|---|---------------------------------|------------------------------------|--------|----------------|----------------------------|
|          |                               |            |                     |                           |                 | 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 <sup>2</sup> ) |
|----------|--|------------|---------------------|---------------------------|-----------------|--------------|---|---|-----|-----------|---|---|------------------------------------|--------|----------------|----------------------------|
|          |  |            |                     |                           |                 | 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.<br>E: 493759<br>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 <sup>2</sup> ) |
|----------|-------------------------------|------------|---------------------|---------------------------|-----------------|--------------|---|---|---|-----------|---------------|---------------------------------|------------------------------------|--------|----------------|----------------------------|
|          |                               |            |                     |                           |                 | 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 <sup>2</sup> ) |
|----------|-------------------------------|------------|---------------------|---------------------------|-----------------|--------------|---|---|---|-----------|----------|---------------------------------|------------------------------------|--------|----------------|----------------------------|
|          |                               |            |                     |                           |                 | 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             |                            |