



**AQUIND Limited**

---

# **AQUIND INTERCONNECTOR**

Environmental Statement Appendix 16.3  
Arboriculture Report – Appendix F Generic  
Arboricultural Method Statement

The Planning Act 2008

Document Ref: 7.7.21

PINS Ref.: EN020022

**AQUIND Limited**

---

# **AQUIND INTERCONNECTOR**

Environmental Statement Appendix 16.3  
Arboriculture Report – Appendix F Generic  
Arboricultural Method Statement

**PINS REF.: EN020022**

**DOCUMENT: 7.7.21**

**DATE: 25 JANUARY 2021**

WSP

WSP House

70 Chancery Lane

London

WC2A 1AF

+44 20 7314 5000

[www.wsp.com](http://www.wsp.com)

## DOCUMENT

<b>Document</b>	<b>7.7.21 Environmental Statement Appendix 16.3 Arboriculture Report – Appendix F Generic Arboricultural Method Statement</b>
<b>Revision</b>	001
<b>Document Owner</b>	WSP UK Limited
<b>Prepared By</b>	N. Davies
<b>Date</b>	25 January 2021
<b>Approved By</b>	N. Davies
<b>Date</b>	25 January 2021

## CONTENTS

<b>1.</b>	<b>GENERIC ARBORICULTURAL METHOD STATEMENT</b>	<b>1-1</b>
<b>1.1.</b>	<b>TREE PROTECTION FENCING</b>	<b>1-1</b>
<b>1.2.</b>	<b>GROUND PROTECTION</b>	<b>1-3</b>
<b>1.3.</b>	<b>TREE REMOVAL AND PRUNING</b>	<b>1-4</b>
<b>1.4.</b>	<b>NEW PERMANENT HARD SURFACING WITHIN ROOT PROTECTION AREAS</b>	<b>1-6</b>
<b>1.5.</b>	<b>CONSTRUCTION (EXCAVATION) WITHIN ROOT PROTECTION AREAS – PERMANENT LOSS OF ROOT PROTECTION AREA</b>	<b>1-8</b>

---

## TABLES

No table of figures entries found.

## PLATES

<b>Plate 1 - Example of appropriate tree protection fencing</b>	<b>1-2</b>
<b>Plate 2 - Illustration showing modified root protection area and line of root severance</b>	<b>1-10</b>

---

# 1. GENERIC ARBORICULTURAL METHOD STATEMENT

---

## 1.1. TREE PROTECTION FENCING

### 1.1.1. PURPOSE

1.1.1.1. The purpose of the Tree Protection Fencing is to protect retained trees including their stems, crowns, rooting areas and the soil within which they grow.

### 1.1.2. GENERAL REQUIREMENTS

1.1.2.1. Tree protection fencing should be specified by an arboriculturist.

1.1.2.2. Tree protection fencing will be used to prevent access to the root protection areas (RPAs) of retained trees. In all instances the following specification will be strictly adhered to:

- The area to the rear of the tree protection fencing shall be considered to form a Construction Exclusion Zone. No construction activities, storage of materials or pedestrian or vehicular access shall take place within this area.
- All weather notices will be attached to the tree protection fencing at suitable intervals and shall include suitably sized informative text containing the following statement:

***“TREE PROTECTION FENCING***

***CONSTRUCTION EXCLUSION ZONE – NO ACCESS”***

- Regular daily checks will be carried out by an appointed person to ensure that all tree protection fencing is still in place and functioning; any damage will be rectified without delay.

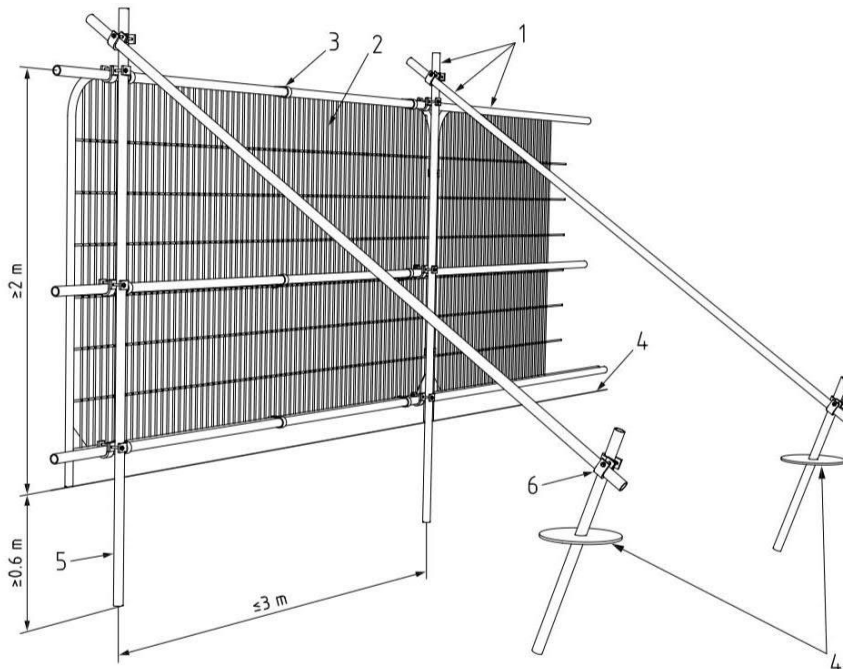
### 1.1.3. TIMING

1.1.3.1. Tree protective fencing shall be erected prior to any works onsite including site clearance, ground work or the importation of plant and materials.

1.1.3.2. Once erected, tree protection fencing shall remain in-situ until all construction activities are complete.

#### 1.1.4. SPECIFICATION FOR FENCING

- 1.1.4.1. Tree protection fencing shall be fit for the purpose of excluding construction activity and appropriate for the degree and proximity of work taking place. An example of the type of tree protection fencing which may be required is included in Plate 1.



**Plate 1 - Example of appropriate tree protection fencing**

Key:

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanised tube and welded mesh infill panels
3. Panels secured to uprights and cross-members with wire ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6m)
6. Standard scaffold clamps

## **1.2. GROUND PROTECTION**

### **1.2.1. PURPOSE**

1.2.1.1. The purpose of Ground Protection is to provide construction access within root protection areas whilst preventing damage to underlying soil and roots.

### **1.2.2. GENERAL REQUIREMENTS**

1.2.2.1. Ground protection shall be employed within any area where construction access is required within the RPA of any retained tree. Any specification for ground protection shall be reviewed by an arboriculturist prior to implementation onsite.

### **1.2.3. TIMING**

1.2.3.1. Ground protection shall be in-situ prior to any works onsite including site clearance, ground work or the importation of plant and materials.

1.2.3.2. Ground protection shall remain in-situ until all construction activities are complete.

1.2.3.3. Regular daily checks will be carried out by an appointed person to ensure that ground protection is still in place and functioning; any damage will be rectified without delay.

### **1.2.4. SPECIFICATION**

1.2.4.1. Ground protection shall be sufficiently robust to prevent damage or disturbance of the underlying soil. To accord with British Standard BS5837:2012 ground protection shall comply with the following specification:

- Areas of Unmade Ground:
  - For pedestrian only access ground protection measures shall include a single thickness of scaffold boards placed on top of 100mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane.
  - For pedestrian activities and plant up to 2 tons in weight proprietary interlinked ground protection boards will be used and placed on top of 150mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane.
  - For wheeled or tracked equipment exceeding 2 tons in weight a structural engineer will design an alternative system. This may include the use of temporary cellular confinement systems, reinforced concrete slabs or track board systems details of which are to be approved before construction commences.
- Areas of Existing Hard Surfacing:

- Areas of existing hard surfacing identified for use as ground protection shall not be removed during site clearance and shall be retained throughout the construction period.
- Areas of existing hard surfacing shall be assessed by an engineer to ensure that they are sufficient to prevent damage or disturbance to the underlying soil. A precautionary approach to any anticipated loadings should be adopted.
- In instances where the engineer identifies existing surfacing as inadequate then a specification for additional protection must be provided and any requirements actioned onsite.

### **1.3. TREE REMOVAL AND PRUNING**

#### **1.3.1. INTRODUCTION**

1.3.1.1. An assessment of all impacts on all trees within the Order limits has been undertaken in accordance with British Standard BS5837:2012. Appendix 16.3 (Arboricultural Report) of the Environmental Statement (ES) (APP-411) describes the baseline arboricultural information and assesses the potential direct and indirect impacts of the worst-case scenario with regards to the Proposed Development. Appendix 10 Tree Survey Schedule and Constraints Plans (REP3-007) provides an update to this baseline data, containing the results following a review of trees subject to Tree Preservation Orders (TPOs) within the Order limits. This exercise was undertaken to refine the trees identified as being at risk and those to be retained following submission.

1.3.1.2. Mitigation measures in relation to the removal of trees in connection with the Proposed Development are secured in Requirement 15 of the draft Development Consent Order (dDCO) (REP6-015) with the detail contained within section 6.8.1 of the Onshore Outline Construction Environmental Management Plan (OOCEMP) and required to be complied with in accordance with Requirement 15 of the dDCO. Those powers when exercised subject to the mitigations provided for in the OOCEMP are considered entirely appropriate and are necessary to ensure the Proposed Development can be delivered.

#### **1.3.2. HIERARCHY FOR MITIGATION CONSIDERATION OF TREE LOSS**

1.3.2.1. When considering tree loss as a result of the onshore cable route, the hierarchy of retention is as follows:

- Retain unless a tree is structurally impaired, dead, or diseased, such that it would need to be removed for sound arboricultural management within the next five years. Then,



- Ensure that cable trenching and any associated construction work, storage and traffic is excluded from the RPA as recommended by BS5837:2012<sup>[1]</sup> or canopy spread, whichever is largest. If this is not possible then,
- Work within the RPA must only be done in accordance with an Arboricultural Method Statement (AMS) prepared by a competent arboriculturist and approved by HCC Highways Arboriculture. This AMS must include details of special methods and techniques that will be used, such as micro-tunnelling or air spade excavation, for example, and any methods of ground protection and physical barriers that will be needed to avoid root damage, canopy damage and soil compaction, which will cause subsequent root damage. If this is not possible then,
- As a last resort remove the tree(s) and provide compensation for the loss at the appropriate Capital Asset Valuation of Amenity Trees (CAVAT) value. This must be agreed with Hampshire County Council (HCC) Highways Arboriculture team prior to tree removal.

### **1.3.3. HIGHWAY TREES**

- 1.3.3.1. The Undertaker shall not remove any Highways Tree in connection with the construction of the Proposed Development unless:
- the Undertaker has agreed to replace that Highways Tree in accordance with the relevant approved AMS; or
  - the Undertaker has submitted to the Council a CAVAT Assessment for that Highways Tree for agreement and the CAVAT Assessment for that Highways Tree has been agreed by the Council and the Undertaker.
- 1.3.3.2. The Undertaker must within not more than 20 Working Days of the date of removal of any Highways Tree pay to the Council the CAVAT Compensation Amount in accordance with the CAVAT Assessment agreed between the Undertaker and the Council for that Highways Tree.
- 1.3.3.3. Detailed schedule of all tree removal and pruning requirements shall be developed during outline design, detailed design and contractor appointment and involvement. This shall clearly identify trees selected for removal and any which are to be pruned.

### **1.3.4. GENERAL REQUIREMENTS**

---

<sup>[1]</sup> BS5837:2012 trees in relation to design, demolition and construction - Recommendations

- 1.3.4.1. All tree pruning work shall adhere to British Standard BS 3998:2010 Tree work – Recommendations paragraphs 7.2.4, 7.2.5, Table 1 and Figure 2.
- 1.3.4.2. The statutory protection afforded by the Wildlife and Countryside Act 1981 (Amended) and Countryside and Rights of Way Act 2000 (Amended) will also be adhered to. Where there is evidence that bats, nesting birds or other protected species are present then specialist advice will be obtained prior to the commencement of work.
- 1.3.4.3. All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

### **1.3.5. TIMING**

- 1.3.5.1. Access facilitation pruning and any tree felling necessary to permit the installation of tree protection fencing or ground protection shall be undertaken prior to the commencement of site clearance, ground work or the importation of plant and materials.

### **1.3.6. SPECIFICATION**

- 1.3.6.1. Should the requirement for a tree felling or pruning arise which is additional to the agreed programme of work, then the following process shall be applied:
  - Any specification shall be technically approved by an arboriculturist;
  - Written approval shall be obtained from the Local Planning Authority prior to implementation of the work.

## **1.4. NEW PERMANENT HARD SURFACING WITHIN ROOT PROTECTION AREAS**

### **1.4.1. PURPOSE**

- 1.4.1.1. To enable permanent hard surfacing to be installed without significant damage to retained trees. To prevent sudden changes to the rooting environment of retained trees thereby giving them time to adapt.

## 1.4.2. GENERAL REQUIREMENTS

1.4.2.1. The design of any new permanent hard surfacing should seek to comply with the following specification:

- Avoid the need for any excavation or lowering of soil levels other than the removal, using hand tools only, of any turf, surface vegetation or organic matter. Levels may be raised using a granular fill which will remain gas and water permeable for the duration of its design life.
- Avoid any localised compaction of the underlying soil by evenly distributing any anticipated loading over a suitably large area.
- Utilise a sub-base and wearing course that is permeable to air and water (this includes and separation membranes that may be required).
- Must not exceed 20% of any existing un-surfaced ground within the RPA.
- Should either avoid the need for the use of de-icing salt or, if undesirable, should include a system whereby contaminated run-off is directed outside of the RPA.
- Should be buildable without the need for machinery or plant to operate on areas of unprotected soil.

## 1.4.3. TIMING

1.4.3.1. Permanent hard surfacing may be installed at any time during the development process provided that:

- Installation does not leave the root protection area at risk of damage (e.g. through the removal of protective fencing whilst other potentially damaging activities are taking place nearby).
- If it is to be used as temporary ground protection it is robust enough to withstand any anticipated loadings without deformation.

## 1.4.4. SPECIFICATION

### Design

- Hard surfacing should be designed by a structural engineer.
- Hard surfacing should utilise a sub-base formed from a three-dimensional cellular confinement system or an above ground slab supported by piles, pads or elevated beams.
- Exploratory investigations to determine suitable locations for piles and pads should be undertaken as part of the design process.
- Hard surfacing should be designed to withstand deformation by tree roots and should be sufficient distance from the tree to account for future tree growth.

- Excavations associated with the installation of kerbs and edging should be avoided. Above ground products which can be pinned in place should be used in preference to those which require foundations and haunches. Examples include pegs and boards, sleepers and gabion baskets.

### **Construction**

- Compaction of soil surrounding and beneath any new hard surfacing shall be prevented. This may be achieved through the use of temporary ground protection or by constructing the new surface with machinery working forward from the surface as it is constructed (i.e. “rolling out”).
- Vegetation control beneath the new surface may be achieved via the use of herbicide to be applied in accordance with manufacturer’s instructions or through the installation of a permeable weed inhibiting membrane.
- Loose organic matter may be removed using hand tools only.
- The soil surface should not be lowered to remove high spots. Soil levels may be raised using granular infill which will remain permeable to air and water for the duration of its design life.
- If uncured concrete is to be used, then an impermeable membrane will be required in order to prevent leachate from entering the surrounding soil.

## **1.5. CONSTRUCTION (EXCAVATION) WITHIN ROOT PROTECTION AREAS – PERMANENT LOSS OF ROOT PROTECTION AREA**

### **1.5.1. PURPOSE**

- 1.5.1.1. To minimise adverse impacts on retained trees associated with construction within the root protection area.
- 1.5.1.2. For the purposes of this methodology construction is defined as anything which requires excavation within the RPA resulting in the permanent loss of roots and rooting environment.

### **1.5.2. GENERAL REQUIREMENTS**

- 1.5.2.1. The default position is that all construction occurs outside the RPA of retained trees. Construction within the root protection area of retained trees should only be undertaken where there is an overriding justification to do so.

### **1.5.3. TIMING**

- 1.5.3.1. Construction within the RPA may occur any time during the development process if it does not leave the RPA at risk of damage (e.g. through the removal of protective fencing whilst other potentially damaging activities are taking place nearby).

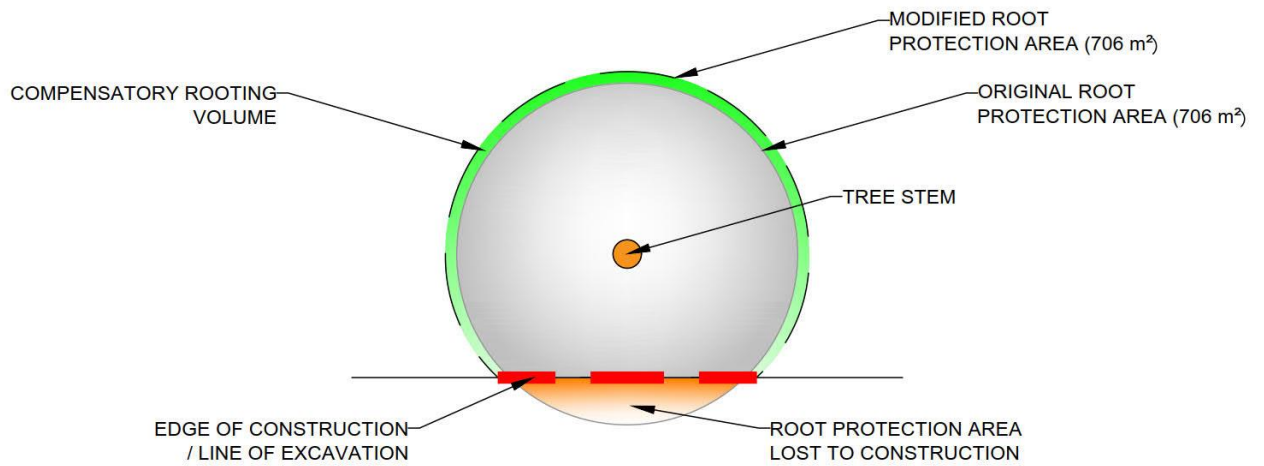
#### 1.5.4. SPECIFICATION

##### Design

- The design team shall make all reasonable efforts to avoid the need for construction within the RPA of retained trees. Justification for construction within the RPA may be required.
- A realistic assessment regarding the probable impact on the tree(s) should be made and opportunities for the provision of compensatory rooting area identified.
- A modified RPA (to account for any compensatory rooting volume) shall be specified and suitable tree protection measures identified.

##### Construction

- The modified RPA shall be protected throughout construction and any during any post-development soft landscaping activities.
- Construction immediately adjacent to the modified RPA shall be proceeded by the careful severance of roots along the edge of the RPA. This shall occur in the following manner:
  - A narrow trench shall be excavated using hand tools only. The trench shall extend to a minimum depth of 0.6 metres the purpose of which is to carefully expose any tree roots which may be present. The ultimate depth of the trench should be determined onsite and will depend on the likely depth of significant tree roots. Trench depth should be advised by an arboriculturist but may be limited for health and safety reasons.
  - Tree roots shall be cut back to the edge of the root protection area using a sharp saw or secateurs. Roots shall be cut so as to leave as smaller cut as possible without ragged edges or damage to bark.
  - Exposed roots shall be protected from extremes of temperature or desiccation by covering them in damp hessian until construction occurs.
  - Where uncured concrete is to be used immediately adjacent to the root protection area then an impermeable membrane shall be utilised to prevent leachate from entering adjacent soil.



**Plate 2 - Illustration showing modified root protection area and line of root severance**

