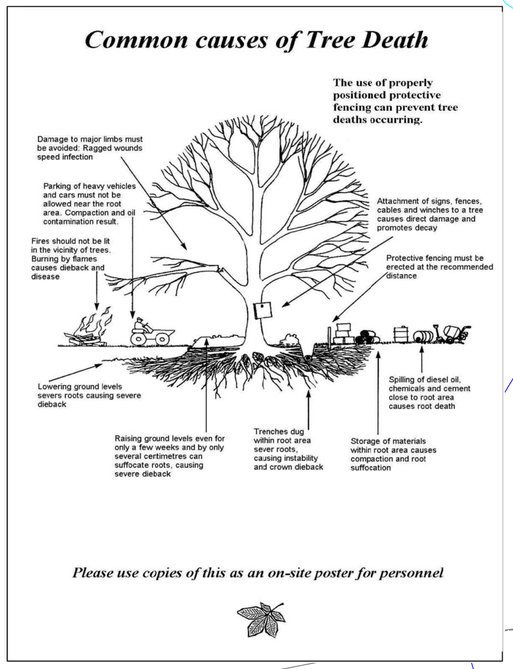
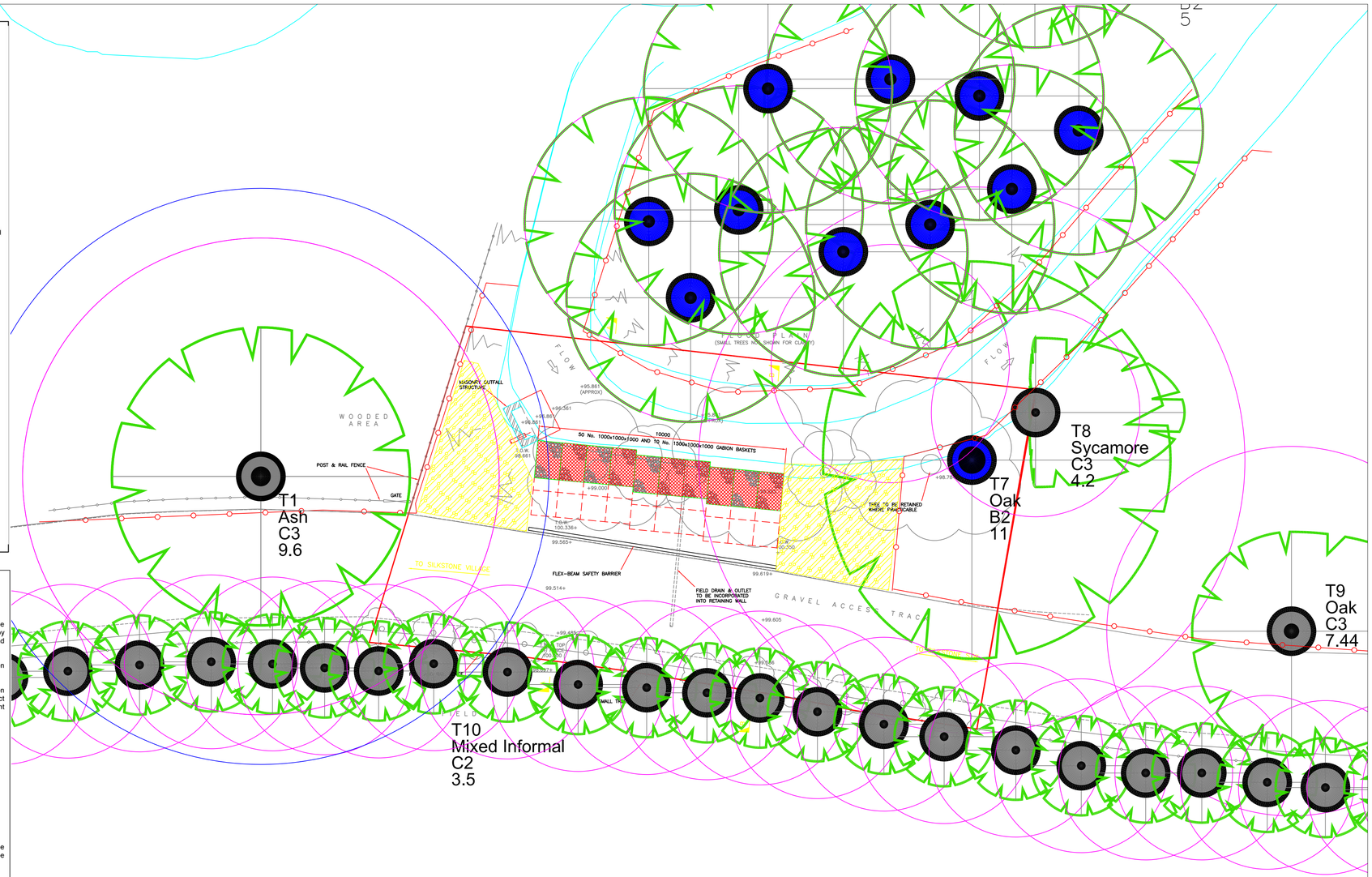
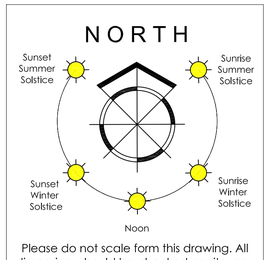
Silkstone Sewage Treatment Works - Protection Plan





This plan should be viewed in COLOUR & read in conjunction with the Arboricultural Implication Assessment BA3262AIA - dated 07/10/2011, Available from Barnes and Associates at the address shown below.



Please do not scale form this drawing. All dimensions should be checked on site, any errors or divergences should be brought to the attention of Barnes and Associates at the address shown below.

Symbol Guide

- Trees to be retained and Protected in line with BS5837:2005
- Permanent Tree Protective Fencing
- Ground Protection

Client: AMEC

Site: Silkstone STW

Drawing Title: BS5837:2005 Implication Plan

Scale: 1:100 @ A1

Drawing No: BA3262AIA.2

Date: 16/10/2011

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Notes on tree Protection

ALL TREE PROTECTION FENCING TO BE ERECTED PRIOR TO START OF ANY DEVELOPMENT - INCLUDING DEMOLITION.

CONSULTING ARBORIST TO CHECK ALL FENCING CORRECTLY INSTALLED PRIOR TO START OF WORKS ON SITE

Type 1 Tree Protection Fencing (TPF), Shall be installed immediately following the tree pruning operations, to protect the **Root Protection Area (RPA)**. This shall comprise interlocked Harris panels or plywood, well-braced to resist impacts by attachment to a scaffold framework that has been set firmly into the ground. The scaffold framework shall comprise top and bottom horizontal bars with uprights set into the ground at no less interval than one per panel.

Building Demolition shall only be undertaken following the installation and signing off of the TPF. This shall be undertaken without access into the RPA.

Construction Methods to avoid the excavation and compaction within the rootzone, the building shall be constructed on an above ground foundation incorporating piles / pad stones with and above ground beam and suspended floor to protect the RPA. Aeration below the building will be maintained and rain water will be diverted below the building to prevent desiccations cf the soil. Access to undertake the construction shall be via ground protection to protect the RPA.

Prohibitions within the Root Protection Area
Comprises of the following:
- No linear mechanical excavation whatsoever
- No excavation by any other means without arboricultural site monitoring
- No hand digging without a written Method Statement having first been approved in writing by the project arboriculturist
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No construction of a sealed hard surface (except where agreed with the project arboriculturist)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting

Utilities shall be installed outside the RPA within the identified service run.

Landscaping Where this is proposed within the RPA, work shall be undertaken by specialised methods that avoid the severance of significant roots. Such works shall be limited to minor works to amend the difference within the final landscape levels. Such changes shall remain distinct and not be graduated across the rootzone of the tree.

VARIATIONS SHALL BE AGREED IN WRITING BY THE CONSULTING ARBORIST

REFER ANY TREE PROTECTION QUERIES TO THE CONSULTING ARBORIST

ARCHITECTS DETAILS TAKE PRECEDENCE FOR ANY LAYOUT DISCREPANCIES

Scale in Metres

0 5 10 20

PROTECTIVE FENCING

The retained trees will require protection to prevent any potentially negative effects from development processes. A barrier should be used to define a **Root Protection Area RPA.** This must be established around the retained trees examples are included below and must remain in situ undisturbed for the duration of the development as detailed with BS5837:2005 (section copied below). An example of a poster / flyer is included below and should be circulated to all site operatives.

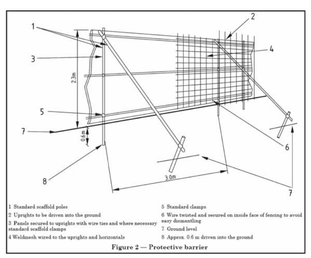
9.2 Barriers

9.2.1 *Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.*

9.2.2 *In most cases, barriers should consist of a scaffold framework in accordance with Figure 2 comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and should not be used.*

NOTE the above is preferred because it is readily available, resistant to impact, can be re-used and enables inspection of the protected area.

9.2.3 *It may be appropriate on some sites to use temporary site office buildings as components of the tree protection barriers.*



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.5 m driven into the ground

Figure 2 — Protective barrier

The fence should display warning signs with the wording "Root Protection Area – Strictly No Entry" an example is included below.

Refer to tree schedule minimum distance of protective fencing

Once erected, the fencing must be regarded as the boundary of the site and not crossed or removed or otherwise altered. Absolutely no entry must be allowed into these zones for persons or materials and the site should be organised to ensure that protected zones are safe from cement washings, fuels or any other potentially toxic materials.

GROUND PROTECTION

Access within **the Root Protection Area (RPA)-** To enable Foot Traffic and Scaffolding within the RPA the following system can be adopted, with the agreement of the Consulting Arborist or LPA. This is detailed within Section 9.3 of BS5837:2005 (section copied below).

9.3 Ground protection

9.3.1 *Where it has been agreed during the design stage, and shown on the tree protection plan, that vehicular or pedestrian access for the construction operation may take place within the root protection area (RPA), the possible effects of construction activity should be addressed by a combination of barriers and ground protection. The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection.*

9.3.2 *For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable (see Figure 3).*

9.3.3 *For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs (see **11.8** and **11.9**).*

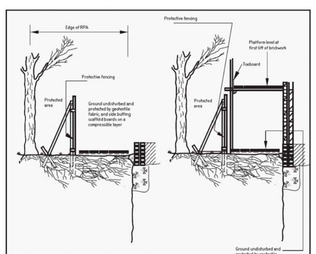


Figure 3 — Scaffolding within the RPA

Access within the RPA with machinery or for the storage of materials can be incorporated into the site protection scheme or method statement. Material storage can be achieved using a staged scaffolding system with an appropriate ground protection system below, further details upon request. Vehicle entry, within the RPA will require specific engineering solutions which mimic the above ground protection ideals detailed in Figure 3.

TREE PROTECTION ZONE
KEEP OUT!
NO DIGGING OR TRENCHING
NO STORAGE OF PLANT OR MATERIALS
NO VEHICLE ACCESS
NO FIRE LIGHTING
NO CHEMICAL HANDLING
AVOID PLANT CONTACT WITH TREE CANOPY
REPORT ANY DAMAGE
TO TREES OR FENCING IMMEDIATELY

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