

TREE WORK GENERALLY

No building work or construction work shall commence until all trees, shrubs or features to be protected have been enclosed, in accordance with BS 5837, with 1.5 metre high chestnut paling to BS1722 part 4 securely mounted on post and two rails framework and clad with orange fluorescent mesh or similar & approved.

Pre-printed laminated waterproof signs at least A4 in size shall be securely fixed to each enclosure at 10 metre minimum intervals bearing the words 'Tree Protection Zone, No Storage Or Operations Within Fenced Areas' (Minimum height of text to be 100mm per line).

The protective enclosure shall be maintained during the course of the site works, and no equipment, machinery or materials shall be stored or fires lit within any area enclosed by the fence in accordance with this condition and the ground levels within those areas shall not be altered, nor shall any excavation be made including the provision of any underground services, without prior written consent of the Contract Administrator. The Zone enclosed by the protective fencing is referred to as 'Tree Protection Zone' There is to be no trafficking over ground within Tree Protection Zone. The protective enclosure shall be retained in position until all equipment, machinery or materials have been removed from the site and the site has been occupied.

- 1) Protective fencing shall be erected and constructed in accordance with BS 5837:1991 'Trees in relation to construction'
- 2) All fencing to be completed and approved by Contract Administrator/Landscape Architect prior to commencement of any site clearance or demolition work.
- 3) Method and scope of all grubbing out/tree felling & tree work operations to be agreed with Contract Administrator/Landscape Architect prior to commencement of any clearance works.
- 4) Tree Surgery to be carried out by specialist tree surgeon registered with arboricultural association. All works to confirm to requirements of BS 3998:1989. Before starting work verify with Contract Administrator which trees and hedges are to be removed. Cut down and dispose of all wood and arisings off site. Take down trees in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap or are in close proximity. Tree stumps to be grubbed using mechanical stump grinder.
- 5) Comply with forestry & Arboriculture Safty & Training Council Safety Guides
- 6) Comply with Arboricultural Safety Guidance by HSE.
- 7) Refer to the 'Arboricultural Survey' for detailed arboricultural information and carry out thinning/deadwood clearance as required in the report.
- 8) Contractor to identify and protect underground structures which can be damaged directly during tree felling work.
- 9) Work on infected trees to be carried out using hand tools. After use tools to be sterilised in accordance with BS 3998: 1989.
- 10) Treatment of wounds, clearing out, pruning, repair of damaged pots & bark wounds in accordance with BS 3998: 1989.

DAMAGE TO ROOTS

Damaged roots or those that fall outside the TPZ where excavation or compaction is likely to occur and are below 50mm in diameter are to be pruned so that the final wound will be as small as possible and free from ragged torn ends. If the root forks, the final cut should be made to remove one arm of the fork. If excavations have to be so close to a tree that roots greater than 50 mm diameter are likely to be encountered, particular care should be taken to avoid damage. Any excavations should be undertaken by hand, avoiding damage to the bark. The roots should then be surrounded with sharp sand before replacing indigenous soil enriched with phosphate fertilizer. Where roots exceeding 50mm diameter are exposed or where stability of the tree maybe adversely affected, the advice of an experience Arboricultural Consultant is to be sought.

PRUNNING

Pruning cuts should, wherever possible, be made at a fork or at the main stem to avoid stumps, which can die back, and dense re-growth of shoots. Removal of large branches should only be carried out when it is unavoidable, and wounds from such work should be kept as small as possible. Cuts into live wood should be avoided when removing dead branches and stubs. When a branch collar is present the final cut should be just outside it. When there is no collar the angle of cut should be the mirror image of the branch bark ridge.

Formative pruning should aim to produce a tree which in maturity will be free from major physical weaknesses. Unwanted secondary leading shoots and potentially weak forks which could fail in adverse weather conditions. E.g. strong wind or snow, should be removed. When growth within a tree crown results in crossing branches that may rub together causing loss of strength or possible fracture in adverse weather, one of the branches should be removed.

Heavy branches should be removed in sections, and when necessary are to be lowered with ropes to avoid damage to the tree or its surroundings.

Crown reduction and/or reshaping should be carried out by cutting back to a side bud or branch to retain a flowing branch line without leaving stumps. All cuts should be made just outside the line of the branch bark ridge and branch collar of the retained branch. Very substantial crown reductions should, ideally, not be made during a single growing season since severe loss of leaf area and multiple wounding may impair a tree's defences against diseases and decay.

Reshaping should be a 'once only' operation to make a tree safe or to bring it to a desirable condition or shape.

With a few species it may be appropriate to reshape a crown by careful pruning. This technique has a place in urban area management programmes for existing mature trees which have previously been pollarded.

Crown lifting, which involves the removal of the lower branches to a given height above ground level should be achieved either by the removal of whole branches, or by the removal of only those parts which extend below the desired clear height.

Crown thinning, which involves the removal of a proportion of secondary and small, live branch growth from throughout the crown to produce an even density of foliage around a well spaced and balanced branch structure should usually be confirmed to broadleaf species. Crossing, weak, duplicated, dead and damaged branches should be removed.

All arboricultural works to be implemented outside the Bird nesting season which runs from March to September inclusive: ie: Works to be carried out during October to February inclusive.

Notwithstanding the area of fencing shown on this drawing the minimum distance for protective fencing shown on the table below are not to be compromised.

Minimum Distances for Protective Fencing Around Trees				
Tree Age	Tree Vigour	Trunk Diameter	Minimum Distance	
Young Trees - 1/2 life expectancy	Normal	<200mm	2m	
		200-400mm	3m	
	Low	>400mm	4m	
		<200mm	3m	
Middle Aged Trees - 1/2 to 3/4 life expectancy	Normal	250-500mm	4.5m	
		>500mm	6m	
	Low	<200mm	5m	
		250-500mm	7m	
			>500mm	10m
			<350mm	3m
Mature and Over-Mature Trees	Normal	350-750mm	6m	
		>750mm	8m	
	Low	<350mm	6m	
		350-750mm	9m	
		>750mm	12m	

Should the requirements of the adjacent table require to be compromised in any way for construction purposes the contractor is to check details with the Landscape Architect prior to moving the fence line

EXISTING SIGNIFICANT TREES

TREE NO.	SPECIES	SIZE height/spread	CONDITION	RETAIN FELL
T1	Sycamore	4/2m	Poor, vandalised	Retain
T2	3nr Cotoneaster cornubia	4/3m	Good	Retain
T3	Acer species (saccharum?)	8/5m	Good	Retain
T4	Acer species (saccharum?)	8/5m	Good	Retain
T5	Oak	6/4m	Good	Retain
T6	Oak	6/4m	Good	Retain
T7	Birch	6/3m	Good	Retain
T8	Acer species (saccharum?)	6/3m	Good	Retain
T9	Unspecified	5/2m	Dead	Fell

NOTES
Most existing significant trees are away from any proposed works. It is therefore proposed that protective fencing measures will only be required around trees 5, 6, and 8.

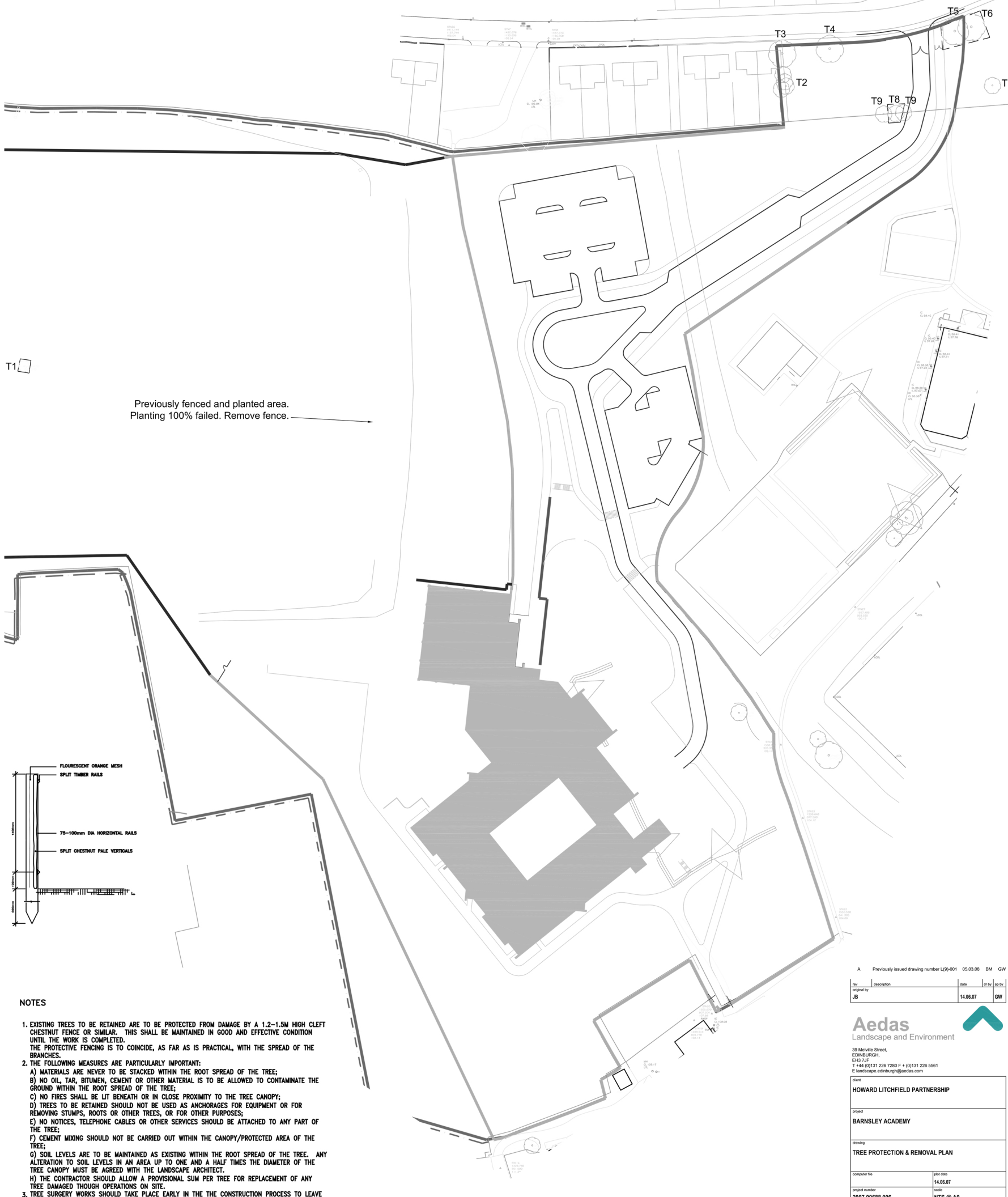
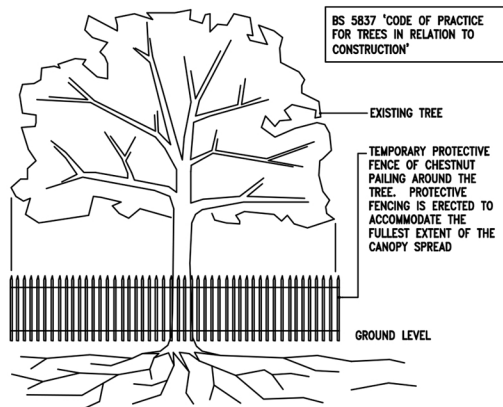
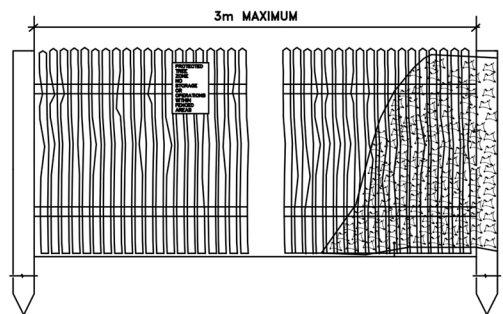
There are a number of trees within the allotment area that have not been surveyed, however all trees and shrubs within this area are scheduled for removal and will therefore not require protective fencing.

KEY

— Chespaile fence as detailed.

NOTE:
Protective fence to be employed for the full duration of the contract.

— Site Boundary



NOTES

1. EXISTING TREES TO BE RETAINED ARE TO BE PROTECTED FROM DAMAGE BY A 1.2-1.5M HIGH CLEFT CHESTNUT FENCE OR SIMILAR. THIS SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION UNTIL THE WORK IS COMPLETED. THE PROTECTIVE FENCING IS TO COINCIDE, AS FAR AS IS PRACTICAL, WITH THE SPREAD OF THE BRANCHES.
2. THE FOLLOWING MEASURES ARE PARTICULARLY IMPORTANT:
 - A) MATERIALS ARE NEVER TO BE STACKED WITHIN THE ROOT SPREAD OF THE TREE;
 - B) NO OIL, TAR, BITUMEN, CEMENT OR OTHER MATERIAL IS TO BE ALLOWED TO CONTAMINATE THE GROUND WITHIN THE ROOT SPREAD OF THE TREE;
 - C) NO FIRES SHALL BE LIT BENEATH OR IN CLOSE PROXIMITY TO THE TREE CANOPY;
 - D) TREES TO BE RETAINED SHOULD NOT BE USED AS ANCHORAGES FOR EQUIPMENT OR FOR REMOVING STUMPS, ROOTS OR OTHER TREES, OR FOR OTHER PURPOSES;
 - E) NO NOTICES, TELEPHONE CABLES OR OTHER SERVICES SHOULD BE ATTACHED TO ANY PART OF THE TREE;
 - F) CEMENT MIXING SHOULD NOT BE CARRIED OUT WITHIN THE CANOPY/PROTECTED AREA OF THE TREE;
 - G) SOIL LEVELS ARE TO BE MAINTAINED AS EXISTING WITHIN THE ROOT SPREAD OF THE TREE. ANY ALTERATION TO SOIL LEVELS IN AN AREA UP TO ONE AND A HALF TIMES THE DIAMETER OF THE TREE CANOPY MUST BE AGREED WITH THE LANDSCAPE ARCHITECT.
 - H) THE CONTRACTOR SHOULD ALLOW A PROVISIONAL SUM PER TREE FOR REPLACEMENT OF ANY TREE DAMAGED THROUGH OPERATIONS ON SITE.
3. TREE SURGERY WORKS SHOULD TAKE PLACE EARLY IN THE CONSTRUCTION PROCESS TO LEAVE THE STAND OF TREES PROTECTED THROUGHOUT THE REMAINDER OF THE CONSTRUCTION WORKS.

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drawing
TREE PROTECTION & REMOVAL PLAN

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