Arboricultural Method Statement

Laund Hill Rugby Pitch

16 March 2022 Rev A

The steps forming the development process below are considered to have varying degrees of arboricultural importance and connectivity and have been set out in a logical, recommended sequence which the contractors should typically follow. It is important that the client and the appointed Site Arboriculturalist effectively communicate with each other, the site manager, the appointed contractors and their site operatives to ensure that all recommendations detailed within this report are executed correctly.

Tool box talks and briefing sessions are encouraged and should be delivered by the Site Manager and/or the Site Arboriculturalist as appropriate.

Relevant plans and tables for reference including the Tree Survey Schedule, Tree Constraints Plan, Tree Removals and Retentions Plan and Tree Protection Plan should be kept on site and made available for contractors for ease of reference.

Stage 1 - Appoint Site Arboriculturalist

The Client should appoint a Site Arboriculturalist whose role it will be to supervise where necessary and provide guidance on those aspects of the development which have the potential to cause damage to retained trees, either directly or indirectly.

Stage 2 - Pre-construction site meeting

To identify and discuss with the Client and Site Manager the constraints of the site in order to inform the Tree Protection Plan. To establish approximate construction timescales to identify key stages, where the presence of the Site Arboriculturalist may be required.

To brief the Site Manager with any information specific details to facilitate the delivery of tool box talks and education of ALL contractors and deliveries associated with the construction on how their activities might affect the retained trees.

Plans and tables for reference including the Tree Survey Schedule, Tree Constraints Plan, Tree Retentions and Removals Plan and Tree Protection Plan will be kept on site and made available for contractors.

Stage 3 - Pre-construction tree works

The tree works detailed in the Arboricultural Impact Assessment should be carried out in accordance with the recommendations in BS3998:2010. Consideration should be given to statutory wildlife protection.

Stage 4 - Identification and marking out of Root Protection Areas and position of temporary tree protection fencing.

The Client and/or the Site Arboriculturalist should communicate to the appointed contractors the extents of the Root Protection Areas of retained trees and mark clearly on the ground, using tree-safe line marking paint, the locations for temporary tree protection fencing, any hand-dig areas, any no-dig areas and any ground protection areas as indicated on the Tree Protection Plan.

Stage 5 - Installation of temporary ground protection measures.

All plant and vehicles engaged in ground works, excavation or construction should either operate outside of Root Protection Areas or run on existing hard surfacing. It is not envisaged that any temporary ground protection will be necessary for this scheme. However, in the event that neither of these methods is possible or practical then the use of temporary ground protection will be required to facilitate access.

Example specifications for ground protection, as per BS5837:2012, are detailed below. The use of ground protection will protect the roots of retained trees but care should also be taken to ensure that any plant or vehicles using it will not contact tree stems or any branches that extend beyond/above the ground protection.

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2000kg, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

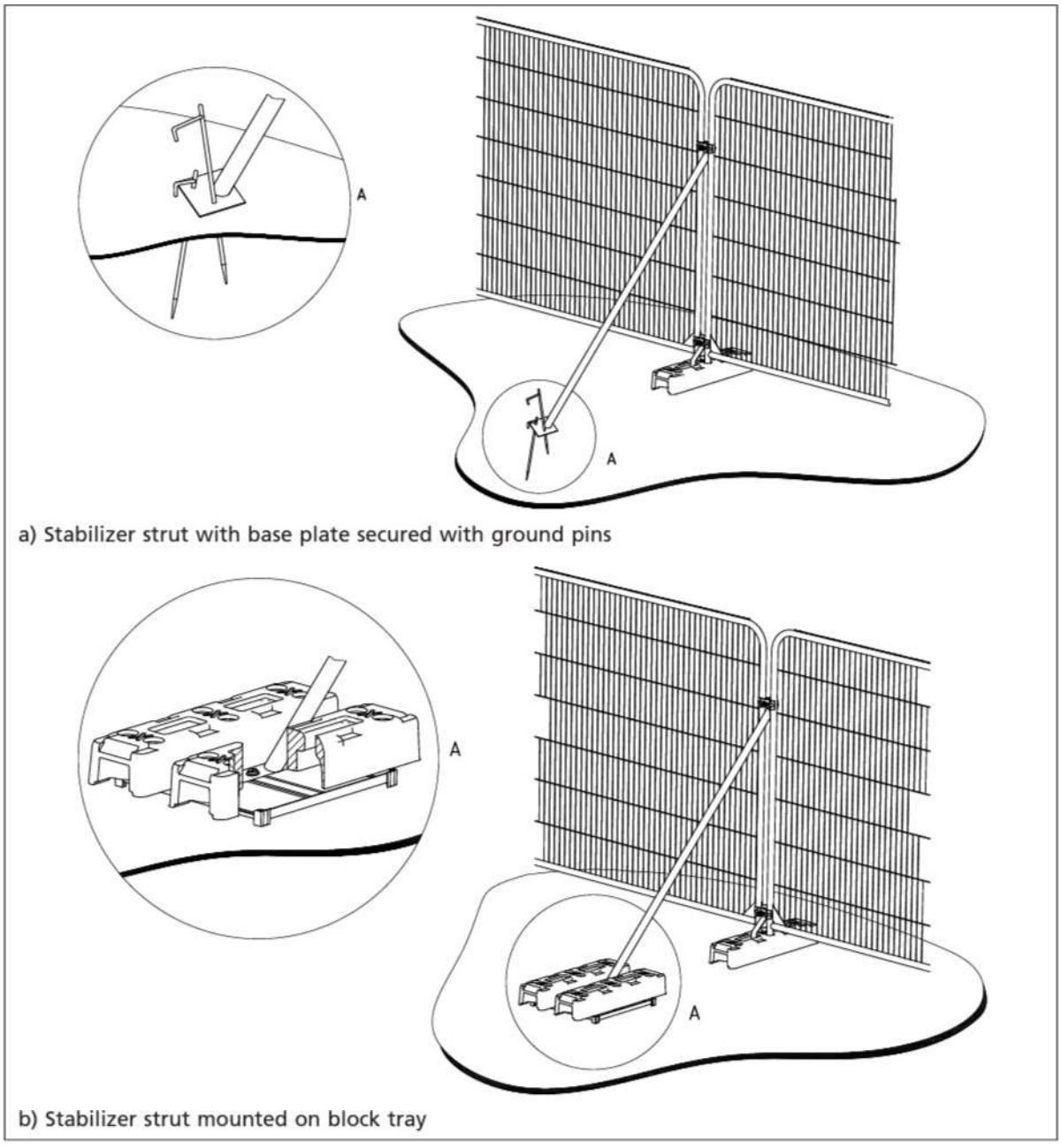
c) for wheeled or tracked construction traffic exceeding 2000kg gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

Stage 6 - Erection of temporary tree protection fencing.

The Site Manager and Site Arboriculturalist should oversee the erection of temporary tree protection fencing at locations as detailed in the Tree Protection Plan, at Appendix 4.

Temporary tree protection fencing should be erected prior to the commencement of any other works on site and its specification should meet that provided below.

Figure 1. Two alternative specifications for protective barrier as BS5837:2012



All-weather notices, at least A4 size, should be attached to alternate fence panels; a suitable example is shown at Appendix 1.

Once the temporary tree protection fencing has been erected and any specified ground protection installed, it will serve as tree protection throughout the remaining duration of the project. The Site Arboriculturalist should confirm that it is fit for purpose and in accordance with the Tree Protection Plan, upon completion of its installation. Fencing will not be moved or altered, without prior agreement from the Site Arboriculturalist or Local Planning Authority.

Stage 7 - Demolition, excavation, ground works and construction

The Root Protection Areas and soil volume within them, should be treated as sacrosanct and excavation, skimming or scraping should be avoided.

All persons, plant and vehicles engaged in any demolition, excavation, ground works and construction should operate outside of Root Protection Areas and/or use temporary ground protection, specified as detailed above.

Where practical, all demolition and excavation works will be undertaken inwards, from those areas outside of Root Protection Areas and/or using temporary ground protection.

While not expected for this scheme, if tree roots are encountered and their severance proves necessary then this should be carried out only to the extent which is absolutely necessary to implement the planning permission, strictly in accordance with the principles and guidance, detailed in NJUG4 (at Appendix 2 which should be made available to contractors prior to work commencing) and ideally under the supervision of the Site Arboriculturalist.

While not expected for this scheme, if any facilitation pruning of branches becomes necessary then this should be undertaken to the guidelines of BS3998:2010 by a competent tree surgeon and ideally under the supervision of the Site Arboriculturalist.

A record should be kept of any root or branch pruning, including the location of such works, diameters and frequency of the roots/branches pruned.

Site compound – This is located within an existing, fenced, bitmac surfaced, disused MUGA. Accordingly the existing hard surface will prevent potential soil compaction / contamination and prevent damage to any tree roots which may lie beneath.

No construction materials, fuel, cement, spoil or waste should be stored within any Root Protection Areas.

Demolition of shed – Part of the shed's footprint lies within the Root Protection Area. These parts should be demolished in such a way that does not have potential to cause soil compaction, soil surface level change or directly damage tree roots beneath the existing shed and its concrete floor. This should be achievable through the skilful use of an excavator machine operating from outside of the Root Protection Area. Care should also be taken that the excavator's arm does not contact tree stems or branches.

Groundworks to create the pitch surface – A small number of Root Protection Areas of retained trees are encroached to a minor extent. It is considered that these incursions affect a sufficiently minor proportion of the outer parts of each Root Protection Area that no significant effects on the vitality or stability of the retained trees will result. Groundworks in the vicinity of retained trees should be conducted from outside of the RPAs.

Pitch drainage system – This system is incorporated within the sub-surface of the pitch and is located completely outside of Root Protection Areas. The soakaways are also beneath the pitch and will not result in an increase in water input to soil / rock near to retained trees. No special installation methodology required.

Soil heap – This is located on an area of the new pitch's sub-surface that already been constructed. It lies partly within the Root Protection Area of existing trees. However, the trees whose roots may be beneath it are identified for removal to facilitate the proposals and so no harm has been done to retained trees and so no particular precautions are necessary during its removal.

Electrical conduit and posts for flood lights –These installations appear from the information provided to me to be located outside Root Protection Areas (contractors drawing at Appendix 3) in which case no special installation methodology would be required. However, if underground installations are required within Root Protection Areas then appropriate methodology should be developed in collaboration with the Site Arboriculturist.

Bitmac path and Duralok spectator fencing – Almost completely outside Root Protection Areas with only insignificant incursion into the very outer edges of the Root Protection Areas of 2 retained trees. It is considered that this would not have any detrimental impact on the vitality or stability of the retained trees. No special installation methodology required.

Stage 8 – Temporary tree protection fencing removal

Temporary tree protection fencing (and any temporary ground protection used) should be retained *in situ* throughout the duration of the works and removed only when its use is considered unnecessary and any risk of damage to the retained trees and/or their Root Protection Areas, e.g. soil compaction from vehicles, plant or machinery, has passed.

Stage 9 - Tree planting

It is proposed that trees that are removed to facilitate the development will be replaced on a 1 for 1 basis. A total of 18 trees are proposed for removal. The planting should be located in the area shown below, between retained trees and the proposed allotment area, and accord to the specification provided below.

The following native species should be selected. They are recommended because they are considered suitable for the planting location and will increase the biodiversity and ecological benefits provided by the site.

Species	**Number**
Holly	4
Oak	2
Hawthorn	2
Rowan	2
Pear	4
Apple	4

Trees should be planted using the 'single stake' method, as illustrated below.

Planting should take place during the period November to February inclusive.

All trees for planting should be bare root and of 'Standard' size (i.e. 2.5 – 3.0m tall and stem girth 8 – 10cm) and sourced from UK nurseries.

Once planted and the tie has been fitted, a biodegradeable spiral guard at least 40cm tall should be fitted to protect the stem against rodent damage.

PREPARING FOR PLANTING

During preparation for planting ensure that the tree roots are protected from the desiccating effects of frost, wind and sun.

If the planting is not to take place immediately, the protective hessian on bare root trees should be removed and the plants heeled in. Root balled trees should be placed close together and the root balls covered with peat or straw. No special treatment is required for containerised trees.

Before marking out the size of the planting pit measure the root spread of the tree. With rootballed and containerised trees, measure the root spread before removing the hessian or container; this will minimise the risk of root damage or desiccation.

On bare root trees, prune back any damaged roots to healthy tissue. Check the crown of the tree for broken or damaged branches and prune back to a suitable outward growing bud or lateral. Any competitive leaders should also be removed at this time.

Ensure that the planting pit is large enough to accommodate the tree roots by allowing for a 250mm clear space around and below the overall roof spread. Never bend or double back the roots in order to make them fit the planting pit.

Begin excavation by removing any surface vegetation, then dig out the planting pit keeping the topsoil and subsoil separate (**the subsoil should be removed from the site**).

When the correct depth is reached, break up the bottom of the pit for a further 250mm (to aid root penetration and drainage), then lightly firm. Fork in PAS100 compost as organic matter before firm ing.

Where the excavated topsoil is poor, thin or low in organic matter, it should be improved by adding a mixture of good quality topsoil and organic matter.

All tree plantings to include 150g of a balanced slow release fertiliser per tree to all backfill soil.

PLANTING PROCEDURE

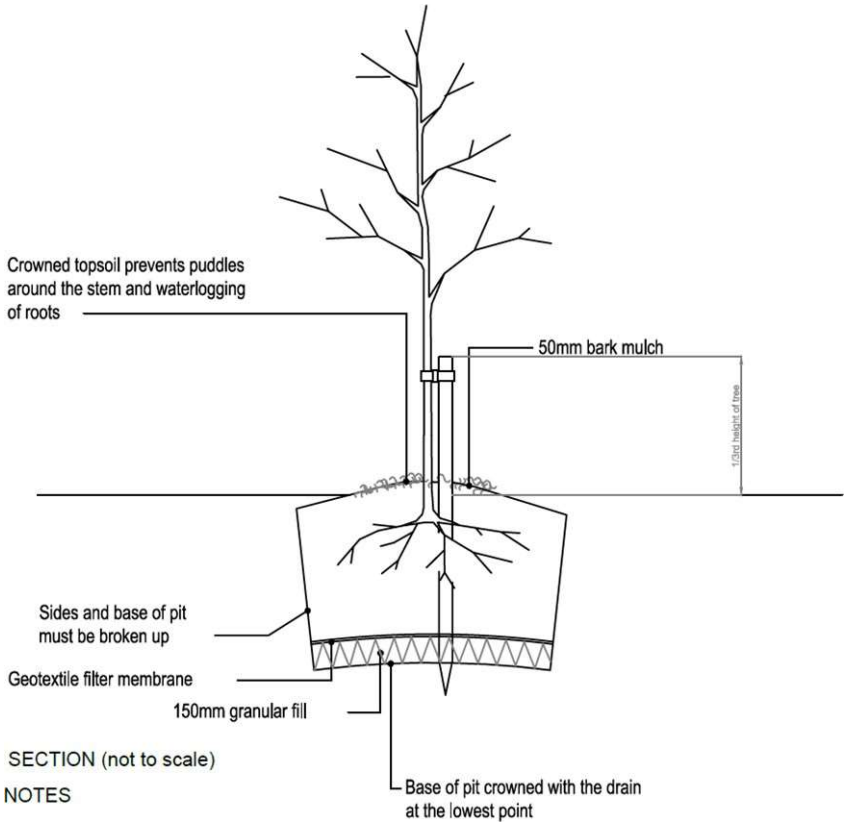
Bare root trees.

Bare root trees are usually supported by a single stake. Drive the stake into the planting pit, one third the height of the tree. Remove any protective hessian from the roots, and place the tree in the planting pit to the leeward side of the sta_ke. Carefully spread out the roots into the planting pit, taking care not to bend or damage them.

All bare root trees, whips and transplants to have their roots dipped in a proprietary mychorizal innoculant to enhance establishment.

Holding the tree in position, and with the root collar level or just below the surrounding ground level, infill the pit with topsoil. If working single-handed, tie the tree loosely to the stake with the top tree tie. Soil should be added in layers of 150mm, gently working the first few layers around the roots by hand and giving the tree a gentle shake to distribute soil evenly to all roots. Firm after each layer until the pit is full and the root collar of the tree is level or just below the surrounding ground level.

Figure 2. Diagram of planting method.



Single stake - Q31.546

This is the standard method for staking **bare-root trees**, with the stake inserted before planting.

1. The stake should be one-third of the height of the tree. This anchors the roots and allows the stem to sway and thicken.
2. For trees with long or flexible stems: use long, vertical stake, cutting it lower in the second year.
3. There should be a gap of 2.5-3cm (about an inch) between the stem and the stake
4. Stakes should be inserted on the side of the prevailing wind so that the tree is blown away from the stake.
5. Plant the tree to its original depth as shown by the soil mark on the stem.
6. The tree should have been undercut to produce a compact fibrous rootball.
7. Water trees in accordance with the specification.
8. Do not water a small amount each day; this encourages shallow rooting.

Figure 3. Proposed location for replacement tree planting

Proposed planting, full drawing in the appendices

IMMEDIATELY AFTER TREE PLANTING

Water the tree well especially in dry conditions and apply a mulch liberally around the base of each tree. This will help conserve moisture and supress weed growth.

Stake trees as soon as they are planted and replace stakes whenever they fail. Check stakes and ties every year to avoid tight tree ties damaging the stems and to replace any ties that have frayed or broken at end of the rectification period.

Clients are recommended that once the tree can stand unsupported without bending or shifting in the ground, remove the stakes. This usually takes eighteen months to three years, but may be longer for semi-mature trees or ones on weak rootstocks, such as dwarf apple trees.

All stakes should penetrate the soil to at least 60cm deep. If the stake moves in the ground, it will not anchor the plant.

Water immediately after planting and weekly in first growing season (10 – 20 litres) if the weather is dry.

Do not allow weeds or grass to grow within a 500mm radius of the stem and maintain any mulch applied to a depth of approximately 50mm.

Ensure support canes remain firm and shelters clear of detritus.

Tree ties
Special tree ties are available made of durable, long-lasting plastic, with buckles for fastening and adjustment.

These ties can be loosened as the tree girth expands. Use spacers to prevent the stem and stake rubbing against each other. Make a figure of eight to hold the tree to the stake, with the spacer in between the tree and the stake, and secure the tie to the stake with a nail

Problems
Most problems with staking come from ties becoming too tight or from damage after storms.

Check the ties regularly for rubbing and adjust if necessary. Constriction of the stem by ties happens very quickly, so fast growing trees need frequent checking.

After bad weather, check for abrasion and snapped stakes or ties

Stage 10 - Landscaping

A small area of allotments is proposed which will be located well away from retained trees. No special methodology would be required with respect to retained trees for horticultural use of this location.

No details of any other landscaping have been included in this report. However, it is recommended that any levelling of areas within Root Protection Areas should be carried out by hand, without any significant change in ground surface level and with any voids to be filled with good quality topsoil and these areas should be grass seeded or turfed by hand.

Any herbicide or fertiliser applications must strictly follow manufacturers instructions and products should be chosen that are designed to not be harmful to trees.

Stage 11 – Tree inspection and maintenance

Before the site is opened, the Site Arboriculturalist should undertake a formal inspection of all retained trees to ensure they present no hazards that would cause them to present unacceptable level of risk to property or people considering the use of the space around them. Prioritised recommended works should be presented and the land owner should undertake any tree works as recommended, the most urgent of which may potentially may need to be completed before the site opens.

The Site Arboriculturalist should also inspect newly planted and retained trees for development related issues e.g. soil compaction, excavation in Root Protection Areas etc that the development works might have caused.

All trees should be re-inspected at least every 3 years by a competent arboriculturalist, and also after severe weather events.

The Wildlife and Countryside Act 1981 as amended, the Countryside and Rights of Way Act 2000 and the Conservation (Natural Habitats) Regulations 1994 protect ALL wild birds, their nests (whether in use or being built) and eggs and other wild animals including bats and their roosts in or adjacent to trees.

In summary, you should make sure that there are no wild birds nesting in or bats roosting in or adjacent to the tree[s] that you are proposing to work on. It is a criminal offence to recklessly or intentionally destroy any bird, its nest or its eggs or any bat or its roost (even if the roost is not occupied at the time).

Even if your trees are protected, obtaining consent from the Local Planning Authority will not override your responsibilities under the above wildlife acts.

Stage 12 – Completion

Notification to Local Planning Authority of completion.

Enjoy!

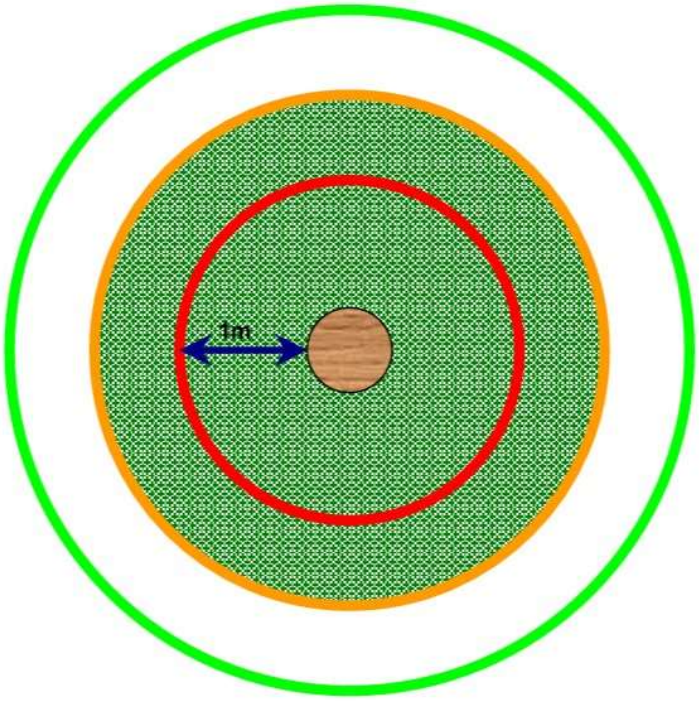
Appendix 1. Suitable sign for temporary tree protection fencing

Appendix 2. NJUG guidance

The National Joint Utilities Group

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

FIGURE 1 – Tree Protection Zone



Key

Trunk of tree

Canopy or branch spread

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with the local authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with the local authority Tree Officer if in any doubt.

PERMITTED ZONE – outside of the precautionary zone. Excavation works may be undertaken within this zone, however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

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Appendix 2 continued…

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

TABLE 1 - Prevention of Damage to Trees Below Ground

Causes of Damage	Type of Damage	Implications to Tree	Precautions
Trenching, mechanical digging etc.	Root severance	• The tree may fall over • Death of the root beyond the point of damage • Potential risk of infection of the tree The larger the root the greater the impact on the tree.	Hand excavate only within the Precautionary Zone. Work carefully around roots. Do not cut roots over 25mm in diameter without referring to the local authority tree officer. For roots less than 25mm in diameter use a sharp tool and make a clean cut leaving as small a wound as possible.
Trenching, mechanical digging, top soil surface removal etc.	Root bark damage	• The tree may fall over • If the damage circles the root it will cause the death of the root beyond that point • Potential risk of infection of the tree The larger the root the greater the impact on the tree.	Do not use mechanical machinery to strip the top soil within the Precautionary Zone. Hand excavate only within the Precautionary Zone. Work carefully around roots. Do not cut roots over 25mm in diameter without referring to the local authority tree officer. For roots less than 25mm use a sharp tool and make a clean cut leaving as small a wound as possible.
Vehicle movement and plant use. Material storage within the precautionary area.	Soil compaction & water saturation	Restricts or prevents passage of gaseous diffusion through soil, the roots are asphyxiated and killed affecting the whole tree.	Prevent all vehicle movement, plant use or material storage within the Precautionary Zone.
Top-soil scouring, excavation or banking up.	Alterations in soil level causing compaction or exposure of roots.	Lowering levels strips out the mass of roots over a wide area. Raising soil levels asphyxiates roots and has the same effect as soil compaction.	Avoid altering or disturbing soil levels within the Precautionary Zone.
Use of herbicides.	Poisoning of the tree via root absorption	• Death of the whole tree • Death of individual branches Damage to leaves and shoots.	The selection and application of herbicides must be undertaken by a competent person in accordance with COSHH regulations.
Spillage of oils or other materials.	Contamination of soil	Toxic and asphyxiation effects of chemicals, oils, building materials (cement, plaster, additives etc.) on the root system can kill the tree.	Never store oils, chemicals or building materials within the Precautionary Zone or within the branch spread of a tree, which ever is the greater.
Placement or replacement of underground apparatus.	Various	Death of all or part of the tree.	Effective planning and liaison with local authority tree officer, taking into consideration the position of trees, and their future growth potential and management

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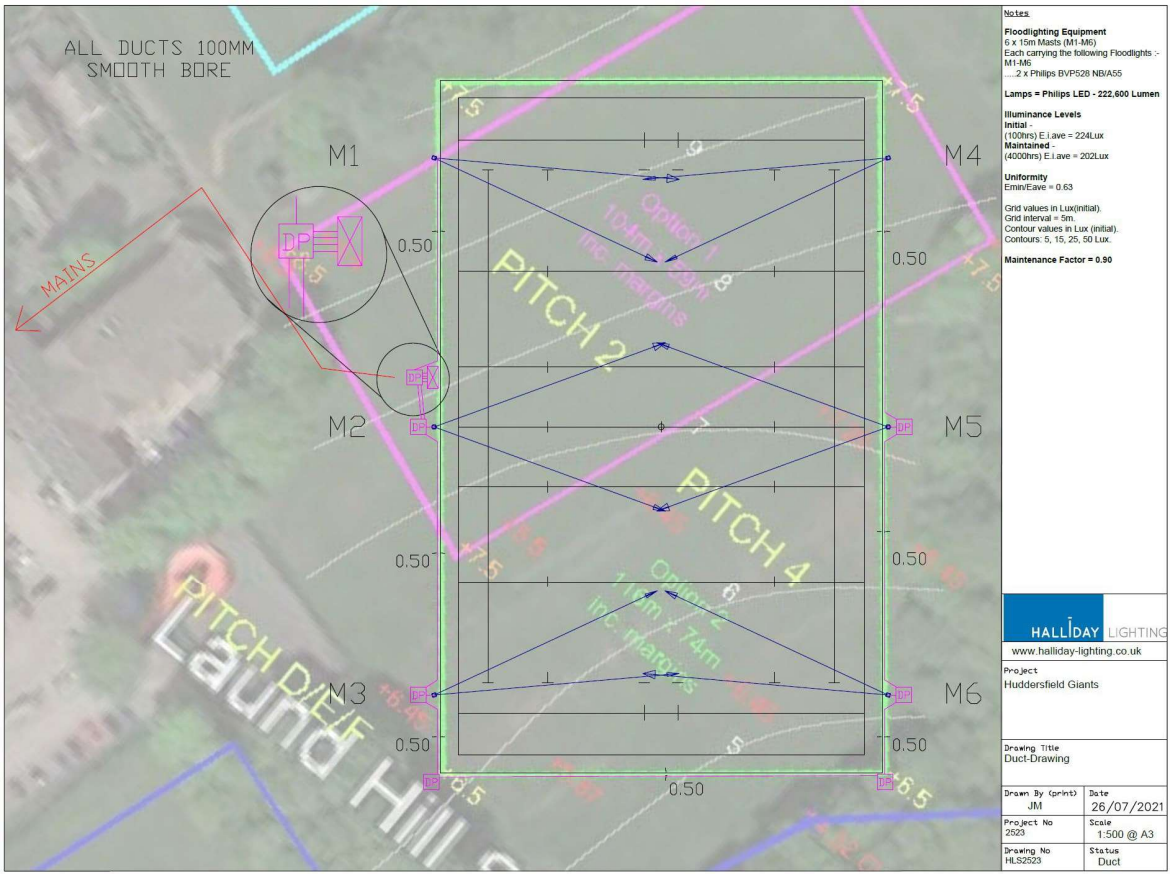
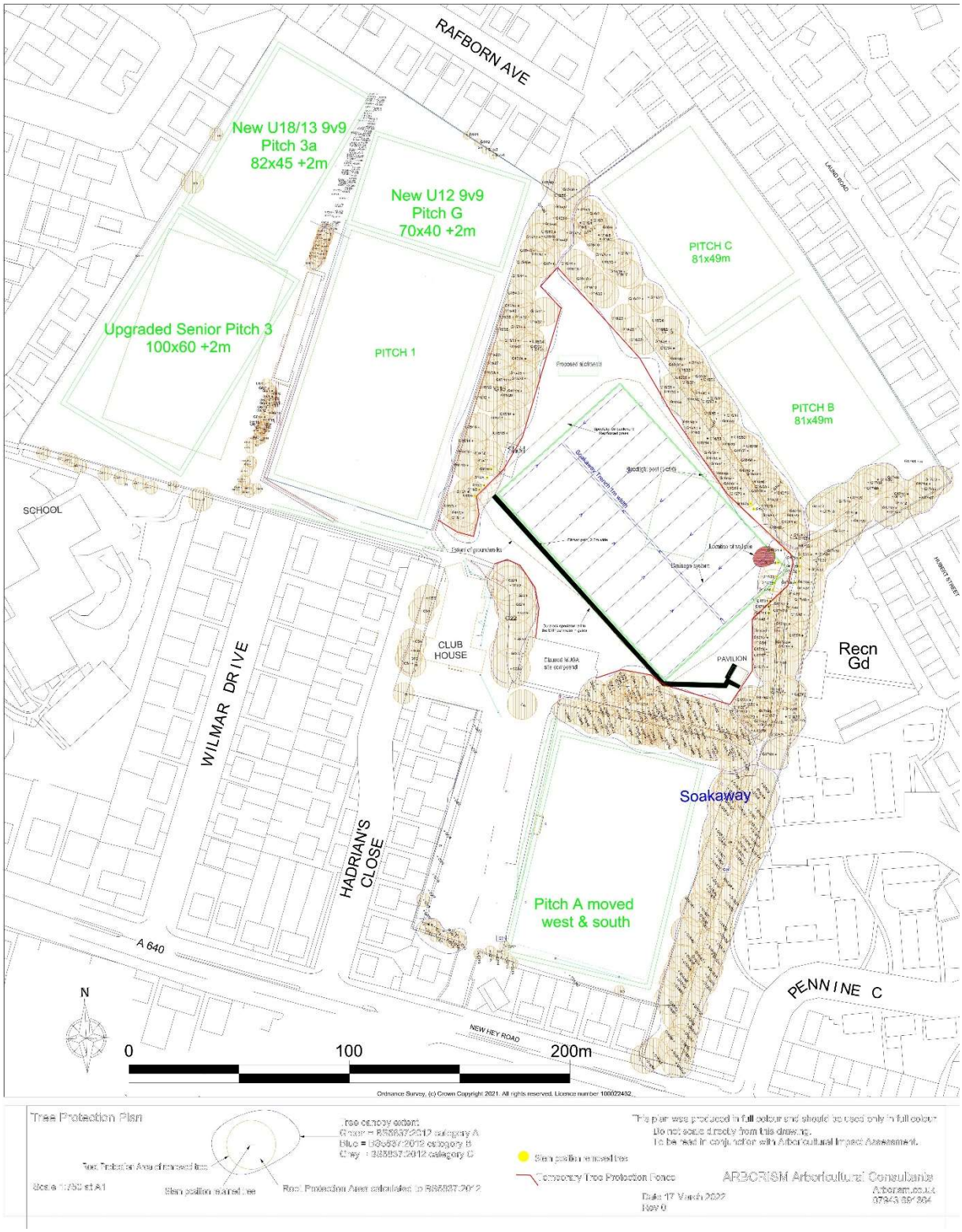
Appendix 3. Electrical duct runs for flood lighting



Appendix 4. Tree Protection Plan & Tree planting plan

Tree Protection Plan:



Tree Planting Proposal Plan: