Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction.
Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffolding framework comprising of vertical and horizontal framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.
Secondary Specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should should be attached to a base plate and secured with ground pins.
All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Construction exclusion zone - Keep out".

Ground boarding

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Note The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-resisatnt layer(e.g.150mm depth of woodchip), laid onto a geotextile membrane;
c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary system 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.

For situations other than those described in a) or b), the ground boarding is to be designed by a suitably qualified person to an engineering specification in conjunction with arboricultural advice, to be abole to support the expected loading to be placed upon it.

In all cases, the objective of the ground boarding is to avoid compaction ofthe soil beneath, so that tree root function remains unimpaired.

Supervised demolition

Hard surfacing:
Removal of and or replacement of hard surfacing situated either partially or completely within the RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where this is necessary the wearing course will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. If it is necessary to remove the sub base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows.
In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.
Which ever system is used the is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.
Structures:
Demolition of existing structures and foundations situated either partially or completely within RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where it is necessary for the foundations to be removed they are to only be removed where critical to the proposed development and to the minimum depth required. The foundations will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding. If it is likely that there will be any collapse of the soil within the rooting environment excavation is to be stopped immediately and the trench is to be shored up to prevent loss of the rooting environment.
Which ever system is used there is to be **NO** disturbance of the soil on the tree side of the foundations. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

Supervised Excavation

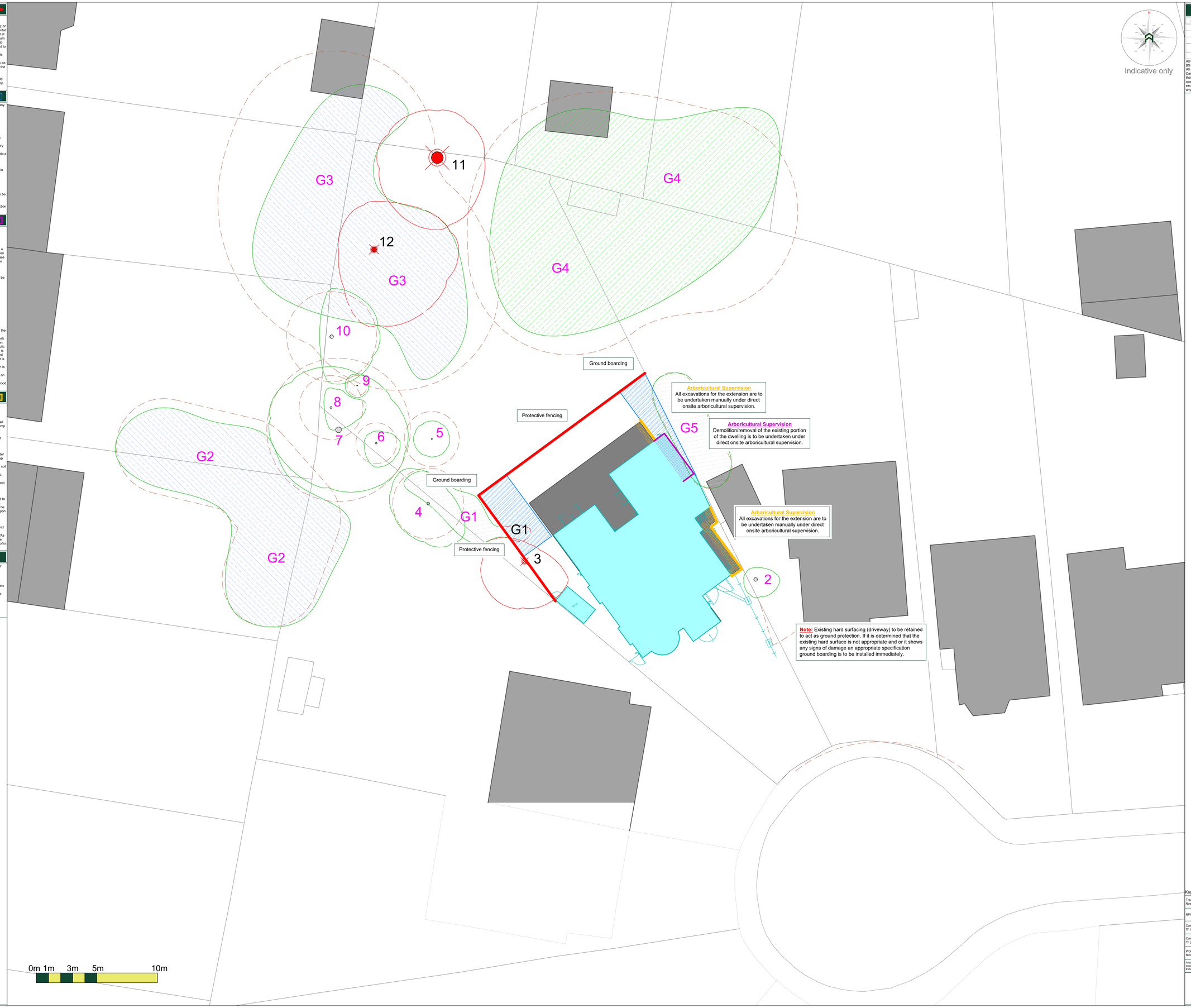
All excavations within and immediately adjacent to RPAs are to be undertaken under direct on-site arboricultural supervision.

Any roots that are to be cut will be cleanly severed by the project arboriculturist using a suitable hand saw or secateurs. The edge of all excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete.
If appropriate soil beneath the depth of the excavation may be sheet piled, tegular piled or have individual piles installed.

Manual excavation:
Excavations within the RPAs will be initially undertaken by hand under direct on-site arboricultural supervision to a minimum of 600mm deep (to be confirmed by the project arboriculturist), whether its is for proposed foundations, hard surfacing or underground services. The soil is to be loosened with the use of a fork or pick and or air-spade and then cleared with a shovel and or the aid of an air-spade and air-vac.
Mechanical excavation:
Excavation within the RPAs will consist of a mixture of mechanical and manual excavation.
Where an excavator is used it will be fitted with a suitably sized toothless grading bucket; using a grading / scrapping motion rather than digging. During each motion the excavator will not be permitted to removing no more than 10 - 20mm deep of soil in any any one pass.
If any roots are discovered, mechanical excavation will immediately be stopped and manual excavation will take over to expose the root. Upon the root being uncovered and either severed or protected the excavations can then continue.
Any excavator or other machinery that is to be used will be situated outside of the RPAs of all retained trees or on top of a suitable ground protection.
Where an excavator or any other machinery is to be used within RPAs or beneath canopies the project arboriculturist will clearly instruct the operator about what they want and expect to happen prior to any works may commence.

Arboricultural Supervision

The arboricultural consultant will be required to attend site to directly supervise all demolition and construction works that have to be undertaken within the root protection areas. This will include:
1. Pre-commencement site meeting.
2. Location of protective measures.
3. Supervised demolition within and adjacent to RPAs of tree numbers G5.
4. Supervised excavations for foundations within and adjacent to the RPAs of tree numbers 2 and G5.
5. Any demolition and or excavations within or adjacent to RPAs, including foundations, hard surfacing or underground services (a non-exhaustive list).
6. Arboricultural sign off and removal of protective measures.



N

Indicative only

Tree Work Schedule

No.	Species	Works	Category
3	Maple	Fell to ground level; grind out stump	C
11	Ash	Fell to ground level	U
12	Plum	Fell to ground level	U
G1	Various	Partial removal - Fell to ground level; grind out stumps	C
G5	Various	Crown reduce W canopy to boundary	C

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations
All arising's are to be removed and the site is to be left as found.
Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

Key:

Tree Nos.:	1	Tree Canopies:		Trunks:	
RPAs:		Category 'U' trees:		Category 'A' groups:	
Category 'B' trees:		Category 'B' groups:		Category 'C' trees:	
Category 'C' groups:		Trees to be removed:		Existing Site (OS tile)	
Protective fencing:		Ground boarding:		Arboricultural supervision - Demolition:	
Arboricultural Supervision - Excavations:					