

| Arboricultural Impacts | |
|---|---------------|
| Impacts | Nos. of trees |
| Trees to be removed | 2 |
| Group / Hedges to be removed (Partial removal of group) | 3 (1) |
| Trees with proposed removal into RPA | 3 |
| Group / Hedges with proposed removal into RPA | 3 |
| Trees that will require pruning | 7 |
| Group / Hedges that will require pruning | 1 |
| Trees to be transplanted | 0 |
| Group / Hedges to be transplanted | 0 |

| Arboricultural Impacts - RPAs (Area) | | | | |
|--------------------------------------|------------|-------|------------|-------|
| No. | Species | RPA | Incursion | |
| G01 | Various | 352.9 | 16.7 | 379.6 |
| G02 | Sycamore | 122.3 | 15.5 | 137.8 |
| G03 | Various | 221.7 | 52.8 | 274.5 |
| G03 | Various | 221.7 | negligible | 0.0 |
| T01 | Sycamore | 68.3 | negligible | 0.0 |
| T04 | Common Oak | 382.9 | 94.7 | 477.6 |
| T04 | Common Oak | 382.9 | negligible | 0.0 |
| T05 | Common Oak | 117.7 | 11.2 | 128.9 |

| Tree Work Schedule | | | |
|--------------------|------------|--|----------|
| No. | Species | Works | Category |
| G01 | Various | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | B3 |
| G02 | Various | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | B3 |
| G03 | Various | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | B3 |
| T02 | Common Oak | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | U |
| T03 | Sycamore | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | U |
| T04 | Common Oak | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | C1 |
| T05 | Common Oak | Prune - Raise crown as required to give a ground clearance of 5m to facilitate vehicle access over proposed track. | C1 |

| No. of individual trees to be removed | | | |
|---------------------------------------|---|---|---|
| U | A | B | C |
| 2 | 0 | 0 | 0 |

| No. of groups / hedges to be removed | | | |
|--------------------------------------|------|------|------|
| U | A | B | C |
| 0.00 | 0.00 | 0.10 | 0.00 |

Arboricultural Method Statement

Impact to existing root systems will be minimized by using trench support points mounted onto anchors attached to a piling system as per Blue Forest Construction Method Statement dated March 2022.

Foundations within RPAs

Each foundation position shall be marked on site. Where the foundation position is within a protection area a hand dug trial hole shall be dug to a minimum depth of 300mm below ground level and under arboricultural supervision. If the structural roots (200mm diameter) roots are encountered during the trial excavations the pile position will be considered suitable for use. If roots in excess of 200mm and encountered they shall be retained and the pile location altered if it cannot be accommodated in that position. Attention to pile positions will require additional alterations to other pile positions or alter the positioning of supporting legs for the structure.

'No Dig' Surfacing

Trees can be affected by construction within the RPAs either through the direct damage caused by the removal of soil or through the root environment or secondary damage such as passing through roots and soils (oil, fuels, etc.) or through compaction of the soil beneath the excavation, as such this traditional type of foundation should be avoided.

Where deepening hard surfacing that is to be situated within RPAs, the design team need to pay particular attention to the proposed usage (pedestrians, domestic traffic, delivery vans, Emergency vehicles, HGVs etc.), the existing and proposed levels of hard surfacing and finished floor levels, edging types and details, proximity to tree trunks and surface rooting, contamination capture, SUDs, etc.

Possible sub-basins (foundations) systems for hard surfacing situated within the RPAs of retained trees could include:

- A proprietary system such as a multi-dimensional confinement system (Cellweb THP or similar).
- Engineered solution such as a raised deck, bridge, etc.

An engineered solution is likely require a level of excavation to site specific investigations to locate roots to aid in foundation design so that a suitable foundation can be designed to avoid roots and for the installation the structure.

Utility apparatus

Mechanical trenching for the installation of underground apparatus and drainage serves any roots present and can change the local hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the route and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside of RPAs. Where this is not possible, it is preferable to keep apparatus together, as such this traditional type of foundation should be avoided.

Where underground apparatus is to pass within the RPAs, detailed plans showing the proposed route should be drawn up in conjunction with the project arboriculturist. In such cases trenchless insertion methods should be used with entry and retrieval pits being located outside of the RPAs. If the option is not feasible and providing roots can be retained and protected excavations should be undertaken using hand held tools (oil, fuels, etc.) or a combination of trenchless and manual excavation (broken trench).

Any design and installation should be undertaken in accordance with the National Joint Utilities Guidelines (NJUG).

Above-ground utility apparatus

Above-ground apparatus including CCTV cameras and lighting should be able to avoid the need for detrimental tree pruning, as such the current and future crown size of the tree should be assessed. Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree work to be an initial design solution unless this is a suitable management outcome for the tree. Any pruning should be undertaken in accordance with BS3998:2010.

Arbtech

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Project: Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX

Client: Blue Forest on Behalf of Mr and Mrs Middleton

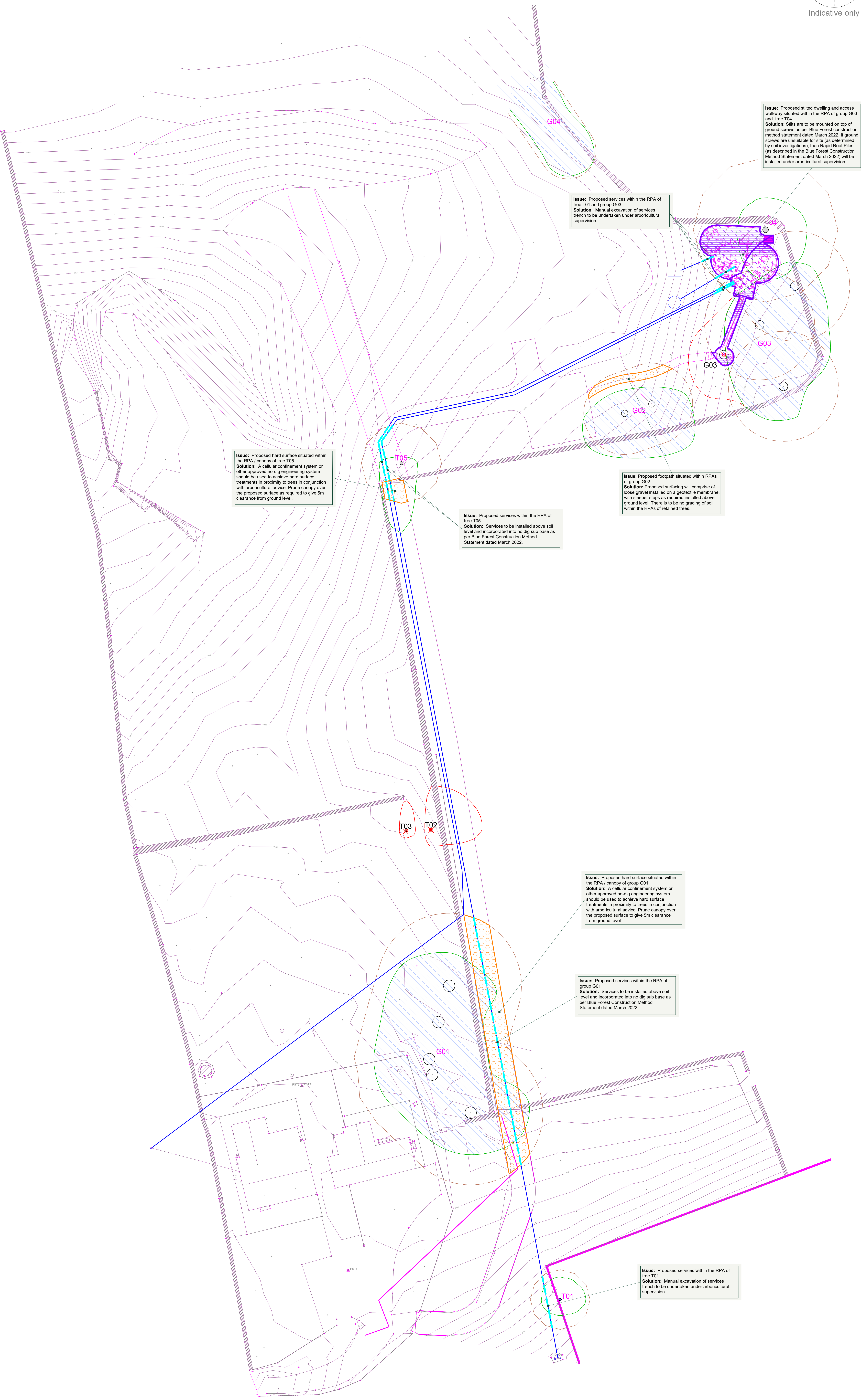
Drawing: Arboricultural Impact Assessment

Based on: 1044 - 090 - C

Drawing No: Arbtech AIA 01 Rev:

Date: March 2023 Scale: 1:200 @ A0 Drawn: CMW

| Key: | |
|-------------------------|-----------------------|
| T01 | Tree |
| T02 | Trunks |
| G01 | Category 'A' trees |
| G02 | Category 'B' trees |
| G03 | Category 'C' trees |
| T02 | Trees to be removed |
| Proposed Site | Proposed Services |
| Excavation Structures | Excavation Structures |
| Proposed Hard Surfacing | Proposed Services |



Issue: Proposed stilted dwelling and access walkway situated within the RPA of group G03 and tree T04.
Solution: Sills are to be mounted on top of ground screws as per Blue Forest construction Method Statement dated March 2022. If ground screws are unsuitable for site (as determined by soil investigations), then Rapid Root Piles (as described in the Blue Forest Construction Method Statement dated March 2022) will be installed under arboricultural supervision.

Issue: Proposed services within the RPA of tree T01 and group G03.
Solution: Manual excavation of services trench to be undertaken under arboricultural supervision.

Issue: Proposed hard surface situated within the RPA / canopy of tree T05.
Solution: A cellular confinement system or other approved no-dig engineering system should be used to achieve hard surface treatments in proximity to trees in conjunction with arboricultural advice. Prune canopy over the proposed surface to give 5m clearance from ground level.

Issue: Proposed services within the RPA of tree T05.
Solution: Services to be installed above soil level and incorporated into no dig sub base as per Blue Forest Construction Method Statement dated March 2022.

Issue: Proposed footpath situated within RPAs of group G02.
Solution: Proposed footpath will comprise of loose gravel installed on a geotextile membrane, with sleeper steps as required installed above ground level. There is to be no grading of soil within the RPAs of retained trees.

Issue: Proposed hard surface situated within the RPA / canopy of group G01.
Solution: A cellular confinement system or other approved no-dig engineering system should be used to achieve hard surface treatments in proximity to trees in conjunction with arboricultural advice. Prune canopy over the proposed surface to give 5m clearance from ground level.

Issue: Proposed services within the RPA of group G01.
Solution: Services to be installed above soil level and incorporated into no dig sub base as per Blue Forest Construction Method Statement dated March 2022.

Issue: Proposed services within the RPA of tree T01.
Solution: Manual excavation of services trench to be undertaken under arboricultural supervision.

