

Development tree report for Mr & Mrs Smith

This report is an arboricultural assessment to cover the requirements under B.S.5837:2012 - Trees in relation to design, demolition, and construction.

Prepared By



M
S (Tree) W
Consultancy
Ltd

Site Address:

Magnolia House,
Upper Warren Avenue,
Reading,
RG4 7EB



Prepared by Steve Wood (O.N.D.
Arboriculture M.Arbor.A.) for and
behalf of SMW (Tree) Consultancy
Ltd on 31/05/2024.

Summary

A summary of the contents of this report:

1. The proposal is to demolish an existing single dwelling and replace it with a part double, part single storey dwelling. The site is on two levels, with the frontage and dwelling on street level. The rear garden is retained using a retaining wall between 1m and 6m from the existing property. Seven trees have been considered for potential influencing distance to the proposed alterations, with seven category B trees identified. No Category A, C, or U trees were assessed on site.
2. To permit the development to proceed, no trees will be removed. Some minor trees below 75mm in stem diameter may need to be removed as part of the development program, but none will have any detrimental effect. All other trees are to be retained, with crown lifting to trees in immediate proximity to the replacement dwelling. The Tree Protection Plan (TPP) defines that the calculated RPA of T3 and T4 will be impacted by the proposed replacement dwelling. However, physical restrictions, such as brick retaining walls and patios, may inhibit root growth in these areas, thus the RPAs of some trees have been adjusted.
3. All areas of proposed foundation within the calculated RPAs of the surveyed trees are in the same location as pre-existing foundations or areas of hardstanding.
4. The property will be built on the existing foundations of the existing dwelling, but if not suitable, they will be removed under arboricultural supervision near RPAs. The new foundations will be dug under arboricultural supervision in no more than 100mm scrapes. A schedule of arboricultural visits will be conducted throughout the construction period to ensure proper installation and maintenance of tree protection. These visits include a pre-start meeting with an arboricultural consultant, the constructor, and the local authority tree officer to ensure the measures are set up in accordance with the Tree Protection Plan. Once installed, photographs will be sent to SMW (Tree) Consultancy Ltd and forwarded to the LPA Arboricultural officer for approval. A site visit by an arboriculturist will be conducted at no more than one-month intervals, and a report will be prepared after every site visit.

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Accompanying documents and appendices for this report are as follows:

This report must be read along with the accompanying tree survey plan and tree protection plan,

Tree survey plan [TSP]: SMW/Magnolia Hs/TSP/001

Tree protection plan [TPP]: SMW/Magnolia Hs/TPP/002

This report also must be read with the following appendices. If you are a customer of SMW (Tree) Consultancy Ltd or a tree officer and have received this report without these additional documents, please contact SMW (Tree) Consultancy Ltd and we will be happy to supply them to you.

APPENDIX 1 - GUIDANCE FOR TREE PROTECTIVE BARRIERS

APPENDIX 2 - SITE GUIDANCE FOR WORKING IN ROOT PROTECTION AREAS (RPAs)

APPENDIX 3 - SPECIAL SURFACE CONSTRUCTIONS UNDER TREE'S RPAS

APPENDIX 4 - KEY

APPENDIX 5 - CASCADE CHART FOR TREE QUALITY ASSESSMENT

APPENDIX 6 - REFERENCES

Introduction

Copyright and non-disclosure notice

The content and layout of reports are subject to the copyright and owned by SMW (Tree) Consultancy Ltd. Save to the extent that copyright has been legally assigned to us by another party or is used by SMW (Tree) Consultancy Ltd under license. Any report may not be copied or used without prior written agreement for any purpose other than those indicated.

Purpose of this arboricultural method statement

This document draws together all the information relevant to tree protection and management on the site. A copy must be given to the site manager before development commences. It must be available on site throughout the development process as a quick reference for the site manager.

Relevant references

This arboricultural method statement assumes that the minimum general standards for development issues are those set out in British Standards Institution.

B.S.5837: 2012: Trees in relation to design, demolition, and construction.

Recommendations and National Joint Utilities Group (1995) Publication Number 10:

Guidelines for the planning, installation, and maintenance of utility services in proximity to trees.

It is based on a ground level tree assessment and examination of external features only – described as the ‘Visual Tree Assessment’ method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994).

Site overview and description:

Site address:	Magnolia House, Upper Warren Avenue, Caversham, Reading, RG4 7EB	Description of development environment:	Single storey, residential property.
Local authority:	Reading Borough Council	Council planning reference:	N/A

Survey extent and site description:

Site description

A single storey property, with front and rear grassed areas. The rear garden is set approximately 1m above the foundation level of the existing building and is accessed by two sets of steps set 5.5m from the property's rear garden.

Survey extent

Our survey covered the indicated area in the below satellite mapping image:



Soil type:

An online soil analysis search was conducted, and the findings are that the soil is composed of Freely draining slightly acid but base-rich soils. This information was sourced from: <http://www.landis.org.uk/soilscapes/>. This should not be used as a definitive determination and other sources should be used I.E. Geological Survey Maps or a full soil analysis, where reactive soils are a high probability.

Tree protection status

On the 30th May 2024, we assessed the local authority's website for information on tree preservation orders and conservation areas. We found that:

The site is covered by TPO: 62/07 (T4)

The site is not covered by a conservation area.

The site may be covered by other tree restrictive orders (such as AONB or green belt), and confirmation in writing should be sought from your local authority of all tree restrictions before proceeding with any works.

B.S. categories:

Each tree has been assessed in terms of its arboricultural, landscape and conservation values in accordance with BS 5837:2012 and placed within one of the four following categories:

Category A:

Trees of high quality and value: in such a condition to make a substantial contribution to the site's aesthetics (a minimum of 40 years is suggested). Rare or unusual trees and exceptionally good examples of the species.

Category B:

Trees of moderate quality and value: those in such a condition as to make a significant contribution, but may have slight defects or imperfections, poor quality past surgery techniques which could lead to future complications. (A minimum of 20 years is suggested).

Category C:

Trees of low quality and value which might remain for a minimum of 10 years, individually or collectively do not offer enhancement to the site's aesthetic value, or young trees with stems of less than 150mm diameter.

Category U:

Trees in such a condition having serious defects, immanent loss due to potential collapse, fungal activity which could significantly reduce its life expectancy, or of very low quality.

Whilst the assessment of a tree's condition is a subjective process, Table 1 of BS 5837:2012 (see APPENDIX 5 - CASCADE CHART FOR TREE QUALITY ASSESSMENT document), this gives clear guidance on the appropriate criteria for categorising trees and the factors that would assist the Arboriculturist in determining the suitability of a tree for retention.

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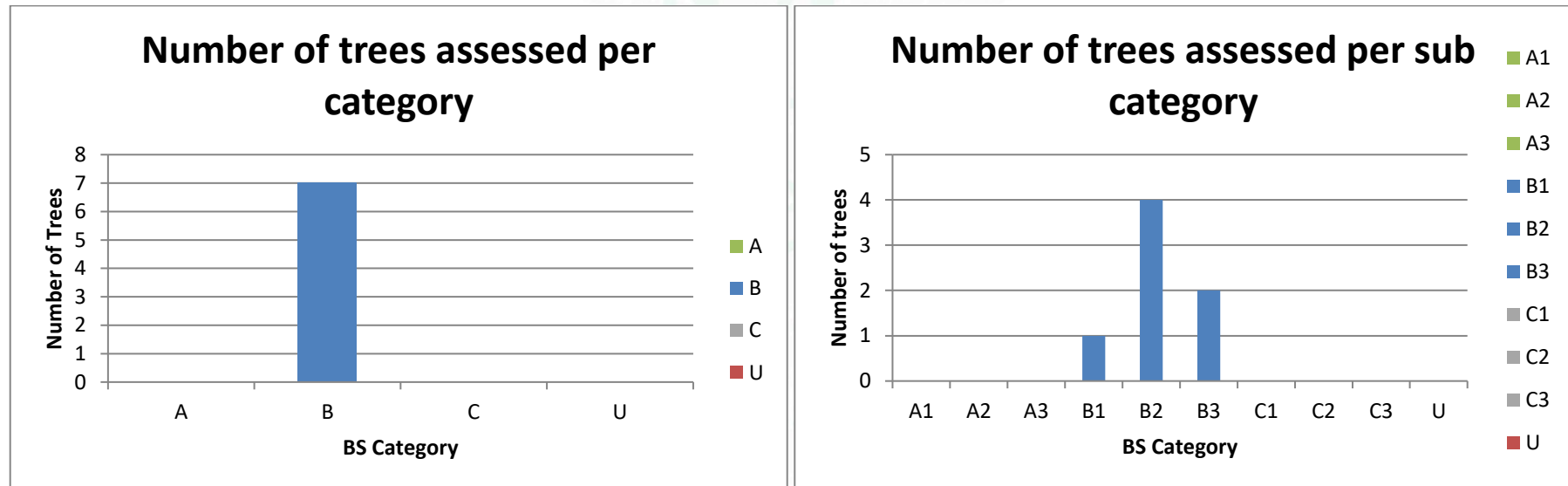
Assessed trees:

A total of 7 trees have been included in the report as being considered to within potential influencing distance to the proposed alterations. There are other trees which we consider outside of any possible influence towards the proposed development.

7 category B trees were identified, none have high individual merit, but may benefit the general landscape.

No Category A, C, U tree(s)/group(s) were assessed on site.

BAR CHART SHOWING NUMBER OF TREES SURVEYED WITHIN EACH BRITISH STANDARD ASSIGNED CATEGORY.



Development proposal:

The proposal is to demolish the existing single dwelling and replace it with a part double, part single storey dwelling.

Please see the architectural drawings for more details on the proposed alterations.

At this stage no information has been provided as to the positioning of any new services required for the proposals, it is presumed these will be positioned clear of any tree root protection areas. SMW (Tree) Consultancy Ltd must be consulted when the positions of these have been finalised and a method statement produced if the services are required to enter the surveyed trees' RPA.

The shading factor has been taken into consideration as to the affect this will have on the development proposal and clearly indicated on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002. Shading is not a consideration for this project.

Issues and specifications:

Pre-commencement

Site meeting: A pre-commencement meeting should be held on site before any of the demolition or construction work starts. This must be attended by the site manager/agent, the arboricultural consultant and preferably the council representative. If a council representative is not present, the arboricultural consultant must inform the council in writing of the details of the meeting. **All tree protection measures detailed in this document must be fully discussed so that all aspects of their implementation and sequencing are understood by all the parties. To avoid any possible disagreement with the Tree officer over the correct location of the tree protection barriers, we would strongly recommend that this is erected with onsite Arboricultural supervision. If this is not authorised, we cannot accept any liability if issues arise over the incorrect positioning of the barrier and possible site construction delays.** Any clarifications or modifications must be recorded and circulated to all parties in writing. It may be appropriate for the tree surgery contractor to attend this meeting.

Arboricultural implications assessment (AIA):

ROOT PROTECTION AREAS (RPAs) document.

The storage of materials, clear of any trees RPAs is of high importance, a suggested location for this facility has been shown on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002.

A topographical survey been provided.

Our visual assessment is that the site is on two levels, the frontage to the property and the dwelling are on street level, with the rear garden approximately 1m above the foundation level of the dwelling, this is retained using a retaining wall which is between 1m and 6m from the existing property.

The Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002 defines that the calculated RPA of T3 and T4 will be impacted by the proposed replacement dwelling. However, there are several physical restrictions to the RPAs of these trees, such as brick retaining walls and patios which are likely to inhibit root growth in these areas, favouring open grassed area to the north-east. Therefore, an adjusted RPA has been shown for T3 and T4, along with T1 and T5. All areas of proposed foundation which are located within the calculated RPAs of the surveyed trees are in the same location as pre-existing foundations, or areas of hardstanding, thus it is not anticipated that roots will be discovered within these areas, however the demolition of any existing structures' foundations will be excavated under arboricultural supervision to prevent root damage. If roots above 25mm are discovered these must be retained at all costs. Please see the [specialist engineered foundations within RPAs section](#) of this report for mitigation measures, if this occurs. If roots under 25mm are discovered, these can be pruned using sharp secateurs by the supervising arboriculturist, providing they do not form a cluster. Due to the widening of the driveway, there will be a 1.74% intrusion into the adjusted RPA of T1. Such minimal intrusions are unlikely to be of detriment to T1, however the excavation of this area will be excavated by hand, utilising hand tools only. All excavations within RPAs shall be under arboricultural supervision.

Recommended tree work and management:

To permit the development to proceed, it will not be necessary to remove any trees. Some minor trees below 75mm in stem diameter were on the site, but not assessed. These may need to be removed as part of the development programme – none of which should have any detrimental effect.

All other trees are to be retained, some will require surgery as follows:

Crown lifting to the trees in immediate proximity to the replacement dwelling (T3, T4 and T5) may be required. This is to give sufficient construction clearance and for air circulation post construction and is unlikely to be of detriment to said trees due to their healthy vitality and evidence of good annual growth.

Further details of the works are defined in the tree survey schedule and should be carried to the minimum levels as detailed in B.S. 3998:2010.

Tree protection measures:

Root protection area (RPA):

All tree protection measures must be retained in the position indicated on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002, unless their position is superseded by agreement at the pre-start meeting with the Arboricultural consultant and local authority's Arboricultural officer.

The position of protective barriers and the boundary of the CEZ are shown as a solid blue line in [TPP]: SMW/Magnolia Hs/TPP/002.

All the fencing can be erected as a single operation prior to any work on the site.

When demolition is required to permit the development to be conducted, under no circumstances will this be carried out prior to erection or within any protective barriers, by machinery unless fully supervised and with prior approval.

When the use of machinery is unavoidable then this must be on an anti-compact surface adequate to support the weight, such as steel, rubber, or wooden sheeting pinned into the ground and fixed together, or Aluminium tracking.

Protective barriers and root protection areas (RPAs)

Illustrative guidance for four methods of protective barriers based on advice in BS 5837 2012 is included in APPENDIX 1 - GUIDANCE FOR TREE PROTECTIVE BARRIERS document. The location of the barriers, type and RPA is illustrated on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002 as set out on the plan key, as a blue line. The precise location of the barriers must be agreed with the council on site before any development activity starts. Measurements for the protective fencing can be found by using a scale rule on the TPP at the appropriate drawing scale. Prior to erecting the fencing, the measurements must be confirmed with the arboricultural supervisor. They are further identified in text as P.B. Protective Barriers.

For this project: Tree protection fencing will consist of standard tree protection fencing (S.T.P.) constructed from Heras fencing panels, placed within rubber feet, which must be pinned using a soil pin. A support bar will be placed at a 45-degree angle within the construction exclusion zone at each end of the Heras panel and pinned to the ground using a soil pin. Each panel will then be clamped to each other using Heras anti-tamper couplers. If the fencing is to be installed on hard surfacing, impenetrable ground, or the proximity of underground services, the stabilisation bars will be mounted on a block tray and suitably weighted so that movement is not possible. These must not be moved under any circumstances without prior approval from the Arboricultural consultant

and the Tree officer. No materials must be stored within the area sectioned off by the barriers. The boundary fence will act as tree protection fencing for most of the tree protection measures and has been shown as a thin blue line on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002. Furthermore, tree protection fencing will utilise existing boundary fences where required.

Ground protection measures:

Ground protection will not be required for this project.

Fires:

The burning of materials is prohibited, and no fires shall take place on site, with no exceptions.

Guidance for working within RPAs:



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Site storage, cement mixing and washing points:

All site storage areas, cement mixing and washing points for equipment and vehicles must be outside RPAs unless otherwise agreed with the council. Where there is a risk of polluted water run-off into RPAs, heavy-duty plastic sheeting and sandbags must be used to contain spillages and prevent contamination. Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there are multiple tanks, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges, and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land, or underground strata. Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund. A suitable location for this facility has been shown on the plans Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002.

Services:

We have no knowledge of any existing or proposed services for the site, unless shown on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002. If services need to be installed within RPAs, great care must be taken to minimise any disturbance. Trenchless installation should be the preferred option but if that is not feasible, any excavation must be conducted by hand according to the guidelines in APPENDIX 2 - SITE GUIDANCE FOR WORKING IN ROOT PROTECTION AREAS (RPAs) document. If services do need to be installed within RPAs, an arboricultural method statement on how the services are to be installed will be required and submitted to the Local authority for written approval before any works are conducted.

Where there is a requirement to have pedestrian access through trees RPA's it would be advisable to place a temporary anti compaction surface such as a 100mm layer of wood chip (or similar) over this route.

Tree protection during demolition:

No site work of any nature will be conducted until the protective fencing has been constructed and approved by the Tree Officer. Where this must be conducted within the RPA this should be conducted by hand tools or if not practical under full Arboricultural supervision and machinery on anti-compaction surfaces.

Specialist engineered foundations within RPAs:

The property is to be constructed on the existing foundations of the existing dwelling. However, if these are not suitable for the new dwelling, the existing foundations will be removed under arboricultural supervision within proximity to RPAs. The new foundations will be dug under arboricultural supervision within proximity to RPAs in no more than 100mm scrapes. If roots are found, then the following methodology must be used:

If roots under 25mm are found, these may be pruned by a suitably qualified arboriculturist, providing they do not form a cluster.

If roots larger than 25mm are found, these must be retained.

There are two options for foundation design in proximity to roots. These are outlined below:

Option 1a: Ground screws

A more recent type of foundation which can be used to minimise the probability of ground compaction and pressure are ground screws. These come in various diameters and lengths depending on the application and are driven by a hand-held electric rotary drill, which attached to the head of the screw. The spacings between each pile will be the distance between each post which will be connected to them, and **no excavations required to achieve this format of foundation the rooting system remains intact.**

An example of a 1050mm x 76mm ground screw is shown in Figure 1, alternatively more information can be found at: [HTTPS://GBGS.CO.UK/OUR-PRODUCTS/](https://gbgs.co.uk/our-products/)

Option 1b: Continuously helical piles

An alternative type of pile is the 'Helipile' System manufactured by Target fixings, this has several advantages over a conventional pile in the installation requires only hand-held equipment thus significantly reducing the probability of ground compaction. The company will advise on the specifications specific to each application and conduct the installation. More details are available via their website: [HTTPS://TARGETFIXINGS.CO.UK/PRODUCTS/HELI-PILE/](https://targetfixings.co.uk/products/heli-pile/).

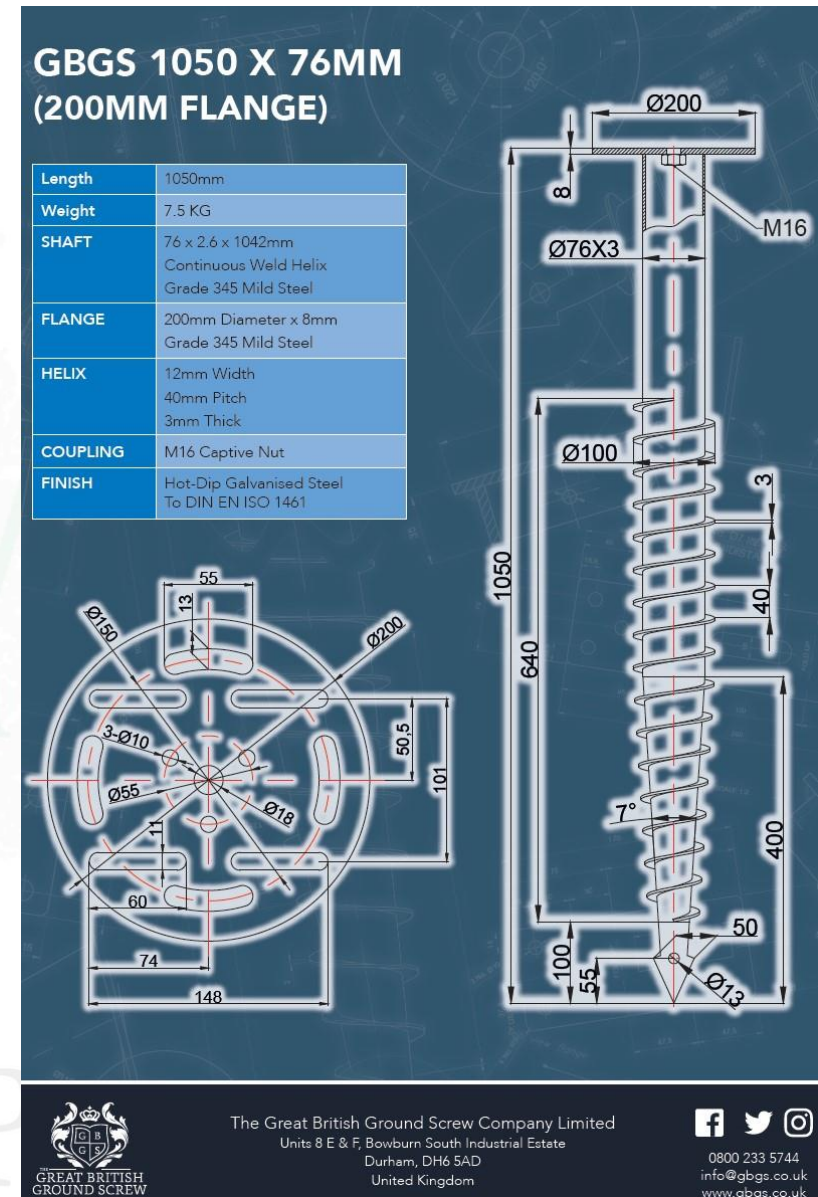
There are significant benefits from the continuous pile system in that the piles are either 60mm or 100mm in diameter and are produced in 1m sections. These are driven by a hand-held pneumatic hammer with air supplied by a compressor located outside the RPA. No heavy plant machinery will be required to install the piles.

The spacings between each pile is normally 2.5m with a foundation beam connected to them and no excavations required to achieve this format of foundation the rooting system remains intact.

An air gap between the ground and floor must be created of a minimum depth of 50mm, with air vents built in to maintain air flow. Surface water must also be directed under the extension and distributed evenly by 30mm diameter perforated pipes.

Option 2: Bridged foundation

Roots must be wrapped in damp hessian and encased in a split plastic pipe 30mm larger than the root and taped up to prevent concrete contact.



When pouring the concrete care must be taken to prevent concrete contact on the roots. The finished surface of the concrete will be no less than 150mm lower than the lowest root found, and the block structure is constructed around these roots, giving a clearance of 150mm, with a lintel covering the upper surface. Below are a selection of photographs showing this process on a previous project:

		
Large roots discovered.	Roots wrapped in hessian and non permeable membrane.	Concrete poured up to 150mm from roots.
		
Block work built up around roots giving sufficient clearance.		Concrete lintel placed over root with necessary clearance.

The construction of this MUST be carried out in accordance with APPENDIX 2 - SITE GUIDANCE FOR WORKING IN ROOT PROTECTION AREAS (RPAs) and will be supervised by an Arboricultural Consultant to advise on if roots are found.

Foundations outside of Root Protection Areas may use conventional strip excavation foundations.

As this foundation design is outside the guidance of this report it is essential that this is conducted by a competent structural engineer who is versed in this field and consultation will be made with the Arboricultural consultant if any issues are raised. Once this has been finalised this can then be submitted with this report or later to seek planning approval.

Access road:

With the intrusion to T1 being 1.74% of the RPA, we do not foresee any detrimental effects on the tree. Thus, the driveway widening can be excavated utilising hand tools only and under arboricultural supervision. The surface used will be of porous nature and allow for moisture and gaseous exchange. If roots above 25mm are found, then the following methodology must be used:

General construction method:

1. Geo-textile matting "Terram" laid on top of ground area.
2. "Geocell" Cellular Confinement System (100mm deep dependent on vehicle weight usage) cut to shape around the roots.
3. Backfill the cellular confinement with 4-20mm clean, non-fines, angular stone.
4. Add a top surface of permeable nature such as Gravel or permeable macadam, laid on top of permeable sub-base.

This construction method is only to be used as basic guidance, once the loadings for the surface have been determined and after consultation with the construction engineer a more detailed statement can be submitted.

Schedule of tree works:

A schedule of recommended tree works is in the tree survey data schedule. All trees are shown on the plan with a reference letter T for trees, preceded by a number. All work should be conducted to the recognised standard B.S.3998:2010 as a minimum.

Developer's responsibilities, initial site visit and subsequent procedures for reporting:

It is the developer's responsibility to ensure that the details of this arboricultural method statement are known and understood by all site personnel. A copy must always be kept on site and the site manager must brief all personnel who could have an impact on trees on the specific tree protection requirements. This must be a part of the site induction procedures and written into appropriate site management documents. The developer must instruct an arboricultural consultant to comply with the supervision requirements set out in this document before any work begins on site. More specifically, the following guidance must be observed: -

Tree protection awareness

The developer must display tree protection signs on all protective barriers for the whole construction period. The signs to be used are contained within the appendix's documentation called "tree protection signs for fencing."

The site manager shall be responsible for checking that the tree protection fencing and ground protection has not been moved, is not loose, dilapidated or disintegrated, as part of their daily site opening checks. All site workers shall be informed of the tree protection fencing and ground protection procedures, construction, and locations. They must be made aware that they must not move, adjust, or remove the tree protection/ground protection without consulting SMW (Tree) Consultancy Ltd. Reasonable explanation as to why the tree protection must be moved must be given, and the tree protection's revised position must be documented on a drawing produced by SMW (Tree) Consultancy Ltd and submitted to the local authority for their approval. All tree protection must be maintained daily ensuring that all bolts, connectors, poles, fencing panels, wooden boards, sand, woodchip, Terram membranes and TrakMats (where applicable) remain in the correct positions and are maintained. No materials shall be stored within, or on, any tree protection fencing or ground protection. No shall any washing/mixing or fires be located within 1.5m of any tree protection measures.

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The below table shall be signed by all persons that enter the site to confirm they understand the tree protection awareness statement and that they shall conform to the expected standards required of all site personnel and their responsibility to ensure the protection of all trees and shrubs on the site. It is the site manager's responsibility to ensure that all persons entering the site sign the below table and understand the responsibilities entrusted upon them.

Name	Company	Date	Signature

Supervision visits:

To ensure that the tree protection is installed correctly, and ensure that it is maintained, a schedule of arboricultural visits will take place throughout the construction period. This will include the following:

- A pre-start meeting. – This shall be attended by an arboricultural consultant, the constructor, and the local authority tree officer. The aim of the meeting is to ensure that the tree protection measures are set up in accordance with the Tree Protection Plan, or if required, explain why adjustments have been made and if they are acceptable. If they are not acceptable, then this meeting will aim to rectify the tree protection measures to a standard that is approved by the arboricultural consultant and the local authority tree officer.
- Once the tree protection is installed to the correct standards, tree protection photographs will then be sent to SMW (Tree) Consultancy Ltd and forwarded to the LPA Arboricultural officer for approval, with the intention of starting the build 5 days after submitting the photographs to the Arboricultural officer, unless the Arboricultural officer responds with a negative comment.
- A site visit by an arboriculturist at no more than one-month intervals (responsibility of the client or contractor to organise).
- A report to be prepared after every site visit by the arboricultural consultant and submitted to the local authority.

The client must inform SMW (Tree) Consultancy Ltd one month before the intended start date, so that the pre-start meeting can be arranged with the attending parties. The pre-start meeting will take place two weeks prior to the intended start date to allow sufficient time for any adjustments to the tree protection.

The supervising arboricultural consultant may also be required to supervise the following on site actions within RPAs:

- Any demolition works.
- Any foundation excavations – including conventional strip excavations, AirSpade excavations, pile installations and hand dug excavations.
- Any service installations
- Access drive construction
- Landscaping – including tree planting.

Reporting:

The Arboriculturist must advise the site manager on any relevant tree issues at the time of the visit, followed by a formal letter of confirmation circulated to all parties, including the Local Authority. These site visit reports will form the mechanism for confirming that the tree related planning conditions have been complied with for the duration of the development activity.

Removal of protective fencing:

When **ALL** the construction processes are completed which includes any drainage and landscaping works, the fencing can be removed, and this should be conducted without any machinery entering the previously protected areas and with consideration for the tree's protection. This should ideally be conducted under Arboricultural supervision.

Completion meeting:

After the works have been completed but before the main contractor has left, a meeting should be arranged between the site supervising officer, the Local Authority Tree Officer, and the appointed Arboricultural Consultant. The purpose being to inspect the site and check that all procedures have been conformed to and agree to any correctional remedial works if required.

Wildlife considerations:

Prior to commencement of any tree works a full wildlife survey must be conducted to ascertain the possible presence of any wildlife on the ground or within the trees and appropriate action must be taken. Greater detail is covered under the landscape protection, recreation, and public access: Countryside and Rights of Way Act 2000 (CROW) [HTTP://JNCC.DEFRA.GOV.UK/PAGE-1378](http://jncc.defra.gov.uk/page-1378)

Replacement planting:

There is sufficient area to provide additional planting to offset any trees removed to allow for the development to proceed.

A planting scheme can be provided showing new landscape proposals. The emphasis would be to provide suitable trees of similar species to those removed and of appropriate size to ensure continued vegetative cover is maintained. The boundary screening by the replacement of trees and shrubs is an essential part of the scheme; consequently, this should assist in offsetting any exposure caused.

There are various other areas within the site which could be considered as viable opportunities to further enhance the development area these are around the buildings, footpaths, and access roads.

All Trees and Shrubs should conform to the British Standard for nursery stock as set out in 3936 Part 1-5. Planting of standard sized tree should be in accordance with the British Standard BS 8545:2014 Trees from nursery to independence in the landscape.

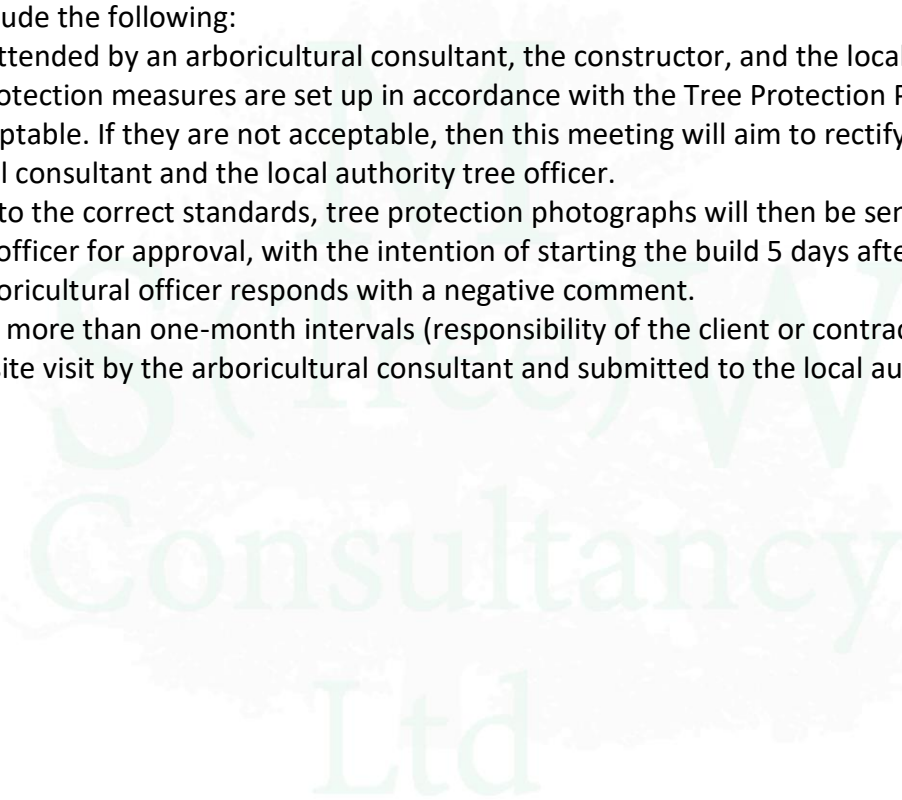
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Conclusion:

1. The proposal is to demolish the existing single dwelling and replace it with a part double, part single storey dwelling.
2. Our visual assessment is that the site is on two levels, the frontage to the property and the dwelling are on street level, with the rear garden approximately 1m above the foundation level of the dwelling, this is retained using a retaining wall which is between 1m and 6m from the existing property.
3. A total of 7 trees have been included in the report as being considered to within potential influencing distance to the proposed alterations. There are other trees which we consider outside of any possible influence towards the proposed development.
4. 7 category B trees were identified, none have high individual merit, but may benefit the general landscape.
5. No Category A, C, U tree(s)/group(s) were assessed on site.
6. To permit the development to proceed, it will not be necessary to remove any trees. Some minor trees below 75mm in stem diameter were on the site, but not assessed. These may need to be removed as part of the development programme – none of which should have any detrimental effect.
7. All other trees are to be retained; some will require surgery as follows:
Crown lifting to the trees in immediate proximity to the replacement dwelling (T3, T4 and T5) may be required. This is to give sufficient construction clearance and for air circulation post construction and is unlikely to be of detriment to said trees due to their healthy vitality and evidence of good annual growth. The Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002 defines that the calculated RPA of T3 and T4 will be impacted by the proposed replacement dwelling. However, there are several physical restrictions to the RPAs of these trees, such as brick retaining walls and patios which are likely to inhibit root growth in these areas, favouring open grassed area to the north-east. Therefore, an adjusted RPA has been shown for T3 and T4, along with T1 and T5.
8. All areas of proposed foundation which are located within the calculated RPAs of the surveyed trees are in the same location as pre-existing foundations, or areas of hardstanding, thus it is not anticipated that roots will be discovered within these areas, however the demolition of any existing structures' foundations will be excavated under arboricultural supervision to prevent root damage. If roots above 25mm are discovered these must be retained at all costs. Please see the [specialist engineered foundations within RPAs section](#) of this report for mitigation measures, if this occurs.
9. Tree protection fencing will consist of standard tree protection fencing (S.T.P.) constructed from Heras fencing panels, placed within rubber feet, which must be pinned using a soil pin. A support bar will be placed at a 45-degree angle within the construction exclusion zone at each end of the Heras panel and pinned to the ground using a soil pin. Each panel will then be clamped to each other using Heras anti-tamper couplers. If the fencing is to be installed on hard surfacing, impenetrable ground, or the proximity of underground services, the stabilisation bars will be mounted on a block tray and suitably weighted so that movement is not possible. These must not be moved under any circumstances without prior approval from the Arboricultural consultant and the Tree officer. No materials must be stored within the area sectioned off by the barriers. The boundary fence will act as tree protection fencing for most of the tree protection measures and has been shown as a thin blue line on the Tree Protection Plan [TPP]: SMW/Magnolia Hs/TPP/002. Furthermore, tree protection fencing will utilise existing boundary fences where required.
10. The property is to be constructed on the existing foundations of the existing dwelling. However, if these are not suitable for the new dwelling, the existing foundations will be removed under arboricultural supervision within proximity to RPAs. The new foundations will be dug under arboricultural

supervision within proximity to RPAs in no more than 100mm scrapes. Please see the [specialist engineered foundations within RPAs section](#) of this report for more details.

11. To ensure that the tree protection is installed correctly, and ensure that it is maintained, a schedule of arboricultural visits will take place throughout the construction period. This will include the following:
 - a. A pre-start meeting. – This shall be attended by an arboricultural consultant, the constructor, and the local authority tree officer. The aim of the meeting is to ensure that the tree protection measures are set up in accordance with the Tree Protection Plan, or if required, explain why adjustments have been made and if they are acceptable. If they are not acceptable, then this meeting will aim to rectify the tree protection measures to a standard that is approved by the arboricultural consultant and the local authority tree officer.
 - b. Once the tree protection is installed to the correct standards, tree protection photographs will then be sent to SMW (Tree) Consultancy Ltd and forwarded to the LPA Arboricultural officer for approval, with the intention of starting the build 5 days after submitting the photographs to the Arboricultural officer, unless the Arboricultural officer responds with a negative comment.
 - c. A site visit by an arboriculturist at no more than one-month intervals (responsibility of the client or contractor to organise).
 - d. A report to be prepared after every site visit by the arboricultural consultant and submitted to the local authority.



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Tree survey data

Tree ID	In Conservation Area/TPO	Species & Maturity	Likely Bat Habitat	Measurements estimated	Height (m)	Height and direction of first significant branch (m)	Number of Stems	Stem 1 (mm) or average diameter for trees with more than 5 stems	Crown Spread (m)				Crown height (average)	Crown, Stem, Basal Area	B.S. Category	Life Expectancy	Physical Condition	Build Stage	Recommended action	Date	Comment
									N	E	S	W									
T1	Yes	Species: Norway Spruce Latin: Picea abies Maturity: Mature	Unknown	No	26	10w	1	690	6	7	5	6	6	Crown-Fair, Stem-Ivy, Basal Area-Fair	B2	20 to 40 yrs.	Fair	Pre-construction	Recommended action: Sever/remove ivy	24.05.24	Tree is located on the eastern side of the site, by one of the entrance drives. Lower stem is heavily covered in Ivy.
T2	Yes	Species: Common Lime Latin: Tilia europaea Maturity: Early Mature	No	No	12	4e	1	295	4	5	5	6	4	Crown-Fair, Stem-Fair, Basal Area-Fair	B3	20 to 40 yrs.	Fair	Pre-construction	Recommended action: No action	24.05.24	Trees is located in the frontage grass verge, just outside a private hedge. Tree has a number of weak and including bark fork formations, which will limit the life expectancy of this tree.
T3	Yes	Species: Norway Spruce Latin: Picea abies Maturity: Mature	Unknown	No	25	4s	1	620	3	7	8	5	4	Crown-Fair, Stem-Fair, Basal Area-Fair	B2	20 to 40 yrs.	Fair	Pre-construction	Recommended action: Raise low canopy to 6.0m	24.05.24	Tree is located in the rear garden 1.9m from the boundary fence immediately to the east of the tree the ground has been lowered. There is a wooden shed 1.12m to the east and the detached garage 3m to the south. North-west protrusion of the house is 18.95m. Nearest corner of the adjacent property is 9.68m.
T4	Yes	Species: Douglas Fir Latin: Pseudotsuga menziesii Maturity: Mature	Unknown	No	27	4w	1	865	8	8	5	6	4	Crown-Fair, Stem-Fair, Basal Area-Fair	B2	20 to 40 yrs.	Fair	Pre-construction	Recommended action: Raise low canopy to 5.0m	24.05.24	Tree is located in the rear garden 2.3m from the boundary fence and has had the ivy recently severed. Tree is 7.47m from the nearest corner of the house and 18.41m from the furthest protrusion to the north-west. The ground level drops as per the previous recorded tree 2.32m away.

Tree ID	In Conservation Area/TPO	Species & Maturity	Likely Bat Habitat	Measurements estimated	Height (m)	Height and direction of first significant branch (m)	Number of Stems	Stem 1 (mm) or average diameter for trees with more than 5 stems	Crown Spread (m)				Crown height (average)	Crown, Stem, Basal Area	B.S. Category	Life Expectancy	Physical Condition	Build Stage	Recommended action	Date	Comment
									N	E	S	W									
T5	Yes	Species: Japanese Red Cedar Latin: Cryptomeria japonica Maturity: Mature	No	No	20.5	3.5e	1	475	3	5	4	4	3	Crown-Fair, Stem-Good, Basal Area-Good	B2	20 to 40 yrs.	Fair	Pre-construction	Recommended action: Raise low canopy to 5.0m	24.05.24	Trees is located in open ground in the rear garden and has had recently severed Ivy carried out. Trees 9m to the nearest corner of the house and 15.72m from the north-west protrusion area.
T6	Yes	Species: Common Beech Latin: Fagus sylvatica Maturity: Early Mature	No	No	14	5e	1	250	3	5	3	4	4	Crown-Fair,Stem-Fair,Basal Area-Good	B3	20 to 40 yrs.	Fair	Pre-construction	Recommended action: No action	24.05.24	Tree is located on the western boundary fence. Tree is 28.9m from the nearest western corner of the house and 33.22m from the other western corner recorded.
T7	Yes	Species: Norway Spruce Latin: Picea abies Maturity: Mature	Unknown	No	27	5s	1	720	6	7	7	7	4	Crown-Fair, Stem-Ivy, Basal Area-Good	B1	20 to 40 yrs.	Fair	Pre-construction	Recommended action: No action	24.05.24	Tree is located approximately 1m from the eastern boundary with a main stem heavily covered in ivy which ideally should be severed.

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Root protection calculations

Tree number	No. of stems	Stem 1 (or mean diameter for >5 stems)	RPA for 1 stem (m2)	Radius (m)
T1	1	690	215	8.28
T2	1	295	39	3.54
T3	1	620	174	7.44
T4	1	865	338	10.38
T5	1	475	102	5.70
T6	1	250	28	3.00
T7	1	720	234	8.64

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Site photographs

