

**BOORLEY GREEN DEVELOPMENT
PHASE 2 (NON-RESIDENTIAL),
BOORLEY GREEN, HAMPSHIRE**

**ARBORICULTURAL IMPACT
ASSESSMENT AND METHOD
STATEMENT**

A Report to: Luken Beck MDP Ltd

Report No: RT-MME-129668-02

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REPORT VERIFICATION

This study has been undertaken in accordance with British Standard 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

Report Version	Date	Completed by:	Checked by:	Approved by:
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DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees, groups and hedgerows on site and to inform a review of the conclusions and recommendations made.

It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-assessed by a suitably qualified and experienced arboriculturist.

NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned to prepare a combined arboricultural impact assessment and method statement with respect to the construction of the Boorley Green Gateway Centre. It is understood that the site will be the subject of a planning application for non-residential development. To fulfil the project brief a desk study and a field survey of the trees present on site were undertaken in November 2018.

The desk study exercise identified that none of the trees present on site are protected by a Tree Preservation Order and the site is not situated within a Conservation Area.

An arboricultural walkover survey of the overall Boorley Green site was undertaken in November 2018 by Mark Kirk FdSc Arboriculture (Arboricultural Consultant). The report can be under Report number RT-MME-129668-01

The most significant trees recorded during the survey were a linear group and line of individual trees consisting of oak *Quercus* sp., and Lombardy poplar *Populus nigra Italica* which were located adjacent to the western boundary of the site.

In addition to the Oak and Lombardy poplar trees, which were generally considered to provide moderate to high retention value, a number of Hornbeam *Carpinus betulus v Fastigiata*, Monterey cypress *Cupressus macrocarpa*, poplar *Populus* sp., and Eucalyptus *Eucalyptus gunnii* trees were also present within the site. These specimens were less significant in the local landscape, have hanging deadwood and old pruning wounds, which has limited their retention value.

The proposed development of the Boorley Green Gateway Centre will require the removal of a small number of low-quality trees. It is not considered that the tree loss associated within the development will have a significant amenity impact. Following the proposed tree removal, it is noted that some works will be undertaken within the initial Root Protection Areas of retained trees. However, the nature of the works to be undertaken is such that harm to trees can be avoided by the adoption of appropriate working practices.

To ensure the protection of trees selected for retention during the course of the proposed development it is recommended that the guidance set out in Section 4 of this report is considered and that, during development of the site, the retained trees are protected by the erection of tree protection barriers to the specification set out in BS5837:2012.

Where works are to be completed within the initial Root Protection Areas of retained trees they will be supervised by the Project Arboriculturist. The Project Arboriculturist for the development is:

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1. INTRODUCTION

1.1 PROJECT BRIEF

In September 2016, the Boorley Green Development Consortium commissioned Middlemarch Environmental Ltd to prepare a combined Arboricultural Impact Assessment and Method Statement in respect of the proposed development of land at Boorley Green in Botley, Hampshire.

This report has been prepared with respect to the proposed construction of the Boorley Green Gateway Centre development.

The purpose of this report is to:

- Record the current condition of the trees found on the site and categorise them using criteria outlined in BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- Provide a Tree Constraints Plan that identifies any constraints to development presented by the trees to include root protection areas for the retained trees as described in BS5837:2012.
- Provide guidance detailing arboricultural constraints to development and factors to be considered during the detailed design of the proposed development.
- Detail the impact that the proposed development will have upon the site's existing tree stock and set out recommendations for the subsequent mitigation or avoidance of impact.

Middlemarch Environmental Ltd has previously prepared the following reports with respect to this site:

- Arboricultural Impact Assessment and Method Statement (Infrastructure Phase 1) – Report Number RT-MME-121155-01 Rev A;
- Arboricultural Impact Assessment and Method Statement (Phase 1 Development) – Report Number RT-MME-121155-02 Rev A;
- Pre-Development Arboricultural Survey, Impact Assessment and Method Statement (S278 Works) Hedge End to Boorley Green Cycleway – Report Number RT-MME-122207;
- Arboricultural Impact Assessment (S278 Works) Roundabout off Winchester Road – Report Number RT-MME-120959-01 Rev A;
- Arboricultural Impact Assessment (S278 Works) Maddoxford Lane Junction - Report Number RT-MME-120959-02 Rev A;
- Arboricultural Impact Assessment (S278 Works) Maddoxford Lane Footway - Report Number RT-MME-120959-03 Rev A, and;
- Arboricultural Impact Assessment and Method Statement (Phase 2 Residential) – Report Number RT-MME-123127-02.

1.2 SITE DESCRIPTION

The wider Boorley Green development site includes a former golf course, covering an area of 71 hectares, that retains water features, undulating ground, sand bunkers and a mix of hard and soft landscaping including rest areas, footpaths and routes for motorised golf carts.

The topography of the site is typically undulating, with small lakes and water features interspersed amongst trees and shrubs. There is a significant high point towards the southern section of the site that overlooks the remainder of the former golf course. Scattered trees, hedgerows, groups of trees and several woodlands are present across the site forming significant landscape and cultural features that can be viewed from afar.

The section of the site under consideration within this report, the Boorley Green Gateway Centre site, is an irregularly shaped parcel of land of approximately 2.6 ha in size which is in the north-eastern section of the wider Boorley Green development site at Ordnance Survey Grid Reference SU 5047 1506.

The Boorley Green Gateway Centre site has boundaries with Winchester Road to the west, the Botley Park Hotel to the south and with the wider Boorley Green development site to the north and east.

The location of the trees surveyed can be found on Middlemarch Environmental Ltd Drawing Number C129668-02-01, contained within Section 7 of this report.

1.3 DEVELOPMENT PROPOSALS

The proposed development under consideration within this report relates to a reserved matters application seeking approval for the layout, appearance, scale and landscaping (pursuant to outline planning permission O/12/71514 which was subject to an Environmental Impact Assessment) with regard to the mixed use and assisted living elements of the masterplan, comprising 933 sqm of employment floorspace (B1), a 378 sqm convenience foodstore (A1 Use Class), 389 sqm of flexible retail floorspace (A1/A2/A3) and 68 residential units for older persons (C3 Use Class) with associated parking, landscaping, drainage, road infrastructure and pedestrian and cycle links.

The application under consideration is for the development of mixed-uses under the extant outline planning permission for Boorley Green granted November 2013 (ref: O/12/71514). The proposals comprise:

- 933 sqm of light industrial units
- 767 sqm of retail floorspace
- 68 units (C3) of assisted living accommodation
- Associated parking
- Associated cycle parking
- Associated refuse storage
- Associated landscaping

The proposed development has been designed so that safe and healthy existing trees are retained wherever possible and that those trees to be retained are not significantly impacted upon by the development.

1.4 DOCUMENTATION PROVIDED

This assessment is based upon the information provided by the client in addition to information collected by Middlemarch Environmental Ltd during several surveys of the site undertaken during 2016. The documents and drawings considered are detailed within Table 1.1.

Author	Document	Reference	Date
Survey Solutions	Topographical Survey (14 sheets)	10633cv-01 to 10633cv-14 inclusive	Dec 2011
Thrive Architects	Location Plan – Gateway Centre	GC_LP.01	Oct 2016
Thrive Architects	Site Layout	SL01_GC P4	Oct 2016
PFA Consulting	Gateway Centre Indicative Levels	B641/502	Oct 2016
PFA Consulting	Gateway Centre Indicative Drainage Strategy	B641/503	Oct 2016

Table 1.1: Documentation Considered

2. STATUTORY PROTECTION

2.1 TREE PRESERVATION ORDER AND CONSERVATION AREA DESIGNATIONS

Eastleigh Borough Council confirmed in an email on the 2nd November 2018 that there are no Tree Preservation Orders within or closely surrounding the site and an internet search using the online mapping provided by Eastleigh Borough Council (<https://www.eastleigh.gov.uk/council/interactive-maps-of-the-borough>) confirms that the study area is not situated within a Conservation Area.

Reference to the Multi Agency Geographical Information for the Countryside (MAGIC) website indicates that no ancient woodland sites have been recorded within 15 metres of the survey area.

2.2 PROTECTED SPECIES

Birds

The Conservation of Habitats and Species Regulations 2010 (as amended) places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds. Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

As the trees on, and adjacent, to the site provide potential habitat for nesting birds all tree work should ideally be completed outside the nesting bird season (generally March to September). If this is not possible then the vegetation should be subject to a nesting bird inspection by a suitably experienced ecologist prior to commencement of works. If any active nests are identified then the vegetation, and a defined buffer zone, will need to remain in place until the young have naturally fledged.

Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong. As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

Generally, should the presence of a bat roost be suspected whilst completing works on any trees on site then an appropriately licensed bat worker should be consulted for advice.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 INTRODUCTION

This section of the report details the potential impacts that the non-residential elements of the proposed development may have upon the site's tree stock. The assessment has been based upon the documents detailed in Table 1.1 with reference to the results of the Arboricultural Survey undertaken by Barrell Tree Consultancy in October 2012 and updated by Middlemarch Environmental Ltd in September 2016.

The location of the trees within the site can be found on drawing number C129668-02-01 in Section 5 of this report.

3.2 IMPACTS FROM DEVELOPMENT LAYOUT

3.2.1 Tree Removal

The proposed development has been designed so that, where possible, existing trees are retained. In particular, the retention of trees adjacent to the boundaries of the site, which provide good screening value, is proposed. However, to accommodate the proposed development it will be necessary to remove several trees within the site.

The trees and groups to be removed are detailed within Table 3.1 and are also identified on the Tree Protection Plan, Drawing Number C129668-02-01, in Section 5 of this report.

Reference Number	Species	BS5837 Category
T171	Hornbeam	C
T172	Hornbeam	C
G181	Mixed Species	C
G173*	Lombardy Poplar	C
<u>Key:</u> *: Partial removal of trees within group.		

Table 3.1: Group and Hedgerow Removal

The Boorley Green Gateway phase of the proposed development will require the removal two individual trees and one group of trees. In addition, two trees within one further group, number G173, are to be removed.

It should be noted that group number G181, whilst primarily composed of low value specimens, also contains one mature Oak of a Category B value. This specimen is visually prominent, and it is considered that it's loss from the site would have an impact on the visual amenity of the local landscape. However, it is understood that group 181 was identified for removal in the approved outline planning application and as such, replacement tree planting is recommended in order to mitigate for any impacts to local amenity resulting from the loss of this Oak.

The remaining trees and group to be removed were assessed as being of a low retention value in the Arboricultural Survey undertaken by Barrell Tree Consultancy in October 2012. It is not considered that the loss of trees of a low retention value should be a constraint to development as either, they are not of significant landscape importance, or they are in a poor condition and unsuitable for retention beyond a period of ten years.

Overall it is expected that the tree removal required to facilitate the non-residential phase of the proposed development will not have a significant impact on the visual amenity value of the site and can be fully mitigated through supplementary planting.

3.2.2 Tree Pruning

In addition to the proposed tree removal there are areas on site where it may be necessary to undertake access facilitation pruning works to retained trees to minimise the potential for accidental branch damage to occur during construction. In addition, as the phases of construction evolve there will be a requirement to prune vegetation where it overhangs proposed highways and footways to provide adequate clearance for construction works and later pedestrian and vehicular use. Until these have been constructed it would be difficult to predict the nature of these works.

As such, a tree works schedule should be compiled once the project commencement date has been announced and the methodology of works submitted by the Contracts Manager. Additionally, the Consortium must consider the long-term facilitation pruning requirements throughout the phased build program which is predicted to be a five to seven-year plan.

All tree works should be carried out by a suitably qualified and experienced arborist to British Standard 3998:2010; Tree work – Recommendations.

3.3 IMPACTS FROM DEMOLITION AND RELATED OPERATIONS

3.3.1 Building Demolition

There are no areas on site where the demolition of existing buildings is required near to trees.

3.3.2 Removal of Hard Surfaces

There are no existing areas of hardstanding present within the Root Protection Areas (RPA) of the retained trees and therefore no conflict is anticipated.

3.3.3 Removal of Services

The location of existing services was not available at the time of writing this report. However, at the time of writing several ongoing works to provide services across the site are being carried out. Gas, electricity and water are all being installed. Where the installation of services has already occurred, then these were highlighted within the Phase 1 and Infrastructure Arboricultural Reports, see Section 1.1 for more details.

3.3.4 Ground Remediation

No information regarding proposed soil remediation works has been provided. However, the previous usage of the site is considered unlikely to have resulted in areas of soil contamination that would require excavation and disposal, or treatment works, to be undertaken. As such it is not considered that ground remediation works are likely to impact upon retained trees.

3.4 DIRECT IMPACTS FROM CONSTRUCTION

3.4.1 Works within RPAs

The proposed development of the Boorley Green Gateway Centre site will require construction works to be completed within the initial Root Protection Areas (RPAs) of several retained trees.

In this respect new foul water sewers are proposed for construction within the initial RPAs of tree numbers T175, T176 and T178. If these are installed using an open cut trench method, some root damage would be expected, however, as the works would occur at the periphery of the tree's RPAs, the extent of harm expected is unlikely to result in significant impact on the crown.

Nonetheless, to avoid harm occurring to the root systems of these trees from installation of new drainage it is recommended that the works are completed in accordance with a precautionary methodology as detailed in Section 4.9.

Additionally, works to construct a new cycleway and pedestrian link, and to enhance the existing farm entrance point off Winchester Road will require the construction of new hard surfaces within the initial RPAs of tree numbers T174, T175, T176, T178, T179 and T180 and within the RPAs of trees forming group number G173. As with the foul water sewer construction these works are predominately taking place at the

periphery of the RPAs of the retained trees and thus excessive root damage from completion of the development is not anticipated. Nonetheless, to minimise the potential for root damage to occur it is recommended that the new hard surfaces are constructed in accordance with a no-dig methodology as detailed in Section 4.12.

3.4.2 Works within Canopy Spreads

The proposed development of the Boorley Green Gateway Centre site will not require significant construction activities to be undertaken within the crown spreads of retained trees and as such no impact is anticipated.

3.4.3 Working Space

It is not anticipated that the proposed development of the Boorley Green Gateway Centre site will require the provision of working space within the RPAs of retained trees to allow its implementation.

3.5 IMPACTS FROM CONSTRUCTION RELATED OPERATIONS

3.5.1 Site Access

It is understood that construction access to the site will be the existing highway site entry points off Winchester Road. It will be necessary to ensure retained trees adjacent to the access routes are protected from potential impact damage by the installation of tree protection barriers prior to the commencement of the development.

3.5.2 Delivery and Storage of Materials

Material deliveries to the site will utilise the existing access points off Winchester Road. Retained trees will be protected from harm by the prior installation of tree protection barriers and the completion of access facilitation pruning works.

3.5.3 Site Compound

Due to the size of the site and the multiple building phases by each of the three Consortium Members the site compound within the site will remain fluid as the phasing of the site will require site compounds at the point of construction.

The locations of the site compounds will be carefully considered and be located outside of the RPAs of retained trees. All retained trees will be protected from harm by the prior installation of tree protection barriers and the completion of access facilitation pruning works.

3.5.4 Contractor's Parking

The locations for contractor's parking have yet to be determined for each Consortium Member. The locations for the contractor's parking will be carefully considered and located outside of the RPAs of retained trees. All retained trees will be protected from harm by the prior installation of tree protection barriers and the completion of access facilitation pruning works.

3.6 POST-DEVELOPMENT IMPACTS

3.6.1 Shading

The nature of the non-residential phase of the proposed development is such that there are no areas on site where significant shading as a result of proximity to retained trees is expected to occur. As such, no significant conflicts between the proposed development and retained trees as a result of shading are anticipated.

3.6.2 Privacy and Screening

The retention of trees adjacent to the boundary of the Boorley Green Gateway Centre site is proposed. On this basis it is evident that privacy and screening has been considered.

3.6.3 Direct Damage to Structures

Following proposed tree removal and pruning works, it is not considered that there are any areas on site where retained trees will be in such close proximity to buildings and structures within the non-residential phase of the proposed development that direct damage, through branch whipping or root growth, are likely to occur.

3.7 SUMMARY OF IMPACTS

In summary it is considered that the proposed construction of the Boorley Green Gateway Centre development will not have a significant impact upon the visual amenity of the local area as a result of the proposed tree removal.

Whilst some works are to be undertaken within or near the RPAs of retained trees the nature of those works are such that they can be completed without impacting significantly upon the trees subject to the adoption of appropriate working practices.

4. ARBORICULTURAL METHOD STATEMENT

4.1 INTRODUCTION

The following sections of this report detail the specific measures to be adopted to ensure the protection of retained trees during the proposed development.

The site contractor must ensure that they read and understand all the following sections prior to commencement of any onsite works.

4.2 SUPERVISED (WORKS) ZONE

Due to the size and previous use of the site there are large areas of the proposed construction of the shared infrastructure where there will be no conflict with retained trees. In this respect, the report concentrates on providing detail in areas where impact or conflict is anticipated. As such the term Supervised Zones will be used to identify these particular sites.

The Supervised Zone is the area around retained trees in which any works must be undertaken in accordance with the details set out within this document; to ensure that the tree roots and canopy are protected from damage during the construction processes.

The extent of the Supervised Zone is based upon guidance within BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' in particular the Root Protection Areas and canopy spreads of retained trees are considered. The Supervised Zones are the areas in which tree protection barriers and/or ground protection will be installed prior to the construction works taking place. The Supervised Zones are shown on the Tree Protection Plan, Drawing Number C129668-02-01 (Section 5).

All operations to be undertaken within the Supervised (Work) Zone must be completed in accordance with the specific methodologies set out within this document and, where specified, be supervised and audited by the Project Arboriculturist.

It is of critical importance that no works that cause compaction of the soil or severance of significant tree roots are undertaken within the Supervised Zone.

4.3 PROTECTIVE BARRIERS

The protective barriers will be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site or the stripping of soil commences. Signs will be installed on the protective barriers to inform site staff of responsibilities and these will include the headings listed in Appendix 1.

The locations of the protective barriers to be installed are shown on the Tree Protection Plan; Drawing Number C129668-02-01, Section 5.

The protective barriers are to be constructed in accordance with the specification detailed in BS5837:2012 (Figure 2; Appendix 2). Any variation to the specification of the protective barrier will be agreed with the Local Planning Authority Arboricultural Officer.

The Construction Contractor will inform the Project Arboriculturist when the protective barriers have been installed and the Project Arboriculturist will attend site to confirm that they have been installed in accordance with the Tree Protection Plan. The Local Planning Authority will be notified in writing once this inspection has been undertaken.

The barriers will remain in place until completion of the development and then they will only be removed with the consent of the Local Planning Authority to permit completion of the scheme.

Other than works detailed within this method statement or approved in writing by the Local Planning Authority no works, including storage or dumping of materials, shall take place within the Construction Exclusion Zone as defined by the protective barrier.

4.4 GROUND PROTECTION

There are no areas where the installation of ground protection measures will be required to facilitate the construction of the Boorley Green Gateway Centre site. Where works to install new hard surfaces are to occur within the RPAs of trees the affected areas will be protected by installation of tree protection barriers prior to the works in these areas being undertaken.

All new hard surfaces within the RPAs of retained trees are to be constructed in accordance with a no-dig methodology as detailed in Section 4.12.

4.5 ACCESS DETAILS

Construction Vehicles

It is understood that construction traffic will access the site via the existing road network off Winchester Road and will progress throughout the site utilising access tracks, demarcated by traffic barriers, which are to be installed. Tree protection barriers will be installed to protect nearby trees from potential impact damage and to prevent vehicles from accidentally encroaching onto areas of unprotected ground within the RPAs of retained trees.

4.6 CONTRACTOR'S CAR PARKING

The location for the Contractor's Car Parking for each developer has yet to be determined, however, due to the size and nature of the site the establishment of a car parking area will be made outside of the RPA of retained trees.

The Contracts Manager for each developer will be responsible for ensuring that no harm occurs to the retained trees by installing tree protection barriers, suitably signed where vehicles may accidentally encroach in to a trees RPA.

Should the demand for car parking exceed the available area alternative off-site parking arrangements will be made.

4.7 CONTRACTOR'S COMPOUND

The location of the Contractor's Compound for each developer has yet to be determined, however, due to the size and nature of the site any compounds will be established outside of the RPA of retained trees.

The Contracts Manager for each developer will be responsible for ensuring that no harm occurs to the retained trees by installing tree protection barriers.

4.8 STORAGE SPACE

The storage of materials for the proposed development will occur only in the Contractor's Compound. No materials are to be stored on bare ground within the RPAs of retained trees.

4.9 SERVICE REQUIREMENTS

Below Ground Services

Construction of the proposed new foul water sewers will encroach into the RPAs of retained trees.

To prevent severance of tree roots where the path of the services passes within the RPA of retained trees the use of trenchless insertion methods, such as directional drilling or thrust boring, for the installation of the new services is recommended. Where such an approach is adopted the entry and retrieval pits must be sited outside the root protection area of any retained tree.

4.10 DEMOLITION, HARD SURFACE REMOVAL & REMOVAL OF STRUCTURES

There are no existing buildings, structures or hard surfaces present within the RPAs of retained trees on site that require demolition or removal.

4.11 SITE GRADIENTS

No significant alterations of ground level are proposed within the Boorley Green Gateway Centre site and no alterations of ground level, other than those associated with the construction of new hard surfaces in accordance with a no-dig methodology, within the RPAs of retained trees are anticipated.

4.12 NEW HARD SURFACES

To ensure the protection of tree roots the new hard surfaced areas (within the RPAs of retained trees) will be constructed in accordance with the no-dig methodology set out below and works will be completed under supervision of the Project Arboriculturist.

Methodology for No-dig Construction

1. Prior to commencement of the works Tree Protection Barriers will be installed in the positions shown on the Tree Protection Plan; Drawing Number C129668-02-01, Section 5.
2. Following this the areas to be worked upon will be marked out and investigated to identify if any existing services are present.
3. The existing ground cover and vegetation present within the area will be carefully stripped / strimmed using hand held tools.
4. The exposed soil will be covered with a permeable geotextile membrane. The geotextile layer shall be laid with overlaps of 300 mm beyond the edge of the proposed construction and it shall be temporarily retained with pins, stakes or weights.
5. A cellular confinement system will then be installed and fixed in position in accordance with the manufacturer's recommendations. The cellular confinement system to be used should be specified by an engineer though the use of Geosynthetics 150 or 200 mm Cellweb, or similar, is typically appropriate for tree root protection beneath trafficked areas.
6. The cellular confinement system will then be filled with the specified aggregate in accordance with the manufacturer's recommendations.
7. All plant movements involved in filling the cellular confinement system with aggregate shall be undertaken from existing hard surfaces or areas of previously installed ground protection.
8. The infill aggregate will then be rolled or whacked to ensure cohesion with the cellular confinement system.
9. The desired finished surface shall then be installed and will be permeable and gas porous.

4.13 ON SITE MONITORING REGIME & CONTACT DETAILS

All operations will be monitored by the main contractor. The main contractor will ensure that all works within this document are followed (this will be built into the contract specification).

If any issues arise in relation to the retained trees the Project Arboriculturist will be contacted for advice. The Project Arboriculturist for the development is:

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Induction and Personnel Awareness

Details of tree protection and methods of working around trees will be included within site inductions to new members of site staff.

A copy of this document and the related Tree Protection Plans will be kept on site and accessible to staff.

Monitoring/Audits

A pre-commencement site meeting will be arranged between the contractor, Project Arboriculturist and any other interested party. During this meeting all outstanding items will be finalised and any queries or clarifications necessary will be addressed. The results of the pre-commencement meeting will be communicated to the Local Planning Authority.

Proportionately spaced inspection audits will be undertaken by a suitably experienced Arboriculturist once the development commences. Feedback will be provided to the Local Planning Authority Arboricultural Officer on completion of each inspection visit.

Works Requiring Arboricultural Supervision

The nature of the site is such that all works within the Supervised Zone have the potential to encroach upon the Root Protection Area (RPA) of one or more retained tree. It is essential that all works undertaken within the RPAs of retained trees are performed with a high level of care. Arboricultural supervision is essential to minimise the risk of harm occurring to trees through misinterpretation of the specific methods to be adopted in sensitive areas and due to evolution of the planned works. As such ongoing works in proximity to retained trees must be inspected regularly by the Project Arboriculturist and in some situations full time supervision will be required. The activities considered to require full time arboricultural supervision on this site are:

- Construction of the new hard surfaces within the RPAs of retained trees; and
- Installation of new underground services within the RPAs of retained trees.

4.14 USE OF SUBCONTRACTORS

The main contractor for each developer will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site. All sub-contractors shall be given a specific arboricultural induction for the site to inform them of the specific working practices to be adopted to ensure the protection of retained trees.

4.15 PREVENTION OF SOIL CONTAMINATION

Where any vehicles or plant are to be operated or parked in a static location within the site they must be sited on a spill containment berm. All vehicles and plant operating within the site must carry a suitable spill containment and absorption kit.

Should any spillages occur on site they must be contained and prevented from spreading. At the time of any spillage the main contractor will contact the Project Arboriculturist for advice.

All refueling and repairs to machinery and equipment will occur within the Contractors Compound for each developer or within off-site positions. At no time must the refueling of vehicles, plant or tools occur within the wider site.

4.16 REMEDIAL TREE WORKS AND TREE REMOVAL

All tree works are to be completed prior to commencement of construction works and installation of the protective barriers. Additionally, all tree and hedgerow removal must correspond with the Land to the North of Boorley Green, Botley – Infrastructure: Habitat Protection, Management and Monitoring Plan. The trees to be removed are detailed within Table 3.1.

All tree works are to be completed by suitably qualified and insured arboricultural contractors in accordance with BS3998:2010 'Tree Work – Recommendations'.

All arisings from the tree removal works shall be retained on site and no vehicles are to operate within the areas of unprotected ground where retained trees are located unless appropriate ground protection measures are installed.

4.17 RESPONSIBILITIES

It will be the responsibility of the Contracts Manager for each developer to ensure that any planning conditions attached to the planning consent are adhered to at all times and that an auditable monitoring regime exists in regards to tree protection and is adopted on site in accordance within the guidelines of BS5837:2012.

The main contractor for each developer will be responsible for contacting the Local Planning Authority or Project Arboriculturist (See Section 4.13 for contact details) should any issues be raised related to the trees on site.

The Contracts Manager for each developer will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the demolition and construction processes. Tree protection measures will remain in position until completion of all construction works on the site.

The barriers and signs will be maintained in position at all times and checked on a regular basis by a designated person on site. An auditable system of management of tree protection measures must be made available for scrutiny by the Local Planning Authority should they require confirmation of such works.

4.18 GENERAL PRECAUTIONS

No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 15 m of the stem of any tree that is to be retained. No fires will be lit within 20 m of the stem of any tree that is to be retained.

No alterations to existing ground levels or surfaces shall be undertaken within the RPAs of retained trees other than in accordance with the methods set out in this document without the permission of the Project Arboriculturist and Local Planning Authority.

5. DRAWINGS

Drawing C129668-02-01 – Tree Protection Plan

REFERENCES AND BIBLIOGRAPHY

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APPENDICES

APPENDIX 1: Headings for Protective Barrier Notices and Example Protection Sign

APPENDIX 2: Details of Protective Barrier

APPENDIX 1

Headings for Protective Barrier Notices

Root Protection Area (RPA) Model Notice

DON'T excavate within this area

DON'T use any form of mechanical plant with this area

DON'T store materials, plant or equipment within this area

DON'T move plant or vehicles within this area

DO contact the Local Authority Arboricultural Officer or owner of the tree if excavation within this area is unavoidable

DO protect any exposed roots uncovered within this area with dry sacking

DO backfill with a suitable inert granular and top soil material mix as soon as possible on completion of work

ANY WORK in this area requires a permit from the Local Authority Arboricultural Officer



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**

APPENDIX 2

Details of Protective Barrier

Figure 2 Default specification for protective barrier

