

**LAND OFF ANDERSON AVENUE,  
RUGBY**

**ARBORICULTURAL IMPACT  
ASSESSMENT AND METHOD  
STATEMENT**

A Report to: BAM Construction Ltd

Report No: RT-MME-127405

Date: March 2018



Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ  
Tel: 01676 525880 Fax: 01676 521400  
E-mail: [admin@middlemarch-environmental.com](mailto:admin@middlemarch-environmental.com) Web: [www.middlemarch-environmental.com](http://www.middlemarch-environmental.com)

## 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:
Final	06/03/18	Dean Moore Dip Arb (Arboricultural Consultant) & Ben Jones MSc GradCIEEM (Arboricultural Support Officer)	Dr Philip Fermor CEnv, MCIEEM (Managing Director)	Dr Katy Read CEcol, CEnv, MCIEEM, MCIWEM, C.WEM, DipSM (Executive Director)

## 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.

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## **1. INTRODUCTION**

### **1.1 PROJECT BRIEF**

In February 2018, BAM Construction Ltd commissioned Middlemarch Environmental Ltd to prepare a combined Arboricultural Survey and Impact Assessment in respect of the proposed development of land off Anderson Avenue in Rugby, Warwickshire.

The proposed development of the site is the construction of a new secondary school and SEN school, as well as associated hard and soft landscaping works.

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 carried out a Pre-development Arboricultural Surveys for Gardiner and Theobold LLP at this site. The findings of this survey are detailed in Report Number RT-MME-122404-02 Rev B.

Additionally, Middlemarch Environmental has also prepared a Pre-development Arboricultural Survey and an Arboricultural Impact Assessment for Gardiner and Theobold LLP with respect to the adjacent Rokeby Infants School, which is to be demolished to facilitate the proposed development. The findings of these assessments are detailed in Report Numbers RT-MME-121876-03 Rev A and RT-MME-122859 Rev A respectively. Where tree numbers are shown with an 'a' suffix, these reference trees recorded during the Rokeby Infants School Arboricultural Survey.

### **1.2 SITE DESCRIPTION**

The site under consideration is comprised of two irregular shaped parcels of land which are both located adjacent to Anderson Avenue, Long Furlong and Fawsley Leys in Rugby, Warwickshire. The first parcel, approximately 11.5 ha in size, comprises agricultural fields and is centered at Ordnance Survey Grid Reference SP 5033 7384. The second parcel, approximately 1.4 ha in size, comprises the Rokeby Infants School off Anderson Avenue and is centered at Ordnance Survey Grid Reference SP 5025 7384.

The site is located within a predominately residential area on the southern fringes of Rugby in the county of Warwickshire. To the north the surrounding area is dominated by residential development whilst to the south fields dominate the wider landscape.

The northern boundary of the first parcel is delineated by residential gardens off Long Furlong and Rokeby Primary School, whilst to the east and south it extends into agricultural fields. The western boundary of the first parcel is delineated by residential gardens off Fawsley Leys, with further residential development beyond.

The northern and western boundaries of the Rokeby School parcel are delineated by mixed species hedgerows beyond which are residential developments. To the east the second parcel extends to abut agricultural fields with the boundary line being defined by a mixed-species hedgerow. To the south it abuts Rokeby Primary School, with the boundary line being partly defined by a linear group of trees.

At the time of the Pre-development Arboricultural Survey (July 2016), the first parcel was dominated by agricultural fields, with scattered and grouped trees and hedgerows along present predominantly along the boundaries. The second parcel, surveyed in March 2016, was dominated by the existing school buildings,

with areas of hardstanding and amenity grassland also present. The majority of notable vegetative features are located adjacent to or beyond the site boundaries.

A total of thirty-four individual trees, eight groups of trees and seven hedgerows were recorded within the first parcel. The location of the trees surveyed can be found on Middlemarch Environmental Ltd Drawing Number C127405-01, contained within Section 7 of this report.

With respect to the second parcel, a total of twenty-seven individual trees, five groups of trees and six hedgerows were recorded during the survey. The location of these trees can be found on Middlemarch Environmental Ltd Drawing Number C127405-02, contained within Section 7 of this report.

### 1.3 DEVELOPMENT PROPOSALS

The proposed development of the site is the construction of a new secondary school with associated hard court and grass sports pitches, a new SEN school and associated hard and soft landscaping. Additionally, the proposed development will include the demolition of the existing Rokeby Infants School in the north of the site to facilitate further grass sports pitches.

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 the Pre-development Arboricultural Surveys of the site undertaken in July 2016 (RT-MME-122404-02 Rev A) and March 2016 (RT-MME-121876-03 Rev A). The documents and drawings considered are detailed within Table 1.1.

Author	Document	Drawing Number	Date
BAM Design Ltd	Rugby Free Secondary School - Foundation GA	4726-BMD-Z1-F1-DR-S-22005	-
BAM Design Ltd	Quest Academy - Foundation GA	QA-BMD-Z1-FN-DR-S-21000 P01	Nov 2017
BAM Design Ltd	Cut and Fill Analysis after Sub-Soil Strip	4726-BMD-Z1-XX-DR-S-20002 P01	Jan 2018
Daily Henderson Landscape Architects	Site Masterplan	526-1101	Jan 2018
Daily Henderson Landscape Architects	Overall Levels Strategy	526-1109	Jan 2018
Daily Henderson Landscape Architects	Quest Academy - Landscape Site Plan	526-2001 B	Jan 2018
Daily Henderson Landscape Architects	Quest Academy - Hard Paving Plan	526-2003 A	Jan 2018
Daily Henderson Landscape Architects	Quest Academy - Planting Layout	526-2004 A	Jan 2018
Daily Henderson Landscape Architects	Rugby Free Secondary School - Landscape Site Plan	526-3001	Jan 2018
Daily Henderson Landscape Architects	Rugby Free Secondary School - Hard Paving Plan	526-3003	Jan 2018
Daily Henderson Landscape Architects	Rugby Free Secondary School - Planting Layout	526-3004	Jan 2018

**Table 1.1: Documentation Provided**

## **2. METHODOLOGY**

### **2.1 DESK STUDY**

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPOs) or if the site is situated within a Conservation Area. This involved consultation with the Local Planning Authority.

### **2.2 CONDITION STATUS**

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

All trees have been assigned a unique reference number. Individual trees above 75 mm in diameter (at 1.5 m above ground level) have had their position plotted to a survey drawing. The trees were visually assessed and a schedule prepared listing: tree number, species, trunk diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining life expectancy in years. Measurements for tree height, first branch height, crown clearance and crown spread were taken to an accuracy of 0.5 m. Stem diameter measurements were recorded to the nearest 10 mm. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Section 4.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- Category U: Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

- 1: Mainly arboricultural qualities
- 2: Mainly landscape qualities
- 3: Mainly cultural values, including conservation.

### **2.3 ROOT PROTECTION AREA (RPA)**

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the tree's viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

### **3. STATUTORY PROTECTION**

#### **3.1 TREE PRESERVATION ORDER AND CONSERVATION AREA DESIGNATIONS**

Dave Gower (Rugby Borough Council, 2017, *Pers. Comm.*) confirmed via email on the 12<sup>th</sup> January 2017 that five trees present within the study area are subject to a Tree Preservation Order ((TPO) Order No. 393). This order applies to three Oaks and an Ash located within the mature hedgerow running through the centre of the playing fields, as well as an individual Oak in the north-west corner of the study area.

An internet search using online mapping provided by Warwickshire County Council (<http://maps.warwickshire.gov.uk/inspire/>) also confirmed that an Oak tree located within a residential garden off Fawsley Leys, which overhangs the study area along its western boundary, is subject to a TPO (Order No. 255-T1-Oak).

No works must be undertaken on the trees identified as being subject to TPOs that contravene the order. Works include pruning, topping, lopping, uprooting or wilfully damaging these trees. Any proposed pruning works will need to be fully specified and agreed within any planning application. If works are not included within the planning application, a separate TPO application will be required to be submitted to the Local Authority for permission to undertake any works (approximately an 8 week process).

#### **3.2 PROTECTED SPECIES**

##### **Bats**

Mature trees often contain cavities, hollows, peeling bark or woodpecker holes which provide potential roosting locations for 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 (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. Consequently causing damage to a bat roost constitutes an offence.

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.

##### **Birds**

Trees and hedgerows offer potential habitat for nesting birds which are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties. This legislation makes it an offence to intentionally or recklessly damage or destroy an active bird nest or part thereof.

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.

## 4. ARBORICULTURAL IMPACT ASSESSMENT

### 4.1 INTRODUCTION

This section of the report details the potential impacts that 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 Pre-development Arboricultural Surveys undertaken in July 2016 (RT-MME-122404-02) and March 2016 (RT-MME-121876-03 Rev A).

The location of the trees can be found on Drawing Numbers C127405-01 and C127405-02 in Section 6 and a schedule of the trees surveyed can be found within the Pre-development Arboricultural Surveys (RT-MME-122404-02 and RT-MME-121876-03 Rev A respectively).

### 4.2 IMPACTS FROM DEVELOPMENT LAYOUT

#### 4.2.1 Tree Removal

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

The trees to be removed are detailed within Table 3.1 additionally they are identified on the Draft Tree Protection Plans, Drawing Numbers C127405-03 and C127405-04 respectively, in Section 6 of this report. Tree, group and hedgerow numbers with an 'a' suffix refer to specimens recorded within the footprint of Rokeby Infants School (Report Number RT-MME-121876-03 Rev A) in the northern extent of the site.

Tree Number	Species	BS5837 Category	Reason for Removal
15	Ash	U	Removal required due to poor structural condition.
17	Ash	U	Removal required due to poor structural condition.
35	Whitebeam	U	Removal required due to poor structural condition.
1a	Whitebeam	U	Removal required due to poor structural condition.
4a	Whitebeam	B1	Located within footprint of proposed football pitch.
21a	Flowering Cherry	C1	Removal required to facilitate proposed soft landscaping works.
22a	Elder	C3	Removal required to facilitate proposed soft landscaping works.
23a	Sycamore	C1	Removal required to facilitate proposed soft landscaping works.
26a	English Oak	U	Removal required due to poor structural condition.
27a	Whitebeam	U	Removal required due to poor structural condition.
G1	Mixed Species	C2, 3	Located within footprint of proposed access road off Anderson Avenue.
G5	Black Pine	U	Removal required due to poor structural condition.
G1a	Mixed Species	C3	Removal required to facilitate proposed soft landscaping works.
G3a	Mixed Species	A2, 3	Removal required to facilitate proposed soft landscaping works.
H2*	Mixed Species	C2, 3	Partial removal required to facilitate installation of new pedestrian footpath.
H1a	Mixed Species	C2, 3	Removal required to facilitate proposed soft landscaping works.
H2a	Mixed Species	C2, 3	Removal required to facilitate proposed soft landscaping works.
H6a	Mixed Species	C2, 3	Removal required to facilitate proposed soft landscaping works.
<u>Key</u> *: Partial removal of trees within hedgerow.			

**Table 3.1: Tree Removal**



Overall the proposed development will require the removal of ten individual trees, four groups of trees and three hedgerows. The partial removal of a further hedgerow will also be required, along with the clearance of several areas of shrub planting.

It should be noted that six of the individual trees, and one group of trees, identified for removal were considered to be unsuitable for long-term retention in the Arboricultural Survey of the site. The removal of these trees would be required irrespective of the proposed development due to their poor condition and as such their loss should not be seen as a material consideration in the planning process.

It was noted that one individual Whitebeam (tree number 4a) and a mixed species tree group (number G3a) to be removed from the north of the site were considered to be of moderate, Category B, value and a high, Category A, retention value respectively. The loss of moderate or high quality specimens would typically be associated with an impact upon the landscape character of the local area. However it should be noted that these specimens are relatively excluded from view of the adjacent residential properties and as such impacts on visual amenity are likely to be localised in nature. Nonetheless, it is recommended that the loss of these specimens be mitigated post-development through replacement tree planting.

The remaining trees, groups and hedgerows that will require complete or partial removal are all specimens that were considered to be of a low retention value in the Arboricultural Survey. It is not considered that the removal of these trees should be seen as a constraint to the development of the site as they are not in such a condition that they are likely to make a lasting contribution to the landscape character of the site.

#### 4.2.2 Tree Pruning

In addition to the proposed tree removal there are areas on site where it will be necessary to undertake access facilitation pruning works to retained trees present on the site to minimise the potential for branch damage to occur during construction.

Tree Number	Species	BS5837 Category	Pruning Works Required
16	English Oak	A1	Reduce lateral crown towards southern boundary by approximately 1.0 m to provide clearance for construction works.
19	English Oak	A1 Int.	Reduce lateral crown towards southern boundary by approximately 1.0 m to provide clearance for construction works.
24	English Oak	A1 Int.	Reduce lateral crown towards western boundary by approximately 1.0 m to provide clearance for construction works.
25	English Oak	B1 Int.	Reduce lateral crown towards western boundary by approximately 1.0 m to provide clearance for construction works.
26	English Oak	A1	Reduce lateral crown towards western boundary by approximately 1.0 m to provide clearance for construction works.
29	English Oak	A1	Reduce lateral crown towards western boundary by approximately 0.5 m to provide clearance for construction works.
5a	Sycamore	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
6a	Sycamore	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
7a	Sycamore	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
8a	Sycamore	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
12a	Sycamore	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
13a	English Oak	A1	Lift southern aspect of crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for soft landscaping works.
14a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
15a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
16a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
17a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.

Table 3.2: Tree Pruning Works (continues)

Tree Number	Species	BS5837 Category	Pruning Works Required
18a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
19a	Weeping Willow	B1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
20a	Silver Birch	C1	Lift crown to adequate height (i.e. 3.5 m above ground level) to provide clearance for demolition and soft landscaping works.
G3	Mixed Species	A2, 3	Reduce overhanging crowns towards eastern site boundary to provide clearance for construction works.
G4	Mixed Species	B2, 3	Reduce overhanging crowns towards eastern site boundary to provide clearance for construction works.
G6	Mixed Species	B2, 3	Reduce overhanging crowns towards western site boundary to provide clearance for construction works.
G7	Mixed Species	C2, 3	Reduce overhanging crowns towards western site boundary to provide clearance for construction works.
H2	Mixed Species	C2, 3	Reduce overhanging crowns away from proposed pedestrian footpath.

**Table 3.2 (cont'd): Tree Pruning Works**

All of the tree pruning works required are likely to be of a minor extent and of a routine nature. As such it is not considered that they will have a significant impact upon the long-term health, or visual quality, of the trees.

### **4.3 IMPACTS FROM DEMOLITION AND RELATED OPERATIONS**

#### **4.3.1 Building Demolition**

The proposed development will require the demolition of the existing Rokeby Infants School in the north of site to facilitate landscaping works for new football pitches. Works to demolish the existing buildings will be required in close proximity to a number of retained trees. Where works to demolish existing buildings is required in proximity to retained trees, the guidance in Section 5.11 shall be adhered to.

#### **4.3.2 Removal of Hard Surfaces**

There are existing areas of hardstanding present within the Root Protection Areas (RPA) of tree numbers 13a, 14a, 15a, 16a, 17a, 18a, 19a, 20a and within the RPAs of trees within group numbers G5a. Where areas of hardstanding are to be removed within the RPAs of retained trees, the guidance detailed in Section 5.11 shall be adhered to.

#### **4.3.3 Removal of Services**

There are no areas on site where the removal of existing underground services are likely to require works within the RPAs of retained trees. As such, impacts to retained trees from this aspect of development are not anticipated.

#### **4.3.4 Ground Remediation**

No information regarding proposed soil remediation works have been considered. 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.

#### **4.3.5 Ancillary Operations**

Access to the site for demolition plant will be via the existing access track off Anderson Avenue. As noted in Section 3.2.2 some access facilitation works to the crowns of trees overhanging the access track may be required to minimise the potential for harm to occur to overhanging branches. The works required will be of a routine nature, and of a minor extent, and as such it is not considered that they will have a significant impact upon the long-term health of the trees.

#### 4.4 DIRECT IMPACTS FROM CONSTRUCTION

##### 4.4.1 Works within RPAs

The proposed development has been designed so that major works are not required within the RPAs of retained trees. However, as detailed within Table 3.3, there are some aspects of the development that will require works to be undertaken within the RPAs of retained trees.

Tree Number	Species	BS5837 Category	Works within RPA
3	Ash	B1	Installation of boundary fence.
6	Ash	B1	Installation of boundary fence.
16	English Oak	A1	Soft landscaping for proposed grass pitches.
19	English Oak	A1 Int.	Soft landscaping for proposed grass pitches.
24	English Oak	A1 Int.	Soft landscaping for proposed grass pitches.
25	English Oak	B1 Int.	Soft landscaping for proposed grass pitches.
26	English Oak	A1	Soft landscaping for proposed grass pitches.
29	English Oak	A1	Installation of new hardstanding sports pitches.
2a	English Oak	A1	Soft landscaping for proposed grass pitches.
3a	English Oak	A1	Soft landscaping for proposed grass pitches.
5a	Sycamore	A1	Soft landscaping for proposed grass pitches.
6a	Sycamore	A1	Soft landscaping for proposed grass pitches.
7a	Sycamore	A1	Soft landscaping for proposed grass pitches.
8a	Sycamore	A1	Soft landscaping for proposed grass pitches.
12a	Sycamore	A1	Soft landscaping for proposed grass pitches.
13a	English Oak	A1	Soft landscaping for proposed grass pitches.
14a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
15a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
16a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
17a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
18a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
19a	Weeping Willow	B1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
20a	Silver Birch	C1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
24a	Flowering Cherry	B1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
25a	Apple	B1	Removal of existing hardstanding. Soft landscaping for proposed grass pitches.
G3	Mixed Species	A2, 3	Soft landscaping for proposed grass pitches.
G2a	Mixed Species	A2, 3	Soft landscaping for proposed grass pitches.
G5a	Mixed Species	A2, 3	Soft landscaping for proposed grass pitches.
H2	Mixed Species	C2, 3	Installation of new hardstanding footpath.

**Table 3.3: Works in RPAs**

With respect to the boundary fence to be installed along the eastern site boundary it is noted that the route of the fence has been selected to avoid the retained trees wherever possible. Whilst in some locations its construction will require works to be undertaken within the RPAs of retained trees so long as such works are completed in accordance with the protective measures outlined in Section 5.14 of this report no significant impact upon the retained trees is likely to occur.

It should be noted that the areas of the RPAs affected by works to remove existing hardstanding are likely to have experienced restricted root development due to constraints on water and nutrient transport. On this basis, and subject to works proceeding according to the methodology detailed in Section 5.11, it is considered that the potential for harm to occur to the trees as a result of these works is minimal.

With respect to proposed soft landscaping works to be undertaken within the RPAs of retained trees, it is noted that the majority of areas where these works are to occur are already soft-surfaced. As such, the landscaping required is expected to be minimal in extent (i.e. mowing grass and marking out pitch lines). However, it is noted that the existing arable land in the south of the site will need to be reconfigured as amenity grassland for the provision of new football pitches. Where these works are required within the RPAs of retained trees, the guidance detailed in Section 5.15 shall be followed in order to minimise potential harm occurring to the roots of trees.

With respect to the installation of new hardstanding for the proposed sports pitch and pedestrian footpath, it is noted that these will be located at the periphery of the RPAs of tree number 29 and retained trees within hedgerow number H2. As such the works are considered unlikely to cause significant harm.

#### **4.4.2 Works within Canopy Spreads**

Following completion of access facilitation pruning works, as detailed in Section 3.2.2, there are no aspects of the proposed development expected to require works within the canopies of retained trees. As such, no impacts to retained trees from this aspect of development are anticipated.

#### **4.4.3 Working Space**

The provision of working space will be required at various points around the site to facilitate construction works in proximity to retained trees. In this respect, working space will be required within the Root Protection Areas (RPAs) of tree numbers 8, 9, 10, 11, 12, 14, 16, 19, 24, 25, 26 and 29. Where working space is to be provided within the RPAs of retained trees, ground protection measures shall be installed to prevent impacts occurring to the long-term health of the trees through soil compaction. Details for ground protection measures are provided in Section 4.2.3 of this report.

### **4.5 IMPACTS FROM CONSTRUCTION RELATED OPERATIONS**

#### **4.5.1 Site Access**

It is understood that construction access to the site will be provided along a new access road to be constructed off Anderson Avenue. It will be necessary to ensure retained trees adjacent to the access route are protected from potential impact damage by the installation of tree protection barriers prior to the commencement of the development.

#### **4.5.2 Delivery and Storage of Materials**

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

Areas for materials storage within the site have not been identified at this stage, however the nature of the site is such that ample opportunities exist for the storage of materials in areas well away from retained trees.

#### **4.5.3 Site Compound**

The proposed location for the contractor's compound during development of the site has not been identified at this stage, however the nature of the site is such that ample opportunities exist to create a site compound in areas away from retained trees exist.

#### **4.5.4 Contractor's Parking**

The locations for contractor's parking have not been identified at this stage, however the nature of the site is such that ample opportunities exist to provide car parking in areas outside of the RPAs of retained trees.

#### **4.6 POST-DEVELOPMENT IMPACTS**

##### **4.6.1 Shading**

The orientation of the site is such that the largest retained trees are located adjacent to the northern boundary, near the demolished Rokeby Infants School, and towards the southern elevation of the proposed Rugby Free Secondary School building. The remaining trees are predominantly located along the eastern and western site boundaries, however the proposed new buildings have been sited so that they are not in such close proximity to retained trees that significant shading of primary classroom spaces is likely to occur. As such it is not considered that a significant conflict between retained trees and the proposed properties as a result of shading is likely to occur.

##### **4.6.2 Privacy and Screening**

The proposed development has been designed so that the majority of the trees adjacent to the eastern and western site boundaries are retained to provide privacy and screening. Additionally tree planting is also proposed around the footprint of the proposed school buildings and parking areas. On this basis it is evident that privacy and screening has been well provided for.

##### **4.6.3 Direct Damage to Structures**

There are no areas on site where retained trees will be in such close proximity to the new development that direct damage, through branch whipping or root growth, are likely to occur.

##### **4.6.4 Future Pressure for Removal**

The nature of the proposed development is such that future pressure for tree removal is generally considered unlikely to occur.

##### **4.6.5 Seasonal Nuisance**

The nature of the development is such that some seasonal nuisance due to leaf litter is likely to occur. However it is noted that the sweeping up of leaves and cleaning of gutters, which may become blocked by falling leaves, is considered to be routine seasonal maintenance and as such no notable conflict with the proposed development is considered likely to occur.

#### **4.7 SUMMARY OF IMPACTS**

Overall the proposed development of the site will require the removal of ten individual trees, four groups of trees and three hedgerows. The partial removal of one further hedgerow, as well as the completion of access facilitation pruning works upon overhanging crowns of retained trees will also be required.

In summary it is considered that the proposed development of the site will not have a significant impact upon the visual amenity of the local area as a result of the proposed tree removal necessary to implement it. Additionally the proposed works are unlikely to impact significantly upon the long-term health of retained trees. Whilst some works are to be undertaken within 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.

## **5. ARBORICULTURAL METHOD STATEMENT**

### **5.1 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 of the following sections prior to commencement of any onsite works.

### **5.2 CONSTRUCTION EXCLUSION ZONE**

The Construction Exclusion Zone is the area considered necessary to ensure that the tree roots and canopy are protected from damage during the construction processes. The extent of the exclusion zone is based upon guidance within BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' in particular the diameter of the stem of each tree (when measured at a height of 1.5m from ground level) in combination with the canopy spread of the tree is considered.

The exclusion zones are to be defined on site throughout the course of the development by the use of protective barriers as described below.

The Construction Exclusion Zones are to be afforded protection at all times. No works that cause compaction of the soil or severance of tree roots, except where undertaken in accordance with the guidance provided within this document, will be undertaken within any exclusion zone.

### **5.3 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 Draft Tree Protection Plans; Drawing Numbers C127405-03 and C127405-04 respectively.

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.

### **5.4 GROUND PROTECTION**

As detailed in Section 4.4.3, it will be necessary to install ground protection upon this site to provide working space for construction works within the Root Protection Areas (RPAs) of several retained trees. Areas of ground protection

Any ground protection to be installed must be capable of supporting the expected loads and avoid compaction and damage to the soil.

In this respect as only pedestrian access will be permitted within the RPAs of retained trees the use of oriented strand board (OSB) on top of a compressible layer (e.g. Woodchip) laid onto a geo-textile fabric would provide suitable ground protection. This approach should prove to be adequate for the expected loadings.

## **5.5 PRECAUTIONS IN RESPECT OF TEMPORARY WORKS**

Temporary access to the exclusion zones defined by the protective fencing will be required to permit completion of soft landscaping works within the Root Protection Areas (RPAs) of a number of retained trees in the north of the site.

Access to the exclusion zones will only be permitted following demolition of the existing school buildings and associated hardstanding. Where works are required within the construction exclusion zone, these shall only be undertaken under supervision of the Project Arboriculturist and according to the guidance detailed in Section 5.15.

If further temporary access is required to the exclusion zone or the RPA of a retained tree then such access will only be gained after consultation with Project Arboriculturist and/or the Local Planning Authority (see Section 5.17 for contact details).

## **5.6 ACCESS DETAILS**

### *Construction Vehicles*

It is understood that construction traffic will access the site via the existing road network. 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.

### *Pedestrians*

It is understood that pedestrian access to the site during construction will utilise the existing road and path network.

## **5.7 CONTRACTORS CAR PARKING**

Contractor's car parking is to be provided within the site in locations well away from the retained trees.

No car parking will be provided within the Construction Exclusion Zone.

Should the demand for car parking exceed the available area alternative offsite parking arrangements will be made.

## **5.8 SITE COMPOUND**

At time of writing, the final location of the site compound has not been identified. The site compound shall be located outside of the Construction Exclusion Zone and its establishment must not cause harm to retained trees.

## **5.9 STORAGE SPACE**

At time of writing, final locations of the site storage areas have not been identified. The site storage areas shall be located outside of the Construction Exclusion Zone and their establishment must not cause harm to retained trees.

## **5.10 INFRASTRUCTURE REQUIREMENTS**

Examination of the proposed plans and details of existing underground services shows that the new underground services will primarily be located within the proposed access roads, or within the footprints of

new buildings, and outside of retained trees RPAs. It is also understood that connections will be made into existing services in areas outside of the Construction Exclusion Zone.

If any underground services are to be installed within the RPA of a retained tree then the Project Arboriculturist will be consulted (see Section 5.17 for contact details). The methodology for the installation, maintenance or removal of any services within a RPA will be in accordance with NJUG Volume 4 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'. This will include hand dug "broken" trenches to ensure that maximum protection is given to tree roots.

#### **5.11 DEMOLITION, HARD SURFACE REMOVAL & REMOVAL OF STRUCTURES**

As detailed in Section 4.3, the proposed soft landscaping works in the north of the site will require the demolition of existing buildings and associated hardstanding within the footprint of Rokeby Infants School.

##### *Building Demolition*

To minimise the potential for harm to occur to trees as a result of the works all machinery involved in the demolition or removal of the school buildings will work from land outside of the tree protection barriers and a 'top down pull back' demolition methodology will be followed with the buildings being demolished, so far as is possible, within their own footprint.

To control the dust that may arise from demolition activities, a water dust suppression unit, which emits a fine water spray, may be utilised during the works. If used the dust suppression unit will be sited outside of the Construction Exclusion Zone.

Following completion of demolition works, phased tree protection barriers shall be erected around retained trees in the centre of the site during subsequent landscaping works. The locations of phased tree protection barriers are illustrated on the Draft Tree Protection Plan, Drawing Number C127405-02, in Section 6 of this report.

##### *Hardstanding Removal*

Where areas of hardstanding are to be removed within the RPAs of retained trees, the following methodology will be adhered to:

1. The initial 'breaking up' of the tarmac hard surface will be done with hand held pneumatic tools (not breakers attached to diggers or JCBs) or, if possible, by using manual hand held tools.
2. Removal of the surface will occur in 2.0 m bands working from the undisturbed surface. Any exposed roots will be covered with good quality topsoil or high grade compost to avoid desiccation and make the levels good.
3. The debris resulting from breaking up the hard surface and the exposed sub-base will be excavated and removed by hand. Should mechanical means be required due to the size of the debris then a small (<1.5 ton) digger may be used providing the bucket does not cause any damage to the underlying soil surface. No reduction in levels of the underlying soil will occur.
4. If any roots are damaged during the removal of hard surfaces then they will be cut using a sharp knife or secateurs to leave a clean wound with as small a surface area as possible.
5. Work will not be carried out if the ambient air temperature is below + 4°C

#### **5.12 NEW HARD SURFACES**

No new hard surfaces are proposed for construction within the RPA of any retained tree.

#### **5.13 SITE GRADIENTS**

It is understood that, to prevent damage occurring to retained trees, no alterations of soil level will take place within the exclusion zones as defined by the protective barriers.



If site gradient alterations within the RPA of any retained tree are required then the Project Arboriculturist will be consulted for advice (see Section 5.17 for contact details).

#### **5.14 CONSTRUCTION OF STRUCTURES WITHIN THE RPA/CONSTRUCTION EXCLUSION ZONE**

##### *Boundary Fences*

The following details will be adhered to for any fencing to be undertaken within the Construction Exclusion Zone.

The location of the concrete foundations and centre posts will be carefully considered, to ensure no damage to the adjacent trees. The central fence post locations will not be situated within 1.0 m of the trunks of any retained trees. Excavation for the fence post foundations will occur by hand and with care not to damage any roots that may be present. Special construction techniques may be used where fence posts are likely to sever significant roots (in order to 'bridge' these areas and avoid severance of any significant roots close to trunks).

If any roots are damaged during the removal of the excavation for the fence posts then they will be cut using sharp cutting tools such as bypass secateurs or handsaws to leave a clean wound with as small a surface area as possible. No roots over 25 mm in diameter will be cut without advice from the Project Arboriculturist and/or the Local Planning Authority.

#### **5.15 SOFT LANDSCAPING**

As detailed in Section 4.4.1 and Section 5.5, there are a number of areas on site where soft landscaping works associated with reconfiguring existing arable land into new amenity grass sports pitches will be required within the Root Protection Areas (RPAs) of retained trees. The trees affected by these works are separated from the site by ditches running along the southern and western site boundaries and are growing at lower ground levels relative to the site itself. It is therefore considered that significant impacts are generally unlikely to occur.

Nonetheless, where excavations are required within or in close proximity to the RPAs of retained trees, the following working methodology shall be adhered to:

1. Existing ground cover and vegetation shall be carefully stripped or strimmed using hand held tools.
2. The topsoil will then be excavated to the desired depth using hand-held tools or small (i.e. <1.5 ton) diggers.
3. Root presence will be ascertained by careful scraping of topsoil in 50 mm increments, in order to prevent excessive damage occurring to tree roots.
4. Uncovered roots less than 25 mm in diameter may be severed, making clean cuts with suitably sharp tools such as secateurs. Exposed roots larger than 25 mm in diameter exposed roots must be wrapped or covered with damp hessian or similar material, as soon as possible, to prevent desiccation and to protect them from rapid temperature changes.
5. Prior to backfilling all root coverings shall be removed and retained roots shall, where possible, be surrounded with topsoil and compacted sharp sand, or other loose inert granular fill, before soil or other suitable material is replaced into the excavated area. The fill material shall be free of contaminants and other foreign objects potentially injurious to tree roots.
6. Post-development tree planting, if required, shall proceed according to the guidance detailed in British Standards 8545:2014.

#### **5.16 USE OF HERBICIDES**

Any herbicide used during the development works shall be systemic, spot applied, and mixed according to manufacturers' recommendations.

### 5.17 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:

Name: Dean Moore  
Position: Arboricultural Consultant  
Company: Middlemarch Environmental Ltd  
Address: Triumph House, Birmingham Road, Coventry, CV5 9AZ  
Telephone: 01676 525 880  
Mobile: 07715 707 397

#### *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 Plan 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 these will be communicated to the Local Planning Authority.

An inspection audit will be undertaken by a suitably experienced Arboriculturist once the protective barriers have been installed. Feedback will be provided to the Local Planning Authority Arboricultural Officer on completion of this visit. Following on from this monthly audits of the tree protection will be undertaken.

#### *Works Requiring Arboricultural Supervision*

The following aspects of the development will be completed under supervision of the Project Arboriculturist:

- Installation of ground protection measures where working space will be provided within the RPAs of tree numbers 14, 16, 18, 19, 24, 25, 26 and 29.
- Completion of soft landscaping works where they are within the Construction Exclusion Zone.

### 5.18 USE OF SUBCONTRACTORS

The main contractor 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.

### 5.19 CONTINGENCY PLAN FOR SOIL CONTAMINATION

Water will be readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the Project Arboriculturist for advice.

### 5.20 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. The trees to be removed are detailed in Table 1.2.

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

Where the removal of tree stumps is required and the works will be undertaken within 15 m of any retained tree then they will be ground out using a proprietary stump grinder and they will not be removed by winching or mechanical excavation.

## **5.21 RESPONSIBILITIES**

It will be the responsibility of the main contractor to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.

The main contractor will be responsible for contacting the Local Planning Authority should any issues are raised related to the trees on site.

If pruning works to trees are required at any time then permission must be sought from the Local Planning Authority first and then the works must be carried out in accordance with BS3998:2010 'Recommendations for Tree Work'.

The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective barriers 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.

## **5.22 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 10 m of the trunk of any tree that is to be retained. No fires will be lit within 20 m of the trunk of any tree that is to be retained.

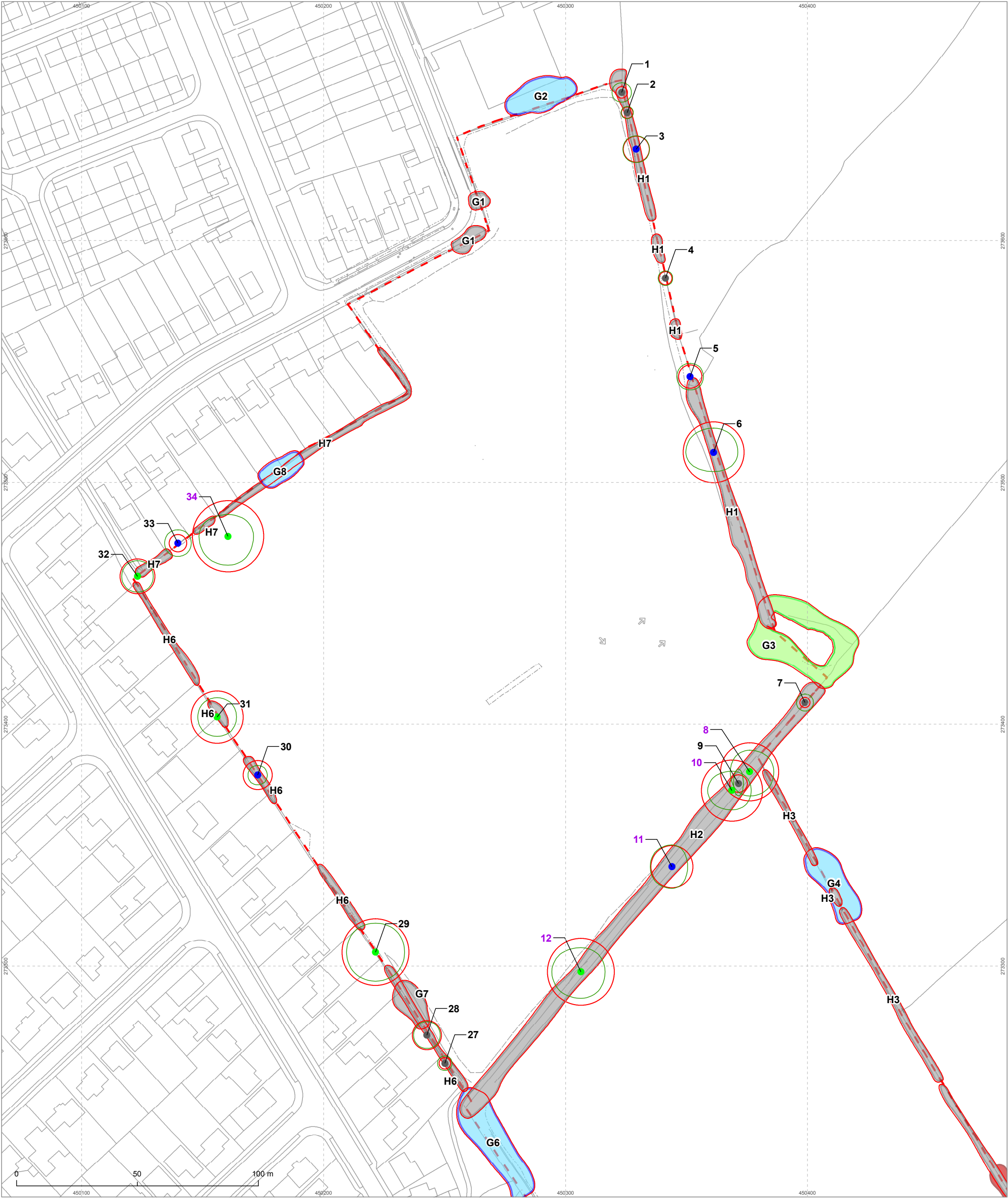
## **6. DRAWINGS**

Drawing Number C127405-01 – Tree Constraints Plan

Drawing Number C127405-02 – Tree Constraints Plan – Rokeby School

Drawing Number C127405-03 – Draft Tree Protection Plan

Drawing Number C127405-04 – Draft Tree Protection Plan – Rokeby School

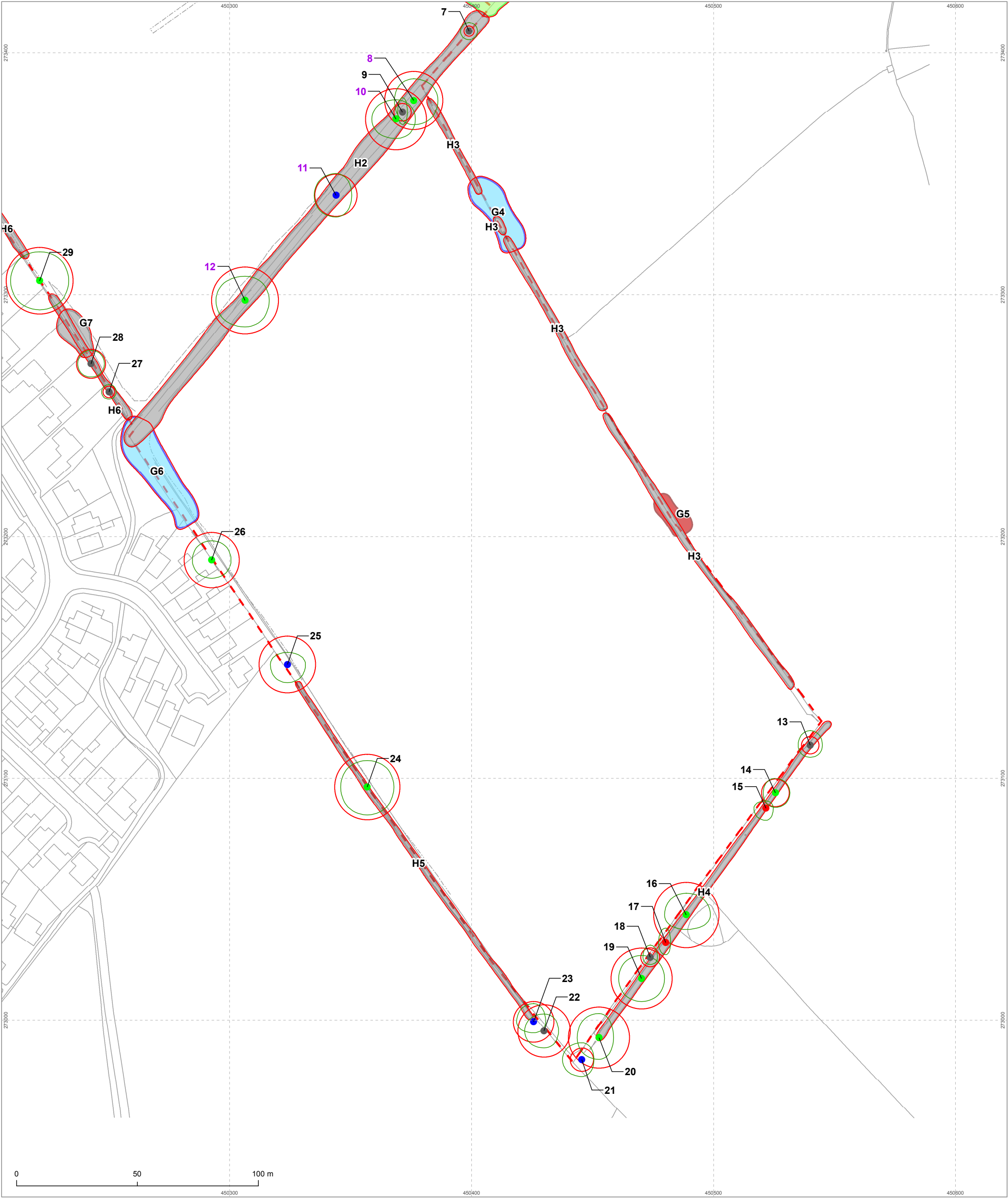


- Legend**
- Category A tree
  - Category B tree
  - Category C tree
  - Category U tree
  - Category A group
  - Category B group
  - Category C group/hedgerow
  - Category U group
  - Current canopy extent
  - Root Protection Area
  - Site boundary
  - Tree subject to Tree Preservation Order (Order No. 393)

Project	Land off Anderson Avenue, Rugby	
Drawing	Tree Constraints Plan - page 1 of 2	
Client	BAM Construction Ltd	
Drawing Number	C127405-01	Revision 00
Scale @ A3	1:1,500	Date January 2017
Approved By	DM	Drawn By GP
<div><div></div><div>MIDDLEMARCH ENVIRONMENTAL</div><div></div></div> <p>Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ T:01676 525880 F:01676 521400 E:admin@middlemarch-environmental.com</p> <p><small>This map is reproduced from the Ordnance Survey material with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationary Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution of civil proceedings. Licence Number: 10004019</small></p>		

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C127405-01



- Legend**
- Category A tree
  - Category B tree
  - Category C tree
  - Category U tree
  - Category A group
  - Category B group
  - Category C group/hedgerow
  - Category U group
  - Current canopy extent
  - Root Protection Area
  - Site boundary
  - Tree subject to Tree Preservation Order (Order No. 393)

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Project		Land off Anderson Avenue, Rugby	
Drawing		Tree Constraints Plan - page 2 of 2	
Client		BAM Construction Ltd	
Drawing Number	C127405-01	Revision	00
Scale @ A3	1:1,500	Date	January 2017
Approved By	DM	Drawn By	GP



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C127405-01





C127405-02

Legend

●

Category A tree

●

Category B tree

●

Category C tree

●

Category U tree

—

Current canopy extent

—

Root Protection Area

---

Site boundary

■

Category A group

■

Category C group/hedgerow

■

Shrub bed

■

Self-set trees

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Project

Land off Anderson Avenue  
Rokeby School, Rugby

Drawing

Tree Constraints Plan

Client

BAM Construction Ltd

Drawing Number

C127405-02

Revision

00

Scale @ A3

1:750

Date

March 2016

Approved By

DM

Drawn By

RP

MIDDLEMARCH

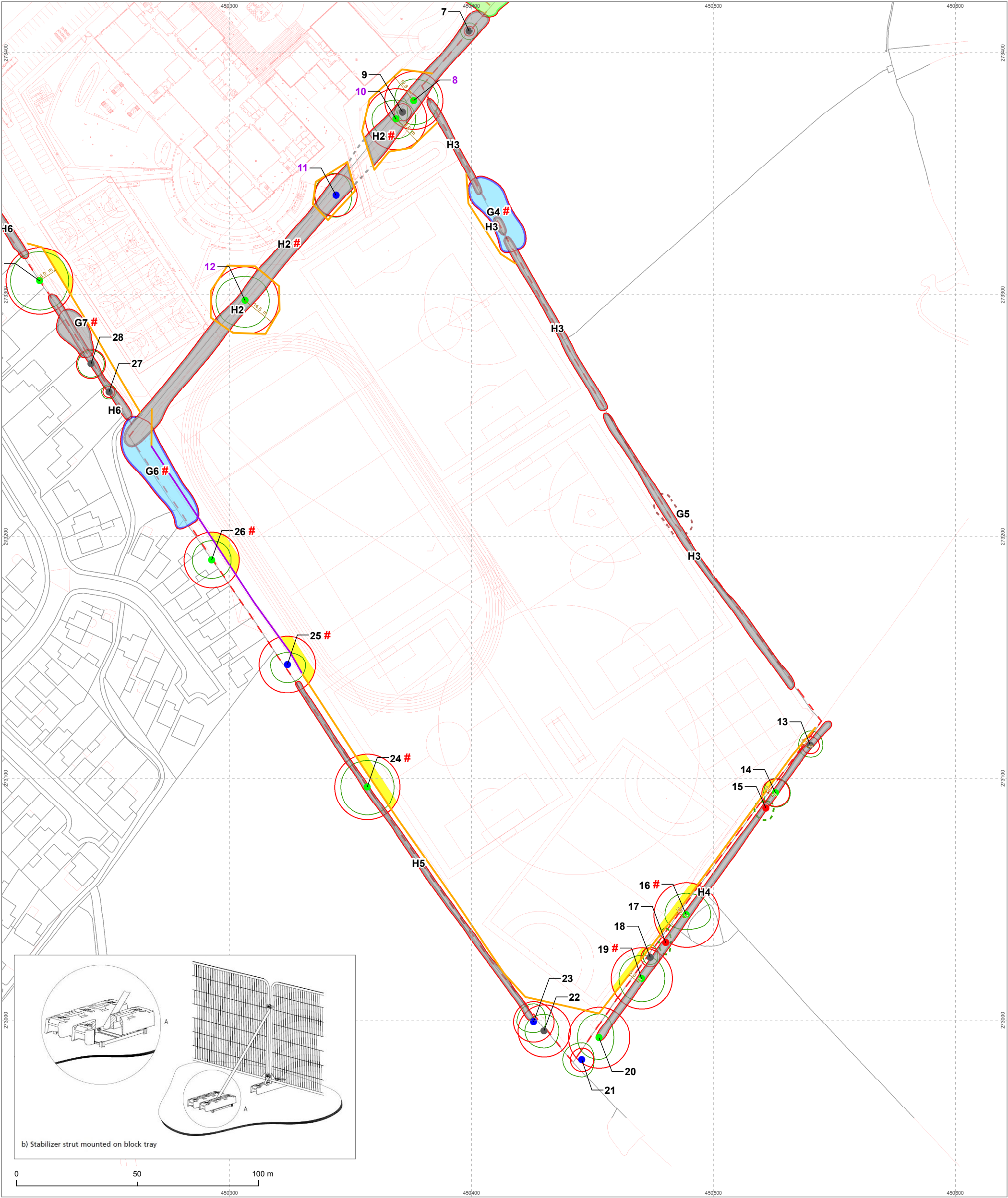
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**Legend**

Category A tree

Category B tree

Category C tree

Category U tree

Category A group

Category B group

Category C group/hedgerow

Category C group/hedgerow - to be removed

Category U group - to be removed

#

Tree/group subject to pruning

00

Tree subject to Tree Preservation Order (Order No. 393)

Current canopy - tree to be removed

Current canopy - tree to be retained

Root Protection Area

Existing fence retained for tree protection

Tree protection barrier

Site access

Ground protection

Site boundary

Project

Land off Anderson Avenue, Rugby

Drawing

Draft Tree Protection Plan - page 2 of 2

Client

BAM Construction Ltd

Drawing Number

C127405-03

Revision

00

Scale @ A3

1:1,500

Date

February 2018

Approved By

BJ

Drawn By

SKS

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T:01676 525880 F:01676 521400  
E:admin@middlemarch-environmental.com

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C127405-03



C127405-04

Legend

●

Category A tree

●

Category B tree

●

Category C tree

●

Category U tree

●

Tree previously removed

---

Current canopy - tree to be removed

---

Current canopy - tree to be retained

---

Tree Protection Barrier - Demolition Phase

---

Tree Protection Barrier - Landscaping Phase

---

Root Protection Area

---

Building previously removed

---

Category A group

---

Category A group - to be removed

---

Category C group/hedgerow

---

Category C group/hedgerow - to be removed

---

Shrub bed - to be removed

---

Self-set trees - to be removed

---

Site boundary

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# Tree/tree group subject to pruning

Project

Land off Anderson Avenue  
Rokeby School, Rugby

Drawing

Tree Constraints Plan

Client

BAM Construction Ltd

Drawing Number

C127405-04

Revision

00

Scale @ A3

1:750

Date

March 2016

Approved By

DM

Drawn By

RP

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E:admin@middlemarch-environmental.com

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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 3    Examples of above-ground stabilizing systems

