

**THE VALE OF
GLAMORGAN COUNCIL**

TOWN AND COUNTRY PLANNING ACT 1990

APPROVED

SUBJECT TO COMPLIANCE WITH CONDITIONS (IF ANY)

**Land to the North
of the Railway
Line (West)**

**Findings of
Arboricultural
Assessment**

(Incorporating
Arboricultural
Impact Assessment and
Tree Protection
Measures)

Prepared by:
**The Environmental
Dimension
Partnership (EDP)**

On behalf of:
Taylor Wimpey Plc

May 2014
EDP2127_05a



THE
ENVIRONMENTAL
DIMENSION
PARTNERSHIP

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This version is intended for electronic viewing only

For EDP use	
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Plans

Plan EDP 1

Tree Survey Plan

(EDP2127/07 31 January 2014 DS/LT)

(EDP2127/08 31 January 2014 DS/LT)

(EDP2127/09 31 January 2014 DS/LT)

(EDP2127/10 31 January 2014 DS/LT)

Plan EDP 2

Tree Constraints Plan

(EDP2127/11 31 January 2014 DS/LT)

(EDP2127/12 31 January 2014 DS/LT)

(EDP2127/13 31 January 2014 DS/LT)

(EDP2127/14 31 January 2014 DS/LT)

Plan EDP 3

Tree Protection Plan

(EDP2127/26 02 May 2014 EB/LT)

(EDP2127/27 02 May 2014 EB/LT)

(EDP2127/28 02 May 2014 EB/LT)

(EDP2127/29 02 May 2014 EB/LT)

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Section 1 Introduction and Methodology

- 1.1 The Environmental Dimension Partnership (EDP) was commissioned by Taylor Wimpey Plc ('the applicant') to undertake a *BS5837:2012 Trees in Relation to Design, Demolition and Construction* compliant survey of the trees in relation to their proposed development for Land to the North of the Railway Line (West) (hereafter referred to as 'the site').
- 1.2 The survey was undertaken by Luke Tamblyn, Principal Arboricultural Consultant on the 27 January 2014. The focus of the survey was to assess the condition of the subject trees and hedgerows, specifically:
- The main bole and central stem;
 - The primary and secondary branch system and crown supported thereon; and
 - Their relation to the surroundings.
- 1.3 The site lies to the east of Rhoose and is surrounded by the settlement to the north, west and south; an access track (also a public right of way – footpath) forms the eastern site boundary beyond which lies agricultural land. Cardiff International Airport lies to the north of the settlement and the Vale railway line forms the southern site boundary. Rhoose, and the site land, are largely located on the southerly sloping land towards the coast from the plateau location of the airport.
- 1.4 This report has been prepared to inform an outline planning application for residential units, associated access and landscaping. The findings of this assessment will, where necessary, inform the proposed development such as its design, layout and mitigation proposals.

Tree Survey Methodology

- 1.5 The methodology adopted for this survey is based on guidelines set out in *BS5837:2012 Trees in Relation to Design, Demolition and Construction*, especially Section 4.4, 'Tree Survey'. Site trees and other significant vegetation are as noted on the tree survey plan (**Plan EDP 1**). This is derived from the topographic survey data included as **Appendix EDP 2**. All surveyed items are detailed in **Schedule EDP 1** (contained at the rear of this report). No other trees are covered by this survey.
- 1.6 The subject trees have not been tagged for identification purposes.

- 1.7 All trees have been visually inspected from ground level unless otherwise stated, with no climbing or further detailed investigative tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection. All measurements are metric and have been recorded in accordance with the measurement conventions set out in Section 4.4.2.6 of BS5837:2012.
- 1.8 Any recommendations given regarding longer-term management are made on the basis of optimising the life expectancy of site trees, given their current situation and any effects which may result from the development proposals.
- 1.9 **Schedule EDP 1** provides information about the following factors in accordance with paragraph 4.4.2.5 of BS5837:2012;
- Sequential Identifier (recorded on **Plan EDP 1**);
 - Species;
 - Height;
 - Stem Diameter;
 - Branch Spread;
 - First Significant Branch and Direction of Growth;
 - Existing Height Above Ground Level;
 - Life Stage;
 - Physiological Condition;
 - Structural Condition;
 - Preliminary Management Recommendations;
 - Estimated Remaining Contribution;
 - Category Grading; and
 - Tree Works Priority Codes.

Sequential Reference Number

- 1.10 Individual trees have been given the prefix 'T' and commence with T1, groups of trees the prefix 'G', and hedgerows the prefix 'H'.

Species

- 1.11 Common, English names are used wherever possible for simplicity.

Height

- 1.12 An approximation of height (in metres) is provided for the highest point of the tree.

Stem Diameter

- 1.13 This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012.

Branch Spread

- 1.14 This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown, as shown on **Plan EDP 1**.

First Significant Branch

- 1.15 Height of first significant branch and direction of growth e.g. 2.4m N, measured from adjacent ground level.

Existing Height Above Ground Level

- 1.16 An approximation of height (in metres) of crown clearance above adjacent ground level.

Life Stage

- 1.17 There are six classes to which trees are assigned:

- Young;
- Semi Mature;
- Early Mature;
- Mature;
- Over Mature; and
- Veteran.

Physiological Condition

- 1.18 An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following:
- Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and
 - Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.

Structural Condition

- 1.19 Additional notes are provided giving details of the tree's structural condition. This is informed by *the presence of any decay and physical defect*¹.

Preliminary Management Recommendations

- 1.20 These are made on the basis of optimising the life expectancy of site trees; given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property; defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.

Estimated Remaining Contribution

- 1.21 The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity:
- Less than 10;
 - 10+;
 - 20+; and
 - 40+.

Category Grading

- 1.22 Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in BS5837:2012 (copy extract contained as **Appendix EDP 3**).

¹ BS5837: 2012 Section 4.4.2.5

Tree Works Priority Codes

- 1.23 Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows:

Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard.

Priority 2: Work that should be undertaken prior to any works commencing on site.

Priority 3: Work that should be undertaken following the completion of the development.

Limitations

- 1.24 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 12 month period from the survey date. Any alterations to the site, or the development proposals, could change the current circumstances and may invalidate this report and any recommendations made.
- 1.25 Trees are dynamic living organisms capable of achieving considerable size and structural complexity. The laws and forces of nature dictate a natural failure rate even among intact trees, and by their very nature trees cannot be considered entirely free of risk, although the risk is generally present at very low and acceptable levels.
- 1.26 Even those trees in good condition can suffer damage under average conditions, regular inspections can help to identify potential problems before they become acute.
- 1.27 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.

National Policy and Statutory Protection

- 1.28 This report has been completed with reference to the following documents.
- 1.29 No ancient woodland or veteran trees were recorded as part of this assessment.

Local Planning Policy

- 1.30 The relevant local planning policy is considered to be the The Vale of Glamorgan Adopted Unitary Development Plan (UDP) 1996-2011. The most relevant policies are shown below;

- 1) Policy ENV 12 'Woodland Management' which states that the improvement, management and extension of woodland, tree cover and hedgerows, particularly of broadleaf native species will be favoured especially where it: makes a significant improvement to the landscape such as on the urban fringe; helps to diversify and extend wildlife habits; or adds to recreational and educational opportunities.

Tree Preservation Orders and Conservation Area Designations

- 1.31 Consultation with The Vale of Glamorgan confirms that none of the surveyed items are the subject of a Tree Preservation Order and no part of the site lies within a designated Conservation Area.

Protected Species -Bats

- 1.32 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords bats protection under the Conservation of Habitats and Species Regulations 2010, making it an offence to:
- Damage or destroy a breeding site or resting place of a wild individual of an EPS;
 - Deliberately capture, injure or kill a wild individual of an EPS;
 - Deliberately disturb a wild individual of an EPS wherever they are occur, in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce or, in the case of hibernating or migratory species, to hibernate or migrate; or
 - Affect significantly the local distribution or abundance of the species to which they belong.
- 1.33 Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended) and the Countryside Rights of Way Act 2000, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place that is used for shelter or protection, or to obstruct access to this structure or place. As bats tend to re-use the same roosts, legal opinion is that roosts are protected whether or not bats are currently occupying these resting places/places of shelter.
- 1.34 Prior to undertaking any tree works or tree removal, further advice should be sought from a suitably qualified ecologist.

Protective Species - Nesting Birds

- 1.35 The main bird nesting season is between March and August inclusive. Contractors have a legal responsibility to comply with current legislation relating to breeding birds. Under

the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 birds as well as their nests and eggs, are protected and it is an offence to:

- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take or destroy the egg of any wild bird; and
- To disturb any wild bird while it is nest building, or at a nest containing young, or disturb the dependent young of such a bird.

1.36 With regard to the above a separate ecological report has been produced for the site which includes details of those trees identified as having potential to support roosting bats and nesting birds.

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Section 2 Summary of Findings

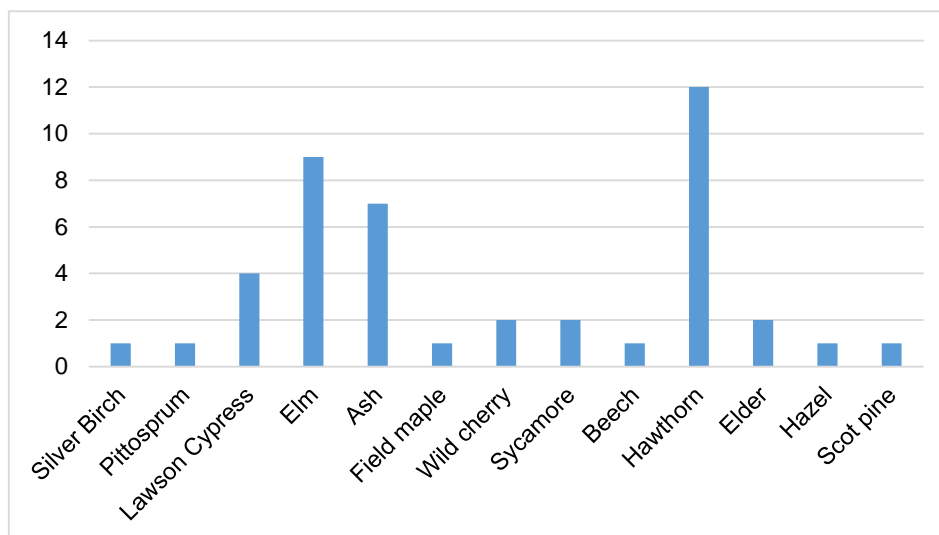
The Tree Stock Generally

- 2.1 The survey process recorded a total of 8 individual trees, 24 groups of trees, and 5 hedgerows totalling 37 items. **Schedule EDP 1**, included at the rear of this report, contains full attribute details for each item surveyed. The survey data can be categorised into three specific areas of reference; species diversity, age distribution and grading classification, analysis of which enables a fuller arboricultural appraisal to be undertaken of the site.

Species Diversity

- 2.2 A total of 13 species are represented throughout and adjacent to the site, a summary of this is presented in **Chart EDP 2.1**. In order to illustrate a true reflection of the overall diversity, each species represented individually or in a group is allocated a single count upon each occurrence totalling 44 items (accounting for the difference between total items recorded and species diversity).

Chart EDP 2.1: Species Diversity

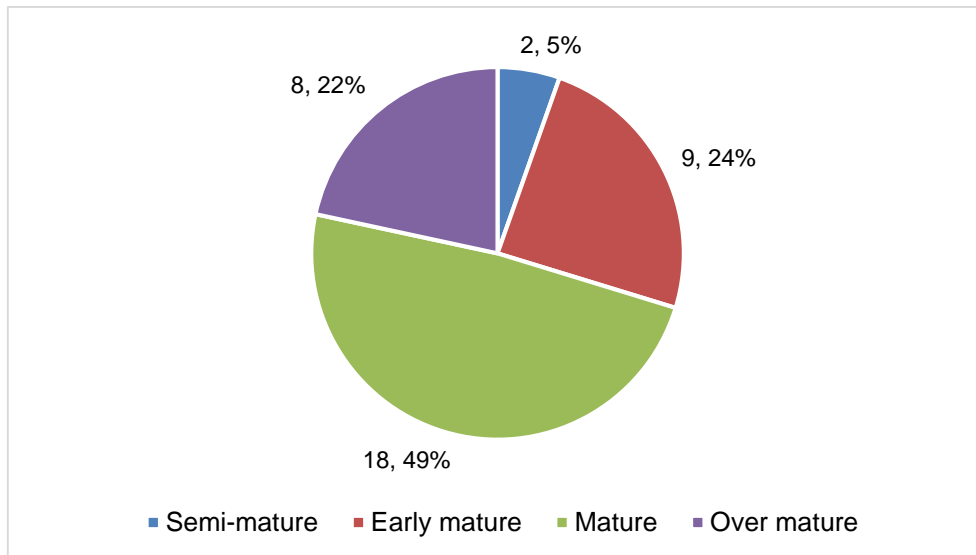


Age Distribution

- 2.3 **Chart EDP 2.2** identifies that the tree population comprises 22% over mature, 49% mature, 24% early mature and 5% semi mature items, all of which are intolerant of

ground disturbance and require particular consideration in any future development proposals. No young items were recorded as part of this assessment.

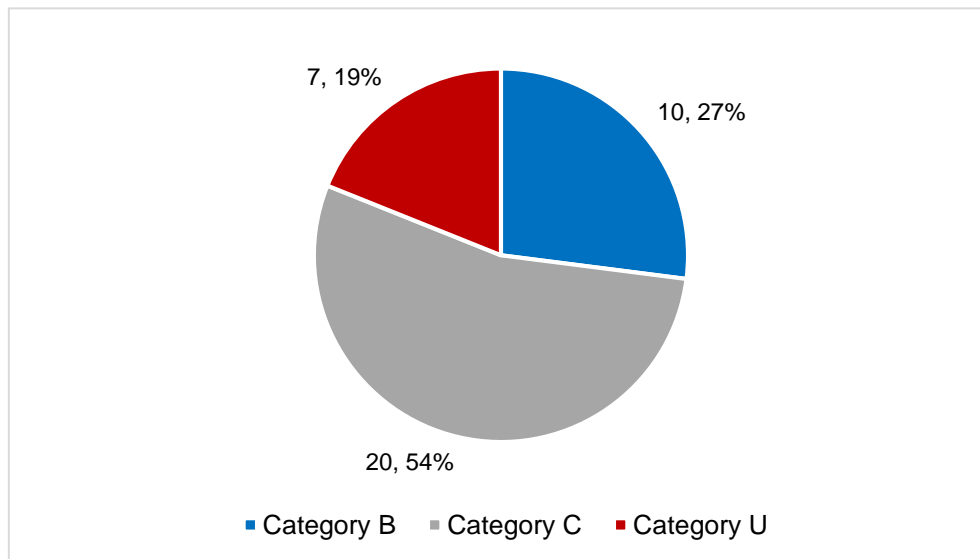
Chart EDP 2.2: Age Distribution



Grading Classification

- 2.4 Whilst age distribution and species diversity give an insight into the composition of the tree stock, arguably more important is the health and condition of these trees. Trees in poor health and condition have a limited lifespan and contribute little to the landscape character, sustainability and continuity of the population. Tree categorisation is applied in accordance with the cascade chart (**Appendix EDP 3**), following consideration of the presence of any disease, structural defects or tree related hazards. On occasion, and based on the professional judgment of a suitably qualified Arboriculturist, EDP has assessed the trees based on their arboricultural merit and individuality, despite a predicted short or long lifespan.
- 2.5 **Plan EDP 1** provides information about the relative merits of the trees in arboricultural and landscape terms. Distribution across the category range is visually represented in **Chart EDP 2.3**.

Chart EDP 2.3: Category Grading Classification



- 2.6 As can be seen, 19% of the overall population cover (7 surveyed items) have been allocated as U category trees; those 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.
- 2.7 Twenty seven percent (10 surveyed items) have been allocated as category B trees, those of moderate quality with an estimated remaining life expectancy of at least 20 years.
- 2.8 The majority of the surveyed items, 54% (20 surveyed items) are considered to be category C trees, those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
- 2.9 The distribution across the categories is indicative of a population which has lacked formal management in recent years. One significant issue identified is that a number of the hedgerows contained English Elm (*Ulmus procera*) which have become infected with Dutch Elm Disease (DED). DED is a recurring infection which attacks Elm when the trees reach sufficient size for the vector beetle to use the tree for food and shelter, thus infecting the tree. This usually occurs when the trees reach approximately 6-8m in height. The Elm will regenerate by sucker re-growth within the hedgerow, which in turn will become infected when it reaches the appropriate size. The dead Elm do not usually represent a significant hazard, but their clearance will improve the appearance of the affected hedgerows and will become necessary again when future generations of Elm become re-infected.

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Section 3

Recommendations for Tree Works and Tree Protection

Tree Management Works

- 3.1 Any tree works or further detailed investigations detailed in **Schedule EDP 1** are proposed on the basis that they are undertaken by a qualified Arboricultural contractor who is preferably listed in the Arboricultural Association's Approved Contractors Directory (ref: www.trees.org.uk).
- 3.2 All tree work should be undertaken in accordance with the requirements of *BS3998:2010 British Standard Recommendations for Tree Work* and *BS5837:2012 Trees in Relation to Design, Demolition and Construction*.

Tree Management - Timing

- 3.3 No surveyed items have been awarded a Priority 1 or 3 Work Code as at the time of inspection, no actionable defects were recorded that require intervention to mitigate an immediate or perceived hazard.
- 3.4 Five items surveyed as G4, G7, G8, G24 and G30 were noted as requiring Priority Code 2 works. The works prescribed is considered necessary to mitigate a perceived hazard from an observed and recorded defect. This work should ordinarily commence prior to any site works taking place, thus establishing an acceptable level of risk in the context of proposed land use.

Tree Protection Measures

- 3.5 The findings of EDP's arboricultural assessment are summarised in **Section 2**, **Schedule EDP 1** and **Plan EDP 1** included at the rear of this report. These findings have been considered without reference to the development proposals for the site. **Plan EDP 2**, The Tree Constraints Plan illustrates the above and below ground constraints imposed by the tree stock throughout the development parcel, specifically in connection with the recommended root protection areas (RPA), as described in the tree constraints schedule (**Schedule EDP 2**), calculated using the methodology set out in Section 4.6 and annex C & D of BS5837:2012.

Tree Protection - General Considerations

- 3.6 The adequate protection of retained trees on development sites is of paramount importance if they are to be retained successfully. In the event that development of the

site proceeds, the trees identified as retainable shall be protected in accordance with the provisions outlined within a Tree Protection Plan.

- 3.7 The protection measures specified below should be implemented prior to any development or site clearance works commencing and must be maintained throughout the construction period.

Below Ground Constraints

- 3.8 To ensure appropriate protection is afforded to the roots the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS5837:2012. The extent of this enclosed area, known as the Construction Exclusion Zone (CEZ), will be depicted on the Tree Protection Plan once prepared.
- 3.9 The RPA for each tree should be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced, modification to the shape of the RPA should reflect a soundly based arboricultural assessment of the likely root distribution.
- 3.10 Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:
- The morphology and disposition of the roots, when known to be influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
 - Topography and drainage;
 - The soil type and structure; and
 - The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age and condition and past management.
- 3.11 The morphology of a trees root system can be difficult to predict, **Plan EDP 2** provides an assessment of the trees RPA while considering site conditions; as mentioned in paragraph 3.10 above.
- 3.12 Protective barriers should be fit for the purpose of excluding construction activity and special attention should be paid to ensuring that they remain intact throughout the construction process. It is recommended that protective barriers should be erected in accordance with the recommendations given in BS5837:2012 reproduced as **Appendix EDP 4**.

- 3.13 It is proposed that the final line of protective barriers will be agreed with the Local Planning Authority prior to development commencing on site.
- 3.14 Where the RPA of retained trees extend underneath unmade access roads that are to be utilised during the construction process, porous ground protection should be installed in accordance with Section 6.2.3 of BS5837:2012 to avoid compaction of the underlying soil.
- 3.15 Where construction workspace or temporary construction access is required within the RPA, this should be facilitated by a setback in the alignment of the tree protection barrier and new temporary ground protection should be installed.
- 3.16 The location and design of the revised barrier and ground protection should be determined following consultation with an Arboriculturist and agreed with the Tree Officer prior to commencement of site works.
- 3.17 As roots can be damaged by the direct toxicity of some material, care will be taken as to the nature of any materials stored near the protective barriers.

Above Ground Constraints

- 3.18 The above ground parts of a tree whilst being more visible and easily protected, are a potential constraint to development and consideration should be given to the current and ultimate height and spread of the trees, details of which are contained in **Schedule EDP 2**.
- 3.19 Barriers erected to protect the roots should in most cases provide sufficient protection for the above ground parts. Should it be necessary to prune the branches to accommodate the development or construction equipment which is in addition to that proposed in **Schedule EDP 1**, this shall be on the advice of an Arboriculturist and in accordance with the recommendations of BS3998:2010.
- 3.20 Where any significant part of the tree's crown overhangs the provisional position of the tree protection barriers, these parts may sustain damage during the construction period. In these cases, it will be necessary to increase the extent of the protection barriers to contain and thereby protect the spread of the crown.

Recommendations for Future Action

- 3.21 To minimise the impact on retained trees the following is recommended:
- The 'Recommendations for Tree Protection' detailed in **Section 3** and **Appendix EDP 4** of this report are followed. It is proposed that the lines of

protective fencing are agreed with the Local Planning Authority prior to commencement on site;

- All protective fencing must remain intact and in place throughout the period of construction if it is to be effective, and should only be removed by the main contractor following a written instruction from the Contract Administrator;
- It is recommended that, prior to demolition or construction commencing close to trees where access will be required under canopies, such as areas required for scaffolding, the ground is protected with appropriate ground protection as described and specified in Section 6.2.3 of BS5837:2012;
- Excavation under the canopies of trees to construct roads or other paved areas with their associated kerb drainage and service runs can seriously affect tree health. The line of service runs should be carefully designed to avoid passing under tree canopies. Guidance for the planning and installation of services should be sought from NJUG 4, issue 2² (**Appendix EDP 5**). Where this is not possible, allowance should be made to ensure excavations are undertaken by hand in accordance with the Section 7.1 and 7.7 of BS5837:2012;
- Where tree roots are encountered these shall be retained and protected, and shall not be cut unless otherwise instructed. When work is not taking place they shall be temporarily covered with Hessian to prevent drying out. Upon completion, they shall be covered over again;
- Where roots have to be cut, these shall be cut using a sharp clean knife or fine toothed saw to give a clean cut. Ragged cuts are to be avoided;
- The lowering of the water table and/or the disruption of soil moisture profiles can be detrimental to retained trees. It is recommended that as much of the hard standing areas as possible either drain to soft landscape areas and/or drain to soakaways; and
- It is recommended that following the completion of the development, arboricultural inspections of all site trees are undertaken on an annual cycle. This is so that the health of the trees can be monitored in relation to their continued viability and safety.

² National Joint Utilities Group - Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees

Section 4

Preliminary Arboricultural Impact Assessment

- 4.1 Although the masterplan (contained as **Appendix EDP 6**) is only illustrative at this stage, a preliminary assessment of impacts on the tree stock has been prepared following site based observations, a desktop study of the survey data and consideration of the illustrative masterplan. This section should be read in conjunction with **Section 3** of this report pertaining to tree protection.
- 4.2 Any scheme in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such, it is essential to consider the relationship between the proposed scheme and the retained trees to identify what precautions are necessary and proportionate. The scheme has the potential to impact upon the above ground (canopy, stems and branches) and below ground (rooting environment) parts of the trees.
- 4.3 Trees within the urban environment are important features in terms of their contribution towards psychological wellbeing, their provision of ecological habitat and sociological benefits.
- 4.4 Trees have a finite reserve of energy, made each year, throughout the spring/summer seasons, which is utilised for biological processes such as growth and defence against pests or diseases.
- 4.5 Whilst some clear and obvious physical damage can occur to trees during the construction phase, such as to stems and branches, other impacts are not always so immediately evident, such as damage to the soil structure by compaction and or changes in ground levels causing root damage, altering the water table and affecting moisture availability.
- 4.6 It is recognised that construction activities pose a real and significant threat to the subject trees and assesses the likely impacts of the proposals on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.
- 4.7 Assessment of the impact of the proposals has been determined following consideration of the constraints to each surveyed item posed by virtue of its position, branch spread and designated RPA in relation to the proposed illustrative masterplan.
- 4.8 Consideration should be given to retaining all trees where possible; however, ultimately the removal of any tree is dependent on its proximity to the footprint of any proposal and associated landscaping. The finalised proposed masterplan has evolved following inputs from EDP and consideration of the constraints posed by the trees. As a result, the footprint of the proposed built development has taken account of the findings of this survey and tree losses minimized.

Trees Requiring Removal for Reasons of Sound Arboricultural Management

- 4.9 The BS 5837:2012 compliant survey identified a total of five on site U grade trees, the condition of which was considered to be impaired to such an extent that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. These are detailed in **Table EDP 4.1**; each U grade item is also described in **Schedule EDP 1** and their locations depicted on the Tree Survey Plan (**Plan EDP 1**).

Table EDP 4.1: Additional Trees Requiring Removal for Reasons of Sound Arboricultural Management

Tree Number	Tree Species	Structural Condition	Preliminary Management Recommendations	Tree Grade
G4	Elm	Dead trees, Dutch elm disease	Fell to ground level	U
G7	Elm	Dead trees, Dutch elm disease	Remove dead and dying Elms	U
G8	Elm	Dead trees, Dutch elm disease	Remove dead and dying Elms	U
G24	Elm	Dead trees, Dutch elm disease	Fell to ground level	U
G30	Elm	Remnants of former hedgerow with elm standards many of which have been removed, dead Elms present in group others in decline	Remove dead and dying Elms	U

Trees and Hedgerows Unaffected by Development

- 4.10 Review of the illustrative masterplan identifies that a total of 21 surveyed items are unaffected by the development proposals. However, so as to avoid inadvertent damage by either direct or indirect means, all trees shall be protected in accordance with the provisions set out in **Section 3** of this document during the pre-planting and construction phases.

Damage to Rooting Environment during Construction Activities

- 4.11 The required RPA for each tree as described in **Schedule EDP 2** is depicted on **Plan EDP 2**. To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012.

Trees and Hedgerows under Footprint of Proposed Development

- 4.12 Assessment of the development proposals determines that two individual trees, one hedgerow and six tree groups fall directly beneath the development footprint and will need to be removed. These are detailed in **Table EDP 4.2**; two items are classed as B grade, of moderate quality and value, and seven are classed as C grade, of low quality and value.

Table EDP 4.2: Trees under the Footprint of Residential Development

Ref. Number	Species	Category Grading
T1	Silver Birch	B
G3	Lawson Cypress	C
G17	Leyland Cypress	C
G18	Leyland Cypress	C
H19	Hawthorn Elder	B
G27	Hawthorn	C
G28	Hawthorn	C
G29	Hawthorn	C
T37	Scots Pine	C

Damage to Rooting Environment during Demolition Activities

- 4.13 To ensure appropriate protection is afforded to the roots, the extent of the RPA should be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012.

Summary of Tree Loss and Retention

- 4.14 A summary of the tree losses and retention, based upon the masterplan is provided in **Table EDP 4.3**.

Table EDP 4.3: Summary of Tree Losses and Retention

	Existing	Tree Losses	Unaffected
Category A	0	0	0
Category B	10	2	8
Category C	20	7	13
Totals	30	9	21

Conclusion

- 4.15 The foregoing losses scheduled and described above are offset by the following beneficial effects which are proposed as part of the proposed development:
- Appropriate planting of locally indigenous species in the form of street trees;
 - Improving species diversity across the site; and
 - Securing the continuation and sustainability of the tree population.

- 4.16 The findings of the baseline tree survey suggest that the tree stock has received limited to no investment and management in recent years. The proposal represents a viable opportunity to invest in more consistent and targeted management for the existing trees as well as much needed new planting to diversify the species and age class structure of the tree stock. Details of this can be agreed and approved by the LPA as part of future standard conditions for landscaping.

Section 5 Summary and Conclusions

- 5.1 EDP was instructed by Taylor Wimpey Plc to undertake a survey of trees in relation to the proposed development. The survey was undertaken by an appropriately qualified Arboriculturist on 7 January 2014 in poor, wet conditions.
- 5.2 The survey was undertaken in accordance with the recommendations of *British Standard 5837:2012 Trees in relation to Design, Demolition and Construction*.
- 5.3 Findings for eight individual trees, 24 groups of trees, and five hedgerows included as **Schedule EDP 1** and illustrated on **Plan EDP 1** of this report.
- 5.4 The tree population consists of a collection of broadleaved species, the majority of which fall within the 'C' category of low quality with an estimated remaining life expectancy of at least 10 years. The distribution across the categories is indicative of population which has lacked formal management in recent years. One significant issue identified is a number of the hedgerows contained English Elm (*Ulmus procera*) which have become infected with Dutch Elm Disease.
- 5.5 To aid with masterplanning and to ensure adequate provision is made for the retention of trees, the recommended Root Protection Areas (RPA) have been calculated in accordance with BS5837:2012 and are shown on **Plan EDP 2** and **Schedule EDP 2**. This constraints assessment has been used to inform the illustrative masterplan and will in turn, continue to inform any future design process.
- 5.6 Although the masterplan is only illustrative at this stage, the possible effects on the tree stock are summarized in **Section 4** of this report.
- 5.7 Flexibility exists at future stages of the planning process to further reduce or avoid built development and tree conflicts.
- 5.8 Upon fixing of the masterplan a detailed Arboricultural Impact Assessment will be undertaken to assess the impacts of the proposal on the tree stock and propose mitigation where practicable so that the tree losses are minimised.
- 5.9 The illustrative masterplan is considered suitably respectful in the interests of the tree stock at this outline application stage. Future reserved matters will need to be conditioned and as such, conditions should include the requirements for a detailed tree protection plan and construction based arboricultural method statement.

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Appendix EDP 1

Glossary

Arboricultural Impact Assessment	Study, undertaken by an Arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that has the potential to result in loss of, or damage to a tree.
Construction Exclusion Zone	Area based on the RPA (in m ²), identified by an Arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers, and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.
Detailed Investigation	During a visual inspection, a tree may be identified as requiring further detailed investigation. Examples of further assessment can include invasive boring tests, Picus reports, climbing inspections or root scans.
Root Protection Area (RPA)	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m ² .
Services	Any above ground and piped and/or ducted underground infrastructure including water main, electricity supply, gas supply, fibre-optic utilities, telecommunications cabling, storm and foul water drainage, including temporary storage for run-off, pumping stations, interceptors and other allied buried structures.
Special Engineering	Design of a structure with the physiological requirements of trees as a priority.
Tree Constraints Plan	Plan prepared by an Arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.
Tree Protection Plan	Scale drawing prepared by an Arboriculturist showing the finalised layout proposals, tree retentions, and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.
Veteran Trees	A tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characterised of, but not exclusive to, individuals surviving beyond the typical age range of the species concerned.

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Appendix EDP 2

Topographic Survey Data

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Appendix EDP 3

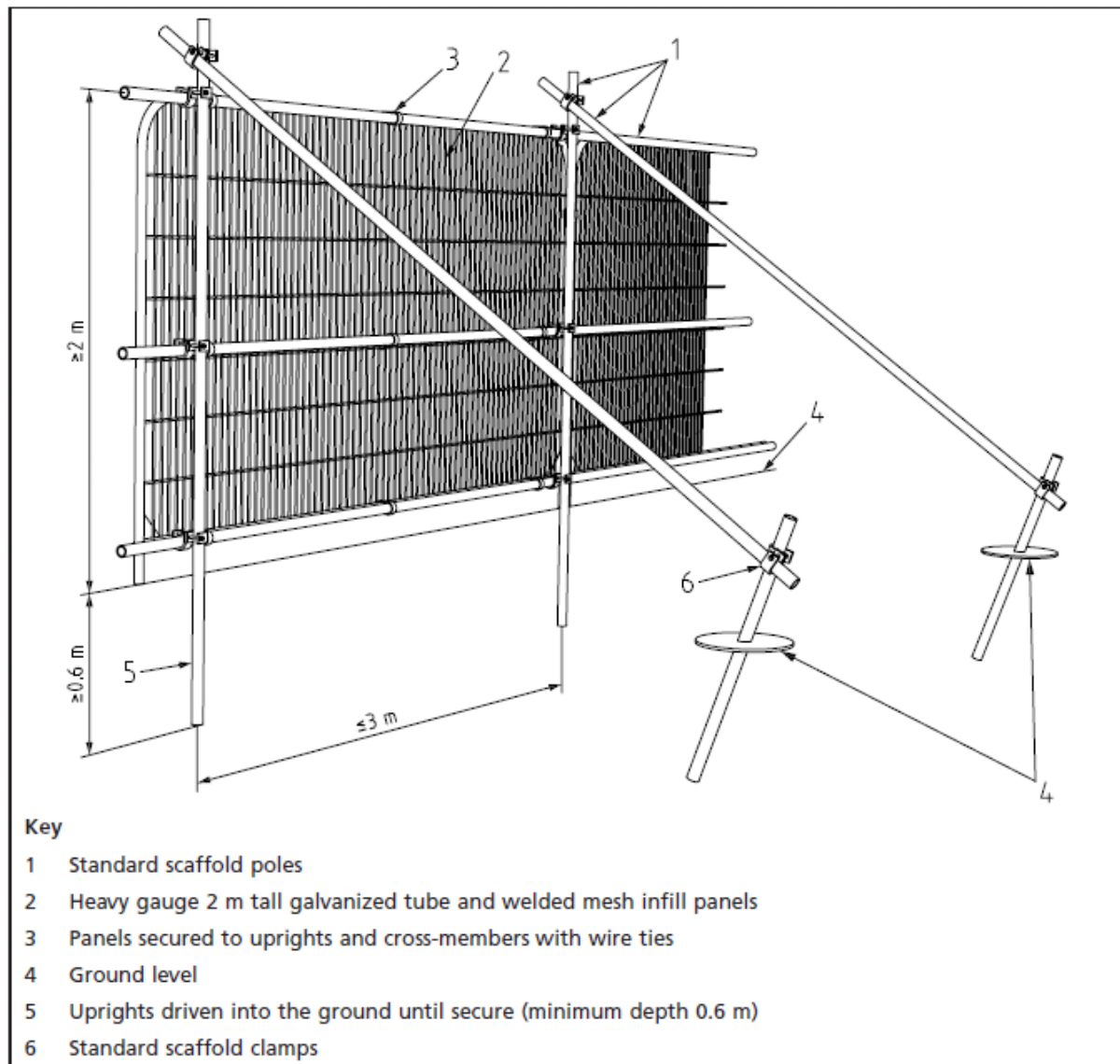
Cascade Chart for Tree Quality Assessment (Extract of BS 5837:2012, Table 1)

Table 1.1 TREE QUALITY ASSESSMENT CHART IN ACCORDANCE WITH BS5837				
TREES UNSUITABLE FOR RETENTION				
Category and definition	Criteria			Identification on plan
CATEGORY U Those 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	<p>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</p> <ul style="list-style-type: none">- Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline- Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve;</i></p>			Dark Red
TREES TO BE CONSIDERED FOR RETENTION				
Category and definitions	Criteria-Subcategories (1,2,3)			Identification/ location on Tree Survey Plan
	1 Mainly arboricultural value	2 Mainly landscape values	3 Mainly cultural values, including conservation	
CATEGORY A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant, conservation, historical, commemorative or other value(e.g. veteran trees or wood-pasture)	Green
CATEGORY B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
CATEGORY C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary benefit	Trees with no material conservation or other cultural value	Grey

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Appendix EDP 4

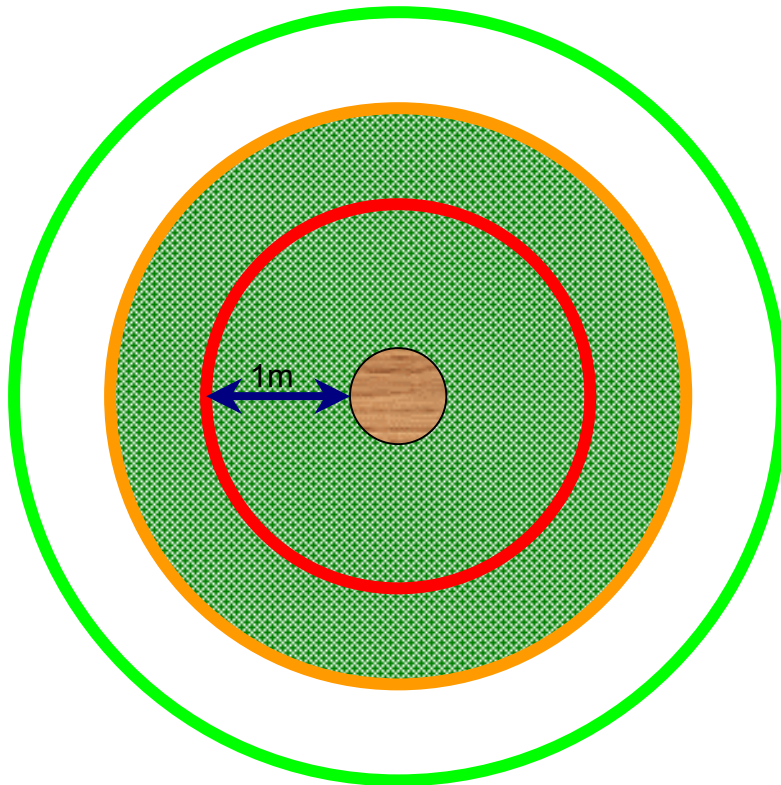
Tree Protection Barrier on Scaffold 2.0m High (Extract from BS 5837:2012, Figure 2 'Protective Barrier')



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Appendix EDP 5
NJUG Vol. 4: Guidelines for the Planning, Installation and
Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)

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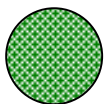


TREE PROTECTION ZONE

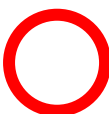
Key to Diagram



Trunk of Tree



Spread of canopy or branches



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - **DO'S** and **DON'TS**

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Don't repeatedly move / use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemicals and fuels, within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

Appendix EDP 6

Illustrative Masterplan (0508-1003)

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REVISIONS:

KEY

- Site boundary
- Primary Access
- Secondary Access
- Cycle/Footway Access
- Primary Street
- Secondary Street
- Feature Square
- Mews/Shared Surface
- Private Driveways
- Cycle/Footway Routes
- Pedestrian Links
- Existing Public Right of Way
- Development Blocks
- Illustrative Residential Buildings
- Focal Buildings
- Existing Buildings
- School Site
- Pumping Station
- Pumping Station 15m no build zone
- Existing Foul Pipe
- Existing Gas Main
- Green Space
- Existing Trees
- Existing Hedgerows
- Proposed Hedgerows
- Proposed Trees
- Local Area of Play (LAP) min 100m
- Local Equipped Area of Play (LEAP) min 400m
- Existing water courses/ditches
- Drainage Constraint
- Adjacent Public Realm
- Adjacent Development



MASTERPLAN

SCALE: 1:1000 @ A1

DATE: MARCH 2011

DRAWING TITLE: MASTERPLAN

DRAWN: JJR

DRAWING NO: 0508-1003

Schedule EDP 1

Schedule of Trees Surveyed

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Client: Taylor Wimpey										Site: Land to the North of the Railway Line (West)							
Date of Survey: 06/01/2014										Consultant Luke Tamblyn							
Tagged N/A										Weather Dry, Overcast							
Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority	
				North	East	South	West										
T1	Silver Birch	10	230	5	5	5	5	2 N	2	Mature	Fair	Located in front garden.	None recommended.	10+	B2	N/A	
H2	Pittosprum	5	230	2	2	2	2	0	2	Mature	Fair	Outgrow n Pittosprum Tenuifolium hedgerow.	None recommended.	10+	C2	N/A	
G3	Lawson Cypress	12	260	2	2	2	2	0	0	Early mature	Fair	Garden landscape planting.	None recommended.	10+	C2	N/A	
G4	English Elm	10	640	3	3	3	3	0	0	Over Mature	Dead	Dead trees, Dutch elm disease.	Fell to ground level.	<10	U	2	
G5	Ash	10	640	5	5	5	5	0	0	Mature	Fair	Roadside boundary group.	None recommended.	20+	B2	N/A	
G6	Leyland Cypress	12	480	2	2	2	2	0	0	Early mature	Fair	Boundary group.	None recommended.	10+	C2	N/A	

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
G7	English Elm	10	480	2	2	2	2	0	0	Early mature	Dead	Dead trees, Dutch elm disease.	Fell to ground level.	<10	U	2
G8	English Elm	10	560	2	2	2	2	0	0	Early mature	Dead	Dead trees, Dutch elm disease.	Fell to ground level.	<10	U	2
G9	Ash	10	490	4	4	4	4	0	2	Mature	Fair	Boundary coppice stool.	None recommended.	20+	B2	N/A
T10	Ash	10	640	4	4	4	4	0	2	Mature	Fair	Boundary coppice stool.	None recommended.	20+	B2	N/A
T11	Ash	10	500	4	4	4	4	0	2	Mature	Fair	Boundary coppice stool.	None recommended.	20+	B2	N/A
T12	Field Maple	7	500	3	3	3	3	1 N	2	Early mature	Fair	Located adjacent to access track.	None recommended.	10+	C2	N/A

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
T13	Ash	10	620	4	4	4	4	0	2	Mature	Fair	Off site tree.	None recommended.	20+	B2	N/A
T14	Wild Cherry	8	650	4	4	4	4	2 E	2	Mature	Fair	Off site tree.	None recommended.	10+	B2	N/A
G15	Sycamore	13	690	6	6	6	6	2 S	2	Mature	Good	Off site tree readings estimated.	None recommended.	20+	B2	N/A
G16	Sycamore Beech	10	530	5	5	5	5	2 S	2	Mature	Fair	Off site tree readings estimated.	None recommended.	10+	B2	N/A
G17	Leyland Cypress	8	530	2	2	2	2	0	0	Early mature	Fair	Possible planted as wind break.	None recommended.	10+	C1	N/A
G18	Leyland Cypress	8	470	2	2	2	2	0	0	Early mature	Fair	Possible planted as wind break.	None recommended.	10+	C1	N/A

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
H19	Hawthorn Elder	2	450	2	2	2	2	0	0	Early mature	Fair	Flail managed boundary hedgerow.	Maintain current management regime.	10+	B1	N/A
G20	Hazel	4	500	2	2	2	2	0	0	Semi Mature	Fair	Landscape planting, surveyed from distance due to live stock, readings estimated.	None recommended.	10+	C2	N/A
G21	Hawthorn	5	0	3	3	3	3	0	0	Mature	Fair	Ivy clad self set unmanaged group.	None recommended.	10+	C2	N/A
G22	English Elm	9	1490	1	1	1	1	0	0	Over Mature	Dead	Off site dead Elms.	The trees are located offsite adjacent to the site legal boundary.	<10	U	N/A
G23	Hawthorn Ash	6	1500	3	3	3	3	0	0	Mature	Fair	Boundary group possible off site - readings estimated.	None recommended.	10+	C2	N/A
G24	English Elm	9	450	2	2	2	2	0	0	Over Mature	Dead	Dead and dying Elm trees, possible off site group.	Fell to ground level.	<10	U	2

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
T25	Wild Cherry	8	450	5	5	5	5	2 E	2	Mature	Fair	Off site tree readings estimated.	None recommended.	10+	C2	N/A
G26	English Elm	5	70	3	3	3	3	0 E	0	Mature	Fair	Boundary group possible located off site.	None recommended.	10+	C2	N/A
G27	Hawthorn	5	70	3	3	3	3	0	0	Over Mature	Fair	Remnants of former field boundary hedge.	None recommended.	10+	C3	N/A
G28	Hawthorn	5	70	3	3	3	3	0	0	Over Mature	Fair	Remnants of former field boundary hedge.	None recommended.	10+	C3	N/A
G29	Hawthorn	5	212	3	3	3	3	0	0	Over Mature	Fair	Remnants of former hedgerow now debunked.	None recommended.	10+	C3	N/A
G30	Hawthorn English Elm	10	212	3	3	3	3	0	0	Over Mature	Poor	Remnants of former hedgerow with elm standards many of which have been removed, dead Elms present in group others in decline .Hawthorn understorey in poor condition.	Remove dead and dying Elms.	<10	U	2

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
G31	Hawthorn English Elm Elder	8	180	3	3	3	3	0	0	Mature	Fair	Off site group, belonging to network rail.	None recommended.	10+	C2	N/A
G32	English Elm	8	290	4	4	4	4	0	0	Over Mature	Dead	Dead, off site group.	None recommended.	<10	U	N/A
G33	Hawthorn	4	269	2	2	2	2	0	0	Early Mature	Fair	Off site group of hawtornand bramble.	None recommended.	10+	C2	N/A
H34	Hawthorn English Elm Ash	8	520	3	3	3	3	0	0	Mature	Fair	One of the better quality hedgerows/ groups associated with the site-though, still with several elms trees which will succumb to de.	None recommended.	10+	C2	N/A
H35	Hawthorn Ash	6	250	3	3	3	3	0	0	Mature	Fair	One of the better quality hedgerows/ groups associated with the site- flail managed boundary group.	None recommended.	10+	C2	N/A
H36	Hawthorn	6	590	3	3	3	3	0	0	Mature	Fair	One of the better quality hedgerows/ groups associated with the site- flail managed boundary group.	None recommended.	10+	C2	N/A

Tree Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				First significant Branch (m)	Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution (Years)	Category Grade	Priority
				North	East	South	West									
T37	Scots Pine	6	589	3	3	3	3	1 N	1	Semi Mature	Fair	Landscape planting located in rear garden.	None recommended.	10+	C2	N/A

Schedule EDP 2 Tree Constraints Schedule

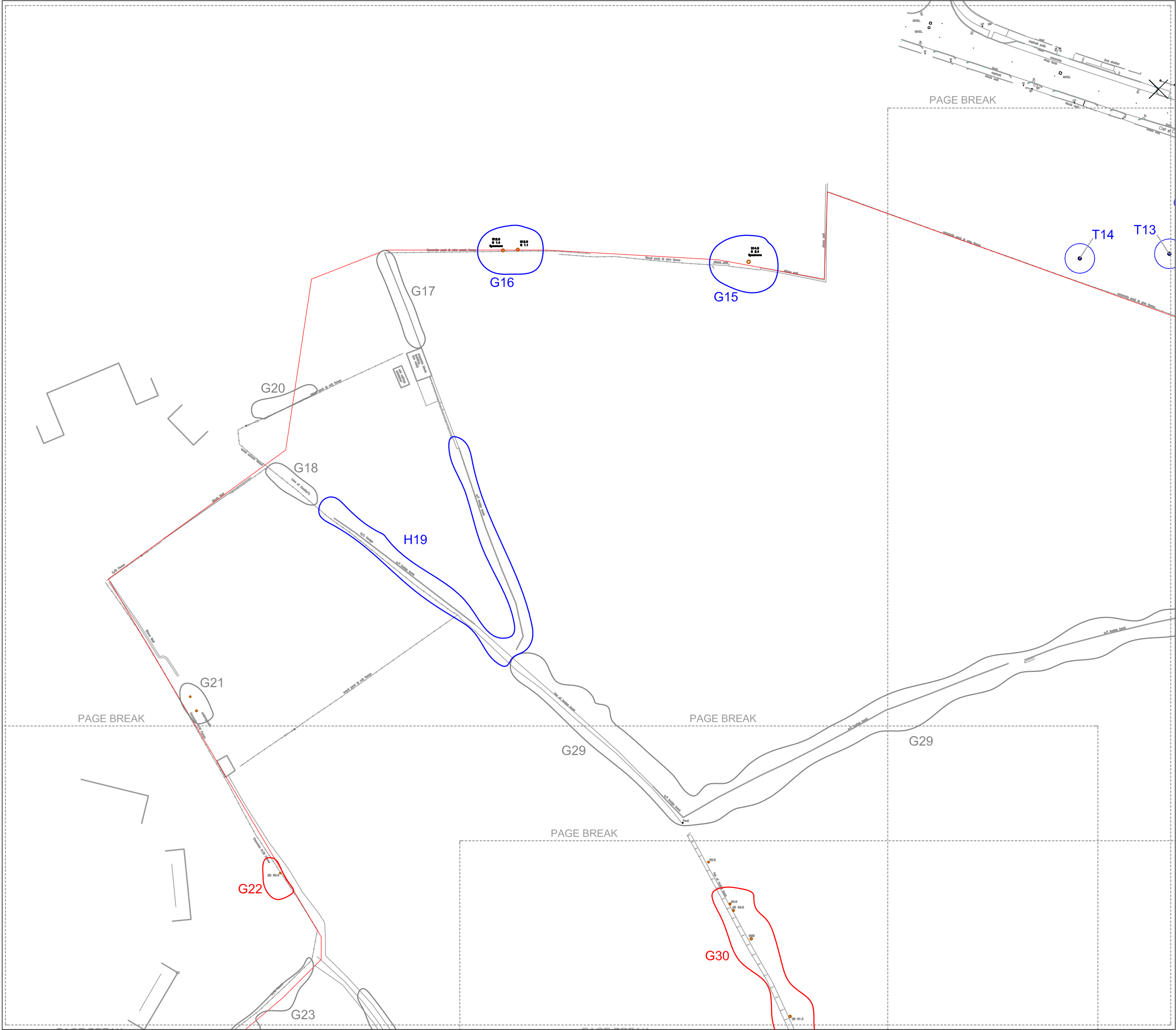
Reference No.	Cat Grading	No of stems	RPA Radius (m)	RPA Area m ²	Ultimate Height (m)	Ultimate Crown Spread (m)			
						N	E	s	w
T1	B2	1	4.2	55	10	5	5	5	5
H2	C2	1	1.8	10	5	2.5	2.5	2.5	2.5
G3	C2	1	2.6	22	14	2.5	2.5	2.5	2.5
G4	U	1	2.4	18	10	3	3	3	3
G5	B2	1	3.1	31	14	6	6	6	6
G6	C2	1	3.2	33	14	2.5	2.5	2.5	2.5
G7	U	1	2.2	15	10	2	2	2	2
G8	U	1	2.2	15	10	2	2	2	2
G9	B2	5	4.3	58	14	4.5	4.5	4.5	4.5
T10	B2	5	4.3	58	14	4.5	4.5	4.5	4.5
T11	B2	5	4.3	58	14	4.5	4.5	4.5	4.5
T12	C2	2	3.2	33	8	3.5	3.5	3.5	3.5
T13	B2	1	3.1	31	14	4.5	4.5	4.5	4.5
T14	B2	1	3.6	41	10	4.5	4.5	4.5	4.5
G15	B2	1	7.2	163	14	7	7	7	7
G16	B2	1	6	113	14	5.5	5.5	5.5	5.5
G17	C1	1	2.2	15	12	2.5	2.5	2.5	2.5
G18	C1	1	2.2	15	12	2.5	2.5	2.5	2.5
H19	B1	1	1.8	10	2	2	2	2	2
G20	C2	1	1.8	10	5	2.5	2.5	2.5	2.5
G21	C2	1	2.6	22	6	3	3	3	3
G22	U	1	2.4	18	9	1	1	1	1
G23	C2	2	3.2	33	7	3.5	3.5	3.5	3.5
G24	U	1	2	13	9	2	2	2	2
T25	C2	1	4.2	55	9	5.5	5.5	5.5	5.5
G26	C2	1	2.4	18	9	3.5	3.5	3.5	3.5
G27	C3	1	1.9	12	5	3	3	3	3
G28	C3	1	1.9	12	5	3	3	3	3
G29	C3	1	1.9	12	5	3	3	3	3
G30	U	1	2.4	18	10	3	3	3	3
G31	C2	1	2.3	16	10	3	3	3	3
G32	U	1	2.4	18	8	4	4	4	4
G33	C2	1	1.9	12	5	2.5	2.5	2.5	2.5
H34	C2	1	2.2	15	8	3.5	3.5	3.5	3.5
H35	C2	1	2.2	15	7	3.5	3.5	3.5	3.5
H36	C2	1	2.2	15	7	3.5	3.5	3.5	3.5
T37	C2	1	2	13	10	3.5	3.5	3.5	3.5

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Plans

Plan EDP 1	Tree Survey Plan (EDP2127/07 31 January 2014 DS/LT) (EDP2127/08 31 January 2014 DS/LT) (EDP2127/09 31 January 2014 DS/LT) (EDP2127/10 31 January 2014 DS/LT)
Plan EDP 2	Tree Constraints Plan (EDP2127/11 31 January 2014 DS/LT) (EDP2127/12 31 January 2014 DS/LT) (EDP2127/13 31 January 2014 DS/LT) (EDP2127/14 31 January 2014 DS/LT)
Plan EDP 3	Tree Protection Plan (EDP2127/26 02 May 2014 ED/LT) (EDP2127/27 02 May 2014 ED/LT) (EDP2127/28 02 May 2014 ED/LT) (EDP2127/29 02 May 2014 ED/LT)

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Site

TREE CATEGORIES:



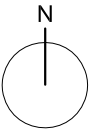
Category B
Those of moderate quality and value:
those in such a condition as to make a
significant contribution (a minimum of 20
years is suggested).



Category C
Those of low quality and value;
currently in adequate condition to remain
until new planting could be established (a
minimum of 10 years is suggested), or young
trees with a stem diameter below 150mm.



Category U
Those in such a condition that any existing
value would be lost within 10 years and
which should, in the current context, be
removed for reasons of sound arboricultural
management.



0 50m



THE ENVIRONMENTAL DIMENSION PARTNERSHIP

Tithe Barn, Barnsley Estate, Barnsley, Cirencester,
Gloucestershire, GL7 5EG t 01285 740427 f 01285740848
e info@edp-uk.co.uk www.edp-uk.co.uk

client

Taylor Wimpey Plc

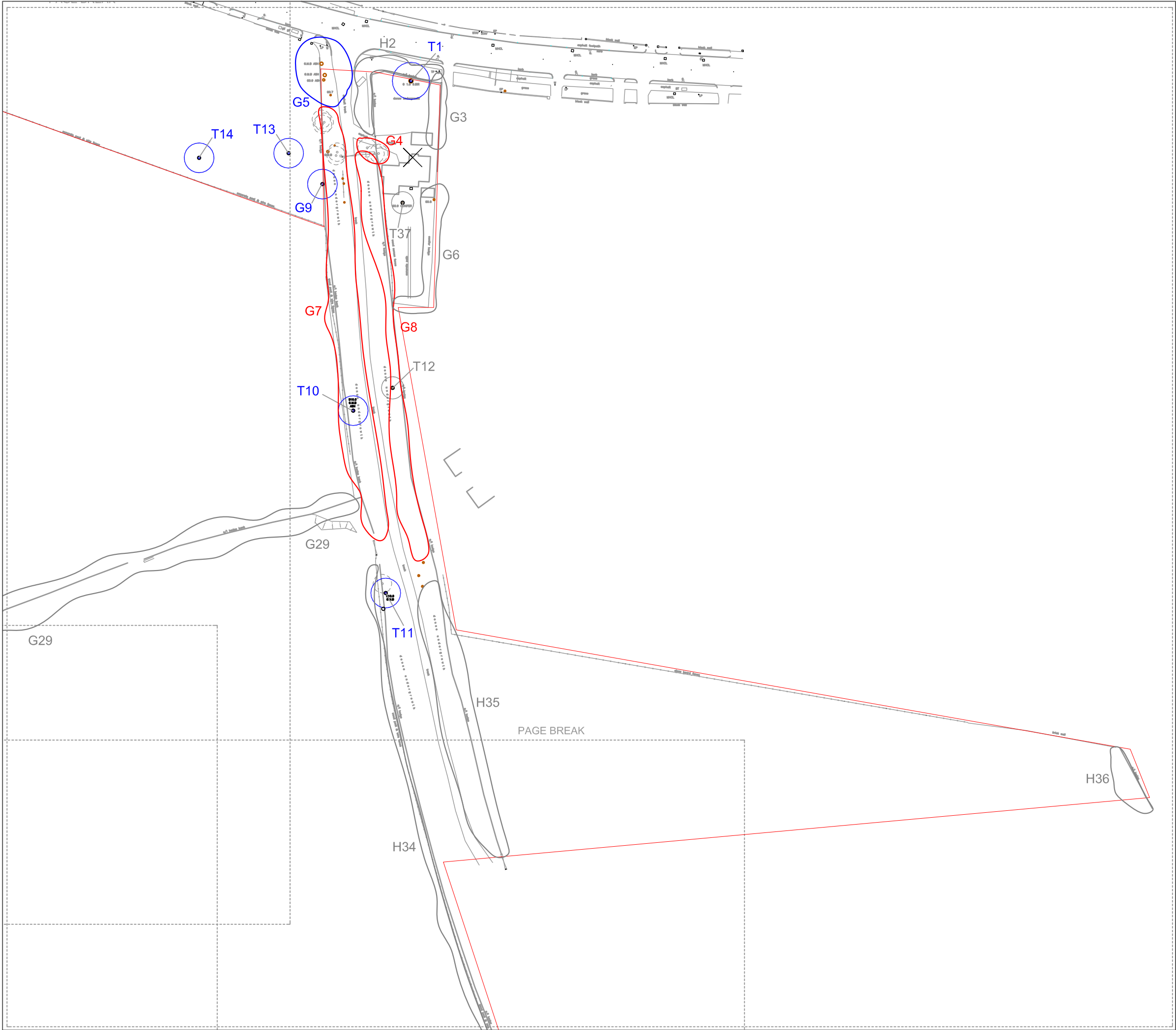
project title

Land to the North of the Railway Line
(West)

drawing title

Plan EDP 1: Tree Survey Plan - sheet 1 of 4

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/07	checked	LT
scale	1: 1000 @ A3		



Site

TREE CATEGORIES:



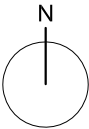
Category B
Those of moderate quality and value:
those in such a condition as to make a
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years is suggested).



Category C
Those of low quality and value:
currently in adequate condition to remain
until new planting could be established (a
minimum of 10 years is suggested), or young
trees with a stem diameter below 150mm.



Category U
Those in such a condition that any existing
value would be lost within 10 years and
which should, in the current context, be
removed for reasons of sound arboricultural
management.



0 50m



THE ENVIRONMENTAL DIMENSION PARTNERSHIP

Tithe Barn, Barnsley Estate, Barnsley, Cirencester,
Gloucestershire, GL7 5EG t 01285 740427 f 01285740848
e info@edp-uk.co.uk www.edp-uk.co.uk

client

Taylor Wimpey Plc

project title

**Land to the North of the Railway Line
(West)**

drawing title

Plan EDP 1: Tree Survey Plan - sheet 2 of 4

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/08	checked	LT
scale	1: 1000 @ A3		



Site

TREE CATEGORIES:



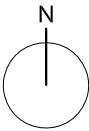
Category B
Those of moderate quality and value:
those in such a condition as to make a
significant contribution (a minimum of 20
years is suggested).



Category C
Those of low quality and value:
currently in adequate condition to remain
until new planting could be established (a
minimum of 10 years is suggested), or young
trees with a stem diameter below 150mm.



Category U
Those in such a condition that any existing
value would be lost within 10 years and
which should, in the current context, be
removed for reasons of sound arboricultural
management.



0 50m



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client

Taylor Wimpey Plc

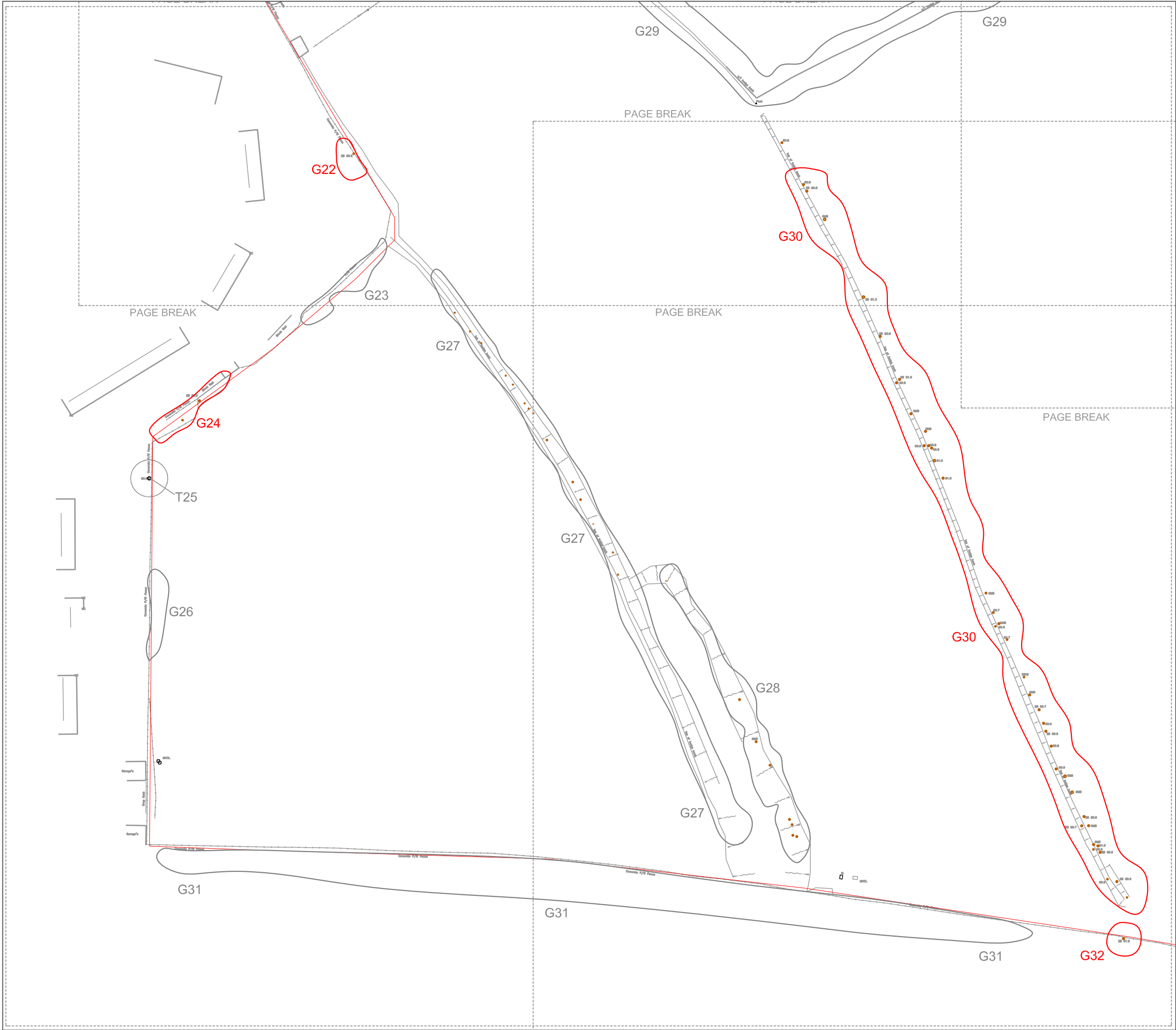
project title

**Land to the North of the Railway Line
(West)**

drawing title

Plan EDP 1: Tree Survey Plan - sheet 3 of 4

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/09	checked	LT
scale	1: 1000 @ A3		



- Site
- TREE CATEGORIES:**


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- 

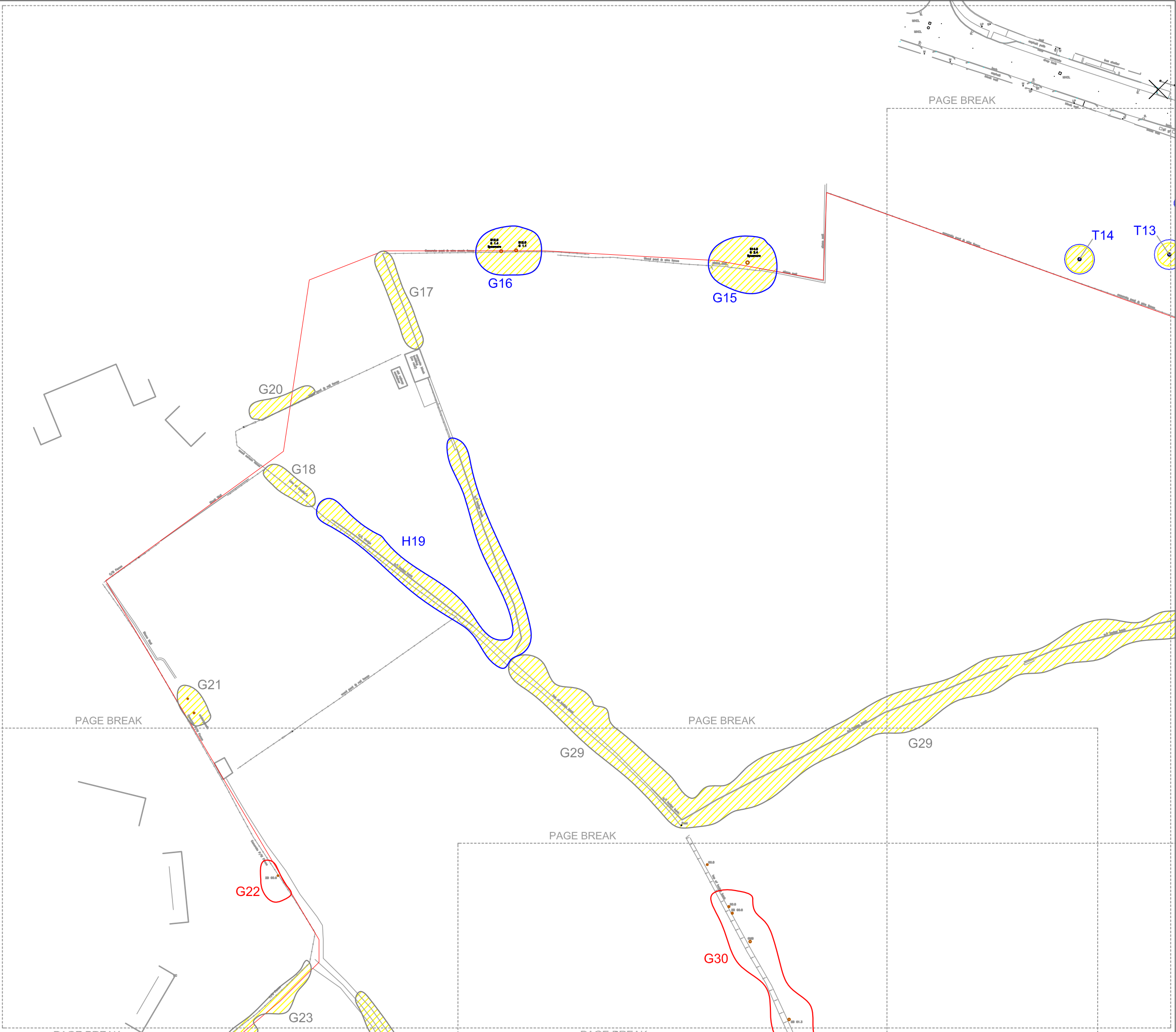
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- client

Taylor Wimpey Plc
- project title

Land to the North of the Railway Line
(West)
- drawing title

Plan EDP 1: Tree Survey Plan - sheet 4 of 4
- | | | | |
|----------------|-----------------|----------|----|
| date | 31 JANUARY 2014 | drawn by | DS |
| drawing number | EDP 2127/10 | checked | LT |
| scale | 1: 1000 @ A3 | | |
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Site

Category B

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Category C

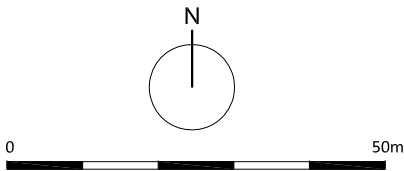
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TREE CONSTRAINTS:

RPA - (Root Protection Area)
Calculated using the methods set
out in Para. 4.6 of BS5837:2012



edp

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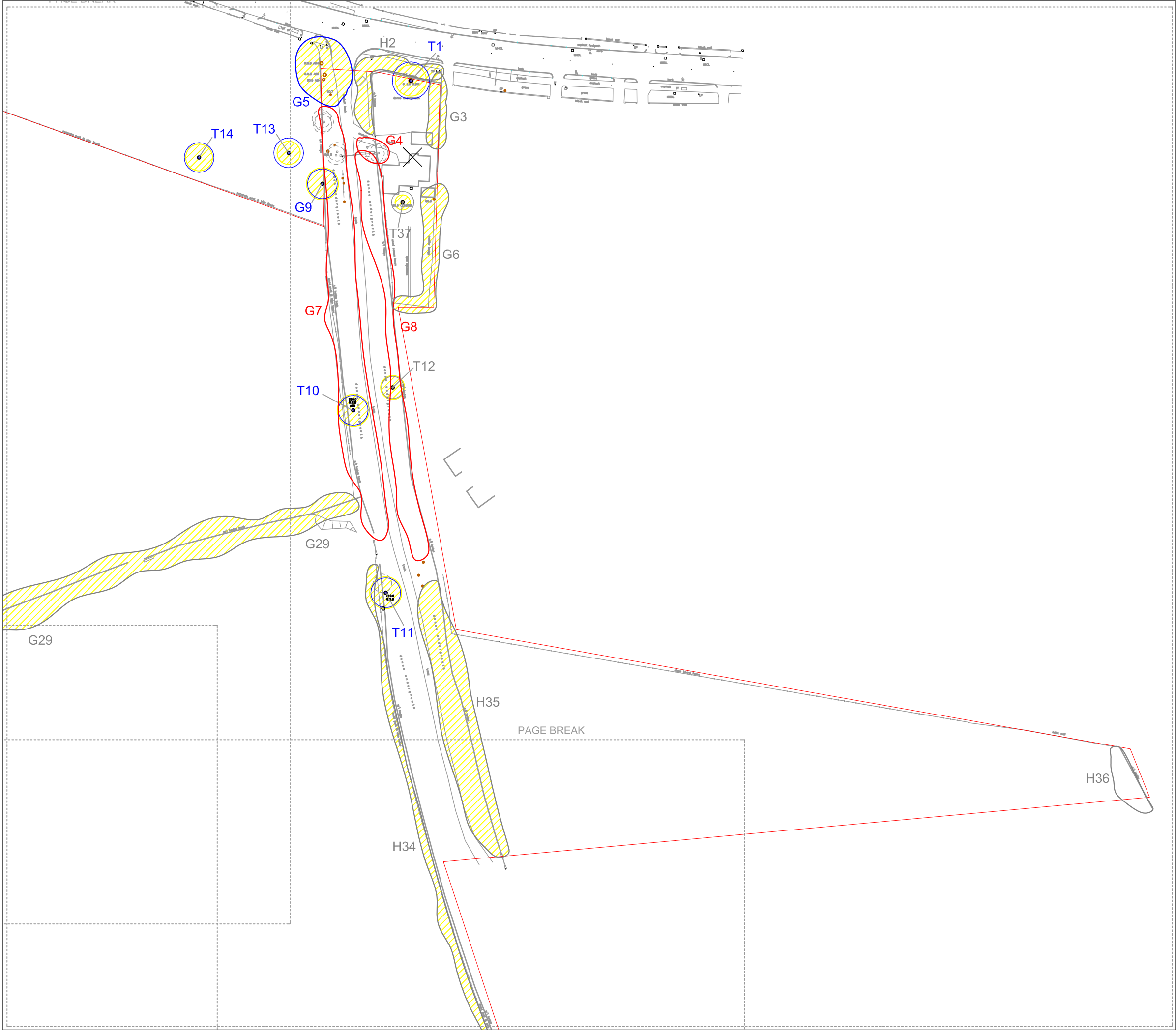
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Gloucestershire, GL7 5EG t 01285 740427 f 01285740848
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client
Taylor Wimpey Plc

project title
**Land to the North of the Railway Line
(West)**

drawing title
**Plan EDP 2: Tree Constraints Plan
- sheet 1 of 4**

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/11	checked	LT
scale	1: 1000 @ A3		



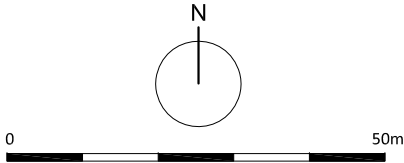
Site

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client

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project title

Land to the North of the Railway Line
(West)

drawing title

Plan EDP 2: Tree Constraints Plan
- sheet 2 of 4

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/12	checked	LT
scale	1: 1000 @ A3		



Site

TREE CATEGORIES:

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TREE CONSTRAINTS:

RPA - (Root Protection Area)

Calculated using the methods set out in Para. 4.6 of BS5837:2012

0 50m

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client

Taylor Wimpey Plc

project title

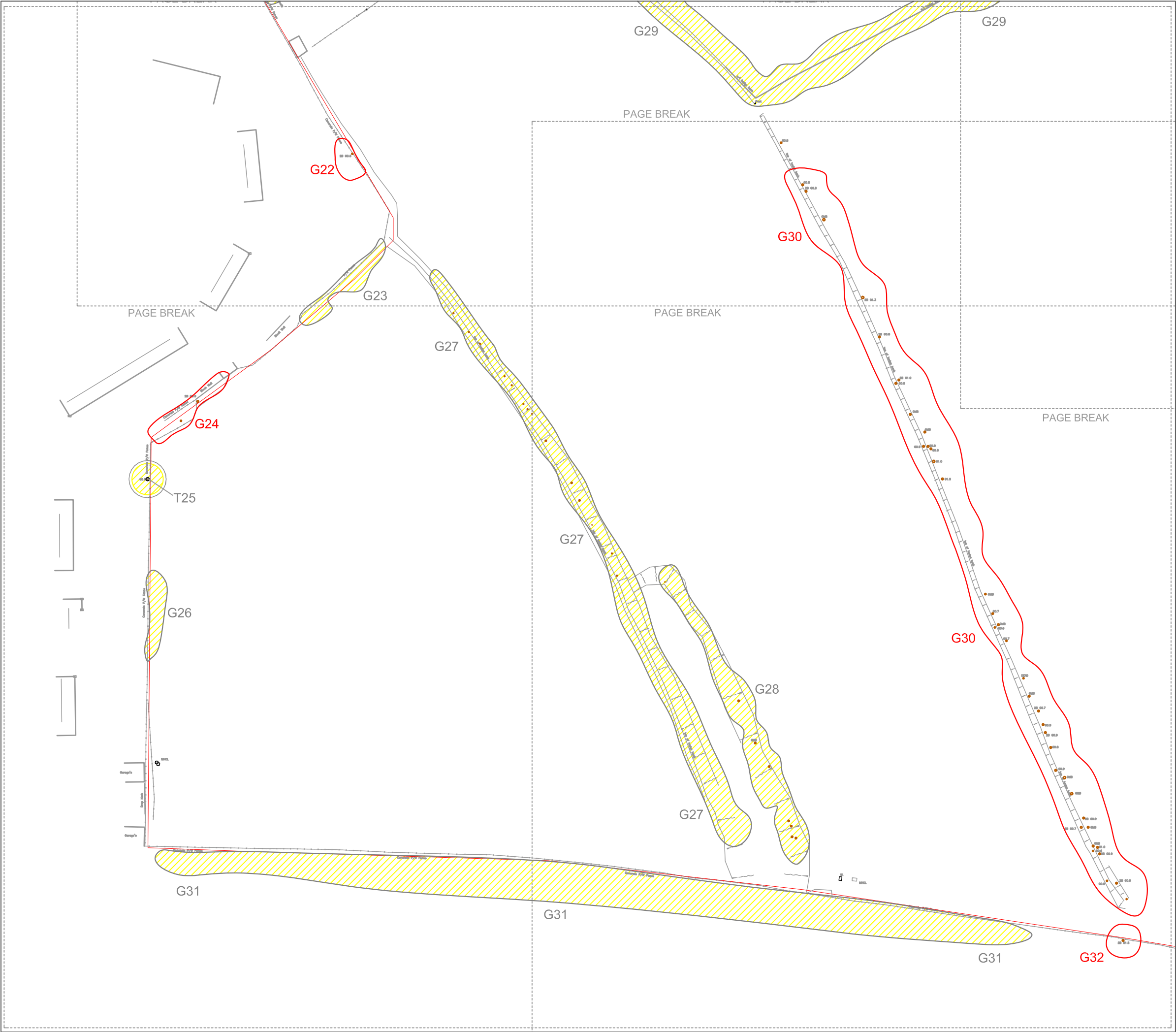
Land to the North of the Railway Line
(West)

drawing title

Plan EDP 2: Tree Constraints Plan
- sheet 3 of 4

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/13	checked	LT
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Site

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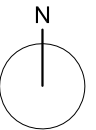


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RPA - (Root Protection Area)
Calculated using the methods set
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0 50m



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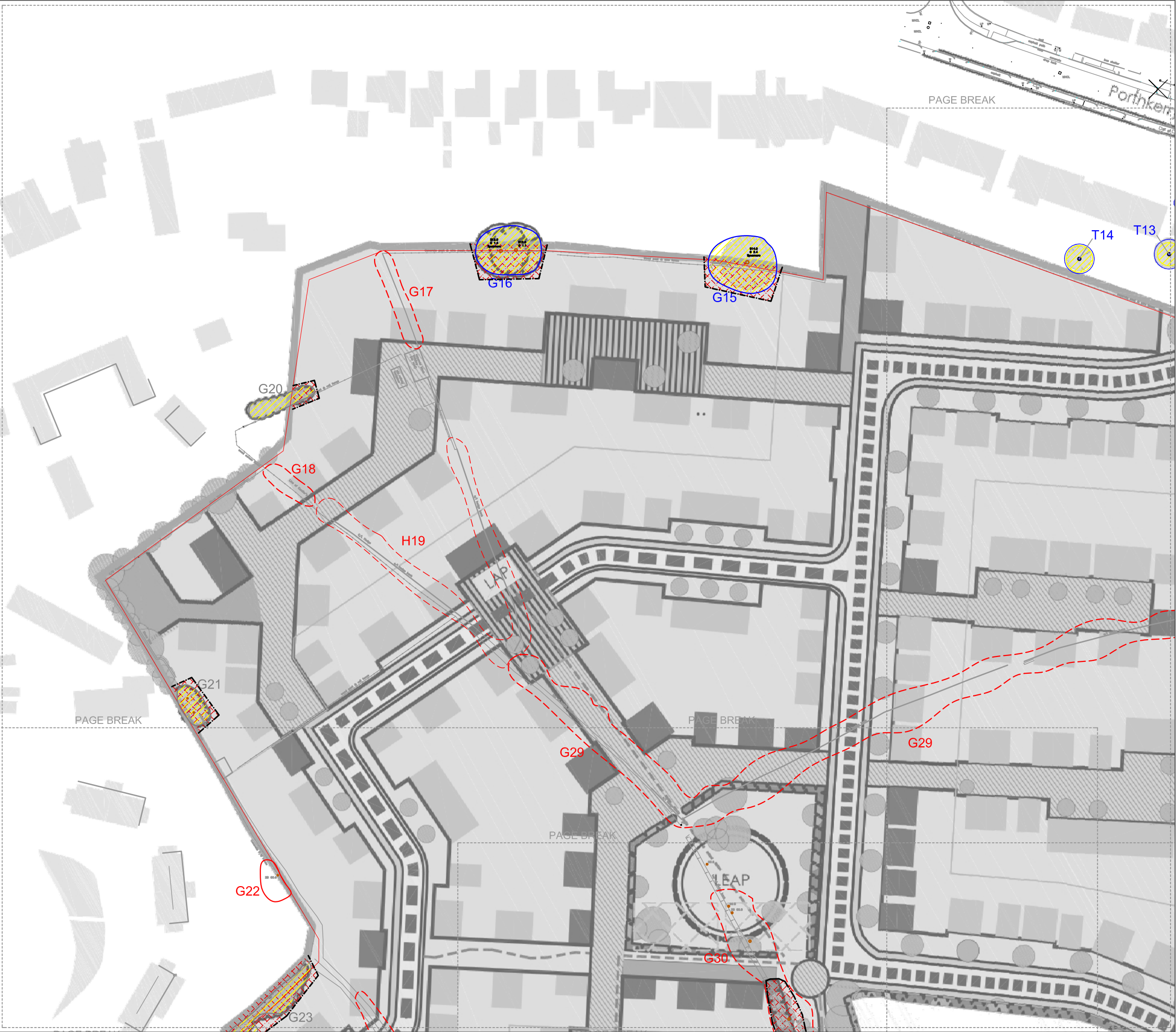
project title

**Land to the North of the Railway Line
(West)**

drawing title

**Plan EDP 2: Tree Constraints Plan
- sheet 4 of 4**

date	31 JANUARY 2014	drawn by	DS
drawing number	EDP 2127/14	checked	LT
scale	1: 1000 @ A3		



Site Boundary

TREE CATEGORIES:

Category B

Category C

Category U

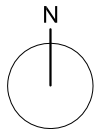
Trees to be removed

TREE CONSTRAINTS:

RPA - (Root Protection Area)
Calculated using the methods set
out in Para. 4.6 of BS5837:2012

Line of Protective Barrier

Construction Exclusion Zone
(CEZ) - Area based on the RPA
from which access is prohibited
for the duration of the project.



0 50m



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Gloucestershire, GL7 5EG t 01285 740427 f 01285740848
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client

Taylor Wimpey Plc

project title

Land to the North of the Railway Line
(West)

drawing title

Plan EDP 3: Tree Protection Plan -
Sheet 1 of 4

date

02 MAY 2014

drawn by

EB

drawing number

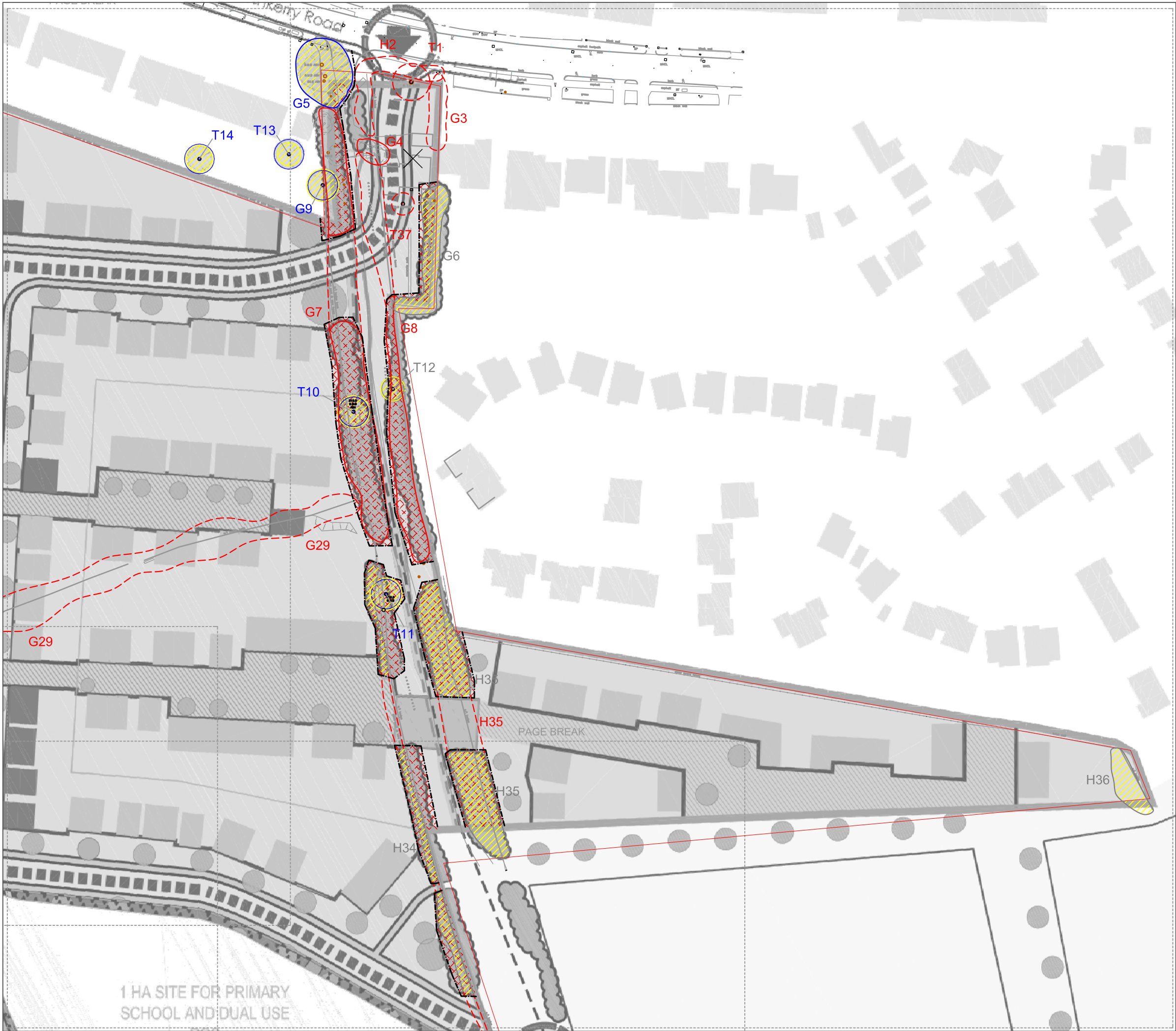
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scale

1: 1000 @ A3



Site Boundary

TREE CATEGORIES:

Category B

Category C

Category U

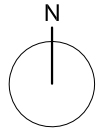
Trees to be removed

TREE CONSTRAINTS:

RPA - (Root Protection Area)
Calculated using the methods set
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Line of Protective Barrier

Construction Exclusion Zone
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0 50m



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project title

Land to the North of the Railway Line
(West)

drawing title

Plan EDP 3: Tree Protection Plan -
Sheet 2 of 4

date

02 MAY 2014

drawn by

EB

drawing number

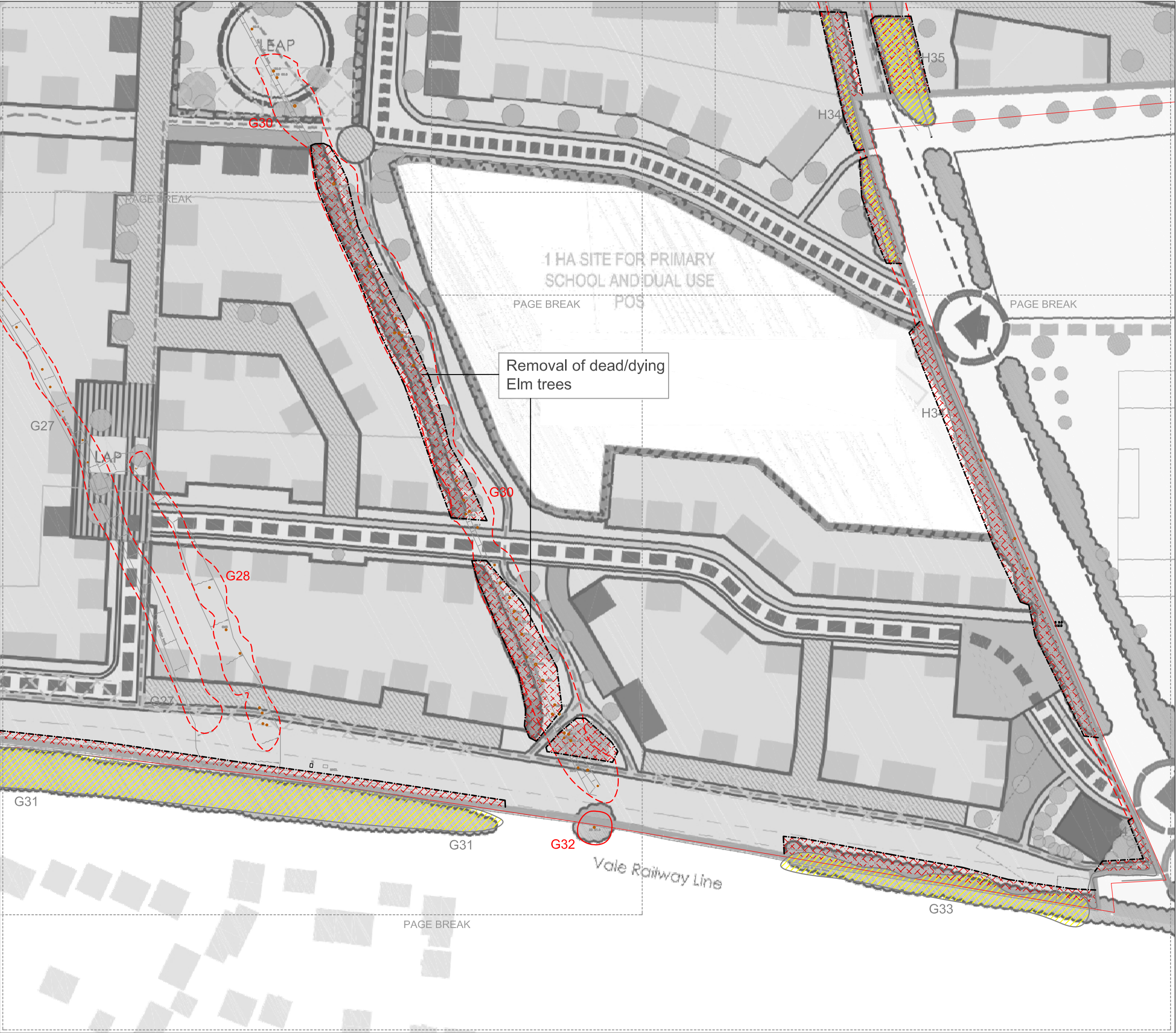
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scale

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Site Boundary

TREE CATEGORIES:

Category B

Category C

Category U

Trees to be removed

TREE CONSTRAINTS:

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Line of Protective Barrier

Construction Exclusion Zone
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N

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project title

Land to the North of the Railway Line
(West)

drawing title

Plan EDP 3: Tree Protection Plan -
Sheet 3 of 4

date
drawing number
scale

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