#### DEVELOPMENT MANAGEMENT REVIEW COMMITTEE

#### **APPLICATION FOR REVIEW**

#### LAND BETWEEN 14 AND 16 AIRLIE DRIVE, MONIFIETH

#### APPLICATION NO 14/00298/PPPL

## **APPLICANT'S SUBMISSION**

- **ITEM 1** Notice of Review
- ITEM 2 Drawing No OS(00)01A Location Plan
- **ITEM 3** Drawing No OS(00)02C Existing Site Plan
- **ITEM 4** Drawing No OS(00)03C Proposed Density Plan
- **ITEM 5** Drawing No SK(00)01F Proposed Site Plan indicating usable garden ground areas
- **ITEM 6** Drawing No SK(00)02E Sunpath diagrams
- **ITEM 7** Drawing No SK(00)03 Root Protection Plan
- ITEM 8 Planning Statement
- ITEM 9 Airlie Drive Tree Report 2014
- **ITEM 10** Grounds for Review

## **ITEM 1**

Angus									
County Buildings Market Stree	t Forfar DD8 3LG								
Tel: 01307 461460									
Fax: 01307 461 895									
Email: plnprocessing@angus.	gov.uk								
Applications cannot be validate	ed until all necessary documentation	has been submitted and the requi	red fee has been paid.						
Thank you for completing this	application form:								
ONLINE REFERENCE 000100190-001									
The online ref number is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the Planning Authority about this application.									
Applicant or Age	nt Details								
Are you an applicant, or an ago on behalf of the applicant in co	Are you an applicant, or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application)								
Agent Details									
Please enter Agent details									
Company/Organisation:	RDA Architects	You must enter a Building Nan both:*	ne or Number, or						
Ref. Number:		Building Name:	Suite Two						
First Name: *	RDA	Building Number:							
Last Name: *	Architects	Address 1 (Street): *	Stewarts House						
Telephone Number: *	01382 450770	Address 2:	Kingsway East						
Extension Number:		Town/City: *	Dundee						
Mobile Number:		Country: *	ИК						
Fax Number:		Postcode: *	DD4 7RE						
Email Address: *	mail@rda-architects.com								
Is the applicant an individual o	r an organisation/corporate entity? *								
📝 Individual 🗌 Organisa	tion/Corporate entity								

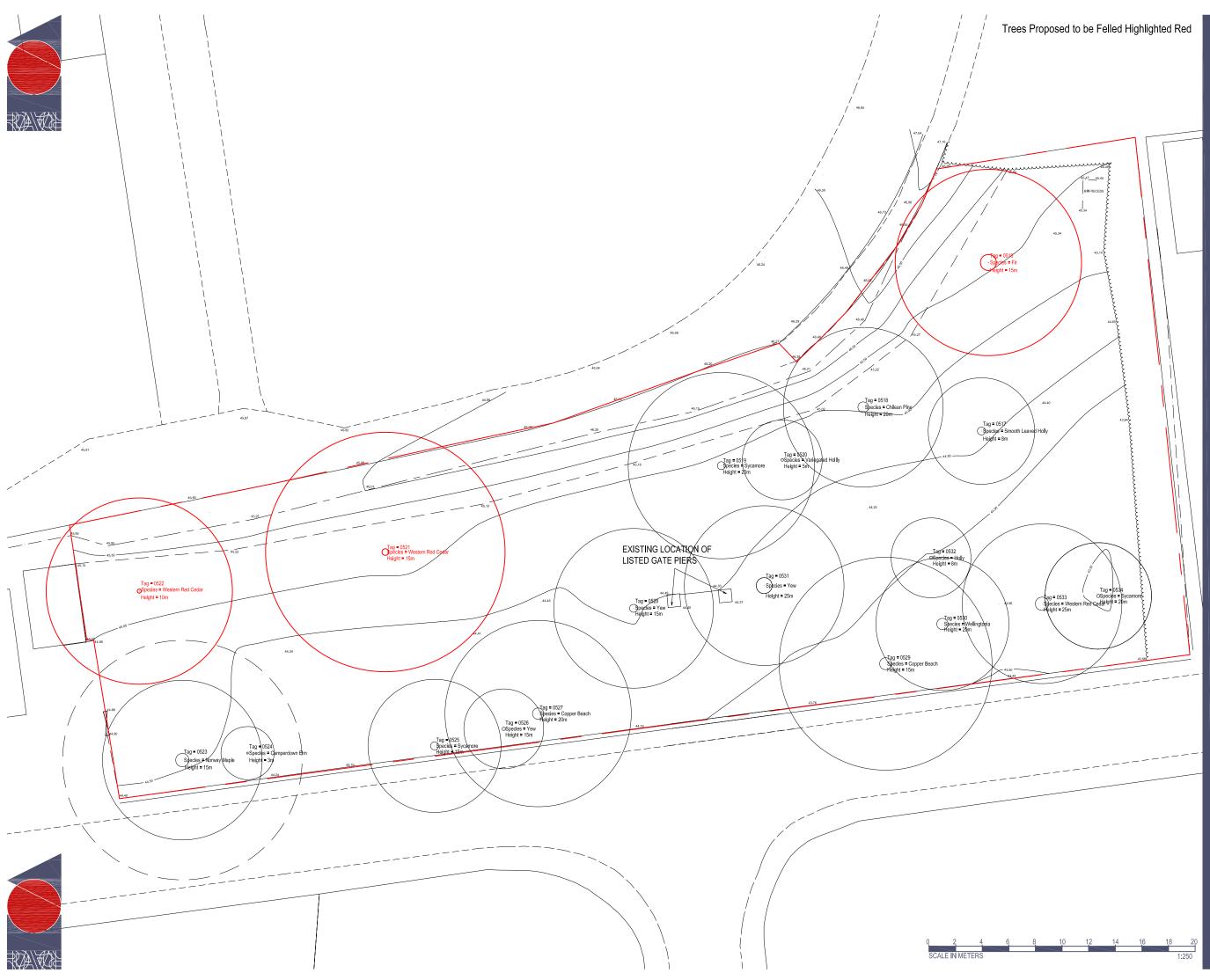
Other Mr & Mrs	You must enter a Build	
	You must enter a Build	
	You must enter a Build	
Mr & Mrs	both:*	ding Name or Number, or
	Building Name:	c/o RDA Architects
Р	Building Number:	
Robertson	Address 1 (Street): *	Suite Two, Stewarts House
	Address 2:	Kingsway East
	Town/City: *	Dundee
	Country: *	United Kingdom
	Postcode: *	DD4 7RE
Angus Council		
(including postcode where ava	ailable):	
16 AIRLIE DRIVE	Address 5:	
MONIFIETH	Town/City/Settlement	t: DUNDEE
	Post Code:	DD5 4RP
cation of the site or sites.		
	Easting	348870
e Proposal		
f the proposal to which your re ed with the agreement of the p	view relates. The description sh lanning authority: *	ould be the same as given in the
	16 AIRLIE DRIVE         MONIFIETH	Image: Second system       Town/City: *         Country: *       Country: *         Postcode: *       Postcode: *         Image: Second system       Address 5:         MONIFIETH       Town/City/Settlement         Post Code:       Post Code:         Image: Second system       Second system         Second system       Second system         Image: Second system       Second system         Second system       Second system         Image: Second system       Second system

Type of Application
What type of application did you submit to the planning authority? *
Application for planning permission (including householder application but excluding application to work minerals).
Application for planning permission in principle.
Further application.
Application for approval of matters specified in conditions.
What does your review relate to? *
Refusal Notice.
Grant of permission with Conditions imposed.
No decision reached within the prescribed period (two months after validation date or any agreed extension) – deemed refusal.
Statement of reasons for seeking review
You must state in full, why you are seeking a review of the planning authority's decision (or failure to make a decision). Your statement must set out all matters you consider require to be taken into account in determining your review. If necessary this can be provided as a separate document in the 'Supporting Documents' section: * (Max 500 characters)
Note: you are unlikely to have a further opportunity to add to your statement of appeal at a later date, so it is essential that you produce all of the information you want the decision-maker to take into account.
You should not however raise any new matter which was not before the planning authority at the time it decided your application (or at the time of expiry of the period of determination), unless you can demonstrate that the new matter could not have been raised before that time or that it not being raised before that time is a consequence of exceptional circumstances.
Please see attached Grounds for Review
Have you raised any matters which were not before the appointed officer at the time the determination on your application was made? *
If yes, you should explain in the box below, why you are raising the new matter, why it was not raised with the appointed officer before your application was determined and why you consider it should now be considered in your review: * (Max 500 characters)
Matter was raised in Grounds for Refusal - Item no. 4. The original planning application was in principle only and this is a matter of detail.
Please provide a list of all supporting documents, materials and evidence which you wish to submit with your notice of review and intend to rely on in support of your review. You can attach these documents electronically later in the process: * (Max 500 characters)
13035d-OS(00)01A : Location Plan
13035d-OS(00)02C : Existing Site Plan
13035d-OS(00)03C : Proposed Density Plan 13035d-SK(00)01F : Proposed Site Plan indicating usable garden ground areas
13035d-SK(00)01F : Proposed Site Pian indicating usable garden ground areas
13035d-SK(00)02E : Sunpair diagrams
13035d-140409-R-TP : Planning Statement
Airlie Drive Tree Report 2014
Grounds For Review

Application Details										
Please provide details of the application and decision.										
	4/00000/000		1							
	4/00298/PPPL	r								
What date was the application submitted to the planning authority? *       11/04/14										
What date was the decision issued by the planning authority?	*	23/06/14	ļ							
Review Procedure										
The Local Review Body will decide on the procedure to be use process require that further information or representations be be required by one or a combination of procedures, such as: w inspecting the land which is the subject of the review case.	made to enable th	nem to det	termine th	ne review	. Further in	nformation may				
Can this review continue to a conclusion, in your opinion, base parties only, without any further procedures? For example, wri						ourself and other				
Yes 🖌 No										
Please indicate what procedure (or combination of procedures select more than one option if you wish the review to be condu	s) you think is mos ucted by a combin	st appropr nation of p	riate for th procedure:	e handlir s.	ng of your r	eview. You may				
Please select a further procedure *										
Further written submissions on specific matters										
Please explain in detail in your own words why this further pro it will deal with? * (Max 500 characters) We consider these necessary to give a comprehensive review		d and the	matters s	et out in y	your stater	nent of appeal				
Please select a further procedure *										
Holding one or more hearing sessions on specific matters										
Please explain in detail in your own words why this further pro it will deal with? * (Max 500 characters)	cedure is required	d and the	matters s	et out in y	your stater	nent of appeal				
We consider these necessary to give a comprehensive review	v of the case.									
Please select a further procedure *										
Inspection of the land subject of the appeal. (Further details b	elow are not requ	ired)								
Please explain in detail in your own words why this further pro it will deal with? * (Max 500 characters)	cedure is required	d and the	matters s	et out in y	your stater	nent of appeal				
We consider these necessary to give a comprehensive review	v of the case.									

In the event that the Local Review	Body appointed to consider your application deci	ides to inspect the site, in	n your opinion:
Can the site be clearly seen from a	a road or public land? *	V Ye	es 🗌 No
Is it possible for the site to be acce	essed safely and without barriers to entry? *	Ve	es 🗌 No
Checklist - Applica	tion for Notice of Review		
	cklist to make sure you have provided all the nec n may result in your appeal being deemed invalio		pport of your appeal.
Have you provided the name and	address of the applicant? *		🖌 Yes 🗌 No
Have you provided the date and re	eference number of the application which is the su	ubject of this review? *	🖌 Yes 🗌 No
	alf of the applicant, have you provided details of y notice or correspondence required in connection cant? *		
			✓ Yes 🗌 No 🗌 N/A
Have you provided a statement se (or combination of procedures) yo	tting out your reasons for requiring a review and u wish the review to be conducted? *	by what procedure	✓ Yes 🗌 No
require to be taken into account in at a later date. It is therefore esse	you are seeking a review on your application. Yo determining your review. You may not have a fu ential that you submit with your notice of review, a dy to consider as part of your review.	irther opportunity to add	to your statement of review
Please attach a copy of all docum drawings) which are now the subje	ents, material and evidence which you intend to react of this review *	ely on (e.g. plans and	🖌 Yes 🗌 No
planning condition or where it related	a further application e.g. renewal of planning perr tes to an application for approval of matters speci roved plans and decision notice (if any) from the	fied in conditions, it is ad	
Declare - Notice of	Review		
I/We the applicant/agent certify that	at this is an application for review on the grounds	stated.	
Declaration Name:	RDA Architects		
Declaration Date:	19/09/2014		
Submission Date:	19/09/2014		







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mail@rda-architects.com Construction Line Reg. No. 51521 VAT Registration No. 270424873



## CLIENT

Robertson

PROJECT 16 Airlie Drive Monlfleth

## DRAWING **Existing Site Plan**

1:250@ A3 SCALE DATE 30.08.13 PROJECT NO. 13035d DRAWING NO. OS(00)02 C STATUS

PLANNING

REV	DATE	DESCRIPTION
A	16/10/13	Revision to Tree Identities
В	09/12/13	Tree ID update
С	25/03/14	Planning Update

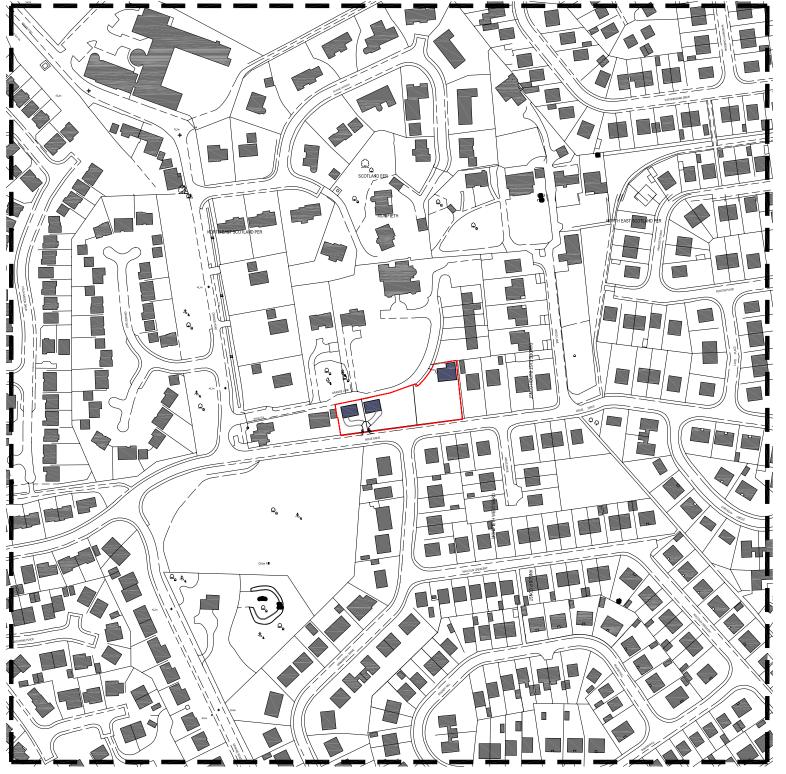
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Cross-hatched Area. 25 Hectares

A 25 Hectare grid has been centred on the application site, within which there are 374 existing dwellings.

The addition of three further houses amount to an insignifcant increase of 0.8% of the total.

The existing average density is 14.96 dwellings / hectare.

With the addition of three houses this would the average to 15.08 dwellings / hectare which is negligible.







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## **CLIENT**

Robertson

PROJECT 16 Airlie Drive Monlfleth

## **DRAWING Proposed Density Plan**

SCALE DATE PROJECT NO. 13035d DRAWING NO. OS(00)03 C STATUS

1:2500@ A3 30.08.13 PLANNING

A 16/10/13 Revision To Sult Tree B 06/03/14 General Update C 25/03/14 Planning Update	REV.	DATE	DESCRIPTION
	В	06/03/14	

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### CLIENT

Robertson

### PROJECT

16 Airlie Drive Monlfleth

### DRAWING

Proposed Site Plan Indicating Usable Gaden Ground Areas

 SCALE
 1:250@ A3

 DATE
 30.08.13

 PROJECT NO.
 13035d

 DRAWING NO.
 SK(00)01
 F

 STATUS
 PLANNING

#### REV. DATE DESCRIPTION

А	03/10/13	General Update
В	16/10/13	Revision To Sult Trees
С	21/10/13	Tree Revision
D	09/12/13	Tree ID update
E	05/03/14	General Update
F	25/03/14	Planning Update

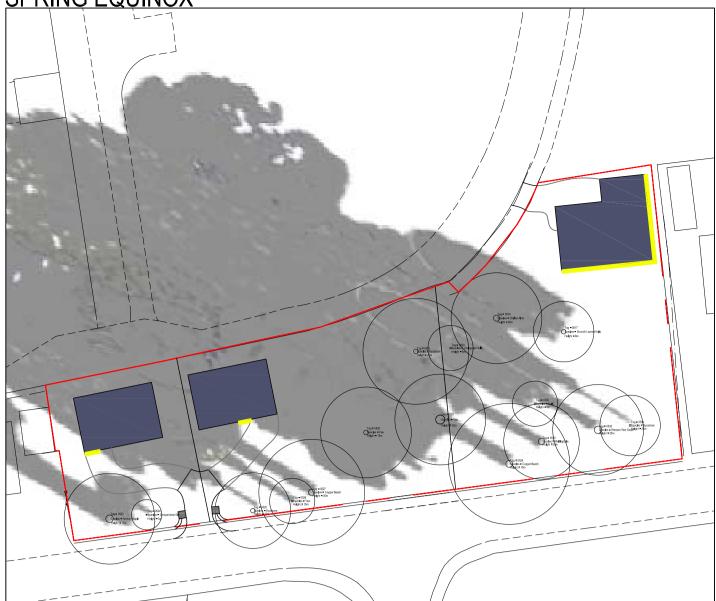
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## 9AM

Plot 1- 20% of South Elevation in direct sunlight Plot 2- 17% of South Elevation in direct sunlight

Plot 3- 100% of South Elevation & 100% of East Elevation in direct sunlight



# NOON

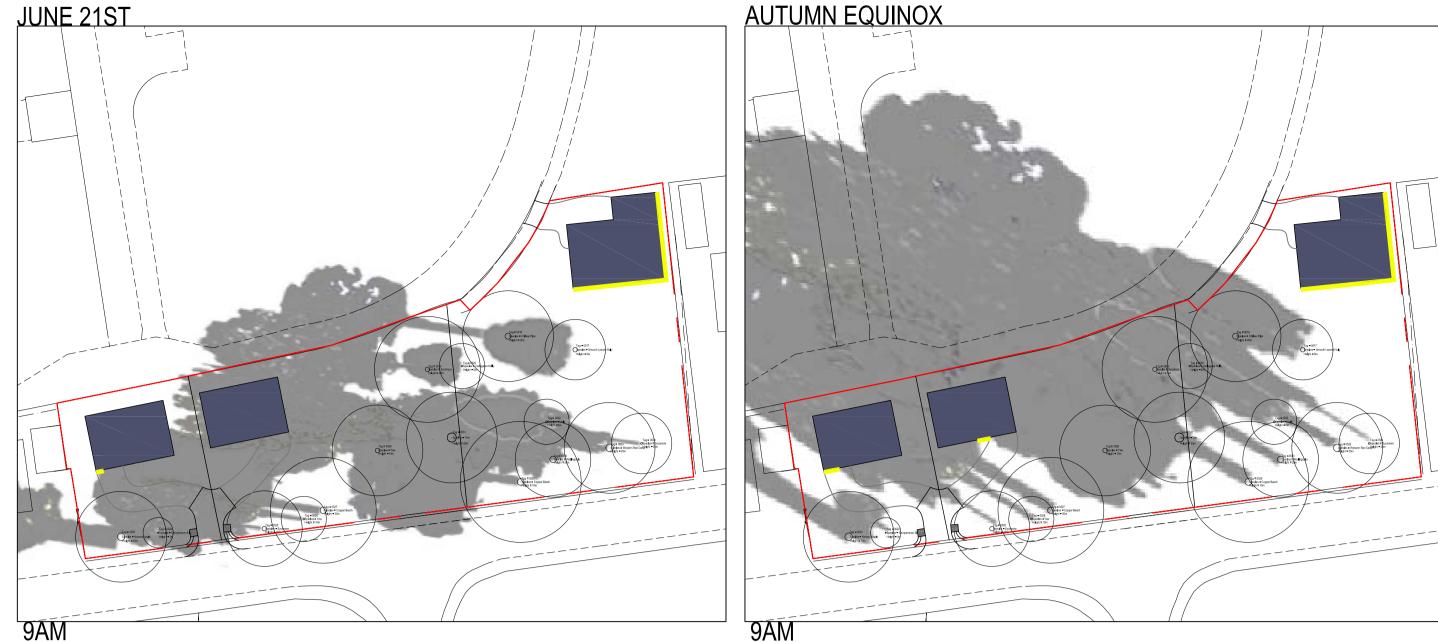
Plot 1- 69% of South Elevation & 100% of East in direct sunlight

Plot 2- Not in direct sunlight Plot 3- 33% of South Elevation & 100% of East Elevation in direct sunlight



## 3PM

Plot 1- 100% of South Elevation & 100% of West Elevation in direct sunlight Plot 2- 60% of South Elevation in direct sunlight Plot 3- Not in direct sunlight



## 9AM

Plot 1- 9% of South Elevation in direct sunlight

Plot 2- Not in direct sunlight Plot 3- 100% of South Elevation & 100% of East Elevation in direct sunlight

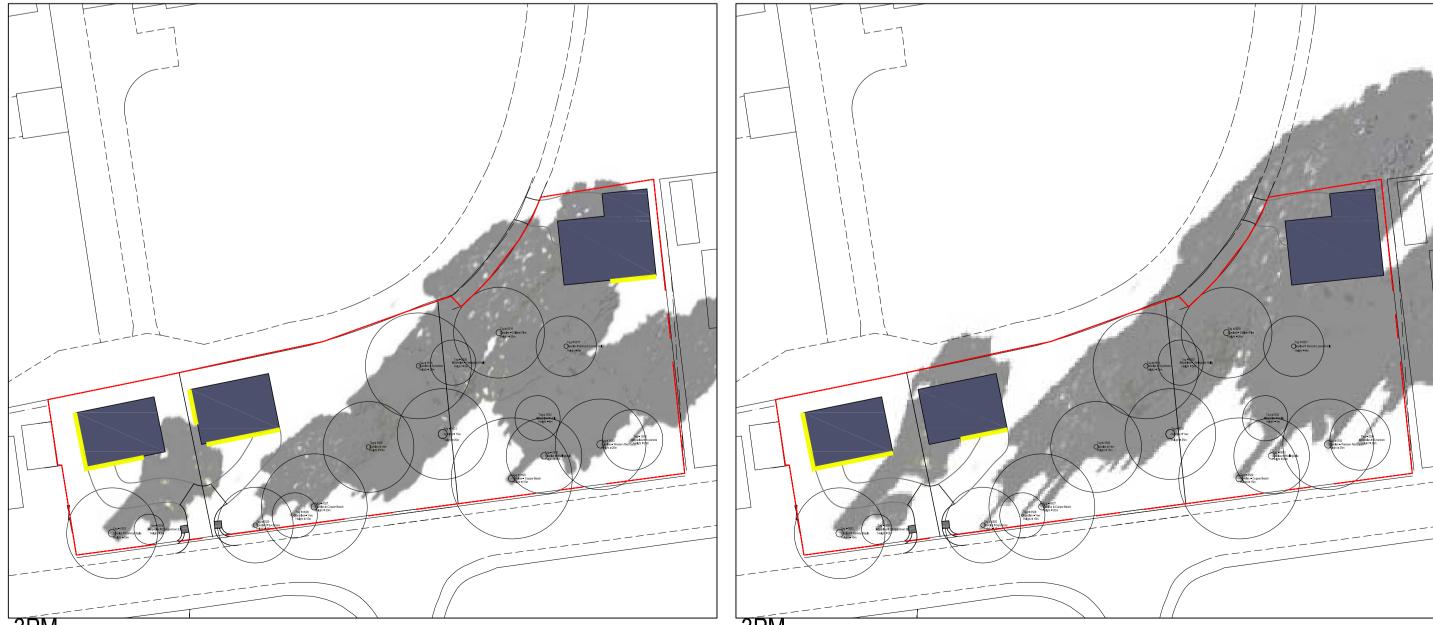


## NOON

Plot 1- 66% of South Elevation & 100% of East in direct sunlight

Plot 2- 55% of East Elevation in direct sunlight

Plot 3- 100% of South Elevation & 100% of East Elevation in direct sunlight



## 3PM

Plot 1- 73% of South Elevation & 100% of West Elevation in direct sunlight Plot 2- 94% of South Elevation & 63% of West Elevation in direct sunlight Plot 3- 50% of South Elevation in direct sunlight

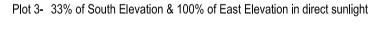
Plot 1- 20% of South Elevation in direct sunlight Plot 2- 17% of South Elevation in direct sunlight Plot 3- 100% of South Elevation & 100% of East Elevation in direct sunlight



## NOON

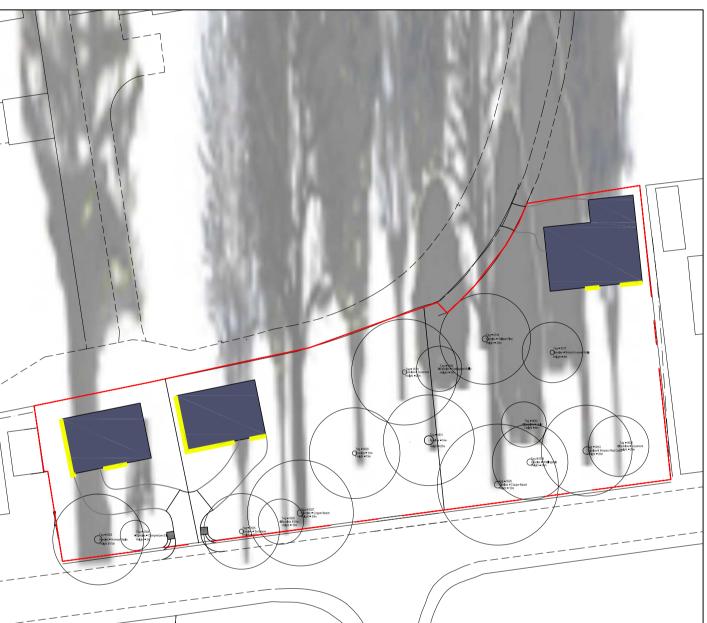
Plot 1- 69% of South Elevation & 100% of East in direct sunlight

Plot 2- Not in direct sunlight

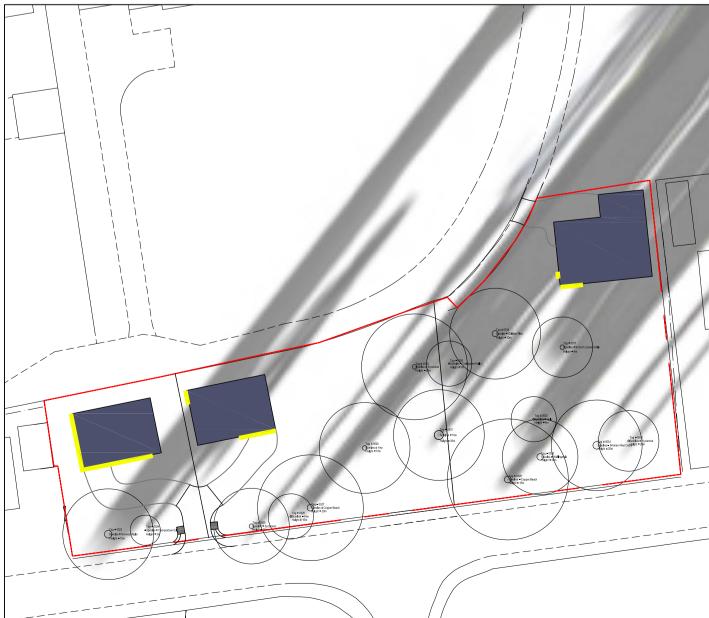


## 3PM Plot 1- 100% of South Elevation & 100% of West Elevation in direct sunlight Plot 2- 60% of South Elevation in direct sunlight Plot 3- Not in direct sunlight

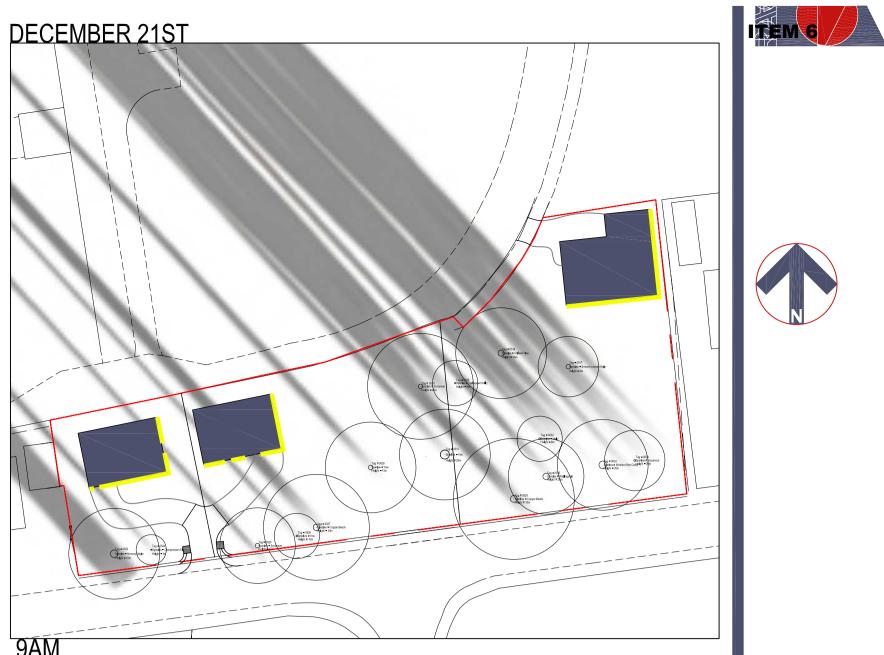
9AM



NOON



3PM



Plot 1- 94% of South Elevation & 82% of East Elevation in direct sunlight Plot 2- 73% of South Elevation & 100% of East Elevation in direct sunlight Plot 3- 100% of South Elevation & 100% of East Elevation in direct sunlight

Plot 1- 34% of South Elevation & 100% of West in direct sunlight Plot 2- 81% of South Elevation & 100% of West Elevation in direct sunlight Plot 3- 43% of South Elevation in direct sunlight

Plot 1- 89% of South Elevation & 100% of West Elevation in direct sunlight Plot 2- 48% of South Elevation & 25% of West Elevation in direct sunlight Plot 3- 24% of South Elevation & 10% of West Elevation in direct sunlight



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CLIENT Robertson

PROJECT 16 Airlie Drive Monlfleth

DRAWING Sunpath Diagrams

SCALE 1:500 @ A1 16/12/13 DATE PROJECT NO. 13035d DRAWING NO. SK(00)02E STATUS PLANNING

REV. DATE DESCRIPTION 03/10/13 General Update 16/10/13 Revision to suit Trees 21/10/13 Tree RevIsion 10/12/13 Paper Size Changed/ Lay 25/03/14 Planning Update

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### CLIENT

Robertson

PROJECT 16 Airlie Drive Monlfleth

## DRAWING

Root Protection Area Plan

 SCALE
 1:250@A3

 DATE
 06.03.14

 PROJECTNO
 130350

 DRAWINGNO
 SK(00)03

 STATUS
 PLANNING

REV. DATE DESCRIPTION

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## **Planning Statement**

#### 13035d - Proposed Scheme for 3 New Build Houses, Airlie Drive, Monifieth

The grounds of Grange House have been sub divided and developed since the 1970's to create housing of a variety of scales.

The site between Grange Lane and Airlie Drive has become increasingly over grown with many rogue shrubs and small trees growing up around the base of the historic trees on the site. The site contains two listed gate piers now detached in isolation and hidden from public view.

The site has become a regular fly tipping ground for neighbouring properties to dispose of lawn clippings and other garden waste to the detriment of the trees as noted within the Tree Survey Report. The site also gathers litter thrown over the boundary to Airlie Drive and cans/bottles disregarded by people loitering within the site after dark. More recently the site has become unmanageable with the increasing levels of waste material being dumped. The Tree Survey Report concludes the intense undergrowth of self-set trees and shrubs should be removed in the interests of good arboricultural practice.

By dividing the site into smaller areas of residential curtilage these can be managed effectively preventing the intense undergrowth recurring.

The Site is covered by the Tree Preservation Order known as W2 dating back to 1976 for The Grange. This particular TPO covers a large area to the North of Monifieth in relation to Grange House.

The site is not highlighted as an area of 'open Space protection' of Inset Map 6 of the Angus Local Plan Review (Adopted 2009).

The potential of this site has evolved through working closely with an Arboricultural Consultant to ascertain accurate information regarding the trees, their health and likely long term future. The purpose of the tree survey was first and foremost to ascertain condition and ensure the long term future of as many significant trees as possible.

The proposal includes for the removal of three trees to the North of the site on account of their questionable amenity value and potential short lifespan.

It is proposed that all other trees to the South and East of the site are retained. The proposal, as a result, will see little alteration to the streetscape of Airlie Drive.

This has presented the opportunity to create three individual plots for detached houses. These plots will be laid out to minimise the impact on the existing trees whilst maximising natural daylight to the proposals and the value of the trees as a feature of the houses. The houses will be individually designed and of a style and scale to reflect the nature of the surrounding developments.

The layout (SK(00)01) has been designed with the trees as a central design focus and as such reflects a density far lower than the surrounding developments to the East. The proposals have been designed to avoid tree root protection areas and where possible any invasive landscaping will be avoided within these areas, the development will be undertaken in strict accordance to *BS 5837.2005 Trees in relation to construction*.

The Norway Maple to the South West of the site suffered major storm damage in late 2013 and rather than remove the tree the proposal seeks to pollard the tree to ensure its long term future.





Chartered Architects Town Planning Consultants











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mail@rda-architects.com Constructionline Reg.No. 51521 Vat Registration No. 270424873 The canopy spreads have been based on detailed topographical survey information from  $29^{th}$  August 2013. The root protection areas (SK(00)03) have been based on information from the Arboricultural Consultants report of  $20^{th}$  March 2014.

It is accepted that the trees will cast shadows over the dwellings to varying extents throughout the year. In the absence of current regulation to quantify sunlight requirements for new housing developments the method and requirements as laid out in the previously administered 'Ministry of Housing and Local Government – Flats and Houses Design and Economy' have been applied and exceeded throughout the design.

Using a Standard Sunlight Indicator, the daily hours of sunlight over a ten month period reaching the South elevation of each dwelling have been assessed (Appendix A). It has been calculated that the south facing elevation of each plot will have the ability to receive in excess of one hours sunlight every day for a ten month period. This demonstrates a more than acceptable level of direct sunlight and given the uninterrupted North elevations, there is clearly no issue over the amount and quality of daylight to each dwelling. This method was adopted to demonstrate the proposal would achieve in excess of the latest known regulations. Appendix B shows the method used indicating the worst case scenario of the three plots.

Whilst the above method provides a quantifiable result, and proves the last used regulation is exceeded, the method is based on assuming solid objects for all obstructions, including trees. Actual tree profiles and resultant shadows cast are not solid and therefore the results are improved further.

To show how the actual tree shadows would likely affect the proposals a computer generated model was set up. Shadow Plans (SK(00)02) are included as part of the application as an overview throughout the year.

The Shadow Plans indicate the likely shadowing caused by the trees at three times of the day over four times of year, Spring Equinox, 21<sup>st</sup> June, Autumn Equinox and 21<sup>st</sup> December. The proposals have been designed to sit within the trees, taking advantage of the relatively high crowns allowing light to penetrate well into the site. The percentage of the elevations in direct sunlight have been calculated and can be seen highlighted in yellow on the drawing for each extract.

Each plot has been carefully designed to reflect the surrounding densities to the North and West of the site. The plot sizes and usable garden ground areas have been laid out in SK(00)01 & SK(00)04. The proposal is on the border between established low and medium density residential areas and reflects this well. Block Plan OS(00)04 shows a 25 Hectare grid centred on the application site with a total of 374 dwellings, the addition of three further houses amount to an increase of 0.8% of the total which is insignificant. The average density is 14.96 dwellings per hectare. The addition of three houses would raise this to an average of 15.08 dwellings per hectare which again is an insignificant increase and still a very low density.

The driveways leading to the proposals are designed to complement the existing wall to Airlie Drive with one plot accessed via Grange Lane. The listed gate posts are proposed to be relocated to Airlie Drive to provide a joint access for the two Western plots making the gate posts visible to the passing public. Due to existing levels, the driveways will be built out of the ground rather than excavated to avoid any disruption to the existing roots, all in accordance with the British Standard. The driveway construction method and materials will be in line with BA 5837.2005

Further detail of how the individual house proposal will avoid conflict with the retained trees will be covered in the full detailed planning application.

It is expected that conditions will be applied to consents in relation to construction in close proximity to trees.







#### Appendix A

#### **Results of Standard Sunlight Indicator Test**

Plot	Minimum hours sunlight reaching single point centred on South elevation
1	1hr 24 mins
2	1hr 31 mins
3	2hr 15 mins

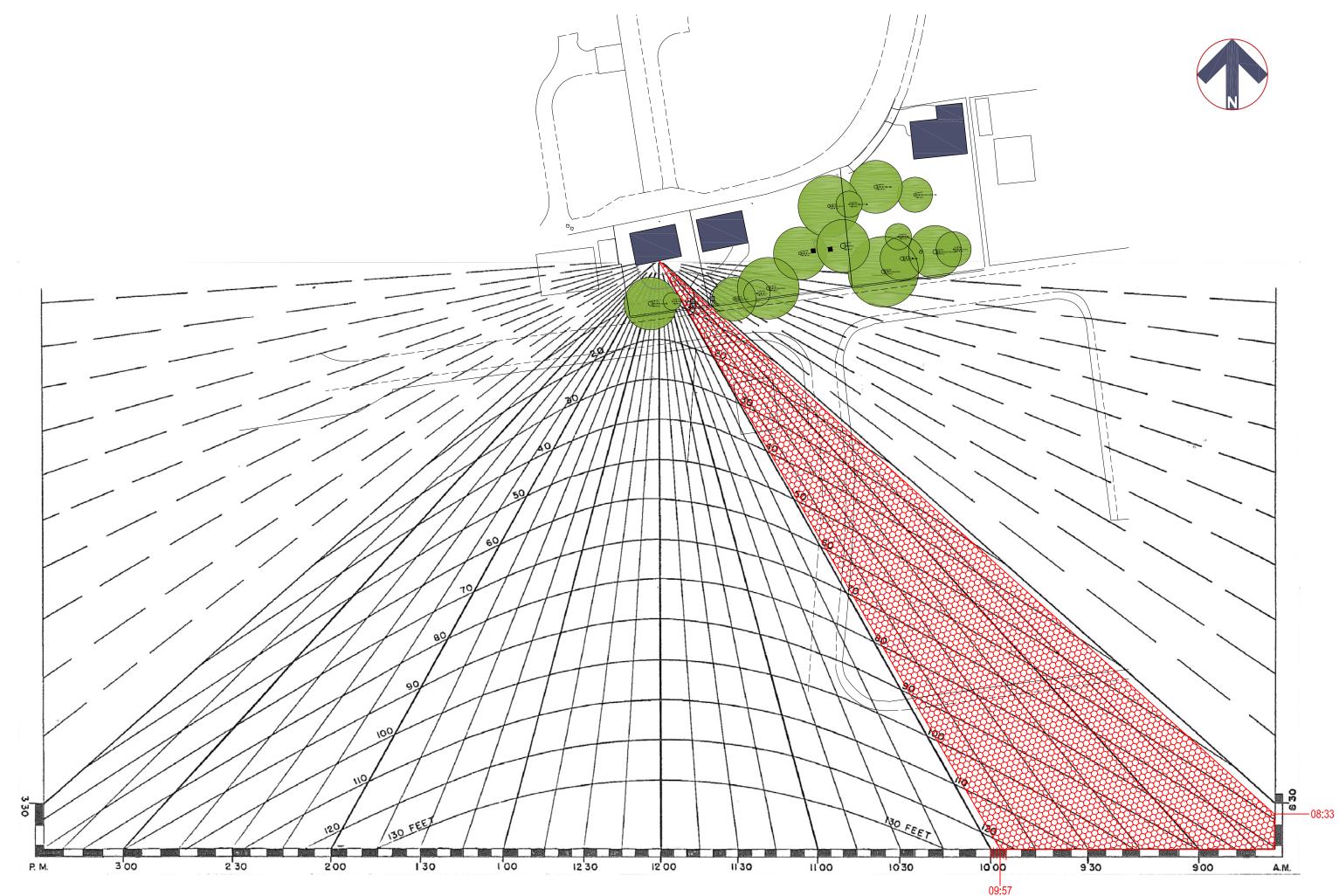
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#### Appendix B

Standard Sunlight Indicator Test Methodology



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### **ITEM 9**

**ARBORETUM** INTERNATIONALE



## Tree Survey at Airlie Drive, Monifieth



Prepared for:

Mr. and Mrs. P. Robertson 16 Airlie Drive Monifieth Dundee Angus DD5 4RP

Prepared by:

Paul Hanson Arboretum Internationale Limited Ochil Cottage Main Road Guildtown PH2 6BS

Tel: 01821 640 555

E-mail: paul@arboretum-intl.com

Signed

\_\_\_\_ 20<sup>th</sup> March 2014

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#### Part 1 - Tree Survey

- 1 Scope of Survey
- 2 Survey Method
- 3 The Site
- 4 Existing Trees
- 5 Recommended Tree Works
- 6 Tree Constraints

#### Part 2 – Proposed Development in Relation to Trees

- 7 Development Appraisal
- 8 Arboricultural Implications Assessment

#### Part 3 – Arboricultural Method Statement

- 9 Tree Protection General Measures
- 10 Site Specific Tree Protection Measures
- 11 New Hard Surfaces within RPAs
- 12 Underground Services
- 13 Arboricultural Supervision

#### Conclusion

#### Recommendations

#### Appendices

- 1 Tree Survey Schedule of Trees Survey Key
- 2 Cascade Chart for Tree Quality Assessment (BS5837:2012)
- 3 Protective Barriers (BS 5837:2012 Figure 2)
- 4 Principles of 'No Dig' Construction Close to Trees
- 5 Removal of debris near trees
- 6 Further information
- 7 Glossary
- 8 Paul Hanson CV

#### Site Plan

Plan 1 Tree Survey and Constraints Plan Plan 2 Tree Protection Plan

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## INTRODUCTION

#### Instructions:

This tree survey and report was commissioned by Mr. Tim Heatherington of RDA Architects on behalf of the site owners Mr. and Mrs. Paul Robertson.

#### Terms of Reference:

- To inspect the significant trees in accordance with British Standard 5837:2012 'Trees in relation to design, demolition, and construction– Recommendations',
- Assess their suitability for retention in relation to the development of the site,
- Assess the impact of the proposed scheme on retained trees,
- Provide guidance on measures that should be taken to ensure the protection of retained trees and the successful integration of the proposed development.

#### **Documents Supplied:**

 Architectural drawing no. SK (00) 01 F, entitled 'Proposed Site Plan' – produced by RDA Architects dated 30.08.2013.

## Part 1 TREE SURVEY

## 1 Scope and Limitations of Survey

- 1.1 The survey and this report are concerned with the arboricultural aspects of the site only.
- 1.2 This survey is restricted to trees within the site or those outside the site that may be affected by its re-development. No other trees were inspected.
- 1.3 The survey was carried out following guidelines detailed in British Standard 5837:2012 'Trees in relation to design, demolition, and construction–Recommendations' (BS5837).
- 1.4 It is based on a ground level tree assessment and examination of external features only described as the 'Visual Tree Assessment' method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994).
- 1.5 Only trees of significant stature were surveyed. In general, self-set trees with a stem diameter at 1.5m above ground level of less than 150mm have been excluded unless they have particular merit that warrants comment. Woody shrub species are not included.
- 1.6 No plant tissue samples were taken and no internal investigation of the trees was carried out. No soil samples were taken or soil analyses carried out.
- 1.7 The risk of tree-related subsidence to structures has not been assessed.
- 1.8 No specific assessment of wildlife habitats has been carried out.
- 1.9 It is assumed that there are no underground services within the curtilage of the site.
- 1.10 This report should be read in conjunction with the Tree Survey Plan (Plan 1); the plan includes the position of all significant trees and existing or proposed features, and is based on the plans provided by the client or other instructed professionals.

### 2 Survey Method

- 2.1 The stem diameters of single stemmed trees were measured in millimetres at 1.5m above ground level. Multi-stemmed trees were measured as separate stems also at 1.5m above ground level.
- 2.2 The height of each tree was estimated measured by using digital clinometer.
- 2.3 Crown radii were measured across the cardinal points.
- 2.4 Where access to trees was obstructed or obscured, measurements and dimensions have been estimated.

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

**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.

**Category A**: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

**Category B**: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

**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.

- 2.6 Whilst the assessment of a tree's condition is a subjective process, Table 1 of BS5837 (see Appendix 2) gives clear guidance on the appropriate criteria for categorising trees and, in particular, the factors that would assist the arboriculturist in determining the suitability of a tree for retention. BS 5837 makes a clear distinction between trees on development sites and trees in other situations where the factors that determine the retention and management of trees may be different.
- 2.7 The survey was undertaken on the morning of 3<sup>rd</sup> March 2014, at that time the weather was cold but bright. The significant trees had previously been identified on site (in 2011) using round, aluminium tags stapled onto the tree stems at circa 2m above ground level, the numbers used run from 0516 to 0534 inclusively.

### 3 The Site

- 3.1 The site is located in the predominantly residential area of Monifieth within the administrative area of Angus Council. The site appears to have been part of the garden of an adjacent Victorian garden to the north historically and following the development of that property into apartments and the construction of other dwellings within the garden ground this site was retained as a small piece of amenity woodland. With regards to the planning application; Mr. Paul Robertson is the applicant for the site.
- 3.2 The site is accessed from Airlie Drive, a public highway on the southern boundary of the site. The site adjoins dwellings to the east, and west; and shares a boundary with public roads to the north and south. The site is becoming overgrown, with what appears to be the indiscriminate dumping of domestic green waste (grass and hedge cuttings) taking place regularly.
- 3.3 There are a number of individual mature trees within and adjacent to the site; with many self-set trees and shrubs of a relatively small size growing in groups, all competing for the available space, and all with a limited safe useful life expectancy, for the purposes of this survey it is assumed that the smaller trees are insignificant and that their removal will not be challenged.
- 3.4 The site falls gently from north to south and southwest towards Airlie drive.

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- 3.5 Arboretum Internationale is not party to information regarding any underground services within the site.
- 3.6 The current owner believes that the trees on site are protected under a Tree Preservation Order, administered by Angus Council.

## 4 Existing Trees

- 4.1 Nineteen, significant, individual trees were identified in the survey. All of these are growing within the site and are included herein as they may, potentially, be affected by the proposals or their presence may have some other bearing on the development or appearance of the site.
- 4.2 NOTE: Full access to any trees located in adjoining properties was not available and this assessment is based upon observations made from within the site or other public places.
- 4.3 Trees nos. 0527, 0528, 0530, and 0531 are graded as Category A; that is they display significant individual merit and landscape significance with a safe useful life expectancy in excess of 40 years.
- 4.4 Trees nos. 0517 0520, 0524, 0536, 0529, 0532, 0533, and 0534 are graded as Category B. Category B trees may not have high individual merit however they do have some landscape significance and can be expected to thrive for 20 years or more.
- 4.5 The remaining individually numbered trees are graded as Category C; trees are of low quality, limited life expectancy, and low individual landscape value but with some screening value.
- 4.6 One tree no. 0523 has suffered the ravage of storms for many years to the extent that the canopy is very unbalanced and further branch failure, in even moderate storms, should be expected. The retention of the tree is both desirable and feasible with some dramatic canopy modification in the form of a significant crown reduction. The Root Protection Area (RPA) in the tree schedule below has been reduced to reflect the expected reduction in the tree's canopy and subsequent natural root dieback.
- 4.7 The trees not individually numbered are growing within groups and are small to the point of being individually insignificant, though collectively they do have a presence on site that makes some contribution to landscape and screening. These trees should not necessarily be of concern as replacement would be very easy and relatively inexpensive.
- 4.8 The surveyed trees are listed in the schedule at Appendix 1 which includes a key with explanatory notes. A tree location plan based on the existing topographical survey provided is included as Plan 1.

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## 5 Recommended Tree Works

- 5.1 In accordance with recommendations in BS5837, the tree survey schedule (Appendix 1) includes preliminary recommendations for works that should be carried out in the interests of good arboricultural practice.
- 5.2 These recommendations are made in the knowledge that the site is the subject of development proposals and that the nature and extent of works would not perhaps be appropriate if the future use of the site were different. For example BS5837 recommends that any trees 'in such condition that their existing value would be lost within ten years' should be removed, this may not be appropriate in sites where development is not being considered.
- 5.3 It is emphasised that any recommendations for tree works are of a preliminary nature and are made without reference to specific development proposals. Further assessment of tree work requirements in relation to the development may be required. It appears feasible to adopt a construction method that is conducive to some tree retention.
- 5.4 Before authorising these, or any other tree works, the local planning authority should be consulted to ascertain the exact detail of the Tree Preservation Order, there may well be other planning restrictions relating to trees. As restrictions apply to tree works then any necessary consent should be obtained before works are carried out.
- 5.5 It is also essential that the ownership of any boundary trees is verified prior to proceeding with any recommended works.
- 5.6 All tree works should be carried out in accordance with British Standard 3998: 2011 'Tree work - Recommendations' and by a suitably qualified and insured tree contactor.

## 6 Tree Constraints

- 6.1 The data collected during the tree survey data provides the basis for identifying the above ground or below ground constraints that may imposed on the site by those trees worthy of retention.
- 6.2 Below ground constraints are indicated by the root protection area (RPA) for each tree which is calculated in accordance with guidance provided within paragraph 4.6 of BS5837. The RPA is the recommended area in square metres that should be left undisturbed around each tree to be retained to ensure that damage to its roots or rooting environment is avoided.
- 6.3 In the case of open grown trees with an even, radial root distribution it would normal for the boundaries of the RPA to be equidistant from the trunk of the tree. However, BS5837 acknowledges that the disposition of tree roots can be significantly affected by a number of factors and that the actual position of the RPA will be influenced by specific tree and site factors. These factors are to be assessed by the arboriculturist and appropriate adjustments to the siting of the RPA made.
- 6.4 The RPA for each individual tree is detailed in Appendix 1 and shown on the Tree Survey Plan (Plan 1) as circles coloured to reflect the descriptions in Table 2 of

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BS5837:2012; where appropriate, root protection areas have been offset into the site where conditions are likely to be more conducive to root development.

- 6.5 Above ground constraints are indicated by the crown clearance height recorded in the tree schedule.
- 6.6 Potential damage to structures by the future growth of trees is not considered here. (See BS5837:2012 Annex A, and NHBC Standards Chapter 4.2)

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## Part 2 ARBORICULTURAL IMPLICATIONS ASSESSMENT

## 7 Development Appraisal

- 7.1 The proposed development involves the construction of three residential units in the form of detached houses over two levels; with access to be routed from Airlie Drive to the south.
- 7.2 The development may require the removal of a small number of trees to facilitate the construction phase of the project; however in the long term the remaining trees will acquire a defined ownership with a vested interest in the safety and visual amenity of those trees that should be beneficial in their ongoing care and maintenance.
- 7.3 There are no known existing underground services on the site.

## 8 Impact on Existing Trees

- 8.1 The primary objective, in arboricultural terms, is the retention of as many appropriate trees as is practicable. Quite apart from the requirement to retain some of the existing character, the presence of trees is generally accepted as being beneficial to the environment. The following is an assessment of the effects of the proposed development on existing trees and the future landscape.
- 8.2 Tree removals and pruning to facilitate the development.

8.2.1 The proposed development of this site requires the removal of insignificant self-set trees and shrubs of a relatively small size growing in groups, which have a limited safe useful life expectancy.

8.2.2 There are three trees nos. 0521 and 0522, a pair of young, multi-stemmed, western red cedar, and a large fir 0516 that require removal to facilitate the development. Neither of the cedar trees could be considered hazardous in the short term however as they continue to grow the precarious nature of the multi-stemmed trunk unions is very likely to become hazardous as these compression forks become increasingly pre-disposed to failure; once failure commences it is inevitable that further stem failure will follow. The risk increases commensurately with increase in size and these trees under normal circumstances could attain 40m in height. It would be prudent even without the potential for housing development to consider the removal of these trees in the short term. As regards the mature fir it shows signs of significant cracking in the scaffold limbs and indeed there is visual evidence of significant historic limb failure. The remaining branches support a very dense, heavy, and unbalanced canopy. It is clear that this tree has not enjoyed appropriate maintenance for many years to its detriment. Its retention is not desirable though would be feasible if the necessary tree surgery work were undertaken at some considerable expense; in any event further branch loss should be expected in this tree in periods of high wind and after heavy snowfall.

8.2.3 The development will have an effect on the extent of tree cover within the site. In the main the removal of the trees nos. 0516, 0521 and 0522 will be the most significant issue, the retention of the other trees is feasible with the adoption of

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appropriate engineering solutions to avoid root damage and soil compaction within the RPAs.

8.2.4 A schedule of all required tree works including those recommended in the interests of good arboricultural practice is included at Appendix 1.

#### 8.3 Encroachment within Root Protection Areas

8.3.1 The tree survey and accompanying plan (drawing no. SK (00) 01 F) that form the first part of this report provide details of the extent and disposition of RPAs of all trees to be retained, including any offsetting that is considered appropriate in relation to specific site conditions.

8.3.2 Ground works to prepare the existing ground for construction within or close to RPAs could, potentially, cause damage to trees and it is essential that this is carried out in a manner that prevents materials spilling onto unprotected soils within RPAs and avoids excessive excavation or other forms of damage to underlying soils such as compaction.

8.3.3 The introduction of the proposed access routes from Airlie Drive to the south have the potential to cause damage to trees roots, the use of construction techniques to ensure that the access can be formed with a minimal amount of excavation will avoid damage being sustained by the trees. To minimise impact on trees these excavations should be carried out by hand and limited to the smallest possible dimensions.

8.3.4 The proposed location of the new property clearly indicates a conflict with the RPAs of significant trees nos. 0516, 0521 and 0522. It is not possible to take this development forward without the removal of these trees.

8.3.5 Access within the RPAs of several trees will be required during the construction process and in these areas it will be necessary to use ground protection to ensure that soils are protected against compaction or other disturbance.

#### 8.4 Underground Services

8.4.1 No information has been provided regarding underground services however there is scope for any new services to be installed outside RPAs.

8.4.2 Should it be necessary however to install or upgrade underground services within RPAs it should be carried out in accordance with Volume 4 of the National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, 2007 (NJUG Vol.4) and under the supervision of the arboriculturist.

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## Part 3 ARBORICULTURAL METHOD STATEMENT

### 9 Tree Protection - General Measures

- 9.1 BS5837 requires that the RPA of all retained trees are protected from the effects of development by the installation of protective barriers. It should be noted however, that the position of these barriers may also be influenced by the presence of any tree canopies that extend beyond the RPA and that could be damaged by construction works or where it is desirable to protect areas for future tree planting.
- 9.2 In addition to protecting retained trees, BS 5837 recommends that areas of the site in which new or replacement tree planting is proposed should also be protected from the effects of construction.
- 9.3 The protective barriers demarcate the 'Construction Exclusion Zone' (CEZ) and should be installed prior to the commencement of any construction works, including clearance or demolition. They should be maintained for the duration of the works. All weather notices should be erected on the barriers with words such as 'Construction exclusion zone Keep out'. Protective barriers should be in accordance with Figure 2 of BS5837:2012 (or similar accepted), a copy is included as Appendix 3.
- 9.4 The position of protective barriers and the boundary of the CEZ are shown as a cerise coloured line in the Tree Protection Plan (TPP) included as Plan 2.
- 9.5 The area within the CEZ is to be regarded as sacrosanct and protective fences and barriers should not be taken down without the written approval of the Local Planning Authority, or where present, the supervising Arboricultural Consultant.
- 9.6 Ground Protection

9.6.1 Where it is necessary, for the construction operation, to permit vehicular or pedestrian access within the RPA, for example to erect scaffolding, retained trees should be further protected by a combination of barriers and ground protection.

9.6.2 Ground protection should be of sufficient strength and rigidity to prevent disturbance or compaction to the soil underneath. In areas of heavy and/or continued usage it is advised that the protection plates or mats are linked or connected and that they are placed over a bed of bark or wood chippings (100 to 150mm depth).

9.6.3 Contamination of the soil by any substances should be prevented by the use of geotextile fabric.

9.6.4 Do not raise or lower soil levels or strip topsoil around trees – even temporarily.

- 9.6.5 Avoid disturbing the natural water table level.
- 9.6.6 Do not light fires near trees.

9.6.7 Do not attach notice boards, telephone cables or other services to any part of a tree.

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9.6.8 No construction materials should be stored within root protection areas. Toxins such as diesel, petrol, or cement should be suitably stored to prevent such substances leaching into the soil.

9.6.9 Particular care and planning is necessary to accommodate the operational arcs of excavation, unloading and lifting machinery, including their loads, especially large building components such as beams and roof trusses. Operations like these have the potential to cause incidental damage to trees and logistical planning is essential to avoid conflicts. Any movement of plant and materials in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees in maintained at all times.

## **10** Site Specific Tree Protection Measures

- 10.1 Prior to the commencement of any other works, any tree pruning or removal works specified in Appendix 1, should be carried out by an appropriately qualified and insured tree contractor and in accordance with British Standard 3998: 2010 'Tree work Recommendations'.
- 10.2 Following all preparatory tree and vegetation clearance works, tree protection barriers and any ground protection in accordance with BS5837:2012, Figure 2 (Appendix 3) shall be installed in the permanent positions indicated in Plan 2, and shall remain in place for the duration of the construction works.
- 10.3 The position of any site huts, materials storage, and any on site car parking for contractors should be clearly identified. These should be outside root protection areas unless special arboricultural advice is obtained and any recommended additional tree protection measures implemented.
- 10.4 Whilst some works within RPAs may be necessary, great care shall be taken to remove just that length of protective fencing required to facilitate the works and to ensure that it is re-installed immediately upon completion. When new surfaces are completed these may be used for access purposes however precautions to prevent the spillage or leaching of materials into underlying soils shall be implemented. Under no circumstances shall vehicles travel across or materials be stored upon unprotected soils within RPAs.
- 10.5 Tree protection measures shall remain in place until completion of the development; they may only be removed to facilitate post development landscaping.

## 11 New Hard Surfaces Within RPAs

- 11.1 The construction of the new access and parking area to the north of the site shall be carried out by building above existing levels using a 'no dig' methodology that incorporates a cellular confinement system to provide stability. In addition, the use of permeable materials will allow the passage of moisture and essential gasses through to roots below.
- 11.2 Where access within RPAs may be required for construction purposes, these surfaces should either be formed at the beginning of the construction period or robust

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ground protection installed that has sufficient strength and rigidity to withstand any expected loading without causing compaction or other damage to the ground below. Under no circumstances should construction traffic be permitted to travel across unprotected ground within RPAs.

11.3 The principles of 'no dig' construction close to trees are explained in Appendix 4 and in APN 12 'Through the Trees to Development' published by the Arboricultural Advisory and Information Service (APN 12). The final specification shall be determined by a suitably qualified engineer in conjunction with the arboriculturist.

## 12 Underground Services

- 12.1 Where possible all new underground services shall be routed to avoid passing through the RPAs of retained trees.
- 12.2 If the installation or upgrading of underground services within RPAs is unavoidable it shall be carried out in accordance with National Joint Utilities Group Guidelines (2007) Volume 4 'Guidance for the Planning, Installation and maintenance of Utility Apparatus in Proximity to Trees' (NJUG) and under the supervision of the Arboriculturist.

## 13 Arboricultural Supervision

- 13.1 The Arboricultural Consultant shall attend an initial site meeting with the Project Manager and the Site Manager prior to the commencement of **ANY** works on site. At this meeting the programme of works will be reviewed and an outline schedule of visits by the Arboriculturist will be determined and agreed.
- 13.2 Site visits by the Arboriculturist should coincide with key stages of the development and in particular:
  - Any preliminary arboricultural works or site clearance
  - The installation of tree protection measures
  - Any works within CEZs such as the removal of hard surfaces or installation of underground services or new hard surfaces.
  - Any change in site or project manager personnel
- 13.3 This schedule may be subject to later review and may be influenced by unforeseen events or where there has been a failure in the maintenance of approved tree protection measures.
- 13.4 A copy of the outline schedule of visits by the Arboricultural Consultant will be submitted to the LPA for their records who will be informed by phone, email or in writing of any changes, variations or amendments.
- 13.5 Particular attention must be given to any works of any nature that have to be undertaken within CEZs. These must be carried out under the direct supervision of the Arboriculturist.
- 13.6 The Arboriculturist should be available to attend any site meetings at the request of the LPA.

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- 13.7 In addition, the Arboriculturist should be available in the event that any unexpected conflicts with trees arise.
- 13.8 The Arboriculturist should keep a written log of the results of all site inspections and note any changes to the schedule of site visits. Any contraventions of the tree protection measures or other incident that may prejudice the well being of retained trees shall be brought to the attention of the site manager in the form of a written report. Copies of the inspection log and any contravention reports will be available at the site for inspection by the Local Planning Authority at all times.

## 14 CONCLUSION

- 14.1 These development proposals have been assessed in accordance with British Standard 5837: 2012 'Trees in relation to design, demolition, and construction–Recommendations' (BS5837).
- 14.2 The removal of various young self-set trees and shrubs is recommended in the interests of good arboricultural practice.
- 14.3 The proposed development requires the removal of three significant trees, nos. 0516, 0521 and 0522.
- 14.4 Retained trees will be protected from the effects of development by means of appropriate protective barriers and ground protection throughout the duration of the works.
- 14.5 The strict observance of the Arboricultural Method Statement, together with any additional guidance from the arboriculturist will ensure the successful integration of these proposals with retained trees.

## 15 **RECOMMENDATIONS**

- 15.1 The works specified in the schedule of tree works at Appendix 1 should be carried out in the interests of good arboricultural practice.
- 15.2 All tree works should be carried out in accordance with British Standard 3998: 2010 'Tree work - Recommendations' and by a suitably qualified and insured tree contactor.
- 15.3 The tree protection measures detailed in this report should be implemented and supervised by an appropriately experienced Arboriculturist.
- 15.4 The statements in this Report do not take account of the effects of extremes of climate, vandalism or accident, whether physical, chemical or fire. Arboretum Internationale Ltd. cannot therefore accept any liability in connection with these factors, nor where prescribed work is not carried out in a correct and professional manner in accordance with current good practice. The authority of this Report ceases at any stated time limit within it, or if none stated after two years from the date of the survey or when any site conditions change, or pruning or other works

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unspecified in the Report are carried out to, or affecting, the subject tree(s), whichever is the sooner.

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## **Appendix 1**

### Schedule of Trees

'Tree no.' Utilises nos. 0516 to 0534 inclusively to reflect the numbered tags affixed to the trees on site.

'Species' Trees are described with both botanical and common names where possible.

'Age Class' may have been recorded in the Tree Schedule in the following terms: NP (newly planted) – tree still supported by staking or other support, Y (young) - less than one-third life expectancy, EM (early-mature) – one-third to two-thirds life expectancy; M (mature) – more than two-thirds life expectancy, OM (over-mature) – beyond the normal life expectancy.

'Tree height' (Height) is given in metres; heights have been measured by laser device to the nearest 10cm where possible.

'Crown height' This figure recorded in metres reflects the average height of the tree canopy above ground level.

**'Diameter at Breast Height'** (single DBH): this measurement, recorded in millimetres, has been taken with a girthing tape at 1.5m above ground level except, where a measurement was taken a different height that height is recorded below the figure given for the DBH; where the DBH was estimated the measurement is preceded by the letter E; where more than one stem was measured this is denoted below the DBH as a number followed by the letter S e.g. 4S. Where an 'x' appears in this column the figures have not been calculated as the tree is identified for removal. Where parts of this column are 'greyed out' there is no requirement for any information.

**'Diameter at Breast Height'** (multiple DBH): these measurements, recorded in millimetres (in grey text), have been taken with a girthing tape at 1.5m above ground level; exceptions to this are noted in the in the column for single DBH (see conventions above). A squared average total is also noted in this column (in black text). Where parts of this column are 'greyed out' there is no requirement for any information.

**'Crown Spreads'** where included have been determined by measuring the longest horizontal distance, to the nearest half metre, from vertically beneath the edge of the canopy to the stem of the tree at the four significant compass points. Where an asterisk precedes the figure this indicates that it has been estimated.

'General observations': the 'health' or 'vitality' of the tree (assessed by comparison of the number, size and colour of the leaves and the length of annual twig extension growth with what would be expected for an average tree of equivalent age, of the same species) may be described as Good - Showing correct leaf colour / density and / or expected twig extension growth. Any wound wood present is seen to be forming well. Very few and minor pathogens and / or pests present (if any) which should only affect visual amenity. Fair - Meets the expected average in terms of leaf colour/density and/or twig extension growth. Host to more numerous minor pests and pathogens present; minor die back in areas of the canopy; a history of repeated and significant pruning; evidence of frequent, minor and moderate, naturally-occurring branch loss. Poor - Small and sparse leaf cover of an abnormal colour for the species; small increments in twig extension growth; host to significant pathogens of pests; significant crown die-back; a history of severe over-pruning with poor wound-wood development. Where technical terms are used to describe the cause of the defect, a definition, or further information will be found in the Glossary. Defects may be described as: Minor – Where the defect is small, shows no sign of instability and there is little concern with regard to safety or tree health and form; Moderate – Where the defect is likely to fail with some risk in relation to safety and/or tree health or form, or where the defect significantly affects tree form; Major – Where the defect is likely to fail with significant risk to persons and/or property. Severe damage, whole tree failure and/or tree death may occur, or where the defect dramatically affects tree form.

'Management Recommendations': generally, where practical tree-work operations are recommended, it is expected that these will be carried out to the British Standard BS 3998:2010 'Recommendations for tree work' as a minimum.

**'Contribution'**: this is the estimated number of years for which the tree can be expected to make a safe, useful contribution to the tree cover on the site, before any remedial work is carried out. Where an '?' appears in this column further work is required to determine the retention category.

**Retention Category'**: the code letter in this column reflects the general desirability of the tree for retention on a development site, based on species, form, age, and condition. The definitions of these code letters are as follows: **A**: trees of high quality and value; **B**: trees of moderate quality and value; **C**: trees of low quality and value, which could be retained until replacement plantings have been established (the suffixed number after the code letter indicates the particular sub-category – 1 being mainly arboricultural values, 2: mainly landscape values, 3 Mainly cultural values, including conservation; **U**: trees which should be removed. Where an '?' appears in this column further work is required to determine the retention category.

**'Root Protection Area Radius'**: This figure (recorded in metres) is that to be used to determine the correct location for the erection of protective fencing based on a circular Root Protection Area. Where an 'x' appears in this column the figures have not been calculated as the tree is identified for removal.

**'Root Protection Area Calculations'**: these figures are derived from the BS 5837 2012 calculations and are included here for completeness. It is reasonable for a competent arborist to modify the shape of a tree Root Protection Area; in doing so the figure in **black text** should be applied as the minimum area in **square metres** that should be available for tree root development. Where an 'x' appears in this column the figures have not been calculated as the tree is identified for removal.

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## Tree schedule here

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Tree no.	Species	Age class	Height	Crown height	DBH Single	<b>DBH</b> Multiple	Crown spread	General observations	Management Recommendations	Contribution	Retention category	Root protection area RPA Radius	Root protection area Calculations
0516	<i>Abies sp.</i> Fir	М	19.4	1	Above	e 707m sq.		Two stems above 3m. Major cracking with exudations on North side to 10m. Minor dead wood throughout.	Crown clean and crown thin by circa 15%.	>20	С	15	<b>707.00</b> 15.00
0517	llex x altaclarensis Smooth leaved holly	М	10.3	GL	5	230 140 260 <b>316600</b> 330 260	N         7.1           S         4.6           E         4.6           W         5.4		No work required.	>20	В	6.6	563 <b>143.23</b> <b>6.71</b> Up to 5 stems
0518	Araucaria araucana Chilean pine	М	19.5	6	990		<b>E</b> 6.3 <b>W</b> 6.7	Minor dead wood throughout.	Crown clean	>20	В	12	<b>443.39</b> <b>11.87</b> Single stem
0519	Acer pseudoplatanus Sycamore	Y	17.3	GL	720		<b>E</b> 4.4 <b>W</b> 6.7	No significant defects.	No work required.	>20	В	8.7	<b>234.52</b> <b>8.60</b> Single stem
0520	<i>llex aquifolium</i> 'Golden King' Variegated holly	EM	5.7	0.5	200		<b>E</b> 2.8 <b>W</b> 3.1	No significant defects.	No work required.	>20	В	2.1	<b>18.10</b> <b>2.24</b> Single stem
0521	<i>Thuja plicata</i> Western red cedar	Y	19.7	0.5	Abov	e 707m sq.	<b>E</b> 9.3 <b>W</b> 6.7	Seventeen stems from ground level.	No work required.	>10	с	15	<b>707.00</b> 15.00
0522	<i>Thuja plicata</i> Western red cedar	Y	16.1	0.5	Abov	 e 707m sq. 	E 6.4 W 5.8		No work required.	>10	с	15	<b>707.00</b> 15.00
0523	<i>Acer platanoides</i> Norway maple	М	19.2	2	Abov	e 707m sq.	<b>S</b> 5.8 <b>E</b> 9.9 <b>W</b> 5.3	Recent storm damage has destroyed the symmetry of this tree and compromised the structural integrity of the remaining scaffold limbs and canopy branches.	Crown reduce to ca. 6m.	>10	с	See clause 4.6 above	<b>707.00</b> 15.00
0524	<i>Ulmus glabra'</i> Camperdownii' Camperdown elm	м	3.7	0.5	210		<b>E</b> 1.9 <b>W</b> 2.4	Grafted at 1.5m.	No work required.	>20	В	2.4	<b>19.95</b> <b>2.45</b> Single stem
0525	Acer pseudoplatanus Sycamore	Y	15	1	3	590 no. 290 522200 300 no.	E 2.7 W 6.8	Four stems from ground level. Minor asymmetry to south.	No work required.	>10	с	8.7	723 <b>236.24</b> <b>8.66</b> Up to 5 stems
0526	Taxus baccata Yew	Y	4.6	1	310 @0.5m		E 3.5 W 4.8	No significant defects.	No work required.	>20	В	3.6	<b>43.47</b> <b>3.61</b> Single stem
0527	Fagus sylvatica 'Purpurea' Copper beech	М	17	3.3	880		<b>E</b> 10.9 <b>W</b> 6.3	No significant defects.	No work required.	>40	A	10.5	<b>350.33</b> <b>10.54</b> Single stem
0528	Taxus baccata Yew	Y	14.8	1	1120		N         4.7           S         7.2           E         4.2           W         6.8	No significant defects.	No work required.	>40	A	13.5	<b>567.48</b> <b>13.42</b> Single stem

Tree no.	Species	Age class	Height	Crown height	<b>DBH</b> Single	<b>DBH</b> Multiple	Crown spread	General observations	Management Recommendations	Contribution	Retention category	Root protection area RPA Radius	Root protection area Calculations
	Fagus sylvatica 'Purpurea' Copper beech	М	19.3	3.7	880		<b>E</b> 7.6 <b>W</b> 9.4	Three stems from 4m, with minor compression forks and included bark unions.	No work required.	>20	В	10.5	<b>350.33</b> <b>10.54</b> Single stem
	Sequoiadendron giganteum Wellingtonia	Y	25	5.4	Above	e 707m sq.	<b>E</b> 4.7 <b>W</b> 2.5	No significant defects.	No work required.	>40	A	15	0.00 0.00 Single stem
	Taxus baccata Yew	Y	15.4	1	Above	e 707m sq.	<b>E</b> 7.9 <b>W</b> 6.6	No significant defects.	No work required.	>40	A	15	<b>0.00</b> <b>0.00</b> Single stem
	llex aquifolium Holly	EM	10.6	GL	4	210 no. 230 <b>142200</b> 140 160	<b>E</b> 4.8 <b>W</b> 5.1	Three stems from ground level.	No work required.	>20	В	4.5	377 <b>64.33</b> <b>4.47</b> Up to 5 stems
	<i>Thuja plicata</i> Western red cedar	Y	21.3	3.5	2	470 no. 950 1123400 no. no.	N         5.7           S         4.7           E         4.4           W         5.5	Three stems from 0.75m.	No work required.	>20	В	12.6	1060 <b>508.21</b> <b>12.69</b> Up to 5 stems
	llex aquifolium Holly	М	11.5	GL	3	170 no. 300 208900 300 no.	N         3.7           S         6.1           E         4.2           W         3.5	No significant defects.	No work required.	>20	В	5.4	457 <b>94.50</b> <b>5.48</b> Up to 5 stems

### Tree schedule here

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#### Cascade chart for tree quality assessment

# Category and definition Criteria (including subcategories where appropriate) Identification on plan

#### Trees unsuitable for retention (see Note)

#### 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. 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). 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.

NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve;

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

#### Trees to be considered for retention

#### 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).

#### **Category B**

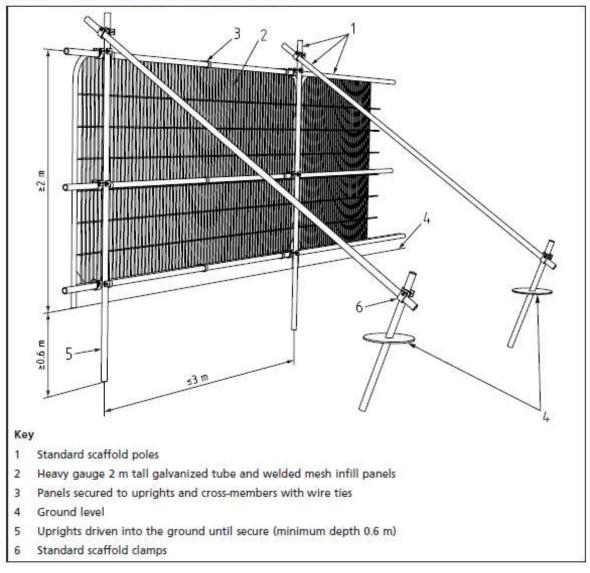
**Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years. Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), 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.

#### 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 collective landscape value; and/or trees offering low or only temporary/transient landscape benefits. Trees with no material conservation or other cultural value.

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# BS5837: 2012 Figure 2





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### **Construction Principles of 'No Dig' Hard Surfaces Close to Trees**

Special construction methods are required for hard surfaces within root protection areas [RPAs] of retained trees. Whilst the following information provides guidance in the principles of such construction, the final specification shall be determined in conjunction with a suitably qualified engineer and guidance from the manufacturers of the products used.

#### Important points to remember about tree roots:

- most tree roots are located in the top 600mm of soil, many are just below the surface,
- very fine, fibrous roots are just as important as large woody roots, they are easily damaged and prone to drying out,
- roots need moisture and oxygen to survive,
- soil compaction kills roots by reducing the soil's capacity to hold water and oxygen,
- 80% of compaction is caused by the first passage of a vehicle over soil,
- non permeable surfaces and damage to the soil surface such as smearing or panning prevents water penetration and gaseous exchange.

#### 'No dig' hard surfaces near trees should:

- cause minimal disturbance to soils, both during construction and in the long term,
- provide a stable, permanent surface of sufficient strength and durability for its purpose,
- include a three dimensional cellular confinement system such as 'Geogrid' or 'Cellweb',
- be constructed using porous materials to enable percolation of water and gaseous exchange, e.g. gravel, porous tarmac or brick paviors with nibbed edges, joints should be filled with 6mm diameter washed aggregate to maintain porosity (not sand).

#### Construction principles:

- surface vegetation should be removed using an appropriate systemic herbicide that will not harm retained trees or manually, using hand tools,
- minor levelling of the existing surface can be carried out where necessary, but using hand tools only; hollows can be filled with sharp sand,
- any exposed roots should be covered with good quality top soil immediately to prevent them drying out; any damaged roots should be cut cleanly with a hand saw/ secateurs,
- tree stumps shall be removed using a stump grinder rather than by digging to minimise disturbance,
- no vehicles or machinery shall travel over unprotected soil surfaces near trees. Where it is necessary to move materials used in the construction of the surface they should be transported on the laid sub base as it is 'rolled out' through the RPA,
- the construction of the path or road should be carried out off an already completed section of the surface not from bare ground,
- the completed surface may require protection if it will be used for access during the construction period, especially where it may see frequent use by heavy machinery.

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### **Removal of Debris Near Trees**

- 1. The removal of any material should be carried out from outside the RPA whenever possible and from within the footprint of the existing building or surface where this is within the RPA of a tree.
- 2. The excavation of the material must not extend into the soil underneath. In practical terms the bucket of the excavator must be used so that the cutting edge is horizontal so that any disturbance of the underlying soil is kept to an absolute minimum. The cutting edge of the bucket should be flat and without 'teeth' to further reduce the risk of root damage. Where the surfacing is very thin and/or roots are very near the surface, the digging should be done manually.
- 3. Any exposed tree roots should be covered with good quality top soil immediately to prevent them drying out. Any damaged roots should be cut cleanly with a hand saw or secateurs.
- 4. Debris and rubble of any type must not be stockpiled within the RPA of the tree and must be exported without crossing the RPA.
- 5. Due care and planning must be taken to ensure that the operational arcs of excavators do not damage the crowns of retained trees.
- 6. Where new surfacing is to be installed, if the depth of the old surface is insufficient, the wearing surface may need to be higher than existing in order to accommodate the appropriate thickness. There may be a requirement for a geo-textile membrane to be laid on the soil surface, but this is an engineering matter dependent upon soil type. The separation is beneficial for root development.
- 7. Where the old surface is taken up and not replaced, the infill should be of good quality topsoil laid without compaction.

# **Further Information**

Anon (2010)	<b>British Standard Recommendations for Tree Work BS 3998: 2010</b> British Standards Institution 2 Park Street, London W1A 2BS
Anon (2012)	British Standard Recommendations for Trees in relation to design, demolition and construction BS 5837: 2012 British Standards Institution 2 Park Street, London W1A 2BS
Lonsdale D.	<b>Principles of Tree Hazard Assessment &amp; Management</b> DETR, Elland House, Bressenden Place, London
Mattheck C. Breloer H. (1994)	<b>The Body Language of Trees –A Handbook for Failure Analysis.</b> DOE Arboricultural Advisory and Information Service Alice Holt Lodge, Farnham, Surrey
Mitchell A. (1989)	The Trees of Great Britain and Northern Europe Collins, Grafton Street, London
Strouts R. G. Winter T. G. (1994)	<b>Diagnosis of III-Health in Trees</b> DOE Arboricultural Advisory and Information Service Alice Holt Lodge, Farnham, Surrey
Anon (2007)	National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees One Castle Lane, London, SW1E 6DR
Anon (2007)	Arboricultural Practice Note 12 'Through the Trees to Development Alice Holt Lodge, Wrecclesham, Farnham, Surrey, GU10 4LH

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# Glossary

Terms used with specific arboricultural meaning.

AFAG	Arboriculture And Forestry Advisory Group – the body charged by the HSE with producing industry best practice guidance for the forestry and arboriculture industries.
Canopy/crown	The limbs and branches of a tree from above the stem or bole.
Compression fork	A non-shape optimised branch union, often associated with included bark, which is considered a structural defect.
Crown clean	The pruning out of dead, dying and defective branches, usually in association with a crown-thin.
Crown die – back	An accumulation of dead twigs and small branches at the periphery of the canopy, often associated with impaired root-function.
Crown	A pruning operation, which attempts to reduce the height and lateral, spread of a tree's
Reduction	canopy by a given distance or percentage, by cutting long, terminal shoots back to shorter side shoots. The purpose is as for 'crown thinning' (see below), but is a more radical form of pruning.
Crown thin	The removal of a stipulated percentage of the small diameter shoots and branches throughout the canopy to provide a uniform reduction in the visual density. The operation is usually performed to reduce the wind-resistance of the canopy and thereby improve the stability of the tree/reduce the risk of branch breakage.
Grafted tree	One produced in the nursery by attaching a shoot from a particularly desirable form or species to a rooted stem ('rootstock'), often of a different species.
VTA	(Visual Tree Assessment) a ground-based investigation looking for tree defects based on the principle that a tree is a self-optimising structure, which attempts to maintain even stress over its entire surface by preferentially adding wood to overloaded areas (weak points). This additional wood shows up as abnormal bulges whose significance the VTA inspector is trained to determine through comparison with a normal (undamaged) tree.

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#### Paul Hanson Ochil Cottage, Main Road, Guildtown, Perthshire, PH2 6BS, Scotland

#### Description of current role (from 1997)

Managing director of Arboretum Internationale Ltd., responsible for the day to day operations of the company, charged with maintaining high standards of quality and safety including that of any subcontractors. Duties include the pursuance of new business initiatives in the areas of arboricultural consultancy, training, and Arboretum Internationale delivers a professional consultancy service specialist contracting worldwide. addressing issues of tree safety, personal injury at work and the increasingly complicated field of trees within the planning system. Our team works as expert witnesses guiding legal counsel in matters relating to injuries and property damage where there is an arboricultural involvement. Since its inception in 2005 (revised in 2010) we have employed the guidance given in BS5837 'Recommendations for trees in relation to construction', liaising with architects, town planners, developers and home owners to achieve a maximum return financially and aesthetically allowing appropriate development in proximity to trees. Arboretum Internationale has extensive experience of working with clients to achieve sensible compromise solutions for trees located in Conservation Areas, or subject to Tree Preservation Orders and Planning Conditions throughout Scotland. Hazard tree and tree safety inspections are an integral part of our normal tree reporting systems, in addition to which we provide a bespoke dedicated tree assessment under the auspices of QTRA (Quantified Tree Risk Assessment). In recent vears we have become one of the leading exponents of veteran tree management, striving to retain old, often defective trees with invaluable and dependant flora and fauna in locations with high public use. We regularly employ unusual management options to create effective solutions including the installation of propping and bracing systems, re-routing access, excluding under canopy areas (by fencing) and performing conservation pruning operations.

#### **Previous experience**

**1995-97 Arboricultural Consultant**, with the Scottish Agricultural College, delivering arboricultural consultancy and specialist training throughout Scotland. Responsible for the development of new business opportunities in the production and environmental sectors of the industry, liaising with other specialist advisors within SAC as required; participating in skills based and academic education programmes, accompanied by active pursuit of research and development.

**1990-95** Arboricultural Manager, Continental Landscapes, Nottingham, responsible for the daily operation of a tree surgery team in the Midlands area; having a wider remit to supervise tree surgery in the northern area of the company's contracting field, ensuring work carried out to recognised national standards. 'In-house' company arboricultural trainer.

#### **MEMBERSHIP OF PROFESSIONAL BODIES**

Registered in the UK Register of Expert Witnesses (No. JSP/E3420) Registered in the Law Society of Scotland, Directory of Expert Witnesses (No. 4362) Registered with Expert Witness – Expert Consultant (No. EW4352-22-S) Associate member of the Arboricultural Association (No. 200118)

#### **COMMITTEE WORK & OTHER ACTIVITIES**

Chairman of the Arboricultural Association's Scottish Branch (2008-) Trustee of the Arboricultural Association (2001-2004) Chairman of the Arboricultural Association's Scottish Branch (1997-2001) Panel member of National Proficiency Tests Council 'Utility Arboriculture Standards Committee' (1999-2006) Scottish representative on the Arboricultural Association's Commercial Committee (1996-98)

#### **RELEVANT QUALIFICATIONS**

AA Technicians Certificate ISA Certified Arborist 1997 - 2009 RFS Certificate in Arboriculture Licensed user of the Quantified Tree Risk Assessment System (no.1358) Lantra Professional Tree Inspector

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### Site Plan 1

# **Tree Survey and Constraints Plan**

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Tree survey at Airlie Drive, Monifieth, for Robertson

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### Site Plan 2

### **Tree Protection Plan**

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Tree survey at Airlie Drive, Monifieth, for Robertson

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# Grounds for Review

#### 13035d - Proposed Scheme for 3 New Build Houses, Airlie Drive, Monifieth

- 1. Whilst it is accepted that the proposed development is in front of the principal elevation of Grange House, the proposed houses are approximately 60 metres from the elevation and would be incorporated into the wooded area. The historic gateposts are barely visible from Airlie Drive and the original driveway to Grange House has largely disappeared. The proposed re-location to the new driveway serving two dwellings will allow their restoration and increase their significance in the area. The relocation of historical features as part of redevelopment is not unusual for example Dundee's Mercat Cross which has been re-located twice, as has the historic harbour light in the landfall area. It should also be noted that the view of Grange House is largely obscured from Airlie Drive by the trees on the proposed development site and the proposed houses would not affect the view of the mansion from Grange Lane which serves as the access to the mansion house and the existing modern properties within the grounds. The principles of the policy have, in our opinion, been satisfied.
- 2. The proposal requires the removal of 3 trees of low quality: Fir, 0516 Category C; Two Western Red Cedar, 0521 and 0522 Category C. None of these trees are of any great aesthetic merit, the cedars in particular being multi-stemmed possibly as a result of poor pruning or coppicing in the distant past. Management and appropriate landscape design, which would form part of any detailed application would minimise any impact as a result of their removal.
- 3. The proposal satisfies all of the technical requirements in terms of areas, sunlighting, daylighting etc. The argument turns on the location of the proposed dwellings within a wooded area. All Planning Authorities emphasise the importance of trees in relation to development and it is a matter of choice whether or not to purchase a property in the close vicinity of trees, just as it is in acquiring a property with a large or small garden.
- 4. In relation to the proposed access from Airlie Drive, it is accepted that the sight lines are less than the recommended 2.4 x 43 metres (2.4 x 7.5 m at present), however, this is a private driveway serving two houses in a suburban setting. From observation, Airlie Drive is lightly trafficked, and the sight lines are not dissimilar to thousands of other examples throughout the area. As this is in outline the detail of the wall to Airlie Drive, which could be lowered slightly to 850mm, will be finalised at detail stage to ensure visibility splays are achieved.

In requesting the Local Review Body to consider the proposal, we refer them to the information, (Tree Survey and recommendations, Sunlight and Daylight diagrams etc) and emphasise that this is an application for Planning Permission in Principle. Finally, in relation to the Tree Preservation Order, which is a generalised provision for all trees in the area, as a result of this application this particular tree group has now been identified by species and value and numbered and tagged for the first time. The TPO does not prevent the removal or management of trees, but requires the specific consent of the local authority before carrying out any such operations. These issues would be considered at the Detailed Planning Stage.

We request that the Local Review Body consider the issues, which we believe are in conformity with the Angus Local Plan Review and grant Planning Permission in Principle.















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