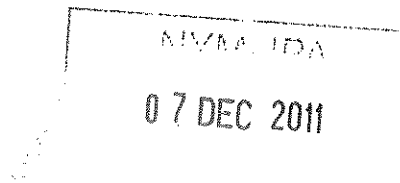


Amendments

- Amended layout of buildings/outside areas
- Additional background information
- Amended design - Dormer reduced in scale + extension set back.
- Revised access arrangements
- Change of description of proposed development
- Change in site boundaries
- Other (as specified below) - Tree Survey.

**TREE SURVEY AND RECOMMENDATIONS IN ACCORDANCE WITH
BS.5837:2005 "TREES IN RELATION TO CONSTRUCTION –
RECOMMENDATIONS"**

"Crestbank", Robin Hood's Bay.



FOR

Bramhall Blenkarn

PREPARED BY

Tree risk assessments Tree surveys (BS.5837:2005) Tree planting schemes	TMS	Tree maintenance Tree pruning (BS.3998:2010) Tree dismantling
TREE	MANAGEMENT	SERVICES

INTRODUCTION

This report provides information in accordance with BS.5837:2005 "Trees in relation to construction – Recommendations" for proposed development at "Crestbank", Robin Hood's Bay, North Yorkshire.

Upon instruction from Ric Blenkarn (of Bramhall Blenkarn), 34 No trees within the property boundary were surveyed from ground level. This inspection was carried out on Thursday 24 November 2011 to assess the suitability of the existing trees to be either retained or removed and to determine the possibility of development being feasible on the site for a new extension.

The trees were visually assessed and the dimensions of all these trees can be found in the Tree Survey which forms part of this document.

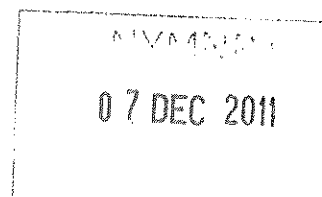
The inspection was carried out when there was no wind and the sky was clear and sunny.

At no time during the survey was any incursion made into these trees. No increment bore or core samples were taken. Tomography equipment was not used. The findings detailed in this report are solely of any visual features, defects or faults evident at the time of inspection

34 individual trees were inspected to provide the information contained within this report. The trees have been tagged for ease of reference using numbered, industry standard aluminium tags. The number on this tag has been used as a reference and is noted in the Tree Survey. Reference to the tree identification numbers, not the tree tags, is also detailed upon the supplied plan.

The following information has been provided;

- Designated tree identification number
- Tree species – common name
- Height in metres
- Stem diameter
- Crown spread
- Height of clear stem above ground level
- Age class
- Physiological condition
- Structural condition



- Safe useful life expectancy
- Tree retention category

Whilst every effort has been made to accurately plot the tree positions on the plans provided, these plans should not be used for scaling purposes.

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SURVEY METHODOLOGY AND SCHEDULE

This survey has been carried out to BS.5837:2005, using the categories explained below.

The trees were visually assessed from ground level. No digging, drilling or other intrusive methods have been employed for the purposes of this survey.

The **tree numbers** within the schedule refer to the order in which the trees were recorded and these numbers correspond with the numbers shown on the plans provided with this report. These are not necessarily the same numbers on the tree tags attached to the trees themselves, but can be identified in the tree schedule and cross referenced.

The tree **species** is given for each tree surveyed using the common name.

The approximate **height** of each tree is measured in metres from ground level to the top of the canopy using a clinometer.

The approximate **stem diameter** of each tree is measured in millimetres at 1.5m above ground level for single stemmed trees. For multi-stemmed trees the measurement is taken near to ground level, just above the root flare.

The extent of the **branch spread** is measured in metres from the centre of the main stem to the canopy tip at each of the four cardinal points.

The estimated **age class** of each tree is given as young (Y), semi-mature (SM), mature (M) or over mature (OM) and is based on the experience of the surveyor.

The **physiological condition** identifies the overall health of the functions of the tree. These are general comments only, based on the experience of the surveyor, and listed as poor, fair or good.

The **structural condition** identifies any defects or weaknesses in the branch network or trunk of the tree. These are general comments only, based on the experience of the surveyor, and listed as poor, fair or good.

An estimated **safe useful life expectancy** gives an approximation in years of the anticipated period of time that the tree in question can be retained. This information is given based on the surveyor's experience.

Retention categories are divided into four **category gradings**.

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- **Category R** are trees of such poor quality that any existing value will be lost within 10 years and therefore they should be removed for arboricultural reasons.
- **Category A** trees are of high quality and value and are expected to provide over 40 years of contribution to the environment.
- **Category B** trees are those of moderate quality and value and are expected to give over 20 years of contribution to the environment.
- **Category C** trees are those of low quality and value which are not expected to provide a continued contribution for between 10 and 20 years or trees of a stem diameter less than 150mm.

These categories may then be placed into subcategories to determine the rating value.

1. Mainly arboricultural value
2. Mainly landscape value
3. Mainly cultural value, including conservation

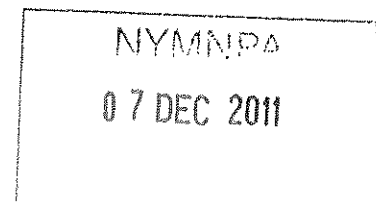


Table 1 - Cascade chart for tree quality assessment

TREES FOR REMOVAL

Category and definition	Criteria	Identification on plan
<p>Category R 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.</p>	<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 R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. NOTE Habitat reinstatement may be appropriate (e.g. category R trees used as a bat roost; installations of bat box in nearby tree).</p>	RED

TREES TO BE CONSIDERED FOR RETENTION

Category and definition	Criteria - Subcategories			Identification on plan
	1 Mainly arboricultural values	2 Mainly landscape value	3 Mainly cultural values, including conservation	
<p>Category A Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).</p>	<p>Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).</p>	<p>Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. Avenues or other arboricultural features assessed as groups).</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. Veteran trees or wood=pasture).</p>	GREEN
<p>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).</p>	<p>Trees that might be included in the higher category, but are downgraded because of impaired condition (e.g. Presence of remediable defects including unsympathetic past management and minor storm damage).</p>	<p>Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, category A specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality.</p>	<p>Trees with clearly identifiable conservation or other cultural benefits.</p>	BLUE
<p>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 suggested), or young trees with a stem diameter below 150mm.</p>	<p>Trees not qualifying in higher categories.</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.</p>	<p>Trees with very limited conservation or other cultural benefits.</p>	GREY

NOTE Whilst category C trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.

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Tag No.	Tree No.	Species	Height (m)	Diameter (mm)	Crown Spread				Age Class	Physical Condition	Structural Condition	Safe Useful Life Expectancy (years)	Category Grading
					N	E	S	W					
341	1	Cherry	6	210	2	3	5	3	0.5	SM	FAIR	20+	C.2
342	2	Sycamore	11	530	3	5	5	6	1	SM	POOR	20+	C.2
343	3	Oak	12	520	4	2	5	7	2	SM	FAIR	40+	C.2
344	4	Sycamore	12	310	2	5	5	5	0.5	SM	FAIR	20+	C.2
345	5	Oak	15	460	5	3	5	7	1	SM	FAIR	40+	C.2
346	6	Birch	12	300	4	2	1	4	2	M	FAIR	10+	C.2
347	7	Sycamore	7	170	3	3	3	1	2	SM	POOR	20+	C.2
348	8	Holly	5	110	2	2	1	2	GL	SM	FAIR		R
349	9	Ash	6	110	3	4	2	2	0.5	M	POOR		R
350	10	Apple	3	75	3	2	2	3	0.5	M	POOR		R
351	11	Birch	11	230	2	3	4	3	4	SM	FAIR	10+	C.2
352	12	Apple	2	60	1	1	2	1	0.5	M	FAIR	10+	C.3
353	13	Cherry	9	430	3	5	6	5	2	M	POOR		R
354	14	Ornamental Plum	10	320	4	5	4	5	1	M	FAIR	10+	C.3
355	15	Ornamental Plum	9	250	4	5	3	4	1	M	FAIR		R
356	16	Sycamore	9	250	3	5	5	4	GL	SM	FAIR	20+	C.3
357	17	Laburnum	5	220	3	3	2	3	0.5	M	POOR		R
358	18	Hawthorn	7	190	2	3	2	3	0.5	SM	FAIR	10+	C.2
359	19	Holly	3	90	2	2	1	3	0.5	Y	FAIR	10+	C.2
360	20	Sycamore	10	320	5	3	4	2	2	SM	POOR		R

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Tag No.	Tree No.	Species	Height (m)	Diameter (mm)	Crown Spread				Height Of Clear Stem (m)	Age Class	Physical Condition	Structural Condition	Safe Useful Life Expectancy (years)	Category Grading
					N	E	S	W						
361	21	Holly	4	180	3	3	3	3	GL	SM	FAIR	20+	C.2	
362	22	Cherry	7	130	4	3	4	5	0.5	M	POOR		R	
363	23	Apple	4	120	5	3	0	1	0.5	M	POOR		R	
364	24	Cherry	5	65	2	2	3	4	GL	M	POOR		R	
365	25	Apple	4	130	2	1	2	3	1	SM	FAIR	10+	C.3	
366	26	Apple	3	95	2	1	1	2	1	SM	POOR		R	
367	27	Apple	3	80	3	2	2	2	0.5	SM	POOR		R	
368	28	Sycamore	14	430	2	3	4	6	3	SM	POOR	10+	C.2	
369	29	Sycamore	15	390	4	4	4	5	3	SM	POOR		R	
370	30	Apple	5	180	2	2	4	3	1	M	FAIR	10+	C.3	
371	31	Apple	4	200	4	3	4	3	2	M	FAIR	10+	C.3	
372	32	Willow	5	200	3	3	3	2	GL	SM	FAIR	10+	C.2	
373	33	Laburnum	2	100	1	1	1	1	1	SM	FAIR		R	
374	34	Apple	2	45	1	1	1	1	GL	SM	POOR		R	

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Assessment
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OBSERVATIONS

Of the 34 individual trees on the site that were assessed, nineteen are of a condition to warrant category C, or above, ratings.

Tree 3 is a fairly young Oak. There is a dead branch detached and hanging within the canopy of this tree.

Tree 5 is an Oak which has a fair amount of Ivy covering the stem. This should either be carefully removed or severed close to ground level without causing damage to the tree. A section about 150mm wide should be removed, the Ivy will then slowly die and fall away from the tree over time. Whilst Ivy is not detrimental to a healthy tree and has many wildlife benefits, it can prevent the observation and monitoring of any defects or faults hidden by its presence.

Tree 6, a Silver Birch, is also partially covered in Ivy and this should be dealt with as detailed for Tree 5.

Tree 8 is a Holly that is growing in a very restricted space between two utility poles. This tree will not achieve its full potential and should be removed to avoid possible service disruption in the future. This Holly should be removed.

Tree 9 is an old Ash stump with fairly extensive and heavy regrowth coming from a decaying and likely to collapse base. This stump and regrowth should be removed.

Tree 10 is a mature Apple tree which is in poor overall condition and should be removed.

Tree 12 is a small Apple with little long term potential and should be considered for removal.

Tree 13 is a Cherry with a considerable lean. The rootplate is lifting and there is evidence of root decay fungi at the base of the stem. This tree should be removed.

Tree 15 is an ornamental Plum which has little long term retention value and may be considered for removal.

Tree 17, a Laburnum, is of poor quality and is covered in Ivy. This small tree should be removed.

Tree 18 is a Hawthorn is covered in Ivy and should be attended to as specified for Tree 5, above.

Tree 20 is a fairly young Sycamore which has a large decay scar from ground level to a height of approximately 2.5m up the stem. This tree can be retained for the time being but the condition of the scar should be monitored.

Tree 22 is a Cherry which is of poor structural condition with basal decay evident. This tree should be removed.

Tree 23 is a poor quality mature Apple displaying root decay and a significant lean and should be removed.

Tree 24 is an old Cherry of poor condition and quality and should be removed.

Tree 26 and **Tree 27** are both poor structural quality Apple trees and should be considered for removal.

Tree 28, a Sycamore, has a lean to the west and should be monitored for any future movement at the base.

Tree 29 is another Sycamore which has a scar and decaying wood from ground level to a high of approximately 2m. This tree has little long term retention value and should be monitored.

Tree 33 is a Laburnum growing extremely close to the house and has been subjected to extensive pruning in the past to keep its development in check. This tree has little amenity value and should be considered for removal.

As with Tree 33, **Tree 34**, a very small Apple, has been treated in the same manner and is very close to the property and should be considered for removal.

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POTENTIAL TREE AND DESIGN CONFLICTS

This section concentrates on the proposed development and how it relates to the trees that are located on site. Any trees and design conflicts are highlighted and possible remedial action suggested.

Potential Conflict 1; Damage to roots within the root protection area (RPA) of a tree from the proposed development

Root tissue damage and disturbance may be a result of the proposed construction for trees numbered 1 to 3.

Countermeasure; No materials or machinery should be stored or moved across the root zones in this area. Only hand excavations should be employed along the western elevation of the property. Any roots found during excavations that are less than 25mm in diameter should be carefully pruned using a clean, straight cut across the root leaving as small a wound diameter as possible. Roots should not be exposed to sun, wind, frost or snow and should be covered with hessian sack cloth and soil if this may be a risk. Any roots found in excess of 25mm should be individually assessed by an arboriculturalist and agreement sought from the local planning authority prior to any root pruning operations.

The RPA shown on the Tree Constraints Plan can be deformed to allow the development on this side of the property, but the area of the RPA must remain the same.

The ground between the tree trunks and the property should be protected during any works by substantial boards placed over the root zones of the trees. These should be kept in place throughout any construction period.

Root barriers may be considered appropriate to deflect foreseeable root development from the retained trees to the construction and its foundations.

Potential Conflict 2; Damage to other RPA's on site during construction

As above, root systems of other retained trees can be damage and affected during excavation and construction works.

Countermeasure; A secure protective fence will be installed in accordance with BS.5837:2005 and shall stay in place throughout development to protect all other trees. This fence will create the Construction Exclusion Zone.

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Potential Conflict 3; Branch encroachment into construction area from trees 1 to 3

Tree branches currently extend over the existing property which may be in the area for the proposed extension.

Countermeasure; Restricted pruning of only branches which may come into conflict with the construction, or scaffolding used to construct the extension, should be carried out in accordance with BS.3998:2010 by a suitably qualified tree surgeon / arborist prior to the commencement of works to avoid accidental damage being caused to the retained trees. Consent for these pruning operations, and the extent of the works, should be agreed with the local planning authority prior to being undertaken.

Potential Conflict 4; Material and plant storage on-site

During the development process the storage of materials and construction plant can cause significant damage due to compaction around the root-plate if it occurs within a root protection area. Contamination from liquids, oils, diesel and washings from machinery can easily cause significant detriment to the underlying soil and the roots within it.

Countermeasure; Maintain the protected areas free from disturbance throughout preparatory and construction periods. An adequate area will be clearly located and set aside for the storage of all plant and materials – this area should be well away from all root protection areas.

Potential Conflict 5; Services and utility routes through RPA's

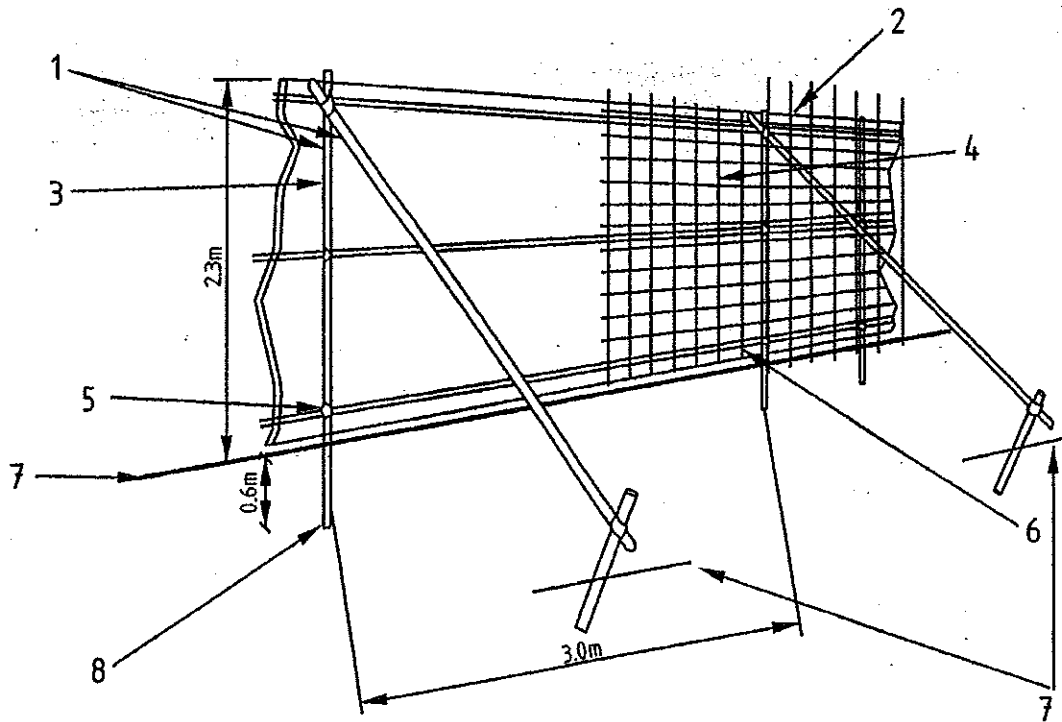
Serious root damage may be caused by the routing of services to and from development.

Countermeasure; All services to the proposed extension should use existing routes for the property.

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SPECIFICATION FOR PROTECTIVE FENCING (BS.5837:2005)

Construction Of Protective Barriers



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1. Standard scaffold poles
2. Uprights to be driven into the ground
3. Panels to be secured to uprights with wire ties and where necessary standard scaffold clamps
4. Weldmesh or chainlink wired to the uprights and horizontals
5. Standard clamps
6. Wire twisted and secured on inside face of fencing to avoid easy dismantling
7. Ground level
8. Approximately 0.6m driven into the ground

ARBORICULTURAL METHOD STATEMENT

Pre-Development Tree Protection Measures

Prior to the commencement of any works on site, all secured protective fencing should be installed to prevent accidental damage to root protection areas. The line of the fencing should be clear and all operatives must be made aware of the limits to working within this area – this will include no heavy machinery (where necessary machinery can be placed adjacent to the tree protection area reaching in to assist with material removal or delivery of materials. All identified tree removals will be undertaken at this point.

Some limited pruning may be required to trees 1 to 3 according to the requirements of the proposed extension. This work should be minimal and only reduce in length the branches required to provide adequate clearance for the working area and construction. This work must only be undertaken by a suitably qualified tree surgeon / arborist in with BS.3998:2010 "Recommendations for Tree Work".

Fencing needs to be erected in accordance with the Tree Constraints Plan. The fence should comprise a vertical and horizontal framework supporting weldmesh, chainlink fencing or similar. This should be continuous and immovable. All weather notices should be attached to the fencing clearly marked with the following: "Construction Exclusion Zone – Protected Trees – Keep Out".

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Protection Measures During Development

At the beginning of the construction phase, the site manager will appoint a delegated site representative who shall be responsible for continued checking of the protective fencing to ensure it is compliant with the construction exclusion zone.

The tree protective fencing must be considered sacrosanct and should under no circumstances be removed, altered, or breached without prior agreement with the local planning authority's arboriculture officer.

Materials that contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of any tree stem regardless of the secure protective fencing.

Fires should not be lit within 5m of the foliage or drip line of any tree. Care should be taken not to allow the fire to become too large and the wind direction should be considered.

The retained trees should not be used to attach notices, cables or other services.

All ground levels where trees are located should be maintained where possible. Changes to soil levels adjacent to trees can severely affect the trees structural integrity and its ability to gain moisture and nutrients from the surrounding soil. Level changes within the root protection areas that may affect retained trees on site should be assessed by the local authority's arboricultural officer before being undertaken to assess their impact and whether any remedial works can be undertaken.

Care must be taken to ensure that any tall loads, counterweights, jibs etc can access and operate without contact with protected trees.

Post-Construction Considerations

Only once main construction works have been undertaken can the protective fencing be carefully dismantled.

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SUMMARY

It is believed that if the measures detailed within this document are adhered to, the proposed development of the site can be undertaken with the least amount of disruption possible being caused to the existing trees that are suitable for retention.

Trees identified as category C trees using BS.5837:2005 should not be viewed as a constraint to development.

Whilst no trees have to be removed to facilitate this development, there are a number of trees identified for removal due to their condition for arboricultural reasons and these should be completed prior to development of this property.

Substantial tree cover will be retained within this site following the identified removals. Scope for suitable future planting of trees could be moved forward should the owners wish.

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TREE CONSTRAINTS PLAN

The locations of the trees are shown on the plan provided with this report along with numerical reference that relates to the survey information for each tree within the Tree Survey itself.

The retained trees identified within this document are not in positions to constitute a constraint to development if care is taken and the contents of this document adhered to.

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ARBORICULTURAL IMPACT ASSESSMENT

The root systems of the majority of the trees identified for retention will be protected throughout preparation and construction by secure fencing as specified in accordance with BS.5837:2005.

The three trees directly to the west of the existing house should suffer few long term adverse effects if the specified measures are carried out.

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WILDLIFE RESTRICTIONS AND CONSIDERATIONS

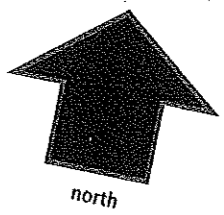
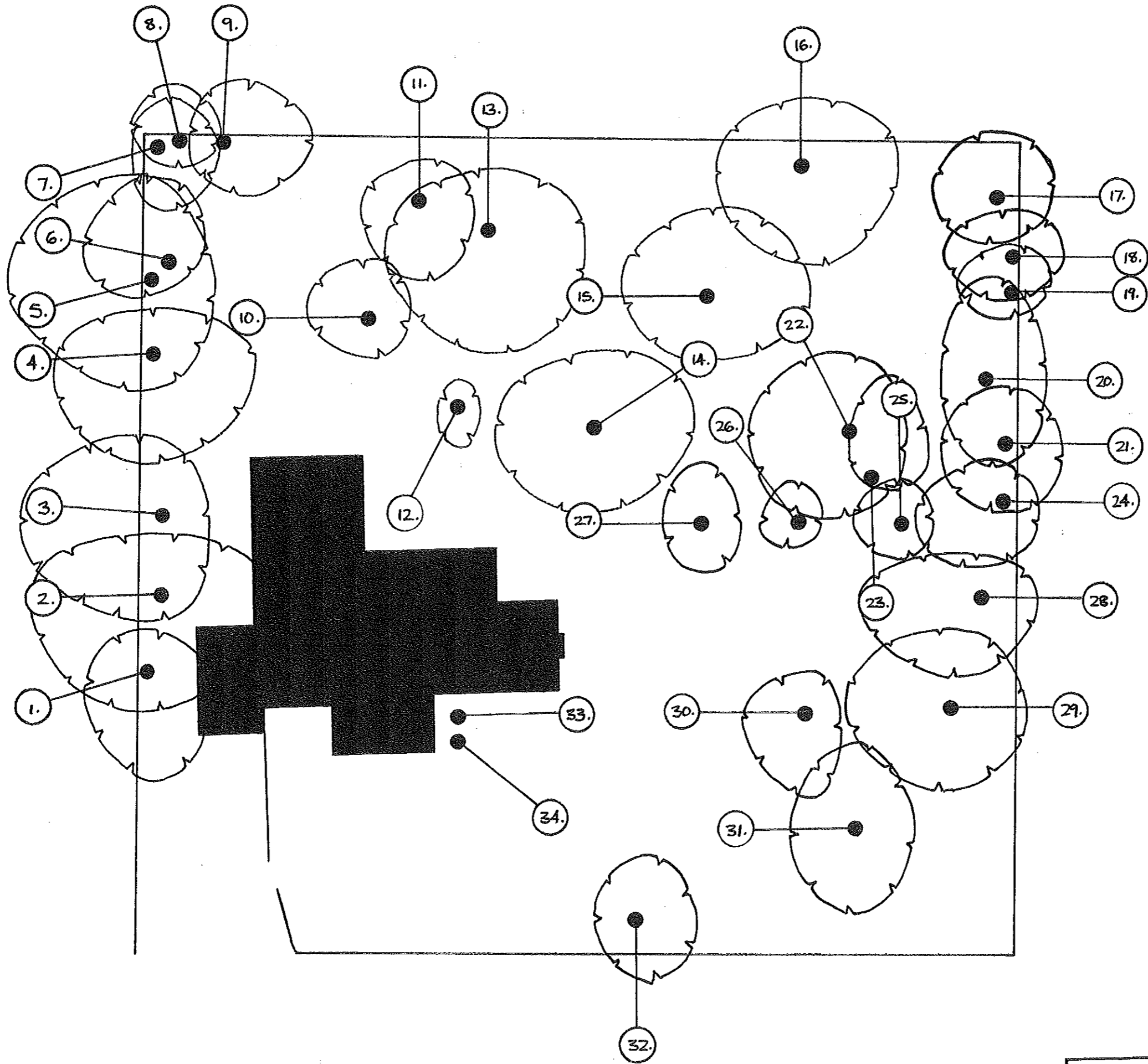
Nesting birds

No removal of trees should be carried out between 1st March and 31st August inclusive in any year, unless searched beforehand by a suitably qualified ornithologist. All the UK's native birds are protected from disturbance during breeding under the Wildlife & Countryside Act 1981 (as amended).

Bats and trees

If any of the four mature trees currently situated around this parcel of land are to be felled as part of the development they should be removed until a bat mitigation scheme has been submitted to the Local Planning Authority. This should include the results of a survey to determine which trees contain, or are likely to contain bat roosts (those with cracks, rot holes, splits, dense ivy cover etc) and mitigation measures if they are to be removed.

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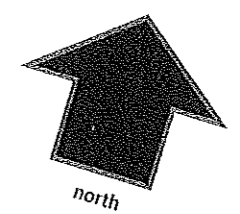
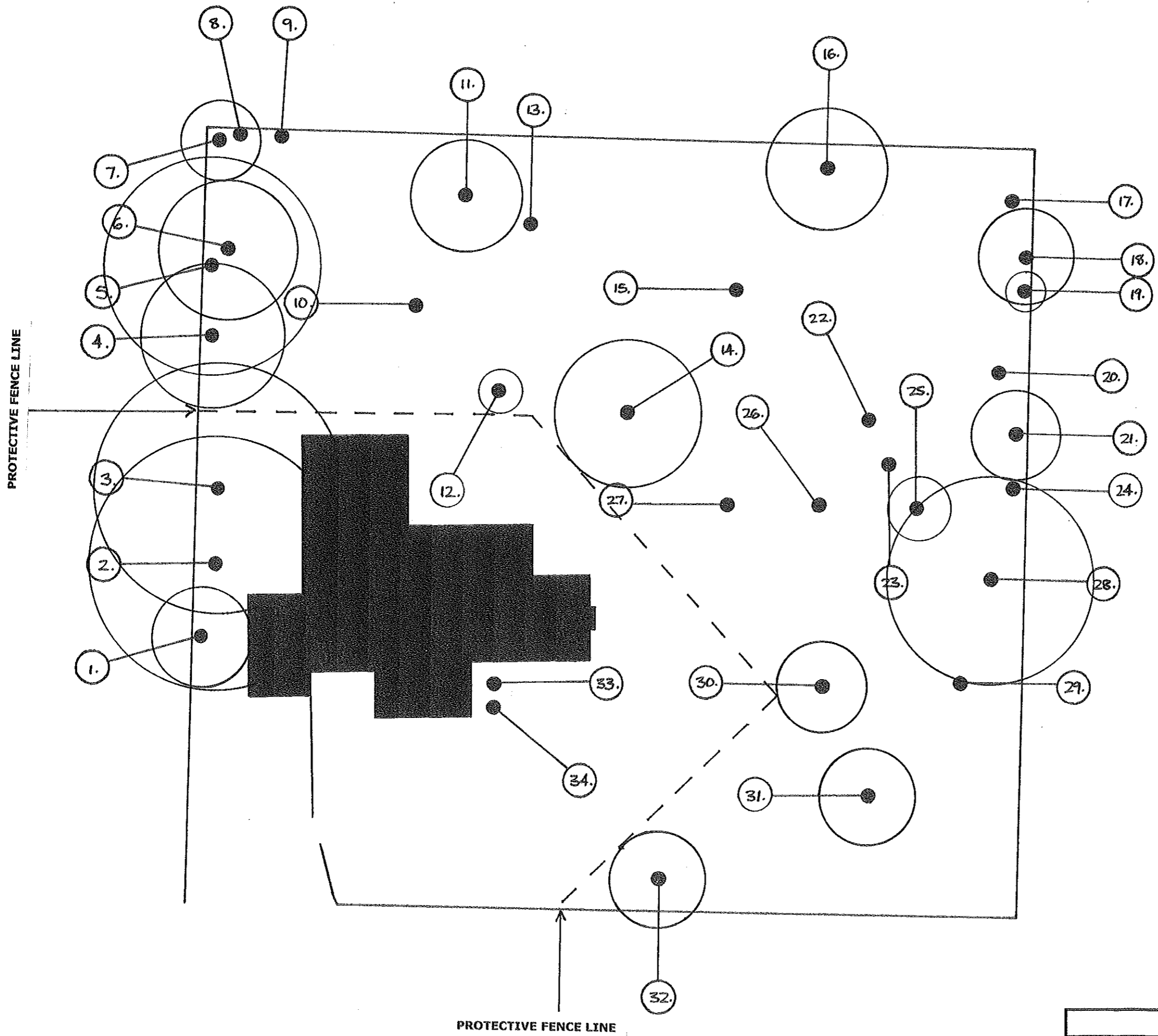


APPROVED
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Crestbank, Robin Hood's Bay

Existing Tree Survey Plan

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Crestbank, Robin Hood's Bay

Tree Constraints Plan

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