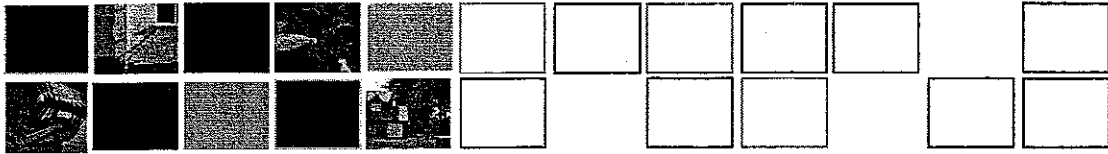


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Arboricultural Implication Study

Prepared by

Landscape Planning Limited Northern Division



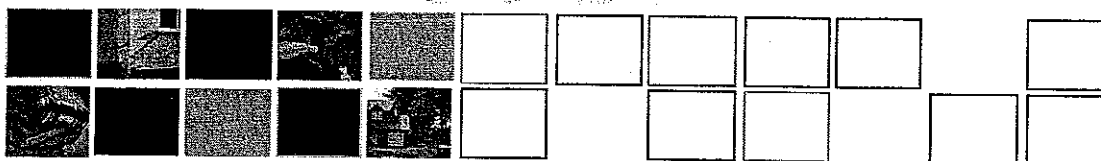
For

Newclose Properties Limited

- February 2008 -

Landscape Planning Limited
Goodlass House, Goodlass Road, Liverpool L24 9HJ
Tel: 0151 448 2464 Fax: 0151 485 7171





ARBORICULTURAL IMPLICATION STUDY

Client: Newclose Properties Limited
Site Address: Barrow Brook, Barrow, Clitheroe
Job No: L 7991
Date Instructed: January 2008
Delivery Date: February 2008
Project Manager: Terry David Garside

Client Brief:

Provide advice and recommendations regarding the Arboricultural implications of the proposed development at Barrow Brook, Barrow, Clitheroe.

Special Instructions:

The mature tree cover on site is afforded the protection of the Former Whalley Abbey Engraving Works Area Tree Preservation Order 1994. This report is to accompany Newclose Properties Limited's planning application to Ribbles Valley Borough Council for detailed planning consent.

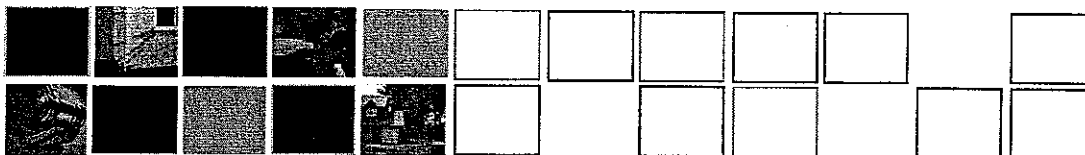
Disclaimer: Unless otherwise stated tree inspections have been undertaken from ground level and using non-invasive techniques only. Comments upon the condition and safety of any tree relate to the condition of the tree at the time of the survey. It should be recognized that tree condition is subject to change due to, for example, the effects of disease, wind or nearby development works. Changes in land use are also significant in respect of risk assessment. Trees should therefore be inspected at intervals relative to identified site risks.

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Tel: 0151 448 2464 Fax: 0151 485 7171





ARBORICULTURAL IMPLICATION STUDY

Introduction

We have been instructed by NAI Erinaceous Planning on behalf of Newclose Properties Limited in the matter of a proposed development at Barrow Brook, Barrow, Clitheroe. We have been commissioned to provide advice in relation to the possible impact of the proposed development of a Business Village on tree cover at the site.

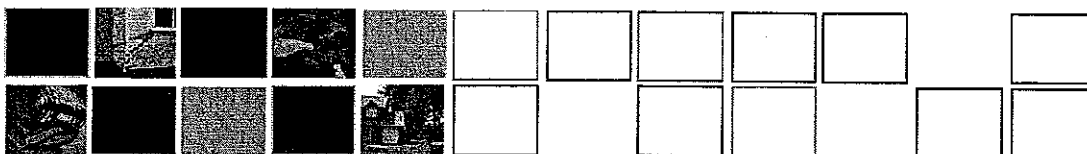
The site in question is situated off the A59 near Clitheroe, Lancashire and comprises a variety of habitats including open scrub, grass, trees and hard standing. Barrow Brook runs from east to west across the southern aspect of the site

There are three relatively recent developments in close proximity to the site, 'The Print works', Somerfields Petrol Station and a McDonald's restaurant. Furthermore the site was granted detailed planning consent with reserved matters for the construction of offices on 12th August 2003 (App ref: 3020878P). However, the development proposal for which this report has been commissioned is to construct both commercial and residential buildings around a network of roadways and parking facilities at the site.

Tree cover on the site is situated predominantly around its perimeter; however a limited number of trees on site fall within the footprints of the proposed developments and are therefore directly implicated. Through consultation with the site owner, it is believed that the Ribble Valley Borough Council (RVBC) has concerns regarding the proposal layout in relation to tree cover, particularly to the south western aspect of the site. In response to these concerns it can be said that the current development proposal reveals a marked improvement, with regard to arboricultural impact, over the office scheme that already has consent granted by RVBC App ref: 3020878P (appended to report).

Given the relatively large scale of the development proposals for the site, the protection of trees to be retained will be paramount in order to avoid any adverse effects from the development works.

The trees on site have been surveyed to **BS5837:2005 Trees in Relation to Construction – Recommendations**, details of which can be found in the Tree Data Tables appended to this report. In this report we comment on the possible implications of the development proposals and provide comments in relation to the impact of proposals on tree retention, tree removal, and the potential for mitigation. A Tree Survey Plan (**L7991.01**), Tree Constraints Plan (**L7991.02**) and a Tree Protection Plan (**L7991.03**) can be found appended to this report.



ARBORICULTURAL IMPLICATION STUDY (continued)

Key Issues

It is recommended that a number of trees be removed as part of the proposed development works. Recommendations in respect of tree removal are made on the grounds of tree condition and/or their long term value within the site in relation to the development proposals.

All trees that are recommended for removal should be replaced as part of a detailed landscape scheme prepared for the site. Please see the appended Tree Tables for further details on individual trees identified for removal.

Based on the proposed layout details provided, the key issues in relation to the proposed development of the site involve the following:

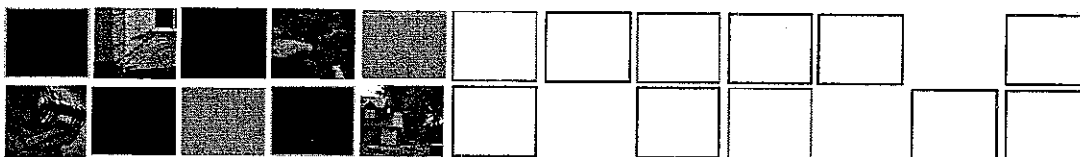
- The statutory protection afforded to trees on site;
- The recommended removal of trees and vegetation;
- The protection of trees to be retained on the site in question;
- The implementation of special engineering techniques for those hard surfaces located within any root protection area (RPA);
- Ground level changes within the RPAs of retained trees;
- Proposed temporary construction access and site storage facilities;
- The installation of new services;
- The planting of replacement trees for those removed

The Statutory Protection of Tree on Site

The majority of trees on site are protected by means of the Former Whalley Abbey Engraving Works Tree Preservation Order 1994. The order takes the form of an area designation, the effect of which is to protect all the trees present at the time the order was made. Any trees that have been planted or have grown after the order was made will not be protected. However, other statutory controls may exist in the form of extant planning conditions.

The Recommended Removal of Trees

Based on our interpretation of the proposals, it can be said that a number of single trees and groups of trees at the given site will not be able to endure the relatively large scale of the proposed development. Additionally it should be noted that our recommendations for tree removal show no alteration to the office scheme that already has consent. In reference to the appended Tree Survey Plan and Tree Data Tables, it is recommended that **T1, T9, T12, T13, T14, G2, G3, G4, G5, G7, G15** and **G16** are removed prior to the commencement of development works. Furthermore it is recommended that the two easterly most stems of **G6** are removed; the young trees that make up **G10** are removed or transplanted leaving a buffer of vegetation to the south of Barrow Brook; and that two mature Sycamores in **G14** are removed in order to abate future hazard or remove hazard potential (see appended plans).



ARBORICULTURAL IMPLICATION STUDY (continued)

Key Issues (continued)

Many of the trees recommended for removal are poorly located in the landscape or displaying significant defects such as branch dieback, mechanical injury or disease. Therefore the removal of some trees on site can be justified on the basis of preventing a future hazard. For example it is our understanding that trees in groups **G2, G3, G4, and G5** will be impacted on by development, however their observed poor condition is enough to warrant their removal. Furthermore, some trees recommended for removal would be significantly impacted as a consequence of proposed soil level changes and excavation within RPAs. As such, if these trees were to be retained and protected for development, their health and structural stability would be unsatisfactorily compromised. For example, the retention **G16** would arguably create conflict with a sewage easement that is designated in proximity to the location.

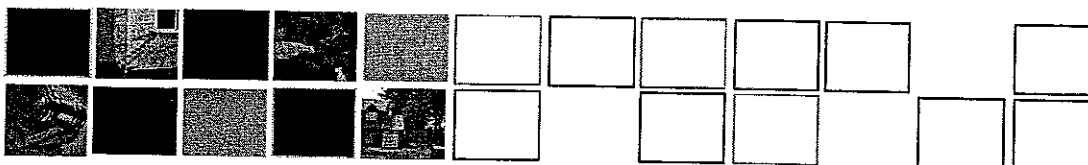
Full details and comments on both the condition and management recommendations for each surveyed tree can be found in the appended tree data tables. Furthermore the category for development of each tree has been assigned in accordance to **BS5837:2005 Trees in Relation to Construction – Recommendations**

Tree Protection

It is perceived that the majority of mature trees on site can be retained on the basis that they will not be implicated by the proposed development. In reference to both the Tree Constraints Plan (**L7991.02**) and the Tree Protection Plan, it is conceivable that **G1, T2, T3, T4, T5, T6, T7, T8, T10, T11, G6, T15, T16, T17, T18, G8, T19, G9, T20, T21, T22, T23, T24, T25, G11, T26, G12, G13, G14, T27 and G17** can be protected and retained.

The erection of protective fencing as per **BS5837:2005 Trees in Relation to Construction - Recommendations**, and in the location shown on the attached Tree Protection Plan (**L7991.03**), before the commencement of development works, will minimize the impact of the proposed development on the trees to be retained. The location of the protective fencing shown on drawing (**L7991.03**) conforms to the requirements of the Standard in that the required root protection area (RPA) is provided for each retained tree. Barrow Brook serves as natural barrier of tree protection most notably for the trees in **G6, G12, G13 and G14**. Additional tree protection will not be required in these areas.

Any demolition of the existing hard surfaces on site (such as the demolition of existing tarmac and concrete to the east of the site) will require due consideration of trees to be retained / protected. During demolition / site clearance and all construction works including provision of services to the site, there should be no access to the fenced off areas around the retained adjacent trees. Any demolition works that are necessary within the RPA's of retained trees should be undertaken with care and under the supervision of a suitably qualified Arboriculturist.



ARBORICULTURAL IMPLICATION STUDY (continued)

Key Issues (continued)

Implementation of Hard Surfaces within Root Protection Areas

Where new hard surfaces are proposed within the RPA's of retained trees, it will be necessary to construct surfaces using nationally accepted root friendly construction techniques. Any required hard surfacing within the RPAs of trees will need to be a 'no dig construction'. If this is to be the case, in order to protect the root zone of this tree from hard surface implementation, a geotextile construction process using Tensar® or Geoblock® / Geoweb® is recommended. These techniques will ensure that compaction of the soil is minimised and surfaces do not become impermeable.

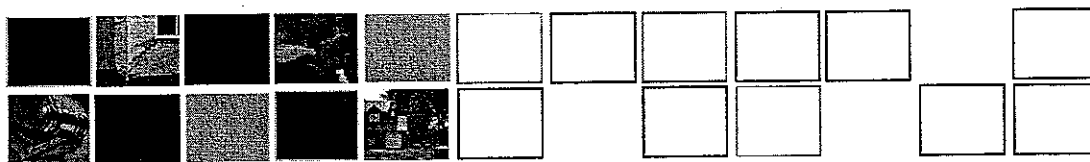
Whilst the proposals for the south western aspect of the site will have some impact on the trees in close proximity, the current design can be seen as a marked improvement in respect of the office scheme (appended) that already has planning consent. In reference to the Tree Constraints Plan (L7991.02) it can be seen that both plots 31 & 32, and the entrance road to plots 29 & 30 will encroach into tree RPAs, albeit to a minimal extent. Neither the less it can be foreseen that these units and their associated hard surfaces will require special engineering techniques for their construction. If foundations are required within the RPAs of trees to be retained, they will need to be designed to provide minimum disruption to the RPA's of these trees. The approach to the construction of the proposed foundations will follow the advice in BS5837:2005 section 11.6. Essentially this involves the use of piles, radial strip footings or suspended floors, beams and slabs. Such a technique might utilise a 'Pile and Beam' strategy for the implementation of building foundations within an RPA.

Ground Level Changes

Where ground level changes are proposed within the root protection areas of trees to be retained all changes will have to be performed either manually where possible or where this is not feasible then as sensitively as possible; no machinery will be allowed within the RPA's of retained trees. All ground works to be carried out within RPA's will have to be supervised by a competent Arboriculturist.

Site Access and Storage of Materials

It is recommended that construction site traffic use the present site access location to facilitate the construction of the new access road and building. If a contractors 'welfare' area is proposed for the site, it should be located outside the RPA of any trees to be retained in the proposal. Any further storage of site materials should take place outside of the root protection areas and be sufficiently distant from the protective fencing so as not to cause any damage.



ARBORICULTURAL IMPLICATION STUDY (continued)

Key Issues (continued)

New Services

It is envisaged that new drainage and service run networks will form part of the new development proposals. In the event that new services are planned in proximity to retained trees or their root zones, then these will have to be installed in line with the recommendations contained within the National Joint Utilities Group (NJUG) Technical Publication No. 4 '*Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*'.

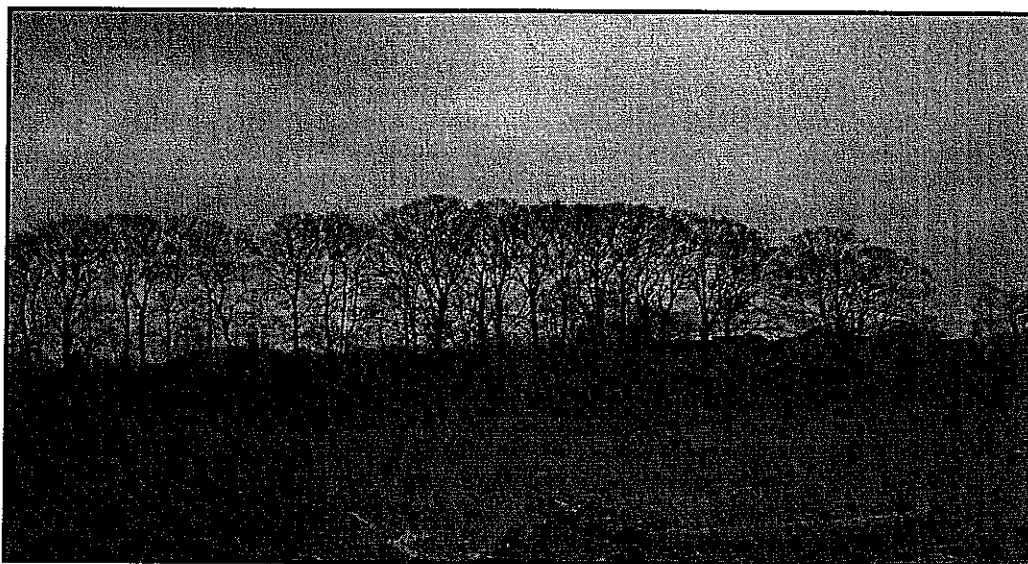
Replacement Planting

The recommended removal of trees will have a relatively small impact upon the tree cover at this site. Further to this, if a detailed re-planting/landscaping scheme is conditioned by RVBC as part of a planning consent, there will not be a major adverse effect on the long term visual amenity afforded by the tree cover at the site. Planting new trees to replace those that are removed in order to facilitate the development on the site will mitigate for the loss of trees. Re-planting and establishing new trees of varied species and age structure will help to ensure that there is a continuity of tree cover on the site. The locations of new trees, the size and the species to be planted should be decided in consultation with the RVBC and/or independent professional advisors.



ARBORICULTURAL IMPLICATION STUDY (continued)

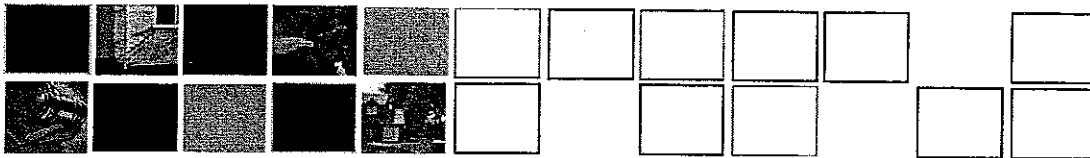
Photographs (taken on 5th February 2008)



This photograph shows the northern aspect of G14, a group protected from development impact by Barrow Brook.



This photograph shows the trees to the north western edge of the site.



ARBORICULTURAL IMPLICATION STUDY (continued)

Conclusions

It is recommended that a number of trees and groups of trees are removed on the basis of their poor condition or in order to facilitate the development proposals at the given site.

Recommended tree/tree pruning works should be undertaken by a qualified and insured tree work contractor in accordance with **BS 3998: 1989 Recommendations for Tree Works**. Pruning operations undertaken in the presence of a qualified Arboriculturist by a qualified and insured tree work contractor will help to safeguard the amenity value of tree cover at the site of the site.

Suitable tree protection provisions should be implemented in order to protect those trees that can be retained. Protection should follow the guidance within **BS5837:2005 Trees in Relation to Construction – Recommendations**

Where hard surfaces or foundations are proposed within the Root Protection Areas of trees to be retained, the construction can be achieved with minimal damage to the trees or their root zones by application of nationally accepted 'root friendly' construction methods.

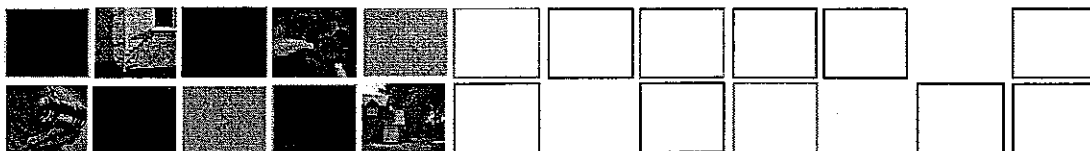
Ground level changes within the RPA's of retained trees implemented as sensitively as possible and under the supervision of competent Arboriculturist will minimise the detrimental effects of the changes on retained trees.

The use of existing hard standing for both access and the storage throughout construction will ensure that the Root Protection Areas of retained trees will not be compromised

In the event that services are to be located in close proximity to existing trees, they should be installed in line with the recommendations of NJUG 4 *'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'*.

Due to the specific statutory controls in place to ensure the continuity of tree cover at the Barrow Brook site, a planning condition attached to the consent to implement the development proposals can be suitably worded such as to require the submission and agreement of a detailed re-planting/landscaping scheme in mitigation of tree loss incurred by the proposed development. This will allow the RVBC Countryside officer the opportunity to have an input into re-planting proposals and ensure a permanence of tree cover at the site.

Finally, a draft Arboricultural Method Statement has been appended to this report, addressing in detail, the issues of: hard surfacing within RPAs; tree protection measures; proposed ground level changes; tree pruning operations; and arboricultural site supervision. Such a method statement can be finalised on receipt of RVBC's comment and conditions attached to planning consent in order that all methodologies can be agreed before work commences on site.



Appendices to Advice Note:

Tree Data Tables

Tree Data Tables Key

Drawing L7991.01 (Tree Survey Plan)

Drawing L7991.02 (Tree Protection Plan)

Drawing L7991.03 (Tree Protection Plan)

Office Scheme Proposal

Signed:

Terry David Garside

Date:

February 2008

Client: Newdale Properties Limited
 Surveyor: TDCAMP
 Tagset:
 Time Arrived at Site: 1000

Site: Barrow Brook, Barrow, Cillieroe
 Date of Survey: 28/01/2009
 Weather: Overcast/Drizzle
 Time left site: 1530



T. No	Species	HT (m)	Stem DBH (mm)	Branch Spread	HT Crown Clearance	Age Class	Condition	Structural Condition	Preliminary Management Recommendations	Est. (yrs)	Cost Grade
G1	Elder x 4, Maple x 3, Alder x 3, Hawthorn x 3, Ash x 2, Sycamore x 1	6/8 Ave	250	N 1.5 S 2 E 1.5 W 1.5	0.5m	EM	P G F P	Boundary group containing natural regeneration growth. Poor form. Deadwood. 1 x reasonable Sycamore tree.	Protect for development. Thin out poor stems and replace.	20+	A C R
T1	Sycamore	7.8	300	N 3 S 3.5 E 4 W 1	2m	EM	G P F D	Included compression fork with decay. Self-seeded. Twin stem. Decay in fork. Low branches. Overhanging into next property.	Fell and replace.	20+	A B C R
T2	Ash	12	400	N 3.5 S 3 E 4 W 3	3m	EM	G P F D	Multi stemmed. Self-seeded. Poor form. Overhanging into next property. Decay in stem. Deadwood. Hazard limb over adjacent path to south.	Remove hazard limb - crown clean.	20+	A B C R
T3	Hawthorn	6	220	N 3 S 1.5 E 1 W 1	1.5m	M	G P F D	Suppressed habit. Crossing Branches. Minor wounds from previous pruning. Located on banked ground - exposed roots.	Consider removal and replacement.	10+	A B C R
T4	Ash	13	285	N 3 S 2 E 2.5 W 1	1.5m	EM	G P F D	Self-seeded. Wounds and decayed stump at base. Ash and Sycamore saplings at base. Overhanging into next property.	Consider removal and replacement.	10+	A B C R
T5	Ash	12	280	N 3 S 2 E 2.5 W 1	1.5m	EM	G P F D	Leaning to the north. Spindly form.	Consider removal and replacement.	10+	A B C R
T6	Sycamore	8.2	180	N 1.5 S 1 E 1 W 2	2.5m	SM	G P F D	Growing on banked soil. Branches encroaching onto street/path lighting.	Prune away from pathway lighting - consider removal and replacement.	10+	A B C R
T7	Ash	15.5	520	N 4 S 1 E 4.5 W 4	1.5m	EM	G P F D	Self-seeded. Overhanging into next property with low branches. Deadwood. Damage at Base.	Protect for development.	30+	A C R
T8	Ash	14	320	N 2.5 S 2 E 2.5 W 4	3m	EM	G P F D	On slight mound. Overhanging road. Deadwood.	Protect for development - prune back branches over adjacent footpaths.	30+	A C R
T9	Sycamore	13	500	N 2.5 S 2 E 2 W 2	1m	EM	G P F D	Large forked union. Bacterial wetwood around the trunk base. Basal decay. Overhanging road. One-sided.	Fell and replace.	/	A B C
T10	Ash	14.5	450	N 2.5 S 2.5 E 2 W 9	3.5m	EM	G P F D	Included union between stems. Overhanging roadside. Deadwood. Trunk lean to the west - dubious union.	Protect for development and monitor.	20+	A B C R
T11	Sycamore	13	460	N 2 S 2 E 3.5 W 6	2m	EM	G P F D	Included union between stems. Overhanging roadside. Deadwood. Ivy covered stem.	Protect for development and monitor.	20+	A B C R

T. No	Species	Ht (m)	Stem DBH (cm)	Branch Spread	Ht Crown Clearance	Age Class	P	Condition	Structural Condition	Management Recommendations	Est. (yrs)	Est. Grade
				N 3 S 2 E 4 W 5	0m	EM	G F D	Included union between stems. Overhanging roadside. Deadwood.		Fell and replace due to poor condition and to facilitate proposed development.	30+	A B C R
T12	Sycamore	13	300	N 3 S 7 E 7.5 W 5	2.5m	EM	G F D	Multi-stemmed. Compression fork with included union. Large dead limb at 4.5m on eastern stem. Overhanging on roadside. Dead Elder at base. Included unions between stems. Deadwood.		Fell and replace due to poor condition and to facilitate proposed development.	20+	A B C R
T13	Ash	13	310	N 2 S 3 E 1.5 W 1.5	0.5m	EM	G F D	Suppressed habit. Telephone wires through crown - exposed surface roots.		Fell and replace due to poor condition and to facilitate proposed development.	20+	A B C R
T14	Sycamore	10	250	N 2 S 3 E 1.5 W 1.5	0m	SM	G F D	Suppressed habit. Telephone wires through crown - exposed surface roots.		Fell and replace due to poor condition and to facilitate proposed development.	20+	A B C R
G2	Line x 4	Max 11	Max 225	N 4 S 4 E 1.5 W 4	2.5m	M	G F D	No defect noted		Fell and replace in order to facilitate proposed development.	20+	A B C R
G3	Birch x 3	Max 14	Max 355	N 2 S 2 E 2 W 2	0m	SM	G F D	Suppressed form. Bacterial galls. Deadwood in the crown.		Fell and replace due to poor condition and to facilitate proposed development.	20+	A B C R
G4	Sorbus x 2	Ave 4.5	Ave 80	N 4 S 4 E 3.5 W 4	1m	M	G F D	Multi-stemmed. Southern tree displaying basal growth.		Fell and replace due to poor condition and to facilitate proposed development.	20+	A B C R
G5	Sycamore x 2	Ave 14	Ave 350	N 4 S 4.5 E 4 W 4	2.5m	M	G F D	Deadwood. Basal growth. Low branches overhanging property.		Fell the two most easterly in the group for development. Protect the remainder of the group for development. Crown raise all to 4m above ground and remove epicormic growth.	30+	A B C R
G6	Line x 11	Ave 18	Max 750	N 2 S 2 E 2 W 2	0m	Y	G F D	Self-seeded sapling. Dense. Bramble.		Fell and replace due to poor condition and to facilitate proposed development.	40+	A B C R
G7	Group of Goat Willow and Ash	Ave 6	Ave 120	N 4 S 3.5 E 4 W 3	10m	EM	G F D	Deadwood. Dense ivy covering stem. Difficult to inspect. Growing on Brook bank.		Protect for development and monitor.	20+	A B C R
T15	Ash	15	280	N 4 S 4.5 E 3 W 3.5	0m	M	G F D	Located on steep slope. Dense ivy.		Protect for development	20+	A B C R
T16	Hawthorn	8	300	N 4 S 5 E 5 W 4	6m	M	G F D	Located on steep slope. Deadwood. Dense ivy covering stem. Difficult to inspect.		Crown clean and protect for development.	20+	A B C R
T17	Sycamore	16	400	N 7 S 8 E 6 W 7	6m	M	G F D	Located on steep slope. Deadwood. Overhanging building. On the very edge of culvert. Ivy on stem. Basal growth.		Protect for development.	20+	A B C R
T18	Sycamore	15	550	N 7 S 8 E 6 W 7	6m	M	G F D	Located on steep slope. Deadwood. Overhanging building. On the very edge of culvert. Ivy on stem. Basal growth.		Protect for development.	20+	A B C R

T. No	Species	Ht (m)	Stem DBH (mm)	Branch Spread	Ht Crown Clearance	Age Class	P Condition	Structural Condition	Preliminary Management Recommendations	Est. (yrs)	Cat Grade
G8	Line x 4, Sycamore x 2	Ave 15	Ave 400	W 4	Ave 1m	M	F P D	Overhanging road. Basal and stem suckers. Deadwood and old pruning wounds. Ivy covered stems.	Crown clean all trees in group. Prune away from street lighting. Remove basal growth and protect for development.	20+	A C R
T19	Sycamore	17	630	W 6	1m	M	F P D	Low branches. Deadwood. One-sided crown. Poor form.	Crown raise western side of canopy and protect for development. Monitor.	20+	A B C R
G9	Line x 9	Ave 20	750	W 3	3m	M	F P D	Basal growth. Deadwood. Low branches.	Remove basal growth. Crown clean/crown raise and protect for development.	20+	A C R
T20	Line	17	660	W 5	0.5m	M	F P D	Basal growth. Deadwood. Low branches.	Protect for development.	20+	A C R
T21	Sycamore	15	520	W 3	6m	M	F P D	Deadwood. Crown lifted in the past.	Monitor. Protect for development.	20+	A C R
T22	Ash	10	900	W 2	4m	M	F P D	Cut back to 7m stump. 2m of re-growth. Deadwood. Old stem wounds. Basal growth.	Protect for development.	20+	A B C R
T23	Sycamore	13	445	W 4	1m	EM	F P D	Deadwood. On rubble mound.	Protect for development.	20+	A B C R
T24	Ash	15	580	W 3	2m	M	F P D	Main stem bifurcates at 3m. Deadwood. On rubble mound. Basal growth.	Protect for development.	20+	A C R
T25	Ash	13	300	W 3	2m	SM	F P D	Spindly form - Crown bias to the south. Deadwood. On rubble mound. Basal growth. One-sided. Poor form.	Monitor and consider removal.	20+	A B C R
G10	Approx. 25 in group consisting of: Lime Maple and Aspen	6 Ave	Max 120	W 3	1m	Y	F P D	Stake and ties. Some stem damage.	Remove for development. Consider transplanting the better specimens into a landscaping scheme for the site.	50+	A B C R
T26	Birch	11.5	280	W 4	1.5m	EM	F P D	Close to boundary. Overhanging.	Protect for development.	20+	A B C R
G11	Sycamore x 4	Ave 12	Max 370	W 3.5	2m	EM	F P D	On rubble mound. Deadwood. Low branches.	Removal is recommended for the Sycamore with decayed limb to the south. It is recommended that the remainder of the group is protected for the development.	20+	A B C R

T. No	Species	HT (m)	Stem DBH (mm)	Branch Spread	HT Crown Clearance	Age Class	P. Condition	Structural Condition	Preliminary Management Recommendations	Est. (yrs)	Cat Grade
G12	Sycamore x 3, Ash x 2, Hawthorn x 5, Lime x 2.	Ave 7	Max 330	N 2.3 S 2 E 2.5 W 2.5	0.5m	SM	G F P D	Multi-stemmed. Poor form. into fence. Hollow in stump. On top of culvert wall.	Remove Ash trees and prune back hawthorn from the pathway.	20+	A B C R
G13	Group of Ash, Hawthorn, Willow and Hazel.	Ave 6	Max 200	N 2.5 S 2 E 2 W 2	0m	V	G F P D	Self-seeded scrub. Some stem wounds. Some branch tips blocking path.	Protect for development.	50+	A C R
G14	Sycamore x 35	Ave 17.5	Ave 500	N 5 S 5 E 6 W 5	Ave 2m	M	G F P D	Deadwood. On embankment to culvert. Minor branch cavities. Under-storey of Ash, Hazel and Hawthorn. Some trees adjacent to the path have been heavily crown raised in the past.	Two in group require immediate removal in order to abate the potential of a hazard (see tree survey plan). Thin Ash and Hawthorn that forms the under-storey. Crown clean & protect.	20+	C R A
T27	Hawthorn	6	400	N 1.5 S 4 E 3 W 3	0m	M	G F P D	Old split in stem. Leaning. Deadwood. Branches over path.	Prune away from the footpath and crown clean.	20+	C R A
G15	Sorbus x 10	Ave 6	Ave 80	N 2 S 2 E 2 W 2	1.5m	V	G F P D	One in group is dead.	Retain or transplant to elsewhere in the development.	100+	C R
G16	Aspen x 8	Ave 9	Ave 80	N 2 S 2 E 2 W 2	1m	Y	G F P D	Two in group damaged.	Remove damaged specimens. Transplant specimens that conflict with the proposed line of the drainage easement.	100+	A B C R
G17	Birch x 3	Ave 8	Ave 80	N 2 S 2 E 2 W 2	1m	Y	G F P D		Protect for development.	50+	A C R

Key to Tree Tables

The classifications are broadly in line with the recommendations found within **British Standard 5837:2005 Trees in Relation to Construction - Recommendations**. However, explanations for the terms have been changed slightly to reflect the approach of this company to the practical aspects of categorising trees in the field

Age Class	Y	Trees that are less than 10 years from establishment (planting or seedling emergence).
	SM	Well established but less than 20% of normal life expectancy
	EM	Typical twig, branch, bark and trunk form for species but not reached 75% of its size for the species and location.
	M	The middle age phase of growth when the tree has effectively reached 90% of its ultimate size for species and location.
	FM	The tree has now achieved 99% of its ultimate size for the species and location.
	D	Tree in decline from disease, decay root death, structural or stability problems.

Condition	G	A tree that is, by form, function and physiology, in optimum condition for the species (this may vary according to previous or existing management regimes, e.g. pollarding)
	F	A tree with very minor defects that can if necessary, be managed by good arboricultural practice
	P	A tree of poor quality and form with structural and/or physiological problems that may or may not have the possibility of being managed
	D	Trees which are dead, dying or dangerous, which have significant defects that cannot be managed in such a way as to be able to retain the tree in the situation in which it is growing. A hazard tree that requires action as soon as contractually possible to make the tree safe

Category	A	A tree that is a particularly good example of its species, which is of particular visual importance and which has significant conservation, historical commemorative or other value.
	B	A tree with impaired condition including remediable minor defects. When found in groups or is present in numbers across a site it attracts a higher collective rating than it would individually. Trees with clearly identifiable conservation or other cultural benefits but as individuals have little visual impact on the wider locality
	C	Young trees with a stem diameter below 150mm. A tree of low quality and value that has very limited conservation or other cultural benefits and which would not normally be retained where it poses a constraint on development
	R	Trees with significant defects that cannot be managed in such a way as to be able to retain the tree in the situation in which it is growing. A tree that has serious, irreparable, structural defects, that is dead or is showing signs of significant, immediate, irreversible decline, and/or that is infected with pathogens of significance to the health and safety of the tree

Preliminary Management Recommendations (*)

These recommendations are not a Tree Work Specification and must not be used as such. They are for planning guidance only. A Tree Work Specification can be produced if and when required.



WHALLEY ROAD

The boundary route of this vegetation has been impinged upon by the implementation of a road to the south.

It is recommended that the trees within the square of G1 are retained for the construction of the development. Their retention should be reviewed on completion of the development.

Row of young Oak trees situated outside the site of proposed development.

Site of Proposed Development

Site of Proposed Development

The Print Works

Species under-planty including: Hawthorn, Elder, Birch and Ash.

Vegetation within G6 to be retained in the development.

It is recommended that trees over 50 years old are retained and their retention reviewed.

It is recommended that the retention of the trees is closely monitored.

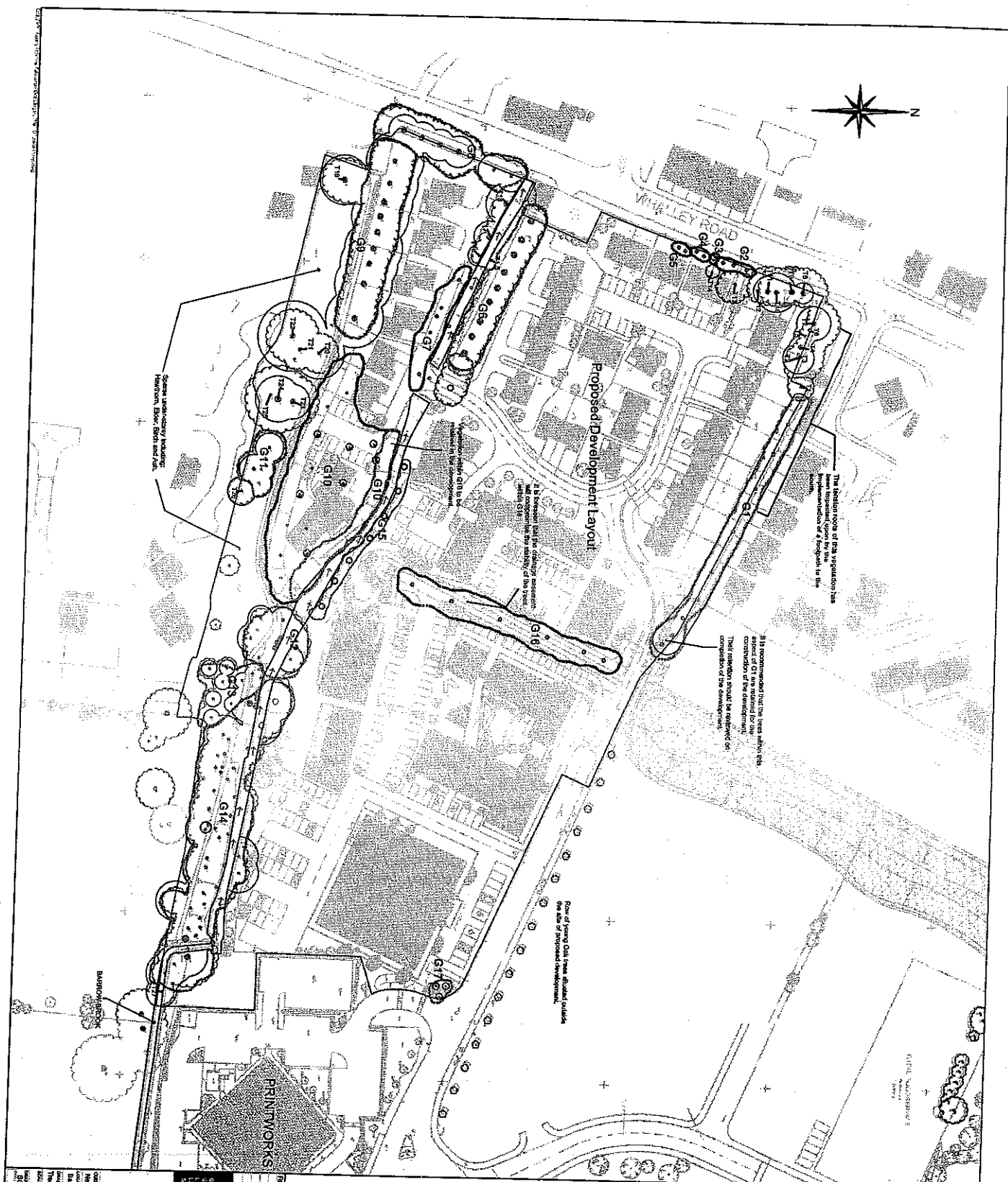
Key

- Trees recommended for removal
- Trees recommended for retention

REVISION	DESCRIPTION	DATE
1	Issue for comment	12/11/11
2	Issue for comment	12/11/11

Client: The Print Works
 Location: Barrow Brook, Barrow, Cumbria
 Project: The Print Works
 Scale: 1:500 @ A2
 Date: 12/11/11
 Drawn by: [Signature]
 Checked by: [Signature]

Prepared by: [Signature]
 Checked by: [Signature]
 Date: 12/11/11
 Scale: 1:500 @ A2
 Project: The Print Works
 Location: Barrow Brook, Barrow, Cumbria
 Client: The Print Works



Their retention should be reviewed on completion of the development.

the aims of proposed development.

included in the development

Hawthorn, Elder, Birch and Ash.

PRINTWORKS

Key

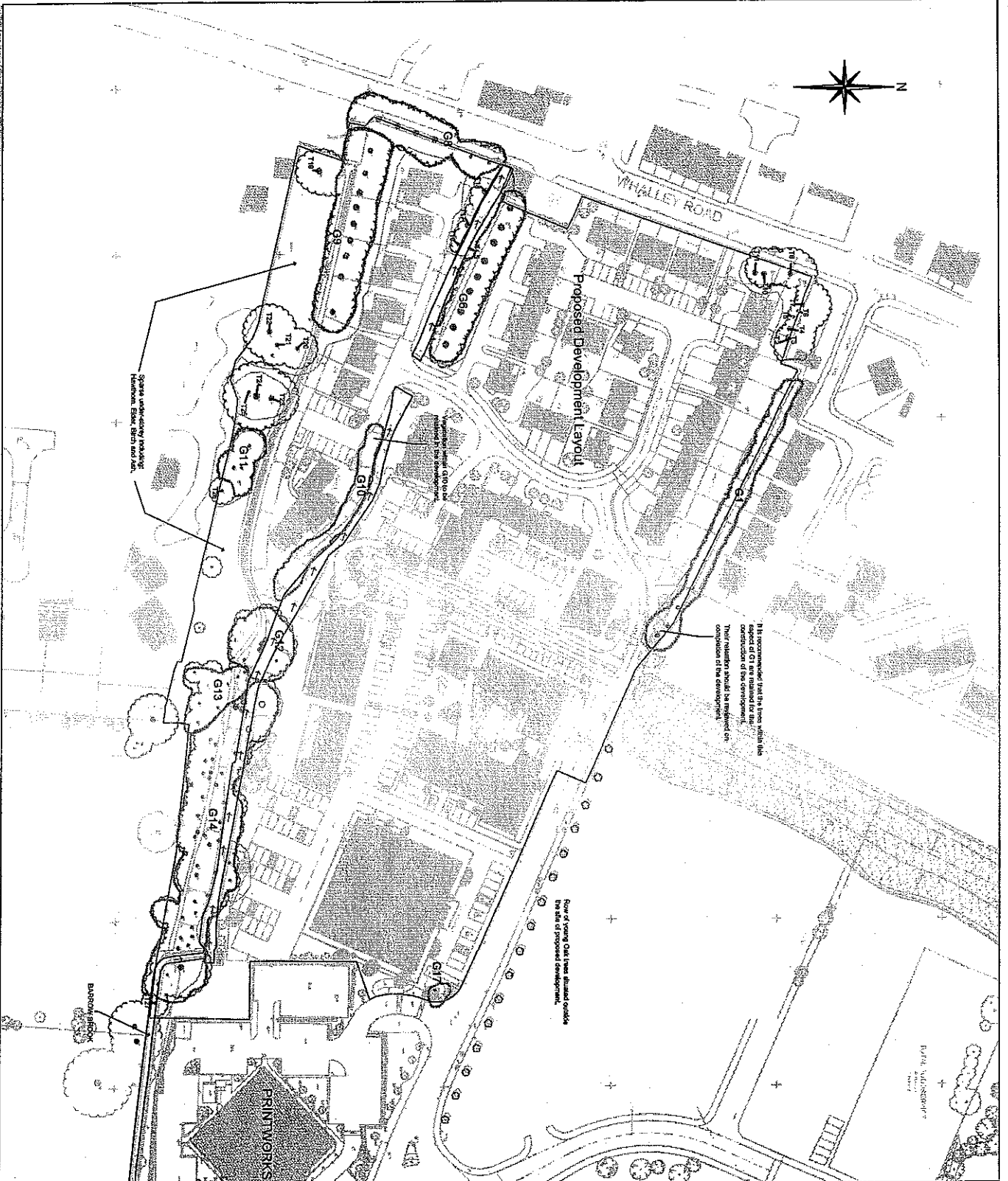
Trees recommended for removal

Trees recommended for retention

FP2A: (Show quantities and/or as per BS5837:2005)

REVISION	DESCRIPTION	DATE
1	Initial design and construction of the building.	10/1/2000
2	Revised design to include additional rooms and parking spaces.	11/1/2000
3	Final design and construction of the building.	12/1/2000

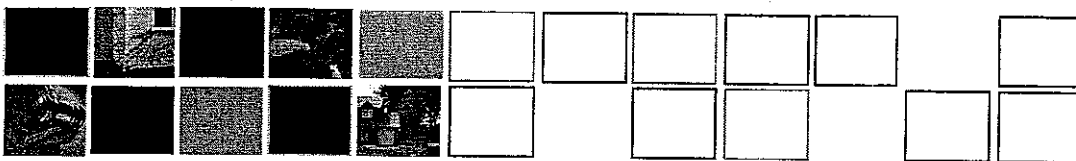
Company Name	Medvaco Properties Limited
Location	Barrow Brook, Barrow, Cumbria
Business Type	The Continental Plan
Address	1500 @ A2
Phone No. (Include Area Code)	01206 22081
City	Barrow
State	Cumbria
Country	England
Zip	LA13 7JN
Ref	1500 @ A2



Key

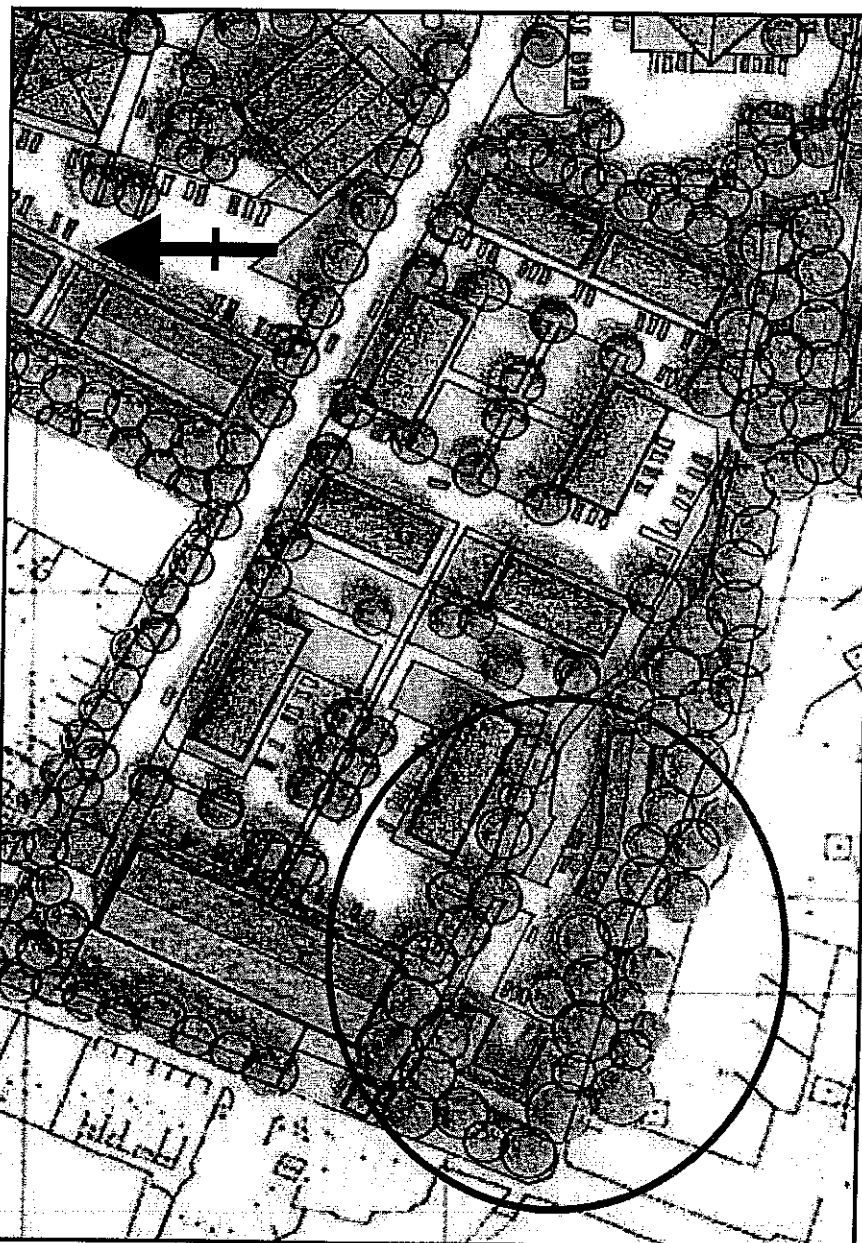
- Trees recommended for retention
- Real Protection Fencing as per BS5837:2005

REVISION	DESCRIPTION	DATE
1	Initial Issue	15/01/2006
2	Revised Issue	15/01/2006
3	Revised Issue	15/01/2006
4	Revised Issue	15/01/2006
5	Revised Issue	15/01/2006
6	Revised Issue	15/01/2006
7	Revised Issue	15/01/2006
8	Revised Issue	15/01/2006
9	Revised Issue	15/01/2006
10	Revised Issue	15/01/2006
11	Revised Issue	15/01/2006
12	Revised Issue	15/01/2006
13	Revised Issue	15/01/2006
14	Revised Issue	15/01/2006
15	Revised Issue	15/01/2006
16	Revised Issue	15/01/2006
17	Revised Issue	15/01/2006
18	Revised Issue	15/01/2006
19	Revised Issue	15/01/2006
20	Revised Issue	15/01/2006
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97	Revised Issue	15/01/2006
98	Revised Issue	15/01/2006
99	Revised Issue	15/01/2006
100	Revised Issue	15/01/2006



Office scheme proposal granted full planning consent by RVBC on 12th August 2003

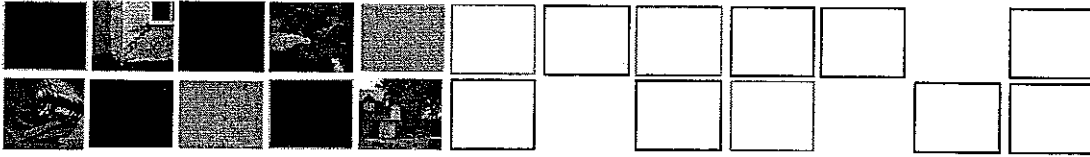
This design that carries planning consent would have greater impact on tree cover in the south western aspect of the site, in comparison to the current proposal.



(App Ref: 3020878P)

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ARBORICULTURAL METHODS & MATERIALS

SUPPORT DOCUMENT FOR SCHEME DESIGNERS

DRAFT

Barrow Brook, Clitheroe, Lancashire

Presented to

Newclose Properties Limited

By

**Landscape Planning Limited
Goodlass House
Goodlass Road
Speke
Liverpool
L24 9HJ**

- April 2008 -

ARBORICULTURAL METHODS & MATERIALS

PART I

CONTENTS

DISCLAIMERS

INTRODUCTION AND BRIEF

CONTACT DETAILS

ARBORICULTURAL METHODOLOGIES

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DISCLAIMERS

General - Trees

Unless otherwise stated tree inspections have been undertaken from ground level and using non-invasive techniques only. Comments on the condition and safety of any tree relate to the condition of the tree at the time of survey. It should be recognised that tree condition is subject to change due to, for example, the effects of disease, wind or nearby development works. Changes in land use are also significant in respect of risk assessment. Trees should therefore be inspected at intervals relative to identified site risks.

Unless otherwise specified, no checks have been carried out in respect of statutory controls that may apply, e.g. Tree Preservation Orders, Conservation Areas or planning conditions. In addition, prior to undertaking any tree works, it is necessary to ensure due diligence is followed in respect of protected species and habitats.

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Not a Design Statement or Method Statement

This report is in support of the clients design team and lead designers in respect of arboricultural implications. The report should be approved for design purposes by the competent lead designer before being utilised for construction, methods, materials, management, quantities or health and safety implications. The report provides details as they relate to tree protection, tree biology and tree retention and not to construction, engineering or architectural design requirements.

INTRODUCTION AND BRIEF

1.0 Introduction

- 1.1 This Arboricultural Methods and Materials Statement (AMMS) has been commissioned by NAI Erina-ceous Planning on behalf of Newclose Properties Ltd. The AMMS will supplement the Arboricultural Implication Study in support of a planning application to Ribble Valley Borough Council (RVBC) for a site at Barrow Brook, Barrow, Clitheroe.
- 1.2 The purpose of this statement is to advise on arboricultural methodologies and materials in relation to proposals for development construction at the Barrow Brook site.

2.0 Statement Brief

- 2.1 This statement is designed to address the arboricultural aspects of the implementation of the planning consent granted by RVBC for the development of the land at Barrow Brook, Barrow, Clitheroe, and in doing so provide methodologies for the effective and successful protection of those trees identified for retention. The Statement provides detail and methodology for the following aspects in relation to proposed demolition and construction phases:
- Tree works specification
 - The location and specification of tree protection fencing
 - Demolition works that conflict with trees identified for retention
 - Installation of building foundations in close proximity to trees
 - Construction activities in close proximity to trees
 - Installation of hard surfaces in close proximity to trees (e.g. paths/driveways/parking areas)
 - Proposed ground level changes in close proximity to trees
 - Installation of services in close proximity to trees
 - Designated site access and areas for the storage of site materials
 - Arboricultural site supervision
 - Sequencing of works
- 2.2 This document has been compiled with reference to the guidance and recommendations made within **BS5837:2005** *Trees in relation to construction—Recommendations*; **BS3998:1989** *Recommendations for tree works*; **BS4043:1989** *Recommendations for transplanting root-balled trees*; and **NJUG 4** *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*.

CONTACT DETAILS

The following are the persons / organisations involved in the development and their names, addresses and contact details are set out below:

1.0 Developer

- 1.1 Company:** Newclose Properties Limited
Contact name: Clive Mellings
Position: Technical Manager
Telephone: 015395 60605
Email: clive.mellings@btconnect.com
Address: Helm Bank, Natland, Kendal, Cumbria, LA9 7PS

2.0 Local Authority

- 2.1 Contact name:** David Hewitt (Ribble Valley Borough Council)
Position: Countryside Office
Telephone: 01200 414505
Email: dave.hewitt@ribblevalley.gov.uk
Address: RVBC, Church Walk, Clitheroe

3.0 Architect

- 3.1 Company:** HPA Limited
Contact name: Richard Wooldridge
Position: Director
Telephone: 01524 32479
Email: rwooldridge@hparch.co.uk
Address: Victoria Court, Penny Street, Lancaster, LA1 1XN

4.0 Arboricultural Consultant

- 4.1 Company:** Landscape Planning Ltd
Contact name: Terry Garside
Position: Arboriculturalist
Telephone: 0151 448 2464
Email: terry.garside@landscapeplanning.co.uk
Address: Goodlass House, Goodlass Road, Speke, Liverpool, L24 9HJ

- 4.2** All technical issues relating to arboriculture will be addressed to Landscape Planning Limited (LPL) in the first instance. LPL will liaise between the Local Planning Authority and the Developer at all times.

ARBORICULTURAL METHODOLOGIES

1.0 Context

- 1.1 The proposed layout of the development is detailed in drawing **L7991.04**, which is attached at Part 2 of this statement. The plan highlights the areas within the development proposal where it is foreseen that conflict will arise in relation to trees recommended for retention.

2.0 Tree works specification

- 2.1 In reference to the Arboricultural Implication Study and associated Tree Data Tables a number of trees have been recommended for removal. Furthermore, recommendations have been made to carry out remedial pruning work on trees identified for retention.
- 2.2 Any tree work to be carried out on site should be conducted in accordance with the following:
- All tree work contractors will be required to provide evidence that they are competent to undertake the required works and are adequately insured.
 - The contractor will be required to provide a site specific risk assessment prior to commencement of any tree works.
 - All tree works must be undertaken with due diligence in respect of nesting birds (March to September inclusive) and roosting bats and in accordance with **BS3998:1989 Recommendations for Tree Work**.
 - All tree works will be undertaken with the agreement of the Local Planning Authority and under the supervision of a suitably qualified arboriculturalist.
- 2.3 The transplanting of young root-balled trees will be carried out in accordance with the guidance stipulated within **BS4043:1989 Recommendations for transplanting root-balled trees**.

3.0 The location and specification of tree protection fencing

- 3.1 Tree protective fencing shall be in accordance with the guidance stipulated within specification **BS5837:2005 Trees in relation to construction—Recommendations** as detailed in Appendix 2 with appropriate warning signage.
- 3.2 The tree protection fencing is comprised of steel mesh panels measuring 3m long by 2m high secured in concrete or solid rubber custom made footings and clamped together and locked in place. This specification is 600mm higher than the British Standard fence and removes the need to sink wooden or steel poles into the ground for support. However, the concrete / rubber bases will be pinned into the ground using small diameter engineering rods.
- 3.3 Tree protection fencing shall be located on the outer edge of the Root Protection Areas (RPA) in order to afford adequate protection to all retained trees. The location of the protective fencing is shown on the Tree Protection Plan (**L7991.04**) at Part 2 of this statement. The tree protective fencing will be securely positioned to resist intrusion into the RPA at ground level.
- 3.4 In certain circumstances, and subject to the approval and supervision by a suitably qualified arboriculturalist and the Local Planning Authority, it will be possible to undertake works within RPAs without compromising successful tree retention. The re-positioning of tree protection fencing can be carried out, subject to adequate and appropriate ground protection for RPAs being provided and subject to the agreement of the Local Planning Authority.

ARBORICULTURAL METHODOLOGIES (continued)

4.0 Demolition works that conflict with trees identified for retention

- 4.1 There is no requirement for demolition within the RPA of trees identified for retention.

5.0 Installation of building foundations in close proximity to trees

- 5.1 Where foundations are proposed within the RPA of a tree to be retained, the foundations will need to be designed to provide minimum disruption to the rooting zone. The approach to the construction of the proposed foundations will follow the advice in **BS5837: 2005** section 11.6. Essentially this involves the use of piles, radial strip footings or suspended floors, beams and slabs.

6.0 Construction activities in close proximity to trees

- 6.1 Where there is a need to re-position fencing either to allow 'working space' or in order to erect scaffolding, then this activity should be performed in accordance with recommendations made within **BS5837: 2005** section 9.3.
- 6.2 The position of protective fencing may be relocated within RPAs at the edge of agreed working zones but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection (e.g. scaffolding boards laid upon a geo-textile membrane and sharp sand).

7.0 Installation of hard surfaces in close proximity to trees

- 7.1 Where hard surfaces are proposed within the RPA of trees identified their construction will follow the recommendations outlined in **BS3998:1989** *Recommendations for Tree Work*. Essentially this involves a 'no dig' approach resulting in the construction of a load-bearing surface that spreads the load such that compaction of afflicted root zones is kept to a minimum. The surface will be porous such that air and water can penetrate to the root zones thus ensuring their continued good health. A specific approach is set out in the following paragraphs.
- 7.2 A recommended methodology is based on the concept of the 'Cellular Confinement' system produced by, for example, 'Cellweb'. This involves the use of Geoweb®, which is a geotextile product that contains a system of cells, each of which is filled with washed number 2 road stone without fines. It is laid on the existing ground surface, which has been stripped of vegetation and levelled using sharp sand and a membrane such as Terram®. Once in place and filled with stone, a further membrane is placed on top and the final surface, which must be porous, is installed. This method is shown in considerable detail at Appendix 3 of this statement.
- 7.3 Other approaches are possible and the exact method to be used is dependent upon conditions on site and what the engineers recommend as the preferred option. It is recommended that block paving might be utilised as a porous final surface for areas that will be subject to light loads (e.g. parking spaces and driveways).
- 7.4 Bricks or interlocking pavements can be used, set on sand to serve as a porous surface. The use of geotextile under the sand and manually firmed sub-grade will assist in minimising impact to the roots. An illustration detailing this construction technique can be observed at Appendix 4. Such is the nature of this construction technique that light traffic loads can be dissipated over the RPAs of trees to be retained therefore significantly averting the potential of compaction damage being incurred. Simultaneously, the pervious nature of this solution will ensure that both water and air movement below the driveway can be maintained to an adequate level.

ARBORICULTURAL METHODOLOGIES (continued)

- 7.5 The method for constructing such a surface should essentially take into account the following points:
- Construction should take place in a period of dry weather when the soil is least prone to compaction (i.e. May – October).
 - Ground vegetation should be killed using herbicide. All resulting dead organic material should be removed in order to prevent oxygen depletion in the soil during the process of decomposition.
 - Any hollows or inconsistencies in the existing ground level should be sensitively levelled using hand tools and sharp sand
 - The geotextile should be positioned over the levelled surface covering the ground area intruding onto the RPAs of trees to be retained.
 - An edging should be constructed in order to give support during construction and thereafter. A carefully implemented pinned curb would suffice for this purpose. Any invasive method should be used sensitively so as to avoid damaging tree roots underneath the existing ground level.
 - A layer of sharp sand should be placed over the geotextile onto which block paving/interlocking pavements can be laid.

Roberts, Jackson & Smith, (2006) 'Tree Roots' in the Built Environment'

8.0 Proposed ground level changes in close proximity to trees

- 8.1 Where excavation is proposed within the RPAs of trees to be retained all excavations must be performed sensitively by hand/compressed air lance under the supervision of a suitably qualified arboriculturalist. No machinery should be allowed within the RPA's of retained trees.
- 8.2 Where there is a requirement to raise ground levels within RPAs this can only be achieved utilising the techniques highlighted at section 7 of this statement. Under no circumstances will topsoil be deposited within the RPAs of trees identified for retention.

9.0 Installation of services in close proximity to trees

- 9.1 Where services are necessary within the RPAs of retained trees, trench-less excavation techniques or trenches excavated by hand/compressed air lance should be used. Recommendations with regard to the installation of services are contained within **BS5837:2005 Trees in relation to construction—Recommendations** and **NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.**

10.0 Designated site access and areas for the storage of site materials

- 10.1 It is recommended that construction site traffic use the existing site access to facilitate the construction of the new buildings and associated hard surfaces. The storage of site materials should take place outside of the RPAs of trees to be retained and be sufficiently distant from the protective fencing so as not to cause any damage.

ARBORICULTURAL METHODOLOGIES (continued)

11.0 Arboricultural Site Supervision

- 11.1 This is required to ensure that protection recommendations made in this report are adhered to during the construction build phase of the development process. Supervision should be provided by an Arboricultural Consultant for the following key operations:
- Tree Pruning and Felling operations recommended
 - Installation of the secured protective fencing with warning signs
 - Excavations/piling for kerbing within RPAs
 - Any excavations necessary for service provision within RPAs
 - Removal of ancillary vegetation within RPAs
 - Excavations and levelling of highways, footpaths and car parking within RPAs (including installation of special surfaces i.e. Cellular Confinement Systems)
- 11.2 After each visit, the Arboricultural Consultant will provide a site supervision report to the Site Manager confirming or otherwise, adequate tree protection methods are in place. Where tree protection is deemed inadequate or non-existent, the Arboricultural Consultant shall make remedial recommendations. Copies of this Site Supervision Report shall be copied to the local planning authority and the client.

12.0 Sequencing of Works

- 12.1 The timing of arboriculturally orientated work should follow the sequence shown below:
- If site access is required through RPAs, then access routes using root friendly construction techniques should be implemented in the first instance.
 - Tree removal / Remedial pruning.
 - Erection of tree protection fencing as per approved Tree Protection Plan.
 - Re-position fencing to agreed locations and for defined periods in order to facilitate demolition and construction activities within RPAs.
 - Fencing to remain in approved location for duration of construction activities
- 12.2 LPA Tree Officer to be advised prior to the commencement of site works. All sub contractors, site managers and relevant operatives to be briefed on tree protection measures prior to commencement of development works. Contractor / Site Manager to ensure delivery / availability of all relevant materials prior to the commencement of on-site works.

ARBORICULTURAL METHODS & MATERIALS

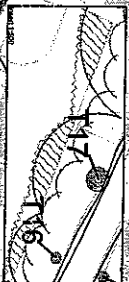
PART 2

THE PLANS

Plan Base 1: Tree Protection Plan



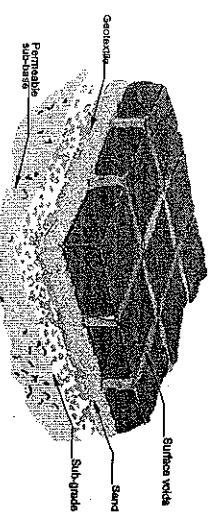
WHALLEY ROAD



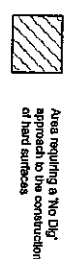
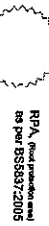
Proposed Development Layout

It is recommended that the trees within the aspect of G13 should be retained and their conservation should be taken into consideration at the development.

Construction Technique for Hard Surfaces near Trees
 The nature of this construction technique enables light traffic loads to be dissipated over the RPAs of trees to be retained therefore significantly averting the potential of compaction damage and starvation of essential gaseous exchange being incurred



Key



REVISION	DESCRIPTION	DATE
1	Initial Design	15/01/2015
2	Final Design	15/01/2015

Client: Henderson Properties Limited
Location: 100 Whalley Road, Whalley, Chorley
Project Name: The Whalley Park (a) and (b) development
Scale: 1:500 @ A2
Drawn by: J. Smith
Checked by: J. Smith
Date: 15/01/2015

Consultant: J. Smith
Address: 100 Whalley Road, Whalley, Chorley
Phone: 01257 250000
Email: j.smith@j.smith.co.uk
Website: www.j.smith.co.uk

ARBORICULTURAL METHODS & MATERIALS

PART 3

APPENDICES

Appendix 1: Planning Conditions

Appendix 2: Tree Protective Fencing Specification

Appendix 3: Cellular Confinement Informative

Appendix 4: Hard Surfacing

APPENDIX I

Planning Conditions

Insert

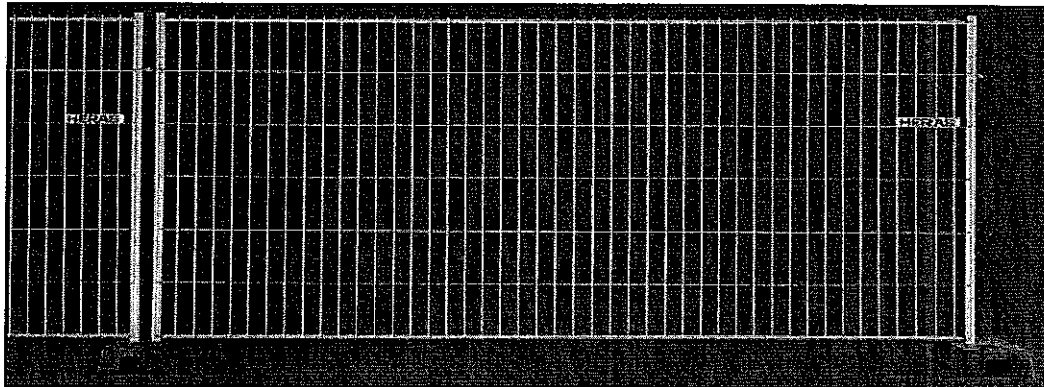
Planning Conditions

APPENDIX 2

Tree Protective Fencing Specification

Specifications: Fence shall be 2m high x 3m long.

As Heras type fencing can be easily moved, it must also be staked into the ground and secured, in order to provide semi-permanent protec-



Further example photographs are shown on the following page.

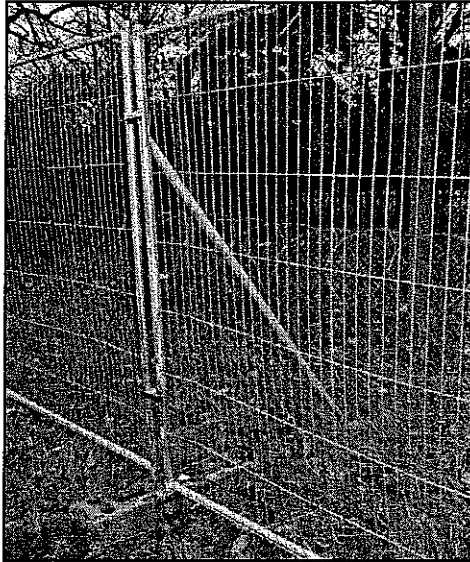


Fig 1 – Note bracing pole to resist easy removal and impacts

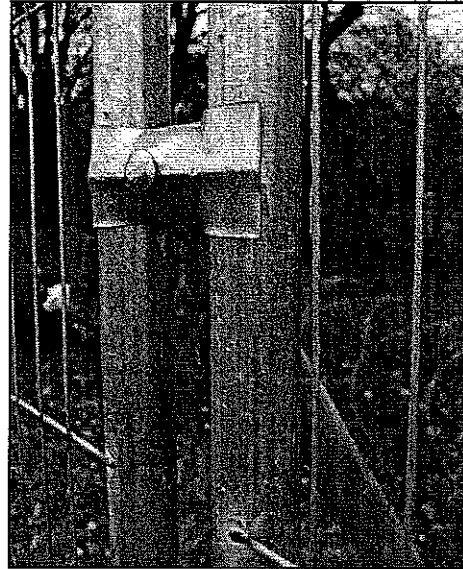


Fig 2 – Bracing detail



Fig 3 – Warning sign in location.

APPENDIX 3

Cellular Confinement Informative

CellWeb Tree Root Protection System

CellWeb Tree Root Protection System provides a flexible and permeable solution for protecting tree roots while creating a strong, stable surface for traffic.

With increased urbanisation and more redevelopments of existing properties, the need to be mindful of the impact on the surrounding environment is more important than ever.

The demand for building site access, driveways and parking around existing trees can have a potentially fatal impact on the tree if carried out incorrectly. Tree preservation orders (TPO's) ensure that trees are not wilfully damaged. However the need for vehicle access over and around tree roots can still cause the following problems.

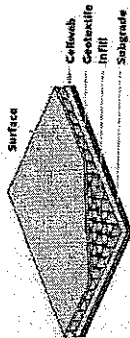
Problems

- Compaction of subsoils (especially by construction traffic) causing oxygen and nutrient depletion
- Creating an impermeable surface that prevents water reaching the roots
- Changes in ground level and water table
- Damage caused during excavation
- Contamination of the subsoil

By using CellWeb Tree Root Protection System you can avoid these problems and ensure the tree's long-term future. BS 5837:1997 (revised 2006) and APN 1 provide information for the protection of trees during the construction process, and CellWeb is a well established solution that conforms to these guidelines.

Product features

CellWeb's patented design with its unique cellular structure and perforated cell walls reduces the vertical load pressure on tree roots and prevents damage. With clean granular materials as infill, air and moisture can reach the roots to encourage healthy growth. With no dig solutions being the preferred option of most Arboricultural Consultants and Tree Officers, CellWeb is ideal as only the surface vegetation need be removed. As well as avoiding disruption to the roots this reduces installation time and saves money. What's more CellWeb also cuts down the depth required for the sub base - in most cases by 50% for further cost savings. CellWeb also significantly reduces surface rutting, increasing the long-term performance of the finished surface.



Using CellWeb for tree root protection gives you these benefits:

- Reduced depth of excavation required
- Preventing the compaction of subsoils
- Preventing oxygen and nutrient depletion
- Environmentally sound
- Quick, easy and cost-effective installation
- Free technical support available

CellWeb gives you the cost effectiveness you need at the same time as helping to preserve trees.

Geosynthetics Ltd is a leading di

Please call
0870 850 1018
or email sales@geosyn.co.uk
for further information.

Wide
product
range

Large
stock
holding

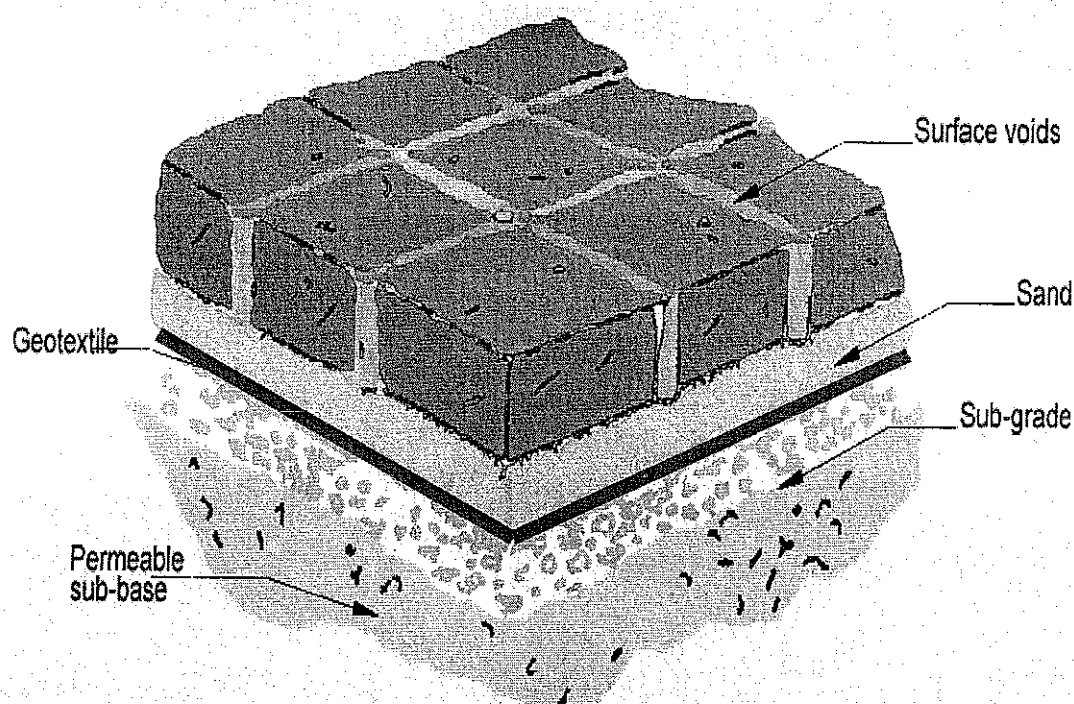
Nationwide
delivery

APPENDIX 4

Hard Surfacing

Construction Technique for Hard Surfaces near Trees

Such is the nature of this construction technique that light traffic loads can be dissipated over the RPAs of trees to be retained therefore significantly averting the potential of compaction damage and starvation of essential gaseous exchange being incurred.





Landscape Planning Ltd

**Goodlass House
Goodlass Road
Speke
Liverpool L24 9HJ**

Tel.No. 0151 448-2464 Fax.No: 0151 485-7171

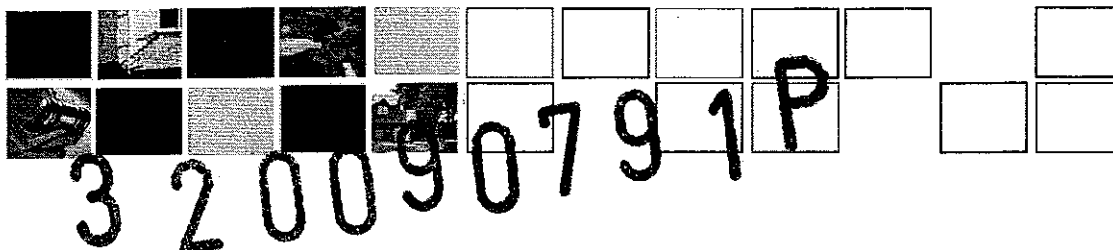
Also at

9, Phoenix Square, Severalls Park, Wyncolls Road, Colchester CO4 9PE
Tel.No: 01206 752539 Fax.No: 01206 222039

Unit 6, Parkside, Headley Road, Woodley, Reading, Berkshire RG5 4JB
Tel.No: 0118 918-6635 Fax.No: 0118 901-4458

www.landscapeplanning.co.uk

-April 2008-



PROPOSED DEVELOPMENT AT

Barrow Brook,

Barrow

Clitheroe

Phase 1 Habitat Survey

Presented to:

Newclose Properties Limited

By:

The Ecology Unit

Landscape Planning Ltd

January 2008

Landscape Planning Limited
Goodlass House, Goodlass Road, Liverpool L24 9HJ
Tel: 0151 448 2464 Fax: 0151 485 7171



EXECUTIVE SUMMARY

- 1** A Phase 1 Habitat Survey was conducted at land adjacent to the Barrow Brook, Barrow, Clitheroe. The potential for protected species and the main habitat types on site were identified. A desktop study was also conducted for any relevant nationally designated wildlife/nature conservation sites within 2km of the site.
- 2** The survey was conducted on 11th January 2008 by a trained ecologist.
- 3** The main habitat types on site were: dense continuous scrub, scattered scrub, damp scrub, disturbed land, running water and bare ground.
- 4** The Phase 1 Habitat Survey highlighted limited potential for ground nesting birds to be present on site.
- 5** A significant habitat of running water (Barrow Brook).
- 6** It is recommended that where possible the riparian nature of Barrow Brook be retained and enhanced in order to increase opportunities for net biodiversity gains and to maintain the integrity of the corridor.
- 7** Further, recommendations include a breeding bird survey (March to August inclusive) by a suitably qualified ecologist of bare ground area on site should construction commence during the bird breeding season
- 8** Additionally should areas of scrub and trees require clearing during the bird breeding season (March to August inclusive) it is recommended that these areas are surveyed for nesting birds by a suitably qualified ecologist.

CONTENTS

1.0 THE PURPOSE OF THIS REPORT

1.1 The Brief & Proposals

2.0 PLANNING POLICY

3.0 METHODOLOGY

3.1 Survey

3.2 Desktop study

4.0 RESULTS

4.1 Phase 1 Habitat Survey

4.2 Location

4.3 Site Description

4.4 Desktop Study

5.0 PROTECTED SPECIES POTENTIAL

6.0 CONCLUSIONS AND RECOMMENDATIONS

7.0 FURTHER WORK

APPENDIX 1: Phase 1 Maps, Map Records and Target Notes

APPENDIX 2: Plant Species Recorded in the Survey

APPENDIX 3: Desktop Study Records

1.0 THE PURPOSE OF THIS REPORT

1.1 The Brief & Proposals

This report was commissioned by Newclose Properties Limited in respect of the proposed development of a site at land adjacent to the Barrow Brook, Barrow, Clitheroe. The report contains the findings of the Phase 1 Habitat Survey in order to establish any ecological issues on site.

The brief was as follows:

- 1 To undertake an assessment of the habitat and the potential likelihood of protected species in particular Bats, Badgers, Reptiles, Great Crested Newts and Water Voles that might materially impact on the proposals.
- 2 Carry out relevant desktop surveys in order to ascertain whether the site has any national statutory designations.
- 3 Identify and make recommendations for any further surveys required to assess any protected species potential or occurrence on site.

1.2 The Phase 1 Habitat map, target notes and map record sheet are at **Appendix 1**.

1.3 The list of indicative plant species recorded on site is at **Appendix 2**.

1.4 The results of the statutory conservation designation search are at **Appendix 3**.

2.0 PLANNING POLICY

- 2.1** Protected species are referred to in Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS 9), Paragraph 45 with a general reference to certain plants, animals and wild birds all being protected under the Wildlife and Countryside Act 1981.
- 2.2** This emphasises that regardless of any planning policy or guidelines certain species are legally protected and any type of development that would injure, kill, ill-treat, intentionally damage or destroy any protected species or place of shelter would be a criminal act.
- 2.3** With legal responsibilities and planning implications it was important that this ecological assessment of the potential development site addressed the possibility of protected species being within the development area.
- 2.4** Without this assessment the potential developer would be unable to demonstrate due diligence in his responsibilities, with reference to both the legal protection and the possible information required in support of the planning application.
- 2.5** However, it would be unreasonable for an ecological assessment to have to survey for every protected floral/faunal species.
- 2.6** A protected species assessment must be based on the results of the habitat assessment and the associated possibility / likelihood of that species being present.
- 2.7** This survey seeks to establish the potential for protected species on the site and makes recommendations for further surveys to establish the presence or absence of any protected species that have the potential to be present.

3.0 METHODOLOGY

3.1 Survey

3.1.1 A Phase 1 Habitat Survey was completed in accordance with methods outlined in JNCC 1993¹. The survey involved the recording of the habitat types and ecological features present on site, including the identification of any species present and examination of the potential for any protected species.

3.1.2 Habitats were mapped and target notes made for any interesting features.

3.2 Desktop study

3.2.1 A desktop study was carried out for any nationally important wildlife or nature conservation sites within 2km of the site. The search was completed on *Magic*² (Multi-Agency Geographic Information for the Countryside) and English Nature web sites.

3.2.2 The following designations were included in the data search:

- European Sites (Special Areas of Conservation (SACs)/Special Protection Areas (SPAs);
- Sites of Special Scientific Interest (SSSIs);
- Areas of Outstanding National Beauty (AONBs)
- National Nature Reserves (NNRs).
- Local Nature Reserves (LNRs)

¹ JNCC (1993) Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit, JNCC, Peterborough

² www.magic.gov.uk

4.0 RESULTS

4.1 Phase 1 Habitat Survey

A suitably qualified Landscape Planning Limited ecologist conducted the survey on the 11th January 2008.

4.2 Location

The site was located at Barrow Brook, Barrow, Clitheroe. The Ordnance Survey Grid Reference for the site centre is SD 705 350.

Appendix 1 contains the habitat map, map record sheet and target notes. **Appendix 2** lists all the plant species recorded during the survey. Owing to the timing of the survey (January 2008), some species, especially flowering plants, may not have been recorded.

4.3 Site Description

4.3.1 There were three distinct habitat types on site. The habitats are mapped on **Drawing No. L7991.01 (Appendix 1)**.

4.3.2 The main habitats on site were dense continuous scrub, damp scrub, ephemeral/short perennial disturbed land, running water (Barrow Brook) and bare ground.

The dense continuous scrub located to the south-east corner of the site comprises a poorly maintained Blackthorn (*Prunus spinosa*) hedge adjacent north of an informal footpath with poorly maintained tree planting and scrub to the south side of the informal path. Species identified include Hazel (*Corylus avellana*), Blackthorn, Hawthorn (*Crataegus monogyna*), Birch (*Betula pendula*), Oak (*Quercus* spp.), Cherry (*Prunus* spp.) with a Bramble (*Rubus* Spp.) understorey.

The ephemeral/short perennial disturbed ground is mainly located to the centre of the site and comprises short patchy plant associations typical of derelict urban sites. Species identified included Plantain (*Plantago major*), White Clover (*Trifolium repens*), Creeping Buttercup (*Ranunculus repens*), Dock (*Rumex* spp.), Rushes (*Juncus* spp.) and the grass *Poa* spp.

Barrow Brook a fast running narrow stream exhibited limited aquatic species and looked as if it had recently been in full spate. Some of the retaining stone walls might possibly harbor interesting species but ecologists were only able to identify the Hartstongue fern (*Phyllitis scolopendrium*) at distance. Of particular note are the tree and scrub lined slopes that run more-or-less along the Brook's entirety. These features afford the area a vegetated corridor of which more detail is given in the conclusions and recommendations section of the report.

Another habitat encountered was a relatively extensive patch of bare ground to the north-east of the site. The substrate comprised shale like material which in patchy locations was becoming colonized by species outlined in the ephemeral/short perennial disturbed ground habitat. This type of habitat has been known to be used by ground nesting birds such as lapwing, therefore some recommendations regarding this issue have been made.

The other distinct habitat type is an area of damp scrub to the east of the central part of the site. Essentially the area has been colonized by Willow (*Salix* spp.) whose appearance would lead us to estimate 3-4 years growth. Other species encountered in this area include rushes, mosses and some Broom (*Cytisus scoparius*).

Other habitats encountered include a small patch of broad-leaved semi-natural woodland to the south-east of the site. The predominant species were mature Sycamore (*Acer psuedoplatanus*) with an understorey of Holly (*Ilex aquifolium*), Ivy (*Hedera helix*), Hawthorn, Blackthorn and Bramble. Some Beech (*Fagus sylvatica*) had been underplanted with the intention of these eventually replacing the Sycamore. Over to the west of the site a number of broadleaved scattered trees which appear to be predominantly Limes (*Tilia x europea*) with some Sycamores and Ash (*Fraxinus excelsior*). Running through the site and adjacent to the Brook is an area of fenced off broadleaved plantation of about 3-4 years age. Species identified in here include Ash, Beech, Holly, Hawthorn and Blackthorn. The final habitat encountered is scattered scrub, essentially the species within this habitat are the same as those found in the dense continuous scrub but of a more open nature, which may in turn encourage a more diverse ground flora.

4.4 Desktop Study

- 4.4.1** Two designated sites of importance were found within 2km of the site Light Clough Site of Special Scientific Interest (SSSI) and Forest of Bowland Area of Outstanding Natural Beauty (AONB). Light Clough is designated predominantly for its geological interest and is some 0.47 hectares in area. The Forest of Bowland is geologically part of the main Pennine range and is dominated by a central upland core of deeply incised gritstone fells with summits above 450 m and vast tracks of heather-covered peat moorland. The fells' fringe of foothills is dissected by 'cloughs', steep-sided valleys which open out into the rich green lowlands of the Ribble, Hodder, Wyre and Lune Valleys. Well-wooded and dotted with picturesque stone farms and villages, these lower slopes, criss-crossed by drystone walls, contrast with and complement the dramatic open sweep of the gritstone heights. On its southeastern edge, famous Pendle Hill forms an outlier to the AONB.

The proposals at Barrow Brook, Barrow, Clitheroe will not impact upon either Light Clough SSSI or Foest of Bowland AONB.

The results of the statutory conservation designation search are at **Appendix 3**.

5.0 PROTECTED SPECIES POTENTIAL

- 5.1** The Extended Phase 1 Habitat Survey indicated the site is unlikely to provide habitats that support protected species, in particular Bats, Badgers, Reptiles, Great Crested Newts and Water Voles.
- 5.2** The trees and shrubs on site provide potential habitat for breeding birds. Therefore any works that may cause disturbance to the trees and shrubs should be carried out outside the breeding bird season (March to August inclusive). If this is not possible then a nest search by a suitably qualified ecologist should be carried out prior to works commencing. If nests are found then works must be kept a safe working distance from the nests until the breeding season is over.
- 5.3** Bare ground within the site may offer the potential for ground nesting species of bird such as lapwing. The lapwing is fully protected under the Wildlife and Countryside Act 1981; it is an offence to kill, injure or take an adult lapwing, or to take, damage or destroy an active nest or its contents. Therefore any works that may cause disturbance should be carried out outside the breeding bird season (March to August inclusive). If this is not possible then a nest search by a suitably qualified ecologist should be carried out prior to works commencing. If nests are found then works must be kept a safe working distance from the nests until the breeding season is over.
- 5.5** No potential for other protected species was identified within the boundary of the site during the survey.

6.0 CONCLUSIONS & RECOMMENDATIONS

It is concluded that:

- 6.1** The Phase 1 Habitat Survey and Desktop Study have highlighted that there are no protected or designated habitats on site. In addition no habitats proved suitable for protected species, in particular Bats, Badgers, Reptiles, Great Crested Newts and Water Voles that might materially impact on the proposals. It has also highlighted that there is the potential for nesting birds to be present on site. Therefore the following recommendations are made in order to ensure compliance with the law and due diligence.
- 6.2** The mature trees and shrubs provide valuable habitat for nesting birds. A safe working distance should be maintained from all mature trees to be retained to ensure that root systems are not damaged, which may affect the health of the tree. Also, any works that may affect the trees should be carried out outside the bird-nesting season (March – August). If works must be undertaken during this period then a nest search must be carried out by a suitably qualified ecologist immediately prior to works to establish the presence of any nests.
- 6.3** Bare ground within the site may offer the potential for ground nesting species of bird such as lapwing. Therefore any works that may cause disturbance should be carried out outside the breeding bird season (March to August inclusive). If this is not possible then a nest search by a suitably qualified ecologist should be carried out prior to works commencing. If nests are found then works must be kept a safe working distance from the nests until the breeding season is over.
- 6.4** It is recommended that where possible the riparian nature of Barrow Brook be retained and enhanced in order to increase opportunities for net biodiversity gains and to maintain the integrity of the corridor.

7.0 FURTHER WORK

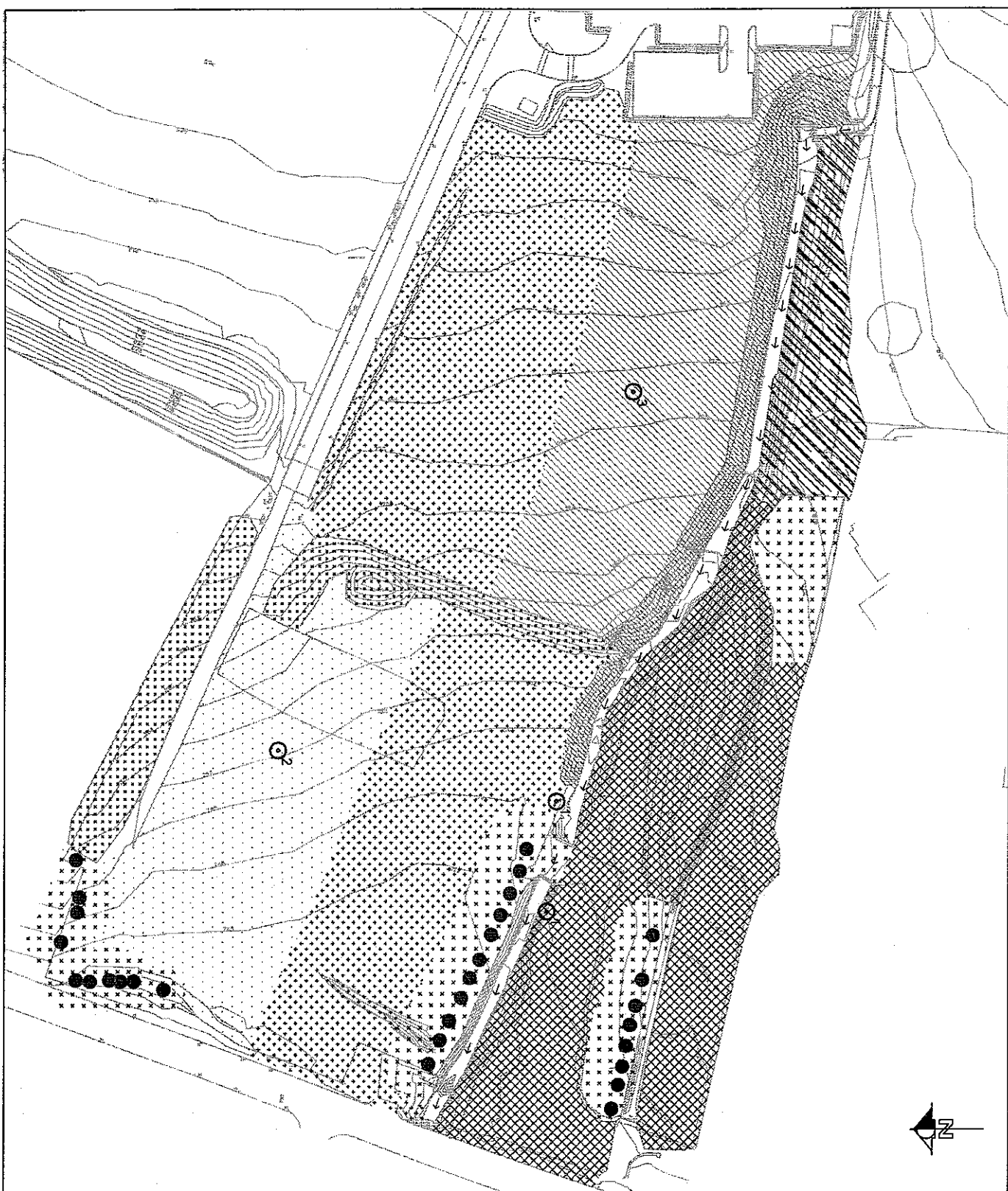
In summary the further survey work required is:

- 7.1** Timing of any works on the trees and shrubs to avoid bird-nesting season. If this is not possible then a nest search of trees and shrubs by a suitably qualified ecologist prior to works commencing will be required. Any trees with nests must be left until after the nesting season.

January 2008

APPENDIX 1

PHASE 1 MAP, MAP RECORD AND TARGET NOTES



FALL COORDINATE RELATED TO LOCAL AND LOCALIZED TOPICS AND BY THE FALL OF
CITY, EXTRACTED FROM OR CORTA, DATA.
FALL COORDINATE RELATED TO LOCAL AND LOCALIZED TOPICS AND BY THE FALL OF
CITY, EXTRACTED FROM OR CORTA, DATA.

Key

- | | |
|--|-----------------------------------|
| | Broadleaved semi-natural woodland |
| | Dense continuous scrub |
| | Scattered scrub |
| | Broadleaved scattered tree |
| | Broadleaved plantation |
| | Running water |
| | Epiphytally/short perennial |
| | Bare ground |
| | Damp Scrub |

Target Notes

- | | |
|---|--|
| ① | Wet/stone wall, predominantly vegetation
Hederae Fern Privet
scopolendrum |
| ② | Possible suitable habitat for ground nesting birds e.g. Lapping
(Vanellus vanellus) |
| ③ | Damp scrub with Willow (Salix spp.), regeneration, rush, mosses and some Broom (Cytisus scoparius) |

REVISION	DESCRIPTION	DATE

LANDSCAPE PLANNING PROJECT STAFF

Principal Consultant	Debra O. Callahan	-0151 448 2440
Consulting Administrator	Matthew Pether	-0151 448 2460
Administrative Technician	Tony Gamble	-0151 448 2454
Landscape Architect	Dorinda Kinnott	-0151 448 2464
Project Ecologist	Andrew Logan	-0151 448 2463
Planning Technician	Scott Curran	-0151 448 2462
Farming Administrator	Loiselle Jones	-0151 448 2464

Newclash Properties Limited

Barrow Brook, Bentley, Catherine

Phase 1: Habitat Survey

DATE	DESCRIPTION	AMOUNT
1988	...	...
1989	...	...
1990	...	...
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2127	...	

LAND AT PRINTWORKS, BARROW BROOK, BARROW,
CLITHEROE

Map Record

Survey Title: Phase 1 Habitat Survey
O. S. Grid Reference: Site centre: SD 705 350.
Surveyors: Andy Logan and Don Kernott (Landscape Planning Limited)
Survey Date: 11th December
County: Lancashire

On-site Habitats (in order of dominance)

<i>Phase 1 Name</i>	<i>Alphanumeric Code</i>
Broadleaved semi-natural woodland	A1.1.1
Broadleaved scattered trees	A3.1
Broadleaved plantation	A1.1.2
Dense continuous scrub	A2.1
Scattered scrub	A2.2
Ephemeral/short perennial	J1.3
Bare ground	J4
Running water	G2
Damp Scrub	F2

Target notes

1. Waterside stone wall, predominant vegetation Hartstongue fern.
2. Possible suitable habitat for ground nesting birds e.g. lapwing.
3. Damp Scrub with Willow regeneration, rushes, mosses and some Broom.

APPENDIX 2

PLANT SPECIES RECORDED IN THE SURVEY

LAND AT PRINTWORKS, BARROW BROOK, BARROW
CLITHEROE

English/Common Names	Latin Names
Bramble	<i>Rubus</i> sp
Dock	<i>Rumex</i> sp.
Sycamore	<i>Acer pseudoplatanus</i>
Ivy	<i>Hedera helix</i>
Oak	<i>Quercus</i> spp.
Creeping Buttercup	<i>Ranunculus repens</i>
Holly	<i>Ilex aquifolium</i>
Beech	<i>Fagus sylvatica</i>
Blackthorn	<i>Prunus spinosa</i>
Hazel	<i>Corylus avellana</i>
Hawthorn	<i>Prunus monogyna</i>
Silver Birch	<i>Betula pendula</i>
Cherry	<i>Prunus</i> spp.
Greater Plantain	<i>Plantago major</i>
White Clover	<i>Trifolium repens</i>
Rushes	<i>Juncus</i> spp.
Grass	<i>Poa</i> spp.
Hartstongue fern	<i>Phyllitis scolopendrum</i>
Willow	<i>Salix</i> spp.
Broom	<i>Cytisus scoparius</i>
Common Lime	<i>Tilia x europea</i>
Common Ash	<i>Fraxinus excelsior</i>
Yorkshire Fog	<i>Holcus lanatus</i>

APPENDIX 3

DESKTOP STUDY RECORDS

Site Check Report

Report generated on January 15 2008.

You clicked on the point:

Grid Ref: SD 738 381

Full Grid Ref: 373805 , 438183

The following features have been found within 2,000 metres of your search point:

Local Nature Reserves (England)

There are no features within your search area

National Nature Reserves (England)

There are no features within your search area

Special Protection Areas (England)

There are no features within your search area

Special Areas of Conservation (England)

There are no features within your search area

Sites of Special Scientific Interest (England)

Reference	Name	Citation
1003972	LIGHT CLOUGH	1001428

Areas of Outstanding Natural Beauty (England)

Reference	Name	Date Designated	Hotlink
13	FOREST OF BOWLAND	FEBRUARY 1964	HTTP://WWW.COUNTRYSIDE.GOV.UK/LAR/LANDSCAPE/DL/AONBS/AONB_FORESTOFBOWLAND.ASP

National Parks (England)

There are no features within your search area

To save the report, select "Save" or "Save As" from the File menu. You should save the file with a .html extension and give it a name of your choice.

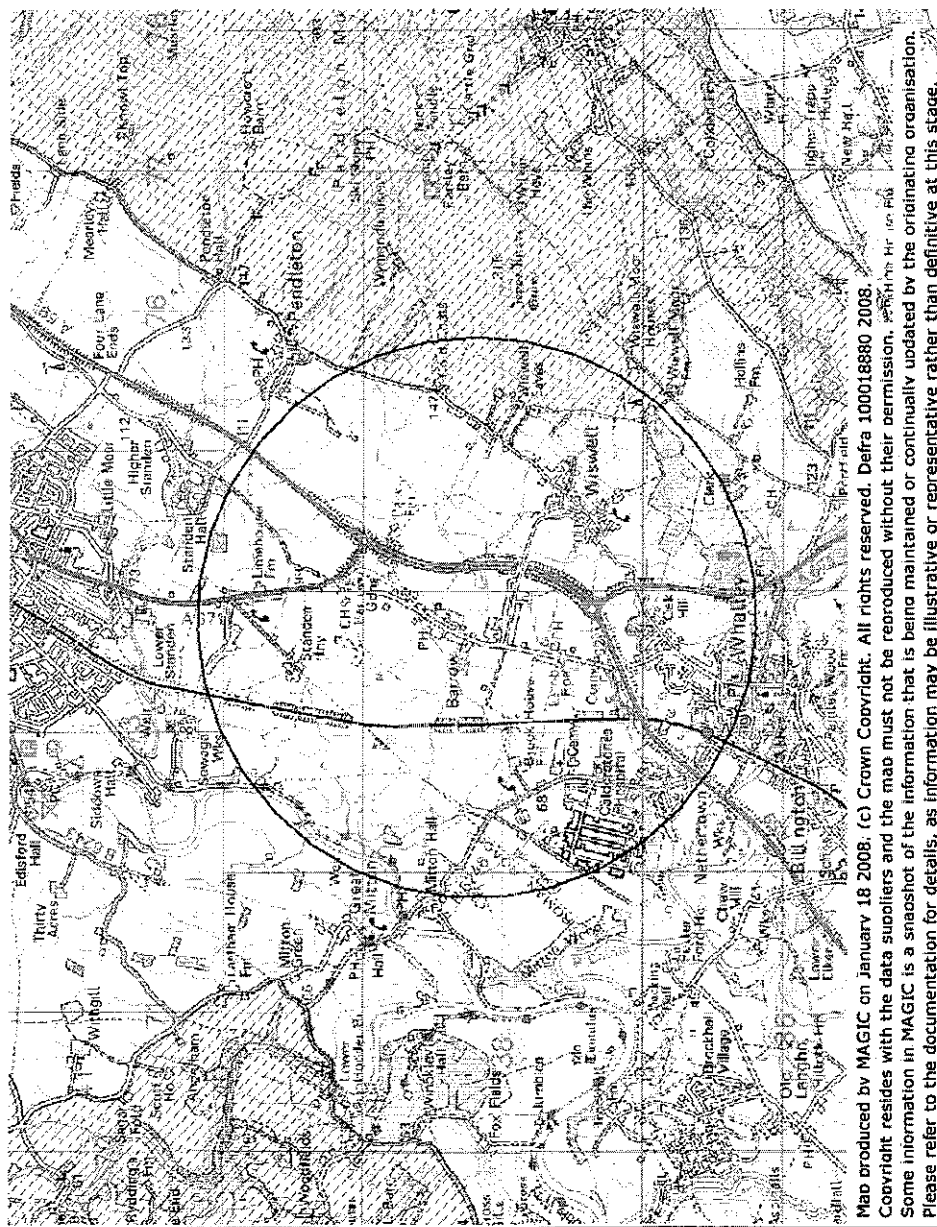
You can then open your report using your web browser software

[Print Report](#) | [Close Window](#)

MAGIC



- Local Nature Reserves (England)
- National Nature Reserves (England)
- Special Protection Areas (England)
- Special Areas of Conservation (England)
- Sites of Special Scientific Interest (England)
- Areas of Outstanding Natural Beauty (England)
- Environmentally Sensitive Areas (England)
- National Parks (England)



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