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ARBORICULTURAL SURVEY, IMPLICATION ASSESSMENT AND METHOD STATEMENT IN RELATION TO FOOTPATH AND CYCLEWAY IMPROVEMENTS AT:

NETLEY ABBEY

16 JUNE 2011

SUMMARY

The Purpose of this report is to provide information on the trees on the site to provide guidance to the design team on any constraints to the site layout and construction process that may arise because of the presence of trees.

This assessment of the trees has been undertaken on their own merits in addition to their impact on the development as well as the impact of the development on the trees to be retained as highlighted by the tree survey.

Based on the assessment criteria within British Standard 5837:2005 'Trees in relation to construction — Recommendations' I have surveyed all significant trees on and adjacent to the site, which may be affected by the development. There are 33 individual trees which will be affected by the development.

Guidance is provided in respect of the measures to be taken to safeguard trees likely to be affected from the effects of the development and an Arboricultural Method Statement describes the processes by which the proposed development can be successfully integrated with the trees suitable for retention to create a sustainable relationship.

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INTRODUCTION

INSTRUCTION

This tree survey was commission in June 2011 by Mr Gordon Wilkinson, Senior Engineer, Eastleigh B.C., Civic Offices Leigh Rd Eastleigh, SO50 9YN

TERMS OF REFERENCE:

- To identify and inspect the significant trees in accordance with British Standard 5837:2005 'Trees in relation to construction - Recommendations'
- Assess the suitability for retention and possible impacts of the proposed scheme on and by retained trees.
- Provide guidance on measures that should be taken to ensure the protection of retained trees and the successful integration of the proposed development.

DOCUMENTS SUPPLIED:

Tree and Land Plan

Survey Date: 06 June 2011

Surveyed By: Mark Harrison ND Arb, TechArborA

Our Ref: 7-70-0611-EBC

THE SITE

1.1 The site is located at Victoria Road, Netley Abbey, within the administrative area of Eastleigh Borough Council.

The existing site consists of both made and unmade footpath with an uncontrolled crossing at the southern end and an adhoc lay-by running along the western side of Victoria road with trees situated in the adjacent land within influencing distance of the development.

1.2 Tree Preservation Order (TPO) number 48 covers a number of trees. The area is also situated within the Netley Abbey conservation area. This affords trees with a diameter of over 75mm when measured at breast height (DBH) the same protection as trees covered by a preservation order.

1.3 Under section 211 of the Town and Country Planning Act 1990 anyone proposing to cut down or carry out work on a tree in a conservation area is required to give the Local Planning Authority (LPA) six weeks' prior notice (a 'section 211 notice').

1.4 Exemptions from the requirement to give a section 211 notice are set out in the 1999 Regulations and state that you do not have to give the LPA six weeks' notice for work carried out by, or on behalf of, the LPA (ie the Council as a whole and not just its planning department).

1.5 The local planning authority (Eastleigh Borough Council) will require prior written notification of any works to be undertaken to trees of sufficient size within a conservation area not belonging to them i.e. on land not acquired by the council..

1.6 A formal application will be necessary for trees covered by the TPO.

1.7 The British Standard 5837 recommends that trees over 75mm diameter at breast height (1.5m above ground level on adjacent land but are within a distance less than 12 times their stem diameter (or 10 times their base diameter for multi stemmed trees) should also be assessed.

1.8 These include 33 trees situated within influencing distance of the site. These are listed in the tree survey (appendix A).

TREE SURVEY

2.0 Scope and Limitations of Survey

2.1 This survey and report are concerned with the arboricultural aspects of the site only.

2.2 Only trees of significant stature were surveyed. Trees with a stem diameter when measured at 1.5m above ground level (DBH) of less than 75mm have been excluded unless they have particular merit that warrants comment.

2.3 The survey is restricted to trees that will be affected by the development within and adjacent to the site in accordance with guidelines detailed in British Standard 5837:2005 'Trees in relation to construction - Recommendations' (BS5837) and with good practice as promoted by the Arboricultural Association and Arboricultural and Forestry Advisory Group (AFAG).

2.4 This survey is based on a ground level tree assessment and examination of external features only — described as the 'Visual Tree Assessment' (Mattheck and Breloer, The Body Language of

Trees, DoE booklet Research for Amenity Trees No. 4, 1994). Although the structural conditions of the trees are considered and remedial action may be recommended it does not constitute a comprehensive Health and Safety report and if one is required it should be commissioned separately.

2.5 No tissue samples were taken.

2.6 No internal investigations of the trees were carried out.

2.7 No soil samples were taken or soil analyses carried out and the risk of tree-related subsidence to structures has not been assessed.

2.8 Although considered, no specific wildlife assessment has been carried out. It should be noted that The Wildlife and Countryside Act 1981, as amended by the Countryside Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees.

2.9 This report should be read in conjunction with the Tree Protection Plan. These plans, including the position of all trees and existing or proposed features are based on the plans provided by the client or other instructed professionals. Where trees have been omitted from the plans provided their position has been estimated or where possible plotted by triangulation.

3.0 **SURVEY METHOD**

3.1 In order to provide a systematic and consistent evaluation of the trees situated on the site, the following methodology was used in accordance with BS 5837: 2005 Trees in Relation to construction.

3.2 The stem diameters of single stemmed trees were measured in millimetres at 1.5m above ground level (DBH). Multi-stemmed trees were measured immediately above the root flare. Where trees fork below 1.5 metres they have been measured just below the fork.

3.3 The height of each tree was estimated visually.

3.4 The crown radii were measured where possible or estimated where access is restricted and are given for each cardinal point.

3.5 Where access to trees was obstructed or obscured, dimensions have been estimated.

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

- Category R:

  Trees in such 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.

- Category A:

  Trees of high quality and value: in such a condition to make a substantial contribution (a minimum of 40 years is suggested).

- Category B:

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

- Category C:

  Trees of low quality and value which might remain for a minimum of 10 years, or young trees with stems of less than 150mm diameter.

THE DEVELOPMENT

4.0 DEVELOPMENT APPRAISAL

4.1 The footpath is to be constructed along the western side of Victoria Road for the entire length of the site to facilitate a public footpath and cycle way.

4.2 Drop kerbs are to be installed at the entrance and exit to Netley Waterside House and the entrances to Netley Castle and Abbey Hall.

4.3 New street lamp columns are to be installed and the existing street lamps are to be repositioned to the side of the widened cycleway.

4.4 New signs are to be installed and existing signs repositioned to the side of the widened cycleway.

4.5 The existing electricity pole is to be repositioned to the side of the cycleway.

4.6 The existing uncontrolled crossing is to be removed and a new crossing constructed incorporating a 1000m expansion of the footpath on both sides of the highway to create a pinch point. The removal of the existing crossing is outside the RPAs of retained trees.

4.7 Eastleigh Borough Council proposes the erection of a closed board fence along the southern end of the site following acquisition of the land adjacent to T11.

4.8 To the north of the site the proposed footpath is slightly raised in relation to the adjacent ground supporting retained trees. Although these trees 18 – 21 and tree 26 are categorised C they are not in the ownership of Eastleigh Borough Council and therefore will be retained.

4.9 Some changes in levels and minor excavations to facilitate the expansion of the path and the installation of street lamps, signs and drop kerbs within the RPA's will be unavoidable for some of the retained trees. No dig and Engineering solutions can be adopted to minimise damage and allow their retention

5.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

5.1 The primary criterion, in Arboricultural terms, is the retention of as many appropriate trees as practicable, allowing development to proceed whilst providing them with space and protection.

The following is an assessment of the suitability of the trees present on the site for retention and guidance on the type and extent of protection required to ensure their continued well being within the proposed development and the future landscape.

5.2 None of the trees on the site warrant an "A" category grading.

5.3 Nine trees have been categorised B due to their contribution to the local landscape rather than individual merit, they are T2 – 9 and T11.

T2 – Is a semi mature Holm Oak in the grounds of Netley Waterside House situated on a slight raised bank. The construction encroaches on the RPA by approximately 1.2m. Root disturbance to this extent is likely to damage tree roots that will affect the health of the tree if no protection measures are taken. The use of no dig techniques to install ground protection in the form of load spreading cellular confinement system and a permeable surface are required to safeguard the future health of the tree. Details of suggested system can be found at appendix D.

Ground clearance of the canopy is 3m. Further pruning will not be necessary to facilitate the construction.

T3 - 6 - are 4 Scots Pine trees situated in the grounds of Netley Waterside House on the northern side of the exit which are to be retained. The proposed cycleway encroaches the RPA of T5 by a maximum of 650mm and less for the adjacent trees. Given the extreme compaction of this area (presently used as additional parking) significant root activity is unlikely and such minor encroachment unlikely to adversely affect the trees.

T7 - is an individual Pine adjacent to the exit sufficiently set back from the proposed to be unaffected by the proposals

T8 and T9 - are two Pine trees on the southern side of the exit to Netley Waterside House. The cycle path encroaches into the RPA of T8 by approximately 2 metres. Root disturbance to this extent is likely to damage tree roots affecting the health of the tree if no protection measures are taken. The use of no dig techniques, ground protection in the form of load spreading cellular confinement system and a permeable surface will be required. The installation of these measures will also provide protection to T9.

Postholes required for the construction of the closed board fence within this area will also be dug by hand and if any significant roots (>25mm) discovered the hole will be moved.

T11 - is a mature Holm Oak covered by Tree Preservation Order number 48. The proposed footpath runs within 1m of the base of the tree and a closed board fence is to be erected. The proximity of both of these will result in damage to the tree having implications on the long-term health of the tree and will require repositioning away from the base.

The cellular confinement system will be installed using no dig techniques and surfaced with a permeable surface. Details of suggested a system can be found at appendix D.

Fence posts for the proposed closed board fence within the root protection area will be dug by hand and moved if significant roots discovered. The supported closed board fence should bridge

the main root area and be a minimum of 100mm away from the stem to allow for incremental growth.

Three options for an uncontrolled crossing have been proposed. All of which require adjustment of the existing hard surface and although within the RPA of T11 significant excavation is not required and therefore root damage is not expected.

Eastleigh Borough council proposes the acquisition of the land on which T11 stands. Should this occur prior to the work being carried out the council will be applying to carry out works on its own trees, before determining their own application "*the LPA must publicise it by displaying a site notice on or near the land in question for at least 21 days. The purpose of the notice is to inform local people about the proposal and give them an opportunity to submit their comments on it. The site notice must:*

(1) give details about the nature of the application (identifying the trees, the work proposed and the LPA's reasons for the application), including an address where a copy can be inspected,

(2) give an address to which any comments about the application should be sent,

(3) give a date by which representations have to be made. At least 21 days from the date of display of the site notice must be given.

When deciding the application it must not be decided by a committee or sub-committee of the Council which is responsible (wholly or partly) for managing the land to which the application relates. Nor can the application be decided by an officer of the Council whose responsibilities relate in any way to the management of the land. (It is for the LPA to decide their own internal arrangements in the light of this requirement; they have for many years been subject to similar restrictions in relation to the handling of their own applications to develop land. Before reaching their decision the LPA must take into account any representations made by the date given in the site notice; and they must give notice of their decision to all people who made representations"(excerpt from Tree Preservation Orders - A Guide to the Law and Good Practice (Blue Book) 2005))

5.4 Seventeen trees are average to below average form and vigour, have a limited life expectancy or are below 150mm DBH and have been categorised C trees as recommended by BS5837, they are: T12 – 14, T16, T18 – 22, T24, T26 – 26 and T30 -33. Where C category trees provide visual screening, do not affect the development or are not owned by Eastleigh Borough Council they have been retained.

T12 and T13 - are two semi mature Holm Oaks situated adjacent street lamp number 20 and have been crown lifted in the past with the majority of branches removed back to the stem up the height of the lamp post.

The new footpath/cycle path encroaches on the RPAs of both trees however the permanent ground protection required for T11 will also protect Ts 12 and 13. Extending the protected area by approximately 7m will allow their retention in addition to that of T16.

The construction does not encroach on the RPA of T14 and this can be retained without any further protection.

T18, T19, and T21 - are a group of one Sycamore, one Bay Laurel and one Oak tree with a shared canopy that provides some combined benefit to the street scene of the area. The new footpath/cycle path encroaches on the RPAs these trees. Protection will be required using no dig techniques to install ground protection in the form of load spreading cellular confinement system and a permeable surface. Details of suggested system can be found at appendix D.

Although the proposed drop kerb to the north of T19 encroaches on its RPA this is not significant and can be facilitated by the adjustment of the RPA for open grown trees by 20%.

The existing electricity pole is to be moved to the edge of the proposed footpath. This can also be moved 1m south keeping outside the RPA of T21. The canopy will be lifted to 3m to allow for the construction of the footpath.

T20 - The construction does not encroach on the RPA of T20 and this can be retained without any further protection.

T24, T25 and T27 - 33 - are situated on the site of a 1 meter working strip. It is not viable to retain these trees within the proposed development and they will be removed. The council are proposing the acquisition of the area on which the trees are growing. Following acquisition all but T24 will be exempt from the requirement for a section 211 notice.

T24 will require a section 211 notice of intent to be provided to the LPA in addition to permission from the land owner on which the tree is growing i.e. the tree owner.

T26 - is an Ash tree situated in the grounds of Abbots Lodge. The new footpath/cycle path encroaches on the RPA by over 3 metres. Root protection will be required for the duration of the construction. The permanent surface of the path will require the use of no dig techniques to install ground protection in the form of load spreading cellular confinement system and a permeable surface (appendix D).

Temporary protection to facilitate the working area can be achieved with the use of scaffold boards placed over compressible material on geotextile. Spillage and rain run off should be contained within this area to avoid contamination of the root area.

5.5 Six trees are of low quality with a life expectancy of less than 10 years and have been categorised "R". These are T17, T23, T30, T1, T10 and T15.

All of these trees are situated on adjacent ground not belonging to Eastleigh Borough Council and will require the owner's permission prior to their removal.

T1 is protected by TPO number 48 and will be required to submit a formal application to Eastleigh Borough Council.

5.6 The surveyed trees are listed in appendix A including a key and explanatory notes including a tree location plan based on the topographical survey Drawing Number ENC-070610-6H4 by Encompass Surveys Ltd. provided by Mr Gordon Wilkinson.

6.0 POST DEVELOPMENT PRESSURES

6.1 No issues arising from the trees are expected.

7.0 TREE PROTECTION MEASURES

7.1 BS5837 provides guidance within paragraph 5.2 for the calculation of RPAs (Root Protection Area) of those trees to be retained. It is the recommended area in square metres that should be left undisturbed around each tree to ensure that excessive damage to its roots or rooting environment is avoided. RPA's have been calculated based on the tree survey results for all retained trees

7.2 It is the responsibility of everyone involved in the construction process to respect the protection measures and observe the necessary precautions within and adjacent to them.

7.3 The following shall apply to the areas within the tree protection area:

- 7.3.1 No mechanical excavation and excavation by other means only with Arboricultural supervision
- 7.3.2 Hand digging shall only be carried out following a written method statement approved by the project arboriculturist
- 7.3.3 No adjustment to ground levels
- 7.3.4 No storage of plant or material
- 7.3.5 No storage or handling of any chemicals including cement washing
- 7.3.6 No vehicular access
- 7.3.7 No fires

8.0 TREE PROTECTION BARRIERS

8.1 BS5837 requires that the RPA of all retained trees be protected from the effects of the development by the installation of protective barriers. These are shown on the Tree Protection Plan

8.2 The protective barriers mark the 'Construction Exclusion Zone' (CEZ) and should be installed prior to the commencement of any construction works, including clearance or demolition. They shall be maintained for the duration of the works and all weather notices erected on the barriers with words such as 'Construction exclusion zone — Keep out'.

8.3 Protective fences and barriers should not be removed or adjusted without the approval of the Local Planning Authority arboricuturalist.

8.4 Typical protective barriers suitable for areas of high intensity construction comprise weld mesh panels (Heras or similar) firmly attached to a braced scaffold framework, in accordance with Figure 2 of BS5837 (or similar accepted), this however is not practical for this development and

standard hers fencing should be used to provide a physical barrier stopping encroachment into the RPAs of retained trees. The positioning of the protective fence is denoted on the tree protection plan (appendix c plan 3)

9.0 GROUND PROTECTION

9.1 Where work within the RPA is unavoidable, ground protection should be of sufficient strength and rigidity to prevent disturbance or compaction to the soil underneath whilst allowing water permeation and gaseous diffusion. A Cellular confinement system (CCS) allows a "no dig" solution, providing a permeable surface with sufficient rigidity to spread loads and prevent significant soil compaction and rutting.

9.2 Specifications for the construction of suggested ground protection can be found at appendix D.

10.0 CRANES AND EXCAVATORS

10.1 Particular care and planning is necessary to accommodate arcs of excavation, unloading and lifting machinery.

10.2 The necessity for pruning to facilitate wide or tall loads or operational areas for machinery is unlikely on this site. If any pruning does become necessary, it will be kept to a minimum, undertaken to a minimum of BS 3998 and will be carried out by a competent, qualified arborist. Under no circumstances shall construction personnel undertake tree-pruning works.

ARBORICULTURAL METHOD STATEMENT

11.0 PRELIMINARY TREE WORKS AND TREE PROTECTION

11.1 Prior to the commencement of any works, an appropriately qualified tree contractor shall carry out all tree pruning and removal operations specified in apendix A.

11.2 If further tree works are required during the construction phase, it will be carried out in accordance with BS 3998 Recommendations for tree works 2010, industry best practice and in line with any works already agreed with the local authority.

11.3 Any stumps within Construction exclusion zones (CEZ's) will either be cut flush to the ground, left in situ or removed using a mechanical stump grinder to a depth agreed by the project arboriculturist. They will not be winched out or removed using mechanical arms.

11.4 Tree protection measures will be erected prior to the construction process and shall remain in place until completion of the development. Any adjustments or removals of the tree protection measures will only be carried out following consultation and agreement with the Local Authority tree officer.

12.0 UNDERGROUND SERVICES

12.1 Trenching for services will sever roots and change the local soil hydrology in a way that will affect the health of the tree. Particular care will be taken in the routing of underground services and their installation so as to minimise these affects.

12.2 Reference to NJUG Vol. 4 can be made for guidance on underground service positioning but the local authority tree officer shall approve any service installation method within the RPA.

12.3 Street lamps and sign lighting will be connected to existing underground services running lamp columns, sign stays and overhead services will be dug by hand where they fall within the RPAs of retained trees.

13.0 SITE PARKING, SITE HUTS AND MATERIAL STORAGE AREAS

13.1 Material storage, mixing and on site parking is to be restricted to the working strip adjacent to the north of the site.

14.0 ARBORICULTURAL SUPERVISION

14.1 The arboricultultural consultant shall be available to advise on any issues throughout the construction process. The following schedule identifies key milestones in the construction process in relation to trees and provides a timetable of consultations relating to each phase.

14.1.1 Pre development

- Pre commencement meeting between LPA.
- Tree works carried out
- Tree protection measures installed
- Site inspection by the LPA tree officer

14.1.2 Development Stage

- Retention of tree protection areas
- Site storage within the allotted area
- Root protection within RPA's retained and serviceable
- Additional tree works
- General Arboricultural advise where required

14.1.3 Post development

- Removal of tree protection

14.2 This schedule is subject to review and may be influenced by unforeseen events or a failure to adhere to protection measures.

14.3 A copy of the schedule log which is updated after each visit will be kept on site and available to view.

14.4 The Arboriculturist will be available for site meetings at the request of the local planning authority.

14.5 Any change in site or project management will require a site meeting to brief the new incumbent of the Arboricultural issues.

15.0 DECLARATION

15.1 The statements in this Report do not take into account, the effects of extremes of climate, vandalism or accident. Harrison Arboriculture cannot accept liability in connection with these factors, nor where prescribed work is not carried out in a correct and professional manner in accordance with current good practice.

15.2 This report is not a comprehensive health and safety report. If such a report is required it should be commissioned separately.

15.3 The authority of this Report if affective for two years from the date of the survey or when any site conditions change, or pruning or other works unspecified in the Report are carried out to, or affecting, the subject tree(s), whichever is the sooner.

Appendix A - Schedule of Trees

Site	Netley Abbey, Hampshire								Inspector	M. Harrison			Date 16 May 2011	Page 1 of 5
Tree ref. No.	Spp	H in M	DBH (mm)	Spread (M) N	E	S	W	Age Class	Height of crown clearance (M)	Phys condition	Est remaining contribution (yrs)	Cat grade		Structural Condition	Preliminary management recommendations
T1	Sycamore *(Acer pseudoplatanus)*	14	530	3	4	3	6	Mature	4	Poor	<10	R		• Bifurcates at 1.2m with heavy limb to the west of the canopy • Foliage is sparse and small for the species in the upper crown	• Remove
T2	Holm Oak *(Quercus ilex var.)*	7	210	1.5	2	2	2	Semi Mature	3	Fair	20 – 40	B	1	• Adjacent to street lamp no. 19 • Poor pruning cut on main stem at 1m	• None
T3	*Scots Pine Pinus sylvestris*	10	200	2	2	2.5	1.5	Young	4	Fair	20 – 40	B	2	• Situated on a slightly raised bank adjacent to car park • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None
T4	*Scots Pine Pinus sylvestris*	10	310	2	2	2	3	Young	4	Fair	20 – 40	B	2	• Situated on a slightly raised bank adjacent to car park • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None
T5	*Scots Pine Pinus sylvestris*	10	340	2	3	2.5	2.5	Young	4	Fair	20 – 40	B	2	• Situated on a slightly raised bank adjacent to car park • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None
T6	*Scots Pine Pinus sylvestris*	10	250	1.5	1.5	2	1.5	Young	4	Fair	20 – 40	B	2	• Situated on a slightly raised bank adjacent to car park • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None

T7	*Scots Pine Pinus sylvestris*	10	340	2	3	3	4	Semi Mature	4	Fair	20 – 40	B	**2**	• Situated on a slightly raised bank adjacent to car park • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None
T8	*Scots Pine Pinus sylvestris*	10	300	3	3	2	3	Semi Mature	3	Fair	20 – 40	B	**2**	• Situated on a bank adjacent to the foot path approximately 0.2m lower than the path level • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species • Tag no 0262	• None
T9	*Scots Pine Pinus sylvestris*	10	280	3	1.5	1.5	2	Semi Mature	5	Fair	20 – 40	B	**2**	• Situated on a bank adjacent to the foot path approximately 0.2m lower than the path level • Minor dead wood throughout the crown • Foliage is slightly small and sparse for the species	• None
T10	Sweet Chestnut *(Castania sativa)*	11	240	4	4	-	2	Young	5	Fair	10 – 20	**R**		• Leaning to the east over the road • Main stem is severely Ivy clad up to 6m obscuring a thorough visual assessment • Minor dead wood throughout the canopy	• Remove
T11	Holm Oak *(Quercus ilex var.)*	15	630	7	5	5	6	Mature	5	Fair	20 – 40	**B**	2	• Major fork at 5m south with heavy limbs north and south • Old pruning wound on the main stem most of which are fully occluded and the remaining wounds with good wound wood production • Crossing and rubbing branch at 4m • Split fork at 5m on the south side of the canopy • Crack in limb on the lower canopy at 3m on the eastern side overhanging the road – unable to ascertain the extent, if any internal damage is present. • Broken hanging branches at 4m on	• Remove the lower part of the split limb back to the union and reduce the remaining branch by 1.5m to reduce the end weight retaining the shape and habit of the species. • Reduce lower limb to the east with crack by 1.5m retaining the shape and habit of the species. (Inspect the crack at 2m from branch union to ascertain whether it is a

														the northern side of the canopy	superficial frost crack or has further implications on the internal integrity of the limb. This recommendation may change dependant on the result of closer inspection) • Crown lift the canopy over the foot path to 3m removing the previously pruned branches back to source.
T12	Holm Oak *(Quercus ilex var.)*	12	210	2	1.5	1	2	Young	7	Poor	20 – 40	**C**	1	• Severely crown lifted on the eastern side to clear the street lamp (no. 20) and Netley Abbey resulting in an asymmetrical crown with a bias to the west.	• None
T13	Holm Oak *(Quercus ilex var.)*	11	290	-	1	2.5	1.5	Young	7	Poor	20 – 40	**C**	1	• Severely crown lifted on the eastern side to clear the street lamp (no. 20) and Netley Abbey resulting in an asymmetrical crown with a bias to the west.	• None
T14	Holm Oak *(Quercus ilex var.)*	14	M/S 310, 200	2	1.5	1	2	Semi Mature	7	Poor	20 – 40	**C**	1	• The main stem is Ivy clad up to 7m • Dysfunctional strip running up the main stem on the southern side, possible fire damage	• None
T15	Sweet Chestnut *(Castania sativa)*	4	M/S x 2 150 ave	-	1.5	2	3	Young	2	Poor	<10	**R**		• Suppressed tree which has previously been reduced back from the footpath leaving a very poor form	• Remove
T16	Sweet Chestnut *(Castania sativa)*	7	M/S x 2 180, 220	1	0.5	2.5	2	Young	1	Fair	20 – 40	**C**	1	• Previously reduced back from the footpath poor pruning cuts have left branch stubs	• None
T17	Sycamore *(Acer pseudoplatanus)*	10	110	1.5	2	1	-	Young	2	Poor	<10	**R**		• Decay column at 3m	• Remove
T18	Sycamore *(Acer pseudoplatanus)*	15	M/S 480 @ flare	3	4	-	-	Semi Mature	4	Fair	20 – 40	**C**	1	• Bifurcates at 1.2m with heavy limb to the west of the canopy • Foliage is sparse and small for the species in the upper crown	• None
T19	Bay Laurel *(Laurus nobilis)*	14	M/S 600 @	1.5	2	4	1	Semi Mature	-	Fair	20 – 40	**C**	1	• Shared canopy • Basal suckers	• None

			flare (est)												
T20	Sycamore *(Acer pseudoplatanus)*	16	M/S 500 @ flare (est)	3	1	4	5	Semi Mature	2	Poor	10 – 20	**C**	1	• Squirrel damage throughout the canopy • Historical branch loss due to squirrel damage • Main stems severely Ivy clad up to 70%	• None
T21	Oak *(Quercus robur)*	12	200	-	4	2	2	Young	2	Fair	20 – 40	**C**	1	• Suppressed on the northern side by the adjacent Bay Laurel • The remains of the tree stake still in situ. • Overhead services pole within the canopy spread	• Crown lift to 3m over the footpath
T22	Sweet Chestnut *(Castania sativa)*	14	200	1.5	3.5	2	4	Young	2	Fair	20 – 40	**C**	1	• Minor dead wood (<50mm) throughout the canopy • The remains of the tree stake still in situ. • Overhead services pole within the canopy spread	• Crown lift to 3m over the footpath
T23	Oak *(Quercus robur)*	7	100	1	2	-	1	Young	2	Poor	<10	**R**		• Suppressed • The remains of the tree stake still in situ.	• Remove
T24	Sycamore *(Acer pseudoplatanus)*	16	M/S 660 @ flare	4	4	2	3	Semi Mature	4	Fair	20 – 40	**C**	1	• Minor dead wood (<50mm) throughout the canopy • Main stems severely Ivy clad up to 90%	• None
T25	Sycamore *(Acer pseudoplatanus)*	15	M/S 400 @ flare	1	3	4	3	Semi Mature	3	Poor	<10	**R**		• Narrow fork with included bark at 0.4m • Dysfunctional areas of stripped bark up to 40% of circumference due to squirrel damage throughout the canopy • Cavity at 3m • Major dead wood (>50mm)	• Remove
T26	Ash *(Fraxinus excelsior)*	17	M/S 860 @ flare	6	6	5	5	Semi Mature	2	Fair	20 – 40	**C**	1	• Narrow fork at base • Major dead wood (>50mm)	• None
T27	Sycamore *(Acer pseudoplatanus)*	16	M/S 600 @ flare (est)	4	4	2	5	Semi Mature	3	Fair	20 – 40	**C**	1	• Cavity 50mm x 70mm at 3m • Squirrel damage at 4m west	• None

T28	Sycamore *(Acer pseudoplatanus)*	16	M/S 400 @ flare (est)	2	2.5	1	2	Semi Mature	3	Fair	20 – 40	**C**	1	• Multi stemmed	• None
T29	Sycamore *(Acer pseudoplatanus)*	16	M/S 400 @ flare (est)	1	2	1	1	Semi Mature	3	Fair	20 – 40	**C**	1	• Multi stemmed	• None
T30	*Scots Pine (Pinus sylvestris)*	11	550	-	-	-	4	Mature	5	Poor	<10	R		• The leader has been lost resulting in a large wound at 10m. • Two major laterals remain	• Remove
T31	Sycamore *(Acer pseudoplatanus)*	13	M/S 400 @ flare (est)	-	2	3	3	Young	4	Fair	20 – 40	**C**	1	• Multi stemmed	• None
T32	Sycamore *(Acer pseudoplatanus)*	15	150	2	3	-	1	Young	4	Fair	20 – 40	**C**	1	• Multi stemmed	• None
T33	Sycamore *(Acer pseudoplatanus)*	16	M/S 470 @ flare (est)	2	4	-	1	Semi Mature	4	Fair	20 – 40	**C**	1	• Canopy bias to the southern side due to light suppression by the djacent Horse Chestnut (now removed)	• None

Appendix A - Key

1. Prefix: The prefix indicates whether the tree or trees are an individual, a group, woodland or a hedge (T, G, W or H).
2. Tree Ref No: Relates to individual tree numbers on a plan
3. Where trees have been tagged.
4. Species: The name given is the 'common name'. Where Latin names are given they are shown in italics
5. DBH Stem diameter at 1.5 metres (breast height') above ground level, given in centimetres. in the case of mufti-stemmed trees the stem diameter is taken just above the root flare (ARF).
6. H (Height) The height estimated in metres.
7. Spread (Crown radius) the average crown spread taken from the centre of the trunk to the tips of the live lateral branches given in metres. Given as separate measurements following the compass points N-E-S-W.
8. Crown Height Clearance: Crown height — ground clearance of lowest part of canopy given in metres.
9. Age:
   - Y — Young
   - MA — Middle aged - 1/3 to 2/3 life expectancy
   - M — Mature - over 2/3 life expectancy
   - OM — Over-mature - fully mature, past peak condition and beginning to decline
   - V — Veteran - trees of interest biologically, aesthetically or culturally because of significant age.
10. PC: Physiological Condition —An assessment of the health and vigour of the tree compared with what would normally be expected of the species
11. Estimated remaining contribution – Life Expectancy: an estimate of the future life expectancy of the tree(s) in the present setting given normal circumstances, given in years (< = less than > = greater than).
12. Cat grade: A quality assessment of the trees based on criteria detailed in BS5837:2005 Table 1
    - R: Trees for removal
    - A: Those of high quality and value
    - B: Those of moderate quality and value
    - C: Those of low quality and value

Assessments are based on their condition on the day of inspection and cannot cover future changes in circumstances.

13. Preliminary management recommendations – recommendations in relation to the proposed development are made where appropriate. These may include remedial tree works that are deemed necessary to improve the quality of the tree or for safety reasons. Recommended tree works will be required to be in accordance with British Standard 3998:1989 Tree Work

Cascade Chart			
Category and definition	**Criteria**		**Identification on plan**
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	• 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 are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).		DARK RED
TREES TO BE CONSIDERED FOR RETENTION			
Category and definition	**Criteria — Subcategories**		**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**
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)	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)	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)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
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)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	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, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C Those **of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation			

Appendix B - Root Protection Areas

Tree ref No.	Species	Stem form	DBH mm	RPA (Radius M)	RPA (M²)
T2	Holm Oak *(Quercus ilex var.)*	Single	210	2.52	19.95
T3	*Scots Pine Pinus sylvestris*	Single	200	2.4	18.10
T4	*Scots Pine Pinus sylvestris*	Single	310	3.72	43.48
T5	*Scots Pine Pinus sylvestris*		340	4.08	52.30
T6	*Scots Pine Pinus sylvestris*		250	3	28.28
T7	*Scots Pine Pinus sylvestris*		340	4.08	52.30
T8	*Scots Pine Pinus sylvestris*		300	3.6	40.72
T9	*Scots Pine Pinus sylvestris*		280	3.36	35.47
T11	Holm Oak *(Quercus ilex var.)*		630	7.56	179.58
T12	Holm Oak *(Quercus ilex var.)*		210	2.52	19.95
T13	Holm Oak *(Quercus ilex var.)*		290	3.48	38.05
T14	Holm Oak *(Quercus ilex var.)*		310	3.72	43.48
T16	Sweet Chestnut *(Castania sativa)*		220	2.64	21.90
T18	Sycamore *(Acer pseudoplatanus)*		480	4.8	72.39
T19	Bay Laurel *(Laurus nobilis)*		600	6	113.11
T20	Sycamore *(Acer pseudoplatanus)*		500	5	78.55
T21	Oak *(Quercus robur)*		200	2.4	18.10
T22	Sweet Chestnut *(Castania sativa)*		200	2.4	18.10
T24	Sycamore *(Acer pseudoplatanus)*		660	6.6	136.87
T25	Sycamore *(Acer pseudoplatanus)*		400	4	50.27
T26	Ash *(Fraxinus excelsior)*		860	8.6	232.38
T27	Sycamore *(Acer pseudoplatanus)*		600	6	113.11
T28	Sycamore *(Acer pseudoplatanus)*		400	4	50.27
T29	Sycamore *(Acer pseudoplatanus)*		400	4	50.27
T31	Sycamore *(Acer pseudoplatanus)*		400	4	50.27
T32	Sycamore *(Acer pseudoplatanus)*		150	1.8	10.18
T33	Sycamore *(Acer pseudoplatanus)*		470	4.7	69.41

Appendix C

Plan 1 – Tree Survey

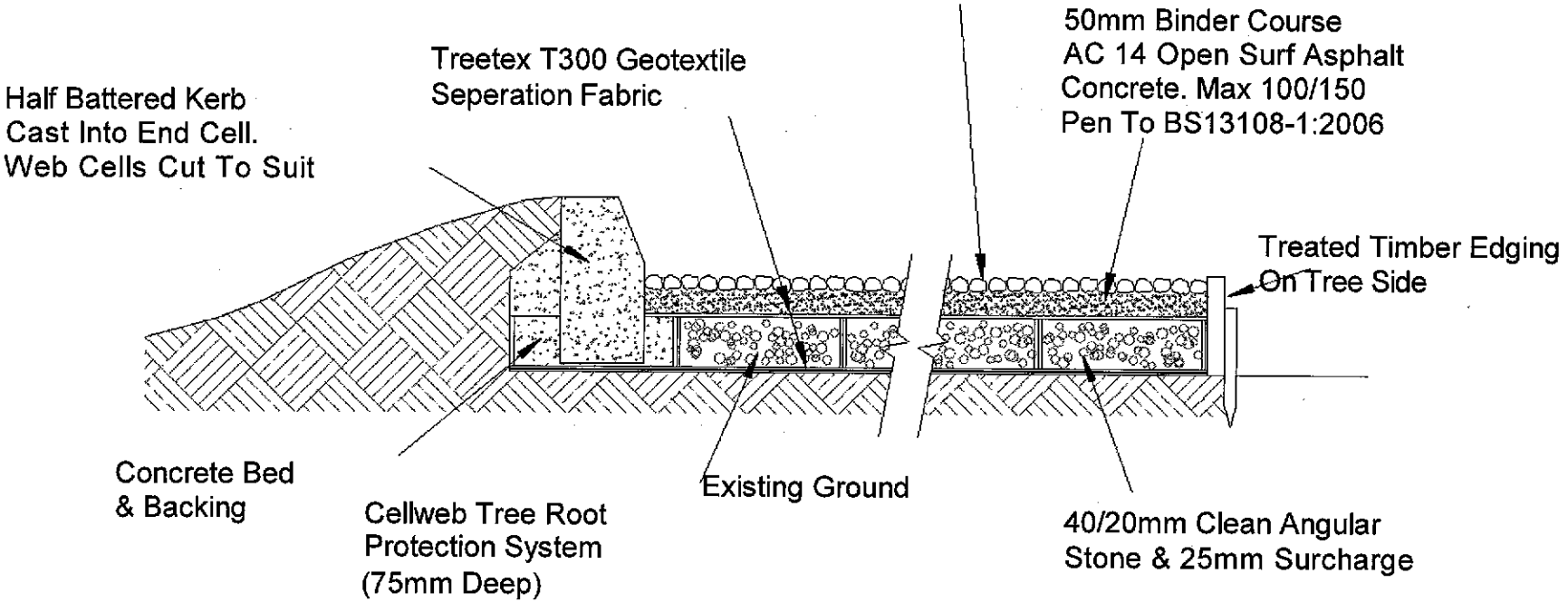
Plan 2 – Tree Constraints Plan

Plan 3 – Tree Protection Plan

For electronic copies attach PDF files

For Paper copies include hard copies.

6mm Aggregate - Requires 18mm Total Depth
10mm Aggregate - Requires 24mm Total Depth



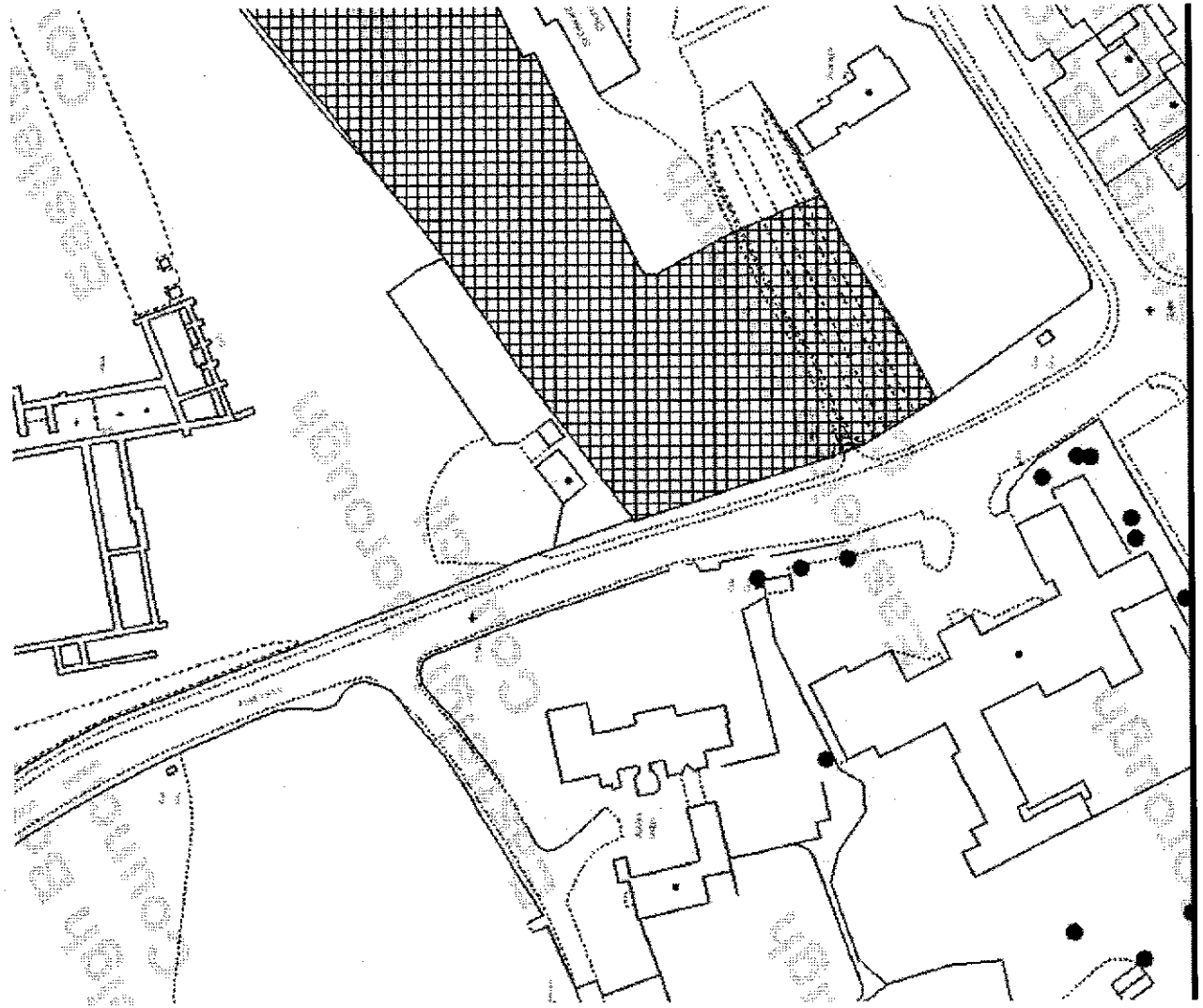
GeoSynthetics
Hinckley Leicestershire LE10 3DU
Tel: 01455 617139 Fax: 01455 617140 www.geosyn.co.uk

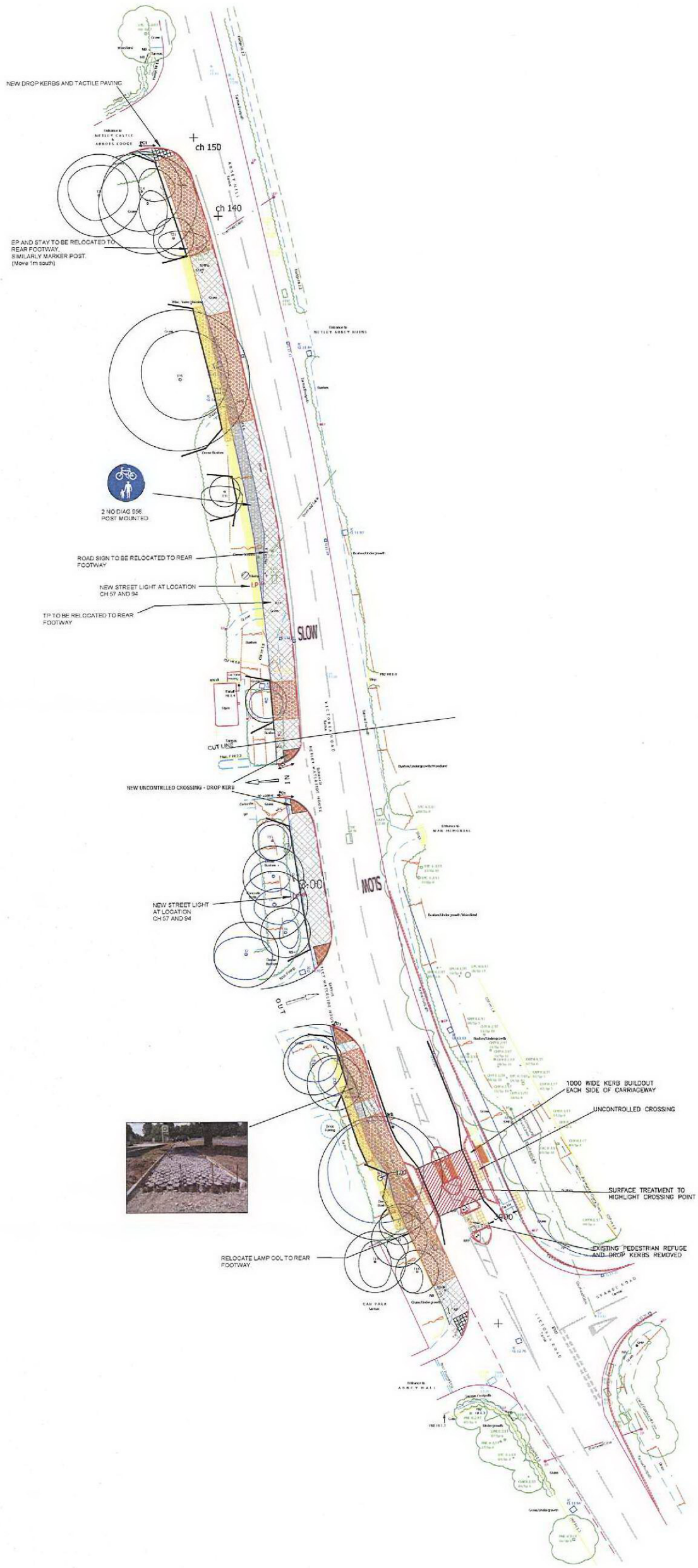
TITLE

Cellweb Section - Tree Root Protection
c/w `Sure-Set' Resin Bonded Gravel Surface

DRAWN BY	SCALE	DATE	CHECKED BY
	1:10 @ A3		
DRAWING NO		REVISION	APPROVED
GS-CW-RBG-75			

Appendix E





CLIENT

Eastleigh B.C.
Civic Offices Leigh Rd Eastleigh
SO50 9YN

DRAWING	ARBORICULTURAL SURVEY
DRAWING NO.	7-70-0611 EBC
SCALE	1:200 @ A0
SCALE	16 JUNE 2011
DRAWN BY	M.Harrison (based on topographical survey)

Harrison Arboriculture
24 Holbein Close
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RG21 3EX
Mobile - 07915 847 387
email: mark@harrisonarboriculture.co.uk

KEY

- Category A Trees
- Category B Trees
- Category C Trees
- Category R Trees
- Root Protection Area (RPA)
- T / G / H — Tree Number (T-Tree, G-Group, H- Hedge)
- Tree Stump
- Permanant root protection
- Temporary root protection
- Barrier fence

N

1000 WIDE KERB BUILDOUT EACH SIDE OF CARRIAGEWAY

UNCONTROLLED CROSSING

SURFACE TREATMENT TO HIGHLIGHT CROSSING POINT

EXISTING PEDESTRIAN REFUGE AND DROP KERBS REMOVED

RELOCATE LAMP COL TO REAR FOOTWAY

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CONCRETE POST FENCE	CP
CLOSE BOARD FENCE	CLF
CHAIN LINK FENCE	CLF
CRESTED RAILING	CR
CRASH BARRIER	CBL
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
WOOD LAP POST FENCE	WLP
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
CREST PLOUGH CLEARANCE	CPC
FENCE LEVEL	FL
INVERT LEVEL	IL
RAILWAY LEVEL	GL
TOP BACK OF CURB	TOB
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
GRASS VERGE	GV
HOGGIN BED	HG
PAVING SLABS	PS
RETAINING WALL	RETWA
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO
BRITISH TELECOM BOX	BTO
BRITISH TELECOM PC	BTPC
BUS STOP	BS
CABLE TELEVISION BOX	CATB
CABLE TELEVISION PC	CATV
CAUTIONING POST	CS
ELECTRICITY CABLE PIT	ELEP
ELECTRICITY CONTROL BOX	ELEB
ELECTRICITY POLE	EP
FIRE HYDRANT	FH
INSPECTION COVER	IC
LAMP POST	LP
LETTER BOX	LB
LITTER BIN	BIN
MAIN OUTLET	MO
MANHOLE	MH
NOTICE BOARD	NB
POST	P
MAIN WATER PIPE	MWP
MARKER FLOW ARROW	MFA
ROAD SIGN	RS
ROCKING EYE	RE
SERVICE MARKER POST	SMP
SOIL VENT PIPE	SVP
STOP COCK	SC
STOP VALVE	SV
TELEGRAPH POLE	TP
TELEPHONE CALL BOX	TCB
TRAFFIC SIGNAL	TS
TRAFFIC SIGNALS PC	TSPC
WATER METER	WM
WATER TAP	Tap

Level Datum:
Levels are related to OSBM Datum obtained thought the use of a GPS network and receiver.

Grid:
Grid is relazed to localised coords established at the time of survey.

Northpoint:
The northpoint position shown on this drawing has been located as accurately as possible, but is only indicative of true north.

Encompass Surveys



CLIENT: Eastleigh B.C.
Civic Offices Leigh Rd Eastleigh
SO50 9YN

DRAWING	ARBORICULTURAL SURVEY
DRAWING NO.	7-70-0611 EBC
SCALE	1:200 @ A0
SCALE	16 JUNE 2011
DRAWN BY	M.Harrison (based on topographical survey)

Harrison Arboriculture
24 Holbein Close
Basingstoke
Hampshire
RG21 3EX
Mobile - 07915 847 367
email: mark@harrisonarboriculture.co.uk

KEY

- Category A Trees
- Category B Trees
- Category C Trees
- Category R Trees
- Root Protection Area (RPA)
- T / G / H — Tree Number (T-Tree, G-Group, H- Hedge)
- Tree Stump

N

FENCE INFORMATION

TIMBER POST AND WIRE FENCE	TWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CRA
	PAL
IRON RAILINGS	IRF
LANCH LAY FENCE	LLF
MESH CLAD FENCE	MCF
RAILWAY FENCE	RWF
PENCY FENCE	PNF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
WIRED FENCING	WF

LEVEL INFORMATION

SUSPENT LEVEL	SPT
INVERT LEVEL	IN
CROWN LEVEL	CL
CAMP PADDOCK COURSE	CPC
FLOOR LEVEL	FL
BASSET LEVEL	B
CENTRAL LEVEL	CL
TRIANGULATED LEVEL	TIG
POOL WATER	PW
SURFACE WATER	SW
DRAINAGE TO LEFT	DTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLAGGED	FG
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

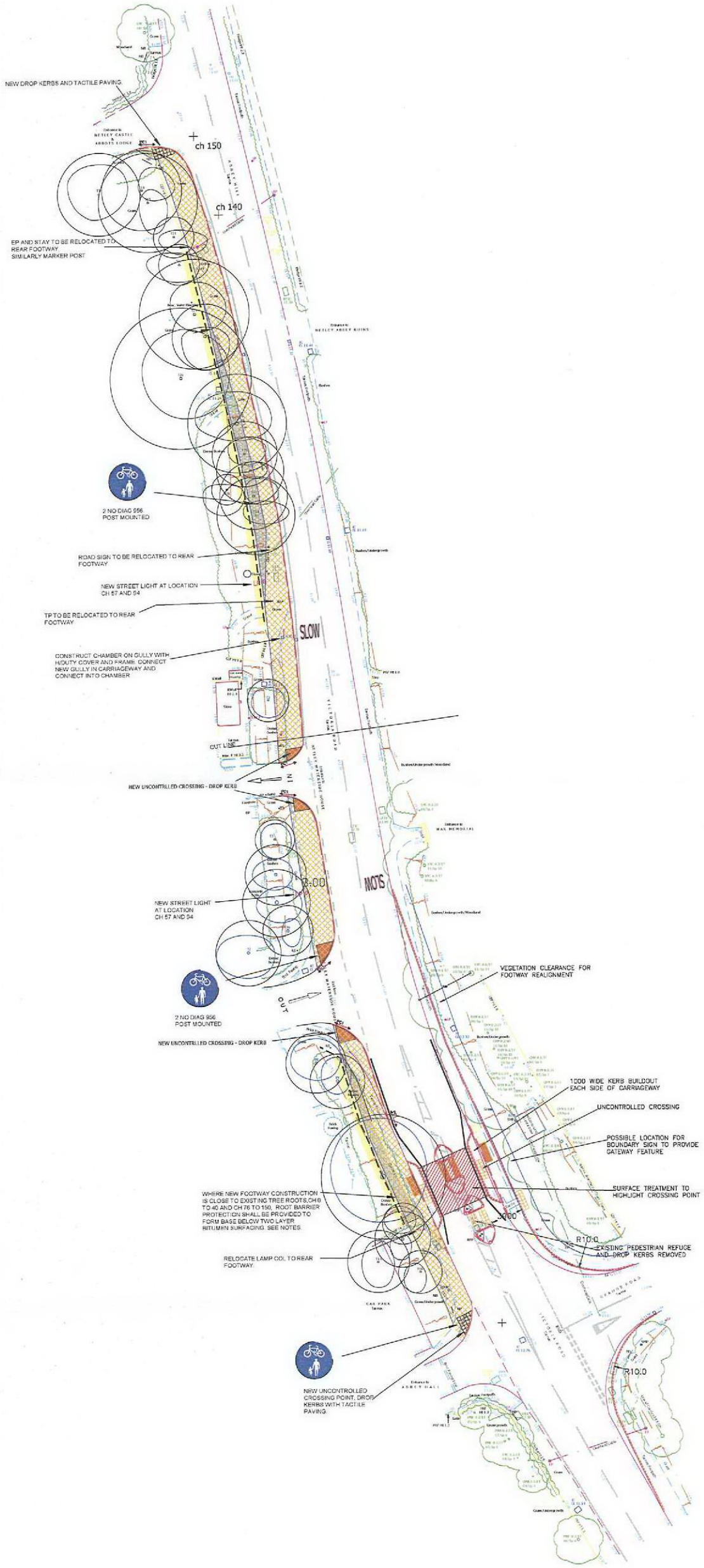
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BRITISH TELECOM BOX	BTB
BRITISH TELECOM PC	BTPC
BUS STOP	BS
CABLE TELEVISION BOX	CATB
CABLE TELEVISION PC	CATV
EARTHING BOX	EB
ELECTRICITY CABLE PIT	ELEP
ELECTRICITY CONTROL BOX	ELCB
ELECTRICITY POLE	EP
FIRE HYDRANT	FH
INSPECTION COVER	IC
LAMP POST	LP
LETTER BOX	LB
LITTER BIN	BIN
RAIN OUTLET	RO
SIGN POST	SP
NOTICE BOARD	NB
POST	P
MAIN WATER PIPE	MWP
MARKER POST (RED)	MRP
ROAD SIGN	RS
HOUSING EYE	HE
SERVICE MARKER POST	SMP
SOIL VENT PIPE	SVP
STOP COCK	SC
STOP VALVE	SV
TELEGRAPH POLE	TP
TELEPHONE CALL BOX	TCB
TRAFFIC SIGNAL	TS
TRAFFIC SIGNALS IC	TSIC
WATER METER	WM
WATER TAP	Tap

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- T / G / H — Tree Number (T-Tree, G-Group, H- Hedge)
- Tree Stump

N

FENCE INFORMATION

RAILED WIRE FENCE	RWF	EMBANKMENT LEVEL	BEL
CORRUGATED IRON FENCE	CIF	BED LEVEL	BL
CLOSE BOARD FENCE	CBF	CROWN LEVEL	CL
CHAIN LINK FENCE	CLF	CHIMNEY POT COURSE	CPC
ELECTRIC RAILING	ER	HOOK BOLT	HB
CLEFT RAILING	CLR	INVERT LEVEL	IL
HANDRAIL	HRL	OUTFALL LEVEL	OL
IRON RAILINGS	IRF	THRESHOLD LEVEL	TH
LARCH LAP FENCE	LLF	POLE NUMBER	PN
PALISADE/CLOSE FENCE	PCF	SURFACE WATER	SW
PALISADE FENCE	PF	UNDER TOP LEVEL	UTL
PICKET FENCE	PKF	WATER LEVEL	WL
POST AND CHAIN FENCE	PCF		
POST AND RAIL FENCE	PRF	SURFACE INFORMATION	
POST AND WIRE FENCE	PWF		
STOCK WIRE FENCE	SWF	CONCRETE	Conc
TILED FENCING	TLF	BRICK PAVERS	BP
		FLOWERBED	FB
		GRASS VERGE	GV
		RETAINING WALL	RW (#)
		TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POLE	P
BRITISH TELECOM PC	BTC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED PLANTERED	RPB
CABLE TELEVISION BOX	CATB	SOAKAWAY	SO
CABLE TELEVISION PC	CATV	SUNKEN EYE	SE
EASTBOURNE COD	ES	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ETD	STOP COCK	SC
ELECTRICITY POST	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS PC	TSC
LETTER TUBE	LBTB	WATER METER	WM
MEAS OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

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