Tree Constraints Report

Keadby BESS

Reference: 80-857-R1-1

Date: June 2022

TREE CONSTRAINTS REPORT

Keadby BESS

Prepared for:
PWA Planning

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QUALITY ASSURANCE

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QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM		
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QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM		

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EXECUTIVE SUMMARY

Site Address	Chapel Lane, Keadby, Scunthorpe
OS Grid Reference	SE 83007 11994
Site Area	Approximately 11 ha
Results	The site survey identified two individual trees and three groups of trees. These included two groups of trees graded Category B (trees of moderate value), one individual tree, one group of trees graded Category C (trees of low value). One individual tree was graded Category U (unsuitable for retention).
Recommendations	All Category A and B trees as described in Appendix I Tree Schedules should be given priority consideration for retention during any future development which should take full account of above and below ground constraints, as shown on the Tree Constraints Plan. Should any future proposed development require tree removal or RPA incursions within the RPAs of trees to be retained, an Arboricultural Impact Assessment (AIA) will be required by the LPA in support of a planning application. A bespoke Arboricultural Method Statement may be required post planning and when the construction details are known to protect the retained trees within and adjoining the Site. Any new tree planting should be in accordance with British Standard 8545:2014 Trees: From Nursery to Independence in the Landscape – Recommendations, and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010: Tree Work – Recommendations. This document encloses a Preliminary Arboricultural Method Statement, which provides guidance on tree protection measures and mitigation.

1. BACKGROUND

1.1. PURPOSE OF THE REPORT

E3P Ltd have been instructed by PWA Planning to produce a Tee Constraints Report and Method Statement relating to a proposed construction works at Chapel Lane, Keadby, Scunthorpe, hereafter referred to as 'the site'.

The purpose of the report is to:

- Assess the quality of the trees on and immediately adjacent to the site, in accordance with British Standards (2012)[1], hereafter referred to as 'BS5837: 2012'.
- Identify trees suitable for retention and for removal due to the proposed development.
- Prescribe tree protection measures to ensure that retained trees survive the proposed development and thrive after its completion.
- Prescribe arboricultural recommendations for the long-term management of trees on the site.
- If necessary, to assess the site for its suitability for mitigation planting, and to specify planting requirements.

1.2. SITE DETAILS

The site is located on land north of Chapel Lane, Keadby, Scunthorpe. and within the administrational boundaries of North Lincolnshire Council. The site comprised agricultural land surrounded by further agricultural land to the north, east and western boundaries. Residential properties are located to the south of the site.

Cranfield (2022)[2] identified the soil type of the site and the surrounding area as loamy and clayey soils of coastal flats with naturally high groundwater. No further detailed soil analysis was undertaken.

1.3. LEGISLATION

A review of North Lincolnshire Council online database on the 20th June 2022 has established there are no trees subject to Tree Preservation Orders (TPO) and confirmed that the site is not within a Conservation Area (CA).

The Town and Country Planning (Tree Preservation) (England) Regulations 2012 make provision for, amongst other things, the form of Tree Preservation Orders (TPOs) and for applications for consent to carry out work on trees subject to an order. The order makes it an offence to cut down, uproot, prune, lop or damage the tree (including the roots) in question without first obtaining the Council's consent. A TPO can apply to a single tree, a group of trees or woodland. Anyone who wishes to fell or carry out work to a tree protected by a TPO must apply to the Council to obtain permission.

There are exemptions for statutory undertakers under the Town and Country Planning Regulations which include where the land on which the tree is situated is operational land of the statutory

[1] British Standards (2012). *BS5837: 2012 - Trees in Relation to Design, Demolition and Construction: Recommendations.* British Standards Institute, London
[2] Cranfield (2022). *Soilscapes* [online]. Available at: >www.landis.org.uk< [accessed 20th June 2022]

undertaker and the work is necessary; and in the interests of the safe operation of the undertaking;

- In connection with the inspection, repair or renewal of any sewers, mains, pipes, cables or other apparatus of the statutory undertaker.

- To enable the statutory undertaker to carry out development permitted by or under the Town and Country Planning (General Permitted Development) Order 1995. This is only where works are within an operational site and does not include works outside of operational sites.

Where works are granted planning permission no additional specific permission in regard to works to TPOs is required.

1.4. TOWN AND COUNTRY PLANNING ACT 1990 (AS AMENDED).

Conservation Areas are protected under the Town and Country Planning Act 1990 (as amended). Where trees within a Conservation Area are not a TPO permission must also be obtained by the Local Planning Authority (LPA) under a Section 211 notice, which gives the LPA the opportunity to consider protecting a tree. The exception is when a tree is less than 7.5 cm in diameter, measures 1.5 m above ground or 10 cm if thinning to help the growth of other trees.

1.5. THE HEDGEROW REGULATIONS 1997

The Hedgerow Regulations 1997 protect 'Important' hedgerows by controlling their removal through a system of notification. Under the Regulations, it is unlawful to remove or destroy most countryside hedgerows (excluding those forming garden boundaries) without the written permission of the LPA. The legislation details criteria to determine whether a hedgerow qualifies as an 'Important' hedgerow Schemes with planning consent will not require further approval from the LPA. Where hedgerows meet the criteria of the Regulations to be 'Important hedgerows' a formal request will need to be made to the LPA for its removal.

There are some other exceptions including for carrying out work for the purpose of flood defence or land drainage, pursuant to, or under, the Land Drainage Act 1991, the Water Resources Act 1991 or the Environment Act 1995.

1.6. THE PLANNING PROCESS

The National Planning Policy Framework (NPPF 2019) seeks to ensure that new development is sustainable and underlines the importance of green infrastructure, of which trees form an integral part. This includes recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaption. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity. Finally, it specifically identifies veteran and ancient trees and woodland as a highly valuable and irreplaceable habitat.

Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order (TPO) or other statutory designation) is a material consideration in determining a planning application.

BS 5837 provides a framework which sets out how trees should be considered in the planning process and also explicitly applies to development where planning consent is not required.

BS 5837 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This information is then used to produce a Tree Constraints

Plan (TCP) illustrating the above and below ground constraints associated with trees (the Root Protection Area (RPA)). The TCP is intended to be used to inform the design process and to identify those trees considered to be a constraint to development due to the quality and value (in a non-fiscal sense).

Following the production of the final scheme design, an Arboricultural Impact Assessment (AIA) is produced to identify the likely direct and indirect impacts of the proposed development, along with a Tree Protection Plan (TPP) to identify trees to be removed and retained and to illustrate the protection of retained trees. An Arboricultural Method Statement (AMS) is also often required as a condition of planning consent to detail how sensitive operations are to be undertaken in close proximity to retained trees.

These documents and plans are considered the minimum requirement for arboricultural matters within a planning application and are intended to ensure both a long term sustainable and harmonious relationship between existing trees and the proposed development.

1.6.1. NATIONAL PLANNING POLICY FRAMEWORK 2021

At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, and specifically states that for decision making, the LPA should be approving development proposals that accord with the development plan without delay.

Section 15 of the NPPF recognises the importance of conserving and enhancing the natural environment, and specifically acknowledges the role of trees and woodland in the provision of natural capital and ecosystem services.

It further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:

It was confirmed that there are no designated ancient woodlands or veteran trees within the survey area.

2. METHODS

2.1. SITE SURVEY

The site survey was carried out by Martin Dilworth on 6th June 2022. All trees on site were inspected from ground level, using the Visual Tree Assessment (VTA) method. Any notable defects of trees were recorded, although the site survey did not constitute a full tree safety assessment.

Tree heights and crown clearances were measured to the nearest 0.5 m with a clinometer. Crown spreads of trees were measured on their north, east, south and west aspects to the nearest 0.5 m. The Diameter at Breast Height (DBH) of trees was measured to the nearest 1 cm, and was used to calculate the Root Protection Area (RPA) of trees using methods prescribed in BS 5837:2012.

In accordance with BS 5837:2012, trees were classified as either A, B, C or U using the criteria shown in Table 2.1. Trees were further classified by the subcategories 1, 2 and 3, depending upon whether they had mainly arboricultural, landscape, or cultural qualities. The additional subcategory does not affect the retention value of the tree, e.g. a Category A2 tree does not have a higher retention value than a Category A1 tree.

TABLE 2.1 BS 5837 CASCADE CHART (ADAPTED FROM BRITISH STANDARDS, 2012)

CATEGORY	DEFINITION	RETENTION	COLOUR CODE
CATEGORY A	Trees of high quality with an estimated remaining life expectancy of at least 40 years; trees that are particularly good examples of their species, especially if rare or unusual.	Highly desirable	Light green
CATEGORY B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit Category A designation.	Desirable	Dark blue
CATEGORY C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150 mm; unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Feasible, but should be removed if posing a constraint to development	Grey
CATEGORY U	Trees that have serious, irremediable, structural and/or physiological defects, including those that will become unviable after removal of other Category U trees.	Unfeasible	Dark red

2.2. CONSTRAINTS

Only trees with a stem diameter greater than 75mm, (measured at 1.5m above ground level), have been included within the survey; however, it should be noted that a number of individual trees and shrubs with a stem diameter of less than 75mm were present within the study area.

Some sections of the study area were covered with dense undergrowth or located within adjacent land, preventing a full assessment and an accurate measurement of some trees. Where tree survey data has been estimated (based on assessments from the nearest safe vantage points). These trees are denoted by a # in the associated schedules.

Only trees within the likely influence of the proposed development have been included within this report. Any additional trees in the vicinity of the site have been deemed to not be affected by the proposals and have not been included.

Trees are living organisms and as such their health and condition are naturally subject to change over time. Unforeseen future circumstances such as neglect, wilful damage or severe/extreme weather conditions may affect the future health and condition of the trees included in this report.

2.3. QUALIFICATIONS OF THE AUTHOR

Martin Dilworth is a suitably qualified arboricultural consultant, who is a Professional member of the Arboricultural Association, and holds an FdSc in Arboriculture, and the LANTRA Professional Tree Inspection Certificate.

3. TREE SURVEY ASSESSMENT

3.1. TREE POPULATION ASSESSMENT

The site survey identified two individual trees and three groups of trees. These included two groups of trees graded Category B (trees of moderate value), one individual tree, one group of trees graded Category C (trees of low value). One individual tree was graded Category U (unsuitable for retention).

TABLE 3.1 TREE CATEGORIES RECORDED

TREE CATEGORY	NO. OF INDIVIDUAL TREES	NO. OF GROUPS OF TREES	NO. OF HEDGEROWS	NO. OF WOODLANDS
CATEGORY A (TREES OF HIGH QUALITY)	0	0	0	0
CATEGORY B (TREES OF MODERATE QUALITY)	0	2	0	0
CATEGORY C (TREES OF LOW QUALITY)	1	1	0	0
CATEGORY U (TREES OF POOR QUALITY UNSUITABLE FOR RETENTION)	1	0	0	0
TOTALS	**2**	**3**	**0**	**0**

3.2. TREE SPECIES DIVERSITY

A number of species were recorded as individual or as groups of trees during the survey and are represented throughout the study area. Species of trees recorded includes Bay willow (*Salix pentandra*), Blackthorn (*Prunus spinosa*), Elderberry (*Sambucus nigra*) and Sycamore (*Acer pseudoplatanus*).

Tree data can be viewed in **Appendix I: Tree Survey Schedule**. A selection of photographs of trees can be viewed in **Appendix II: Photographs.** Tree locations can be viewed in **Appendix III: Tree Constraints Plan**.

4. SUMMARY AND CONCLUSIONS

The site survey identified two individual trees and three groups of trees. These included two groups of trees graded Category B (trees of moderate value), one individual tree, one group of trees graded Category C (trees of low value). One individual tree was graded Category U (unsuitable for retention).

All Category B trees as described in Appendix I Tree Schedules should be given priority consideration for retention during any future development which should take full account of above and below ground constraints, as shown on the Tree Constraints Plan.

Should any future proposed development require tree removal or RPA incursions within the RPAs of trees to be retained, an Arboricultural Impact Assessment (AIA) will be required by the LPA in support of a planning application.

A bespoke Arboricultural Method Statement may be required post planning and when the construction details are known to protect the retained trees within and adjoining the Site.

Any new tree planting should be in accordance with British Standard 8545:2014 Trees: From Nursery to Independence in the Landscape – Recommendations, and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010: Tree Work – Recommendations.

This document encloses a Preliminary Arboricultural Method Statement, which provides guidance on tree protection measures and mitigation.

5. ARBORICULTURAL METHOD STATEMENT

5.1. TIMING OF WORKS

The phasing of works must be carried out in accordance with Table 5.1.

TABLE 5.1 TIMING OF WORKS

STAGE	WORKS
1	Site induction
2	Install temporary tree protection fencing
3	Inspection by arboriculturist
4	Carry out construction works, subject to precautionary measures
5	Remove tree protection fencing once works complete
6	Final inspection by arboricultural consultant

5.2. SITE INDUCTION

Prior to works commencing, all contractors must attend a site induction. All contractors will be briefed on arboricultural concerns arising from the development proposals, including tree Root Protection Areas (RPAs). This method statement must be made available to all contractors working on the site.

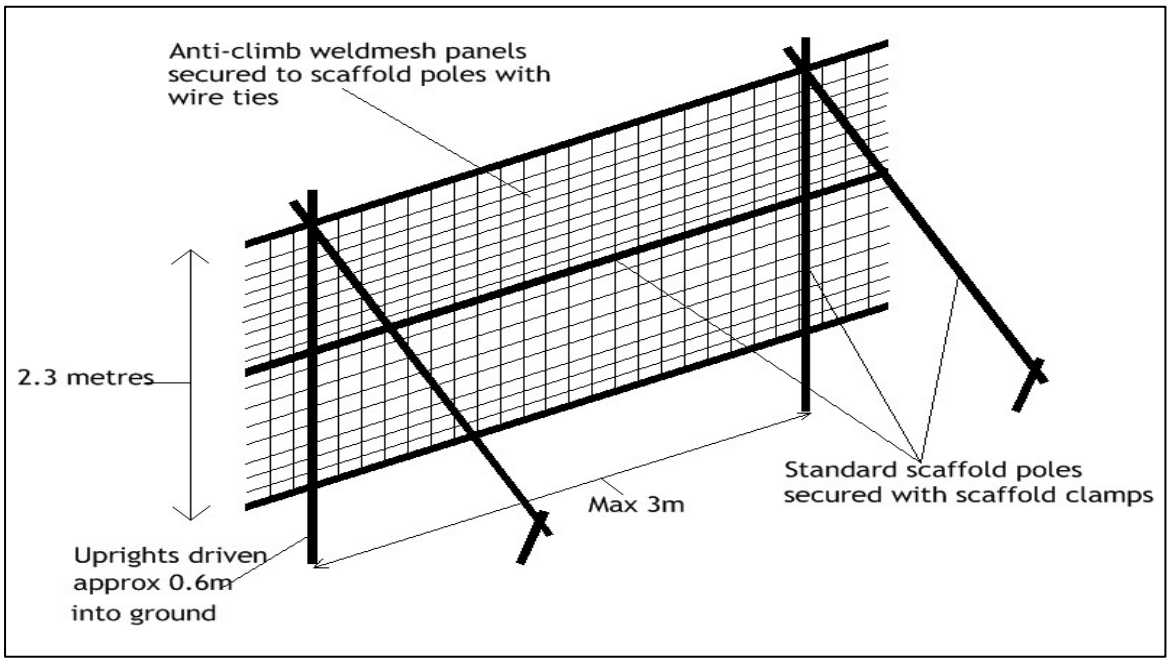
5.3. TREE PROTECTION FENCING

Prior to machinery entering the site, it will be necessary to ensure that all trees are adequately protected. This will require the installation of temporary of tree protection fencing. Tree protection fencing will consist of a vertical scaffold framework, well braced to resist impacts. The vertical poles must be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels will be fixed (see Figure 5.1).

Laminated waterproof A3 signs will be fixed securely to fencing panels on each enclosure at 9 m intervals. The signs must clearly read: ‘Protected Tree Zone, no storage or operations within fenced off areas’.

Once the construction works have been completed, the tree protection fencing may be removed. This must be done with care to ensure that no damage to trees is caused.

FIGURE 5.1 TREE PROTECTION FENCING SPECIFICATION



5.4. GENERAL PRECAUTIONARY MEASURES

Prior to works commencing, a site storage area will be designated, which must be outside of the RPAs of trees. No materials hazardous to tree health, such as oil, bitumen or cement will be stored within RPAs of trees. Where possible this area should be extended to 10 m away from the tree protection fencing.

Where there is a risk of polluted water runoff into RPAs, heavy duty plastic sheeting and sandbags will be used to contain any spillages and prevent contamination. No fires will be lit within 20 m of the protective fencing.

If any breach in the tree protection measures occurs it is the site manager's responsibility to report this to an arboricultural consultant so the appropriate measures may be taken.

6. ARBORICULTURIST CONTACT DETAILS

If at any point during construction works, works are required within RPAs, if there is a breach within the tree protection fencing, and/or if the proposals change from those detailed within the Tree Protection Plan, the project arboriculturist must be consulted immediately. The project arboriculturist's details are below:

Martin Dilworth

E3P
Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

trees@e3p.co.uk
Office: 01617079612

END OF REPORT

APPENDIX I TREE SURVEY SCHEDULE

A plan showing tree locations can be viewed in **Appendix III: Tree Constraints Plan**.

TABLE A.1 KEY FOR TREE TABLES

KEY	
SPECIES	Common name and scientific name
HEIGHT	Measured to nearest 0.5 m
C.C	Height of crown clearance, measured to nearest 0.5 m
DBH	Diameter at breast height (1.5 m), in centimetres
CROWN SPREAD	Measured to nearest 0.5 m
AGE	Y - sapling/newly planted tree
	SM - semi-mature; tree in 1/3 of estimated lifespan
	EM - early-mature; tree in 2/3 of estimated lifespan
	M -mature; tree in 3/3 of estimated lifespan
	V - Veteran tree
ERC	Safe useful life expectancy of tree, in years
CATEGORY	See cascade chart (Table 1.1)
#	Estimated value

TABLE A.2 TREE DATA

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T1	Sycamore (*Acer pseudoplatanus*)	7	#150 130 130 120 100	3	3	3	3	0	SM	Multiple stems at ground level. Dense undergrowth preventing full visual inspection.	10+	C1	37	3.4
T2	Bay willow (*Salix pentandra*)	7	#200 180 150 150	5	5	5	5	0	EM	Three dead stems on south side. Dense undergrowth preventing full visual inspection.	<10	U	53	4.1
G1	Hawthorn (*Crataegus monogyna*) x 1, Blackthorn (*Prunus spinosa*) x 8, Elderberry (*Sambucus nigra*) x 1	5	#200	2	2	2	2	0	EM	Remnants of old boundary hedge. Dense undergrowth preventing full visual inspection.	10+	C2	18	2.4
G2	Blackthorn (*Prunus spinosa*) x 3, Sycamore (*Acer pseudoplatanus*) x 1, Bay willow (*Salix pentandra*) x 4	7	#300	3	3	3	3	0	SM	Dense undergrowth preventing full visual inspection.	20+	B2	41	3.6

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
G3	Crack willow (*Salix fragilis*) x 3	13	#650	6	6	6	6	0	EM	Multiple stems at ground level. Dense undergrowth preventing full visual inspection. Deadwood throughout crown upto 2m in and approximately 60mm diameter.	20+	B2	191	7.8

APPENDIX II
PHOTOGRAPHS

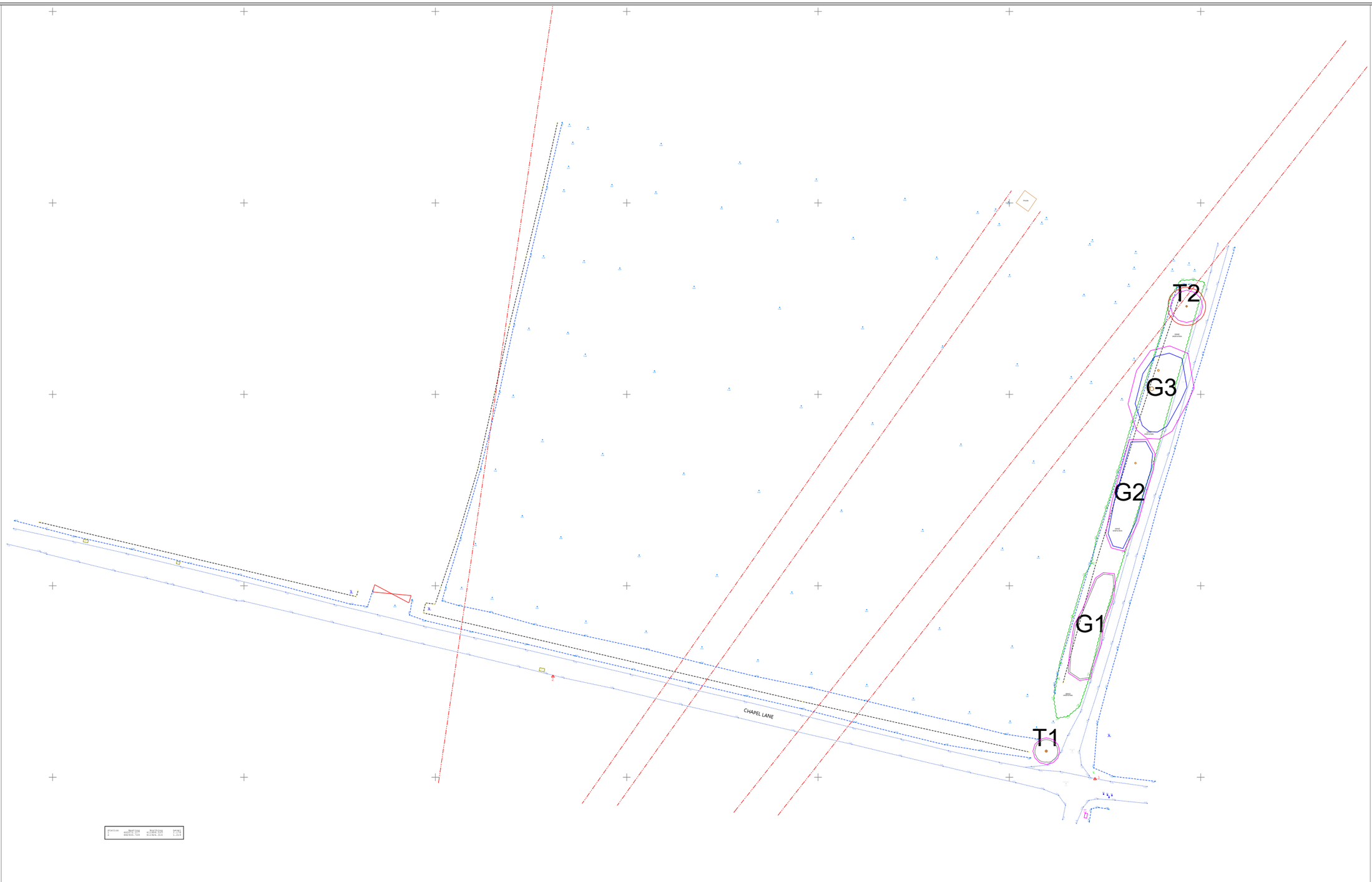
PLATE 1 TREE T1

PLATE 2 GROUP G1

PLATE 3 TREE T2

PLATE 4 GROUP G2

APPENDIX III TREE CONSTRAINTS PLAN



Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Group/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Group/Hedge
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Group/Hedge
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

Category 'U' Tree/Group/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification

Notes:

The stem location of trees G1, G2, G3 were not included on the topographical survey based site plan provided, and their locations were subsequently plotted by the arboricultural surveyor using GPS siting and estimation at the time of the survey. As such, the plotted locations of these trees cannot therefore be considered to be wholly accurate.

P1	REVA	20.06.2022	MD	MD
Phase	Issue	Date	Drawn	Checked

Client: PWA Planning

Job No: 80-857

Date: 20.06.2022

Drawing No: 001

Scale: 1:1000 @ A3

Job Title: Chapel Lane, Keadby

Drawing Title: Tree Constraints Plan

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