

GEOSPHERE ENVIRONMENTAL

REPORT NUMBER: 6985,EC,AR,AIA,TC,RF,AC,20-01-23,V1

SITE: Sheringham Recycling Centre, Holt Road, East Beckham,
Sheringham, NR26 8TW

DATE: 20/01/2023



DOCUMENT CONTROL SHEET

Report Number: 6985,EC,AR,AIA,TC,RF,AC,20-01-23,V1
Client: Stantec UK Ltd
Project Name: Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW
Project Number: 6985,EC,AR
Report Type: Arboricultural Impact Assessment
Status: Final
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VERSION RECORD

Version	Date	Document Revision Details	Prepared By	Admin
V1	20/01/2023	Original Document	TC	CJ

Executive Summary

Report Description	<p>Geosphere Environmental Limited was commissioned by Stantec UK Ltd to undertake an Arboricultural Survey and Impact Assessment of the land at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW.</p> <p>The site is located at National Grid Reference (NGR) TG 16290 41030. The report relates to the assumed redevelopment of the site for commercial use. A development plan has been provided as Drawing ref. 49868/2001/101 Rev P05 and is included within Appendix 6.</p> <p>The site covers an area of approximately 0.15 hectares (ha). This and the immediate surrounding area were surveyed.</p>
Arboricultural Impact Assessment	<p>The potential impacts of the proposed development are listed below;</p> <ul style="list-style-type: none"> • G2 – Category C – Remnant shrubs of a defunct hedgerow: These trees will need to be removed to facilitate the development. • G1 – Category B – Young plantation woodland, with a margin of scrub and bramble: The edge of the woodland will need to be removed to facilitate the construction of the access road. Some of the retained trees on the margin will require ground works and resurfacing works within the edges of the root protection areas. • G3 – Category C – Hedgerow adjacent to the site: This group is far enough away from the development works and can be completely protected by Tree Protection Fencing, as such no impact is anticipated.
Tree Management Plan	<p>Providing recommendations within Section 5 of this report and the Arboricultural Method Statement are followed, the impacts to trees retained onsite will be minimised.</p>

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1. INTRODUCTION

1.1 General

Geosphere Environmental Limited was commissioned by Stantec UK Ltd to undertake an Arboricultural Impact Assessment of the site at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW.

Any limitations and conditions pertaining to the report are stated within Appendix 1, with a full list of technical references provided within Appendix 2.

The site covers an approximate area of 0.15 hectares (ha) and is located at National Grid Reference (NGR) TG 16290 41030.

The site boundary is shown on Figure 1 below:

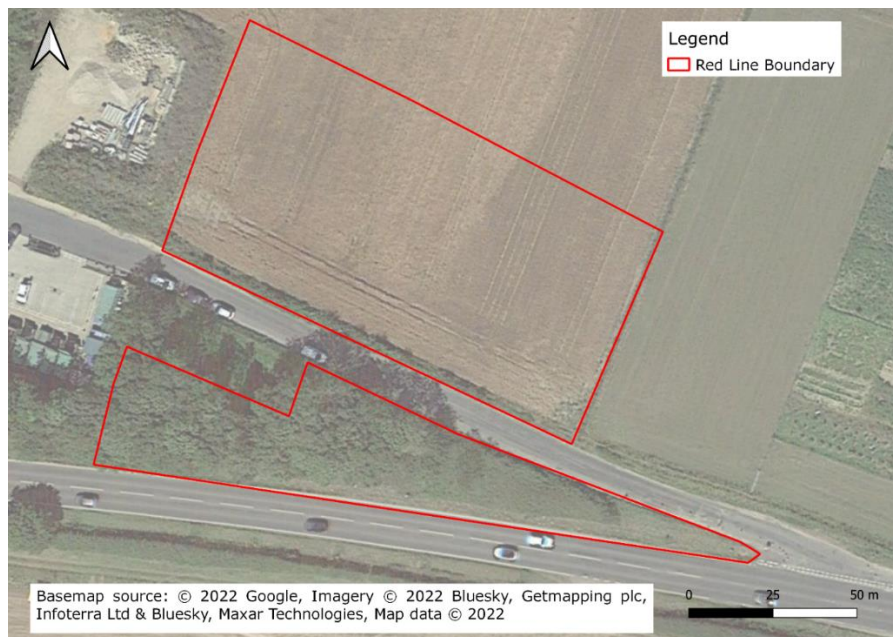


Figure 1 –The site boundary is outlined in red

1.2 Aims

The Arboricultural Impact Assessment has been undertaken based upon information provided by an arboricultural survey undertaken by Geosphere Environmental Ltd, and reported in December 2022, (ref. **R.1**). The Tree Survey Schedule from the initial survey has been included in Appendix 3, with a description of the schedule in Appendix 4, and a key to the scientific names in Appendix 5.

A tree Retention and Removal Plan has been designed based upon the tree survey to highlight trees which are planned to be removed during development. A tree protection plan has been included to detail the protection measures which are to be put in place to protect the trees retained throughout the development. An Arboricultural Impact Assessment, Tree Management Plan, and Arboricultural Method Statement has been included within this report.

2. TECHNICAL APPROACH

2.1 Arboricultural Survey

The site was surveyed by Richard Fenna (Senior Ecological & Arboricultural Consultant), BSc (Hons), ACIEEM, ND Arb, TechArborA, on the 02 October 2022 (ref. **R.1**).

The arboricultural survey has been undertaken in general accordance with BS 5837:2012 (ref. **R.2**). The recommendations for tree remediation works are in accordance with current legislation and guidance, including BS 3998: 2010, 'Tree work – Recommendations' (ref. **R.3**).

The data collected during this survey is based entirely upon arboricultural grounds and reflects the condition of the trees on the day the survey was undertaken. The locations of the trees were detailed on a topographical survey provided by the client. All locations of trees are assumed to be correct. Any trees not noted on the topographical plan have been added where appropriate during the tree survey.

Scientific names and common names of plant species identified are as they appear in Stace (ref. **R.4**). For species not listed in Stace, scientific and common names were taken from Johnson and More (ref. **R.1**).

2.2 Site Specific Limitations

Trees were surveyed without undertaking vegetation clearance.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 Council Restrictions

North Norfolk District Council website was checked for the presence of Tree Preservation Orders (ref. **R.5**) No tree preservation orders or conservation areas were present onsite. A printout from the website is included in figure 2 below.

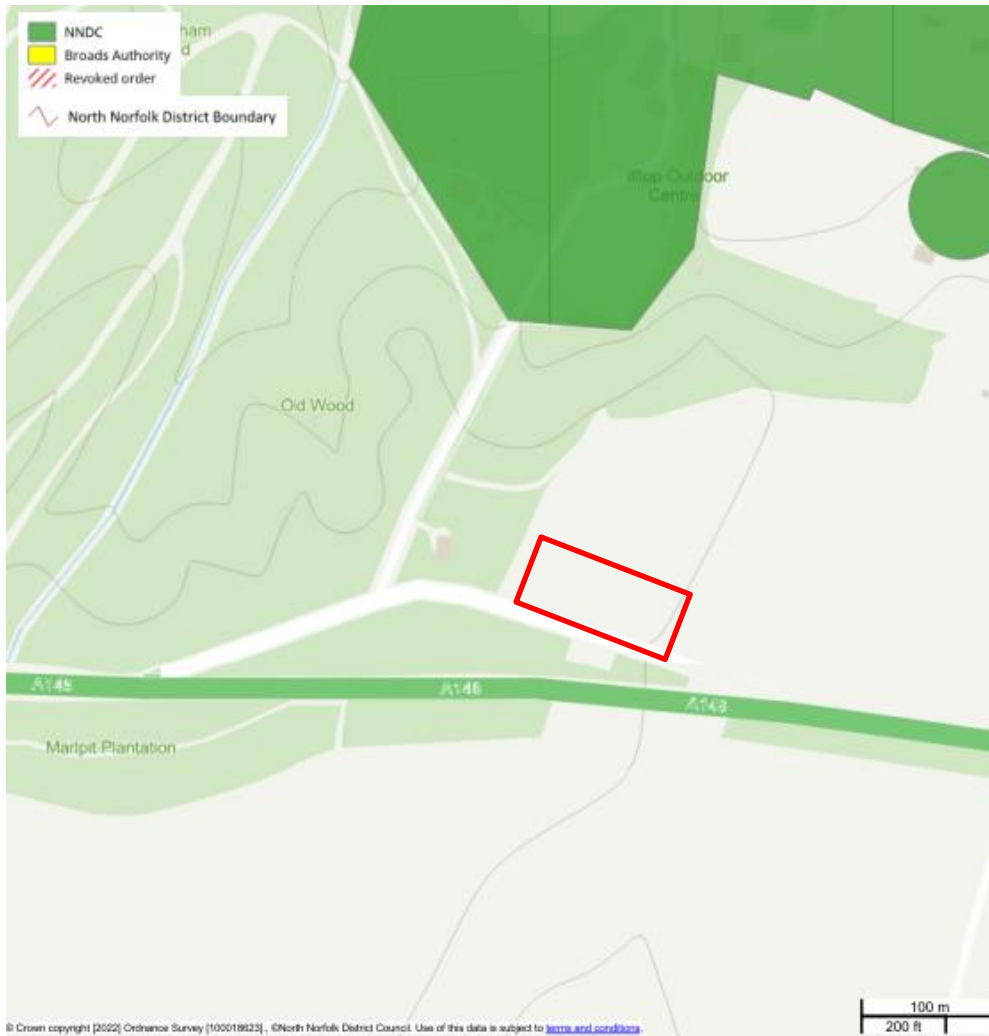


Figure 2 – Tree Preservation Order Plan. The approximate site location is shown in red.

It is advisable to contact the local authority regarding Tree Preservation Orders and Conservation Areas before any tree works are carried out, as new Tree Preservation Orders can be made subsequent to the issuing of this report.

3.2 Proposed Development

A proposed development Plan, Drawing ref. 49868/2001/101 Rev P05, has been supplied by the Client and is included within Appendix 6. The proposed development comprises the creation of a new recycling centre. The Sheringham New Access to Recycling Centre General Arrangement Plan, Drawing number PQ3038-HP4-0100-001 Rev P01 shows the modifications that will be made to the access road for the site.

3.3 Proposed Impact on Trees

The potential impacts of the proposed development on the existing trees are listed within Table 1 below. Tree Constraints Plan, Drawing ref. 6985,EC,AR/001/Rev0, shows the locations of the trees present on site at the time of the survey. The Tree Removal plan, Drawing ref. 6985,EC,AR/002/Rev0, shows which trees will be removed and which trees will be retained. The Tree Protection Plan, Drawing ref. 6985,EC,AR/003/Rev0, shows the protection measures required for the retained trees. All plans are included within Appendix 6.

Table 1 – Proposed Impact of Construction on Trees		
Tree Number	Category	Impact on Tree
G2	C	Remnant shrubs of a defunct hedgerow: These trees will need to be removed to facilitate the development.
G1	B	Young plantation woodland, with a margin of scrub and bramble: A section of this group will need to be removed to facilitate the access road. Some trees within this group will also require ground works and resurfacing works within the edges of the root protection areas.
G3	C	Hedgerow adjacent to the site: This group is far enough away from the development works and can be completely protected by Tree Protection Fencing, as such no impact is anticipated.

4. TREE MANAGEMENT PLAN

4.1 Tree Construction Method Statement

The Arboricultural Method Statement has been included in Appendix 7.

4.2 Tree Protection Barriers

Tree Protection Plan, Drawing ref. 6985,EC,AR/003/Rev0 in Appendix 6, shows the location of protective barriers which will need to be put in place, prior to demolition/construction works. The type of barriers that will be required is detailed within the Arboricultural Method Statement in Appendix 7. Existing barriers such as garden fences may need to be reinforced during construction works.

4.3 Arboricultural Supervision

A pre-commencement meeting should be held between the Local Authority Tree officer, the Consultant Arboriculturalist and the Site manager to ensure that roles and responsibilities are understood and that appropriate tree protection measures are put in place. Arboricultural monitoring should be implemented throughout the development to ensure Tree Protection measures are sufficient throughout development as per the Arboricultural Method Statement in Appendix 7.

4.4 Works within root protection areas

G1, will require works within the root protection area, as highlighted on Tree Protection Plan Drawing ref. 6985,EC,AR/003/Rev0. Due to this being a woodland group the individual Root Protection Areas are difficult to determine, as such the areas shown on the protection plan are indicative. The works within the root protection areas here will have to be undertaken with Arboricultural supervision. Small trees that have not been recorded may need to be removed to facilitate the works.

Arboricultural supervision will be required for any demolition, excavation and construction within these areas to ensure roots are not damaged during works, as per the Arboricultural Method Statement in Appendix 7.

4.5 Services and Drainage

It is not anticipated that services will be installed within the root protection areas of any of the retained trees.

4.6 Tree Pruning

Tree work recommendations have been made in the Tree survey Schedule in Appendix 3. These tree works should be undertaken before the commencement of construction, to ensure the safety of the construction site.

Remedial tree works should be undertaken following the completion of construction works. This will include removing any branches which have become hazardous as a result of accidental damage during construction works.

All specified tree work is to be carried out in general accordance with BS 3998:2010 Tree work – Recommendations, (ref. **R.3**), by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover.

4.7 Tree Planting

To mitigate the loss of trees additional trees could be planted within the proposed landscape areas on site. Trees selected for planting should be native and beneficial to wildlife. An appropriate after care scheme should be implemented to ensure the newly planted trees reach maturity.

5. CONCLUSIONS

G2, will need to be removed to facilitate the development. A section of G1, will need to be removed to facilitate the access road, the tree removals will only be from the area marked on the tree removal plan.

G1, will require works within the root protection area, as highlighted on Tree Protection Plan Drawing ref. 6985,EC,AR/003/Rev0. Due to this being a woodland group the individual Root Protection Areas are difficult to determine, as such the areas shown on the protection plan are indicative. The works within the root protection areas here will have to be undertaken with Arboricultural supervision. Small trees that have not been recorded may need to be removed to facilitate the works.

The site is not within a Conservation Area and there are no Tree Preservation Orders onsite.

APPENDICES

Appendix 1 – Report Limitations and Conditions

General Limitations and Exceptions

This report was prepared solely for our Client for the stated purposes only and is not intended to be relied on by any other party or for any other use. No extended duty of care to any third party is implied or offered.

Geosphere Environmental Ltd does not purport to provide specialist legal advice.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered within the context of the whole report.

Interpretations and recommendations contained within the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based upon current legislation in force at that time.

Arboricultural Limitations and Exceptions

This report is prepared and written in the context stated in the introduction to this report and should not be used in a differing context. Furthermore, new information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

The trees were not climbed but surveyed from ground level. The survey recorded any defects which were observed, but a full tree health and safety inspection for the site is beyond the scope of this survey.

Any physical changes that happen to the site after the tree survey was undertaken have the potential to invalidate or change the findings of this report. Therefore, the consultant shall not be responsible for any event that may happen after the survey was undertaken due to factors that were not apparent at the time.

Any hazards that were visible on the day of the survey have been noted in the tree management recommendations section of the tree survey schedule. However, this report should not be considered a substitute for a tree risk assessment or management plan, which would be required to minimise the risk and liability associated with the trees found on site.

Appendix 2 – References

- R.1.** Geosphere Environmental Ltd 2022 Arboricultural Survey Report, Report reference number: 6985,AR,ARB,RF,TC,KL.14-12-22.V1
- R.2.** BSI (2012). BS 5837:2012 Trees in relation to design, demolition and constructions- Recommendations.
- R.3.** BSI (2010). BS 3998:2010 Trees work- Recommendations.
- R.4.** Stace, C. A. (2010). New Flora of the British Isles (third edition), Cambridge University Press.
- R.5.** Johnson and More (2006). Tree Guide, Harper Collins Publishers Ltd.
- R.6.** North Norfolk District Council (2022) Search for tree preservation orders (TPOs) (accessed online 20-01-23) website: <https://www.north-norfolk.gov.uk/tasks/conservation/search-for-tree-preservation-orders-tpos/>
- R.7.** British Geological Survey (accessed 20 January 2023) Geology of Britain Viewer website: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>.
- R.8.** National House-Building Council, Standards, Chapter 4.2, 2021 'Building Near Trees'.

Appendix 3 – Tree Survey Schedule

TREE SURVEY SCHEDULE

Project Number: 6985,EC,AR

Project Name: Sheringham Recycling Centre, Holt Road, East Beckham,
Sheringham, NR26 8TW

Survey Date: 02/10/2022

1	2	3	4	5	6				7	8	9	10	11	12	13	14	15	16
Tree No.	Species	Height (m)	Stem Diameter (mm)	No. of Stems	Branch Spread (m)				First Branch Height (m)	Canopy Height (m)	Life Stage	Physiological Conditions	Structural Conditions	Remaining Contribution (years)	Category Grading	RPA (m ²)	RPA Radius (m)	Tree Work Recommendations / Comments
					N	E	S	W										
G1	Ash, Pedunculate Oak, Field maple, Wild cherry	12	250	1	4	4	4	4	5	1	Y-SM	F	F	20+	B	28.3	3	
G2	Field Maple	4	50	1	1.5	1.5	1.5	1.5	1	1	Y	F	F	20+	C	1.1	0.6	
G3	Hawthorn	1	50	1	0.5	0.5	0.5	0.5	0	1	Y	F	F	20+	C	1.1	0.6	

Appendix 4 – Survey Schedule Descriptions

TREE SURVEY SCHEDULE DESCRIPTIONS

Tree Survey Schedule Description		
Column Number	Heading	Description
1	Tree No.	Sequential reference number (as recorded on the tree constraints plan)
2	Species	Species listed by common name
3	Height (m)	Total height of the tree
4	Stem Diameter (mm)	Stem diameter measured at 1.5 m above ground level in accordance to BS 5837:2012
5	No of stems	Total number of stems of a tree
6	Branch spread (m)	Branch spread, taken at the four cardinal points, to derive an accurate representation of the crown (plotted on the tree constraints plan)
7	First branch hgt (m)	Existing height above ground level of first branch measured at the union with the stem
8	Canopy hgt (m)	Existing height of the average clearance of the canopy above ground level
9	Life stage	The age of the tree determined by life stage category: Y- young, SM- semi-mature, EM- early mature, M- mature, OM- over mature, V- veteran
10	Physiological condition	The physiological condition of a tree based on a tree health assessment: G- good, F- fair, P- poor, D- dead
11	Structural condition	The structural condition of a tree based on structural integrity and signs of structural defects which may cause failure: G- good, F- fair, P- poor, D- dead
12	Remaining contribution (yrs)	Estimated remaining contribution in years that the trees will have on the landscape in their current context. A tree will not necessarily remain safe for the entirety of the remaining years. The remaining contribution has been categorised as follows: <10, 10+, 20+ and 40+
13	Category grading	The trees have been graded as per BS 5837: 2012 recommendations. The grading is formed by a letter and a number. The letter denotes the quality grading of the tree, the number represents one of three sub categories. Sub categories 1, 2 and 3 reflect arboricultural, landscape and cultural qualities respectively. The primary letter grading is as follows: U- Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years A- Trees of high quality with an estimated remaining life expectancy of at least 40 years B- Trees of moderate quality with an estimated remaining life expectancy of at least 20 years C- Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm
14	RPA radius (m)	The root protection area radius calculated following BS 5837: 2012
15	RPA (m ²)	The root protection area calculated following BS 5837: 2012
16	Tree work recommendations/ comments	Work which is recommended for a tree to improve its longevity and safety in its present context. The recommendations are recorded primarily to assist with the categorisation of the trees. Please see Section 6, Tree Management for further limitations.

TITLE
Tree Survey Schedule
Descriptions

DATE
20/01/2023

PAGE NO. 1 of 1

Appendix 5 – Key to Scientific Names

SCIENTIFIC NAMES KEY



Common Name	Scientific Name
Field Maple	<i>Acer campestre</i>
Ash	<i>Fraxinus excelsior</i>
Wild Cherry	<i>Prunus avium</i>
Pedunculate Oak	<i>Quercus robur</i>

REFERENCE

Common and scientific names based on Stace (2010) *New flora of the British Isles* (3rd Edition), Cambridge University Press. For species not present in Stace, scientific and common names were taken from Johnson and More (2006). *Tree Guide*, Harper Collins Publishers Ltd.

TITLE

Scientific Names Key

Appendix 6 – Drawings

Proposed Development Plan – Drawing ref. 49868/2001/101 Rev P05

The Sheringham New Access to Recycling Centre General Arrangement Plan – Drawing ref. PQ3038-HP4-0100-001 Rev P01

Tree Constraints Plan – Drawing Ref. 6985,EC,AR/001/Rev0

Tree Removal Plan – Drawing Ref. 6985,EC,AR/002/Rev0

Tree Protection Plan – Drawing Ref. 6985,EC,AR/003/Rev0

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Notes

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

- All dimensions are in millimetres unless noted otherwise.
- All levels are in metres relative to Ordnance Datum Newlyn unless noted otherwise.
- All coordinates are in metres relative to Ordnance Survey National Grid.
- The Contractor is to verify all dimensions on site before commencing work or preparing shop drawings.
- This drawing is to be read in conjunction with all Engineers and Architects drawings and specifications.

P05 Site levels and issue status updated	DF	TB	2023.01.09
Issued/Revision	By	Appd	YYYY.MM.DD
	DF	TB	2022.08.22
	Dwn.	Dsgn.	Chkd. YYYY.MM.DD

Issue Status

PLANNING APPROVAL

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Client/Project Logo



Client/Project
 NORFOLK COUNTY COUNCIL

SHERINGHAM RECYCLING CENTRE

Title
 PROPOSED GENERAL ARRANGEMENT AND LEVEL DESIGN

Project No. 49868	Scale A2 @ 1:250
Revision P05	Drawing No. 49868/2001/101

2

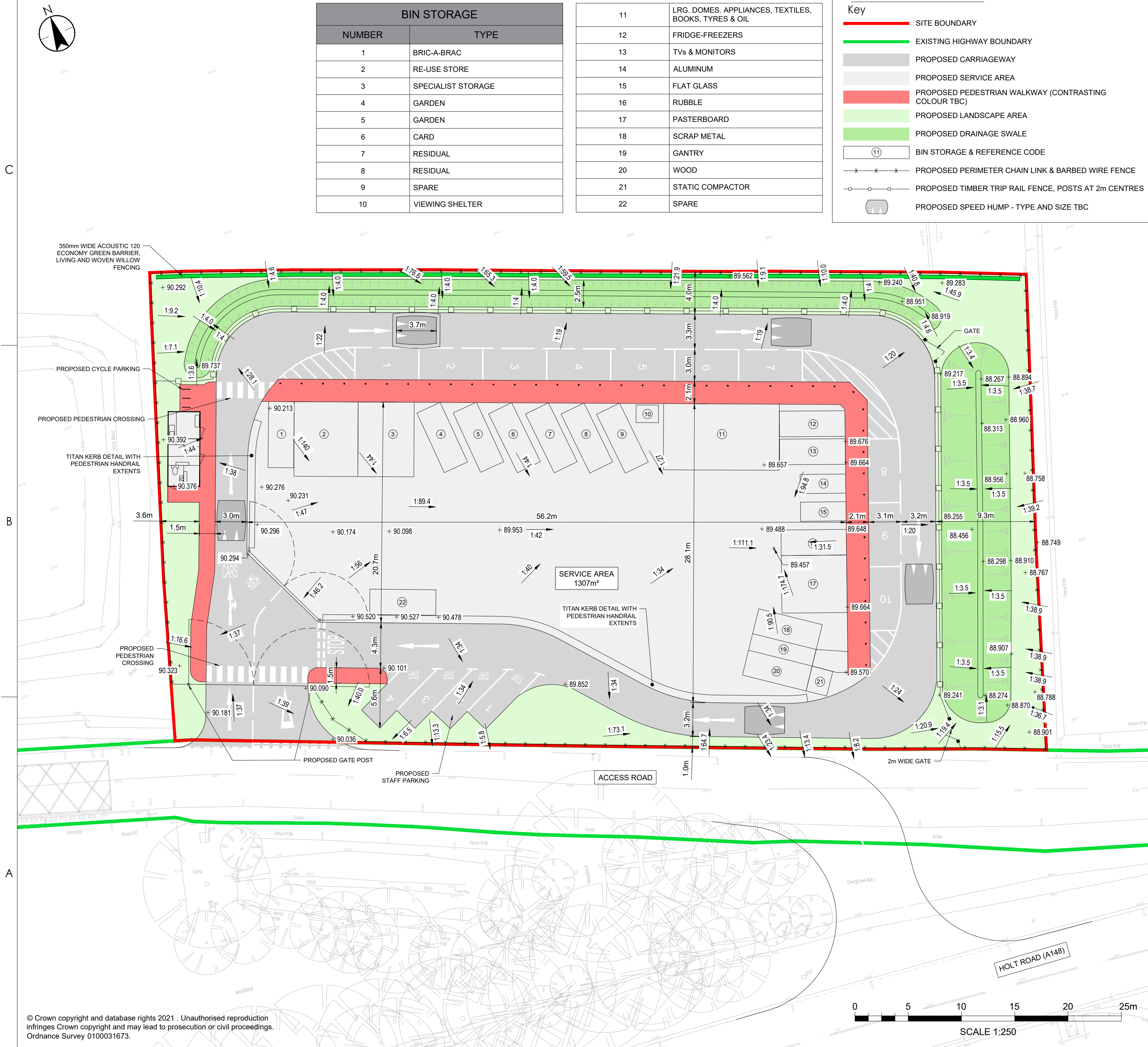
3

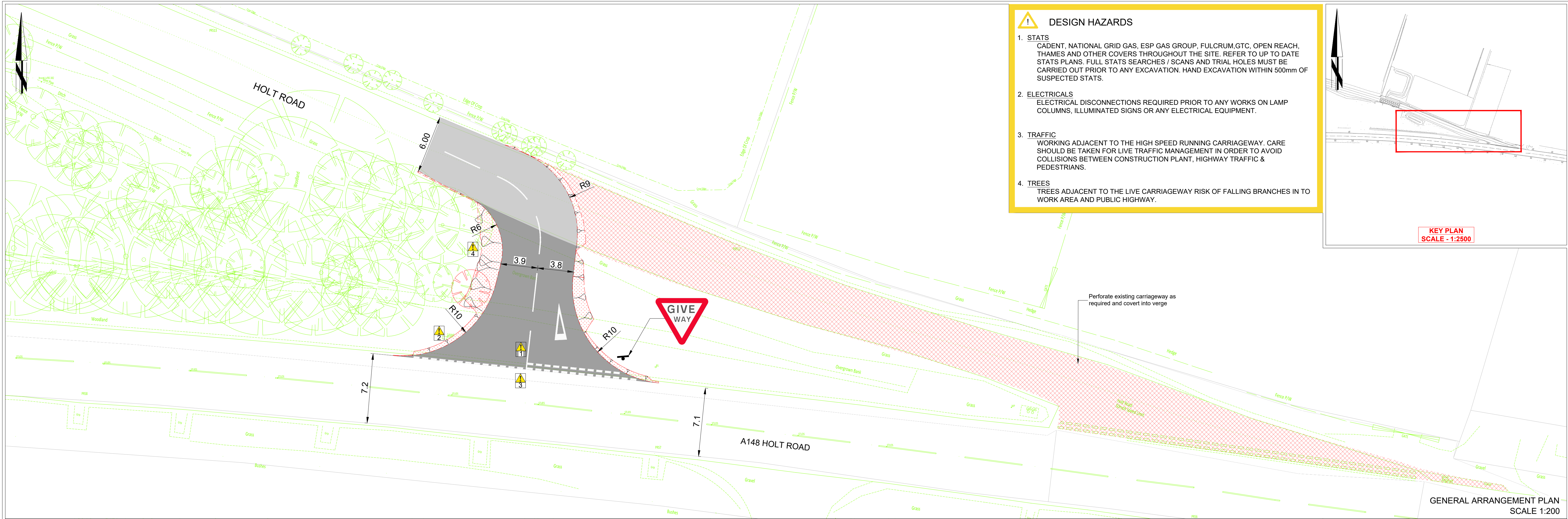
BIN STORAGE	
NUMBER	TYPE
1	BRIC-A-BRAC
2	RE-USE STORE
3	SPECIALIST STORAGE
4	GARDEN
5	GARDEN
6	CARD
7	RESIDUAL
8	RESIDUAL
9	SPARE
10	VIEWING SHELTER

11	LRG. DOMES, APPLIANCES, TEXTILES, BOOKS, TYRES & OIL
12	FRIDGE-FREEZERS
13	TVs & MONITORS
14	ALUMINUM
15	FLAT GLASS
16	RUBBLE
17	PASTERBOARD
18	SCRAP METAL
19	GANTRY
20	WOOD
21	STATIC COMPACTOR
22	SPARE

Key

- SITE BOUNDARY
- EXISTING HIGHWAY BOUNDARY
- PROPOSED CARRIAGEWAY
- PROPOSED SERVICE AREA
- PROPOSED PEDESTRIAN WALKWAY (CONTRASTING COLOUR TBC)
- PROPOSED LANDSCAPE AREA
- PROPOSED DRAINAGE SWALE
- (11) BIN STORAGE & REFERENCE CODE
- x — x — x — PROPOSED PERIMETER CHAIN LINK & BARBED WIRE FENCE
- o — o — o — PROPOSED TIMBER TRIP RAIL FENCE, POSTS AT 2m CENTRES
- PROPOSED SPEED HUMP - TYPE AND SIZE TBC





Key:

- Proposed road markings
- Proposed carriageway construction
- Existing carriageway resurfacing
- Proposed earthwork
- Visibility Splay Line
- Visibility Splay Envelope
- Existing trees to be removed
- Safety hazards

Notes:

1. Ordnance survey details shown coloured grey; do not scale from OS details.
2. Existing surveyed details are shown coloured green.
3. This drawing is to be read in conjunction with all other drawings, specification and other related information.
4. Do not scale from this drawing.
5. All dimensions are in metres unless otherwise stated.

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Norfolk County Council






Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

DRAWING TITLE
SHERINGHAM, NEW ACCESS TO RECYCLING CENTRE
GENERAL ARRANGEMENT
SHEET 1 OF 1

REV.	DESCRIPTION	CHECKED	DATE
P01	FIRST ISSUE	--	--

DESIGNED BY	INITIALS	DATE	DRAWING No. PQ3038-HP4-0100-001
	PKN	28-10-22	
DRAWN BY	RS	28-10-22	PROJECT TITLE SHERINGHAM, NEW ACCESS TO RECYCLING CENTRE
CHECKED BY	TL	28-10-22	SCALE AS SHOWN
APPROVED BY	RF	28-10-22	FILE No. PQ3038

LEGEND

-  Category U
-  Category A
Trees of high quality
-  Category B
Trees of moderate quality
-  Category C
Trees of low quality
-  RPA using formula in accordance with BS5837:2012

denotes estimated values due to lack of access

Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

The original of this drawing was produced in colour – a monochrome copy should not be relied upon

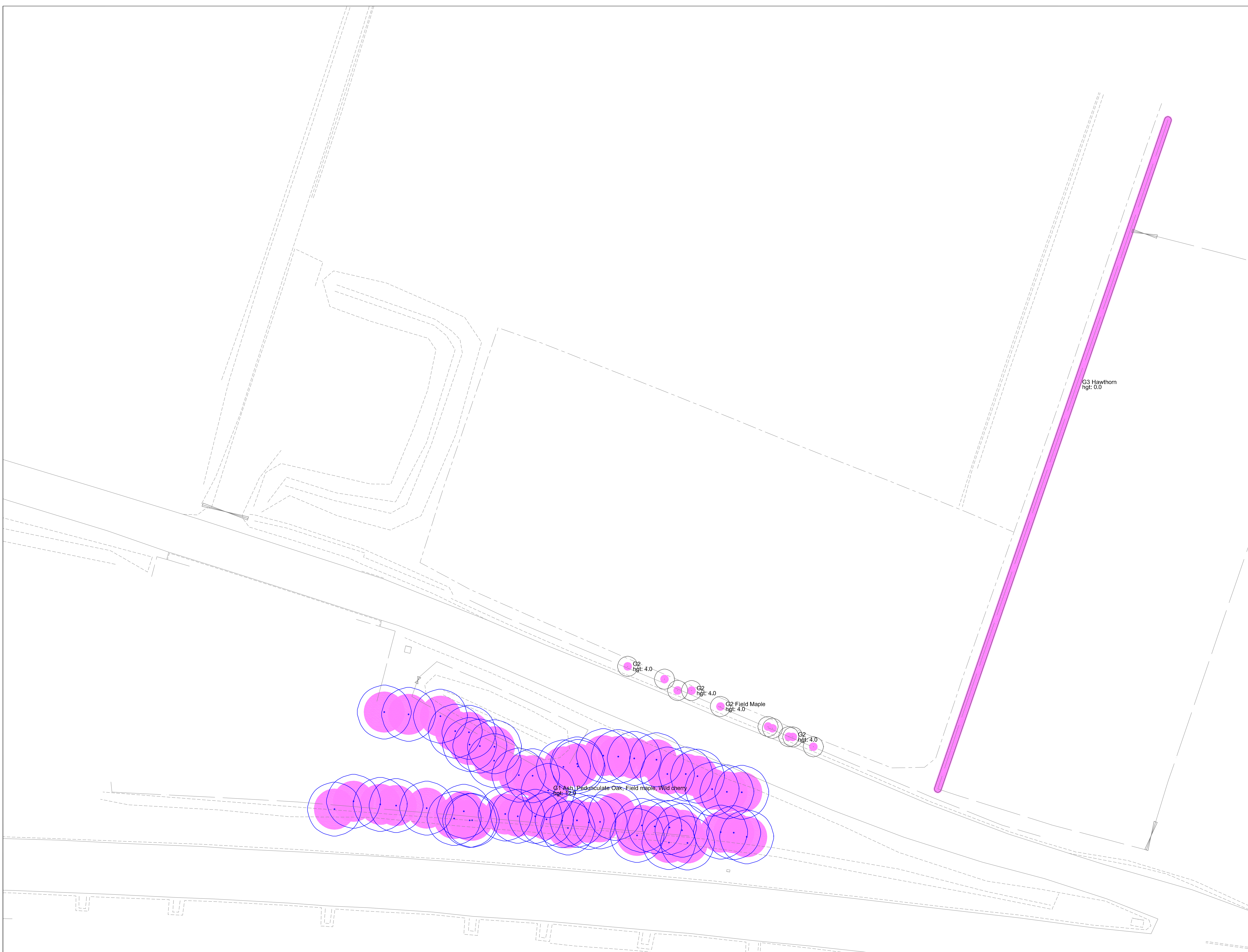
LOCATIONS ARE APPROXIMATE.

PROJECT
Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW






TITLE
Tree Constraints Plan

DRAWING NUMBER
6985,EC,AR/001/rev0

SCALE 1:250 @ A1 **DATE** 26/10/22



LEGEND

-  Category U
-  Category A
Trees of high quality
-  Category B
Trees of moderate quality
-  Category C
Trees of low quality
-  Trees to be removed

denotes estimated values due to lack of access

Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

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LOCATIONS ARE APPROXIMATE.

PROJECT
Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW

TITLE
Tree Removals Plan








DRAWING NUMBER
6985,EC,AR/002/rev0

SCALE 1:250 @ A1 **DATE** 17/01/23



REV | DATE | DESCRIPTION

LEGEND

-  Category U
-  Category A
Trees of high quality
-  Category B
Trees of moderate quality
-  Category C
Trees of low quality
-  RPA using formula in accordance with BS5837:2012
-  Location of Protective Fencing
-  Root Protection Area not protected by protective barriers (special care needed)

denotes estimated values due to lack of access

Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

The original of this drawing was produced in colour – a monochrome copy should not be relied upon

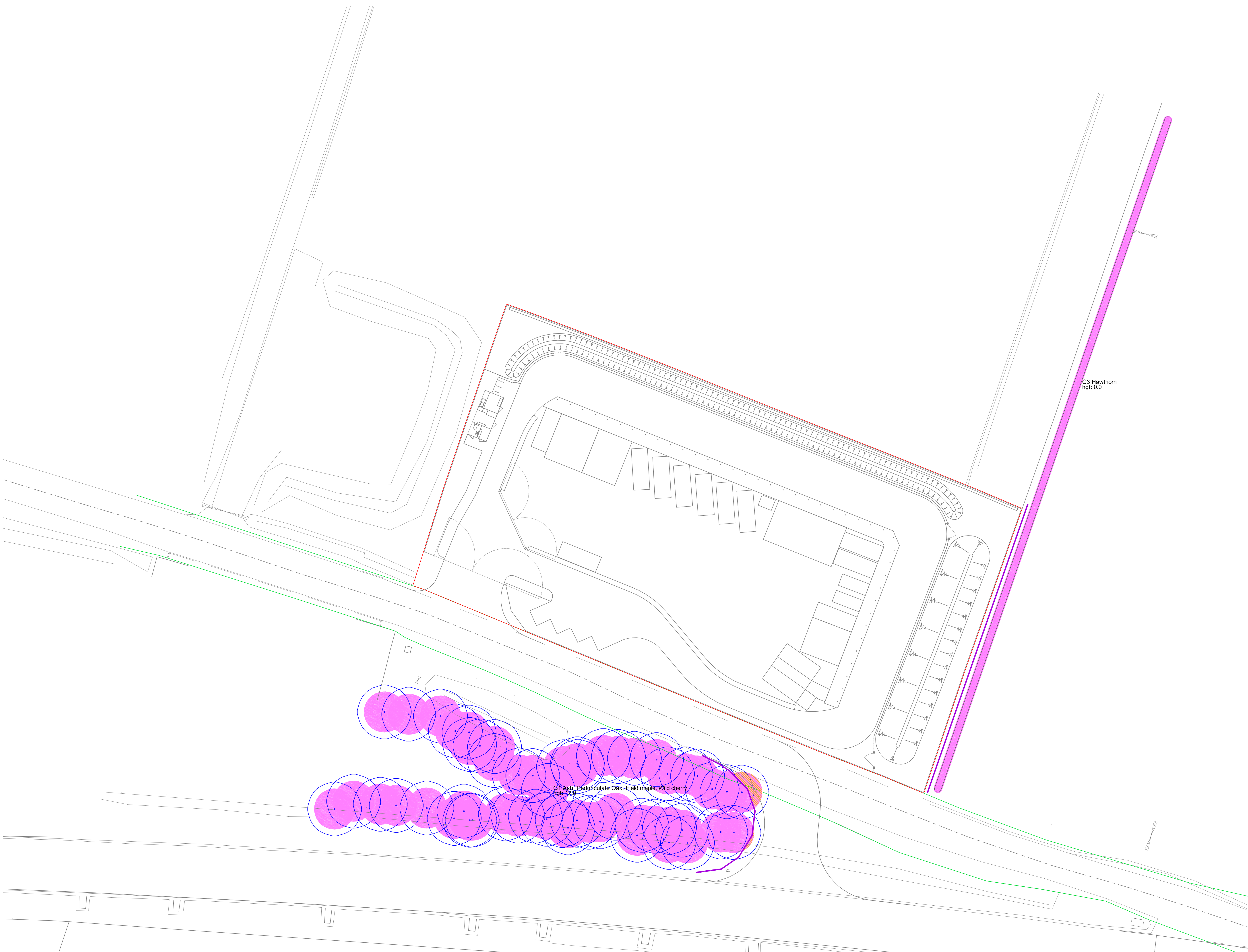
LOCATIONS ARE APPROXIMATE

PROJECT
Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW

TITLE
Tree Protection Plan

DRAWING NUMBER
6985,EC,AR/003/rev0

SCALE 1:250 @ A1 DATE 17/01/23



Appendix 7 – Arboricultural Method Statement

ARBORICULTURAL METHOD STATEMENT FOR A PROPOSED COMMERCIAL DEVELOPMENT AT SHERINGHAM RECYCLING CENTRE, HOLT ROAD, EAST BECKHAM, SHERINGHAM, NR26 8TW

1. INTRODUCTION

1.1 Aim

The aim of this Arboricultural Method Statement is to outline working practices to ensure that planning conditions are fulfilled during the construction works at the site located at Sheringham Recycling Centre, Holt Road, East Beckham, Sheringham, NR26 8TW.

1.2 Root Protection Area

The Root Protection Area refers to an area of ground around a tree which needs to be protected to comply with planning conditions. It is calculated as the area a tree will need to be sufficiently rooted to the ground in order to survive and remain safe. If any damage is caused to the roots within this area, a tree will suffer health consequences and may become a hazard.

The Root Protection Area is plotted on the Tree Constraints Plan Drawing ref. 6985,EC,AR/001/Rev0. The Tree Protection Plan Drawing ref. 6985,EC,AR/003/Rev0 details the type of protection that is suitable, for example protective barriers to limit access to an area, or ground protection to protect the roots under the ground.

1.3 Construction Exclusion Zones

Barriers will be erected to protect tree canopies and Root Protection Areas. These barriers will remain in place until construction works are complete. Once the barriers are erected, they delineate the boundary between the construction zone and the construction exclusion zone. No construction activities will be undertaken within the construction exclusion zones, unless written authorisation is granted by the local planning authority.

The Project Arboriculturalist can authorise the movement of the construction exclusion zone at stages of development, where specified on the Tree Protection Plan, drawing ref. 6985,EC,AR/001/Rev0, for example to allow specified work to commence within the Root Protection Areas, under specific circumstances as outlined below in section 3.2 - Works within the Root Protection Area.

1.4 Schedule Of Arboricultural Supervision

Table 1 below details the development phases and the required arboricultural supervisory input.

Table 1 – Development Phases and Arboricultural Input	
Phase of Development	Arboricultural Input
Phase 1 - Preconstruction	<ul style="list-style-type: none"> ● Planning; ● Tree pruning; ● Install tree protection fencing; ● Inspect site to ensure tree protection is installed correctly.
Phase 2 - Construction Process	<ul style="list-style-type: none"> ● Monthly monitoring to ensure protective barriers are in place, and appropriately maintained; ● Supervision of any works within Root Protection Areas; ● Recording evidence for submission to the local authority.
Phase 3 - Post Construction	<ul style="list-style-type: none"> ● Post development inspection; ● Removal of protective fencing; ● Remedial tree pruning or other works; ● Signing off and closing report.

2. PHASE 1- PRECONSTRUCTION

2.1 Appoint a Project Arboriculturalist

A Project Arboriculturalist will be appointed to oversee all the arboricultural aspects of the development project outlined in this method statement. It is recommended that the arboriculturalist takes an active role in the development from the beginning of the project to advise in the planning stage, and supervise site works throughout development. The arboriculturalist will be appropriately qualified and experienced.

2.2 Tree Pruning

A Tree Management Plan has been drawn up stating any tree work recommendations that have been made throughout the tree survey process and Arboricultural Impact Assessment. These recommendations will be carried out before any construction operations begin. This will include all facilitation pruning to allow access for all construction works to go ahead throughout the construction process.

If any unforeseen tree work becomes necessary during the construction phase, written consent must be sought from the Arboricultural consultant before any further pruning works can commence.

Any trees which are removed in the development process will have a replacement tree replanted to mitigate against its loss. Consideration should be taken to ensure that a suitable tree species is selected for the space available. Species and varieties local to the area of development should be considered first when selecting suitable species.

All tree works undertaken will comply with BS 3998:2010 Trees work- Recommendations.

2.3 Potential Damage to Stems and Limbs

The trees will be pruned prior to the beginning of construction to allow adequate clearance for construction work to commence. Beyond this, care must be taken to ensure that all activities on site are planned so that no plant or materials come into contact with the remaining trees.

In the event of damage to trees, the project arboriculturalist must be contacted, in order that they may assess any hazards that may have arisen from the damage.

2.4 Protective Barriers

Temporary protective barriers will be erected as detailed in the Tree Protection Plan Drawing ref. 6985,EC,AR/003/Rev0. The designs for barriers are specified in BS 5837: 2012. The barriers must be fit for the purpose of excluding construction activity and be appropriate to the degree and proximity of the work to the protected tree.

Where construction activities are limited, and there is a low risk of incursions into the protected area it is acceptable to use 2m high weldmesh panels, with rubber or concrete supports and back stay supports as shown in Figure 1 below.

In cases where construction activities provide a higher risk than in low risk situations, more sturdy barriers will be required. BS 5837: 2012 stipulates that in such situations a scaffolding frame should be driven at least 0.6m into the ground with mesh panels attached, as shown in Figure 2 below.

Once the exclusion zone has been protected by barriers and/or ground protection, construction can commence. All weather notices will be fixed to the barriers with the words: "Construction exclusion zone – Keep out" or similar.

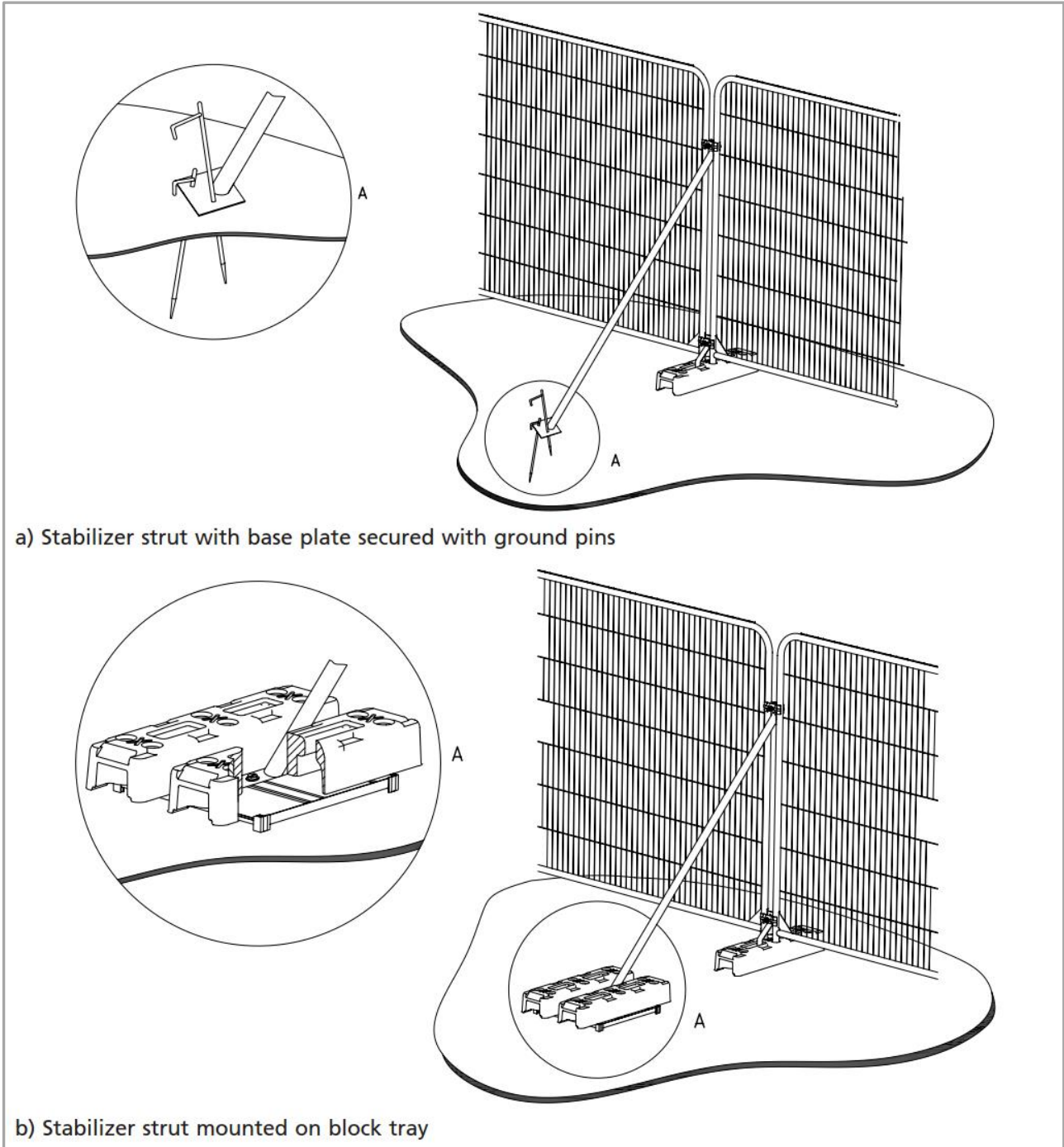


Figure 1. Low risk fencing solution from BS 5837: 2012

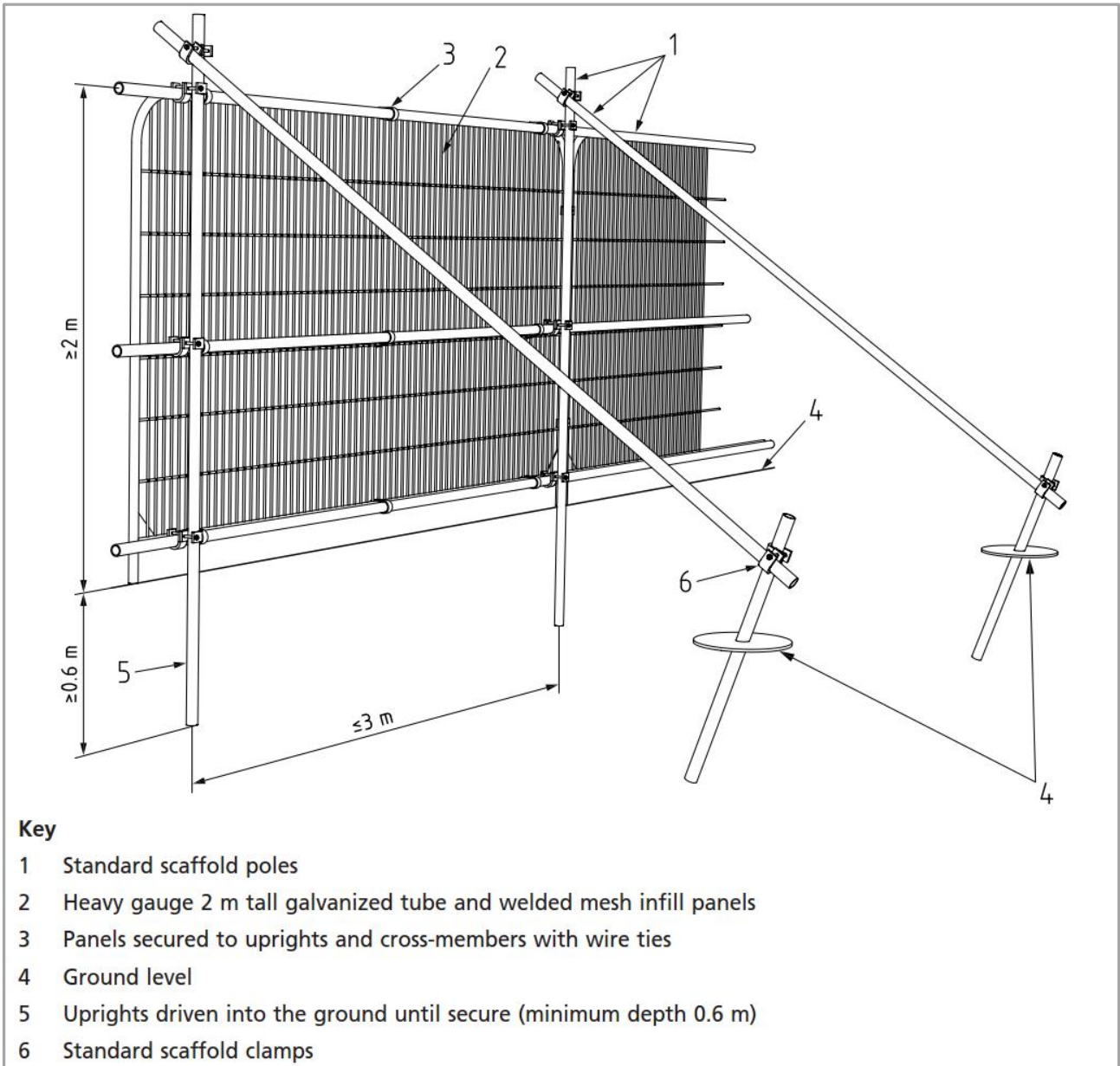


Figure 2. Standard fencing solution from BS 5837: 2012

2.5 Pre-development Inspection

The pre-development pruning works, protective fencing and ground protection will be signed off by the project arboriculturalist before proceeding to the construction phase.

3. PHASE 2- CONSTRUCTION PROCESS

3.1 Monitoring

The site will be monitored on a monthly basis by the Project Arboriculturalist to gather evidence that the construction works follow the recommendations of the Arboricultural Method Statement. Accurate records must be kept so a closing report can be submitted after development has been completed.

3.2 Works within Root Protection Areas

All works within the Root Protection Areas will only be undertaken in areas marked on the Tree Protection Plan Drawing ref. 6985,EC,AR/003/Rev0, and will require on site arboricultural supervision, this is anticipated to only be the works around the new access road regarding G2.

3.2.1 Excavation in the Root Protection Area

Where Excavations are required within the root protection areas, the excavation will initially be made manually with hand tools to expose any roots. It is anticipated that excavations will be required for ground works and the installation of the new access road around G2.

If any major roots are discovered, the roots will have to remain in place and the excavation will have to continue around the roots. Any roots encountered with a diameter of less than 25mm, may be pruned with a clean cut by a sharp tool. The project Arboriculturalist will be consulted before severing any roots or clumps larger than the specified 25mm.

If it is not possible to retain enough roots for a tree to survive as judged by the arboriculturalist, then the tree will be removed.

Any roots exposed during the excavations will be protected from desiccation by a suitable cover. Prior to back-filling, the protective cover will be removed and a suitable topsoil will be used to surround any exposed roots.

Back-fill of removed soil will be carried out manually. The soil will be replaced carefully, so as not to damage the roots and to ensure the soil is not compacted. The soil will be backfilled so the original ground level is maintained.

3.3 Works Outside the Construction Exclusion Zones

Other works onsite which may damage trees will have to be controlled so the damage to trees is limited. For example, excessive dust generated through demolition and construction works will be removed from trees by spraying water over the trees.

4. PHASE 3- POST CONSTRUCTION

4.1 Post Construction Inspection

When the construction process is complete, the site will be inspected by the project arboriculturalist or Local Authority Tree Officer. The inspection will be used to gather evidence on the condition of trees post construction and to advise any remedial action that may need to be taken. The evidence gathered during the inspection will be used for a closing report which provides evidence that the work was carried out following the recommendations of this Arboricultural Method Statement.

4.2 Removal of Tree Protection

Following the Post construction inspection, the Project Arboriculturalist can authorise the removal of the protective fencing and ground protection. Any proposed landscaping operations by heavy machinery will be carried out before the protective fencing is removed.

4.3 Remedial Tree Works

During the Post Construction Inspection, the condition of the trees will be assessed. Any damage caused during construction will be noted, and remedial action will be recommended. Any tree works undertaken will comply with BS 3998:2010 Trees work- Recommendations.

4.4 Planting of trees lost during development

Trees will be planted onsite to mitigate any trees lost during development. The details of the planting scheme will be included in the landscape plans. The post construction inspection will include checking the condition of newly planted trees.

4.5 Closing Report

Once the construction works have been completed, a closing report will be submitted detailing evidence that works have been carried out correctly.



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