Landscape and Ecology Management Plan

Fleet Street, Holbeach, Lincolnshire

A Report To: Aldi Stores Ltd
Report Number: RT-MME-159871-01
Date: March 2023



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Quality Assurance

Date	Version	Author	Checked and Approved by
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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of Practice for Planning and Development". The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Disclaimer

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

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1. Introduction

1.1 Project Background

In February 2023, Aldi Stores Ltd commissioned Middlemarch to produce a Landscape and Ecology Management Plan (LEMP) in order to ensure the on-going biodiversity value of the proposed development at Fleet Street in Holbeach, Lincolnshire. This plan is required to discharge draft planning conditions associated with the proposed development, as set by South Holland District Council (application number H09-1057-22).

Condition 13 states:

> '*Notwithstanding the information contained in the submitted Biodiversity Metric Assessment, Biodiversity Calculations and Soft Landscaping Plan (ref MEL-535-001 Rev P3), prior to the occupation of development hereby permitted a specification (including methodology and programme of implementation) of compensation and enhancement measures for biodiversity shall be submitted to and approved in writing by the Local Planning Authority. The specification shall include details of initial aftercare and long-term maintenance as well and details of monitoring and remedial measures. The works so approved shall be carried out in accordance with the approved programme of implementation and be retained thereafter for the lifetime of the development. On completion of the agreed compensation and enhancement measure in accordance with the approved programme of implementation, required as part of this condition, the development shall be inspected by a qualified ecologist and a statement of conformity and a copy of any Natural England protected species licenses as appropriate shall be submitted to the Local Planning Authority to confirm whether all of the measures for enhancing biodiversity have been implemented in accordance with the details approved under this condition.*
>
> *Reason: To enhance biodiversity This Condition is imposed in accordance with Policy 28 of the South East Lincolnshire Local Plan, 2019 and national guidance contained in Section 15 of the National Planning Policy Framework, 2021*.'

Condition 15 states:

> '*Notwithstanding the maintenance details submitted as part of the application before the first occupation of the development hereby permitted a schedule of landscape maintenance in perpetuity has been submitted to and approved in writing by the local planning authority. The schedule shall include details of the arrangements for its implementation, long-term design objectives, management responsibilities and maintenance schedules for all landscape areas (excluding domestic gardens). The approved landscape maintenance schedule shall be fully implemented.*
>
> *Reason: To ensure the proposed development does not have an adverse effect on the character and appearance of the area. This Condition is imposed in accordance with Policy 28 of the South East Lincolnshire Local Plan, 2019 and national guidance contained in Section 15 of the National Planning Policy Framework, 2021*.'

Middlemarch has previously carried out the following surveys/assessments for Aldi Stores Ltd at this site:

- Preliminary Arboricultural Assessment (Report RT-MME-157409-01 Rev A);
- Preliminary Ecological Appraisal (Report RT-MME-158436-01);
- Preliminary Bat Roost Assessment (Report RT-MME-158436-02);
- Biodiversity Metric Assessment (Report RT-MME-158436-03 Rev B);
- Dusk Emergence Bat Surveys and Bat Mitigation Strategy (Report RT-MME-159013); and,
- Arboricultural Impact Assessment (Report RT-MME-159040-01 Rev A).

This LEMP is designed to provide information regarding the long term (30 years) management of landscape and ecological habitat features to be retained and created on site. It contains the following information:

- Chapter 2: Context of the Plan
- Chapter 3: Management Objectives and Prescriptions
- Chapter 4: Implementation, Monitoring and Review
- Chapter 5: Drawings

The LEMP is a live document and may therefore be subject to review based on the findings of monitoring of the success of initial management. It is anticipated that at the end of the period covered by this plan a new LEMP will be compiled based on the findings of monitoring and in accordance with the best practice principles.

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	The site is located to the east side of Holbeach, a market town and civil parish in the South Holland District of Lincolnshire.
National Grid Reference	TF 36413 24708
Site Area (ha)	0.88 ha
Topography	Flat
Land Cover (on site)	At the time of the Preliminary Ecological Appraisal, the site was dominated by hardstanding, with five buildings/structures also present. Pockets of scrub were present, particularly in the north-east, south-east and west of the site and poor, semi-improved grassland with associated hedgerow and scattered trees was present to the north-east. Scattered introduced shrub was recorded throughout the site.
Land Cover (site surrounds)	The wider landscape was dominated by residential housing with associated gardens to all sides. The residential properties to the north were separated from the study site by Fleet Street, which ran parallel to the northern site boundary. Two large waterbodies (comprising Fishpond Lane Nature Reserve) were located approximately 60 m and 130 m west of the study site, beyond the residential properties associated with Rathkenny Close, beyond the residential properties associated with Rathkenny Close.

Table 1.1: Summary of Site and Surroundings

1.3 Description of Proposed Development

Under the current proposals (Drawing J21A89-STO_ZZ_XX_DR_A_0003_A2_P01 by STOAS Architects), a new retail supermarket is to be constructed on site, with associated access roads, parking areas and soft landscaping. It is understood that four existing trees along the eastern boundary of the site are to be retained and incorporated into the scheme.

Documentation made available by the client is listed in Table 1.2.

Document / Drawing Number	Author
Fleet Street, Holbeach - Site Location Plan (Drawing J21A89-STO_ZZ_XX_DR_A_0001_A2_P01)	STOAS
Fleet Street, Holbeach - Existing Site Plan (Drawing J21A89-STO_ZZ_XX_DR_A_0002_A2_P01)	STOAS
Fleet Street, Holbeach - Proposed Site Plan (Drawing J21A89-STO_ZZ_XX_DR_A_0003_A2_P01)	STOAS

Table 1.2: Documentation Provided by Client

2. Management Plan Context

2.1 Features to be Managed

Table 2.1 provides a summary of the landscape and ecological features on site for which management proposals are provided in this report. The location of features is marked on the Detailed Soft Landscaping plan (Drawing MEL-535-001 Rev P3 by Middlemarch) in Chapter 5.

Habitat	Description	Area/Length/ Number
Retained trees	A small number of scattered trees are to be retained along the eastern boundary. These comprise bay laurel *Laurus nobilis* (T2), yew *Taxus baccata* (T5), and English oak *Quercus robur* (T10 and T11).	4 no.
Proposed trees	Small specimen trees are to be planted on site, some of which are proposed to be native species and others will be commercial varieties: field maple variety *Acer campestre* 'Elsrijk', red maple variety *Acer rubrum* 'October Glory', silver birch *Betula pendula*, European hornbeam *Carpinus betulus*, callery pear variety *Pyrus calleryana* 'Chanticleer', bird cherry *Prunus padus*, bird cherry variety *Prunus padus* 'Albertii', whitebeam *Sorbus aria*, rowan variety *Sorbus aucuparia* 'Cardinal Royal', and small-leaved lime *Tilia cordata*.	18 no.
Retained scrub	An area of existing dense scrub (tree groups G5, G6 and G7) is to be retained along the western boundary. This area comprises holly *Ilex aquifolium*, ash *Fraxinus excelsior*, elder *Sambucus nigra*, and Lawson cypress *Chamaecyparis lawsoniana*. In order for this habitat to reach 'Moderate' condition, appropriate management prescriptions will be implemented.	0.03 ha
Proposed native shrub planting	Native shrub planting is to be created around the retained scrub along the western boundary and in an area on the eastern boundary near retained trees. Species will include hazel *Corylus avellana*, dogwood *Cornus sanguinea*, hawthorn *Crataegus monogyna*, spindle *Euonymus europaeus*, privet *Ligustrum vulgare*, blackthorn *Prunus spinosa*, and guelder rose *Viburnum opulus*. In order for this habitat to reach 'Moderate' condition, appropriate management prescriptions will be implemented.	0.13 ha
Proposed native hedge planning	Native hedge planting is to be created mainly on the southern and eastern site boundaries. Species will include field maple *Acer campestre*, dogwood, hazel, hawthorn, holly, privet, and guelder rose. In order for this habitat to reach 'Moderate' condition, appropriate management prescriptions will be implemented.	0.06 km
Faunal boxes	Birds: 2 no. hole fronted and 2 no. open fronted nest boxes are to be installed on retained trees within the existing dense scrub located along the western boundary.	4 no.
	Bats: As detailed within the Bat Mitigation Strategy (Report RT-MME-159013), 16 no. bat boxes will be installed on three retained trees along the eastern site boundary and on three poles along the western site boundary.	16 no.

Table 2.1: Summary of Landscape and Ecology Features to be Managed

2.2 Ecological Value of Features to be Managed

This section outlines the ecological value of each of the landscape and ecological features to be managed and indicates whether they provide a contribution to national or local biodiversity targets.

Trees

The retention of existing trees will provide continued nesting opportunities for a range of bird species of conservation concern, as well as providing habitat for invertebrates. The planting of new trees will provide a foraging resource in later summer/autumn for a variety of invertebrates, mammals and birds. It will take time for planted trees to mature but large size specimens should begin to provide resources within a year of planting.

Scrub

Through the retention of some of the existing dense scrub, the site will continue to provide habitat for wildlife including nesting birds, hedgehogs, and invertebrates. The area will also continue to support foraging wildlife including bats.

Native shrub planting

The creation of native shrub planting will provide ecological and structural diversity within the site. It will ensure the site offers a range of pollen and nectar resources for important pollinator species from early spring to summer, which will help contribute to the National Pollinator Strategy, as well as provide refuge and foraging habitat for a wide range of wildlife, including birds and small mammals. This habitat will also provide nesting opportunities for bird species, including song thrush *Turdus philomelos* and dunnock *Prunella modularis* both of which are Species of Principal Importance, and hibernation opportunities for hedgehog *Erinaceus europaeus* which is a Species of Principal Importance.

Hedgerows

The provision of native hedgerows will provide nesting habitat for bird species, including dunnock, a Species of Principal Importance.

Faunal boxes

The provision of bat and bird boxes will provide roosting opportunities for bats and nesting opportunities for birds.

3. Landscape and Ecology Management Proposals

3.1 Introduction

This chapter provides aims and objectives of management, and outlines specific management prescriptions, for each of the following features:

- Trees (Section 3.2);
- Scrub and native shrub planting (Section 3.3);
- Native hedge planting (Section 3.4); and,
- Faunal boxes (Section 3.5).

3.2 Trees

Aims and Objectives

Aims:

- Retain the existing trees on site in accordance with the Detailed Soft Landscaping Plan (Drawing MEL-535-001 Rev P3 by Middlemarch).
- Plant 18 no. trees across the site in accordance with the Detailed Soft Landscaping Plan (Drawing MEL-535-001 Rev P3 by Middlemarch).

Objectives:

- Provide and maintain suitable habitat for a range of invertebrate and bird species.
- Ensure the ongoing value of the habitat to biodiversity through appropriate management.

Management Prescriptions

Table 3.1 presents management activities in order to meet the aims and objectives outlined above.

				Year																												
Feature	**Prescription**	**Purpose**	**Timing**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Existing Trees	Minimal intervention strategy. Tree condition to be reviewed annually to ensure no risk to public from damaged/dead trees.	Reasons of public health and safety.	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Monitor tree health and consult qualified arboriculturalist with any potential issues. Any tree felling should consider a need to retain tree stumps. This is to be agreed on an individual basis in each situation.	Maintain tree health and allow habitat to provide for nesting birds and insects. Retention of tree stumps as standing dead wood to provide habitat for invertebrates.	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Proposed Trees	If required, soils to be cultivated/de-compacted prior to commencement of planting. Trees to be delivered to site immediately prior to planting being undertaken. Trees will be planted when soils are in a suitable condition, not waterlogged or frozen. If soils are compacted loosening will be undertaken.	Ensure that planted trees have the best possible chance of establishing at the site.	November to February	X																												
	During dry periods, the newly planted trees should be watered.	To ensure survival during establishment period.	Summer	X																												
	Stakes, ties and tree guards installed at time of planting to be checked regularly during establishment phase and loosened, tightened, or replaced as necessary, or removed if no longer required. Stakes will be removed during year 3.	To ensure established trees are not constrained.	-	X	X	X																										
	All failed trees will be replaced on a like-for-like basis. If for any reason large-scale losses of trees occur, then an arboricultural assessment may be required to determine reasons for failure and identify appropriate remedial action.	To ensure trees become successfully established.	-	X	X	X	X	X																								

Table 3.1: Tree Management Prescriptions (cont's)

				Year																												
Feature	**Prescription**	**Purpose**	**Timing**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	Minimal intervention strategy. Tree condition to be reviewed annually to ensure no risk to people from damaged/dead trees.	Allow habitat to establish and provide important features for nesting birds and insects. Reasons of public health and safety.	-						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Dead trees to be retained where possible within areas with no public access. If dead trees are identified within prominent public locations, trees are to be replaced.	Deadwood provides valuable habitat for invertebrates and bird species.	-						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 3.1 (cont'd): Tree Management Prescriptions

3.3 Scrub and Native Shrub Planting

Aims and Objectives

Aims:

- Retain 0.03 ha of dense scrub along the western boundary of the site in accordance with the Detailed Soft Landscaping Plan (Drawing MEL-535-001 Rev P3 by Middlemarch).
- Create 0.13 ha of native shrub planting on site in accordance with the Detailed Soft Landscaping Plan (Drawing MEL-535-001 Rev P3 by Middlemarch).

Objectives:

- Maintain suitable habitat for a range of invertebrate and bird species.
- Strengthen the screen planting.
- Ensure the ongoing value of the habitats to biodiversity through appropriate management.
- Achieve 'Moderate' condition through appropriate management.

Management Prescriptions

Table 3.2 presents management activities in order to meet the aims and objectives outlined above.

Feature	Prescription	Purpose	Timing	Year 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Existing Scrub	Small scale scrub clearance will be undertaken with a set length cut back each year on a rotation of five years. The works will be carried out over winter.	To give good structural variation. To prevent disturbance to nesting birds.	October to February	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Proposed Native Shrub Planting	If required, soils to be cultivated/de-compacted prior to commencement of planting. Shrubs to be delivered to site immediately prior to planting being undertaken. Shrubs will be planted when soils are in a suitable condition, not waterlogged or frozen. If soils are compacted loosening will be undertaken.	Ensure that planted shrubs have the best possible chance of establishing at the site.	November to February	X																													
	Water newly planted shrub species during dry periods.	To ensure survival during establishment period.	Summer	X	X																												
	Once established, a set length will be cut back each year on a rotation of five years. The works will be carried out over winter.	To give good structural variation. To prevent disturbance to nesting birds.	October to February	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 3.2: Scrub and Native Shrub Planting Management Prescriptions

3.4 Native Hedge Planting

Aims and Objectives

Aim:

- Plant 0.06 km of new native hedges on site in accordance with the Detailed Soft Landscaping Plan (Drawing MEL-535-001 Rev P3 by Middlemarch).

Objectives:

- Ensure the ongoing value of the habitat to biodiversity through appropriate management.
- Achieve 'Moderate' condition through appropriate management.

Management Prescriptions

Table 3.3 presents management activities in order to meet the aims and objectives outlined above.

Feature	Prescription	Purpose	Timing	Year 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Proposed Native Hedge Planting	If required, soils to be cultivated/de-compacted prior to commencement of planting. Hedge species to be delivered to site immediately prior to planting being undertaken. Hedges will be planted when soils are in a suitable condition, not waterlogged or frozen. If soils are compacted loosening will be undertaken.	Ensure that planted hedges have the best possible chance of establishing at the site.	November to February	X																													
	Newly planted sections of hedgerows should have half the height of the hedge removed soon after planting. Note - once hedgerow section is established, manage whole hedgerow as below.	Encourage bushy growth near the base, helps roots establish and reduce chances of wind damage.	When planted	X																													
	Water newly planted hedgerow sections during dry periods.	To ensure survival during establishment period.	Summer	X																													
	Replace any losses within newly planted areas within vegetation establishment phase (first five years after planting).	To ensure appropriate establishment of plants.	November to February	X	X	X	X	X																									
	Once established hedgerows should be cut so that 50% is trimmed every year to ensure fruits and berries are always available on some hedgerows.	To enhance the biodiversity of the hedgerows.	Late January to February					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 3.3: Native Hedge Planting Management Prescriptions

3.5 Faunal Boxes

Aims and Objectives

Aims:

- Create 16 no. features for bats on site in accordance with the Bat Mitigation Strategy (Report RT-MME-159013).
- Create 4 no. features for nesting birds on site.

Objectives:

- Install bat boxes and maintain in good condition.
- Install bird boxes and maintain in good condition.
- Ensure the ongoing value of the habitat to biodiversity through appropriate management.

Management Prescriptions

Table 3.4 presents management activities in order to meet the aims and objectives outlined above.

				Year																													
Feature	**Prescription**	**Purpose**	**Timing**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Bat Boxes	Where feasible the boxes should be regularly inspected by a licensed bat worker to establish any maintenance needs.	To provide and maintain suitable roosting features for bats, particularly pipistrelles *Pipistrellus* spp.	October	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bird Boxes	After the end of each breeding season, bird boxes should be inspected to establish any maintenance needs (where feasible).	To provide and maintain suitable nesting features for birds.	November to February (NOTE: Unhatched eggs can only legally be removed October to January)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 3.4: Faunal Box Management Prescriptions

4. Implementation, Monitoring & Review

4.1 Implementation

Landscape and Ecological Management works will be carried out in accordance with the following principles:

- The landowner will be responsible for ensuring the landscape and ecological management works are undertaken.
- Practical habitat management works will be carried out by a contractor to be appointed at a later date.
- Ecological supervision of habitat management works and revisions to the Landscape and Ecological Management Plan will be carried out by Middlemarch, Triumph House, Birmingham Road, Allesley, Coventry, West Midlands, CV5 9AZ. Tel: 01676 525880.

Should any of the organisations highlighted above no longer be involved in the project, the landowner will be required to identify an alternative organisation with suitable competence and experience to fulfil the necessary role.

Any new bodies taking over responsibility for the site will need to agree to implement the LEMP.

4.2 Monitoring

Monitoring is required to check whether habitats are establishing correctly and to provide input into future amendments to site management. Table 4.1 outlines the recommended monitoring for the next 30 years.

			Year																												
Feature	**Monitoring**	**Timing**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
All Habitats	A habitat survey, following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010)[1] and the Institute of Environmental Assessment (IEA, 1995)[2], will be undertaken every five years to check on the establishment and management of planted areas. A report will be compiled with remedial recommendations as required.	May					X					X					X					X					X					X
Trees	To be monitored on an annual basis to check tree health and identify any potentially dangerous trees to be felled.	n/a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 4.1: Proposed Landscape and Ecological Monitoring

[1] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint).* Joint Nature Conservation Committee, Peterborough.
[2] Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment, Institute of Environmental Assessment*. E&FN Spon, An Imprint of Chapman and Hall, London.

4.3 Review

The results of the monitoring checks will be used to inform any modifications to the management plan. The plan is intended to be a rolling 30-year plan. Advice should be sought from the Local Council, or Middlemarch.

5. Drawings

Drawing MEL-535-001 Rev P3 – Detailed Soft Landscaping Plan, Middlemarch

GENERAL NOTES

All plants supplied shall comply with the National Plant Specification. Supplying nurseries shall be registered under the Horticultural Trade Association (HTA) Nursery Certification Scheme. All plants shall be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.

Native species shall be British provenance, where available, and certified to confirm origin.

Good Horticultural Practice
All landscaping work shall adopt good horticultural practices. Compost, mulch and soil conditioners shall be peat-free. The use of pesticides (herbicides, insecticides, fungicides, slug pellets etc) shall be discouraged. Any pesticides used shall be non-residual. i.e. glyphosate.

Protection of Existing Trees/Hedgerows
Existing trees/hedgerows retained on or overhanging the site shall be protected in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'. Protection measures shall be implemented prior to any preliminary or preparation works on site.

Nesting Birds
To ensure compliance with the Wildlife & Countryside Act 1981 (as amended), vegetation clearance shall be undertaken outside the bird nesting season, which generally extends between March and September inclusive, dependent on weather. If birds are found to be nesting any works which may affect them shall be stopped until the young have fledged and the nest abandoned naturally.

GROUND PREPARATION

Formation Level
The site shall be brought to formation level using a suitable fine-graded material where possible to avoid large voids but retain free drainage, and de-compacted to a depth of at least 300mm.

Subsoil
Provide a minimum depth of subsoil beneath the topsoil layer as specified below. Where there is insufficient depth excavate and dispose of material, loosen the formation and make up with additional subsoil or second quality topsoil. Grade to smooth flowing contours to achieve specified finished levels of topsoil.

Imported subsoil/second quality topsoil shall be supplied in accordance with BS 8601:2013. It shall be free of pests, diseases, visible fragments and roots of aggressive weeds, sticks, straw, turf and significant quantities of foreign matter such as building materials, vegetation, lumps of clay, and the like. Do not use any materials contaminated with rubbish or other materials that are:

- corrosive, explosive, or flammable
- hazardous to human or animal life
- detrimental to healthy plant growth

Prior to the placement of topsoil, and when ground conditions are reasonably dry, the subsoil shall be thoroughly loosened to full depth. Any stones larger than 75mm and other items including bricks, kerbs, lumps of concrete, plaster, timber, plastic, glass, metal and any other building debris brought to the surface shall be removed.

Topsoil
Imported topsoil to ***BS 3882: 2015*** - multi-purpose for general landscaping operations.

Imported topsoil shall be spread in layers not exceeding 150mm depth to achieve the depths as specified below. Finished levels shall be smooth flowing, free of minor hollows and high spots and marry neatly with paving, kerbs, edgings, manhole covers and existing levels.

Soil handling operations shall be carried out when the soil is reasonably dry and non-plastic (friable) in consistency (at least 5% below the Lower Plastic Limit). Topsoil shall not be unnecessarily compacted by trampling or trafficking of site machinery. Topsoil handling shall be stopped during and after heavy rainfall, and not continued until the soil is again non-plastic in consistency.

Depths & Clearances
Provide a minimum depth of subsoil and topsoil as follows:

- Ornamental Shrubs: 400mm topsoil (maximum) over 200mm (minimum) subsoil with a minimum clearance to formation level of 600mm
- Native Hedges: 300mm topsoil (maximum) over 300mm (minimum) subsoil with a minimum clearance to formation level of 600mm
- Tree pits: 400mm topsoil (maximum) over 600mm (minimum) subsoil with a minimum clearance to formation level of 1000mm

New Tree Planting Adjacent Services & Structures
All trees and shrubs, whether existing, felled, or proposed, on or adjacent to the site shall be taken into consideration by the applicant's structural engineer when calculating foundation types and depths.

- No tree shall be planted within 6m of centreline of an adoptable sewer
- All trees planted within 3m of a building or heavily loaded structure shall have their roots deflected away by means of a high density deep application root barrier to avoid direct damage from future tree growth.
- All trees within 2m of a masonry boundary wall, or within 3m of any hard paved surface or underground service, shall have their roots deflected away by the installation of a tree root barrier system to avoid direct damage from future tree growth.

Root Barrier System

- For protection of building foundations: ReRoot 2000 high density deep application root barrier as supplied by GreenBlueUrban Ltd., or similar
- For protection of pavements only (surround applications): Root Director preformed root protection system as supplied by GreenBlueUrban Ltd., or similar; size dependent on predicted girth (circumference) of mature trunk (to be advised by manufacturer)
- For protection of pavements & underground services/utilities(linear applications): ReRoot ribbed root barrier as supplied by GreenBlueUrban Ltd., or similar; size dependent on predicted girth (circumference) of mature trunk (to be advised by manufacturer)

Installation in full accordance with manufacturer's instructions.

The Landscape Contractor shall be responsible for acquiring 'As-Built' drain and service plans before commencing work on site.

LANDSCAPE MAINTENANCE

All new planting and hard landscape areas shall be maintained throughout the year as follows:

Hard Landscape Areas

- Sweep up leaf fall under trees and windblown in formal and hard landscape areas
- Sweep all hard landscape areas to remove dust and debris

Shrubs & Hedgerows

- Weed Control - All planting beds shall be kept weed free by hand weeding or herbicide treatment. Top up mulch twice annually in spring and autumn to maintain original specified depth
- Firming & Pruning - firm and prune all newly planted shrubs and hedges in accordance with good horticultural practice to promote healthy, bushy growth and to ensure individual plants establish dense cover as rapidly as possible. Any damaged shoots or branches shall be pruned back to healthy wood
- Trim back growth overhanging adjacent footpaths and parking areas
- Shrubs grown for coloured stems (Dogwood) - In the second or third year after planting all stems shall be cut down to 50-75mm above ground level, or to 50mm above the coppice stool if cut down previously, and thereafter every other year to maintain a succession of coloured stems. This shall be carried out in early Spring but outside the bird nesting season.
- Native Mixed Species Hedgerows - Once established, trim hedges on a two-year rotation so that no more than one half of the hedge is cut in any one year to ensure there are always flowers for pollinators in spring and berries for birds in winter. Trimming shall be carried out during the dormant season but outside the bird nesting season which generally extends from March to September inclusive. Where possible, cutting shall be delayed until January/February as hedgerow berries provide an important source of food for birds in autumn/winter
- Hornbeam Hedgerows - Once established, trim twice a year to maintain a more managed appearance; once at the end of June, and again in January or February before the buds form taking care not to disturb nesting birds
- Apply an annual application of slow-release fertiliser to planting beds during March/April in accordance with manufacturer's instructions
- Monitor health and control pests and diseases
- Watering - water as required to ensure establishment and survival (see below)

Specimen Trees
Individual trees planted as specimens shall be inspected annually during the growing season and maintained as follows:

- Firm and straighten to an upright position as required
- Maintain irrigation systems/pipes in good working order. Irrigation pipes shall be checked and repaired as necessary
- All tree stakes and ties are to be checked and adjusted if too loose, too tight, or if chaffing is occurring. Any broken stakes are to be replaced
- Formative pruning to include: removal of epicormic shoots, deadwood, competing secondary leader shoots, and closely spaced, duplicated branches with potentially weak or tight forks. All tree works to be carried out in accordance with BS 3998:2010.
- Apply an annual application of slow release fertiliser during March and April at a rate of 50g per tree
- Watering - Water as required to ensure establishment and survival (see below)

Watering
During the first two years after planting a monitored watering regime shall be implemented, commencing from the end of March/early April to the end of October - depending on weather conditions. Apply water when there has been no appreciable rain for 7 days or when there has been drying winds or very high temperatures.

Replacement of Failed or Defective Plants
Following the initial 12 months defects period any trees or plants which within a period of 5 years from the completion of the development are missing, found dead, or are seriously damaged or diseased shall be replaced in the next planting season.

PLANT SCHEDULE

SPECIMEN TREES

Ref	Species	Girth (cm)	Form	Height	Root Condition	Qty
AcE	Acer campestre 'Elsrijk'	14-16cm	Extra Heavy Standard	425-600cm	Rootball	1
AroG	Acer rubrum 'October Glory'	14-16cm	Extra Heavy Standard	425-600cm	Rootball	1
Bp	Betula pendula	14-16cm	Extra Heavy Standard	425-600cm	Rootball	2
Cb	Carpinus betulus	14-16cm	Extra Heavy Standard	425-600cm	Rootball	3
PcC	Pyrus calleryana 'Chanticleer'	14-16cm	Extra Heavy Standard	425-600cm	Rootball	1
Pp	Prunus padus	12-14cm	Heavy Standard	350-425cm	Rootball	3
PpA	Prunus padus 'Albertii'	14-16cm	Extra Heavy Standard	425-600cm	Rootball	1
Sa	Sorbus aria	12-14cm	Heavy Standard	350-425cm	Rootball	3
SaCR	Sorbus aucuparia 'Cardinal Royal'	14-16cm	Extra Heavy Standard	425-600cm	Rootball	1
Tc	Tilia cordata	14-16cm	Extra Heavy Standard	425-600cm	Rootball	3

TYPICAL TREE PIT DIMENSIONS

Form	Girth (cm)	Rootball		Tree Pit Dimensions		
		Diameter	Depth	Length	Width	Depth
Extra Heavy Standard	12-14cm	500mm	400mm	800mm	800mm	400mm
Extra Heavy Standard	14-16cm	600mm	500mm	900mm	900mm	500mm

NATIVE MIXED HEDGE

Hedge				A	B
Length (m)				14	46
Species	%	Height	Root Condition	Qty	Qty
Acer campestre (Field Maple)	10	60-80cm	1+1 bareroot transplant	7	22
Cornus sanguinea (Dogwood)	15	60-80cm	1+1 bareroot transplant	10	35
Corylus avellana (Hazel)	20	60-80cm	1+1 bareroot transplant	14	46
Crataegus monogyna (Hawthorn)	20	60-80cm	1+1 bareroot transplant	14	46
Ilex aquifolium (Holly)	10	60-80cm	3 litre container	7	23
Ligustrum vulgare (Privet)	10	60-80cm	1+1 bareroot transplant	7	23
Viburnum opulus (Guelder Rose)	15	60-80cm	1+1 bareroot transplant	11	35
Total				70	230

NATIVE SHRUBS MIX 1 (Plots 1-4 & 6-7)

Plot				1	2	3	4	6	7
Total Area (m2)				98	106	138	62	8	24
Species	%	Height	Root Condition	Qty	Qty	Qty	Qty	Qty	Qty
Corylus avellana (Hazel)	20	60-80cm	1+1 bareroot transplant	19	22	28	13	0	0
Cornus sanguinea (Dogwood)	20	60-80cm	1+1 bareroot transplant	19	21	28	13	8	0
Euonymus europaeus (Spindle)	20	60-80cm	1+1 bareroot transplant	20	21	28	12	0	8
Ligustrum vulgare (Privet)	20	60-80cm	1+1 bareroot transplant	20	21	27	12	0	8
Viburnum opulus (Guelder Rose)	20	60-80cm	1+1 bareroot transplant	20	21	27	12	0	8
			Total	98	106	138	62	8	24

NATIVE SHRUBS MIX 2 (Plots 5 & 8)

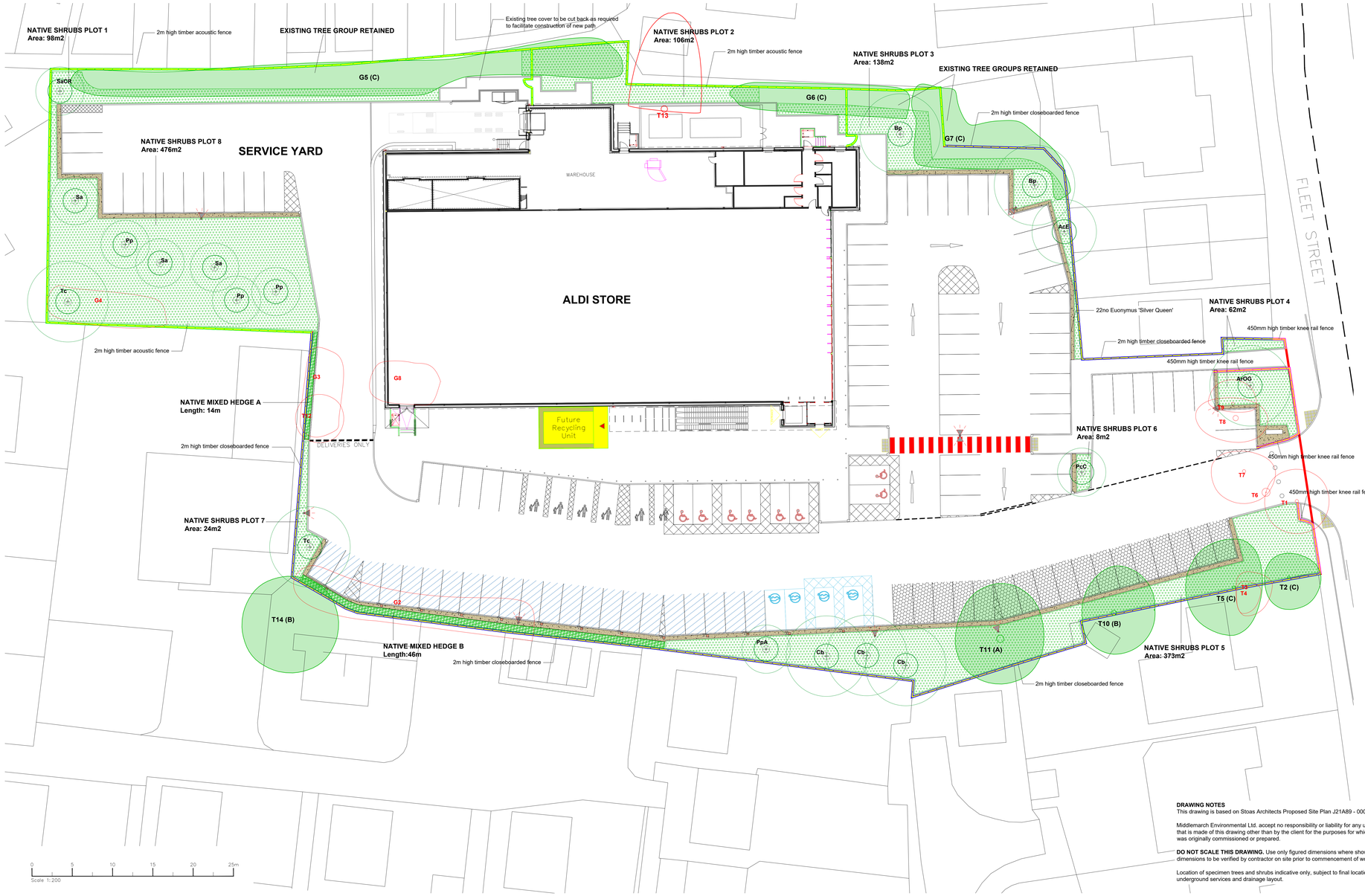
Plot				5	8
Total Area (m2)				373	476
Species	%	Height	Root Condition	Qty	Qty
Corylus avellana (Hazel)	15	60-80cm	1+1 bareroot transplant	56	71
Cornus sanguinea (Dogwood)	15	60-80cm	1+1 bareroot transplant	56	71
Crataeagus monogyna (Hawthorn)*	15	60-80cm	1+1 bareroot transplant	56	71
Euonymus europaeus (Spindle)	15	60-80cm	1+1 bareroot transplant	56	71
Ligustrum vulgare (Privet)	10	60-80cm	1+1 bareroot transplant	37	50
Prunus spinosa (Blackthorn)*	15	60-80cm	1+1 bareroot transplant	56	71
Viburnum opulus (Guelder Rose)	15	60-80cm	1+1 bareroot transplant	56	71
			Total	373	476

* To be located at the back of the plot away from adjacent parking areas

IMPLEMENTATION PROGRAMME

All soft landscape works including preparatory operations shall be carried out when all building works are complete and before the end of the first planting season, subject to the following constraints:

- No planting or preparatory operations shall take place when the ground is frost bound, covered by snow, excessively wet or waterlogged, or in excessively dry or windy conditions
- Container grown plants may be planted at any time during favourable weather and soil conditions. Watering and weed control to be provided as necessary
- Planting of bare-root and rootballed deciduous trees and shrubs, where specified, shall be carried out from late October to late March. All bare root stock, where used, shall be root dipped in mycorrhizal inoculant such as Alginure or similar, applied in accordance with the manufacturer's recommendations.
- Seed shall be sown in autumn or spring during calm weather and not when the ground is frost bound or waterlogged



KEY

Existing Landscape

Existing Tree Retained
Protect in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'. See Middlemarch Environmental Preliminary Arboricultural Assessment Report No: RT-MME-157409-01

Existing Tree Group Retained
Protect in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'. See Middlemarch Environmental Preliminary Arboricultural Assessment Report No: RT-MME-157409-01

Existing Tree/Tree Group Removed
To facilitate development. Replacement planting shall be carried out to compensate for any losses - see below.

Proposed Landscaping

Specimen Tree
Tree planting shall be carried out in accordance with BS 8545: 2014 'Trees: from nursery to independence in the landscape - Recommendations". All specified materials shall be installed in accordance with manufacturer's recommendations/instructions.

Predicted mature canopy spread indicated thus
Minimum size of tree pit indicated thus

Trees shall be planted into prepared pits to the original root collar - refer to table for typical dimensions.

Stated tree pit dimensions are a minimum; rootball dimensions can vary naturally between species, tree stock, suppliers, and season. In the event that the rootball exceeds the stated dimensions, the landscape contractor shall excavate the hole (in open ground) to the advice given in BS 8545: 2014 with the exception of tree pit diameter, which shall be varied to achieve a minimum radius of 150mm greater than the rootball. Tree pit depth shall generally be no greater than the existing rootball or container depth. Where necessary tree pit depth shall be increased from the stated dimensions to accommodate the depth of the rootball and obtain the correct planting level.

Care shall be taken to prevent smearing of tree pit sides, fork thoroughly to aid root penetration and drainage. Break up base of pit to a depth of 150mm to assist drainage, air movement, and root penetration, and leave slightly domed to prevent ponding.

Tree pits shall be backfilled with 'as dug' material (where suitable for tree growth) to replicate a natural soil profile comprising no more than 300-400mm depth of topsoil over a free-draining, sandy subsoil. All deleterious material shall be removed (weeds, broken brick and large stones etc). Where 'as dug' material is not suitable for tree growth imported topsoil to BS 3882:2015 (multi-purpose for general landscaping operations), and subsoil to BS 8601:2013, shall be used. During backfilling, the tree shall be gently shaken at regular intervals to settle the soil closely around the roots. The backfill shall be firmed in layers not exceeding 150mm to obtain the correct planting level.

Trees shall be secured in place with an underground guying system such as the Platimat rootball fixing system, or equivalent, with underground guys secured to 1200 x 1200mm treated timber 'deadman' anchors.

Tree irrigation bags shall be fitted to all trees to ensure they are irrigated sufficiently during their establishment period.

The finished compacted pit shall receive a 75mm deep 8-35mm organic bark mulch layer to prevent weed growth and retain soil moisture. Mulch shall comprise composted wood chips or bark, free of pests, disease, fungus, and weeds. Prior to application clear all grass and weed growth and water tree pits thoroughly

Native Shrub Planting
Planting shall be carried out on a 1m staggered grid for quick, dense cover. Shrubs shall be planted in single species groups of 5-15. See plant schedule for species and sizes.

Native Mixed Species Hedge Planting
To be planted in a double staggered row hedging at 400mm between rows and 450mm centres within each row, and maintained at a height of 1.5m. See plant schedule for species and sizes.

After the final placement of topsoil all areas to be planted shall be treated with a non-residual translocated herbicide to clear existing weeds and herbage, and thoroughly cultivated by hand or machinery to a depth of 300mm incorporating ameliorants as specified below. Hand cultivation shall be carried out to achieve the required finish in areas where machine cultivation is not possible (i.e. adjacent kerbs, manholes and footpath junctions, around retained trees etc.). All weeds, roots, and stones larger than 50mm brought to the surface shall be removed off site.

Container grown plants and bare-root transplants at the sizes stated in the plant schedule shall be pit-planted into cultivated beds in accordance with the planting arrangement. At each planting position sufficient soil shall be excavated from the bed to allow 75mm clearance between either the rootball, or the root ends when fully spread, and the sides and bottom of the planting hole. Each plant shall be set in the centre of the pit, showing its best side to the front. Finely broken back-fill material excavated from the pit shall be packed around the roots. The plants shall be gently shaken to allow fine soil to surround the roots. As soil is returned it shall be lightly consolidated and firmly heeled around the root collar.

All bare root stock shall be root dipped in mycorrhizal inoculant such as Alginure, or similar approved, applied in accordance with the manufacturer's recommendations.

All planting areas shall receive a 75mm deep 8-35mm organic bark mulch layer to prevent weed growth and retain soil moisture. Mulch shall comprise composted wood chips or bark, free of pests, disease, fungus, and weeds. Prior to application clear all grass and weed growth and water soil thoroughly.

Compost & Ameliorants for Shrub Beds & Hedges
A peat-free compost (e.g. PAS100: 2011/Landscape Institute/WRAP grade (10mm screened) green compost) shall be applied to a minimum depth of 50mm and worked into the soil. For native hedgerow shrubs compost shall be mixed into the planting pit only. Following this a suitable slow-release fertiliser shall be applied and spread at 50g/m2 to all planted areas.

Note.
All ornamental and native shrubs shall be set back 500mm from the edge of kerbs around perimeter of car parking bays. Areas to be mulched.

Bare Mulch Areas
8-35mm organic bark mulch comprising composted wood chips or bark, free of pests, disease, fungus, and weeds. Laid to a depth of 75mm over weed control membrane

PLANNING

P3: Ornamental planting replaced with native shrubs, and planting to staff parking/delivery area increased for BNG	LK	10.01.23
P2: path added, tree planting updated, tree groups referenced	LK	26.09.22
P1: First Issue	LK	05.08.22
Revisions:	Dwn:	Date:

Project:	Fleet Street, Holbeach		
Client:	ALDI Stores Limited		
Drawing:	Detailed Soft Landscaping		
Date:	10.01.23	Drawn:	LK
Dwg No:	MEL-535-001	Scale:	1:250 @ A0
Revision:	P3		

DRAWING NOTES
This drawing is based on Stoas Architects Proposed Site Plan J21A89 - 0003 P02.

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DO NOT SCALE THIS DRAWING. Use only figured dimensions where shown. All dimensions to be verified by contractor on site prior to commencement of works.

Location of specimen trees and shrubs indicative only, subject to final location of underground services and drainage layout.

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