HIGHSTONE
DESIGN

LANDSCAPE MANAGEMENT PLAN



NEW SMITHY AVENUE

THURLSTONE, BARNSLEY

PRODUCED ON BEHALF OF NEWETT HOMES

MARCH 2022

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1 / INTRODUCTION

PURPOSE OF THE PLAN

1.1 This Landscape Management Plan has been prepared on behalf of Newett Homes to demonstrate a commitment to sustaining an attractive landscape setting at the proposed residential development at New Smithy Avenue, Thurlstone, Barnsley, for the long-term benefit of occupiers, the public and biodiversity.

1.2 In general, Newett Homes will implement the landscaping and manage the site up until a management company are appointed to maintain and manage the areas in perpetuity. Works will be funded by a service charge payable by residents.

1.3 The management prescriptions within this document cover the necessary works to be carried out over the 5 year period relating to the planning condition with a system in place for reviewing operations at the end of the 5 years to allow the plan to be updated in accordance with site conditions and to put in place an appropriate schedule of works going forward.

1.4 This Landscape Management Plan covers works detailed in the landscape drawings presented at Appendix B. The following authorities will be responsible for the maintenance of other areas on site:

- Yorkshire Water – Drainage.
- Highway Authority (Barnsley Metropolitan Borough Council) – Roads, verges and street lighting.

SITE LOCATION & DESCRIPTION

1.5 The site is located at New Smithy Avenue within the small village of Thurlstone, Barnsley. The land is currently enclosed unused pasture in a rectangular-shaped field. The site is gently sloping to the south-east within a small valley landscape. Directly to the south of the site, the land is at a lower level and the stone wall boundary may be part retaining wall. The area has poor tree cover, however the opposite valley side includes notably more trees.

DEVELOPMENT DESCRIPTION

1.6 The site is a new residential development of 21 new homes with pockets of open space comprising:

- Existing trees;
- New tree planting;
- New native species scrub planting;
- Species rich grassland;
- Amenity grassland; and
- Ornamental shrubs.

DOCUMENTS

1.7 The management prescriptions contained in this document are for the future maintenance and management of work detailed on the following drawings:

- H22-0015-001 Detailed Plot Landscaping Plan

1.8 The approved Landscape Masterplan (DR-4006-01.04 Landscape Masterplan - Oct 2021 – Produced by Brooks Ecological) and proposed Detailed Planting Proposals are appended to this document at Appendix B for reference.

1.9 In the preparation of this document reference has been made to the following Reports:

- Tree Survey and Arboricultural Impact Assessment by Brooks Ecological in September 2019 (Revised in June 2021)
- Biodiversity Net Gain Assessment by Brooks Ecological in October 2021

TIMING

1.10 This Landscape Management Plan will become operational on completion of the landscape construction works. The operations described cover an initial 5 year period. Longer term management will need to be reviewed at the end of this period to ensure that the management objectives are being met.

2 / LEGAL REQUIREMENTS

2.1 This section is intended as a guide to highlight relevant legislation and key statutory and non-statutory documents that should be considered with respect to the future management of the proposed site. The list of documents is not exhaustive and will be subject to change as amendments and/or additional guidance is issued. As such, the person(s) responsible for the implementation of the Landscape Management Plan should ensure that all activities comply with current statutory requirements, complement the aims and objectives of relevant non-statutory documents and comply with local guidance on management practices and procedures.

2.2 Relevant health & safety legislation:

- Health & Safety at Work Act 1974 (and amendments);
- HSE's Managing Health and Safety in Forestry

2.3 Relevant pesticides, biological control agents legislation:

- Control of Pesticides Regulations 1986 (COPR), as amended by the Control of Pesticides (amended) Regulations 1997 (COP(A)R)
- Control of Substances Hazardous to Health 2002 (COSHH)
- Waste Management (Duty of Care) Regulations 2002
- Waste Management Regulations 1996
- Waste Management Licensing Regulations 1994 (plus carious amendments)
- Environment Protection Act 1990

2.4 Statutory documents:

- Control of Pollution Act 1974;
- Control of Substances Hazardous to Health Regulations 1988;
- Control of Pesticide Regulations 1986;
- Health and Safety at Work Act 1974 ;
- Hedgerow Regulations (1997);
- Construction (Design and Management) Regulations 1994;
- Water Resources Act (1991);
- Wildlife and Countryside Act (1981) as amended

2.5 All management activities are required to comply with the Wildlife and Countryside Act (1981) as amended, the Countryside and Rights of Way Act (2000) and other subsequent directives and legal requirements relating to wildlife.

2.6 The Wildlife & Countryside Act 1981 also places a legal responsibility on landowners / land managers to control any invasive, non-native plant and animal species which have been identified as having 'the ability to spread causing damage to the environment, the economy, health or the way we live'. If any invasive or injurious plants are identified on site, the appropriate method of control shall be implemented, in accordance with relevant best practice and the Environment Agency recommendations with the aim of total eradication within 3 years.

2.7 Non-statutory documents:

- Barnsley Biodiversity Action Plan (2008).

3 / MANAGEMENT RESPONSIBILITIES

3.1 In general, Newett Homes will implement the landscaping and manage the site up until a management company are appointed to maintain and manage the areas in perpetuity. Works will be funded by a service charge payable by residents. New ett Homes and the appointed Management Company will carry out the specified maintenance operations to achieve a healthy, attractive and safe new landscape within the development.

3.2 Following a 12-month Rectification Period, during which time the Landscape Contractor will be liable for major failures of shrub and tree planting, the householder will assume responsibility for the future maintenance of the planting within their own garden.

3.3 All areas of Open Space will be maintained by the Landscape Contractor responsible for the original planting works until the end of the Rectification Period and until such a time as it is handed over to the appointed Management Company for ongoing maintenance.

3.4 For ease, Newett Homes will be referred to as the ‘Client’ and the Management Company and the original Contractor will both be referred to as ‘The Contractor’ within this document.

4 / MANAGEMENT OBJECTIVES

4.1 This section sets out the management objectives and the intended outcome through the prescribed management of the site. It is made up of various elements which are described separately below but which are intrinsically linked and must combine harmoniously to achieve a successful outcome.

VISUAL

4.2 The site shall be managed to provide a visually attractive landscape setting for the residential development. The proposals seek to enhance the overall character of the development and this Landscape Management Plan is designed to ensure positive establishment of plants to create an attractive streetscene with vegetation breaking up the proposed building lines and private parking bays.

ECOLOGICAL

4.3 The development will be managed to ensure that the native species tree and shrub planting establish positively to provide diverse wildlife habitats. The landscape proposals have considered the approved landscape masterplan and subsequent Biodiversity Net Gain Assessment to ensure that the approved principles are respected and delivered at the implementation stage.

RECREATIONAL

4.4 The open spaces will be managed to provide attractive and usable informal open spaces, to be used by the residents and wider public.

PRIVATE AREAS

4.5 Following completion of planting in private garden areas the planting will be maintained by the Contractor in accordance with the specification and Schedule of Works until handover to the resident at the time of purchase.

4.6 The planting at time of handover should be healthy and weed free.

PUBLIC AREAS

4.7 Planting within public areas will be maintained in accordance with best practice guidelines and the specification in subsequent sections. In general, the following objectives include:

- New Trees – shall be maintained in good health
- New Ornamental/Native Planting – shall be maintained to achieve all year-round interest and colour. Areas of shrubs shall not be maintained at a uniform height with a hedge trimmer but maintained to allow the individual form of the shrub species to develop.
- Hedges – Ornamental hedges shall be maintained with an aim of establishment by Year 5. Native hedges shall be maintained and shaped to create established young hedgerows by the end of the first 5-year period.

5 / MANAGEMENT OPERATIONS

MAINTENANCE – GENERAL

5.1 All planting in public areas shall be maintained in good order, as detailed below by the management company. Any plants that fail to thrive within a five-year period shall be replaced with stock to the original specification. A maintenance inspection shall be carried out each year during the five-year period. Planting and lawns in private areas will be maintained by the individual plot holders. All pruning and hedge trimming shall take place during September-November, outside the nesting season, to prevent the disturbance of nesting birds. The maintenance requirements for each individual landscape element is described below.

NATIVE AND ORNAMENTAL TREES

5.2 All new trees shall be regularly checked, and any broken ties, guards or stakes replaced. A 1m diameter shall be maintained weed-free and use of chemicals avoided.

5.3 Mulch shall be topped up to maintain original levels. In periods of dry weather all trees shall be regularly watered to field capacity. The area around the base of each tree is to be kept mulched to 50mm depth minimum and weed free to a minimum diameter of 1m.

5.4 The Contractor shall apply a slow-release fertiliser to the base of each standard tree. For the first 3 years, in March/April of each year, fertiliser shall be planted at the following rates:

- Extra Heavy Standards, Heavy Standards, Selected Standards & Standards - 200 gms/Tree
- Light Standards & Feathered Trees - 100 gms/Tree
- Specimen Plants, Transplants & Shrubs (in pits) - 50 gms/Plant
- Plants in Shrub Beds & Hedgelines - 25 gms/Plant

5.5 Formative pruning is to be undertaken only to remove breaks or damaged material. After approximately 5 years stakes and ties are to be removed once trees have established.

5.6 Watering shall be carried out as specified in the Operations Schedule at Appendix A.

5.7 All failures shall be replaced annually.

NEW NATIVE SPECIES PLANTING

5.8 An area of 300 mm diameter around each plant shall be kept free from weed growth. All arisings resulting from weed control shall be removed from site.

5.9 Following frosty weather and strong winds, the Contractor shall inspect planting areas and firm any plant that has been loosened.

5.10 Annually apply a slow-release fertiliser (Enmag or similar approved) to each pit in Spring at a rate of 50 gms/ pit or as per manufacturers specification.

5.11 Prune all damaged or broken branches. Hard prune all shrub and understorey in Year 3 after planting to promote bushiness and thereafter annually in February to remove all deadwood, broken or damaged branches.

5.12 Native planting areas should not be cut back in the Autumn to avoid the loss of valuable food sources for fauna. Remove all arisings from site.

5.13 Replace all failures in Year 1.

5.14 Replace all failures in subsequent years to achieve 80% stocking rate.

5.15 Remove all litter.

NATIVE HEDGEROWS

5.16 All hedge lines shall be maintained weed free and any loose plants re-firmed.

5.17 All canes and spirals or rabbit proof fencing where employed shall be regularly checked and adjusted or replaced as required.

5.18 All hedge lines shall be regularly watered in times of drought to field capacity and shall receive an application of slow-release fertiliser at the end of the growing season.

5.19 Mulch shall be regularly topped up to original levels (50mm).

5.20 All hedge lines shall be maintained to 1.6m high or 900mm high at the interface between dwellings and open space.

SPECIES RICH GRASSLAND/MEADOW GRASSLAND (SEED)

5.21 Any areas which fail to provide a good quality vigorous grass sward will be re-sown/over sown.

5.22 All areas as shown on the drawing should be allowed to grow to full height and be cut once a year at the end of August.

AMENITY GRASS INC. MOWN PATHS (POS) (SEED)

5.23 All amenity grass areas are to be maintained weed and litter free.

5.24 Any areas which fail to produce a good quality vigorous grass sward will be re-sown/over sown.

5.25 All areas are to be cut regularly during the grass growing season (usually March to October) to maintain a maximum height of 25mm.

5.26 Grass shall not be cut in times of excessive drought, excessive wet and frost. All arising to be removed.

5.27 Bulbs should be allowed to completely die back within grass areas prior to regular summer mowing.

EXISTING VEGETATION (TREES & HEDGES)

5.28 All existing trees and hedgerows within and on the boundaries of the site shall be maintained in a safe condition and as a reasonable visual amenity.

5.29 The trees shall be inspected on an annual basis and any recommendations for tree work shall be undertaken as required all in accordance with British Standards.

PRUNING

5.30 All pruning work, whether on newly planted material or existing vegetation, shall be carried out in accordance with BS 3998 where applicable.

WEED CONTROL

5.31 Although weed growth shall be largely controlled by mowing, upon instruction, dicotyledon species shall be removed by the application of broadleaved selective herbicide in May/June to significantly affected areas.

5.32 Every reasonable precaution shall be taken to prevent drift onto adjacent plantings.

5.33 A repeat application may be required after two weeks if no improvement is noted.

FAILURE OF PLANT MATERIAL

5.34 The Contractor shall replace, at their own expense, any tree, transplant, specimen plant, shrub or herbaceous material which has died or has not developed full foliage throughout its branches during the twelve (12) months following planting.

5.35 Replacement planting shall take place as early as possible during the planting season following the original planting period.

5.36 The Contractor shall subsequently make good any further failures during the following twelve (12) months if the after-care period is two (2) years.

5.37 Replacement plant material required as a result of vandalism shall be identified separately and provided by the Contractor at the rates indicated in the Schedule of Rates (if provided) or as agreed in writing between the Contractor and the Client.

5.38 All replacement plant material shall conform to the original Specification unless otherwise agreed in writing between the Contractor and the Client.

5.39 The Contractor shall make good at his own expense all necessary repairs to levels, grassed areas and paving required because of plant replacements.

ECOLOGICAL CONSIDERATIONS

Nesting Season

5.40 All works to existing trees and shrubs shall be carried out outside of nesting season.

Tree Replacement

5.41 If any of the existing mature trees require to be replaced, such replacements shall be native and of a suitable species, size and form for the location, all as agreed between the Client and Local Authority as required.

5.42 New sections of native scrub planting around the site will consist of locally appropriate planting mixes and within the housing development itself ornamental species have been selected which have wildlife value in the form of berries, fruits and flowers.

Invasive Weeds

5.43 The site shall be monitored at each maintenance visit for evidence of invasive weed growth. Should any such species be identified the Management Company shall prepare a plan of action for the treatment of the weeds which shall be implemented immediately.

Habitat Protection

5.44 Site operatives should be made aware of the habitats that are to be protected and understand the Tree Protection methods that are to be employed during construction.

6 / REASSESSMENT OF SCHEDULES OF WORKS

6.1 Monthly monitoring visits by the Management Company will be made to determine whether the Management Objectives are being met.

6.2 Any operations falling short of the objectives will be brought to the attention of the Supervisor for the Management Company's operatives.

6.3 An annual walkover assessment will be made by the Management Company. Any recommendations shall be carried out within three (3) months of the report, unless any trees are identified as potentially dangerous and in need of urgent attention. In this instance, works shall be carried out immediately.

6.4 Re-assess the need for adjustment of the operational schedules annually following the annual walkover and undertake to amend the document as required.

6.5 At the end of the first 5-year period the management operations will be reviewed and assessed by all parties for their appropriateness and revised as necessary to provide an effective plan going forward.

APPENDIX A

OPERATION SCHEDULES

Appendix A

Operations Schedule

Standard Trees

	Years 1 - 5+					Month												
	1	2	3	4	5	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maintain tree pits weed free																		Avoid use of chemicals where possible - no chemical use near herbaceous plants or in catchment of water bodies
Fertilise trees																		Once annually
Water trees																		Weekly/as required during prolonged dry weather
Check firmness of trees in tree pits and re-firm as required																		Additional checks after exceptionally windy or frosty weather during early establishment
Prune damaged branches						AS REQUIRED												Prune as soon as identified
Check tree stakes & ties and repair/replace																		Replace with materials to existing specification and replace as soon as possible
Check establishment of trees and remove stakes as required						AS REQUIRED												Aim to replace all stakes by end of initial 5 year period
Replace defective / failed trees																		Once annually in nearest available planting season, replacing all failures in Year 1 (the first year planting) and thereafter as agreed
Top up mulch to tree pits in grassed areas																		Once annually
Litter pick and remove all arisings																		Dispose of at tip in accordance with relevant Waste Management Regulations

Native & Ornamental Hedgerows

Regular checks to plant material, ties and stakes.																		Fix/replace where needed
Regular Watering during times of drought						AS REQUIRED												As required during years 1 & 2
Application of ferilizer to all plant material and topping up of mulch																		As per manufacturers instructions
Replacement of dead plant material (Years 1 - 5)																		Once annually in nearest available planting season, replacing all failures in Year 1 (the first year planting) and thereafter as agreed
Removal of stakes / ties / guards						AS REQUIRED												(Year 5 onwards)

Ornamental Shrub Beds

Maintain shrub beds weed free																		Avoid the use of chemicals in areas containing herbaceous plant material or bulbs
Apply slow release fertilizer																		Once annually
Check firmness of shrubs and re-firm as required																		Additional checks after exceptionally windy or frosty weather during early establishment (Years 1-2)
Water as required																		Also weekly during prolonged dry weather
Prune damaged shrubs						AS REQUIRED												Prune as soon as identified
Replace defective and failed plant material																		Varied responsibility and replacement requirements dependant on Year of replacement and area
Top up mulch																		Once annually
Litter pick / remove flytipping and remove all arisings																		Check for harbouring wildlife

Native Species Planting

Maintain 300mm diameter area around each plant weed free																		Avoid the use of chemicals in areas within the catchment of water bodies
Control the spread of any invasive or undesirable weeds						AS REQUIRED												Before flowering/seeding and in accordance with specific requirements for the particular weed species
Check firmness of plant material in ground and refirm as required																		Additional checks after exceptionally windy or frosty weather during early establishment (Years 1-2)
Prune damaged shrubs						AS REQUIRED												Prune as soon as identified
Water as required																		Also weekly during prolonged dry weather
Replace defective and failed plant material																		Once annually in nearest available planting season, replacing all failures in Year 1 (the first year planting) and thereafter as agreed
Top up mulch																		Once annually
Litter pick / remove flytipping and remove all arisings																		Check for harbouring wildlife and dispose of arisings at tip in accordance with relevant Waste Management Regulations

Establishing hedgerows

Maintain area around each plant weed free																		Avoid the use of chemicals in areas within the catchment of water bodies
Check for signs of disease/pests																		Treat as required - avoid chemicals where possible
Hard prune hedges to 450mm height																		Outside of bird nesting season
Cutting of hedgerows to 1.6m and 900mm where specified																		Outside of bird nesting season

Existing Vegetation

Remove any failing/dead material for Health & Safety reasons							AS REQUIRED																	Outside of bird nesting season
Carry out initial management to existing boundary vegetation							AS REQUIRED																	Carried out by qualified craftsperson
Carry out ongoing annual trimming until handover							AS REQUIRED																	Until house is occupied
Litter pick / remove flytipping and remove all arisings							AS REQUIRED																	Check for harbouring wildlife and dispose of arisings at tip in accordance with relevant Waste Management Regulations

Grass areas

Maintain amenity grass							AS REQUIRED																	As required to maintain height tolerances
Maintain wildflower areas during the early establishment period																								Up to 3 times for newly established areas in Year 1. Twice in Year 2. Remove arisings
Maintain wildflower areas																								Aonce annually in perpetuity
Apply fertilizer to amenity grass areas only																								As per manufacturers instructions
Apply selective herbiside							AS REQUIRED																	If instructed and as per manufacturers instructions
Reinstate any damaged areas of amenity grass bt seeding or turfing																								Annually in season of perpetuity
Create grass habitat pile																								In October after grass cut
Replenish grass habitat pile on rotational basis																								In October after grass cut

Monitoring

Carry out monthly monitoring visit																								Assess the need for actions and instruct operators

APPENDIX B

ASSOCIATED PLANS



KEY

- Amenity grass - seeded
- Ornamental planting
- Native scrub
- Species rich grassland
- Native boundary hedges
- Native mixed hedgerow
- Trees (T-Bp)

0 5 10 15 20 25 50

N

INDICATIVE PLANTING SPECIFICATION

Amenity grass seeding for front and rear gardens

Emorsgate EG22: Strong Lawn Grass Mixture	Sowing rate: 250kg/ha 100kg/acre 25g/m^2	Area: 3.244m^2	Quantity: 81.100g
Ground preparation Treat weed growth with a suitable herbicide and leave for 2-3 weeks prior to removing. Remove weeds using repeated cultivation. Plough or dig to break up the ground and remove any stones, rubble, large roots or other debris over 50mm in size and dispose off site, then cultivate the soil with a rotovator, harrow or rake to produce a medium tilth. Leave the ground to settle for several days or weeks. Lightly re-cultivate the surface, pick off any large stones or bricks, then rake and roll (or tread) the soil surface repeatedly in different directions, moving soil if needed to smooth out minor humps and depressions until you have a firm even surface. The final raking and rolling should produce a seed bed with a medium-fine tilth ready for seeding.	Sowing Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed but firm in with a roll, or by treading, to give good soil/seed contact.	Aftercare First year management Once seedling grasses are established, (typically in good growing conditions about three to four weeks after sowing), lightly roll or tread to firm and level the soil around the grass roots ready for the first cut. (Do not roll however if the ground is saturated with water). After a few days, when the grass has picked up again, the lawn will be ready for its first cut. Cut with the mower set on a high setting (50mm +), aiming to trim the sown grass back by about one-third of its height and cut back any weeds. Thereafter mow the new lawn regularly as needed to maintain a sward height of between 25-40mm. A new sown lawn will take a full year or more to reach full strength and ground cover and knit together as a turf. It can be walked on during establishment, but avoid heavy use that might cause wear and tear.	Management once established Mow lawns regularly as required throughout the growing season (generally March - October). In the summer increase the mowing regime to twice a week unless the lawn is suffering drought in which case drop it back to once a week and increase the watering regime.

Species rich grassland

Emorsgate Seed Mix EM2 Standard Meadow Mix	Sowing rate: 40kg/ha 16kg/acre 4g/m^2	Area: 195m^2	Quantity: 780g
Ground preparation Break up subsoil to a depth of 300mm and remove any rubbish or material greater than 50mm in any dimension. Remove perennial weeds using repeated cultivation. Apply 50mm topsoil.	Sowing Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed but firm in with a roll, or by treading, to give good soil/seed contact	Aftercare First year management Most sown meadow wild flower and grass species are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath. This annual weed growth is easily controlled by topping or mowing. Mow newly sown meadows regularly throughout the first year of establishment to a height of 40-60mm, removing cuttings if dense. This will control annual weeds and help maintain balance between faster growing grasses and slower developing wild flowers. Carefully dig out or spot treat any residual perennial weeds such as docks.	Management once established In the second and subsequent years EM 2 sowings can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. The best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing. Meadow grassland is not cut from spring through to late July/August to give the sown species an opportunity to flower. After flowering in July or August take a 'hay cut': cut back with a scythe, petrol strimmer or tractor mower to c 50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site. Mow the re-growth through to late autumn/winter to c 50mm and again in spring if needed.

Native scrub (total area: 527m^2)

No.	% in Mix	Species Name	Grown	Height (cm)	Density	Groupings	Specification
32	25%	*Corylus avellana*	BR 1+1	60-80	1m to 3m centres naturalistic	groups of 3-8	Branched, min 3 breaks, notch planted randomly within scrub area, protect with spiral tree guards, and support with a cane using a soft tie. Apply weed suppressant membrane and cover with a 75mm settled depth of bark chippings.
26	20%	*Prunus spinosa*	BR 1+1	60-80		groups of 5-9	
7	5%	*Ilex aquifolium*	1L pot	45-60		individuals	
7	5%	*Crataegus monogyna*	BR 1+1	60-80		groups of 3-8	
7	5%	*Rosa canina*	BR 1+1	45-60		groups of 3-8	
7	5%	*Malus sylvestris*	BR 1+1	60-80		groups of 3-5	
7	5%	*Viburnum opulus*	BR 1+1	60-80		groupd of 3-5	
13	10%	*Cornus sanguinea*	BR 1+1	60-80		groups of 3-8	
13	10%	*Euonymus europaeus*	BR 1+1	60-80		groups of 3-8	
13	10%	*Acer campestre*	BR 1+1	60-80		groups of 3-8	

Native scrub management

Year 1-3: Standard native scrub establishment in accordance with supplier guidelines.
Year 4 onwards: Thin 30% of the area to open the canopy. Leave remaining sections to grow for 1 further year. Vary the location of sections which are thinned and sections which are left for two years.

Mixed native hedgerow (total length: 343m)

No.	% in Mix	Species Name	Grown	Height (cm)	Density	Specification
429	25%	*Corylus avellana*	BR 1+1	60-80	groups of 3-8	Branched, planted in a double staggered row at 400mm centres with 400mm between rows, protect plants with spiral tree guards and apply weed supressant membrane with 75mm settled depth of chipped bark or similar to supress weeds
171	10%	*Prunus spinosa*	BR 1+1	60-80	groups of 5-9	
86	5%	*Ilex aquifolium*	1L pot	45-60	individuals	
428	25%	*Crataegus monogyna*	BR 1+1	60-80	groups of 3-8	
86	5%	*Rosa canina*	BR 1+1	45-60	groups of 3-8	
86	5%	*Malus sylvestris*	BR 1+1	60-80	groups of 3-5	
86	5%	*Viburnum opulus*	BR 1+1	60-80	groups of 3-5	
86	5%	*Cornus sanguinea*	BR 1+1	60-80	groups of 3-8	
171	10%	*Acer campestre*	BR 1+1	60-80	groups of 3-8	
86	5%	*Lonicera periclymenum*	1L pot	45-60	individuals	

Mixed native hedgerow management

Year 1-3: Standard hedgerow establishment in accordance with supplier guidelines
Year 4 onwards: Cut no more than 90% of hedge in February, spread chippings under the hedge. Leave remaining sections to grow for 1 further year. Vary the location of sections which are left for two years each year.

Ornamental shrub planting

Code	Name	Size	Habit	Height (cm)	No	Spacing	Preparation and planting	Maintenance requirements
S-BtAu	Berberis thunbergii 'Aurea'	2L	C	30-40	*	As plan	Multipurpose Topsoil to comply with BS 3882. Remove any general rubbish, stones, large roots and existing weed vegetation from the planting site. Break up subsoil and cultivate to a depth of 300mm. Add top soil to a further settled depth of 300mm. Plant in the dormant season between late October to late March. Plant immediately on delivery from the supplier and ensure to retain moisture to the roots. Roots shall be well soaked prior to planting. Dig a planting pit larger than the root ball (at least 150mm wider in all directions), add pelleted chicken manure or similar to the planting pit prior to planting. Back fill top soil into the planting pit to bring the root ball level with the soil surface. Place the plant into the planting pit and backfill with top soil, firming in to hold the root ball in place. Water immediately. Apply weed suppressant membrane and 75mm settled depth of bark chippings to the shrub bed post planting to suppress weed growth.	During the first growing season, water regularly until new roots have established. Thereafter water regularly in hot weather. Lightly prune the tips of the branches just before the growing season to make them branch out. At the end of the growing season cut away any dead, damaged, diseased or crossing branches to maintain plant health. For the first 5 years feed all new plants with a pelleted chicken manure or similar in accordance with the manufacturers guidelines, once a year at the beginning of the growing season and water in. Thereafter a mulch of organic matter such as well rotted manure or leaf manure or compost at the beginning of the growing season will maintain a healthy supply of nutrients for each plant. Top up annually to 75mm settled depth of bark chippings to the shrub bed to suppress weed growth. Remove and replace any diseased plants to prevent the spread of disease.
S-EsGE	Elaeagnus x submacrophylla 'Gilt Edge'	3L	C	40-60	*	As plan		
S-Hra	Hebe rakaiensis	2L	C	30-40	*	As plan		
P-Lmac	Lamium maculatum	1L	C	20-30	*	As plan		
P-LaH	Lavandula angustifolia 'Hidcote'	2L	C	30-40	*	As plan		
S-Pat	Potentilla atrosanguinea	1L	C	20-30	*	As plan		
S-Rc	Rosa rubiginosa	3L	C	40-60	*	As plan		
S-SjFr	Skimmia japonica 'Fragrans'	1L	C	20-30	*	As plan		
				Total area:		122m^2		

Native boundary hedges

Code	Name	Size	Habit	Height (cm)	No	Spacing	Preparation and planting	Maintenance requirements
	Fagus sylvatica	2L	C	30-40	*	400mm between plants, 400mm between rows	Planted in a double staggered row, planting bed 600mm wide cultivated to a minimum 300mm depth, with 400mm between rows and 400mm between plants at 5 plants per meter, plant so the root collar is at the same level as when in the pot and apply 50mm settled depth chipped bark or similar.	As for ornamental shrub planting with the addition that plants require light pruning twice a year to establish a thick hedge shape.
				Total length:		274m		
				Total area:		164m^2		

*** To be confirmed at detailed design stage**

Trees

Code	Name	Age	Girth (cm)	Root Type	Habit	Height (cm)	No	Spacing	Preparation and planting	Maintenance requirements
T-Bp	Betula pubescens	2x	10-12	RB	Select Standard	300-350	7	As plan	Multipurpose Topsoil to comply with BS 3882. Remove any general rubbish, stones, large roots and existing weed vegetation from the planting site. Plant in the dormant season between late October to late March. Plant immediately upon delivery from the supplier. Roots must be well soaked prior to planting. Dig a planting pit larger than the root ball (at least 150mm wider in all directions) and break up the base. Back fill top soil into the planting pit to bring the root ball level with the soil surface. Place the tree into the planting pit and backfill with top soil, firming in to hold the root ball in place. Water immediately. Trees will require staking, place two stakes driven 500mm into the base of the tree pit with 600mm clearance above ground directly opposite each other with the tree in between the two. Using cross bracing and soft tree ties to secure the tree loosely to the stakes.	During the first growing season, water regularly until new roots have established. Thereafter water regularly in hot weather - trees will show signs of stress by discolouration and wilting of the leaves and leaf ale back. Allow 10L per tree per day in dry weather. After the fifth year remove the stakes from the trees.
T-Pa	Prunus avium	2x	10-12	RB	Select Standard	300-350	6	As plan		
T-Qr	Quercus robur	2x	10-12	RB	Select Standard	300-350	4	As plan		
T-Sa	Sorbus aucuparia	2x	10-12	RB	Select Standard	300-350	4	As plan		

Project Name: New Smithy Avenue

Drawing Name: Landscape Masterplan

Drawing No: DR-4006-01.04

Drawn: TH Checked: MB

Date: October 2021

Scale: 1:200 at A0

FOR PLANNING		
A	TH	20.10.2021
Rev	Drawn	Date

NB: See architects drawings for details of boundary treatments. Proposals shown on this drawing for illustration purposes only.

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Brooks Ecological
Grounded advice

Landscape Specification – Plot Landscape

Topsoil
It is expected that all soils will be derived from the site. However, should additional soils be required, all soil except for wildflower seed areas, is to be imported to meet BS topsoil requirements for 'General Purpose' use. New shrub beds are to receive topsoil minimum 450mm depth after settlement. Turf and amenity grass seeded areas are to receive minimum 150mm depth of topsoil after settlement. (The majority of the grassed areas are to be retained as existing, enhanced and protected from construction traffic by the establishment of 'Construction Exclusion Zones').

Wildflower seed areas are to be incorporated into existing site subsoil (as directed by the Landscape Architect, where retained for use on site), with a nominal (no more than 40%) addition of imported General Purpose topsoil. If wholly imported, wildflower seed areas are to receive a 100mm maximum depth of topsoil which is to be nutrient poor, (as approved and directed by the Landscape Architect).

Trees
Root barriers are to be employed near services. Landscape contractors are to check the locations for all existing and proposed services prior to undertaking excavation works.

All standard and multi-stem trees are to be planted in separate pits 1m x 1m x 900mm which shall be backfilled with a mixture of approved top soil and tree and shrub planting compost at a rate of one part compost to two parts topsoil. Each tree shall be planted centrally within the pit to the original root collar and secured by underground guys. Trees within areas of open space and amenity areas shall be fitted with a watering tube such as Root Rain 'Metro' (supplied by Greenleaf), or similar approved.

After planting all trees shall be watered-in and a mulch layer of 1m diameter approved forest bark spread over the tree pit to 50mm depth. A biodegradable tree shelter will be fixed to the base of each tree to protect it from rabbit attack and strimmer damage.

Hedgerows
Ornamental
Ornamental hedgerow trenches shall be dug to a 450mm depth and 450mm width. The base of which shall be broken up before returning the approved topsoil backfill mixture to the trench at the rate of one part compost to two parts topsoil. Plants to be planted at 3 per linear metre in a single row. All stock shall be planted to the root collar and well firmed in place.

On completion all hedge plants shall be thoroughly watered in. After planting a 50mm layer of approved compost fine bark (nominal size 1-10mm) shall be spread over the whole hedge length (600mm wide).

Ornamental shrubs and groundcover areas
Within the plots, plants are to be planted in variety groups of 3-5 plants per group, with taller species to back of beds and lower growing species to the fronts and adjacent to pathways. Within open space areas, plants are to be planted in variety groups of 5-7 plants per group, with taller species to the centre of beds and lower growing species to the edges and adjacent to pathways.

All shrub beds shall be back-filled with good quality topsoil depth 450mm, the base ground being thoroughly broken up before placement. Tree and shrub planting compost shall be spread to a minimum depth of 50mm and thoroughly rotavated in during cultivation. All stock shall comply with the specification provided on the drawing. All plants shall be well firmed in after planting and watered. After planting all beds shall receive a 50mm layer of approved forest bark mulch over the extent of the bed.

Turf (Front gardens of plots)
All areas to be turfed shall be top-soiled to a minimum depth of 150mm, the base for which shall be thoroughly broken up. Once placed, the topsoil shall be cultivated and fine graded to even running falls before raking and cross raking. Prior to laying, a pre-seeding fertiliser shall be applied in accordance with the manufacturer's instructions. Turf (such as Rowlawn Medallion or similar approved), shall be laid to front garden areas in accordance with good practice.

Grass Seed
Rear gardens of plots
All areas shall be seeded with Emorsgate EG22 Strong Lawn Mix, or similar approved. All areas to be newly grass seeded, shall be top-soiled to a minimum depth of 150mm the base for which shall be thoroughly broken up. Once placed, the topsoil shall be cultivated and fine graded to even running falls before raking and cross raking.

All grass seed is to be sown, preferably in autumn or spring but it can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown, applied by a small machine or broadcast by hand. For even distribution, divide the seed into two or more parts and sow in overlapping sections. Firm in the seed with a roll, or by treading to give good soil/seed contact. Do not incorporate the seed into the soil or cover the seed in any way.

Programme

- All bare root planting to be undertaken during the planting season November – March. (All ground cultivations to be undertaken under suitable conditions).
- Shrub and tree planting within housing areas to be implemented in phases as sections of building works are completed. (Container and root-balled stock is specified for this purpose). Close attention to be paid to watering of plant material outside the planting season as set out in the specification.
- Seeding works and cultivation to be undertaken in the late summer to mid-autumn or mid spring.
- Any replacement planting required during the initial maintenance period is to be undertaken during the planting season, (November to March).



KEY

- Existing vegetation (retained)
- Front garden grass - turfed with Rowlawn Medallion (or similar approved)
- Rear garden grass - seeded with Emorsgate EG22 Strong Lawn Mix (or similar approved)
- Herbaceous/ornamental shrub mix
- Proposed hedge - Native species
- Proposed hedge - Euonymus japonicus 'Green Rocket'
- Proposed tree
- Specimen shrub
- Proposed individual bulb - Allium
- Long/meadow wildflower - seeded with Emorsgate EM1 Basic General Purpose Meadow Mixture (or similar approved)
- Native/wildlife scrub mix
- Flowering bulb mix

PLANTING SCHEDULE

PROPOSED SELECTED STANDARD TREES

ID	Qty	Species	Size (girth and height)
B.u.J	5	Betula utilis var. jacquemontii	10-12cm, 300-350cm ht, min 200cm cs

PROPOSED EXTRA HEAVY STANDARD TREES

ID	Qty	Species	Size (girth and height)
P.a	9	Prunus avium	14-16cm, 425-600cm ht, min 200cm cs
Q.ro	2	Quercus robur	14-16cm, 425-600cm ht, min 200cm cs
S.a	6	Sorbus aucuparia	14-16cm, 425-600cm ht, min 200cm cs

NATIVE/WILDLIFE SCRUB MIX

ID	Qty	Species	Size (girth and height)	%
A.c	7	Acer campestre	40-60cm, ht 1+0	12.5
C.av	7	Corylus avellana	40-60cm, ht 1+0	12.5
C.mo	7	Crataegus monogyna	40-60cm ht, 1+0	12.5
H.r	7	Hippophae rhamnoides	40-60cm ht, 1+0	12.5
L.pi	7	Lonicera periclymenum	40-60cm ht, 2L pot	12.5
P.sp	7	Prunus spinosa	40-60cm ht, 1+0	12.5
R.c	7	Rosa canina	40-60cm ht, 1+0	12.5
S.ni	7	Sambucus nigra	40-60cm ht, 2L pot	12.5

PROPOSED SHRUBS

ID	Qty	Species	Density	Size
A.j.l	22	Aucuba japonica longifolia	3	3L pot, 60-80cm
B.B	40	Bergenia 'Ballawley'	5	2L cover pot
C.F	49	Carex 'Feather Falls'	5	3L cover pot
C.t.S	30	Choisya ternata 'Sundance'	4	5L pot, 40-60cm
C.a.l	38	Cornus alba 'Ivory Halo'	4	3L pot, 60-80cm
C.L	26	Crocosmia 'Lucifer'	6	2L cover pot
E.f.E	79	Euonymus fortunei 'Emerald Gaiety'	5	5L pot 30-40 cm
F.g.E.B	40	Festuca glauca 'Elijah Blue'	5	2L cover pot
H.P.Q	40	Hebe 'Purple Queen'	5	3L cover pot
H.f.BG	49	Hebe franciscana 'Blue Gem'	5	3L pot, 20-30cm
H.p.S	22	Hebe pinguifolia 'Sutherlandii'	5	5L pot, 20-30cm
H.P.F	59	Heuchera 'Peach Flambé'	6	3L cover pot
L.a.H	30	Lavandula angustifolia 'Hidcote'	4	5L pot, 15-20cm
P.b.S	32	Persicaria bistorta 'Superba'	6	3L cover pot
P.t.Pu	6	Phormium tenax Purpureum	0	3L pot min, 7 leaves
P.f.A	12	Potentilla fruticosa 'Abbotswood'	4	3L pot, 20-30cm

PROPOSED HEDGES

ID	Qty	Species	Density	Size
C.bet	94	Carpinus betulus	5	80-100cm, 1+1
E.r	172	Euonymus japonicus 'Green Rocket'	5	3L pot, 30-40cm ht
F.sy	1297	Fagus sylvatica	5	80-100cm ht, 1+2
P.sp-1	94	Prunus spinosa	5	40-60cm ht, 1+0

BULBS

ID	Qty	Species	Density (/m2)	Size (bulb grade)
A.s	33	Allium sphaerocephalon	0	5-6
C.bi	157	Crocus bicolour mix	20	5-6
G.n	157	Galanthus nivalis	20	5-6
N.p	157	Narcissus pseudonarcissus	20	7+
T.s	157	Tulipa sylvestris	20	6+

0 — 25 — 50m

Notes

- All stock is to be rootballed/container grown unless planted during planting season;
- All shelters and tree wrapping to be biodegradable;
- No cultivation should be undertaken in wet/waterlogged conditions;
- Imported topsoil to accord with BS3882;
- Supplying nurseries shall be registered under the HTA Nursery Certification Scheme, and plant material should be of certified British provenance;
- All plants shall be packed and transported in accordance with the Code of Practice for plant handling as Published by The Committee for Plant Supply and Establishment (CPSE);
- All plant material to conform with BS:3936 and BS:4428;
- Planting operations to be undertaken during appropriate climatic conditions to avoid
- wet/waterlogged or frost bound soil conditions, frosts, droughts or during periods of excessive cold drying winds.
- Landscape contractors to confirm potential build programme with house builder when pricing soft landscape works to allow for and accommodate potential out of season planting and phased release of plots for implementation. Allowances to potentially include for supply of containerised stock, additional attendance in relation to phasing and additional watering.

Rev	Date	Note
A	17.03.22	Hedge introduced to rear of plot 7 and 8.

New Smithy Avenue, Thurlstone

Detailed Plot Landscaping Proposals

DWG Ref. H22-0015_001A | Drawn/Checked By: SW | Scale - 1:200 @ A0 | Date: 11/03/22 | Client: Newett Homes

HIGHSTONE DESIGN

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HIGHSTONE
DESIGN

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