



e3p

Biodiversity Metric Report

Cross Lane, Manchester

Reference: 81-131-R2-1

Date: January 2023



BIODIVERSITY METRIC REPORT

Cross Lane
Manchester

Prepared for:
Southway Housing Trust

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E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
<https://e3p.co.uk/>

Registered in England
CRN: 08725262

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PREPARED BY	C. Bass		
QUALIFICATIONS	BSc (Hons), QCIEEM, Graduate Ecologist		
CHECKED BY	H. Morgan		
QUALIFICATIONS	BSc (Hons) MEnvSc, ACIEEM, Senior Ecologist		
AUTHORISED BY	C. Barlow		
QUALIFICATIONS	BSc (Hons), MSc, MEnvSc, CEnv, MCIEEM, Associate Director		

EXECUTIVE SUMMARY

Site Address	Cross Lane, Gorton, Manchester, M18 8WY
Co-ordinates	E 388823, N 396274
Site Area	Approximately 0.12 ha
Current Site Use	The site comprises a small area of amenity grassland, located within a predominantly residential area. Residential housing associated with Sheerness Street defines the site's southern boundary, whilst commercial units lie adjacent to the north and west of the site.
Proposed Development	Development proposals include the construction of residential housing with private gardens and a small area of public open space.
Results	The biodiversity metric results show a 0.95 loss of habitat units and 0.11 gain of hedgerow units. A loss of 41.23% habitat units and a gain of 100% hedgerow units will be incurred on-site as a result of development.
Conclusions and Recommendations	Nine scattered trees of moderate condition and medium size (when planted above 17.1 cm girth) could be incorporated into the design to implement a gain of habitats on-site. If a gain in biodiversity is not achieved on-site it is likely that off-site compensation or a conservation offset payment will be required for the development to proceed. The Local Planning Authority (LPA) will need to be consulted to determine if an offset payment is acceptable. Additional species enhancements could be provided on-site, which could include bat and bird boxes, hedgehog houses and hibernacula.



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1. INTRODUCTION

1.1. BACKGROUND

E3P has been instructed by Southway Housing Trust to undertake a Biodiversity Metric Calculation at Cross Lane, Manchester hereafter referred to as “the site”.

This report has been produced by Ciara Bass BSc (Hons) QCIEEM, Graduate Ecologist at E3P. Ciara has experience undertaking Biodiversity Net Gain and Condition Assessments on a variety of projects across the UK.

This report should be read in conjunction with ‘Biodiversity Metric 3.1 Auditing and Accounting for Biodiversity Calculation Tool – Cross Lane, Manchester 3.xl’.

1.2. SITE LOCATION

The site is located in the predominantly residential area of Gorton, Manchester. Cross Lane defines the site’s northern boundary whilst housing associated with Sheerness Street defines the southern boundary. Gorton Market is located approximately 105 m west of the site. Gorton Lower Reservoir is located approximately 550 m south-east of the site. An active railway is located approximately 620 m north of the site at its’ closest point. Please refer to Figure 1.1 for the approximate site location.

FIGURE 1.1 APPROXIMATE SITE LOCATION



1.3. OBJECTIVES

The objectives of the Biodiversity Metric are to:

-  Identify percentage change in on-site habitat.
-  Identify the number of habitat units lost/gained on-site; and
-  Determine the need for a conservation offset payment or off-site habitat creation.

The findings of the calculation are detailed within this report, along with recommendations.



2. METHODOLOGY

2.1. BIODIVERSITY METRIC

Department for Environment, Food and Rural Affairs' (DEFRA) Biodiversity Metric 3.1 2022 version was used to undertake the metric calculation. The metric was undertaken following guidance as detailed within The Biodiversity Metric 3.1 User Guide (Natural England, 2022), the Biodiversity Metric 3.1 Technical Supplement (Natural England, 2022) and the Biodiversity Metric 3.1 – Summary of Changes (2022).

This metric was calculated by Ciara Bass, Graduate Ecologist at E3P. Ciara has attended internal training courses focussing on Biodiversity Net Gain and using the Biodiversity Metric Calculation Tool.

The report has been reviewed by Associate Director, Celia Barlow, BSc (Hons) MSc MEnvSc CEnv MCIEEM. Celia has undertaken a number of online training courses with CIEEM including 'Calculating and Using Biodiversity Units with Metric 2.0' and 'Biodiversity Net Gain Through Development'. Celia has also completed Condition Assessments on a number of sites across the UK and holds a Level 3 Field Identification Skills Certificate (FISC).

2.2. ON-SITE HABITAT BASELINE DATA

The baseline data used to inform the condition assessment was collected on 04th January 2023 during the Preliminary Ecological Appraisal (PEA) (report reference: 81-131-R1). The Biodiversity Metric 3.1 Habitat Condition Assessment Sheets with Instructions (Natural England 2022) was used to undertake the condition assessment of the on-site and off-site habitats.

On-site baseline habitats were measured off the Phase 1 Habitat Plan using QGIS. Scattered tree areas were calculated using the Biodiversity Metric Street Tree Calculator. Please see Appendix I for the Phase 1 Habitat Plan.

Phase 1 habitat types were translated into UKHab habitat types using the metrics Technical Data Translation Tool.

2.3. POST DEVELOPMENT HABITAT CREATION

The Landscape Proposals were used to measure habitat creation on-site (Trevor Bridge Associates Ltd. 2023, drawing reference: 7098.01). The area of proposed habitat was georeferenced, traced and measured using QGIS.

A 70:30 ratio to the area of built houses: area of vegetated gardens has been applied in the metric, as per guidance. The Urban Tree Calculator was used to calculate the area of the proposed trees on site. The proposed trees were assumed to be small as they are unlikely to reach medium (>30 to 90 cm girth) at 27 years in their urban setting

Please see Appendix II for the Landscape Plan.



2.4. LIMITATIONS

Some areas on the site are double counted, including root protection zones and areas of habitat, where overlap is shown. This means areas of habitat pre- and post-development do not total to the same area.



3. RESULTS

3.1. ON-SITE BASELINE CONDITION ASSESSMENT RESULTS

Table 3.1 shows the details of the habitat condition assessment used for input into the metric calculation tool.

TABLE 3.1 HABITAT BASELINE CONDITION ASSESSMENT RESULTS

HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION ASSESSMENT	DESCRIPTION
AMENITY GRASSLAND	Grassland – Modified Grassland	0.1216	Poor	Grassland fails essential Criterion 1 required to achieve Moderate condition – less than 6 species per m ² .
SCATTERED TREES	Urban – Urban Tree	0.1465 (x4 medium)	Moderate	Passes 4 of 6 condition assessment criteria: - Tree is a native species. - Tree canopy is continuous. - No evidence of adverse impact on tree health. - More than 20% of tree canopy oversailing vegetation beneath.
SCATTERED TREES	Urban – Urban Tree	0.1099 (x3 medium)	Moderate	Passes 3 of 6 condition assessment criteria: - Tree is a native species. - Tree canopy is continuous. - No evidence of adverse impact on tree health



3.2. HABITAT RETENTION

The majority of on-site habitats will be removed to facilitate development. Four scattered trees located in the north-east of the site are being retained under current proposals. Table 3.2 outlines the area of habitat to be retained.

TABLE 3.2 HABITAT RETENTION

HABITAT TYPE (LANDSCAPE PROPOSALS)	HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION
SCATTERED TREES	Urban – Urban Tree	0.1465 (x4 medium)	Moderate

3.3. HABITAT CREATION CONDITION ASSESSMENT

Habitats are proposed within the site which are located outside of residential gardens and in areas of Public Open Space (POS). Table 3.3 shows the details of the target condition assessment and total areas of habitat creation. It has been assumed that there will be no significant delay in the creation of the proposed habitat features, as such the delay in starting habitat creation has been set to zero.

TABLE 3.3 HABITAT CREATION CONDITION ASSESSMENT RESULTS

HABITAT TYPE (LANDSCAPE PROPOSALS)	HABITAT TYPE (UKHAB)	AREA (HA)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
RESIDENTIAL GARDENS	Urban- Vegetated Garden	0.0306	N/A	Target time to condition will be one year.
BUILDINGS	Urban; Developed Land; Sealed Surface	0.0714	N/A	N/A
HARDSTANDING/ HARDWORKS				
AMENITY LAWN	Grassland – Modified Grassland	0.0081	Poor Fails criteria 1 which is essential for achieving a moderate condition: 6-8 grass species per m ²	Target time to condition will be one year.
PROPOSED WILDFLOWER MEADOW	Grassland – Other Neutral Grassland	0.0115	Moderate Passes 4 of 5 criteria: 🏠 Sward height is varied (at least 20% over 7 cm and at least 20% below).	Target time to condition will be 5 years.



HABITAT TYPE (LANDSCAPE PROPOSALS)	HABITAT TYPE (UKHAB)	AREA (HA)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
			- Cover of bracken is less than 20% and cover of scrub is less than 5%. - Absence of invasive non-native.	
PROPOSED TREES	Urban – Urban Tree	0.0081 (x2 small)	Moderate Passes 3 of 6 criteria: - The tree is a native species. - The tree canopy is predominantly continuous (individual trees automatically pass this criterion). - There is little evidence of an adverse impact on tree health by anthropogenic activities.	Target time to condition will be 27 years.
PROPOSED NATIVE HEDGEROW	Native Hedgerow	0.0289	Good No more than 2 failures in total and no more than 1 in any functional group.	Target time to condition will be 5 years.

3.4. STRATEGIC SIGNIFICANCE

The strategic significance was identified as 'Area not in local strategy, no local strategy' as the location is not included within any of Manchester City Council's Local Development Framework's relating to nature and biodiversity. The site offers little value for wildlife due to the large expanse of amenity grassland. However, the scattered trees on-site may provide some value for nesting birds and roosting bats. The surrounding area is predominantly residential, comprising homes and gardens, likely to provide limited opportunities for local wildlife.



3.5. BIODIVERSITY UNIT RESULT

The headline results of the metric show a loss of 0.95 habitat units and a gain of 0.11 hedgerow units as a result of the development. Table 3.4 shows the headline results detailed within the Biodiversity Metric.

TABLE 3.4 HEADLINE RESULTS

HEADLINE	CATEGORY	RESULT
TOTAL NET UNIT CHANGE	Habitat Units	-0.95
	Hedgerow Units	0.11
	River Units	N/A
TOTAL NET % CHANGE	Habitat Units	-41.23%
	Hedgerow Units	100%
	River Units	N/A

The trading rules of the metric have not been satisfied within the metric as habitats lost have not been 'traded up'.



4. CONCLUSIONS AND RECOMMENDATIONS

The proposed scheme and associated layout show a loss of 0.95 habitat units and a gain of 0.11 hedgerow units. A net loss of habitats and a net gain of hedgerow will be incurred on-site as a result of development.

Nine scattered trees of moderate condition and medium size (when planted above 17.1 cm girth) could be incorporated into the design to implement a gain of habitats on-site. If a gain in biodiversity is not achieved on-site it is likely that off-site compensation or a conservation offset payment will be required for the development to proceed. The Local Planning Authority (LPA) will need to be consulted to determine if an offset payment is acceptable.

The Biodiversity Metric does not take into account additional species enhancements within the site, and to further increase the site's value for wildlife the following could be provided:

-  Creation of hibernacula (following guidance set out within Froglife, 2001) for common amphibians.
-  Hedgehog houses may be installed to enhance the site for hedgehogs.
-  Bat and bird boxes could be integrated into the proposed residential units.



5. REFERENCES

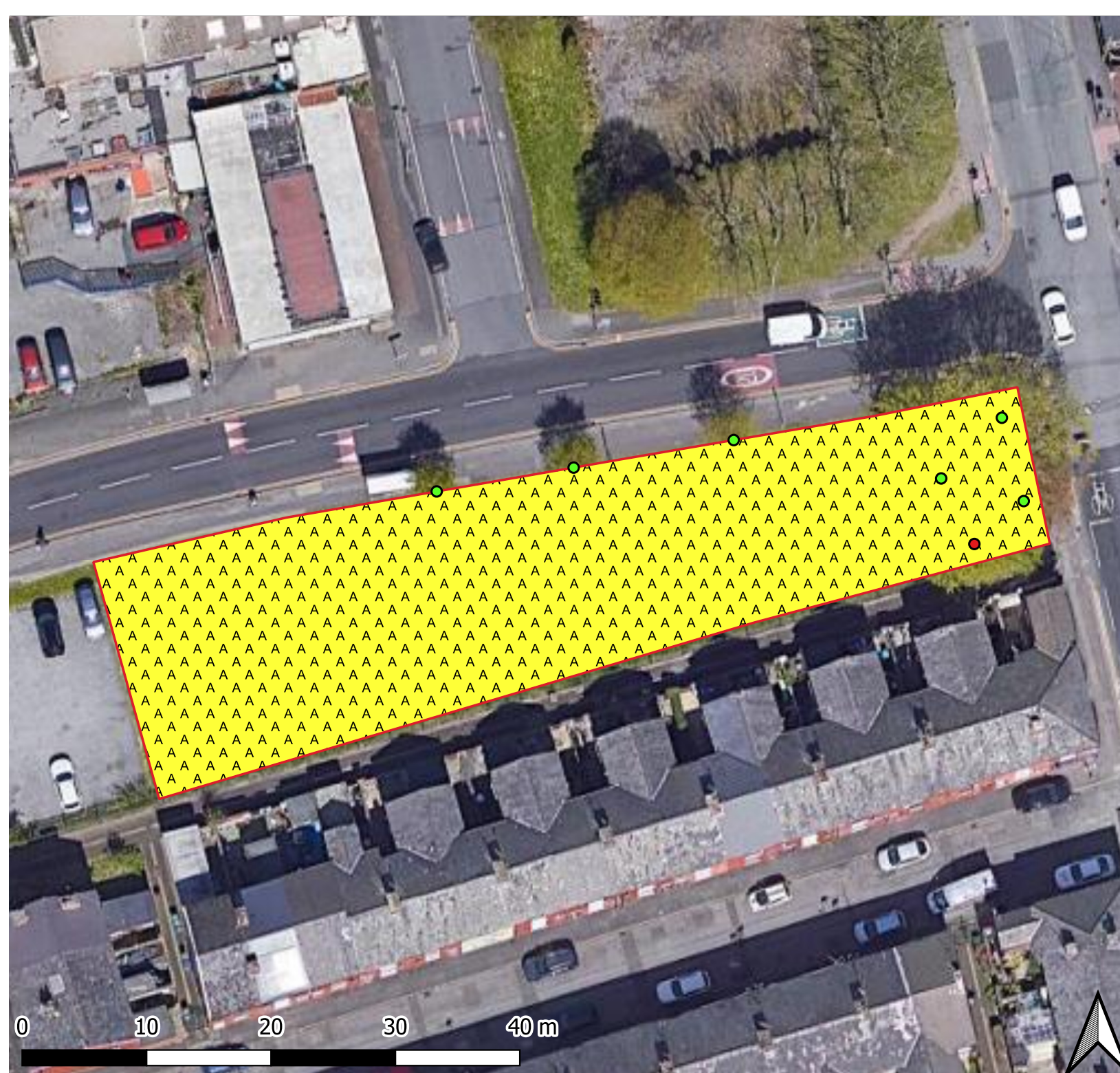
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-  Natural England. (2022). The Biodiversity Metric 3.1. Auditing and Accounting for Biodiversity, Condition Assessment Sheets.
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END OF REPORT



APPENDIX I

PHASE 1 HABITAT PLAN



Key:

— Site boundary

 Amenity grassland

 Scattered trees

 Tree with Low bat roosting potential

Notes

Issue: 1	Revision: 1	Date: 04/01/2022	Drawn: CB2	Authorised: CB
Client: Southway Housing			Job No. 81-131	Date: 04/01/2022
			Drawing No. 81-131-001	Scale: 1:700 @A4
Job title: Cross Lane, Manchester			Drawing title: Phase 1 Habitat Plan	



Environmental Engineering Partnership Ltd
Manchester Office
Taylor Road, Urmston M41 7JQ
Tel: 0161 707 9612
Email: info@e3p.co.uk
Website: www.e3p.co.uk

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APPENDIX II

LANDSCAPE PROPOSALS

SPECIFICATION

GROUND PREPARATION - GENERAL

Preparing for topsoiling

Grading and cultivation shall be in accordance with BS 4428:1989 section 4. Subsoil that is to receive topsoil shall, whether obviously overcompacted or not, be thoroughly broken up by hand, by heavy rotavator, by subsoiler or tined equipment with adequate passes made to thoroughly break up the surface to a depth of 150mm, cleared of all large stones, bricks, perennial weeds, tree roots (excluding living tree roots), coarse vegetation and other extraneous matter.

Subsoil grading

Subsoil shall only be graded after loosening as above, and this shall be undertaken by the use of a tractor and blade grader on large areas and by a small mechanical grader or by hand on small areas. Ground shall at no time be reversed by heavy machinery, for grading or any other purpose after subsoiling and/or topsoiling has taken place.

Making up levels

When subsoil is deposited in low lying areas to raise formation levels, it shall be lightly consolidated and left broken up ready to receive topsoil. Imported fill material shall be natural subsoil free from metal, concrete or organic material with any one dimension greater than 100mm. All imported fill material shall be approved by the Landscape Architect prior to spreading on site.

Supply of topsoil

Topsoil to be supplied shall be approved by the Landscape Architect and details of the source of supply shall be provided in order that inspection may be made before delivery commences. Topsoil shall conform to BS 3682: 2015, Recommendations and classification for topsoil, clause 4.1a. The soil shall be free of weeds, roots or perennial weeds, pests, diseases, debris, tree roots, sticks, subsoil and foreign matter and shall be capable of being broken down to a fine tilth.

Temporary topsoil heaps

The depositing of temporary heaps of topsoil shall be so arranged that possible damage to existing grass, plants, tarmac/dam, paving etc, is avoided. Unless otherwise agreed by the Landscape Architect, temporary spoil heaps shall be on protected ground. Such protection shall take the form of tarpaulins, plastic sheets, boards or similar covering. If damage does occur, it shall be made good at the contractor's own expense. Areas excavated to receive topsoil but have not had the base loosened shall not be used as temporary off loading areas. If the bottom of the excavation has been loosened off, loading on these areas is permissible.

Spreading topsoil

Prior to topsoil replacement the formation level shall be cleared of all stones, rubbish, debris with any one dimension greater than 75mm. Areas to be seeded or turfed shall be covered by topsoil 100mm thick and areas to be planted shall be covered by topsoil 300mm thick. Topsoil shall be spread in an evenly consolidated layer and shall be left cleared of all roots, stones and debris with any one dimension greater than 50mm throughout its depth. Unless otherwise stated the finished level shall be 25mm above adjacent hard areas. No topsoil shall be spread until the subsoil grade has been inspected by a Landscape Architect.

PLANTING

Cultivation

Planting areas shall be rotavated to a depth of 225mm in the original ground, or where the ground is compacted, ripped and rotavated. Pick off stones, bricks, timber and all other debris arising which have any dimensions greater than 50mm and remove off site to tip. Do not cultivate across any drain where the stone is flush with the ground surface.

Soil improvers

Where directed composts, fertilisers or other additives shall be incorporated into the soil. Spent mushroom compost or similar shall be spread to the specified thickness and incorporated, by rotavating, into the top 150mm. Fertilisers, organic or inorganic, shall be raked into the top 25mm.

Rejection of plants

All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor shall replace all plants rejected at his own cost.

Planting

All plant material shall generally be planted between November and March in open cool weather. Planting shall not take place in frosty, snowy or waterlogged conditions. Where approved, pot or container grown plants may be planted outside the described season, but adequate watering shall be supplied. Torn or damaged roots and branches shall be cleanly pruned prior to planting.

Planting of whips, transplants and shrubs

The nature of the material to be planted is variable and the contractor shall allow for planting to be properly carried out in all cases as described in BS 4428: 1989 section 7 Amenity tree planting, section 8 Woodland planting and section 9 Planting of shrubs, herbaceous and bulbs. All plants shall be planted at same depth, or very slightly deeper, as they were grown. Roots shall not be bent, broken or forced into inadequate pits or noches. Plants shall be upright, firmed in and wind resistant, with no air pockets around roots. All pots and root wrappings shall be carefully removed prior to planting. All pots and wrappings arising shall immediately be picked up and stored ready for removal to tip. Plants shall be planted at the specified centres. On steep slopes this shall be in the horizontal measure.

Tree planting within soft landscape areas

Trees shall conform to BS: 3936-1: 1992 and be planted in tree pits of the following sizes unless directed otherwise:
Feathered trees - 3000 x 900 x 450
Selected standards - 1000 x 1000 x 600
Heavy standards/Extra heavy standards - 1200 x 1200 x 600
Excavated subsoil or stone shall be carted off site to tip. The bottom 250mm of the pit shall be dug and broken up. The bottom of the pit shall be backfilled with subsoil (site or imported) to comply with BS 8601: 2013. The top 300mm of the pit shall be backfilled with imported topsoil as specified unless directed otherwise.

Compost for planting pits

Compost shall be a proprietary product, bark based incorporating fertilisers, and improving additives. The type of compost shall be approved before its delivery on site, and the details of the product shall be supplied. Cambrank planting compost is approved. Where directed compost shall be added to and mixed with topsoil backfill at the following rates:
Feathered trees - 40 litres
Selected standards - 60 litres
Heavy standards/Extra heavy standards - 80 litres

Stakes for trees

Stakes shall be peeled round softwood, pointed, minimum diameter 75mm. The stakes shall be driven into the base of the tree pit prior to placing the tree and backfilling.
Stakes shall in general have a clear height above the finished ground level as follows unless directed otherwise:
Feathered trees - 750mm (one tie)
Selected standards - 600mm (2 stakes, one tie each)
Heavy standards/Extra heavy standards - 1200mm (2 stakes, one tie each)
The stake shall be long enough to drive until they hold the tree firmly without rocking.

Tree ties

Ties for bareroot trees, shall be approved rubber nail-on type with cushioned spacer such as Toms, or other equal and approved. Nails shall not be headed galvanised and shall hold the ties securely into the stake. Ties shall not be over tight on the tree stems. Ties available from J Toms Limited, Wheeler Street, Headcorn, Ashford, Kent, TN27 9SH.
Feathered Type - 04 (one tie)
Select standards Type - L1 (one tie per stake)
Heavy standards/Extra heavy standards - Type L3 (one tie per stake)

Ties for rootball and container grown trees shall be 50mm rubber tree belts in a figure of eight around the tree. Fixed to the stake with two flat head galvanised nails.
Feathered - one belt
Select standards Type - two belts
Heavy standards/Extra heavy standards - two belts

Planting of trees

The tree shall be set upright and at the same depth as grown in the nursery, the roots shall be spread out (bareroot) and the soil followed by compost topsoil mixture, backfilled. Backfilling should be done to ensure close contact between roots and by firming in layers (bareroot). The soil shall be left level and dry, any subsoil clods, bricks or stones over 50mm arising, collected and carted off site.

Mulching

A 75mm compacted layer of medium grade pulverised bark, with a particle size of not more than 100mm and containing no more than 10% fines, shall be spread to form a continuous layer covering the whole of the bed, or in the case of standard trees within grass shall be in the form of a circle of 600mm diameter around the base of the tree. Whips and transplants shall be mulched in the form of a 300mm diameter circle around the base of the tree. Where trees are planted within grass a circular hemp mulch mat is required beneath the layer of mulch at the diameters stated above, secured with fixing pegs. The tree pit surface shall be as big as possible.

TURFING

Soil preparation and cultivation

All areas to be turfed shall be cultivated to a depth of at least 100mm, all weeds, stones and refuse larger than 50mm shall be removed to Contractor's tip, and shall be brought to a fine tilth. Allow for hand cultivation where machine work is not possible.

Turf

Turf shall be extra-quality meadow turf and shall comply to BS 3669: 1998 +A1: 2013 and shall be laid in accordance with BS 4428: 1989, section 6, Turfing. The Contractor shall supply a sample of the turf he proposed to use for approval of the Landscape Architect and shall ensure that all turves are similar to the approved sample. The Contractor shall inform the Landscape Architect of the location of the supply, so that turf can be inspected prior to lifting.

Season

Turf shall be laid when weather and soil conditions are suitable and, where possible, preference should be given to autumn and early winter operations. No turf shall be laid in exceptionally dry or frosty weather or in other unsuitable weather conditions.

Delivery and stacking

For large areas, turf shall be delivered at appropriate intervals throughout the work so as to avoid stacking for long periods.

Laying

No turf shall be laid until the soil preparation has been satisfactorily completed by being brought to an even tilth and firmness. Turves from the stack shall be wheeled to turf layers on planks laid closely side by side. Adequate timber planks shall be used to support operatives and barrows, and provide access. The turves shall be laid in consecutive rows with broken joints (stretcher bond), closely butted and to the correct levels. The turf shall be laid off planks working over turves previously laid. Where necessary, the turves shall be lightly and evenly firmed with wooden beaters, the bottom of the beaters being frequently scraped clean of accumulated soil or mud. A dressing of finely sifted topsoil shall be applied and well brushed into the joints. Any inequalities in finished levels owing to variation in turf thickness or uneven consolidation of soil shall be adjusted by raking and/or packing fine soil under the turf. A roller shall not be used. The finished levels of the turf shall conform to the levels indicated, allowing for final settlement. Turf edges and margins shall be laid with whole turves. Turves adjoining buildings, walls or fences shall be taken to the face of the structure, giving complete soil cover.

Laying around trees

Turf shall not be laid to within 300mm of any tree trunk.

Watering

The Contractor shall be responsible for the replacement of any scorched turf. All necessary watering shall be carried out with sprinklers or oscillating sprays so as not to wash soil out of joints. If shrinkage occurs and the joints open, fine topsoil shall be brushed in and well watered.

PROTECTION TO EXISTING TREES

The recommendations in BS 5837: 2012, *Trees in Relation to Design, Demolition & Construction* must be complied with at all times.

GRASS SEEDING AND MAINTENANCE

Soil Preparation and Cultivation

Final grading of topsoil shall be agreed by the Landscape Architect before cultivation and seeding. All areas to be seeded shall be cultivated to 150mm depth and all weeds, stones, and refuse larger than 50mm shall be removed to tip. Cultivated soil shall be rolled and raked to produce a tilth 25mm deep. Allow for hand cultivation where machine work is not possible. Seed sowing must immediately follow the preparation of the seed bed.

Seeding

Sowing shall be carried out during calm weather. All sowing is at the contractor's own risk and any areas where germination fails shall be re-seeded at the contractor's own expense. The operation should be carried out in equal sowings and transverse directions and the seed shall be raked or harrowed in. Sowing shall be at the rate of 50 grammes per sq.m. and overseeding shall be at a rate of 20 grammes per sq.m.

Seed Mix

The seed mix shall be A22 mix, obtainable from Germinal Seeds GB. Grass seed shall be of the composition, purity and germination as specified in BS 4428: 1989. Certificates of purchase shall be provided for all deliveries prior to the sowing of grass seed stating source, mixture, purity and germination percentage. Alternative cultivars of the above species may only be used if approved by the landscape architect.

Protection of Newly Seeded Areas

All reasonable precautions shall be taken to ensure that pedestrian and other traffic does not cross the grass areas during cultivation, seeding or until grass is established. Where obvious 'Short cutting' is occurring, the contractor shall erect an approved temporary fence so as to minimise the maintenance period or until such time as it is no longer necessary, or as directed.

First Cut

When the grass is 100mm high, it shall be cut down to 50mm so as to avoid root pulling. If the grass has been allowed to grow any longer than 100mm then the cuttings shall be raked off and taken off site.

Second Cut

When the grass is 60mm high a second cut shall be carried out using a roller mower. No more than one third of the foliage must be removed.

Subsequent Cuts

Thereafter, when the grass grows to 100mm high, it shall be cut down to 50mm with a flail type mower, until the end of the maintenance period, or longer if so directed. The grass shall be cut on a regular basis if so directed.

Making Good

Any defects such as shrinkage, ponding, sparse germination or disease shall be made good and re-seeded all as above.

Damage to Existing Grass

The contractor will be responsible for cultivating, seeding and maintaining, as above all areas of existing turf that are damaged during the course of the works for reasons of storage, working areas, transport of materials exceeding those areas which are specifically defined and measured in the contract. Any areas, which in the opinion of the Landscape Architect, are consolidated during the course of these works, shall be loosened with a ripper or other suitable implement to ensure adequate drainage through the sub soil.

WILDFLOWER SEEDING & MAINTENANCE

Preparation for seeding

No topsoil shall be imported into the wildflower areas and seed should be sown into good quality, clay free sub-soil. The area shall be cultivated to 150mm depth and all weeds, stones and refuse larger than 50mm shall be removed to tip (Cultivation of soil not to occur beneath existing tree canopies). Cultivated soil shall be rolled and raked to produce a tilth 25mm deep and left for 2-3 weeks to allow existing weeds in the seed bank to germinate. After 2-3 weeks, a spray off of the newly germinated weeds will be carried out, allowed to die back and then raked off. Seed sowing must be undertaken immediately after the area has been prepared and weeds removed, lightly watering area before seeding. Seed shall be sown during late August or September or, if this is not possible, during April to May.

Wildflower seeding

No topsoil shall be imported into the wildflower areas and seed should be sown into good quality, clay free sub-soil. The area shall be cultivated to 150mm depth and all weeds, stones and refuse larger than 50mm shall be removed to tip (Cultivation of soil not to occur beneath existing tree canopies). Cultivated soil shall be rolled and raked to produce a tilth 25mm deep and left for 2-3 weeks to allow existing weeds in the seed bank to germinate. After 2-3 weeks, a spray off of the newly germinated weeds will be carried out, allowed to die back and then raked off. Seed sowing must be undertaken immediately after the area has been prepared and weeds removed, lightly watering area before seeding. Seed shall be sown during late August or September or, if this is not possible, during April to May.

Wildflower seed mix

Sow the wildflower seed available from Emorsgate Wild Seeds. Certificates of purchase shall be provided for all deliveries prior to the sowing of the wildflower mix, stating source, mixture, purity and germination percentage. Sources must be of indigenous stock.

Protection of newly seeded wildflower areas

All reasonable precautions shall be taken to ensure that pedestrian and other traffic does not cross the wildflower areas during cultivation, seeding or establishment. Where obvious short cutting is occurring, the contractor shall erect an approved temporary fence so as to minimise the maintenance period or until such time as it is no longer necessary, or as directed.

First cut of wildflower meadow

Areas seeded during August to September shall be cut lightly in the spring using a flail mower, or strimmer, when the meadow reaches a height of 100mm. Areas seeded during April to May shall be cut in October when flowering is over. In both cases, all cuttings shall be raked up and removed from site.

Subsequent cuts

Hereafter cutting shall be undertaken, with a flail mower or strimmer, when flowering is over, twice annually during July to August and September to October. All cuttings shall be raked up and removed.

Making good

Any defects such as sinkage, ponding, sparse germination or disease shall be made good and re-seeded all as above.

MAINTENANCE

All maintenance to be carried out up to handover to the adopting authority/ householders from the date of planting and turfing to ensure successful establishment. All dead, diseased, damaged plants must be replaced during this time unless the local Planning Authority states, in writing, any variation to this.

Weeding

All beds to be kept weed free by hand weeding. Beds to be forked over as necessary to keep soil loose to approved carmers with no hollows.

Pruning

At appropriate time, prune plants to remove dead, dying or diseased wood and suckers to promote healthy growth and natural shape.

Watering

The Contractor shall ensure that sufficient water is applied to maintain healthy growth.

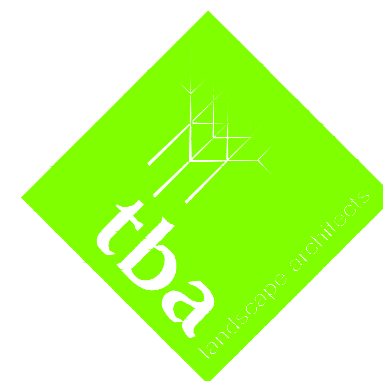
Litter

Site to be kept free of litter.

Grass cutting

The initial cut shall be carried out when first growth is apparent, blades set 20mm above ground. The Contractor shall continue cutting at appropriate intervals during the growing season and maintain 40mm high sward until grass areas are handed over. Watering, weeding, cutting, repair of all erosion and settlement and re-seeding as necessary to establish a uniform and healthy stand of grass shall continue until handover to the householder.

No dimension to be scaled from this drawing © Copyright reserved	Date	Dwn	Rev
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Landscape Architecture
Arboniculture

Trevor Bridge Associates Ltd
Ashton Old Baths
Stamford Street West
Ashton-under-Lyne
Lancs OL6 7FW

Tel: 0161-804 2099
E-mail: info@trevorbridge.co.uk

Project
CROSS LANE, MANCHESTER

SOUTHWAY HOUSING

Title
LANDSCAPE PROPOSALS

Date	Scale(s)	Dwg no	Rev
Jan 23	1:200 @ A1	7098.01	
Dwn	Chkd		
JW			



- Existing trees to be retained
- Existing tree to be removed
- Proposed heavy standard tree planting
- Specimen small tree
- Proposed hedge planting
- Proposed ornamental shrub planting
- Grass
- Emorsgate EHTF wildflower seed mix



Plant schedule

Abbreviation	Species	Height	Girth	Specification	Pot Size	Number of Plants
BP	Betula pendula	350-425cm	12-14cm	Heavy Standard	3x RB	2 -
PP	Prunus padus	350-425cm	12-14cm	Heavy Standard	3x B	1 -
SA	Sorbus aucuparia	350-425cm	12-14cm	Heavy Standard	3x B	2 -
Total :5 No.						

Native Hedge Mix - To be planted in a double, staggered row, randomly mixed	Mix Species Contribution	Specification	Height	Pot Size	Density	Number
CORAV	Cornus avellana	20%	1+1	60-80cm B	6/m	35 -
CRAMON	Crataegus monogyna	10%	1+1	60-80cm B	6/m	18 -
ILEA	Ilex aquifolium	20%	C	60-80cm SL	6/m	35 -
PRUSP	Prunus spinosa	20%	1+1	60-80cm B	6/m	35 -
ROSAR	Rosa arvensis	15%	1+1	60-80cm B	6/m	26 -
ROSCA	Rosa canina	15%	1+1	60-80cm B	6/m	26 -
Total :100%						Total :175 No.

Ornamental Hedges	Species	Specification	Height	Girth	Pot Size	Density	Number of Plants
PLO	Prunus laurocerasus 'Otto Luyken'	Single row	60-80cm	5L	3/m	28 -	Total :28 No.

Abbreviation	Species	Height	Pot Size	Density	Number of Plants
AJV	Aucuba japonica 'Variegata'	40-60cm	5L	4/m ²	6 -
BCO	Bergenia cordifolia	25-30cm	3L	6/m ²	16 -
HG	Hebe 'Green Globe'	30-40cm	3L	6/m ²	10 -
HMW	Hebe 'Mrs Winder'	30-40cm	3L	6/m ²	17 -
MaA	Mahonia aquifolium 'Apollo'	30-40cm	3L	4/m ²	8 -
SR	Skimmia japonica 'Rubella'	30-40cm	3L	4/m ²	9 -
					Total :66 No.

Specimens	Abbreviation	Species	Specification	Height	Pot Size	Density	Number of Plants
MS	Magnolia stellata			100-125cm	15L	Counted	2 -
PYW	Phormium 'Yellow Wave'	Double Crown		7.5L	3/m	Counted	3 -
Total :5 No.							

APPENDIX III PROPOSED HEDGEROW CONDITION ASSESSMENT

HEDGEROW 1. Hedgerow favourable condition attributes			
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition'	Description	Condition Achieved (Y/N)
Core groups – applicable to all hedgerow types			
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).	N
A2. Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	Y
B1. Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y



HEDGEROW 1. Hedgerow favourable condition attributes			
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition'	Description	Condition Achieved (Y/N)
Core groups – applicable to all hedgerow types			
B2. Gap - hedge canopy continuity	Gaps make up <10% of total length and No canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y
C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Y
C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (<i>Urtica spp.</i>), cleavers (<i>Galium aparine</i>) and docks (<i>Rumex spp.</i>). Their presence, either singly or together, should not exceed the 20% cover threshold.	N
D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	Y



HEDGEROW 1. Hedgerow favourable condition attributes			
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition'	Description	Condition Achieved (Y/N)
Core groups – applicable to all hedgerow types			
D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).	Y

