3.0 SOFT LANDSCAPE AND RELATED WORKS.

The Contractor will ensure that all site staff have read and understand the Contract Specification and Drawings and that copies are retained by the staff on site.

3.1 Existing Landscape Features.
The Landscape Contractor shall be responsible for protecting all existing site features including pavement works, kerbs and edgings, and below-ground services. The Contractor shall allow to plan and implement protection to all paths where trafficking across paths with machines may be required by the Contractors tools or delivery vehicles. Any damage to paths, edgings, services and the like shall be made good at the Contractors own expense and to the satisfaction of the Contract Administrator (CA). If damage appears to be present at the outset it is recommended that these items are brought to the attention of the CA, or photographed with a date camera before works commence. Where excavations shall take place near existing trees or other vegetation to be retained the Contractor shall take special care to avoid damage to roots.

3.2 The Contractor shall request information regarding below ground services, such as exist, before works on site commence. Note that all service information supplied should be treated as approximate only and if the Contractor considers that services might be affected by proposed works (eg tree planting), he shall accurately locate services before commencing the work. If the design appears to need modification before works can commence the Contractor shall immediately consult the Landscape Architect to agree revised details.

3.3 The Contractor shall be deemed to have included for the following tasks and activities in the tender price:

- All liaison and coordinating requirements to ensure a successful outcome to the project.
- Working with hand tools or small machinery adjacent to kerbs, features and services and the like and ensuring that these features are not damaged by the works.
- Consulting with the CA about services and undertaking further checks on site.
- Supplying and maintaining temporary fencing, signage, covers and other elements that may be required to ensure required health and safety standards for all parties.

3.4 Weather Conditions
The Contractor shall not undertake ground preparation or planting works when the ground is saturated or frozen or when, in the opinion of the landscape architect, works are likely to have detrimental long-term impacts on soil structure. If landscape works are to take place in very dry weather, when the ground is hard or baked, the Contractor will be required to provide irrigation facilities in order to ensure that plants can be properly watered in.

SOFT LANDSCAPE WORKS – PREPARATION AND LAWNS

3.5 Existing topsoil
The site is likely to have usable soil on site – pending construction disturbances. Soils at the are expected to be derived from marine alluvium and are typically deep calcareous silty soils. This specification assumes soils will be reused – with soil conditioner added. If additional topsoil imports are required – refer to the specification below. The Landscape Contractor shall liaise with the Main Contractor and ensure soil conditions are suitable for planting and soft landscape establishment before work commences. All parties will ensure that subsoil is free draining and free of compaction, building waste and contaminants before topsoil is imported and spread.

3.6 Imported topsoil (Provisional)
If there are topsoil shortfalls the Landscape Contractor shall allow to supply and spread approved topsoil as necessary to make up levels if required. Soil shall conform to BS

3882:2015 for the grade of topsoil specified and match as near as possible the soil presently found on site.

The Contractor shall arrange for the CA to inspect a representative sample of the soil before making further deliveries to site. The CA will retain this for comparison with subsequent loads. The soil shall conform to the following requirements:

- Texture: Medium loam
- pH 5.0 – 8.0
- Organic matter: minimum 5%
- Nutrient content: Nitrogen, phosphorus, potassium and magnesium minimum index values to be as for general purpose grade of BS 3882
- The soil shall have a discernible crumby structure. Finely sieved or graded soils with no structure are not recommended.
- Maximum stone size: 50mm in any dimension
- Maximum stone content: 5% by dry weight

3.7 Herbicide Treatment.
Not required.

3.8 Cultivation.
All proposed planting areas shall be cultivated to ensure that soil compaction is relieved and a fine tilth is prepared suitable for planting. It is recommended that a small tractor or large rotovator scale of machine may be the most appropriate sized equipment for this site. Ensure free draining soils and compaction relief to a depth of at least 250mm. The Contractor shall allow to separate out any building waste or other deleterious material that might arise during the cultivation works and remove to the Contractors off site tip.

3.9 Soil Conditioner – Planting beds.
The Contractor shall supply and spread 50mm of approved soil conditioner to all planting beds (including hedgerow) and incorporate into the topsoil. This equates to a rate of 5 cubic metres of conditioner per 100sqm of planting bed. The conditioner shall be free of perennial weed seeds, bulbs or rhizomes or any deleterious material larger than 25mm in any dimension. The conditioner will be a peat free, well composted organic material, with a nominal pH of between 6.0 and 7.0 and free of detrimentally high salt or other chemical properties. The conditioner shall be free of odours. The Contractor shall ensure the conditioner is free of plant pathogens and should produce a representative sample and evidence of origin for consideration by the CA prior to bulk deliveries to site. (Note – soil conditioner will not be required where 150mm or more of imported topsoil has been imported as specified as per clause 3.6 above).

3.10 Fine Grading.
Work-in the soil conditioner and bring the soil to a fine tilth. The Contractor shall ensure that there are no mounds or hollows across lawn areas and that any required falls are even and will not result in surface water ponding in future. The Contractor shall ensure finished levels marry appropriately with adjoining surfaces and edges and clear away all surplus soil. The finished level of beds adjacent kerbs should allow for bark mulch. However finished soil levels should allow for some settlement.

3.11 Turfing – Ground preparation. (Provisional)
If turfing is preferred to seeding in front garden areas, the Contractor shall cultivate the soil to produce an even, free draining, fine tilth. Grade the soil to provide a firm, level surface that will allow the new turf to marry with adjacent pavements, fences and planting beds. To finish, the Contractor shall roll or rake the soil to obtain an even, well consolidated surface.

3.12 Turf Supply. (Provisional)

Obtain turf from a specialist grower. All turf shall be supplied to the standards set out by the Turf Growers Association (TGA). The preferred turf shall be a hard-wearing multi-purpose type with a variety of grass species and suitable for amenity situations. Provide a sample prior to delivery for approval by the CA. Lay the turf carefully, close butting adjacent turves and cutting to provide the best fit if required. Brush in fine soil to any cracks and consolidate with wooden beaters to provide even grades to the finished lawn.

3.13 Watering In. (Provisional)

After laying, the turf shall be irrigated with a fine sprinkler system so that the turves are well moistened but ensuring that the ground does not become waterlogged and that surface water runoff does not occur. Check that water has penetrated the turf and saturated the soil underneath.

3.14 Seeding rear gardens and verge areas.

Cultivate, in suitable weather conditions, to remove any weed growth before seeding. The Contractor shall allow a rate to supply and sow, by drill, hand broadcast or fiddle, grass seed to all prepared rear garden areas as shown on the plans or directed by the CA. Areas will be sown with Emorsgate strong lawn grass mixture (Ref. EG22) sown at 25 grams per square metre. (Emorsgate – 01553 829028) or similar approved. Sow the seed in dry windless conditions and where possible roll in afterwards.

3.15 Sown Grass – Meadow Enhancement Area.

The Contractor shall allow to supply and sow, by drill, hand broadcast or fiddle, grass seed to the 'enhancement area' as shown on the plans or directed by the CA. Areas will be sown with Emorsgate standard general purpose meadow mix (Ref. EM2) sown at 4 grams per square metre. (Emorsgate – 01553 829028) or similar approved. Sow the seed in dry windless conditions and where possible roll in afterwards. We recommend that the meadow mix, which includes fine seeds, is evenly mixed with slightly damp sand to assist the spread. The ideal time will be April or June – but long dry or hot periods should be avoided.

3.16 Sown Grass Establishment – Meadow Enhancement Area.

When the grass sward reaches a height of 50-75mm the Contractor shall allow to pick off any larger stones or detritus on the site and remove to the Contractors tip before rolling the sward in two directions with a light roller. At the end of the first growing season (indicatively the second half of September) and in suitable dry weather conditions, the Contractor shall mow (or strim) the sward to a height of approximately 75-100mm, preferably collecting all the cuttings in a box (or raking off) and removing from the site. This should have allowed annual flowering plants to seed back into the soil.

The Contractor shall allow to re-grade, harrow and re-sow any areas of the sward which, in the opinion of the CA, have failed to thrive. The Contractor shall continue to mow and maintain the sward to the above criteria throughout the establishment period or as seasonally appropriate. Typically meadow areas are mown once in late summer and all cuttings are removed. In wet mild autumns a second cutting and raking off can be beneficial in early November.

3.17 Care, Maintenance and Establishment of the Lawn Areas:

It is the Contractor's responsibility to, weed, mow and fully maintain the grassed areas during the 12 month establishment period – or as otherwise agreed with the Main Contractor. The Contractor shall mow the grass when it has a general height of 40mm and shall maintain a regular mowing program thereafter. It is recommended that the first cut for the new turf areas is left until the grass is around 70-100mm tall. Where areas of grass are vulnerable to disturbance by garden users the Contractor shall protect the newly grassed areas from trespass and traffic by the supply and erection of temporary fencing. The Contractor shall allow for supply, maintenance and removal of temporary protective fencing within the lump sum tender price.

PLANTING WORKS:

3.18 Plants Quality.
Material to be sturdy, healthy, vigorous, of good shape and without elongated shoots.
Grown in suitable environment and properly hardened off.
Free from pests diseases, discoloration, weeds and physiological disorders.
Budded or grafted plants to be bottom worked unless otherwise specified or approved.
All plants to have balanced root and branch systems and all in accordance with relevant parts of the National Plant Specification and BS 3936.
True to name origin and provenance: UK grown where possible or otherwise to be stated.
Name, forms, dimensions and other criteria as scheduled and defined in the National Plant Specification and BS 3936.

3.19 Pre-selection / Substitutes.
If specified plants are unobtainable or known to be likely to be unobtainable at the time of ordering, submit alternatives to the CA stating the price and how they differ from the specification. Such substitutions may not be acceptable and submission of further alternatives may be required. Obtain approval from CA before making any substitution on site.

3.20 Plant Handling.
Comply with CPSE National Plant specification 'Handling and Establishing Landscape Plants' (obtainable from the Horticultural Trades Association) or on line at https://www.csdhub.com/national-plant-specification/nps-general-information/

3.21 Hedge Planting.
Planting is proposed as bare root stock and works shall take place in the period November to March. Plant the mixed native hedge transplants as shown on the plans and in a random mix in a double row (or other as specified on the drawings), with each plant at 4-500mm centres.

3.22 Spiral guards (Provisional)
Supply and fit clear plastic biodegradable spiral guards to hedge plants, 600x50mm with bamboo cane (e.g from Tom's Tree Ties (01233 770066) or similar approved. These are to be provided for all hedge plants and should be removed after 2 years establishment at the discretion of the landscape manager.

3.23 Tree Pits.
Trees shall be planted in a properly prepared pit with stakes and supports (refer to diagram on LD01). The proposed smaller fruit trees can be planted with 1 stake and a 1m diameter mulched 'saucer' for watering.

3.24 Planting Pits and Fertiliser.
The Contractor shall ensure that the ground is cultivated, friable and suitable for easy planting.
The Contractor shall supply blood and bonemeal for all planting at the following rates:
Fertilise during maintenance period only. (See Establishment maintenance).

Pit sizes for all trees and shrubs shall be at least one and a half times bigger than rootballs, with friable, free-draining soil to the walls and floor of each planting pit. On bare root stock carefully arrange roots in the pit before backfilling and firming down the soil.

3.25 Stakes and Ties.
Staking of trees shall utilise the following stakes and ties unless otherwise specified in the drawings. Stakes will be softwood or other approved, and free from all cracks, shakes or bends. A sample of adjustable tree ties should be submitted for comment prior to site commencement.

Tree Size	Staking	Ties
20 litres	1 x 50 x 1200mm round section stake	Hessian tie. Spiral guard if rabbit or deer present.

45 litres	2 x 50 x 1200mm round section stakes finished 600mm above ground level	Hessian ties to both posts.

3.26 Watering System. (Provisional)
Provide each tree with a 75 litre 'hydration bag' by Barcham Trees Ltd of Ely (01353 720950) or similar approved.

3.27 Pruning.
After planting and mulching, the Contractor shall allow to lightly prune trees, shrubs, and perennials to improve shape and encourage vigorous healthy growth. Follow the advice set out in section 7.4 of BS 3998:2010 – recommendations for Tree Work. Discuss the extent of pruning with the CA before commencing. (See also the specification for maintenance).

3.28 Replacements.
The Contractor will replace at his own expense any trees or shrubs that, in the opinion of the CA, fail to thrive within the 12 months establishment / defects liability period. The CA will make a decision based on the considered quality of tree stock at the time of planting; tree pit preparation and plant handling and subsequent maintenance. Plants lost through obvious vandalism or theft shall be recorded and photographed by the Contractor for consideration by the CA.

3.29 Mulch.
The Contractor shall supply and spread 50mm of coarse bark mulch to all planting beds at completion of the planting works and after approval to proceed from the CA. The Contractor shall provide a sample of mulch for approval before commencing these works.

3.30 Completion Works/Practical Completion
Allow to clear the site and ensure the removal of all waste materials after each planting operation on site. Remove or cultivate temporary access pathways, brush or wash earth from paved areas and make good any damage to existing surfaces to the satisfaction of the CA. Remove any signage or temporary boundary markers. Clean all surfaces and remove rubbish and contract arisings. When the CA is satisfied that contract works have reached practical completion stage, the Contractor will be permitted to invoice for works completed.

ADDITIONAL WORKS:

3.31 Bird / bat boxes
The following bird and bat boxes have been specified for the development and are shown on the landscape plans. The box types listed below are integral to buildings and should be sourced and fitted by the main contractor. Exact positions on the elevation to be approved by the architect.

Nest Box Specification	Qnty	Notes and Comments	Dwg ref
Insulating concrete integral swift boxes; e.g. Habibat or birdbrickhouses.co.uk	2x2	Located under eaves or high on gables on northerly elevations	NB1
Bat boxes – integral; e.g. Schwegler 1FR bat tube, Vivapro Pro UK or similar	1	To be mounted high on gables or under eaves on southerly elevations	NB2

Three possible suppliers:

Habibat
21 High Green
Great Ayton
North Yorkshire
TS9 6BJ
Tel: 01642 724 626

The Nestbox Company
Eastcote House, Barston
Lane, Eastcote, Solihull,
West Midlands, B92 0HS
Tel: 01675 442299

NHBS Ltd
1-6 The Stables, Ford Road
Totnes
Devon
TQ9 5LE
Tel: 01803 865280

3.32 'Hedgehog Gates'.
The fencing contractor shall allow for 13cmx13cm holes in the base of closeboard garden if included in the plans. If further details are required review the 'Hedgehog Street' website: **www.hedgehogstreet.org/help-hedgehogs/link-your-garden/**

4.0 LANDSCAPE MAINTENANCE: 12 month Establishment Period

4.1 Period of Maintenance.
The Landscape Contractor shall provide a 12 month period of establishment maintenance to the planting and boundary areas, commencing at the date of practical completion as confirmed in writing by the CA.

4.2 Payment Certification.
The Contractor shall be paid for maintenance works in three instalments, the last one coinciding with the Final Completion certificate. The CA shall provide a site progress report at 4 month intervals, outlining any areas that need the Contractors attention and a valuation certificate recommending payment by the Client on presentation of the Contractors invoice. Payment shall only be recommended on completion of the tasks and duties outlined below.

4.3 Normal Maintenance Duties.
The Contractor shall visit regularly to:

- Remove weeds and maintain the planting areas in a clean and tidy state
- Prune and trim trees and shrubs and perennials as may be required.
- Remove litter and other detritus.
- Remove plants that fail to thrive and replace with new stock.
- Adjust stakes and ties on trees to minimise chafing and prevent damage.
- Maintain mulch levels and top up so as to maintain a 50mm layer
- Mow lawn areas as specified
- Provide irrigation in dry weather
- Other works and items as identified by the CA.

4.4 Site visits / Notices to the CA.
The Contractor shall be expected to visit the site every 2-4 weeks to undertake the maintenance duties. He shall provide 2 days notice of the visits to give the CA the opportunity of being present.

4.5 Litter collection.
Collect and remove all extraneous rubbish and remove to the contractors tip.

4.6 Weed control.
Maintain the planting areas in a weed free state generally by hand hoeing and weeding. Only use spot treatment of a translocated herbicide after prior permission from the CA. The Contractor will not use pre-emergent or hormonal herbicides on the site.

4.7 General Pruning.
Except where specified otherwise, prune as recommended by BS7370: Part 4, clauses 3.6.2 to 3.6.5. and BS 3998:2010. Prune in accordance with good horticultural practice. Prune larger branches and woody stems in accordance with good arboricultural practice.
Thin, trim and shape appropriately to each species, location, season and stage of growth, leaving a well-balanced natural appearance.

Do not prune spring flowering plants in the winter/early spring period, unless specified otherwise, but prune them lightly after the flowering period. Avoid the nesting season, flowering periods or other 'display' times where possible.
When using handsaws cut in one continuous operation to form a smooth cut surface. Remove branches without damaging or tearing the stem.

4.8 Hedge Pruning.
In the first 2-3 years of establishment the contractor should lightly prune the hedges to keep them at a consistent height at or slightly below 1m height, also pruning wayward lateral growth. The goal is to establish a dense, even hedge. Spiral guards can be removed after 2-3 years of growth if no rabbit damage is evident. Retain bark mulch under the hedge and remove weed growth until well established. Ultimately the hedge can be allowed to grow higher but it is expected they will have a maximum retained height of no more than 2.0 metres.

4.9 Failures of planting.
Excepting theft or malicious damage after practical completion any trees/shrubs/plants that have failed to thrive during the defects liability period will be regarded as defects due to materials or workmanship not in accordance with the contract. Unless otherwise instructed they must be replaced by approved equivalent trees/shrubs/plants during the next suitable planting season. Replacements must match the size of adjacent or nearby plants of the same species, or should match the original specification, whichever is the greater.

4.10 Theft or Malicious damage.
Where the Contractor believes that theft or malicious damage has resulted in plant losses or damage to other contract works he shall record all damage and losses along with the date and location in the site maintenance record. He shall then submit all details to the CA for further consideration.

4.11 Mulch.
The Contractor shall monitor mulch levels and allow in his price to supply and spread additional mulch to beds at the end of the maintenance period to ensure that there is a 50mm layer of mulch to beds at the time of handover.

4.12 Fertilising.
The Landscape Contractor shall allow to fertilise trees and shrub areas towards the end of the first growing season (eg September). Allow for one application of a general slow release fertilizer (as per manufacturers recommended rates), blood and bone (100gms per sqm) or a well-rotted manure as per manufacturers instructions, best practice guidelines and BS7370: Part 4, clause 3.5.11. Confirm the fertiliser to be used with the CA prior to spreading.

4.13 Disposal of arisings / Cleanliness
Dispose of all weeds, prunings, trimmings and non bio-degradable materials (litter etc) at the Contractors off - site tip. At each maintenance visit remove soil and other debris from all hard surfaces and grassed areas and leave the works in a clean tidy condition.

4.14 Watering.
The contractor shall adjust and maintain the gator bags on trees and replace them if stolen or damaged. In notable periods of drought, where trees and shrubs are showing signs of stress, allow to fill gator bags and give other planting along site frontages a prolonged soak using a bowser, once every 7-10 days. The onus will be on the Contractor to ensure successful establishment of all planting. Although trees are normally established after 3-4 growing seasons it is recommended that trees (and other shrubs and perennial borders) are watered in exceptionally hot or dry weather periods for at least 10 years after planting.

4.15 Additional work.
Note any damage to planting, pavements, fences and the like and include in the four monthly report. Remove tree stakes and hedge guards once trees are established (normally after third or fourth growing season).

4.16 Final Completion.

At the end of the 12 month maintenance period the Contractor shall arrange a date for a Final Completion meeting. After all outstanding items have been completed to the satisfaction of the CA, the CA shall issue a Final Completion certificate and a final payment certificate which shall include release of any retention monies.

4.17 Ongoing Management

Management will be undertaken by the future occupier to maintain and develop the landscape areas after the initial 12-month establishment period.

- General site maintenance works are set out in the Establishment Landscape Specification and can broadly be used to inform management beyond 5 years.
- Watering of trees and hedges should be undertaken in drought periods for at least 5 years after planting.
- Tree guards and stakes can normally be removed after 3-5 years. In any case, trees and hedge plants should be checked at least twice a year to ensure that stakes and ties are not interfering with growth and adjusted or removed accordingly.
- Mulch around trees and along the hedging should be topped up every year, preferably in late winter (e.g. February / March). Mulch assists soil health, retains moisture, suppresses weed growth and reduces the need to mow or strim close to stems – which can lead to accidental damage.
- The main lawn areas will be managed as short grassland and indicatively mown between 6 and 10 times a year depending on the seasonal growth rate.
- The grassland 'biodiversity enhancement' area will be managed as 'meadow' and cut once a year after herbs have flowered (suggested time, late August/September). Cut grass should be raked and removed to help reduce nutrient levels over time. Management access path areas (if required) can be mown more regularly to retain a shorter sward.
- It is proposed that the existing and new hedges should be maintained at a height of around 2.0 metres. A wedge-shaped profile with a wide thick base has biodiversity benefits.
- Annual hedge cutting should be in February, after wildlife has benefitted from their habitat through the winter but before the bird nesting season has begun.
- All hedge and tree planting that fails to thrive should be replaced with like for like species and sized in the next planting season.
- Other garden areas can be managed at the owner's discretion.