

PROPOSED DEVELOPMENT LAND
AT COMAG , TAVISTOCK ROAD, WEST DRAYTON

Specification for Landscape & Horticultural Works

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1. INTRODUCTION

1.1.1. The following guidance has been produced for the implementation and specification of the soft landscape and planting areas associated with the proposed development at **COMAG , TAVISTOCK ROAD, WEST DRAYTON** The purpose of this report is to;

- a) act as a briefing document for the landscape contractors.

1.1.2. It has been compiled by Aspect Landscape Planning Ltd for our developers, and should be read alongside other related documents and information including the Landscape Management Plan and the proposed Planting Plans prepared by Aspect Landscape Planning Ltd (drawing ref **7943**)

2. SPECIFICATION OF MATERIALS AND WORKMANSHIP

2.1. General Clauses

2.1.1. All materials incorporated in the Works shall be new, unless otherwise specified as permitted.

2.1.2. In addition to any specified requirements, all materials and workmanship are to be in accordance with good current practice including all relevant provisions of British Standards Institute's documents last before issued at the date of tender, unless specifically stated otherwise, and are to be suitable for the purposes which are shown or described in the contract documents or in any Employer's Agent's Instruction or which can reasonably be inferred therefrom.

2.1.3. The Contractor shall provide on request, samples of any materials (top soil, turf, mulch etc.) to be used on the works to the Employer for their approval.

2.1.4. Where specifically referred to within the Specification or requested by the Employer the Contractor should provide control areas for shrub, tree, & hedge planting or laying of new lawns that demonstrate the standards of workmanship to be provided. Such sample areas may, if appropriate, comprise the first part of the finished work.

2.1.5. The Contractor shall obtain written approval from the Employer of each sample area / sample material, before proceeding with the relevant work.

2.1.6. The Contractor shall provide, at his own expense, a tip for all surplus material, stones, weeds, rubbish, prunings, grass cuttings and the like, and allow for all transportation costs to the tip.

2.1.7. All planting works will be carried out in accordance with the approved drawings, implemented at the conclusion of the building works as agreed in the programme of implementation.

2.1.8. Excavation of planting pits, beds or trenches shall not take place when the ground is frozen or waterlogged such that damage may occur of the structure of the soil.

2.1.9. The areas to be planted are given in the schedule of planting on the attached plan. However, the Contractor should satisfy himself of the area to be planted on site, and the proximity to underground services, overhead cables, buildings and boundaries.

2.1.10. The Contractor shall minimise tracking over the site, to avoid damage to existing vegetation cover and grass areas. The Employer's Agent reserves the right to suspend work during adverse conditions.

2.1.11. All plants are to be supplied in accordance with the HTA 'National Plant Specification' and from a HTA certified nursery. All plants and trees are to be planted in accordance with BS3936. Delivery and handling of all plant material to be in accordance with BS4428/JCLI/CPSE Code of Practice for 'Handling and Establishing Landscape Plants' parts I,II and III and BS8545.

2.1.12. The Contractor should satisfy himself and the client of the quality of tree and shrub stock delivered, and if in his opinion it does not meet the requirement of the original specification or is unsuitable or defective in any other way, it should be rejected.

2.1.13. All arisings from the planting, including containers, wrapping, paddings, ties, fastenings and bags shall be collected immediately by the Contractor and removed to a tip off site.

2.1.14. The Employer's Agent reserves the right to insist on the proper protection of completed works.

2.1.15. The Contractor shall reinstate all damaged or partly damaged areas during the course of the contract. The affected areas shall be treated as described for maintenance of existing grassland.

2.1.16. The Contractor shall ensure that the entire landscape scheme is completed for the final completion or opening of the development.

3. SITE PREPARATION

3.1. Vegetation Cutting and Clearance

3.1.1. Unless otherwise stated the Contractor shall collect and remove to the Contractor's tip off Site all rubbish, debris, surface stones, etc, exceeding 75mm in any dimension from planting plots or beds and areas indicated in the Contract.

3.1.2. Prior to planting preparation the Contractor shall apply a total herbicide to kill areas of vegetation to those areas indicated on the Drawings.

3.1.3. The treatment for total herbicide control shall kill all treated growth, including their root systems. The Contractor shall ensure that no residual herbicides are used on areas designated for planting.

3.1.4. Unless otherwise agreed by the Employer's Agent, the Contractor shall not commence any excavation or cultivation of the areas where herbicide has been applied until the vegetation has been effectively controlled.

3.2. Subsoiling

3.2.1. Subsoiling is required for areas of compacted ground that is to be used for soft landscaping in order to reduce compaction or unfavourable soil structure extending to depths greater than 300mm. This will improve aeration and infiltration of water, and create a greater volume for the development of roots.

3.2.2. Prior to the subsoiling operation, the Contractor shall mark out the extent of the Works for the approval of the Employer's Agent.

3.2.3. Unless otherwise stated, the minimum treatment depth shall be 450mm or less, as advised by the Employer's Agent.

3.2.4. Prior to loosening, grade the subsoil to smooth flowing contours to achieve the specified finished levels of the topsoil, excavating locally as necessary to allow for specified

top soil depths required for, tree, hedge shrub and turfed areas.

3.2.5. Loosen subsoil consisting of light, non-cohesive material with a 3 tine ripper, drawn 300 mm deep at 600 mm centres in two directions obliquely across the slope / preparation area, when ground conditions are reasonably dry.

3.2.6. Loosen subsoil consisting of stiff clays or other cohesive material with a single tine ripper, driven 450 mm deep at 1m centres in two directions obliquely across the slope / preparation area, when ground conditions are reasonably dry.

3.2.7. Following loosening the Contractor shall reinstate areas of heave by hand or mechanical means (via direct loading / impact or cutting methods), in order reduce the soil clod size and provide a more level tilth, suitable for the application of the top soil. Any stones and the like over 75mm in any dimension brought to the surface as a result of the sub soil loosening should be removed from site.

3.3. Topsoiling

3.3.1. No imported topsoil shall be used which is derived from sites contaminated with pernicious weeds. Imported topsoil should be of 'General Purpose' grade with low stone content and shall be in accordance with BS3882:2015 Specification for Topsoil.

3.3.2. The following criteria should be used as a guide against a 'Soil Analysis Report,' which should be presented to the Employer together with a physical soil sample for inspection:

General Purpose Grade:

- pH= 5.0 – 8.2
- Phosphorous (P) Index min = 2
- Potassium (K) Index min = 2
- Magnesium (Mg) Index min = 1

3.3.3. Site won top soil that is to be reused on site, should be treated with a suitable translocated non-residual herbicide at least two weeks prior to excavation and stockpiling. Ensure that topsoil is not mixed with subsoil, rubbish or other materials that are:

- Corrosive, explosive or flammable
- Hazardous to human or animal life
- Detrimental to healthy plant growth.

3.3.4. Topsoil storage heaps should not exceed 1m in height or 3m in width and stored in agreed locations with the Employer. Do not place any other material on top of storage heaps. Do not allow construction plant to pass over storage heaps. Prevent compaction and contamination, by fencing and covering as appropriate. Storage heaps should be treated with a suitable translocated non-residual herbicide at least two weeks prior to spreading.

3.3.5. Topsoil depths shall be:

Trees – 1000mm

Shrubs – 450 mm

Seed/Turf areas – 150mm

3.3.6. Topsoil shall be spread in layers not exceeding 150mm and firm each layer before spreading the next. Soil levels shall be 30mm higher than adjacent kerbs and paving after settlement. Where required, larger clods of top soil should be broken up via the use of a mechanical rotavator in order to provide a friable soil texture with separate visible crumbs. Stones or site material over 75mm in size in any orientation should be removed from the topsoil should they be present.

3.4. **Vegetation Control**

3.4.1. Unless otherwise stated, the Contractor shall carry out vegetation control during the period 1 March to 31 October to areas designated for soft landscaping within the relevant planting plans to ensure that planting areas are kept clear of weeds.

3.4.2. The Contractor shall ensure that any application of translocated non-residual herbicides shall be completed within the period stated by the manufacturers of the product. If, as a result of weather or other causes beyond his control, the Contractor cannot complete this vegetation control, he shall notify the Employer in writing.

3.4.3. Areas around the base of trees and shrubs should be kept weed free. Vegetation controls to be carried out by the Contractor to cultivated beds shall comprise of an initial treatment to kill or remove all growth, including root systems. Subsequent treatments shall ensure that the treated areas are kept weed-free, including the absence of seedling growth.

3.4.4. The Contractor shall ensure that the herbicide is carefully applied as per the

manufacturer's guidelines, to ensure that any planting such as trees, shrubs, or areas of wild meadow and maintained lawns are not harmed.

3.5. Soil Improvers: Mycorrhiza Root Dip

Mycor Root dip shall be incorporated onto the root systems of bare root materials by dipping the roots immediately prior to planting. Product shall be applied in compliance with the manufacturer's instructions.

4. PLANTING

4.1. General

4.1.1. Planting and associated operations shall comply with this Clause and with BS 4043, BS4428, BS 5837.

4.1.2. Unless otherwise stated, planting of trees and shrubs shall be carried out during the period 1 November to 31 March.

4.1.3. Planting shall not be carried out when the ground is frozen or waterlogged.

4.1.4. All arisings from the planting, including containers, wrapping, paddings, ties, fastenings and bags, shall be collected immediately by the Contractor and removed to the contractor's own tip off Site.

4.1.5. Unless otherwise described, the planting depths shall be to the original nursery mark shown on the plant.

4.1.6. Unless otherwise described, the size of plant groups, mixtures, planting distances and layout shall be as stated on the Drawings.

4.2. Plant Material

4.2.1. Plant material shall comply with BS 3936: Part 1, Part 4, Part 5 and with any other special requirements stated.

4.2.2. All standard and feathered trees shall be supplied bare root, unless otherwise stated. Bare root trees shall be well grown, healthy and with a compact, fibrous root system. They shall be nursery grown and have been regularly watered.

4.3. Plant Handling

4.3.1. Guidance on the lifting, packing and handling of all plants shall be taken from BS 3936 and in accordance with BS4428/JCLI/CPSE Code of Practice for 'Handling and Establishing

Landscape Plants' parts I,II and III and BS8545.

4.3.2. Prior to planting, all plant material shall be stored and sorted at a location approved by the Employer's Agent.

4.3.3. Bare root trees and plants shall be well grown, healthy and with a compact, fibrous root system. They shall be nursery grown and have been regularly watered.

4.3.4. When a tree cannot be planted as soon as it is delivered, it should be stored upright, in a position where it will be protected from damage and unnecessary movement. Throughout the period of storage the root system / root ball should be protected from freezing or drying out, using materials or techniques (such as using sand or wet straw) that will not damage the tree. Rootballed and bare root plants shall be placed close together whilst being stored.

4.3.5. Rootballed stock should be handled and lifted without causing damage to the root ball, stem or branches. Appropriate mechanical means maybe required to move larger root balled trees and adequate care should be made by either supporting the root ball or by using a sling at the fulcrum point of the main stem. It is essential that self- tightening slings are not used as these, when tensioned, will bruise or rupture the bark or root ball and cause tree death. When a root ball has to be released from the machine for transport, care should be taken to ensure that no damage occurs.

4.3.6. Container grown trees & larger specimen shrubs should be moved with their root balls intact within their containers. The growers instructions should be observed whilst handling and planting trees / specimen shrubs.

4.4. Staking/Protection

4.4.1. The woodwork shall be treated pressure softwood or untreated hardwood and shall be peeled of bark, straight in length and free of snags, pests and diseases, complying with BS4072.

4.4.2. The vertical stakes shall be round, 1.6m long and 75mm in diameter, with chamfered tops and pointed lower end. Each stake shall be driven in before planting to penetrate below the base of the planting pit until firm and shall extend no more than 650mm (or to a maximum of around one third of the total tree height) above ground level, unless otherwise specified.

4.4.3. The stake shall not rub or press against the stem of the tree, and be secured by adjustable tree ties with strapping and spacers made of black PVC or reinforced rubber. The width of the belt shall be 25mm.

4.4.4. The tree shall be held firm by tying the lower stem to one stake, positioned near the base of the tree.

4.4.5. The stake shall be driven vertically into the ground.

4.4.6. The top of the stake shall be no more than 40mm away from the stem of the planted tree.

4.4.7. One adjustable tie, plus spacer, per tree shall be used to secure the tree stem to the stake. It shall be fixed within 50mm of the top of the stake and secured to the stake with a 25mm long galvanised nail.

4.4.8. Trees within hardstanding / specific pits to be underground guyed unless otherwise specified.

4.4.9. The roots shall be spread out evenly in the planting hole. Finely broken backfill material shall be carefully spread around the roots and the tree given a slight shake to ensure all gaps are filled with soil, which shall be consolidated by heeling. This filling and heeling shall continue in layers of 150mm (maximum). On completion the tree shall be firm in the ground and in an upright vertical position.

4.4.10. The Contractor shall excavate planting holes of sufficient size to allow free spread of roots and of sufficient depth to allow stock to be planted to their nursery mark.

4.4.11. The Contractor shall form a planting notch for bare root and cell grown stock in the centre of the prepared pit to a sufficient depth and width to allow roots to be spread without cutting or bending. The Contractor shall insert the plant and firm the soil by treading with the heel, ensuring that the plant remains in an upright position.

4.4.12. For plants not requiring pit preparation (notch planting), the contractor shall make an "L" or "T" notch in the ground, to a minimum 300mm depth, insert the bare root stock and spread out the roots without cutting or bending. The Contractor shall firm the soil by treading with the heel. When hard material is encountered, the Contractor shall move the position of

the notch to avoid the hard material where the movement can reasonably be accommodated within the planting grid. Where the movement cannot reasonably be accommodated within the planting grid, the hard material shall be excavated.

4.4.13. Provide 'Treebio Biodegradeable Spiral Guards' (Green-tech Product code: 160PS1031-PRO) or similar to young sapling trees, whips and feather planting, ensuring that the main or terminal bud is protruding out above the top of the spirals.

4.5. Root Balled Tree and Shrub Planting

4.5.1. The Contractor shall form a planting hole for root balled and container grown stock in the centre of the prepared pit. The hole shall be excavated sufficiently to allow the root ball to be planted without disturbing the roots and shall be the same depth as the root ball. Backfill soil shall be firmed as filling proceeds.

4.5.2. All crown wrappings and fastenings used to tie in the branches for transport shall be removed immediately after planting.

4.5.3. Shrubs and hedge species shall be pruned as required to provide a vigorous plant specimen.

4.6. Mulching

4.6.1. All planted areas are to be mulched with a 50mm minimum depth of chipped natural British forest biomass. The mulch shall be free of pest, disease or weed contamination. The mulch shall be topped up to give a minimum depth of 70mm at handover.

4.7. Watering

4.7.1. The Contractor shall water the trees once planted so that the entire tree pit or planted area is moistened to field capacity, i.e. "the amount of water retained by previously saturated soil once full drainage has ceased. Water as necessary to ensure the establishment and continued thriving of all planting.

Grass Areas

4.8. Ground Preparation

4.8.1. The Contractor shall break up any compacted topsoil so that top 100mm is a tilth suitable for blade grading (10mm down particles). Remove undesirable material brought to the surface including stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass and foreign matter.

4.8.2. When topsoil is reasonably dry and workable, grade to smooth, flowing contours with falls for adequate drainage, removing all minor hollows and ridges. Unless otherwise stated, finished levels after settlement shall be 25mm above adjoining paving, kerbs, manholes etc. Topsoil levels may be adjusted by blade grading ensuring that there is nowhere less than 150mm of topsoil.

4.8.3. On day of seeding/turfing, rake with chain harrow, drag mat or hand rake to a true, even surface, lightly firmed but not over compacted, removing all stones and earth clods more than 50mm in any dimension on general areas and 25 mm on fine lawns. Extend cultivation into any adjacent existing grass areas to ensure full marrying in of levels.

4.9. Seeding

4.9.1. Seed shall be purchased fresh for each growing season. Use blue label certified seed varieties complying with EC regulations for purity and germination and also complying with the Ministry of Agriculture Fisheries and Food Higher Voluntary Standard.

4.9.2. Grass seed for amenity areas shall be ryegrass based, such as Emorsgate's EL1 Flowering Lawn Mix or similar, applied at a rate of 40kg/ha. Application rates shall be increased by 50% for slopes exceeding 1:5. The grass seed for areas of species-rich meadow will comprise a mix of native species, such as Emorsgate EM3 Special General Purpose Meadow Mixture, or similar, applied at a rate of 2-4g/m² (or as recommended by specific mix). Reference should also be made to the planting notes within the detailed plans for establishing wild meadow / flower areas.

4.9.3. Grass seed shall be sown in calm weather between March and October where possible. However, in areas prone to water-logging, the seed will be sown before late autumn, where possible. The seed shall be spread evenly at the specified rates, applied in two equal sowings in transverse directions. The area should then be lightly harrowed or raked. On light

soils roll and cross roll after seeding using a lightweight roller.

4.10. Turfing

4.10.1. To BS 3969 (General purpose utility turf with perennial ryegrass) and from an approved source such as 'Rowlan Medalion' or similar approved by the Employer. Free from undesirable grasses and weeds.

4.10.2. Preparation:

4.10.3. The soil (a minimum 100mm) depth of good quality top soil, (free of vegetation) should be turned over, levelled, lightly consolidated and free from surface stone, other debris and perennial weeds. Do not compact the soil. (Compacted soil inhibits drainage of surface water which leads to permanent turf damage).

4.10.4. Apply a suitable lawn establishment fertiliser and rake into the top 25mm (1") of soil. Using a rake, obtain a fine tilth to ensure thorough contact between soil and turf roots when laid. Turf should always be inspected upon receipt.

4.10.5. Sufficient operatives should be available to lay the turf immediately when it arrives on site. Do not lay turf when soil is frozen to a depth of 25mm or more, or when the ground is waterlogged.

4.10.6. Delivery & Storage:

4.10.7. Take all necessary precautions to avoid drying out and deterioration of turf. Arrange supply of turf to avoid excessive stacking. Do not stack to a height of more than 1 m. Use turf which shows any signs of deterioration without delay or lay out on topsoil and keep moist. Turf must be inspected on receipt and laid or rolled out on a holding bed immediately in spring and summer, and within 24 hours between October to March.

4.10.8. Laying Turf:

- Lay turf within 18 hours of delivery in spring or summer and within 24 hours of delivery in autumn or winter.
- Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Lay turf with broken joints, well butted up, working from planks laid on previously laid turf. Do not stretch turf.

- Use whole turves at edges. Trim to a true line with edging sheers, knife or a half moon where required.
- Adjust levels by raking out or infilling with fine soil, and ensuring full contact with the substrate.
- Consolidate by lightly and evenly firming with wooden beaters as the laying proceeds. Do not use rollers.
- Dress turf with finely sifted topsoil/peat/sand and brush well in to completely fill all joints.
- Thoroughly water the completed turf immediately after laying. Check by lifting a corner of turf that water has penetrated to the soil below.

4.10.9. Watering

- Start watering on the day turf is laid. On hot days, you may need to commence watering large lawns prior to laying all the turf.
- Ensure that the new lawn is never short of water. Lift corners of the turf to confirm water has percolated through to the underlying soil.
- Water repeatedly until the turf is well established.
- If rainfall is experienced you still need to check that the lawn is receiving sufficient water.
- It is best to water turf in the early morning or during the evening so that less water is lost to evaporation.
- Once established, occasional watering during dry periods should be adequate.

4.10.10. Mowing

- If turf is dislodged, replace it and allow the turf more time to establish before recommencing mowing.
- Don't allow the new turf to get too long. Mowing encourages establishment. Although this should be the only traffic in the first few weeks.
- Never remove more than one third of the grass blade length.
- For the first few cuts remove just the top quarter of the grass blade.
- Over the next few cuts gradually lower the mowing height down to 25mm (1").
- Alternate the direction in which you mow the lawn.
- Clippings do not have to be collected if they are minimal, provided

sunlight is reaching the blades of grass. Clippings in small amounts returns nutrients to the soil encouraging a healthy lawn.

4.11. Hedge & Shrub Planting:

4.11.1. Hedgerow and shrub planting is to be made up of container or bare root transplants (unless otherwise indicated) laid out and planted as specified within the detailed planting plans.

4.11.2. Exact distances between plants may vary. Subject to suitable ground conditions, bare root plants shall be planted using L-shaped notches in accordance with best practice and BS4428. If trenches are necessary, they shall be excavated to 600mm depth and a minimum 300mm width, with base and sides broken up, and backfilled with either site won topsoil or imported topsoil to BS3882 – General Purpose Grade.

4.11.3. Rabbit protection / Treebio Biodegradable spiral guards (Green-tech 160PS1031-PRO) shall be applied to all new hedging in accordance with manufacturer's guidelines.

4.11.4. All new planting shall be watered to field capacity following planting, and pruned to create a dense hedgerow and ensure successful establishment.

5. AFTERCARE PERIOD & GENERAL/SPECIFIC MANAGEMENT

- 5.1. Ongoing maintenance is the responsibility of the appointed landscape contractor following completion of the works and during the maintenance / rectification period. During this period the landscape contractor is responsible for carrying out regular pre-arranged maintenance visits and should employ best practice to ensure the successful establishment and ongoing thriving of all planting stock .
- 5.2. It is the responsibility of the landscape contractor to replace at their expense any planting failures during the maintenance period, which is confirmed in writing by the Employer. Replacement planting should be of the same size, density and species as that which is being replaced. If this is not possible, suitable alternatives should be agreed with and approved / instructed in writing by the Employer.
- 5.3. Following each maintenance visit the Contractor should ensure that all arisings, pruning's, grass cuttings, plant packaging etc. are removed from site, and that all maintained areas are left in a presentable manner in keeping with the associated high quality development.
- 5.4. Details of general/specific management are included within the accompanying Landscape Management Plan.

6. COMPLETION

6.1. Final Clearance

6.1.1. All areas shall be cleared of any rubbish, left tidy and weed free to the satisfaction of the Employer's Agent prior to the final inspection at completion of defects.

6.2. Final Inspection

6.2.1. The completed works may be offered for final inspection provided that all work and maintenance operations have been completed to the Employer's Agent's satisfaction.

6.2.2. Should the works fail to achieve the standards required by the specification and drawings, the Contractor shall rectify any deficiencies and continue maintenance operations at his own expense until remedial work has been completed to the Employer's Agent's satisfaction.

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