

| Reeds                                                                               |               |                                            |                                |                                                                 |                                                                                                                                     |
|-------------------------------------------------------------------------------------|---------------|--------------------------------------------|--------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| ID                                                                                  | Quantity      | Latin Name                                 | Common Name                    | Scheduled Size                                                  |                                                                                                                                     |
| N/A                                                                                 |               | 16 Phragmites spp.                         | Reed                           | CG 2-3lt pot                                                    |                                                                                                                                     |
| Ornamental Planting                                                                 |               |                                            |                                |                                                                 |                                                                                                                                     |
| ID                                                                                  | Quantity      | Latin Name                                 | Common Name                    | Scheduled Size                                                  | Notes                                                                                                                               |
| FE001                                                                               |               | 16 Polystichum setiferum                   | Soft shield fern               | CG 2-3lt pot.                                                   |                                                                                                                                     |
| FE003                                                                               |               | 6 Asplenium scolopendrium                  | Hart's Tongue Fern             | CG 2-3lt pot.                                                   |                                                                                                                                     |
| OG001                                                                               |               | 452 Sesleria autumnalis                    | Autumn Moor Grass              | CG 2-3lt pot.                                                   |                                                                                                                                     |
| OG010                                                                               |               | 17 Deschampsia caespitosa 'Goldtau'        | Tufted Hair Grass 'Goldtau'    | 2lt CG pot                                                      |                                                                                                                                     |
| OG014                                                                               |               | 72 Molinia caerulea                        | Purple Moor Grass              | CG 2-3lt pot.                                                   |                                                                                                                                     |
| OG022                                                                               |               | 273 Carex divulsa                          | Grey sedge                     | CG 2-3lt pot                                                    |                                                                                                                                     |
| PE001                                                                               |               | 26 Armeria maritima                        | Sea Pink, Thrift Seapink       | 9cm pot.                                                        |                                                                                                                                     |
| PE005                                                                               |               | 30 Vinca minor 'Bowles Variety'            | Bowles' Common Periwinkle      | CG 2-3lt pot.                                                   |                                                                                                                                     |
| PE006                                                                               |               | 116 Vinca minor 'Alba'                     | White Common Periwinkle        | CG 2-3lt pot.                                                   |                                                                                                                                     |
| PE019                                                                               |               | 45 Limonium latifolium                     | Sea lavender                   | 20-30cm diam. CG3lt pot.                                        |                                                                                                                                     |
| PE028                                                                               |               | 29 Salvia x sylvestris 'Mainacht'          | Wood sage 'Mainacht'           | CG 2-3lt pot.                                                   |                                                                                                                                     |
| PE042                                                                               |               | 34 Hylothelephium telephium                | Orpine                         | CG 2-3lt pot                                                    |                                                                                                                                     |
| SH001                                                                               |               | 3 Berberis thunbergii 'Atropurpurea'       | Red Leaf Japanese Barberry     | 20-30cm diameter. CG3lt pot.                                    |                                                                                                                                     |
| SH004                                                                               |               | 39 Lavandula angustifolia 'Hidcote'        | Hidcote Lavender               | 20-30cm diam. CG3lt pot.                                        |                                                                                                                                     |
| SH006                                                                               |               | 38 Viburnum davidii                        | David's Viburnum               | 40-50cm diam. CG 4lt pot.                                       |                                                                                                                                     |
| SH007                                                                               |               | 25 Viburnum opulus 'Compactum'             | Compact guelder rose           | CG 3lt pot.                                                     |                                                                                                                                     |
| SH008                                                                               |               | 10 Hebe rakaiensis 'Golden Dome'           | Golden Dome Hebe               | 30-40cm diam. CG 3-5lt pot.                                     |                                                                                                                                     |
| SH014                                                                               |               | 6 Mahonia eurybracteata subsp. ganpinensis | Oregon Grape 'Soft Caress'     | 30-40cm diam. CG 3lt pot.                                       |                                                                                                                                     |
| SH016                                                                               |               | 5 Rosmarinus officinalis 'Benenden Blue'   | Rosemary 'Benenden Blue'       | 30-50cm diam. CG 3lt pot.                                       |                                                                                                                                     |
| SH018                                                                               |               | 7 Skimmia japonica 'Rubella'               | Skimmia 'Rubella'              | 30-40cm diam. CG3lt pot.                                        |                                                                                                                                     |
| SH021                                                                               |               | 25 Sarcococca hookeriana var. digyna       | Sweet box                      | 30-40cm diam. CG 3lt pot.                                       |                                                                                                                                     |
| SH024                                                                               |               | 77 Lavandula angustifolia 'Arctic Snow'    | English Lavender 'Arctic Snow' | 20-30cm diam. CG3lt pot.                                        |                                                                                                                                     |
| SH040                                                                               |               | 5 Ruscus aculeatus                         | Butcher's Broom                | 20-30cm diam. CG3lt pot.                                        |                                                                                                                                     |
| Trees                                                                               |               |                                            |                                |                                                                 |                                                                                                                                     |
| ID                                                                                  | Quantity      | Latin Name                                 | Common Name                    | Scheduled Size                                                  | Notes                                                                                                                               |
| TR049                                                                               |               | 3 Betula pendula                           | European White Birch           | SS. 2x. 10-12cm gth. 350-425cm min. ht. 2m clear stem. CG or RB | 5 branches min. Stake to base with single timber pole 75mm diam at 45 degree angle..                                                |
| TR017                                                                               |               | 3 Sorbus aucuparia 'Sheerwater Seed.'      | Rowan 'Sheerwater Seedling'    | SS.2x. 10-12cm grh. 350-425cm min ht. CG or RB. 2m clear stem   | 5 branches min. Stake to base with single timber pole 75mm in diameter at 45 degree angle. Use proprietary rubber spacers and ties. |
| TR011                                                                               |               | 1 Pyrus calleryana 'Chanticleer'           | Callery pear 'Chanticleer'     | SS 10-12cm gth. 2m clear stem, 350-425cm min ht. RB.            | 5 branches min. Stake to base with single timber pole 75mm diam at 45 degree angle..                                                |
| TR014                                                                               |               | 2 Betula pendula                           | European White Birch           | Fthr.2x. 200-250cm ht. CG or RB.                                | 5 branches min. Stake to base with single timber pole 75mm diam at 45 degree angle..                                                |
| TR003                                                                               |               | 1 Alnus glutinosa                          | European Alder                 | Fthr.2x. 200-250cm ht. CG or RB.                                | 5 branches min. Stake to base with single timber pole 75mm in diameter at 45 degree angle. Use proprietary rubber spacers and ties. |
| Native Understorey                                                                  |               |                                            |                                |                                                                 |                                                                                                                                     |
| ID                                                                                  | Quantity      | Latin Name                                 | Common Name                    | Scheduled Size                                                  | Notes                                                                                                                               |
| TR039                                                                               |               | 82 Salix caprea                            | Goat willow                    | 60-80cm ht. 1+1 or 1/1 BR. Spiral guard and cane.               |                                                                                                                                     |
| TR052                                                                               |               | 82 Salix fragilis                          | Crack willow                   | 60-80cm ht. 1+1 or 1/1 BR. Spiral guard and cane.               |                                                                                                                                     |
| TR048                                                                               |               | 82 Salix cinerea                           | Grey willow                    | 60-80cm ht. 1+1 or 1/1 BR. Spiral guard and cane.               |                                                                                                                                     |
| HE008                                                                               |               | 82 Sambucus nigra                          | Blackthorn                     | 60-80cm ht. 1+2 or 1/2 BR. Spiral guard and cane.               |                                                                                                                                     |
| TR079                                                                               |               | 82 Alnus glutinosa                         | European Alder                 | 60-80cm ht. 1+2 or 1/2 BR. Spiral guard and cane.               |                                                                                                                                     |
| Hedges (Double-Staggered)                                                           |               |                                            |                                |                                                                 |                                                                                                                                     |
| ID                                                                                  | Quantity      | Latin Name                                 | Common Name                    | Scheduled Size                                                  | Notes                                                                                                                               |
| HE010                                                                               |               | 211 Fagus sylvatica                        | European Beech                 | 60-80cm ht. 1+2 or 1/2 BR. Spiral guard and cane.               |                                                                                                                                     |
| Seed Mixes                                                                          |               |                                            |                                |                                                                 |                                                                                                                                     |
| ID                                                                                  | Total Area    | Sow Rate                                   |                                |                                                                 |                                                                                                                                     |
| Emorsgate EL1 Flowering Lawn Mix                                                    | 1158.81 sq. m | 5g/sq. m                                   |                                |                                                                 |                                                                                                                                     |
| soils                                                                               | 335.81 sq. m  | 5g/sq. m                                   |                                |                                                                 |                                                                                                                                     |
| Swale Wildflower Meadow Mixture specified and approved by Neath Port Talbot Council | 385.74 sq. m  | 5g/sq. m                                   |                                |                                                                 |                                                                                                                                     |
| GRASSCRETE GrassMix No. 2                                                           | 67.02 sq. m   | 5g/sq. m                                   |                                |                                                                 |                                                                                                                                     |

| Neath Port Talbot Council Approved Swale Meadow Mix |                          |                             |
|-----------------------------------------------------|--------------------------|-----------------------------|
| Sow 5g/sq. m.                                       | Wildflowers              |                             |
| Percentage of Mix                                   | Latin Name               | Common Name                 |
| 0.5%                                                | Achillea ptarmica        | Sneezewort                  |
| 1.0%                                                | Alisma plantago-aquatica | Water plantain              |
| 2.0%                                                | Angelica sylvestris      | Wild angelica               |
| 1.0%                                                | Cardamine pratensis      | Cuckoo flower               |
| 1.0%                                                | Dipsacus fullonum        | Teasel                      |
| 1.0%                                                | Eupatorium cannabinium   | Hemp agrimony               |
| 2.5%                                                | Filipendula ulmaria      | Meadowsweet                 |
| 2.5%                                                | Iris psuedacorus         | Yellow iris                 |
| 1.5%                                                | Lotus pendunculatus      | Greater birdsfoot trefoil   |
| 1.0%                                                | Lychnis Flos-cuculi      | Ragged robin                |
| 1.7%                                                | Lycopus europaeus        | Gypsywort                   |
| 1.0%                                                | Lythrum salicaria        | Purple loosestrife          |
| 1.0%                                                | Mentha aquatica          | Water mint                  |
| 1.0%                                                | Myosotis scorpiodes      | Water forget-me-not         |
| 0.3%                                                | Pulicaria dysentrica     | Fleabane                    |
| 1.0%                                                | Succisa pratensis        | Devil's-bit scabious        |
| Grasses                                             |                          |                             |
| 8.0%                                                | Agrostis stolonifera     | Creeping bent               |
| 4.0%                                                | Alopecurus pratensis     | Meadow foxtail              |
| 2.0%                                                | Anthoxanthum odoratum    | Sweet vernal grass          |
| 1.0%                                                | Briza media              | Quaking grass               |
| 40.0%                                               | Cynosurus Cristatus      | Crested dogstail            |
| 1.0%                                                | Deschampsia caespitosa   | Tufted hair grass           |
| 24.0%                                               | Festuca rubra            | Slender creeping red fescue |

| Planting Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Trees:</b> <ul style="list-style-type: none"><li>- All trees must be compliant with Table 1, p.21, BS 8545:2014</li><li>- Water weekly during the first two growing seasons.</li><li>- Monitor &amp; water during hot periods.</li><li>- Once the tree can stand unsupported without bending of shifting in the ground, remove the stakes.</li><li>- Stakes and ties should be checked regularly for chafing or other damage to the bark.</li><li>- Stakes and ties will be removed after no more than two growing seasons.</li><li>- Pruning must be to BS 3998:2010. The specific aim for pruning will be to maintain good form and the characteristic of each species.</li><li>- Remove dead, diseased and damaged branches.</li></ul> |  |
| Place the tree in the planting hole and position it so that the first flare of roots are level with the soil surface when planting is complete. Deep planting prevents essential air movement to the root system and makes the lower trunk vulnerable to disease - this can lead to poor establishment.                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| With container grown plants, the top layers of compost may need to be scrapped away to reveal the flare of roots. Insert Irrigation/Aeration system as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Refill the planting hole carefully, placing soil between and around all the roots to eliminate air pockets. Firm the soil gently, avoiding compacting the soil into a hard mass and water in.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| <b>Shrubs:</b> <ul style="list-style-type: none"><li>- Soak the roots before planting</li><li>- Water weekly during the first two growing seasons.</li><li>- Monitor &amp; water during hot periods.</li><li>- When pruning is required it should be carried out during the dormant season. Light pruning will help maintain the size &amp; shape of the shrub especially if branches are falling onto the pavement.</li><li>- Remove dead, diseased and damaged branches where appropriate.</li><li>- Ideally, you should wait until the heat of summer has passed to plant any shrubs. Planting is best done between October and April.</li><li>-Avoid planting in waterlogged or frozen (too hard to get the spade in) soil.</li></ul>    |  |
| When planting - dig a hole the same depth as the plant's pot and about twice as wide to give the shrub's roots room to spread out. Take the plant out of its pot, loosen the soil around the sides, and centre it in the hole at the same depth it was growing in the pot. Fill the hole around the shrub with soil. Firm the soil around the root ball with your hands making sure to establish good soil contact                                                                                                                                                                                                                                                                                                                           |  |

If the sides of the planting hole are compacted, break the soil up with a fork before planting.

Place the tree in the planting hole and position it so that the first flare of roots are level with the soil surface when planting is complete. Deep planting prevents essential air movement to the root system and makes the lower trunk vulnerable to disease - this can lead to poor establishment.

With container grown plants, the top layers of compost may need to be scrapped away to reveal the flare of roots. Insert Irrigation/Aeration system as required.

Refill the planting hole carefully, placing soil between and around all the roots to eliminate air pockets. Firm the soil gently, avoiding compacting the soil into a hard mass and water in.

**Shrubs:**

- Soak the roots before planting
- Water weekly during the first two growing seasons.
- Monitor & water during hot periods.
- When pruning is required it should be carried out during the dormant season. Light pruning will help maintain the size & shape of the shrub especially if branches are falling onto the pavement.
- Remove dead, diseased and damaged branches where appropriate.
- Ideally, you should wait until the heat of summer has passed to plant any shrubs. Planting is best done between October and April.
- Avoid planting in waterlogged or frozen (too hard to get the spade in) soil.

When planting - dig a hole the same depth as the plant's pot and about twice as wide to give the shrub's roots room to spread out. Take the plant out of its pot, loosen the soil around the sides, and centre it in the hole at the same depth it was growing in the pot. Fill the hole around the shrub with soil. Firm the soil around the root ball with your hands making sure to establish good soil contact

**Planting maintenance notes**  
Fagus hedge should be pruned in late August/September before the leaves turn for autumn. Hedge to be maintained to a height of 1m. Prune with secateurs rather than a hedge trimmer to create a dense hedge, pruning back each shoot to two or three leaves from its base, using sharp secateurs. Cut at an angle next to a bud. Clippings should be appropriately recycled or could be cut into smaller pieces and added to a compost heap if desired.

Hylothelephium seed heads should not be cut back until early spring because of their value both aesthetically and as a resource for birds. Stems should be cut back in early spring before new growth appears.

Carex and Sesleria are evergreen so only require dead/damaged leaves to be combed out/removed in spring. If needed they can be cut back by up to half almost any time from April to July.

Molinia and Deschampsia are deciduous: cut back stems close to ground level from late February through to the end of March before new growth appears. Cut stems can be left on border as natural mulch or composted. Remove any unwanted seedlings as part of routine border maintenance.

Remove Lavandula spent flowers in late summer and cut back foliage by around 3cm, being careful not to cut into old woody stems. Cut down Limonium stems in autumn.

Rosmarinus should be lightly pruned in mid-late spring in order to maintain tidy form by removing unwanted shoots.

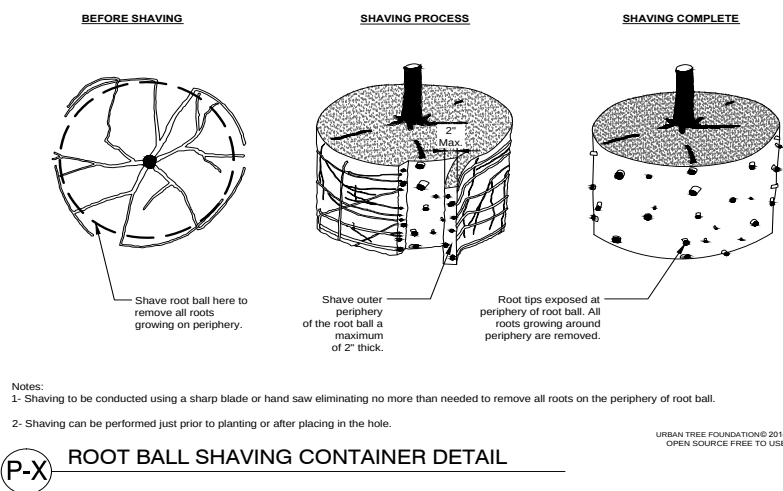
For Viburnum and Skimmia: To promote bushy growth prune straggly branches in spring and maintain at 1m height maximum. Apply a generous 5-7cm (2-3in) mulch of well-rotted garden compost or manure around the base of the plant after pruning. Cut out dead stems of Ruscus to the base in spring. Ruscus spreads via rhizomes, so should be monitored during border maintenance to ensure it doesn't spread further than desired. Viburnum and Hebe should be pruned in spring if required.

Salvias to have a generous 5-7cm (2-3in) mulch of well-rotted garden compost or manure around the base of the plant in spring.

Berberis should be trimmed in winter as required to promote bushy growth. Any pruning on Sarcococca should take place in late winter/early spring, and after pruning apply a generous 5-7cm (2-3in) mulch of well-rotted compost around the base of the plant.

Any dead/winter-damaged fronds on Polystichum and Asplenium are to be removed in early spring before new growth appears. Cut back any unwanted Vinca minor shoots in spring.

Where indicated on Drawing 0006, plants are to be maintained to a maximum height of 600mm to account for a visibility splay. Molinia flower stems that exceed the 600mm limit in these locations must be checked for and removed regularly throughout the summer and into autumn.



If the roots within the container for the proposed trees require root shaving, due to roots growing periphery - see the above for correct procedure prior to planting. Perishable wrappings and cages such as single layer untreated hessian and narrow gauge chicken wire cages may be retained until the tree is in position but then the upper third of the wrapping and cage should be removed at the same time as back-filling.

**Planting Notes**  
These planting notes are guidelines for planning purposes only:  
**1.0 - General**  
1.1 - All setting out shall be subject to the Landscape Architect (CA) on site.  
1.2 - All relevant, current British Standards will apply.  
1.3 - Planting will not be undertaken during waterlogged or frost bound conditions: full ground preparation and planting instructions on Master Plant Schedule (0008).  
1.4 - Root barriers/deflectors to be applied round services in proximity to shrub or tree planting.  
**2.0 - Soils**  
2.1 - It is important that **all imported soils** have an interpretive report demonstrating fitness for purpose. Imported soils must not only meet BS, but have been found via a soil scientists interpretive report to be fit for the specific landscape function and contain no contaminants. If it is intended to re-use site-won soil then there must be a Soil Resource Survey and Plan – showing that a soil is fit for purpose in terms of human health and demonstrate fitness for plant health.

All imported subsoil within shrub planting areas and as a seeding substrate, shall comply with BS 8601:2013 and point 2.1. Cultivate to alleviate any compaction and any sharp surface prior to topsoiling and to ensure suitability for wildflower / grass seeding.

2.2 - All imported topsoil shall comply with BS 3882:2015, point 2.1 and shall be approved by the CA.

2.3 - Typically soil profiles are as follows: 150mm topsoil over 150mm subsoil for grass, 300mm topsoil over 300mm subsoil for shrubs and 300mm topsoil overlaid on 600mm of subsoil for trees.

**3.0 - Planting**  
3.1 - Trees must be compliant with Table 1, p.21, BS 8545:2014. This is specific to tree form and is in the format of a checklist that should be ticked off by the landscape architect on delivery (and ideally prior to delivery) of trees.

3.2 - Tree handling, storage and planting to be in accordance with BS8545. All trees shall be planted in uncompacted tree pits (see detail). This should be applied to the likely rooting zone proximity - allow for 5m³ per tree. Pits shall include drainage provision and irrigation. (See Green/Blue Urban tree planting provisions for these) Staking as per planting schedule / details.

3.3 - All shrubs shall be planted within a minimum of 300mm topsoil. Plant in random species groups of 3 to 5 plants, unless otherwise specified.

3.4 - A slow release fertiliser shall be applied to each bed at time of planting.

3.5 - Bark mulch shall be applied with a top dressing to each planting bed including tree pits in all soil landscaping areas. Each planted tree will have a 1m diameter circle around it to be stripped of turf or other surface vegetation. Mulch to be laid to a depth of 75mm after planting and tapered to 25mm over root ball.

3.6 - Plant species to be as specified and approved by CA.

3.7 - All plants shall conform to BS3936-1:1992 and planting operations shall be carried out in accordance with the relevant sections of BS4428:1989.

**4.0 Grass/Species-rich/Wildflora seeding**  
4.1 - All amenity grass areas shall be topsoiled to a depth of 150mm over an aerated 150mm of subsoil.

4.2 - It is intended to retain as much semi-improved grassland / wildflower within the northern community parkland.

4.3 - Areas of grass/species-rich seeding shall be cultivated to a minimum depth of 150mm prior to grass seeding and all stones in excess of 25mm removed. The surface shall be raked to smooth flowing contours and a fine till.

4.4 - Grass seed shall be EL1 (Flowering Lawn Mixture) for lawn area by Emorsgate Seed. Sow at 4g/m2.

4.5 - NPT approved swale seed mix (see plant schedule for details) Sow seed at 5g/m2

4.6 - Seed mixture for wetlands to be EM8 – Meadow mixture for wetlands available from Emorsgate Seeds Ltd. In year one there shall be 2 establishment cuts. In year two onwards there shall be 2 annual cuts. First cut should be prior to flowering, and second at the early September following setting of seed.

4.7 - GRASSCRETE GrassMix No. 2 shall be sown at 5g/sq. m. and maintained in line with manufacturer's recommendations.

4.7 With the existing semi-improved / wildflower there shall be 2 annual cuts. First cut should be prior to flowering, and second at the early September following setting of seed

**5.0 - Maintenance**  
5.1 - All planted areas shall be subject to a maintenance programme, which will include the replacement of any trees or plants that, within a period of five years of planting, are removed, die or become, in the opinion of the Local Planning Authority, seriously damaged or defective. These shall be replaced as soon as is reasonably practicable with others of species, size and number as originally approved, unless the Local Planning Authority gives its written consent to any variation. All maintenance to be in line with BS 7370-4: 1993.

5.2 - The programme of maintenance operations shall include the following:

- Weeding and watering
- Top dressing with fertiliser
- Replacing/securing/tightening/loosening of tree stakes/ties as required.
- Litter picking
- Pruning of trees and hedging
- Care of ornamental grasses.

5.3 - See Master Plant Schedule (0008) for plant-specific maintenance notes.

| REVISIONS:                                                 |           |
|------------------------------------------------------------|-----------|
| P01 22.05.20: Updated Softworks numbers and grass mixes    | Drawn: GE |
| P02 04.06.20: Updated softworks in line with ecology.      | Drawn: GE |
| P03 17.06.20: Updated softworks around bin store/building. | Drawn: GE |
| P04 18.06.20: Updated status, numbers, and notes.          | Drawn: GE |
| STATUS:                                                    |           |

D1 (FOR COSTING)

| theurbanists                                                                                      |                                         |
|---------------------------------------------------------------------------------------------------|-----------------------------------------|
| planning & design                                                                                 |                                         |
| Client                                                                                            | Morgan Sindall                          |
| Project                                                                                           | Swansea Bay Technology Centre           |
| Title                                                                                             | Master Plant Schedule                   |
| Project                                                                                           | Organiser                               |
| Volume                                                                                            | Level                                   |
| Type                                                                                              | Role                                    |
| Class.                                                                                            | Dwg                                     |
| Rev.                                                                                              | Status                                  |
| 26X003 URB                                                                                        | XX XX SH L 90 0008 P04 D1 (For costing) |
| Drawn                                                                                             | GE                                      |
| Date                                                                                              | 18.06.20                                |
| Checked                                                                                           | DK                                      |
| Scale                                                                                             | A2                                      |
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