

Planit Northwest Ltd

Muse Developments

New Victoria

PL1487 NEW VICTORIA LANDSCAPE SPECIFICATION

06-08-2021

REVISION P04

Contents

E10 Mixing/casting/curing in situ concrete	1
F21 Natural stone/ashlar walling/dressings	5
F30 Accessories/sundry items for brick/block/stone walling	8
Q10 Kerbs/ edgings/ channels/ paving accessories	9
Q20 Granular sub-bases to roads/pavings	14
Q23 Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays	18
Q25 Slab/brick/sett/cobble pavings	20
Q28 Topsoil and soil ameliorants	30
Q31 External planting	35
Q35 Landscape maintenance	45
Q40 Fencing	53
Q41 Barriers/ guardrails	57
Q50 Site/street furniture/equipment	60

E10 Mixing/casting/curing in situ concrete

Clauses

2 To be read with preliminaries/general conditions.

Concrete

101 Specification

1. Concrete generally: To BS 8500-2.
2. Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

125 Substitution of standardized prescribed concrete for designated concrete

1. General: Conform to BS 8500-2, clause 9.
2. Substitution: In accordance with BS 8500-1, table A.13.
 - 2.1. Proposals: Submit for each substitution, stating reasons.
3. Site mixing: Not permitted

Materials, batching and mixing

215 Ready-mixed concrete

1. Production plant: Currently certified by a body accredited by UKAS to BS EN ISO/IEC 17065 for product conformity certification of ready-mixed concrete.
2. Source of ready-mixed concrete: Obtain from one source if possible. Otherwise, submit proposals.
 - 2.1. Name and address of depot: Submit before any concrete is delivered.
 - 2.2. Delivery notes: Retain for inspection.
3. Declarations of nonconformity from concrete producer: Notify immediately.

225 Changes to specification

1. Changes to specification of fresh concrete (outside concrete producer's responsibility): Submit proposals

315 Aggregates for exposed visual concrete

1. Limitations on contaminants: Free from absorbent particles which may cause 'popouts', and other particles such as coal and iron sulfide which may be unsightly or cause unacceptable staining.
2. Colour: Consistent.
3. Supply: From a single source and maintained throughout the contract.
4. Samples: Submit on request.

415 Admixtures

1. Calcium chloride and admixtures containing calcium chloride: Do not use.

Project testing/ certification

505 Project testing of concrete - general

1. Testing: BS EN 12390-5

- 1.1. **Nonconformity:** Obtain instructions immediately.
2. **Recording:** Maintain complete correlated records including:
 - 2.1. Concrete designation.
 - 2.2. Sampling, site tests, and identification numbers of specimens tested in the laboratory.
 - 2.3. Location of the parts of the structure represented by each sample.
 - 2.4. Location in the structure of the batch from which each sample is taken.

530 Tests results

1. **Submission of reports:** Within one day of completion of each test.
 - 1.1. Number of copies: Three
2. **Reports on site:** A complete set, available for inspection.

Placing/ compacting/ curing and protecting

630 Premature water loss

1. **Requirement:** Prevent water loss from concrete laid on absorbent substrates.
 - 1.1. **Underlay:** Select from:
 - 1.1.1. Polyethylene sheet: 250 micrometres thick.
 - 1.1.2. Building paper: To BS 1521, grade B1F.
 - 1.2. **Installation:** Lap edges 150 mm.

640 Construction joints

1. **Location of joints:** Details to be provided by Structural Engineer
2. **Preparation of joint surfaces:** Submit proposals

680 Placing

1. **Records:** Maintain for time, date and location of all pours.
2. **Timing:** Place as soon as practicable after mixing and while sufficiently plastic for full compaction.
3. **Temperature limitations for concrete:** 30°C (maximum) and 5°C (minimum), unless otherwise specified. Do not place against frozen or frost covered surfaces.
4. **Continuity of pours:** Place in final position in one continuous operation up to construction joints. Avoid formation of cold joints.
5. **Discharging concrete:** Prevent uneven dispersal, segregation or loss of ingredients or any adverse effect on the formwork or formed finishes.
6. **Thickness of layers:** To suit methods of compaction and achieve efficient amalgamation during compaction.
7. **Poker vibrators:** Do not use to make concrete flow horizontally into position, except where necessary to achieve full compaction under void formers and cast-in accessories and at vertical joints.

690 Compacting

1. **General:** Fully compact concrete to full depth to remove entrapped air. Continue until air bubbles cease to appear on the top surface.
 - 1.1. **Areas for particular attention:** Around reinforcement, under void formers, cast-in accessories, into corners of formwork and at joints.
2. **Consecutive batches of concrete:** Amalgamate without damaging adjacent partly hardened concrete.
3. **Methods of compaction:** To suit consistence class and use of concrete.

810 Curing generally

1. **Evaporation from surfaces of concrete:** Prevent, including from perimeters and abutments, throughout curing period.
 - 1.1. **Surfaces covered by formwork:** Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
 - 1.2. **Top surfaces:** Cover immediately after placing and compacting. If covering is removed for finishing operations, replace it immediately afterwards.
2. **Surface temperature:** Maintain above 5°C throughout the specified curing period or four days, whichever is longer.
3. **Records:** Maintain details of location and timing of casting of individual batches, removal of formwork and removal of coverings. Keep records on site, available for inspection.

811 Coverings for curing

1. **Sheet coverings:** Suitable impervious material.
2. **Curing compounds:** Selection criteria:
 - 2.1. **Curing efficiency:** Not less than 75% or for surfaces exposed to abrasion 90%.
 - 2.2. **Colouring:** Fugitive dye.
 - 2.3. **Application to concrete exposed in the finished work:** Readily removable without disfiguring the surface.
 - 2.4. **Application to concrete to receive bonded construction/ finish:** No impediment to subsequent bonding.
3. **Interim covering to top surfaces of concrete:** Until surfaces are in a suitable state to receive coverings in direct contact, cover with impervious sheeting held clear of the surface and sealed against draughts at perimeters and junctions.

818 Curing periods generally

1. **Minimum periods:** When not otherwise indicated, to BS8110-1 Table 6.1.

820 Curing periods

1. **Description:** External concrete
2. **General:** Curing periods are in days (minimum).
 - 2.1. **Definition of 't':** The average surface temperature of concrete in degrees Celsius during the curing period.
3. **Curing periods for concrete made using CEM1 strength class 42.5 or 52.5, or SRPC class 42.5**
 - 3.1. **Drying winds or dry, sunny weather (relative humidity < 50%):** 6 days when surface temperature is between 5°C and 10°C
 - 3.2. **Intermediate conditions (relative humidity between 50 and 80%):** 4 days when surface temperature is between 5°C and 10°C
 - 3.3. **Damp weather, protected from sun and wind (relative humidity >80%):** No special requirements
4. **Curing periods:** For concrete made using cements listed in BS 8500-1, table A.6 except for those listed above and for supersulfated cement:
 - 4.1. **Drying winds or dry, sunny weather (relative humidity < 50%):** $140/(t+10)$ when surface temperature is between 10°C and 25°C
 - 4.2. **Intermediate conditions (relative humidity between 50 and 80%):** 6 days when surface temperature is between 5°C and 10°C
 - 4.3. **Damp weather, protected from sun and wind (relative humidity > 80%):** No special requirements

5. Curing periods: For concretes using admixtures or other types of cements/ combinations: Submit proposals.
6. Other requirements: None

840 Protection

1. Prevent damage to concrete, including
 - 1.1. Surfaces generally: From rain, indentation and other physical damage.
 - 1.2. Surfaces to exposed visual concrete: From dirt, staining, rust marks and other disfiguration.
 - 1.3. Immature concrete: From thermal shock, physical shock, overloading, movement and vibration
 - 1.4. In cold weather: From entrapment and freezing expansion of water in pockets, etc.

Ω End of Section

F21

Natural stone/ashlar walling/dressings

Clauses

2 To be read with preliminaries/ general conditions.

Types of walling/ dressings

120A Granite planter seating plinth and cladding

1. To raised planters and seating plinths site wide design intent only
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00007 to 00011.
2. Stone Cladding:
 - 2.1. Type: Granite
 - 2.2. Colour: Kobra
 - 2.3. Finish: Flamed & Riven
 - 2.4. Size: Varies (h) x 300-600mm (w) x 30mm (d)
 - 2.5. Note: min 150mm below ground
 - 2.6. Fixing: to suppliers recommendation
3. Stone Coping:
 - 3.1. Type: Granite
 - 3.1.1.Colour: Kobra
 - 3.1.2.Finish: Flamed
 - 3.1.3.Size: 800mm (l) x 300/600mm (w) x 150mm (d)
4. Supplier: Hardscape Ltd or equal and approved, t. 01204 590666. Local
5. Contact: Mathew Haslim: 07786628300 Asil Besim t.07872 600106.
6. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to
7. strength, durability or appearance. Before delivery to site, season thoroughly, dress and
8. work in accordance with shop drawings prepared by supplier.
9. Sizes: Refer to VIC-PIE-EZ-ZZ-DR-L-00007 to 00011 for Design Intent
10. Specials required for corner pieces - refer to Design Intent Drawings for full detail of unit
11. dimensions
12. Profile:
13. Top of seat coping unit profile: Flat
14. Front edge of seat coping: Chamfered edge
15. Bottom of seat coping unit profile: Flat
16. Refer to Design Intent Drawings for full profile details
17. Anti Skate Detail: To be developed with stone supplier.
18. Chamfer detail forms a V shape when installed next to the adjoining coping unit
19. Mortar: As section Z21.
 - 19.1. Mix: N/A .
 - 19.2. Sand: N/A .
20. Bond: N/A .
21. Joints: Flush.
 - 21.1. Width: <5 mm.

- 21.2. Pointing: Sika Pro2 HP by Sika Ltd or equal approved - colour to match Granite Coping -
22. Colour sample to be approved by Landscape Architect) .
23. Other requirements: Coping Fixed in place to insitu concrete wall below. Method of fixing to
24. engineers details .
25. Stone Suppliers tp provide Cutting Schedule/shop drawings, to be checked and approved by
Landscape Architect

General/ production

250 Cutting and dressing of stone

1. Timing: After seasoning but before delivery to site.
2. Accuracy:
 - 2.1. Exposed and joint surfaces: Square, true planes free from hollow or rough areas.
 - 2.2. Dimensions: Maintain specified joint widths.
3. Orientation for natural bed of stones: Appropriate to properties of stones and positions in walling/dressings.

260 Identification of stone units

1. Marking: Clearly and indelibly on concealed faces to indicate the natural bed and position in the finished work.

Laying and jointing

300 Reference panels

1. General: Complete areas of specified walling types and obtain approval of appearance before proceeding.
2. Walling type:
 - 2.1. Location: Site wide
 - 2.2. Size: 1meter
 - 2.3. Features: N/A

315 Adverse weather

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature: Do not lay stones:
 - 2.1. In cement gauged mortars: At or below 3°C and falling or below 1°C and rising.
 - 2.2. In hydraulic lime:sand mortars: At or below 5°C and falling or below 3°C and rising.
3. Temperature of walling during curing: Above freezing until mortar hardened.
4. Newly erected walling: Protect at all times from:
 - 4.1. Rain and snow.
 - 4.2. Drying out too rapidly in hot conditions and in drying winds.

325 Laying generally

1. Stone selection: Do not use units with damaged faces or arrises.
2. Accuracy:
 - 2.1. Courses: Level and true to line.
 - 2.2. Faces, angles and features: Plumb.
 - 2.3. Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.

3. **Absorbent stones:** Dampen in warm weather to reduce suction. Do not soak.
4. **Mortar joints:**
 - 4.1. **Laying:** Full bed of mortar with all joints and voids filled.
 - 4.2. **Temporary distance pieces:** Lead or stainless steel. Remove when mortar is sufficiently strong.
 - 4.3. **Appearance:** Neat and consistent.
5. **Cleanliness:** Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains not permitted.

330 Walling below ground level

1. **Extent of facework below finished level of adjoining ground or external works (minimum):** 150 mm.

390 Pointing

1. **Joint preparation:** Rake out to depth of 7-10 mm as work proceeds. Remove debris. Dampen surface.
2. **Mortar application:** Neat and consistent.

Ω End of Section

F30

Accessories/sundry items for brick/block/stone walling

Clauses

5 Cavities

1. Concrete fill to base of cavity:
2. Concrete generally: To BS EN 206-1 and BS 8500-2.
 - 2.1. Designated concrete: GEN1 or Standard mix ST2 with high workability.
 - 2.2. Extent: Maintain 75 mm between top of fill and external ground level and a minimum of 225 mm between top of fill and ground level dpc.
3. Cleanliness: Keep cavity faces, ties and dpcs free from mortar and debris.

7 Perpend joint weep holes

1. Form: Open clear perpend joint.
2. Locations: Through outer leaf, immediately above base of cavity, at cavity trays, stepped dpcs and over openings. 75 mm above top of cavity fill at base of cavity.
3. Provision: At not greater than 1000 mm centres and not less than two over openings.

20 Cavity wall ties

1. Description: Generally
2. Standard: To BS 1243
 - 2.1. Type: Submit proposals
3. Material/ finish: Stainless steel
4. Sizes: Submit proposals

46 Damp proof course - polyethylene

1. Standard: To BS 6515.
2. Manufacturer: Submit proposals
 - 2.1. Product reference: NA

Cavities - Not Used

Reinforcing/ fixing accessories - Not Used

Flexible damp proof courses/ cavity trays - Not Used

Installation of dpcs/ cavity trays - Not Used

Joints - Not Used

Proprietary sills/ lintels/ copings/ dressings - Not Used

Miscellaneous items - Not Used

Ω End of Section

Q10

Kerbs/ edgings/ channels/ paving accessories

Clauses

2 To be read with preliminaries/general conditions.

1. New Item: To be read in conjunction with drawing VIC-PIE-EZ-ZZ-DR-L-00113

Types of kerbs/edgings and channels

110 Proprietary precast concrete

1. Description: Channels
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls Ltd
4. - Product reference: BS Standard Concrete Kerb
5. Recycled content: Contractor's choice
6. Designations: CS1 Channel, square
7. Size (width x height x length): 125 x 150 x 915 mm
8. Special shapes: Internal radius kerbs as shown on drawings
9. Finish: As cast
10. Colour: Natural
11. Bedding: Proprietary
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110A Textured concrete kerb

1. Description: conservation kerbs to residential car park
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls Ltd
4. - Product reference: For both Flush & Upstand Kerbs- Charnwood RK6280000
5. Size (width x height x length): 125mm x 150mm x 915mm
6. Finish: As cast
7. Colour: French Grey
8. Bedding: Concrete Haunching- to meet engineers specification
9. Joints generally: narrow mortar, 5mm max
10. Sealant movement joints: to engineer's details

121 Granite flush kerbs

1. Description: Flush kerbs refer to VIC-PIE-EZ-ZZ-DR-L-00001
2. Standard: To BS EN 1343.
3. Supplier: Hardscape Ltd or similar and approved, t. 01204 590666. Local Contact: AsilBesim t.07872 600106.
4. Stone type: Granite
 - 4.1. Colour: 'Kobra'
5. Size (width x Depth x Length): 300x160x900mm

- 5.1. Laid nominal upstand 60mm
- 6. Freeze/ Thaw resistance: Class 1 (resistant)
- 7. Finish: Sawn sides with fine picked finish
- 8. Granular sub-base: To engineers specification
- 9. Concrete base: To engineers specification
- 10. Thickness: To engineers specification
- 11. Bedding: Steintec Tuffbed as clause Q25/305A
 - 11.1. Nominal Thickness: 40mm
- 12. Priming: Steintec Tuffbond as clause Q25/305A
- 13. Jointing: Steintec Tufftop as clause Q25/306- Width of Joints: >3mm
- 14. Extras: Pre-formed radial kerbs to corners

122 Granite upstand kerbs

- 1. Description: Upstand kerbs refer to VIC-PIE-EZ-ZZ-DR-L-00001
- 2. Standard: To BS EN 1343.
- 3. Supplier: Hardscape Ltd or similar and approved, t. 01204 590666. Local Contact: AsilBesim t.07872 600106.
- 4. Stone type: Granite
 - 4.1. Colour: 'Kobra'
- 5. Size (width x Depth x Length): 300x160x900mm
 - 5.1. Laid upstand: 125mm
- 6. Freeze/ Thaw resistance: Class 1 (resistant)
- 7. Finish: Sawn sides with fine picked finish
- 8. Granular sub-base: To engineers specification
- 9. Concrete base: To engineers specification
- 10. Thickness: To engineers specification
- 11. Bedding: Steintec Tuffbed as clause Q25/305A
 - 11.1. Nominal Thickness: 40mm
- 12. Priming: Steintec Tuffbond as clause Q25/305A
- 13. Jointing: Steintec Tufftop as clause Q25/306- Width of Joints: >3mm
- 14. Extras: Pre-formed radial kerbs to corners

123 Yorkstone flush kerbs

- 1. Description: Flush kerbs refer to VIC-PIE-EZ-ZZ-DR-L-00001
- 2. Standard: To BS EN 1343.
- 3. Supplier: Marshalls, Sales tel: 0845 302 0600, Technical tel: 0870 411 3344
- 4. Stone type: Yorkstone
 - 4.1. Quarry: Scoutmoor
- 5. Size (width x Depth x Length): 300x160x900mm
 - 5.1. Laid Flush
- 6. Freeze/ Thaw resistance: Class 1 (resistant)
- 7. Finish: Diamond Sawn
- 8. Granular sub-base: To engineers specification
- 9. Concrete base: To engineers specification
- 10. Thickness: To engineers specification

11. Bedding: Steintec Tuffbed as clause Q25/305A
11.1. Nominal Thickness: 40mm
12. Priming: Steintec Tuffbond as clause Q25/305A
13. Jointing: Steintec Tufftop as clause Q25/306- Width of Joints: >3mm
14. Extras: Pre-formed radial kerbs to corners

124 Yorkstone upstand kerbs

1. Description: Upstand kerbs refer to VIC-PIE-EZ-ZZ-DR-L-00001
2. Standard: To BS EN 1343.
3. Supplier: Marshalls, Sales tel: 0845 302 0600, Technical tel: 0870 411 3344
4. Stone type: Yorkstone
4.1. Quarry: Scoutmoor
5. Size (width x Depth x Length): 300x250x900mm
5.1. Laid: 60mm upstand
6. Freeze/ Thaw resistance: Class 1 (resistant)
7. Finish: Diamond Sawn sides
8. Granular sub-base: To engineers specification
9. Concrete base: To engineers specification
10. Thickness: To engineers specification
11. Bedding: Steintec Tuffbed as clause Q25/305A
11.1. Nominal Thickness: 40mm
12. Priming: Steintec Tuffbond as clause Q25/305A
13. Jointing: Steintec Tufftop as clause Q25/306- Width of Joints: >3mm
14. Extras: Pre-formed radial kerbs to corners

170A Linear slot drainage channel systems

1. Manufacturer: ACO or equal approved
1.1. Product reference: Multidrain - Brick Slot Drain Grating M100D
2. Channel Size: 1000 mm (l) x 135mm (w) x Varies (d)
3. Grating Size: 1000mm (l) x 123mm (w) x 140mm (d)
4. Finish: Galvanised Steel
5. Colour: Galvanised Steel
6. Load Class: D400
7. Bedding: To Engineer's Specification
8. Joints generally: To Engineer's Specification
9. Engineer to Confirm Bore size, Flow rates and Load Bearing Capacity.

170B Heavy duty channel drain systems

1. Manufacturer: ACO or equal approved
1.1. Product reference: Multidrain - Heelguard Mesh Grating M100D
2. Channel Size: 1000 mm (l) x 135mm (w) x Varies (d)
3. Grating Size: 1000mm (l) x 123mm (w) x 21mm (d)
4. Finish: Galvanised Steel
5. Colour: Galvanised Steel
6. Load Class: D400

7. Bedding: To Engineer's Specification
8. Joints generally: To Engineer's Specification
9. Engineer to Confirm Bore size, Flow rates and Load Bearing Capacity.

Roads/paving accessories/ marking/ demarcation

390A Road demarcation studs

1. Manufacturer: Kent Stainless
 - 1.1. Product reference: 25mm width Stainless Steel Demarcation Studs KDS25
2. Colour: Stainless Steel
3. Slip resistance: to manufacturer's specification
4. Spacing: Studs to be laid at 500mm intervals to demarcate ownership boundary
5. Fixing: Resin mortared

395 Road marking (thermoplastic)

1. Standard: Road Safety Markings Association standard specification document for road marking and road studs (StanSpec).
2. Manufacturer: Contractor's choice
 - 2.1. Product reference: Submit proposals
3. Colour: White
4. Retroreflectivity to BS EN 1436: Class R2

Laying

510A Laying kerbs, edgings and channels

1. Cutting: Neat, accurate and without spalling. Form neat junctions.
 - 1.1. Long units (450 mm and over) minimum length after cutting: 300 mm.
 - 1.2. Short units minimum length after cutting: The lower of one third of their original length or 150 mm.
2. Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
3. Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

520 Adverse weather

1. Conditions: Do not construct if the temperature is below 3°C on a falling thermometer or 1°C on a rising thermometer. Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

530 Concrete for foundations, races and haunching

1. Standard: To BS 8500-2.
2. Designated mix: Not less than GEN0 or Standard mix ST1.
3. Workability: Very low.

550 Kerb dowels

1. Dowels: Steel bar to BS 4482.
 - 1.1. Size: 12 mm diameter, 150 mm long.
2. Installation of dowels: Vertically into foundation while concrete is plastic.

- 2.1. Centres: To suit holes in kerbs.
- 2.2. Projection: 75 mm.
3. Grouting of holes in kerbs: Filled with 1:3 cement:sand mortar finished flush.

590 Drainage channel systems with built in fall

1. Installation: Top of channels level, installed in correct sequence to form an even gradient without ponding or backfall. Commence laying from outlets.
2. Silt and debris: Removed from entire system immediately before handover.
3. Washings and detritus: Safely disposed without discharging into sewers or watercourses.

600 Radius kerbs/ channels

1. Usage: Radii of 15 m or less.

610 Angle kerbs

1. Usage: Internal and external 90° changes of direction.
2. Cutting of mitres: Not permitted.

620 Accuracy

1. Deviations (maximum)
 - 1.1. Level: ± 6 mm.
 - 1.2. Horizontal and vertical alignment: 3 mm in 3 m.

625 Regularity of paved surfaces

1. Maximum undulation of (non-tactile) paving surface: 3 mm.
 - 1.1. Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
2. Difference in level between adjacent units (maximum)
 - 2.1. Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
 - 2.2. Recessed, filled joints: 2 mm.
 - 2.2.1. Recess depth (maximum): 5 mm.
 - 2.3. Unfilled joints: 2 mm.
3. Sudden irregularities: Not permitted.

630 Narrow mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled, tightly butted and surplus mortar removed immediately.
 - 1.1. Joint width: 3 mm.

640A Tooled mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled and tooled to a neat flush profile.
 - 1.1. Joint width: 3 mm.

Ω End of Section

Q20

Granular sub-bases to roads/pavings

To be read with preliminaries/ general conditions.

120 Checking of subgrades

1. Anticipated subgrade conditions
 - 1.1. Soil type: feely draining slightly acid, base-rich soil
 - 1.2. Plasticity index: medium
 - 1.3. CBR (minimum): to be determined by engineer
 - 1.4. Depth below formation level to groundwater table: to be determined by engineer
2. Subgrade variation: If material appears to vary from anticipated conditions, or if there are extensive soft spots, to be determined by engineer.
3. Submit: Results and obtain instructions before proceeding.

140 Excavation of subgrades

1. Final excavation to formation or subformation level: Carry out immediately before compaction of subgrade.
2. Soft spots and voids: Give notice.
3. Old drainage and service trenches: Give notice
4. Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.

145 Preparation and compaction of subgrades

1. Timing: Immediately before placing sub-base.
2. Soft or damaged areas: Obtain instructions
3. Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

150A Subgrades for vehicular areas

1. Preparation and treatment: To Highways Agency 'Specification for highway works', clauses 616 and 617 & Steintec recommended details.

170 Geotextile filter/ separator membrane

1. Description: Contractor to submit proposals
2. Manufacturer: Contractor to submit proposals
 - 2.1. Product reference: Contractor to submit proposals
3. Jointing: Contractor to submit proposals
4. Protect from
 - 4.1. Exposure to light, except during laying (maximum five hours).
 - 4.2. Contaminants.
 - 4.3. Materials listed as potentially deleterious by geotextile manufacturer.
 - 4.4. Damage, until fully covered by fill.
 - 4.5. Wind uplift, by laying not more than 15 m before covering with fill.
5. Preparation: Remove humps and sharp projections and fill hollows before laying.

175 Impermeable membrane

1. **Description:** Contractor to submit proposals
2. **Manufacturer:** Contractor to submit proposals
 - 2.1. **Product reference:** Contractor to submit proposals
3. **Jointing:** Contractor to submit proposals
4. **Protect from:** the following:
 - 4.1. Exposure to light, except during laying (maximum five hours).
 - 4.2. Contaminants.
 - 4.3. Materials listed as potentially deleterious by geotextile manufacturer.
 - 4.4. Damage, until fully covered by fill.
 - 4.5. Wind uplift, by laying not more than 15 m before covering with fill.
5. **Preparation:** Remove humps and sharp projections and fill hollows before laying.
6. **Other requirements:** as specified by engineer

200 Subgrade improvement layer (capping)

1. **Material:** To Highways Agency 'Specification for highway works', table 6/1, Class to engineers specification.
2. **Standard:** Placed and compacted to Highways Agency 'Specification for highway works', table 6/1, clauses 612 and 613.3, 613.8, 613.9, 613.10 and 613.13.

205 Highways agency Type 2 unbound mixture for sub-base

1. **Material:** Type 2 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 804.
 - 1.1. **Recycled aggregate:** Permitted
 - 1.2. **CBR (minimum):** to engineers specification

210 Highways agency Type 1 unbound mixture for sub-base

1. **Material:** Type 1 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 803.
 - 1.1. **Recycled aggregate:** Permitted

211 Granular material

1. **Quality:** Of a known suitability for use in sub-bases, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
 - 1.1. Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - 1.2. Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - 1.3. Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - 1.4. Natural gravel.
 - 1.5. Natural sand.
2. **Filling:** Spread and levelled in 150 mm maximum layers, each layer thoroughly compacted.

213 Blinding protection for membranes

1. **Location:** to engineers specification

2. **Material:** to engineers specification
3. **Thickness (minimum):** to engineers specification
4. **Compaction:** Moisten as necessary before final rolling to provide a flat, closed, smooth surface.
5. **Permissible deviations on surface level:** to engineers specification

220 Frost susceptible granular material

1. **Definition (non frost susceptible material):** To Highways Agency 'Specification for highway works' clause 801.8.
2. **Depth of frost susceptible material below final surface of paving (minimum):** to engineers specification
3. **Testing:** Test materials used if required and supply certificates.

230 Placing granular material generally

1. **Preparation:** Loose soil, rubbish and standing water removed.
2. **Structures, membranes and buried services:** Ensure stability and avoid damage.

241 Laying granular sub-bases for vehicular areas

1. **Proposals:** Well in advance of starting work submit details of:
 - 1.1. Maximum depth of each compacted layer.
 - 1.2. Type of plant.
 - 1.3. Minimum number of passes per layer.
2. **General:** Spread and levelled in layers. As soon as possible thereafter compact each layer.
3. **At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place:** Take particular care to compact fully.
4. **Defective areas:** Remove loose, segregated or otherwise defective areas to the full thickness of the layer and lay and compact new material.
5. **Sub-base surface after compaction and immediately before overlaying:** Uniformly well closed and free from loose material, cracks, ruts or hollows.

250 Laying granular sub-bases

1. **Description:** For pedestrian areas
2. **General:** Spread and levelled.
3. **Compaction**
 - 3.1. **Timing:** As soon as possible after laying.
 - 3.2. **Method:** By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

310 Accuracy

1. **Permissible deviation from required levels, falls and cambers (maximum)**
 - 1.1. **Subgrades**
 - 1.1.1. Roads and parking areas: +20 -30 mm.
 - 1.1.2. Footways and recreation areas: $\pm$ 20 mm.
 - 1.2. **Sub-bases**
 - 1.2.1. Roads and parking areas: To engineer's Specification
 - 1.2.2. Footways and recreation areas: To engineer's Specification

330 Cold weather working

1. **Frozen materials:** Do not use.
2. **Freezing conditions:** Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.

340 Protection

1. **Sub-bases:** As soon as practicable, cover with subsequent layers, specified elsewhere.
2. **Subgrades and sub-bases:** Prevent degradation by construction traffic, construction operations and inclement weather.

Ω End of Section

Q23

Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays

Types of surfacing

160 Loose gravel

1. Description: West of Building 1
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00004 and VIC-PIE-EZ-00L-DR-L-00114
2. Subgrade improvement layer: As section Q20
 - 2.1. Compacted thickness: To engineer's specification.
3. Geotextile: Permeable Geotextile Membrane
 - 3.1. Manufacturer: Terram
 - 3.1.1. Product reference: Weedguard or similar and approved
4. Granular sub-base: To engineer's detail.
 - 4.1. Compacted thickness: TBC by engineer.
5. Gravel: Loose laid and raked to uniform thickness.
 - 5.1. Type: Loose Limestone Aggregate
 - 5.2. Source: CED
Tel: +44(0) 203 960 2028
Email: estimators@cedstone.co.uk
 - 5.3. Colour: Grey
 - 5.4. Size: 20mm
 - 5.5. Thickness: 60mm depth

Laying

340 Laying generally

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
 - 2.1. Lines and levels: To prevent ponding.
 - 2.2. Overall texture: Even.
 - 2.3. State at completion: Clean.

350 Cold weather working

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings.
3. Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
4. Other dressings or overlays: As manufacturers' recommendations.

360 Drainage falls

1. Sealed surfaces
 - 1.1. Falls and cross falls (minimum): 1:40.
 - 1.2. Camber (minimum): 1:50.
2. Unsealed surfaces (minimum): 1:30.

Completion - Not Used

Ω End of Section

Q25

Slab/brick/sett/cobble pavings

Clauses

2 To be read with preliminaries/ general conditions.

1. To be read in conjunction with drawings VIC-PIE-EZ-00L-DR-L-00114 and VIC-PIE-EZ-00U-DR-L-00115.

General - Not Used

System performance - Not Used

Products

305 Granular material for layer over existing bases

1. Material: Highways Agency Type 1 unbound mixture, as section Q20

305A Mortar bedding of bound pavers and slabs

1. Specification;
 - 1.1. SteinTec tuffbed 2-pack class B bedding mortar
 - 1.2. SteinTec tuffbond" priming mortar.
 - 1.3. Thickness: Target depth to be 40 mm.
 - 1.4. Thickness: Maximum range 20 mm minimum to 70 mm maximum.
 - 1.5. Follow manufacturer's instructions for mixing and laying
2. Manufacturer; SteinTec
 - 2.1. 728 London Road, West Thurrock, Essex, RM20 3LU.
 - 2.2. Tel: 01708-860-049
 - 2.3. Email: info@steintec.co.uk
3. Laying:
 - 3.1. All work must be carried out on the side of the unlaied face, at no time shall operatives stand, work or rest materials on freshly laid paving.
 - 3.2. Bedding mortar must not be laid in advance of more than 1 row of paving elements.
 - 3.3. Bedding mortar must be laid to a surcharge height of not less than 6 mm.
 - 3.4. The underside of paving elements is to be coated with "SteinTec tuffbond" priming mortar to a minimum thickness of 1.5 mm immediately prior to sett being placed on bedding mortar. Priming mortar may be applied by brushing on or by dipping the paving elements into a shallow receptacle containing priming mortar.
 - 3.5. Priming mortar shall not be applied more than one minute prior to paving elements being laid upon bedding mortar.
 - 3.6. Paving elements to be positioned firmly to line and level immediately, thereafter not to be disturbed.
4. Cleaning of paving elements during laying:
 - 4.1. All mortar contamination must be removed from the surface of freshly laid paving immediately, using clean water and a sponge.
5. Cleaning of areas of freshly laid paving following laying:
 - 5.1. Areas of freshly laid paving to be thoroughly rinsed with clean water at the end of a working shift.

5.1.1.ALL BEDDING MORTARS, DEPTHS AND SUBGRADE CONSTRUCTION TO BE
APPROVED BY ENGINEER

305C Mortar bedding of bound pavers and slabs to slot drains

1. Specification;
 - 1.1. SteinTec tuffbed 2 pack Class B bedding mortar
 - 1.2. SteinTec tuffbond" priming mortar.
 - 1.3. Thickness: Target depth to be 40 mm.
 - 1.4. Thickness: Maximum range 20 mm minimum to 70 mm maximum.
 - 1.5. Follow manufacturer's instructions for mixing and laying
2. Manufacturer; SteinTec
 - 2.1. 728 London Road, West Thurrock, Essex, RM20 3LU.
 - 2.2. Tel: 01708-860-049
 - 2.3. Email: info@steintec.co.uk
3. Laying:
 - 3.1. All work must be carried out on the side of the unlaied face, at no time shall operatives stand, work or rest materials on freshly laid paving.
 - 3.2. Bedding mortar must not be laid in advance of more than 1 row of paving elements.
 - 3.3. Bedding mortar must be laid to a surcharge height of not less than 6 mm.
 - 3.4. The underside of paving elements is to be coated with "SteinTec tuffbond" priming mortar to a minimum thickness of 1.5 mm immediately prior to sett being placed on bedding mortar. Priming mortar may be applied by brushing on or by dipping the paving elements into a shallow receptacle containing priming mortar.
 - 3.5. Priming mortar shall not be applied more than one minute prior to paving elements being laid upon bedding mortar.
 - 3.6. Paving elements to be positioned firmly to line and level immediately, thereafter not to be disturbed.
4. Cleaning of paving elements during laying:
 - 4.1. All mortar contamination must be removed from the surface of freshly laid paving immediately, using clean water and a sponge.
5. Cleaning of areas of freshly laid paving following laying:
 - 5.1. Areas of freshly laid paving to be thoroughly rinsed with clean water at the end of a working shift.

5.1.1.ALL BEDDING MORTARS, DEPTHS AND SUBGRADE CONSTRUCTION TO BE
APPROVED BY ENGINEER

306 Jointing of mortar bedded bound pavers and slabs (BS 7533-4)

1. Specification: SteinTec tufftop jointing mortar
2. Follow manufacturer's instructions for mixing and application.
3. Manufacturer;SteinTec
 - 3.1. 728 London Road, West Thurrock, Essex, RM20 3LU.
 - 3.2. Tel: 01708-860-049
 - 3.3. Email: info@steintec.co.uk
4. Preparation:
 - 4.1. Joints must be clean and clear of all foreign matter
 - 4.2. The area to be jointed must be thoroughly soaked with clean water and maintained in a wet condition until jointing mortar is applied.

4.2.1.Consistency of mortar:

4.3. Mortar is mixed to a free flowing liquid slurry grout.

5. Jointing:

5.1. Freshly mixed mortar is spread over the surface and forced into joints using a suitable rubber/neoprene squeegee.

5.2. Mortar is allowed to settle in joints and fresh mortar is drawn across the surface repeatedly until joints are full and settlement has ceased.

5.3. Water may be applied to the surface at any time in the form of a fine spray, to prevent drying of the mortar on the surface.

6. Cleaning of paving elements following jointing:

6.1. Excess mortar is removed using a suitable rubber/neoprene squeegee.

6.2. Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.

6.3. Water and excess water is removed using a suitable rubber/neoprene squeegee.

6.4. **Process repeated:** Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.

6.5. **Process repeated:** Water and excess water is removed using a suitable rubber/neoprene squeegee.

6.6. The surface is maintained in a damp condition by periodic application of water in the form of a fine spray.

6.7. The surface may be rinsed clear with clean water after sufficient time has elapsed for joint mortar to have become sufficiently stable to resist action of cleaning.

6.7.1.ALL BEDDING MORTARS, DEPTHS AND SUBGRADE CONSTRUCTION TO BE APPROVED BY ENGINEER

306A Jointing of mortar bedded unbound pavers, slabs and setts

1. **Specification:** SteinTec IR-60-LB unbound joint filling aggregate capped with approximately 10-20mm (15mm nominal) SteinTec tuffsand unbound joint capping.

2. **Material:** Crushed igneous rock jointing aggregate with natural binder; SteinTec tuffsand".

3. Follow manufacturer's instructions for mixing and application and Method Statement

4. Manufacturer;SteinTec

4.1. 728 London Road, West Thurrock, Essex, RM20 3LU.

4.2. Tel: 01708-860-049

4.3. Email: info@steintec.co.uk

5. Preparation:

5.1. Joints must be clean and clear of all foreign matter

5.2. The area to be jointed must be thoroughly soaked with clean water and maintained in a wet condition until jointing mortar is applied.

5.2.1.Consistency of mortar:

5.3. Mortar is mixed to a free flowing liquid slurry grout.

6. Jointing:

6.1. Freshly mixed mortar is spread over the surface and forced into joints using a suitable rubber/neoprene squeegee.

6.2. Mortar is allowed to settle in joints and fresh mortar is drawn across the surface repeatedly until joints are full and settlement has ceased.

6.3. Water may be applied to the surface at any time in the form of a fine spray, to prevent drying of the mortar on the surface.

7. Cleaning of paving elements following jointing:

- 7.1. Excess mortar is removed using a suitable rubber/neoprene squeegee.
- 7.2. Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.
- 7.3. Water and excess water is removed using a suitable rubber/neoprene squeegee.
- 7.4. **Process repeated:** Water is applied to the surface in the form of a fine spray, taking care not to disturb the mortar in the joints, until the surface is wet.
- 7.5. **Process repeated:** Water and excess water is removed using a suitable rubber/neoprene squeegee.
- 7.6. The surface is maintained in a damp condition by periodic application of water in the form of a fine spray.
- 7.7. The surface may be rinsed clear with clean water after sufficient time has elapsed for joint mortar to have become sufficiently stable to resist action of cleaning.
- 7.7.1. ALL BEDDING MORTARS, DEPTHS AND SUBGRADE CONSTRUCTION TO BE APPROVED BY ENGINEER

311 Natural stone slabs

1. **Description:** To corporation street refer to VIC-PIE-EZ-ZZ-DR-L-00001
2. **Standard:** To BS EN 1341.
3. **Supplier:** Marshalls, Sales tel: 0845 302 0600, Technical tel: 0870 411 3344
 - 3.1. **Product reference:** Marshalls, Scoutmoor Yorkstone Slabs, A00301
 - 3.2. **Quarry:** Scoutmoor
4. **Stone type:** Yorkstone
5. **Finish:** Diamond Sawn
6. **Sizes:** 400-600mm (l) x 600mm (w) x 75mm (d)
 - 6.1. **Plan dimension deviation class:** No requirement
 - 6.2. **Diagonal deviation class:** No requirement
 - 6.3. **Thickness deviation class:** T0
7. **Arrises:** Square
8. **Freeze/ thaw resistance class:** F0
9. **Flexural strength (MPa):** No requirement
10. **Abrasion resistance (mm):** No requirement
11. **Slip/ Skid resistance (USRV):** No requirement
12. **Water absorption (% by mass):** No requirement
13. **Petrographical description:** No requirement
14. **Surface treatment:** None

315A PCC block paving

1. **Description:** To car parking circulation; refer to VIC-PIE-EZ-00L-DR-L-00005
2. **Standard:** To BS EN 1339.
3. **Manufacturer:** [Hardscape Ltd t. 01204 590666. Local Contact: Asil Besim t.07872 600106].
 - 3.1. **Product reference:** [Kellen, Breccia].
4. **Recycled content:** [as manufactured].
 - 4.1. **Colour:** [Tagenta B (Tagenta D double header)]
 - 4.2. **Sizes:** [200 (L) x 300 (W)x 80mm (D)].
 - 4.3. **Laid:** Stretcher Bond
5. **Arrises:** [as specified by engineer].

6. Water absorption and freeze/ thaw resistance class: [as manufactured].
7. Bending strength class: [as manufactured].
8. Abrasion resistance class: [as manufactured].
9. Slip/ Skid resistance: [as manufactured].
10. Breaking load class: [as manufactured].
11. Jointing:
 - 11.1. Type: StienTec Tufftop as clause Q25/306
 - 11.2. Width: Nibbed 3mm
12. Bedding:
13. SteinTec Tuffbed as clause Q25/305A

315B PCC block paving

1. Description: To car parking bays; refer to VIC-PIE-EZ-00L-DR-L-00005
2. Standard: To BS EN 1339.
3. Manufacturer: [Hardscape Ltd t. 01204 590666. Local Contact: Asil Besim t.07872 600106].
 - 3.1. Product reference: [Kellen, Breccia].
4. Recycled content: [as manufactured].
 - 4.1. Colour: [Tagenta E]
 - 4.2. Sizes: [200 (L) x 300 (W)x 80mm (D)].
 - 4.3. Laid: Stretcher Bond
5. Arrises: [as specified by engineer].
6. Water absorption and freeze/ thaw resistance class: [as manufactured].
7. Bending strength class: [as manufactured].
8. Abrasion resistance class: [as manufactured].
9. Slip/ Skid resistance: [as manufactured].
10. Breaking load class: [as manufactured].
11. Jointing:
 - 11.1. Type: StienTec Tufftop as clause Q25/306
 - 11.2. Width: Nibbed 3mm
12. Bedding:
13. SteinTec Tuffbed as clause Q25/305A

321 Natural stone corduroy paving slabs

1. Description: To provide hazard warning to top & bottom of steps. refer to VIC-PIE-EZ-ZZ-DR-L-00004
2. Standard: To DD CEN/TS 15209.
3. Granular sub-base: To Engineers specification and details
 - 3.1. Thickness: To engineer's specification
4. Concrete base: Must be provided in accordance with BS7533-12:2006 - To Engineers specification
 - 4.1. Thickness: To engineer's specification
5. Bedding: Steintec Tuffbed as clause Q25/305A
 - 5.1. Nominal Thickness 50mm
6. Stone Material: Kobra Granite
 - 6.1. Supplier: Hardscape Ltd t. 01204 590666. Local Contact: Asil Besim t.07872 600106

7. Stone / Finish: Flamed
 - 7.1. Colour: Kobra Grey
8. Size: 400 x 400 x 50 (L x W x D)
9. Recycled content: as manufactured
10. Jointing:
 - 10.1. Type: StienTec Tufftop as clause Q25/306
 - 10.2. Width: Butt Jointed
11. Laid: Stack bond
12. Type of surface: Rib – type R1

321A Natural stone blister paving slabs

1. Description: To provide hazard warning to controlled crossings. refer to VIC-PIE-EZ-ZZ-DR-L-00004
2. Standard: To DD CEN/TS 15209.
3. Granular sub-base: To Engineers specification and details
 - 3.1. Thickness: To engineer's specification
4. Concrete base: Must be provided in accordance with BS7533-12:2006 - To Engineers specification
 - 4.1. Thickness: To engineer's specification
5. Bedding: Steintec Tuffbed as clause Q25/305A
 - 5.1. Nominal Thickness 40mm
6. Stone Material: Granite
 - 6.1. Supplier: Hardscape Ltd t. 01204 590666. Local Contact: Asil Besim t.07872 600106
7. Stone / Finish: Flamed
 - 7.1. Colour: Darton (LRV contrast to be confirmed by supplier)
 - 7.2. Size: 400 x 400 x 40 (L x W x D)
8. Recycled content: as manufactured
9. Jointing:
 - 9.1. Type: StienTec Tufftop as clause Q25/306
 - 9.2. Width: Butt Jointed
10. Laid: Stack bond
11. Type of surface: Blister – type B1

321B Natural stone blister paving slabs

1. Description: To provide hazard warning to uncontrolled crossings. VIC-PIE-EZ-ZZ-DR-L-00004
2. Standard: To DD CEN/TS 15209.
3. Granular sub-base: To Engineers specification and details
 - 3.1. Thickness: To engineer's specification
4. Concrete base: Must be provided in accordance with BS7533-12:2006 - To Engineers specification
 - 4.1. Thickness: To engineer's specification
5. Bedding: Steintec Tuffgrit as clause Q25/305B
 - 5.1. Nominal Thickness 40mm
6. Material: Granite
 - 6.1. Supplier: Hardscape Ltd t. 01204 590666. Local Contact: Asil Besim t.07872 600106

7. Finish: Flamed
 - 7.1. Colour: Kobra
8. Size: 400 x 400 x 40 (L x W x D)
9. Recycled content: as manufactured
10. Jointing:
 - 10.1. Type: StienTec Tufftop as clause Q25/306
 - 10.2. Width: Butt Jointed
11. Laid: Stack bond
12. Type of surface: Blister – type B1

329 Natural stone setts

1. Description: To service bay. Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00001
2. Standard: To BS EN 1342.
3. Supplier: Marshalls, Sales tel: 0845 302 0600, Technical tel: 0870 411 3344
 - 3.1. Product reference: TBC
 - 3.2. Quarry: Scoutmoor
4. Stone type: Yorkstone
5. Finish: Diamond Sawn
6. Sizes: 140/280mm (l) x 140mm (w) x 75mm (d)
 - 6.1. Thickness deviation class: as specified by engineer
7. Special setts: NA
8. Freeze/ thaw resistance class: as supplied
9. Compressive strength (MPa): To Engineer's spec
10. Abrasion resistance (mm): To Engineer's spec
11. Slip/ Skid resistance (USRV): To Engineer's spec
12. Water absorption (% by mass): To Engineer's spec
13. Petrographical description: No requirement
14. Surface treatment: None

330C Natural stone sett paving

1. Description: To vehicular access route to lower car park. refer to VIC-PIE-EZ-ZZ-DR-L-00001
2. Standard: To BS EN 1342.
3. Granular sub-base: To Engineers specification and details
 - 3.1. Thickness: To engineer's specification
4. Bedding: SteinTec Tuffbed as clause Q25/305A
 - 4.1. Nominal Thickness 40mm
5. Stone Type: ['Kobra' Granite].
 - 5.1. Supplieerr: [Hardscape Ltd or similar and approved. t. 01204 590666. Local Contact: Asil Besim t.07872 600106].
 - 5.2. Product Reference: Kobra Granite Paving
 - 5.3. Colour: Kobra
6. Finish: Fine Picked top, Diamond Sawn sides
 - 6.1. Laid: Staggered Bond
7. Size: 140 / 280mm (l) x 140mm (w) x 75mm (d)
 - 7.1. Thickness deviation class: as specified by engineer

8. Recycled content: [as manufactured].
9. Jointing:
 - 9.1. Type: StienTec Tufftop as clause Q25/306

331 Natural stone step unit

1. Description: Step to public footpath along corporation street. refer to VIC-PIE-EZ-00U-DR-L-00009 to 00011
2. Supplier: Marshalls Ltd.
 - 2.1. Product Reference: Yorkstone, Scoutmoor solid step units
3. Finish: Fine Picked finish to tread, riser and exposed end
4. Sizes: Units; 300 tread x 160 riser x length varies
5. Other requirements: Concrete pad foundation to engineers specification and detail
6. Specials: To incorporate flush contrast strip to nosing. Colour to contrast to manufacturer's specification
7. 50mm width for the length of the steps. (LVR contrast value to be confirmed by supplier).
8. To include pencil round nose radius to step nosing and exposed ends
9. Recycled content: [as manufactured].
10. Jointing:
 - 10.1. Type: StienTec Tufftop as clause Q25/306
 - 10.2. Jointing against retaining wall to be filled with Joint sealant filler, nominal >3mm gaps to clause Q25/332

332 Joint sealing and bonding to steps

1. Description: Steps to public footpath along corporation street. refer to VIC-PIE-EZ-00U-DR-L-00009 to 00011
2. Joint filler: SIKA Ltd t. 01707 394444
3. Product: Sika Pro2 HP by Sika Ltd or equal approved - colour to match granite
4. Sample to be approved prior to installation.

Execution

610 Material samples

1. Samples representative of colour and appearance of designated materials: Submit before placing orders.
 - 1.1. Designated materials: All paving Types

620 Adverse weather

1. General
 - 1.1. Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - 1.2. Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
2. Paving with mortar joints and/ or bedding
 - 2.1. Protect from frost damage, rapid drying out and saturation until mortar has hardened.
3. Paving laid and jointed in sand:
 - 3.1. Stockpiled bedding sand: Protect from saturation.
 - 3.2. Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.

- 3.3. Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
- 3.4. Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625A Laying pavings - general

1. Appearance: Smooth and even with regular joints and accurate to line, level and profile.
2. Falls: To prevent ponding.
3. Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - 3.1. Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
4. Slopes: Lay paving units upwards from the bottom of slopes.
5. Paving units: Free of mortar and sand stains.
6. Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.
7. Allow for sub surface drainage. Formation layers must be free draining or must have an allowance for sub surface drainage for the bedding layers.

630A Levels of paving

1. Permissible deviation from specified levels
 - 1.1. Generally: ± 5 mm.
2. Height of finished paving above features
 - 2.1. At gullies: ± 5 mm.
 - 2.2. At drainage channels and kerbs: ± 5 mm.

635A Regularity of paved surfaces

1. Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface)
 - 1.1. Precast concrete paving blocks and clay pavers for flexible pavements: 5 mm.
 - 1.2. Precast concrete flags or natural stone slabs: 3 mm.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

637 Regularity of paved surfaces

1. Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
2. Joints between paving units or utility access covers
 - 2.1. Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - 2.2. Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - 2.3. Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
3. Sudden irregularities: Not permitted.

640 Colour banding

1. General: Unless premixed by manufacturer, select from at least 3 separate packs in rotation to avoid colour banding.

645 Protection

1. **Cleanliness:** Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. **Materials storage:** Do not overload pavings with stacks of materials.
3. **Handling:** Do not damage paving unit corners, arrises, or previously laid paving.
4. **Mortar bedded pavings:** Keep free from traffic after laying:
 - 4.1. **Pedestrian traffic (minimum):** to engineers specification
 - 4.2. **Vehicular traffic (minimum):** to engineers specification
5. **Access:** Restrict access to paved areas to prevent damage from site traffic and plant.

655A Condition of sub-bases/ bases before spreading laying course

1. **Trenches and excavation of soft or loose spots in subgrade:** Fill and thoroughly compact.
2. **Granular surfaces:** Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
3. **Prepared existing and new bound bases (roadbases):** Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
4. **Sub-base/ Roadbase level tolerances:** To BS 7533-7, Annex A.
5. **Levels and falls:** Accurate and within the specified tolerances.
6. **Drainage outlets:** Within 0-5 mm of the required finished level.
7. **Features in sand bedded paving (including mortar bedded restraints and drainage ironwork):** Complete to required levels; adequately bed and haunch in mortar.
8. **Sub-bases containing cement/ hydraulic binder:** Cure for minimum times specified in BS 7533-4.

753 Protection and quarantine for freshly jointed setts:

1. • Freshly jointed areas must be protected from vehicular traffic until bedding mortar has gained not less than 20 N/mm² compressive strength and jointing mortar has gained not less than 25 N/mm². Mortar cubes for testing shall be cured on site in unprotected conditions.
2. • **Materials storage:** Do not overload pavings with stacks of materials until the quarantine period for vehicular trafficking has passed.
3. • Pedestrian trafficking may be permitted on the next day following jointing.
4. • **Materials storage:** Do not overload pavings with stacks of materials until the quarantine period for vehicular trafficking has passed.
5. • **Cleanliness:** Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.

Completion - Not Used

Ω End of Section

Q28

Topsoil and soil ameliorants

Clauses

2 To be read with preliminaries/ general conditions.

System outline

135 Planting bed topsoil system

1. Description: For flowering shrubs
2. Composition
 - 2.1. Topsoil: Imported topsoil to BS 3882
 - 2.2. Ameliorants: Organic materials
 - 2.3. Accessories: Submit design and cost proposals

145 Planting pit backfilling topsoil system

1. Description: For tree pits
2. Composition
 - 2.1. Topsoil: Imported topsoil to BS 3882
 - 2.2. Ameliorants: Organic materials
 - 2.3. Accessories: Submit design and cost proposals

155 Mulching and top dressing system

1. Description: For shrub beds
2. Composition
 - 2.1. Material: Bark Mulch 50mm depth

Products

300 Preparation materials generally

1. Purity: Free of pests and disease.
2. Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
3. Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - 3.1. Corrosive, explosive or flammable.
 - 3.2. Hazardous to human or animal life.
 - 3.3. Detrimental to healthy plant growth.
4. Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. Objectionable odour: None.
6. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

314 Imported topsoil to BS 3882

1. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.

2. **Standard:** To BS 3882.
3. **Classification:** Multipurpose with the pH levels confirmed at source
 - 3.1. **Grade:** as specified by engineer
4. **Source:** Submit proposals
 - 4.1. **Product reference:** Submit proposals

315A Imported subsoil to BS 8601:2013

1. **Quantity:** Provide as necessary to make up any deficiency of subsoil existing on site and to complete the work.
2. **Standard:** To BS 8601:2013
3. **Classification:** Multipurpose with the pH levels confirmed at source
 - 3.1. **Grade:** as specified by engineer
4. **Source:** Submit proposals
 - 4.1. **Product reference:** Submit proposals

Execution

605A Site investigation

1. **Report:** See section Refer to engineers contaminants report.
2. **Made ground:** to be removed from site and replaced with imported topsoil to BS3882 in line with depths specified on landscape drawings.

610 Topsoil analysis

1. **Soil to be analysed:** on site topsoil, any imported topsoil
2. **Soil analyst:** to be specified by engineer
3. **Samples:** Collect in accordance with BS 3882.
4. **Submit**
 - 4.1. **Declaration of analysis:** basic analysis testing
 - 4.2. **Report detailing soil analyst's recommendations.**

620 Importing topsoil

1. **Give notice:** Before stripping topsoil for transfer to site.
 - 1.1. **Notice period:** 5 days

625 Sample loads

1. **Description:** For imported topsoil
2. **Deliver to site a sample load:** of not less than 5 m³
3. **Give notice:** Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
 - 3.1. **Notice period:** 5 days

635 Documentation for compost and composted materials

1. **Description:** For imported soil improvers
2. **Timing:** Submit at handover.
3. **Contents**
 - 3.1. Full description of all compost components.
 - 3.2. Record of source for all compost components.

- 3.3. Analyst's report for each test carried out.
- 3.4. Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
- 3.5. Quality Compost Protocol certification: Not required
4. Number of copies: One

650 Notice

1. Give notice before
 - 1.1. Setting out.
 - 1.2. Spreading topsoil.
 - 1.3. Applying herbicide.
 - 1.4. Applying fertilizer.
 - 1.5. Visiting site during maintenance period.
2. Period of notice: Three working days

655 Mechanical tools

1. Restrictions: Do not use within 100 mm of tree and plant stems.

660 Grading subsoil for:

1. General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
2. Loosening:
 - 2.1. Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - 2.2. Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - 2.3. Rock and chalk subgrades: Lightly scarify to promote free drainage.
3. Areas of thicker topsoil: Excavate locally.
4. Avoid over compaction.

665 Subsoil surface preparation for:

1. General: Excavate and/ or place fill to required profiles and levels, as section D20.
2. Loosening
 - 2.1. Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - 2.2. Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
3. Stones: Immediately before spreading topsoil, remove stones larger than: 50 mm
4. Remove from site: all builders rubble

700 Grading of topsoil

1. Topsoil condition: Reasonably dry and workable.
2. Contours: Smooth and flowing, with falls for adequate drainage.
 - 2.1. Hollows and ridges: Not permitted.
3. Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
4. Give notice: If required levels cannot be achieved by movement of existing soil.

705 Handling topsoil

1. Aggressive weeds: Give notice and obtain instructions before moving topsoil.

2. **Plant:** Select and use plant to minimize disturbance, trafficking and compaction.
3. **Contamination:** Do not mix topsoil with:
 - 3.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
 - 3.2. Other grades of topsoil.
4. **Multiple handling:** Keep to a minimum. Use or stockpile topsoil immediately after stripping.
5. **Wet conditions:** Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit: defined by engineer

710 Spreading topsoil on:

1. **Temporary roads/ surfacing:** Remove before spreading topsoil.
2. **Layers**
 - 2.1. **Depth (maximum):** 150 mm.
 - 2.2. Gently firm each layer before spreading the next.
3. **Depths after firming and settlement (minimum):** 600mm to tree pits, 450mm to planting beds & 200mm below turf
4. **Crumb structure:** Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

1. **General:** Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

718 Final cultivation

1. **Description:** For turfing
2. **Compacted topsoil:** Break up to full depth.
3. **Tilth:** Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
4. **Depth:** 100 mm
5. **Particle size (maximum):** 10 mm
6. **Timing:** Within a few days before planting
7. **Weather and ground conditions:** Suitably dry.
8. **Surface:** Leave regular and even.
9. **Levels:** 50 mm above adjoining lawns
10. **Undesirable material brought to the surface**
 - 10.1. Remove visible weeds.
 - 10.2. Remove roots and large stones with any dimension exceeding 30 mm.

719 Finished levels of topsoil after settlement

1. **Above adjoining paving or kerbs:** level with adjacent kerbs & paving
2. **Below dpc of adjoining buildings:** Not less than: 150 mm
3. **Shrub areas:** Higher than adjoining grass areas by: 50 mm
4. **Within root spread of existing trees:** Unchanged.
5. **Adjoining soil areas:** Marry in.
6. **Thickness of turf or mulch:** Included.

720A Finished levels of topsoil after settlement

1. **Above adjoining paving or kerbs:** level with adjacent kerbs & paving

2. Within root spread of existing trees: Unchanged.
3. Adjoining soil areas: Marry in.
4. Thickness of turf or mulch: Included.

Completion - Not Used

Ω End of Section

Q31

External planting

Clauses - Not Used

General information/ requirements

112 Site clearance generally

1. **General:** Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. **Stones:** Remove those with any dimension exceeding 50 mm.
3. **Contamination:** Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
4. **Vegetation:** Clear surface vegetation in areas shown on drawings using suitable nonresidual herbicide
5. **Large roots:** Grub up and dispose of without undue disturbance of soil and adjacent areas.
6. **Additional requirements:** none

118 Soil conditions

1. **Soil for cultivating and planting:** Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
2. **Frozen or snow covered soil:** Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

120 Climatic conditions

1. **General:** Carry out the work while soil and weather conditions are suitable.
 - 1.1. **Strong winds:** Do not plant.

125 Times of year for planting

1. **Deciduous trees and shrubs:** Late October to late March.
2. **Conifers and evergreens:** September/ October or April/ May.
3. **Herbaceous plants (including marginal):** September/ October or March/ April.
4. **Container grown plants:** At any time if ground and weather conditions are favourable.
 - 4.1. **Watering and weed control:** Provide as necessary.
5. **Dried bulbs, corms and tubers:** September/ October.
6. **Colchicum (crocus):** July/ August.
7. **Green bulbs:** After flowering in spring.
8. **Wildflower plugs:** Late August to mid November or March/ April.
9. **Aquatic plants:** May/ June or September/ October.

130 Mechanical tools

1. **Restrictions:** Do not use within 100 mm of tree and plant stems.

145 Watering

1. **Quantity:** Wet full depth of topsoil.
2. **Application:** Even and without damaging or displacing plants or soil.
3. **Frequency:** As necessary to ensure establishment and continued thriving of planting.

146 Watering

1. **Quantity:** Wet full depth of topsoil.
2. **Application:** Even and without damaging or displacing plants or soil.
3. **Frequency:** as necessary to ensure establishment and continued thriving of planting

150 Water restrictions

1. **General:** If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.

160 Notice

1. **Give notice before**
 - 1.1. Setting out.
 - 1.2. Applying herbicide.
 - 1.3. Applying fertilizer.
 - 1.4. Delivery of plants/ trees.
 - 1.5. Planting shrubs.
 - 1.6. Planting trees into previously dug pits.
 - 1.7. Watering.
 - 1.8. Visiting site during maintenance period.
2. **Period of notice:** Three working days

165 Preparation, planting and mulching materials

1. **General:** Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
2. **Certification of source, analysis, suitability for purpose and absence of harmful substances:** Submit.
 - 2.1. **Certified materials:** mulches
 - 2.2. Give notice before ordering or using.

200 Plants/ Trees – general

1. **Condition:** Materially undamaged, sturdy, healthy and vigorous.
2. **Appearance:** Of good shape and without elongated shoots.
3. **Hardiness:** Grown in a suitable environment and hardened off.
4. **Health:** Free from pests, diseases, discoloration, weeds and physiological disorders.
5. **Budded or grafted plants:** Bottom worked.
6. **Root system and condition:** Balanced with branch system.
 - 6.1. **Standard:** The relevant parts of BS 3936
7. **Species:** True to name.
8. **Origin/ Provenance:** As plant schedule suggests
9. **Definition:** Origin and Provenance have the meaning given in the National Plant Specification.

216 Plants/ Trees – specification criteria

1. **Name, forms, dimensions and other criteria:** To the relevant part of BS 3936.

235 Container grown plants/ Trees

1. **Growing medium:** With adequate nutrients for plants to thrive until permanently planted.

2. **Plants:** Centred in containers, firmed and well watered.
3. **Root growth:** Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
4. **Hardiness:** Grown in the open for at least two months before being supplied.
5. **Containers:** With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

245 Labelling and information

1. **General:** Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - 1.1. Full botanical name.
 - 1.2. Total number.
 - 1.3. Number of bundles.
 - 1.4. Part bundles.
 - 1.5. Supplier's name.
 - 1.6. Employer's name and project reference.
 - 1.7. Plant specification, in accordance with scheduled National Plant Specification categories.
2. **Additional information:** Submit on request: Date supplied .

248A Approved tree suppliers

1. All trees shall be obtained from one of the sources identified in the categories listed below. If alternatives are submitted then they will be done so at time of tender, photographs and details will also be provided.
2. Landscape architect to be invited to check and tag all plant material.
3. (A) Lorenz von Ehren Maldfeldstr. 4D-21077 Hamburg Tel: +49 40 761 08-0 Web: www.lve-baumschule.de
4. (B) Hillier Nurseries Tel: (01794)-368733 Web: www.hilliertrees.co.uk
5. (C) Lorberg Zachow Strasse 414669 Ketzin OT Tremmen Germany Tel: 033233 84 151 Web: www.lorberg.com
6. (D) Deepdale Trees Ltd. Tel: 01767 26 26 36 E-mail: mail@deepdale-trees.co.uk Web: www.deepdale-trees.co.uk

255 Plants/ Trees reserved at supplier's premises

1. **Types/ Species:** As plant schedule
2. **Predelivery inspection:** Give notice.
3. **Labelling:** Identify inspected plants/ trees as reserved for use on this project.

260 Plant/ Tree substitution

1. **Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering:** Submit alternatives, stating:
 - 1.1. Price.
 - 1.2. Difference from specified plants/ trees.
2. **Approval:** Obtain before making any substitution.

264 Plant handling, storage transport and planting

1. **Standard:** To HTA 'Handling and establishing landscape plants'.
2. **Frost:** Protect plants from frost.

3. **Handling:** Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
4. **Plant packaging:** as supplied and stated in planting plan
5. **Packaging of bulk quantities:** as supplied and stated in planting plan
6. **Planting:** Upright or well balanced with best side to front.

280 Treatment of tree wounds

1. **Cutting:** Keep wounds as small as possible.
 - 1.1. Cut cleanly back to sound wood using sharp, clean tools.
 - 1.2. Leave branch collars. Do not cut flush with stem or trunk.
 - 1.3. Set cuts so that water will not collect on cut area.
2. **Fungicide/ Sealant:** Do not apply unless instructed.

290 Surplus material

1. Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

Plant containers - Not Used

Preparation of planting beds/ planting materials

300 Herbicide

1. **Description:** To clear overgrown beds
2. **Locations:** All planting areas
3. **Type:** Suitable for suppressing perennial weeds.
4. **Timing:** Allow fallow period before cultivation.
 - 4.1. **Duration (minimum):** As manufacturer's recommendation

305 Weed control

1. **Description:** For invasive non-native weeds
2. **Locations:** All planting areas
3. **General:** Prevent weeds from seeding and perennial weeds from becoming established, by contractor's choice of herbicide.

375 Cultivation

1. **Compacted topsoil:** Break up to full depth.
2. **Cultivation:** Loosen, aerate and break up soil into particles of 2-8 mm.
 - 2.1. **Depth:** as per details
 - 2.2. **Timing:** Within a few days before planting.
 - 2.3. **Weather and ground conditions:** Suitably dry.
3. **Surface:** Leave regular and even.
4. **Levels:** to meet adjoining kerbs & paving
5. **Undesirable material brought to the surface:** Remove visible weeds, roots and large stones with any dimension exceeding: 50 mm
6. **Soil within root spread of trees and shrubs to be retained:** Do not dig or cultivate.

Planting shrubs/ herbaceous plants/ bulbs

400A Random/ naturalised plant layout

1. Description: To shrub planting
2. Spacing: See Planting Plan
3. Density: See Planting Plan

404 Shrub planting pits

1. Timing: Excavate 2 days (maximum) before planting.
2. Sizes: 150 mm wider than roots when fully spread - Depth to ensure planting at same level as nursery/ container mark
3. Pit bottom improvement With slightly raised center to aid root penetration and pit drainage. Break up to a depth of 200mm.
4. Backfilling material: Reuse excavated and/ imported topsoil

420 Climbing plants

1. Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
 - 1.1. Branches: Lightly secured to supports.
2. Climber supports: Stainless steel wire
 - 2.1. Base height: 600 mm above ground
 - 2.2. Extent: As drawing ???
 - 2.3. Centres: 250 mm
 - 2.4. Distance from wall: 50 mm
3. Fixings: Stainless steel screw eyes
 - 3.1. Centres: 1.5 m

470 Formal hedges

1. Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
2. Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

471 Naturalized hedges

1. Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

473 Fencing support for new hedges

1. Type: Timber post and general pattern wire mesh.
2. Standard: To BS 1722-2.
3. Height: 600 mm.
4. Timing: Before planting hedge.
5. Support: Lightly secure hedge plants to fence wires at appropriate intervals.

476 Shrub, herbaceous and bulb backfilling material

1. Description: For flowering shrub pits
2. Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required:
3. Ameliorant/ Conditioner: Composted bark
 - 3.1. Application rate: To manufacturer's/ supplier's recommendations

4. **Fertilizer:** contractor's choice
- 4.1. **Application rate:** To suit soil report recommendations

480 After planting

1. **Watering:** Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. **Firming:** Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
3. **Top dressing:** REFER TO SPEC CLAUSE Q23-230A / 230B
- 3.1. **Depth:** 50 mm

485A Mulching planting beds

1. **Material:** Bark mulch
2. **Product:** Melcourt Amenity Bark mulch or similar and approved
3. **Size:** 5-40mm
4. **Supplier:** Melcourt
- 4.1. **Contact:** Tel 01666 502711
5. **Preparation:** Clear all weeds. Water soil thoroughly.
6. **Coverage:** 50 mm depth
7. **Finished level of mulch:** flush with adjacent paving and kerbs

Planting trees

500 Tree planting

1. **Standard:** Prepare roots and transplant to BS 4043.
2. **Backfilling material:** As clause 585.
3. **Support:** Underground guying to BS 4043
4. **Protection:** Not required

505J Tree pits

1. Prepare roots and transplant to BS 4043 unless specified otherwise.
2. **Orientation:** Before lifting, mark north side of trees to ensure that the orientation is the same when replaced.
3. **Tree pits:**
4. Not less than 2000mm diameter and 900mm depth.
5. Where necessary increase these dimensions to ensure that the pits are at least 250mm deeper and 600mm wider than the rootball.
6. Break up bottom of pit to a depth of 250mm.
7. **Support:** underground guying as clause Q31/595A. All semi mature trees shall be secured by this method unless otherwise agreed in advance with the landscape architect.
8. **Drainage:** as clause Q31/515A
9. **Root irrigation:** as clause Q31/512J
10. **Protection:** Wrap trunks and lower branches with hessian strips or straw ropes and leave on for at least two summers. **Sloping ground:** Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
11. **Pit bottoms:** With slightly raised centre to aid root penetration and pit drainage. Break up to a depth of [150mm].
12. **Pit sides:** Scarify.

13. Backfilling material: .
14. To clause Q31/586A. 70% by volume topsoil excavated from the pit and additional topsoil as required
15. 20% by volume approved Bentleys Growtree organic tree planting compost, Tel: 01469 532000
16. 10% by volume coarse grained river washed sand
17. 50g/cu m Enmag slow release fertiliser
18. 100g/cu m Alginure
19. Accessories: [Irrigation system to Access irrigation (or similar and approved) refer to Q31/512J specification] .

510 Tree pit root barriers

1. Locations: Required if stated by engineer. Geotextile Membrane to trees set adjacent to paved areas and trees adjacent to service ducts
2. Manufacturer: Green-Tech Ltd, or similar and approved Tel: 01423 332 100 Email:Sales@green-tech.co.uk
 - 2.1. Product reference: Gt Root Barrier Type: gt root barrier with integral root deflecting ground lock ribs. Supplied in roll form. 1m x 1m- Installation: To manufacturer's recommendations- Joining roll ends: Interlock two ribs and tape both sides with Green tech root barrier jointing tape
3. Depth of top of root barrier below finished soil level: Flush with sides of excavated tree pit. To be laid to 600mm below surface
4. Installation: With sides vertical.

512J Tree pit accessories

1. Tree pit irrigation
2. Manufacturer: [Green-Tech Ltd, or similar and approved Tel: 01423 332 100 Email:Sales@green-tech.co.uk].
 - 2.1. Product Reference: MONA Relief Aria Tree Irrigation
 - 2.2. Installation: To manufacturer's recommendations
 - 2.2.1. Lay 80mm pipe around root ball, trimming to ensure snug fit and insert ends into tee section supplied.
 - 2.2.2. Pipe should circuit the rootball approximately 300mm below finished levels.
 - 2.2.3. Backfill tree ensuring that the vented cap finishes flush or slightly proud of surrounding surfaces.

515A Tree pit drainage

1. Depth of excavation: Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.
2. Aggregate layer: Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
 - 2.1. Depth: 100 mm
3. Completed pits: Test for free drainage before planting.

586A Tree backfilling material

1. A previously prepared thorough mixture of:
2. 70% by volume imported topsoil
3. 20% by volume approved Bentleys Growtree organic tree planting compost, Tel: 01469 532000
4. 10% by volume coarse grained river washed sand
5. 50g/cu m Enmag slow release fertiliser

6. 100g/cu m Alginure

590 Mulching trees

1. **Material:** REFER TO SPEC CLAUSE Q31/485A
 - 1.1. **Purity:** Free of pests, disease, fungus and weeds.
 - 1.2. **Recycled content:** Submit proposals
2. **Preparation:** Clear all weeds. Water soil thoroughly.
3. **Coverage:** to a depth of 50mm around the base of all trees and planting beds
4. **Finished level of mulch:** flush with paved edges

595A Tree protection- underground guying

1. **Manufacturer:** Platipus t.+44(0) 1737 762300
 - 1.1. **Product reference:** Rootball Fixing System- Plati-Mat RF1P
2. **Type:** underground rootball fixing system- Triple stake bracing to protect against prevailing winds
3. **Material:** Galvanised Tensioning Wire
 - 3.1. **Installation:** To manufacturer's instructions
4. **Size:** to fit 12-60cm girth, rootballed trees- as specified in planting plan
5. **General:** Ensure that protection methods do not impede natural movement of trees or restrict growth.

Woodland/ matrix/ buffer zone planting

617 Removing trees and hedges

1. **Identification:** Clearly mark trees and hedges to be removed.
2. **Work near retained trees:** Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
3. **Arisings:** Remove.
4. **Tree stumps:** Remove mechanically to a minimum depth of 300 mm below ground level

Protecting/ maintaining/ making good defects

710 Maintenance

1. **Duration:** Carry out the operations in the following clauses from completion of planting until the end of the defects liability period.
2. **Frequency of maintenance visits:** In accordance with the agreed maintenance schedule

720 Failures of planting

1. **Defects due to materials or workmanship not in accordance with the Contract:** Plants/ trees/ shrubs that have failed to thrive.
 - 1.1. **Exclusions:** Theft or malicious damage after completion.
 - 1.2. **Rectification:** Replace with equivalent plants/ trees/ shrubs.
2. **Replacements:** To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. **Timing of making good:** 1 month or next planting season- to be agreed with the Contract Administrator

740 Cleanliness

1. **Soil and arisings:** Remove from hard surfaces and grassed areas.

2. **General:** Leave the works in a clean tidy condition at completion and after any maintenance operations.

750 Planting maintenance generally

1. **Weed control:** Maintain weed free area around each tree and shrub.
 - 1.1. **Diameter (minimum):** The larger of 1 m or the surface of original planting pit.
 - 1.2. **Keep planting beds clear of weeds:** By use of approved non-residual herbicides, 50mm of mulch
2. **Planted areas:** Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
3. **Precautions:** Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. **Staking:** Check condition of stakes, ties, guys and guards.
 - 4.1. **Broken or missing items:** Replace.
 - 4.2. **Rubbing:** Prevent.
 - 4.3. **Ties:** Adjust to accommodate growth.
 - 4.4. **Damage to bark:** Cut back neatly with sharp knife. Prevent further damage.
 - 4.5. **Frequency of checks:** As schedule
5. **Firming up:** Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
6. **Trees:** Spray crown when in leaf during warm weather.
 - 6.1. **Timing:** After dusk.
7. **Watering:** Contractor's choice

755 Planting maintenance - fertilizer

1. **Time of year:** March or April.
2. **Fertilizer:** 15:15:15 NPK
 - 2.1. **Manufacturer:** Contractor's choice
 - 2.2. **Product reference:** N/A
3. **Application:** Evenly spread, carefully incorporating below mulch materials.
4. **Application rate:** To manufacturer's recommendations

760 Planting maintenance – pruning

1. **General:** Prune to promote healthy growth and natural shape.
 - 1.1. **Dead, dying, diseased wood and suckers:** Remove.
 - 1.2. **Timing:** As appropriate to the species
 - 1.3. **Trees:** Favour a single central leading shoot.
2. **Arisings:** Remove.

780 Maintenance instructions

1. **General:** Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: The Landscape Contractor is to inform the employer of any known maintenance problems encountered at the end of the defects period.

790 Final mulching

1. **Timing:** At end of the maintenance period.

2. **Watering:** Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
3. **Planting beds:** Remulch.
4. **Depth (minimum):** 50 mm thick
5. **Trees:** Remulch.
6. **Depth (minimum):** 50 mm thick

Ω End of Section

Q35 Landscape maintenance

Clauses - Not Used

Generally

105A Maintenance objectives- please refer to management and maintenance plan for details of all external works maintenance objectives

1. Location: All external works planted under this contract
 - 1.1. Duration: 12 months unless otherwise agreed

110 Notice

1. Give notice before
 - 1.1. Application of herbicide.
 - 1.2. Application of fertilizer.
 - 1.3. Watering.
 - 1.4. Each site maintenance visit.
2. Period of notice: 2 days

130 Reinstatement

1. Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstatement to original condition.

155 Watering

1. Supply: submit proposals
2. Quantity: Wet full depth of topsoil
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As necessary for the continued thriving of all planting.

160 Water restrictions

1. General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

170 Disposal of arisings

1. General: Unless specified otherwise, dispose of arisings as follows:
 - 1.1. Biodegradable arisings: Remove to recycling facility
 - 1.2. Grass cuttings: Remove to recycling facility
 - 1.3. Tree roots and stumps: Remove from site
 - 1.4. Shrub and tree prunings: Compost on site
 - 1.5. Litter and nonbiodegradable arisings: Remove from site

190 Litter

1. Extraneous rubbish not arising from the contract work: Collect and remove from site.

197 Cleanliness

1. **Soil and arisings:** Remove from hard surfaces.
2. **General:** Leave the works in a clean, tidy condition at completion and after any maintenance operations.

Grassed areas

210 Maintenance of grassed areas

1. **General:** Maintain turf in a manner appropriate to the intended use.
2. **Soil and grass**
 - 2.1. **Condition:** Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
 - 2.2. **Waterlogging and compaction:** Prevent.
 - 2.3. **Damage:** Repair trampling, abrasion or scalping.
3. **Ornamental lawns:** Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
 - 3.1. **Edges:** Neat and well defined, in clean straight lines or smooth flowing curves.
4. **Litter and fallen leaves:** Remove regularly to maintain a neat appearance.

211 Maintenance of grassed areas

1. **Standard:** To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
 - 1.1. **Objectives:** To BS 7370-3, table 6.
 - 1.2. **Programme:** To BS 7370-3, clause 11.
 - 1.3. **Mowing methods:** To BS 7370-3, table 3.

220 Grass cutting generally

1. **Before mowing:** Remove litter, rubbish and debris.
2. **Finish:** Neat and even, without surface rutting, compaction or damage to grass.
3. **Edges:** Leave neat and well defined. Neatly trim around obstructions.
4. **Adjoining hard areas:** Sweep clear and remove arisings.
5. **Drought or wet conditions:** Obtain instructions.

225 Tree stems

1. **Precautions:** Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

226 Tree stems

1. **Precautions:** Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree.
 - 1.1. **Operations close to stems:** Complete using hand tools.

265 Mowing general areas

1. **Grass height:** 50mm maximum
2. **Arisings:** Remove

381 Reinstatement of worn or damaged lawns

1. **Worn or damaged areas:** Make good by returfing or reseeding:

- 1.1. Returfing standard: To BS 7370-3, Clause 12.2.
- 1.2. Reseeding standard: To BS 7370-3, Clause 12.6.
2. Turf or seed: To match existing in appearance and quality.
3. Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

Flower beds/ seasonal beddings - Not Used

Shrubs/trees/hedges

500 Establishment of new planting

1. Duration: Two full growing seasons from the date of planting
2. Weed control
 - 2.1. Method: Keep planting beds clear of weeds by hoeing and screefing and maintaining full thickness of mulch (50mm) as specified.
 - 2.2. Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
3. Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. Watering: as required, carry out in the evening

502 Establishment of new planting – fertilizer

1. Time of year: March or April.
2. Type: Compound fertiliser
3. Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - 3.1. Application rate: As manufacturer's recommendations

520 Refirming of trees and shrubs

1. Timing: After strong winds, frost heave and other disturbances.
2. Refirming: Tread around the base until firmly bedded.
3. Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

540 Pruning generally

1. Pruning: In accordance with good horticultural and arboricultural practice.
 - 1.1. Removing branches: Do not damage or tear the stem or bark.
 - 1.2. Wounds: Keep as small as possible and cut cleanly back to sound wood.
 - 1.3. Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - 1.4. Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
2. Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
3. Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
4. Disease or infection: Give notice if detected.
5. Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

545 Pruning of excessive overhang

1. **Timing:** Annually
2. **Operations:** Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
3. **Special requirements:** Allow ground cover plants to partially overlap paths and lawns

555 Pruning trees and shrubs

1. **Standard:** To BS 7370-4.
2. **Special requirements:** none

575 Pruning ornamental shrubs

1. **General:** Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
2. **Suckers:** Remove by cutting back level with the source stem or root.

580 Pruning flowering species of shrubs and roses

1. **Time of year**
 - 1.1. **Winter flowering shrubs:** Spring.
 - 1.2. **Shrubs flowering between March and July:** Immediately after the flowering period.
 - 1.3. **Shrubs flowering between July and October:** Back to old wood in winter.
 - 1.4. **Rose bushes:** Early spring to encourage basal growths and a balanced, compact habit.

610A Trimming hedges

1. **Time of year:** Regular trimming from June to September
2. **Operations**
 - 2.1. **Form:** Trim carefully and neatly to regular line and shape, with vertical sides.
 - 2.2. **Trim:** Remove current growth rather than old wood.
3. **Tools/ Cutting:** Suitable mechanical cutters

620 Removal of dead plant material

1. **Operations:** At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

630 Dead and diseased plants

1. **Removal:** As soon as possible
2. **Replacement:** In the next suitable planting season

635 Reinstatement of shrub/ Herbaceous areas

1. **Dead and damaged plants:** Remove.
2. **Mulch/ matting materials**
 - 2.1. Carefully move to one side and dig over the soil, leaving it fit for replanting.
3. Do not disturb roots of adjacent plants.
4. **Replacement plants**
 - 4.1. **Use pits and plants:** To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - 4.2. **Additional requirements:** Submit details and cost of plants before ordering
5. **Dressing:** Slow release fertilizer:

- 5.1. **Type:** Submit proposals
- 5.2. **Application rate:** As manufacturer's recommendations

645 Weed control generally

- 1. **Weed tolerance:** At all times, weed cover less than 5% and no weed to exceed 100 mm high
- 2. **Adjacent plants, trees and grass:** Do not damage.

650 Hand weeding

- 1. **General:** Remove weeds entirely, including roots.
- 2. **Disturbance:** Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
- 3. **Completion:** Rake area to a neat, clean condition.
- 4. **Mulch:** Reinstate to original depth.

655 Weed cutting by hand or machine

- 1. **Undesirable grass, brambles and herbaceous growth:** Cut down cleanly to a maximum height of 75 mm.
- 2. **Herbicides:** Do not use

675 Digging over

- 1. **General:** Dig over beds. Do not damage existing plants, bulbs and roots.
 - 1.1. **Depth of dig (minimum):** 100 mm

680 Soil aeration

- 1. **Compacted soil surfaces**
 - 1.1. **Prick up:** To aerate the soil of root areas and break surface crust.
 - 1.2. **Size of lumps:** Reduce to crumb and level off.
 - 1.3. **Damage:** Do not damage plants and their roots.

685 Soil level adjustment

- 1. **Level of soil/mulch at edges of beds:** Reduce to 50 mm below adjacent grass or hard surface.
 - 1.1. **Arisings (if any):** Spread evenly over the bed.

690 Maintenance of loose mulch

- 1. **Thickness (minimum):** 50 mm
 - 1.1. **Top up:** Annually
- 2. **Mulch spill on adjacent areas:** Remove weeds and rubbish and return to planted area.
- 3. **Weeding:** Remove weeds growing on or in mulch by hand weeding.

695 Fertilizing established trees and shrubs

- 1. **Time of year:** During February or March
- 2. **Type of fertilizer:** Slow release
- 3. **Application:** Spread evenly.
 - 3.1. **Rate:** As manufacturer's recommendations

705 Winter leaf removal

1. **Operations:** Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
2. **Arisings:** Distribute evenly over all planting beds

Tree work

810 Tree work generally

1. **Identification:** Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
2. **Protection:** Avoid damage to neighbouring trees, plants and property
3. **Standards:** To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
4. **Removing branches:** Cut as Arboricultural Association Leaflet 'Mature tree management'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
5. **Appearance:** Leave trees with a well balanced natural appearance.
6. **Chain saw work:** Operatives must hold a Certificate of Competence.
7. **Tree work:** To be carried out by an approved member of the Arboricultural Association.

815 Additional work

1. **Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention:** Give notice if detected.

820 Prevention of wound bleeding

1. **Standard:** To BS 3998, clause 8.

825 Prevention of disease transmission

1. **Standard:** To BS 3998, clause 9 and Appendix B.

830A Cleaning out and deadwooding

1. **Remove**
 - 1.1. Dead, dying, or diseased wood, broken branches and stubs.
 - 1.2. Fungal growths and fruiting bodies.
 - 1.3. Rubbish, windblown or accumulated in branch forks.
 - 1.4. Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - 1.5. Other unwanted objects, e.g. tree houses, swings.

835 Cutting and pruning generally

1. **Tools:** Appropriate, well maintained and sharp.
2. **Final pruning cuts**
 - 2.1. **Chainsaws:** Do not use on branches of less than 50 mm diameter.
 - 2.2. **Hand saws:** Form a smooth cut surface.
 - 2.3. **Anvil type secateurs:** Do not use.
3. **Removing branches:** Do not damage or tear the stem.
4. **Wounds:** Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.

5. **Cutting:** Cut at a fork or at the main stem to avoid stumps wherever possible.
6. **Large branches:** Remove only with prior approval
 - 6.1. Remove in small sections and lower to ground with ropes and slings.
7. **Dead branches and stubs:** When removing, do not cut into live wood.
8. **Unsafe branches:** Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. **Disease or fungus:** Give notice if detected. Do not apply fungicide or sealant unless instructed.

855 Cutting tree roots

1. **Excavating:** Use hand tools only.
2. **Protected area:** Do not cut roots within an area which is the larger of:
 - 2.1. The branch spread of the tree.
 - 2.2. An area with a radius of half the tree's height, measured from the trunk.
3. **Outside protected area:** Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
4. **Cutting**
 - 4.1. **Cutting:** Make clean smooth cuts with a hand saw.
 - 4.2. **Wounds:** Minimize. Avoid ragged edges.
 - 4.3. **Finishing:** Pare cut surfaces smooth with a sharp knife.
5. **Backfilling**
 - 5.1. **Protection:** Cover cut roots with clean sharp sand.
 - 5.2. **Material:** Backfill with original topsoil.

860 Removing trees, shrubs and hedges

1. **Standards:** To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
2. **Existing services:** Check for below and above ground services. Give notice if they may be affected.
3. **Shrubs and smaller trees:** Cut down and grub up roots.
4. **Tree stumps**
 - 4.1. **Removal:** Remove mechanically to a minimum depth of 300 mm below ground level
 - 4.2. **Removal by winching:** Give notice. Do not use other trees as supports or anchors.
5. **Protection:** Avoid damage to neighbouring trees, plants and property
6. **Work near retained trees:** Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
7. **Filling holes**
 - 7.1. **Material:** Use as-dug material and/ or imported soil as required.
 - 7.2. **Finishing:** Consolidate and grade to marry in with surrounding ground level.

865 Bark damage

1. **Wounds**
 - 1.1. Do not attempt to stop sap bleeding.
 - 1.2. **Bark:** Remove ragged edges using a sharp knife.
 - 1.3. **Wood:** Remove splintered wood from deep wounds.
 - 1.4. **Size:** Keep wounds as small as possible.
2. **Liquid or flux oozing from apparently healthy bark:** Give notice.

870 Cavities in trees

1. **Investigation:** Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
2. **Water filled cavities:** Do not drain.
3. **Sound wood inside cavities:** Do not remove.
4. **Cavity openings:** Do not cover

Water areas - Not Used

Hard landscape areas/fencing - Not Used

Ω End of Section

Q40 Fencing

Clauses - Not Used

Fencing systems

210A Wooden knee-post and rail fencing

1. **Manufacturer:** Jacksons Fencing. T: +44(0)1233 750393, security@jacksons-fencing.co.uk or similar and approved
 - 1.1. **Product reference:** Wooden knee-rail fencing
2. **Standard:** To BS 1722-7.
3. **Height:** 0.5m
4. **Wood:** 100 x 100 mm Rails, on 140mm x 100mm Posts.
 - 4.1. **Treatment:** to provide a 25yr guarantee- as specified by Jacksons Fencing
 - 4.2. **Finish:** None required
5. **Maximum centres of posts:** Contractor's choice- as to function and fit dimensions on site
6. **Method of setting posts:** Contractor's choice and as confirmed by manufacturer
7. **Accessories:** Galvanised steel straps to secure posts in place
8. **Conformity:** Submit manufacturer's and installer's certificates, to BS 1722-7.

221 Powder coated steel fencing

1. **Location:** To car park ramp
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00012
2. **Description:** Steel Bespoke fence, two leaf gate and pedestrian gate.
3. **Manufacturers shop drawings** required to set out posts and rails. All dimensions to be checked on site.
4. **Manufacturer:** Jacksons Fencing. T: +44(0)1233 750393, security@jacksons-fencing.co.uk or similar and approved
5. **Finish:** Hot-dip galvanized to BS EN ISO 1461 Powder-coated to BS 1722-16
6. **Colour:** RAL 9005.
***All fixtures and fittings to match RAL 9005
7. **Height:** 2100mm
8. **Posts and bars**
 - 8.1. **Corner/ End posts:** Vehicular Gate Posts 200mm x 200mm.
Pedestrian gate post 100mm x 100mm.
9. **Pales:** 100x10mm uprights twisted at various angles. Welded to gate frame. Max. spacing 100mm
10. **Fixings:** Pedestrian gate post be core drilled through retaining wall.
 - 10.1. Use countersunk and tamper proof fixings.
11. **Method of setting posts**
 - 11.1. **New Item:** (To meet Part M Building Regulations) Post to be root fixed below ground to manufacturers detail.
12. **Accessories:** Footplate collar around posts to conceal drillholes.

For vehicle access - Automated opening and closing mechanism. Linked to intercom. Resident remote controlled operation, to suppliers detail.

340 Steel louvred vertical bar balustrade

1. **Description:** To retaining wall along car park entrance.
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00013
2. **Manufacturer:** Jacksons Fencing. T: +44(0)1233 750393, security@jacksons-fencing.co.uk or similar and approved
3. **Standard:** To BS 1722-9.
4. **Height:** 1100mm above top of retaining wall.
Depth below retaining wall to engineer's specification.
5. **Verticals:** 10 x 40mm flat bar, louvred finish. Refer to drawing for detail.
6. **Centres of verticals:** 100mm
7. **Top and bottom bar:** 30 x 60mm flat bar.
Bottom bar max. 100mm above top of retaining wall.
8. **Posts:** SHS, 60 x 60 x 3 mm
 - 8.1. **Finish:** Hot-dip galvanized to BS EN ISO 1461 Powder-coated to BS 1722-16
 - 8.1.1. **Colour:** RAL 9005.
***All fixtures and fittings to match RAL 9005
9. **Centres of posts (maximum):** 2.8 m.
10. **Method of setting posts/ stays/ legs:** To engineer's specification
11. **Accessories:** Footplate collar around posts to conceal drill holes.
12. **Conformity:** Submit manufacturer's and installer's certificates, to BS 1722-9.

341 Steel vertical bar balustrade

1. **Description:** To podium area north of residential building 1.
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00013
2. **Manufacturer:** Jacksons Fencing. T: +44(0)1233 750393, security@jacksons-fencing.co.uk or similar and approved
3. **Standard:** To BS 1722-9.
4. **Height:** 1100mm above top of retaining wall.
Depth below ground to engineer's specification.
5. **Verticals:** 10 x 40mm flat bar. Refer to drawing for detail.
6. **Centres of verticals:** 100mm
7. **Top and bottom bar:** 20 x 50mm flat bar.
Bottom bar max. 100mm above top of retaining wall.
8. **Posts:** 20 x 50mm flat bar.
 - 8.1. **Finish:** Hot-dip galvanized to BS EN ISO 1461 Powder-coated to BS 1722-16
 - 8.1.1. **Colour:** RAL 9005.
***All fixtures and fittings to match RAL 9005
9. **Centres of posts (maximum):** 2.8 m.
10. **Method of setting posts/ stays/ legs:** To engineer's specification
11. **Conformity:** Submit manufacturer's and installer's certificates, to BS 1722-9.

Gates, posts and stiles

561 Weldmesh Fencing

1. **Location:** Phase 1 car park
Refer to drawing VIC-PIE-EZ-ZZ-DR-L-00013
2. **Description:** Galvanised steel 2.1m height fence with matching gate.
3. **Standard**

Planit Northwest Ltd
06-08-2021

- 3.1. Domestic gates: To BS 4092.
- 3.2. Steel palisade gates: To BS 1722-12.
- 4. Manufacturer: Jacksons Fencing. T: +44(0)1233 750393, security@jacksons-fencing.co.uk or similar and approved
 - 4.1. Product reference: 2.1m high Weldmesh Gates to match surrounding fencing
- 5. Materials and workmanship: As section Z11.
- 6. Finish: Hot-dip galvanized to BS EN ISO 1461 Powder-coated to BS 1722-16
 - 6.1. Colour: RAL9005
- 7. Jointing: Welded.
- 8. Fittings: as specified by engineer & or manufacturer
- 9. Finish: as specified by engineer & or manufacturer
- 10. Method of fixing: as specified by engineer & or manufacturer
- 11. Accessories: Locking mechanism for gates requirements TBC by client. As specified by engineer & or manufacturer.

Accessories - Not Used

Execution

710 Installation generally

- 1. Set out and erect
 - 1.1. Alignment: Straight lines or smoothly flowing curves.
 - 1.2. Tops of posts: Following profile of the ground.
 - 1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
 - 1.4. Fixings: All components securely fixed.

715 Competence

- 1. Operatives: Contractors must employ competent operatives.
- 2. Qualifications: Submit certification of training.
 - 2.1. NHSS Sector Scheme 2A sub categories: Contractor's choice
 - 2.2. NHSS Sector Scheme 2C sub categories: Contractor's choice

720 Setting posts in concrete

- 1. Standard: To BS 8500-2.
- 2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- 3. Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
- 4. Admixtures: Do not use.
- 5. Holes: Excavate neatly and with vertical sides.
- 6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- 7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

740 Setting posts in earth

- 1. Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
- 2. Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

750 Driven posts

1. **Damage to heads:** Minimize.
 - 1.1. **Repair:** Neatly finish post tops after installation.

Completion

910 Cleaning

1. **General:** Leave the works in a clean, tidy condition.
2. **Surfaces:** Clean immediately before handover.

920 Fixings

1. **All components:** Tighten.
 - 1.1. **Timing:** Before handover.

930 Gates

1. **Hinges, latches and closers:** Adjust to provide smooth operation. Lubricate where necessary.
 - 1.1. **Timing:** Before handover.

Ω End of Section

Q41 Barriers/ guardrails

Clauses - Not Used

Types of barriers/ guardrails

111 Pedestrian restraint systems in metal

1. Powder Coated Steel Ballustrade
2. Balustrade posts 16mm thick x180mm,
3. Pales: 10mm thick x 40mm, 1100mm (H) above ground
4. Balustrade frame top and bottom: 20mm thick x 50mm,
5. Galvanised steel and powder coated: RAL 7016
6. To be core drilled through retaining wall.
7. Accessories: footplate collar around posts to conceal drillholes
8. ***All fixtures and fittings to match RAL 7016
9. welded offside to frame.
10. Manufacturers shop drawings required to set out posts and rails.
11. Use countersunk and tamper proof fixings to fix balustrade together.
12. (To meet Part M Building Regulations) Post to be root fixed below ground to manufacturers detail.
13. Foundations: Root fixed into retaining wall to engineers specification.
14. Loading Class: TBC by engineer.

112 Restraint system in metal

1. Location: To podium north of building 2.
2. Powder Coated Steel Ballustrade
3. Balustrade posts 16mm thick x100mm
4. Size: 1100mmH x 1200mmW panels x 100mmD.
5. Pales: 10mm thick x 40mm, 960mm (H)
6. Balustrade Posts, frame top and bottom: 20mm thick x 50mm,
7. Galvanised steel and powder coated: RAL7016
8. Fixing to engineer's specification. To be fixed to building and brick wall at each end.
9. Accessories: footplate colar around posts to conceal drillholes
10. ***All fixtures and fittings to match RAL 7016
11. welded offside to frame.
12. Manufacturers shop drawings required to set out posts and rails.
13. To be root fixed to structural slab.
14. (To meet Part M Building Regulations) Post to be root fixed below ground to manufacturers detail.
15. Loading Class: 3.0, 3.0, 3.0kN loading. TBC by engineer.

190 Vehicle access point barriers

1. Manufacturer: Submit proposals
 - 1.1. Product reference: Submit proposals
2. Boom
 - 2.1. Span: 3 m

- 2.2. Type: Counterbalanced vertical lifting pole
- 2.3. Operation: Powered
- 2.4. Control system: Intercom
- 2.5. Colour: As supplied
- 3. Fixings/ Foundations: Posts cast into in situ concrete
- 4. Other requirements: Manual opening device

241 Stainless steel handrail

- 1. Description: To all external steps.
- 2. Manufacturer: Submit design and cost proposals
- 3. • Material: Grade 316 Brushed Stainless Steel.
 - 3.1. Finish: Brushed Stainless Steel.
- 4. • Dimensions and Fixings: Refer to Detail Drawings for design intent.
- 5. Note: Manufacturer to provide detail shop drawings for approval.
- 6. Note: Integrated LED downlights to handrails. Refer to lighting plans for locations and specification.
- 7. Note: Part M compliance to suppliers detail

Performance/ inspection/ testing

305 Production inspection of posts

- 1. General: At place of fabrication, at rate of 15 per order selected randomly.
 - 1.1. Weld defect levels: As stipulated in Highways Agency 'Manual of contract documents for highway works' Volume 1 'Specification for highway works' Series 400.

Installation

410 Work on or adjacent to highways

- 1. Requirement: Comply with the Department for Transport's 'Safety at street works and road works. A code of practice'. Retain a copy of this document on site at all times during the course of the works.

420 Alignment

- 1. Erection: Fences/ barriers to present a flowing alignment. Tops of posts to follow ground profile.
- 2. Tolerance: ± 30 mm of prescribed alignment and, within any 10 m length, ± 15 mm from the straight or required radius.

430 Erection generally

- 1. Protection: Coat all internal and external surfaces of aluminium and steel posts below and up to 150 mm above ground level, with two coats of bituminous paint to BS 6949 type 2, unless other applied surface finish is specified.
- 2. Prevention of electrolytic corrosion: Isolate dissimilar metals.
- 3. Steel components: Do not drill, cut or weld after galvanizing.

490 Damage repair to galvanized surfaces

- 1. Areas of repair: Minor damage, including fixings and fittings.
 - 1.1. Total area of repair not to exceed 0.5% of total surface area.
 - 1.2. Each area not to exceed 1000 mm².

2. **Renovation:** Use low melting point zinc alloy repair rods or powders or at least two coats of zinc-rich paint to BS 4652.

Completion

900 Documentation

1. **Contents**
 - 1.1. General product information.
 - 1.2. Installation information.
 - 1.3. Inspection and maintenance reports.
2. **Number of copies:** 2
3. **Submission:** Two weeks after request by contract administrator

Ω End of Section

Q50 Site/street furniture/equipment

Clauses

2 To be read with preliminaries/ general conditions.

1. New Item: To be read in conjunction with drawing VIC-PIE-EZ-ZZ-DR-L-00112

Gates, barriers and parking controls

190 Bollards

1. Description: Site wide
2. Manufacturer: Broxap, Sales tel: 0844 800 4085
 - 2.1. Product reference: Ridge Stainless Steel Bollard, BX47 9004
3. Material: Stainless Steel
 - 3.1. Finish as delivered: Grade 304 Polished
 - 3.2. Colour: Stainless Steel
4. Height above ground: 1000mm)Height Below Ground: 300mm root fixed to Manufacturers Recommendation
5. Special features: Diameter 140mm
6. Method of fixing: Into ground: as per manufacturer's instructions

Site and street furniture

210 CS1 Cycle stands - Surface mounted

1. Manufacturer: Broxap, Tel: 01782 564411
 - 1.1. Product reference: Sheffield Stainless Steel Cycle Stand
2. Material: Stainless Steel
 - 2.1. Finish: Grade 304 Polished
 - 2.2. Colour: Stainless Steel- Dimensions: 715mm (l) x 800mm (h)
3. Number of stands: As drawing: VIC-PIE-EZ-ZZ-DR-L-00112
4. Accessories: as specified by manufacturer
5. Method of fixing: Surface Mounted

211 CS2 Cycle stands - Root Fixed

1. Manufacturer: Broxap, Tel: 01782 564411
 - 1.1. Product reference: Sheffield Stainless Steel Cycle Stand
2. Material: Stainless Steel
 - 2.1. Finish: Grade 304 Polished
 - 2.2. Colour: Stainless Steel- Dimensions: 715mm (l) x 800mm (h)
3. Number of stands: As drawing: PL
4. Accessories: as specified by manufacturer
5. Method of fixing: Root fixed to engineer's specification

214 Motorcycle stands

1. Manufacturer: Broxap, Tel: 01782 564411

- 1.1. **Product reference:** Rotating Ground Anchor BXMW/ML/B-10
2. **Material:** Stainless steel
 - 2.1. **Finish:** As manufactured
 - 2.2. **Colour:** None
3. **Number of stands:** as drawing VIC-PIE-EZ-ZZ-DR-L-00002
4. **Accessories:** None
5. **Method of fixing:** As manufacturer's specification

218 Two tier cycle rack

1. **Description:** Refer to drawing VIC-PIE-EZ-00L-DR-L-00021
2. **Manufacturer:** Bike Dock Solutions
 - 2.1. **Product reference:** BDS Two Tier Bike Rack
3. **Material:** Steel
 - 3.1. **Finish:** Galvanised Steel (as supplied)
 - 3.2. **Colour:** None
4. **Method of Fixing:** Base plates fixed to supplier / engineer's recommendation.

262 Tree grilles

1. **Description:** VIC-PIE-EZ-ZZ-DR-L-00201
2. **Manufacturer:** Green Blue Urban
 - 2.1. **Product reference:** Castle 18A Tree Grate
3. **Material:** Stainless steel grille.
Yorkstone paving inlay to match surrounding.
 - 3.1. **Finish:** Hot-dip galvanised to BS EN ISO 1461
 - 3.2. **Colour:** None
4. **Size:** 1800 x 1800mmW x 60mmD
5. **Accessories/ Special requirements:** To include full irrigation provision.
6. **Method of fixing:** To supplier's recommendation.

340A Bespoke sculptural wind mitigation screen

1. **Description:** As drawing VIC-PIE-EZ-00U-DR-L-00016 and 00017.
Design intent to be developed further with client.
2. **Material:** Galvanised steel and Powder coated
3. **Approximate size:** 3000mm (h) x 4500mm (l) See drawing VIC-PIE-EZ-ZZ-DR-L-00112 for more detail
4. **Delivery/ Handling/ Storage requirements:** To manufacturer's specification
5. **Method of fixing:** Root fixed below ground to manufacturer's specification

Installation

510 Concrete foundations generally

1. **Standard:** To BS 8500-2.
2. **Concrete:** Engineer's recommendations
3. **Admixtures:** Do not use.
4. **Foundation holes:** Neat vertical sides.
5. **Depth of foundations, bedding, haunching:** Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 Setting components in concrete

1. **Holes:** To engineer's specification
2. **Components:** Accurately positioned and securely supported.
3. **Concrete fill:** Fully compacted as filling proceeds.
4. **Concrete foundations exposed to view:** Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
5. **Temporary component support:** Maintain undisturbed for minimum 48 hours.

Ω End of Section



Specification created using NBS Chorus