

3. Specification

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Specification

1 GENERAL INFORMATION

1.1 *Site Location*

The site is located at 150 Carlisle Street, St Kilda and comprises the streetscape of Carlisle Street over an approximate 90 metre section of road accompanying the St Kilda Town Hall (Melways Ref Map 2P F9).



1.2 *The documents and information to be supplied by the Contractor are:*

- Completed Schedules;
- Project Works Program;
- Traffic Management Plan (included in the Project Works Program);
- Safe Work Method Statement (old JSA) & Site Safety Plan;
- Environmental Management Plan;
- Proof of insurance and currency and
- Other materials as necessary.

1.3 Payment

This shall be a lump sum contract. Any variations shall be agreed upon by all parties and confirmed in writing by the Superintendent.

1.4 Contractor Acknowledges

The Contractor acknowledges when tendering that they have thoroughly inspected the site and made themselves conversant with, and allowed for the following:

- All visible existing conditions on and adjacent to the site;
- Conditions of access to the site for construction purposes;
- Acknowledgement of all underground service locations and
- Verified all measurements and quantities included within the site bounds.

2 GENERAL LANDSCAPE CLAUSES & CONDITIONS OF CONTRACT

2.1 Description of Works

This Contract comprises the execution generally of the Landscape Works including supply of all labour and materials as detailed within the landscape plans, associated documents and this specification.

The whole of the work shall be executed in strict accordance with this Specification, the General Conditions of Contract, the accompanying Drawings and with any working drawings furnished by the Superintendent as the work proceeds, and to the satisfaction of the Superintendent.

The Specification and Drawings represent as fully as possible the requirements and intentions of the Contract. Any other operations which may be reasonably inferred from these documents to form part of the true intent and meaning of this Contract, although not specifically stated as such, will be deemed to have been included and due allowance for their execution must be made.

2.2 Occupational Health & Safety

The Contractor shall be responsible for ensuring that the requirements of the Occupational Health and Safety Act and all relevant Occupational and Safety Authority and Workcover regulations are adhered to.

It is important that work be carried out in a safe manner to ensure the safety of the Contractor's work force, the Principal's staff or agents who have access to the site as well as the general public.

Works shall be carried out in accordance with the OH&S requirements of the Quality Assurance Specification. **Prior to commencing work the Contractor shall supply to the Superintendent a job specific OH&S plan which, on approval shall be implemented throughout the duration of the works.**

The site safety plan shall include OH&S procedures relating to Plant Safety, worker's safety and Public safety shall be instituted as a minimum requirement under this Contract.

The Contractor is to be registered as an employee pursuant to the provision of the Accident Compensation Act 1985 (Workcare) from the date of commencement of the works to the expiration of the maintenance period.

2.3 Site safety and accessibility

It is vital that safe pedestrian access through the site be maintained while direct admission to the construction site is restricted or limited. The methods for pedestrian and vehicular traffic management shall be described as part of the Traffic Management Plan. The Contractor shall be responsible for site safety inclusive of the installation of temporary fence enclosing the site for the duration of works.

The site shall be left clean and safe at the end of each workday with all loose debris removed or secured.

It is the responsibility of the Contractor to ensure that all visitors and Sub-Contractors are made aware of these conditions. The Contractor is responsible for the conduct and actions of all Sub-Contractors.

2.4 Quality Assurance System

The Quality Assurance system to be employed under this Contract shall be in accordance with the quality requirements of the Relevant Authorities/Agencies.

The Contractor shall plan, establish and maintain a quality system in accordance with the requirements of the contract.

2.5 Hours of Work & Inspections by Relevant Authorities

The Contractor shall comply with the regulations of the Environmental Protection Authority, Local Regulations and other Statutory Regulations, which may prevail in respect of working hours. The Contractor shall not, unless otherwise specified, be restricted by this Contract in this respect other than for complying with the inspection requirements of the Relevant Authorities specified or not. Such inspection shall only be available within the hours, and with the appropriate notice satisfactory to the Relevant Authority. This can only be varied if required or approved by the Relevant Authorities.

Any extraordinary inspections desired by the Contractor shall be arranged directly with and to the satisfaction of the Relevant Authority and payment of any fees associated with extraordinary inspections shall be borne directly by the Contractor.

2.6 Site Clearing

Requirement: Clear only the site areas to be occupied or affected by the works. Refer to drawings for specific extent of demolition.

Old Works: Remove old slabs, foundations, paving, and the like found on the surface.

2.7 Site Compound / Access & Security

The Contractor shall not store large quantities of materials, tools, fill or otherwise onsite.

At the completion of each working period the site shall be secure as to prevent illegal access, vandalism and accident. Under no circumstance shall the Principal or Superintendent be held liable for accident, theft or vandalism.

2.8 Statutory Authority Fees

The Contractor shall pay all permit fees and fees to local or statutory authorities to complete the work.

2.9 Tree protection

Do not remove or damage any tree unless directed to by this Specification or in writing by the Supervisor.

Protect from damage the trees to be retained, including those beyond the site area, both above and below ground.

Tree protection zones are defined by the tree driplines. Only the minimum access and work required to achieve the project should be conducted within the tree protection zones. Within the tree dripline or 3.0m from the tree trunk (whichever is the greater distance) the contractor shall seek approval from the Superintendent, qualified arborist or landscape architect for cut and fill operations cutting or excavating roots.

The following protective measures should be taken:

- The Contractor shall keep the area within the dripline free of construction material and debris.
- Do not place bulk materials or harmful materials under or near trees.
- Do not place spoil from excavations against tree trunks.
- Prevent any damage to tree bark.
- Do not attach stays, guys and the like to trees.
- Do not compact the ground under trees. If compaction occurs, give notice and obtain instructions.

2.10 *Marking Existing Services*

Before commencing earthworks, locate and mark existing underground services in the areas which will be affected by the groundwork operations including clearing, excavating and trenching. **Do not excavate by machine within 1 metre of existing underground services.**

3 PROTECTION OF PROPERTY & SERVICES

3.1 *General*

The Contractor will execute and maintain the whole of the Works in such a manner that injury and damage will not be occasioned to any person, or private or public property including all roads used for transport of materials or plant, buildings, fencing, public utility service or other structures.

In the event of any injury to such structure, service or property, the party controlling it must be immediately informed of the injury. The Contractor will at his own expense arrange the repair and restore any structure, service or property injured in any way, to the like order and condition in which it was before such injury.

The party controlling the structure, service or property may make the repairs, and the cost of such repairs is to be at the expense of the Contractor. The Contractor will also be liable for any loss or damage resulting from such an injury or interference to any structure, service or property, and for any claim arising from delay in repairing and restoring it.

3.2 *Location of Existing Services*

It is the sole responsibility of the Contractor to be fully informed of the location of services and to make the necessary provisions.

The Contractor shall be held responsible for the cost of making good any damage to existing services and mains, whether or not they are shown on the drawings.

3.3 *Damage by Others*

The Contractor is to be responsible for the watching and safekeeping of his own works. Damage caused by others is to be repaired by the Contractor and any necessary action to secure recovery of costs from the offending party will be the Contractor's responsibility as outlined in Defects Liability and Maintenance.

3.4 *Protection of Roads*

The Contractor will be held responsible for any vehicle engaged on the works depositing material or rubbish on road pavements, road reserves, or other improvements. The Contractor, at his own expense, will ensure that all material or rubbish deposited is promptly and effectively removed and the area cleaned up before the completion of work each day.

3.5 *Protection of Assets*

The Contractor will be held responsible for any new damage to existing assets. It is the Contractor's responsibility to identify any defective works prior to the commencement of their Contract. It is recommended that all existing damage is fully documented and distributed to the Superintendent prior to works commencing.

It is the Contractor's responsibility to immediately notify the Superintendent of any damage that has resulted throughout the currency of their Contract. Approved vehicle crossings shall only be used to access the site.

The Contractor, at his own expense, will ensure that all material or rubbish deposited on roads or damage caused to existing assets is promptly and effectively removed and repaired as soon as possible.

3.6 *Spoil Disposal from Excavations by Others*

Where failure by the Relevant Authorities and external Contractors to remove spoil from their operations will result in delays to the progress of works, the Contractor shall be responsible to remove and dispose of the spoil. Adequate notice (min 48 hours) and approval by the Superintendent is required prior to works. This work shall be treated as a variation.

3.7 *Site Conditions*

It will be expected that the Contractor has made a thorough assessment of the site conditions during the tender period, and the impact of these on the works program, method and tendered price.

It is recommended that the Contractor undertake site photos of the existing site conditions with the Superintendent prior to commencement of works.

3.8 *Unauthorised Disposal*

The Contractor is to ensure that the Site is properly signed and barricaded to prevent unauthorised disposal of waste material on the Site by others. Any rubbish or waste deposited is to be cleared from the Site immediately.

The Contractor is also responsible for all excess spoil to be removed and disposed off site except where detailed in the documents or directed by the Superintendent.

3.9 *Dust Control*

If dusty conditions exist resulting in reduced visibility for road users and a nuisance factor to abutting property owners the Contractor shall take immediate action to minimise the dust hazard.

All costs associated with this work shall be borne by the Contractor and is deemed as part of the Contractor's lump sum price.

3.10 Noise Control

The Contractor shall take all practicable precautions to minimise noise arising out of or resulting from any activity associated with the work under the Contract. All construction equipment shall be fitted with noise suppressors unless specially designed for quiet operation.

3.11 Site Facilities

The Contractor shall provide site facilities in accordance with the Occupational Health and Safety Act 2004.

3.12 Environmental Control Measures

The successful Contractor is required to prepare and submit an Environmental Management Plan (EMP).

The EMP will be required to include the following items, as well as contractor-specific items.

- Machinery access,
- Site compound,
- Storage of loose materials,
- Work in drainage lines and
- Remediation techniques.

3.13 Other Site Safety Control Measures

The Contractor shall implement any other Site Safety Control measures to protect workers and the general public in accordance with authority requirements.

The Contractor shall maintain the control measures until the end of the Defects Liability Period.

3.14 Water & Power Supply

The Contractor shall make arrangements for any temporary water or electrical supply required. This shall include tapping / connection fees, permits and usage costs. Where it is necessary for the Contractor to extend the water or electrical services, this will be deemed to be included in the Contract sum.

The Contractor shall comply with all existing and proposed water restrictions no matter the level of restriction. The Contractor will be held responsible for any fines incurred as a result of any violation to the water restriction laws.

All prices submitted by the Contractor are to make allowance for additional costs associated with any current or future water restriction. The Contractor shall allow for any permits and costs associated with water restriction and applying for exemptions. No variation to the accepted tender price will be considered for costs incurred as a result of current or future water restrictions.

It is the responsibility of the Contractor to be aware of the requirements of the water restrictions, which may change during the construction and maintenance periods. Any fines incurred for violation of the water restrictions in force (regardless of level) are borne by the Contractor.

3.15 Site Meetings

The Contractor, Superintendent and representative of the Principal shall meet on site at generally fortnightly intervals to review progress of the works.

The Superintendent or a nominated Superintendent's Representative shall be Chairman of the meeting and shall arrange for the recording of minutes.

After each meeting the Superintendent shall promptly issue to the Contractor and the Principal a copy of the minutes. The Contractor shall notify the Superintendent if the Contractor does not agree that the minutes are a true record of the meeting. The minutes shall be confirmed at the next site meeting held.

4 CONSTRUCTION INFORMATION

4.1 As Constructed Information

Prior to the issuing of the Certificate of Practical Completion the Contractor shall furnish to the Superintendent "as constructed" details of elements that are not consistent with construction plans. These shall include all construction details, design elements and any other information requested by the Superintendent to assist in the preparation of 'as constructed' drawings.

4.2 Finished Levels

The Contractor shall allow for any trimming and grading to the subsoil as required for the works and in conformity with the requirements shown on all Landscape Drawings and Schedule of Quantities and Prices.

The Contractor shall visit the site to determine the extent of grading and trimming required before submitting the tender. The Contractor shall allow for erosion control measures as required, with particular care to prevent soil washing into any swale or stormwater system.

The Contractor should allow for the removal of excess fill, rock and debris in order to conform to finished grades or level with existing elements. Any unsuitable excavated debris is to be removed from site.

4.3 Backfilling

Filling shall be with excavated material if appropriate and approved by the Superintendent. Filling shall be clean soil free from contamination, clay, rock, vegetable material or other deleterious matter. It shall have good regular homogenous structure suitable for consolidation.

Consolidation shall be achieved on site by placing and compacting 150mm layers. Each layer must achieve 95% of standard maximum dry density.

4.4 Cleaning up of Works

The Contractor shall clean up and leave tidy the work as it proceeds and upon completion of the Contract shall remove all temporary structures, which may have been constructed for the Contractor's convenience while carrying out the work, and remove all equipment and surplus materials from the site.

The Contractor will be held responsible for any vehicle engaged on the works of the Contract depositing material or rubbish on road pavements and shall, at the Contractor's own expense, ensure that all materials or rubbish so deposited is promptly and effectively cleaned off such pavements.

4.5 Fires

No fires shall be lit for any purpose in connection with this Contract unless authorised in writing by the Superintendent and not forbidden by any current State or Local Government Regulations.

The Contractor shall give occupiers of adjoining properties and other Contractors forty-eight (48) hours notice of the intention to burn.

The Contractor shall be held responsible for any damage to fences, trees, grass cultivation, buildings or other property occasioned by fires lit for any purpose in connection with this Contract.

4.6 Inspection of Works & Supervision

The work shall be carried out under the directions and to the satisfaction of the Superintendent. All orders and instructions to the Contractor shall be given by the Superintendent or a nominated Superintendent's Representative on behalf of the Principal.

When requested to do so, the Contractor shall give to the Superintendent or a nominated Superintendent's representative, access to the work and shall provide every reasonable facility necessary for the inspection, examination and testing of any works or materials for the Contract and any places where the said work or materials are being carried out or prepared.

Before commencing the spreading of any materials in the works, concreting, drainage works, bituminous works, or other works as directed by the Superintendent, the Contractor shall give the Superintendent at least 24 hours notice, exclusive of non-working days, of intention to do so, in order that arrangements may be made for the Superintendent or a nominated Superintendent's Representative to be present to observe the materials used and the manner of execution of the works.

The Contractor should note that the failure of the Superintendent to condemn any material being used or any work being done, shall not relieve the Contractor of the responsibility to see that all materials used and all work done complies with this specification and Contract, nor the obligation to make good any faults or defects which might develop or be detected during the progress of the work or during the defects liability and maintenance period.

If the Contractor fails to comply with the requirements of this Clause, the Superintendent may correct the faults referred to and deduct the cost of so doing from any payments due to the Contractor by the Principal.

4.7 Critical inspections

The Contractor is to set out all works for on site confirmations by the Superintendent prior to commencement of construction.

Inspections by the Superintendent are required to confirm the following stages of work:

- Set out of all hard landscape works on site prior to the commencement of any works. The Contractor is to set out all works using pegs or markers for confirmation on site by the Superintendent;
- Prior to backfilling all main drainage & overflow infrastructure;
- Prior to commencement of placing in-situ concrete formwork;
- Prior to pouring concrete kerbs and pavements. Reinforcement shall be laid out in correct location before inspection;
- Prior to bulk ordering of all rain garden filter media, test results and samples shall be provided to ensure it meets specified requirements within this specification;
- Prior to application of any surface treatment, the contractor shall provide the supervisor with a sample and wait for approval before commencing installation and
- Immediately upon discovery of damage, injury or unexpected item that shall impact on works timeline and/or cost.

4.8 Samples

The Contractor is to allow for sufficient time to provide samples as listed to the Superintendent for approval prior to commencement of works.

The following samples are required to be supplied to the Superintendent for approval prior to ordering and commencement of works:

- All paving and surface materials other than those supplied by Council. A 1.0 x 1.0m sample is to be prepared on site for inspection and approval by the Superintendent;
- Mulch and
- Filter media for the Water Sensitive Urban Design Trees.

4.9 Mulch

The placing of mulch by the Contractor must achieve a neat and tidy appearance and provide adequate mulch cover to minimise weed growth. The depth of the mulch shall be installed at a depth between 75mm and 100mm. Mulch shall be kept away from the base of shrubs and no closer than 200 mm from grass and pathways.

Colour of mulch shall be determined and approved by the Supervisor.

4.10 Approvals

The Contractor is to allow for sufficient time to seek approvals prior to continuing with work. The contractor is to notify the Superintendent with minimum 3 working days prior to any site inspections.

4.11 Inferred work

Detail, labour and/or materials not shown or specified, but reasonably or obviously inferred as necessary for the proper execution and complete finishing of works, shall be carried out at no extra cost to the Principal. Work described in either the working drawings or specification but not necessarily in both shall be deemed to be part of the Contract Works.

4.12 Construction

Figured dimensions shall take precedence over scale measurements and drawings. Unless otherwise specified the drawings and specification shall include everything reasonably for the proper and entire completion of works.

The Contractor shall verify any discrepancies between the Contract documents during the tender period. Under no circumstance shall variations be considered for the Contractor's failure to confirm any detail.

4.13 Compliance with standards and codes

All materials and workmanship shall comply with the requirements of such Standards, Codes and other related documents issued by Standards Australia and current at the date of invitation to tender. In the event of there being no relevant Australian Standard, Code or other related document at the date of invitation to tender, Standards and Codes of the British Standards Institution or the American Society for Testing and Materials shall apply and in that order of precedence. The works must also comply with the TAMS Design Standards for Urban Infrastructure.

4.14 Materials

All materials (unless otherwise specified) shall be new and the best of their respective kinds, and shall conform to the relevant standards, specifications and codes.

Use of recycled or sustainable products of high quality is encouraged.

4.15 Workmanship

Workmanship shall be of a high standard, and shall be the best of its respective kind and conform to the best practices of the trade.

Where installations include manufactured products, the Contractor shall comply with manufacturer's applicable instructions and recommendations for installation.

All joints shall be neat, tight and snug fitting, and finished to a high standard of workmanship. All structures shall be plumb and true and as shown on the Drawings.

All construction work shall be left free of splinters, sharp edges and protrusions. Nuts and bolt ends, spikes, screws and other fixing devices shall not protrude. The Contractor shall take particular care to ensure that the undersides of decking, joists bearers, (and other situations where contact with the user's head or body is possible) are free of sharp corners, edges and protrusions. Ends of pipe shall be permanently plugged or capped. The exposed edges of any posts and timbers with which the user can come into contact shall be eased or chamfered (rounded) to remove sharp edges.

Trip hazards shall be eliminated and ground surfaces, paving and similar shall be finished smoothly without any protruding or sharp edges. Where different ground surfaces meet at the same level they shall be laid so that adjacent surfaces meet exactly flush with no trip hazard, unless instructed otherwise.

4.16 Defects

Any defective work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or of any other cause, shall be removed and replaced at the Contractor's expense by work or materials of the required standard.

4.17 Malicious Unlawful Damage

In the case of all items supplied and/or installed within the contract that are damaged or destroyed unlawfully by others, the following clauses shall apply to replacement, rectification, and responsibility for all associated costs.

4.18 Water Restrictions

All prices submitted by the Contractor are to make allowance for additional costs associated with the operation of Level 1, 2 and 3 water restrictions. No variation to the accepted tender price will be considered for costs incurred by the Contractor for watering under the operation of Level 1, 2 and 3 water restrictions.

It is the responsibility of the contractor to be fully aware of the requirements of these water restrictions, which may change during the construction and maintenance periods. Any fines incurred for violation of the water restrictions in force (regardless of level) are to be borne by the contractor.

In the event that Level 4 water restrictions are implemented during the establishment or extended maintenance/liability period, the contractor shall have in place an appropriate strategy in order to fulfil all water related obligations as set out in this document. An indexed provisional fee shall be calculated to provide an indication of the possible additional costs incurred should Level 4 be reached.

5 DEMOLITION

The Contractor is required to inspect the site during the tender period, to assess site access limitations, extent of existing landscape elements to be retained or demolished and removed from site. This demolition is inclusive of such aspects as concrete kerbing, any streetscape furniture items requiring removal or relocation.

5.1 General

It is the responsibility of the Landscape Contractor to perform all demolition required in order to carry out and complete the Works, whether or not such demolitions are shown on the drawings or specifically mentioned in this section or other sections of the specification.

The contractor is responsible for the removal of ALL elements required to successfully complete the proposed landscape works, including edging, footings, surfaces, furniture.

The Landscape Contractor shall provide all labour, equipment, safety equipment and precautions, plant and materials necessary for the appropriate protection and execution of the works.

Unless otherwise specified or notified by the superintendent, all demolished or leftover materials shall become the property of the Contractor and shall be removed from site.

Where hazardous materials are involved the Contractor shall take the necessary precautions and adhere to the relevant Australian Standards and other rules and codes of practice for demolition and removal of a hazardous material and safe disposal of waste.

Existing material shall be excavated to the extent necessary to conform to the finished grades and cross sections indicated, and shall allow for the placement of imported topsoil where applicable.

The excavation shall be finished off with an even surface and thoroughly consolidated until a firm and uniform subgrade has been obtained throughout the entire area. Depressions which develop during rolling shall be filled with sound material and consolidated.

5.1 Over -Excavation

Any over-excavation performed by the Contractor for any purpose or reason, except as may be directed by the Superintendent and whether or not due to the fault of the

Contractor, shall be at the expense of the Contractor. All such over excavation shall be refilled as directed by the Superintendent and the cost of furnishing and placing this fill shall be at the expense of the Contractor.

5.2 Stabilisation

The Contractor shall effectively and properly stabilise all excavations to prevent any fall or run off the ground resulting from the excavation and to prevent settlement or damage to structures adjacent to the excavation.

5.3 Spoil

Spoil from the excavation shall where possible be utilised on site where filling is required, if the material is suitable for this purpose. Any excess spoil from the site shall be disposed of off- site at the Contractor's expense.

5.4 Site restoration

Where existing ground surfaces are not required to be varied as part of the works, restore them to the condition existing at the commencement of the contract.

5.5 Traffic Control

During the construction period traffic is to be managed by means of a Traffic Management Plan. It is the Contractors responsibility to ensure a Traffic Management Plan is to be approved by the Relevant Authorities and/of the Superintendent at least 5 days prior to commencing works which require the management of traffic.

5.6 Filling

The sub grade under areas to be paved shall be compacted at optimum moisture content to a dry density of not less than 95% Australian Standard Maximum dry density for the top 150mm.

Filling shall use approved imported material spread in successive layers not exceeding 150mm (loose measurement) and compacted throughout to a dry density of not less than 95% Australian Standard Maximum dry density.

5.7 Timing

The Contractor is expected to commence works immediately on acceptance of tender or as notified by the superintendent.

5.8 Existing Services

The Contractor shall allow for ascertaining on site the location of disused and existing services prior to commencing any excavation. The contractor shall protect existing services encountered during the works. Backfill any excavation with approved consolidated fill as specified.

5.9 Shoring

Provide all shoring, planking and strutting where necessary to retain the sides of excavations, and to ensure safe working. Provide safety covers over holes.

5.10 Dewatering

Throughout construction keep excavated, levelled and filled areas free of water by temporary catch drains, sumps, pumping, bailing or whatever means are suitable and effective.

5.11 Excavation

Excavate existing site material to conform to finished grades indicated and allow for the specified topsoil, mulch and paving depths.

Where the Contractor excavates profiles greater than required the extra dimensions shall be made good with approved material at the Contractors cost.

All excess material is to be disposed of offsite at the cost of the contractor.

5.12 Excavation in Rock

The Contractor shall allow for excavating in whatever type of material is encountered.

On no account will variations be considered for rock encountered in the excavations.

Blasting, or the use of explosives shall not be allowed for excavation purposes except with written approval.

Floater shall be defined as rock only when their least dimension exceeds 600mm or when their volume exceeds 0.20m³.

If in removing floaters, the Contractor increases the specified widths or depths of the excavation, such additional excavation shall be made at the contractor's expense and shall be filled with materials similar to those specified for the work, or with other approved materials, compacted as specified, at no extra cost to the Principal.

6 COMPLETING THE PROJECT

6.1 *Prior to Practical Completion*

Prior to the issuing of a Practical Completion Certificate, all damage is to be rectified by the Contractor and will include replacement of stolen or severely damaged material. The Contractor shall make allowance for these circumstances within their contract lump sum.

6.2 *Practical Completion*

The Superintendent shall be notified immediately when all Landscapes Works are completed. The Contractor shall ensure that all works within the Contract are completed prior to the issuing of a Practical Completion Certificate.

Practical Completion is achieved when the site works have been completed to design and can be used as intended. All maintenance works prior to Practical Completion shall be identical to those in the Defects Liability Period.

Practical Completion of the planting works includes, but is not limited to, completion of tree planting, staking and mulching. The works also include replacement of trees which have failed, been damaged or been stolen during the works.

The Landscape Maintenance / Plant Establishment Period commences at the date of Practical Completion and is synchronous with the plant component of the Defects Liability Period referred to in the Annexures to the Contract. Practical Completion will also require the submission and agreement of the Maintenance Program.

The works will not be placed onto Practical Completion until all tree pits, structures, surfaces furniture any other product manuals and warranties have been issued by the Contractor to the Superintendent and received by the Client.

Practical Completion (PC) by the Superintendent and Operational Acceptance by PCL shall be awarded at the same time.

Manuals, warranties and compliance certificates are to be site-specific, noting the site, material and installation date.

6.3 *Following Practical Completion*

Upon issue of a Practical Completion Certificate, the Contractor is not liable, only in the case of loss by malicious damage or vandalism. Assessment of the extent of damage and associated cost of reinstatement will be confirmed by the Superintendent and costs shall be borne by the Principal.

The above does not limit the Contractor's responsibility and liability for replacement of loss for any other cause whatsoever, including but not limited to where stock or materials have failed due to poor quality, inherent defect, incorrect installation or installation in unsuitable site conditions.

In all instances the Contractor will report such malicious damage to the Superintendent as soon as practical, note, and record all occurrences in their Log Book along with all costs and approved replacements.

The Contractor shall request a further inspection and written approval of the replacement immediately after its installation.

6.4 *Defects Liability Period*

Liability for all items as identified within this contract shall be limited to Defect Liability Period following the award of Practical Completion or that specified in the establishment and maintenance period, whichever is greater.

6.5 Final Completion

For the purposes of issuance of the Final Certificate, all works shall be completed and defects rectified. Retention monies and/or bonds shall be held until issue of Final Completion.

The Contractor shall ensure that all works of the Contract are complete immediately prior to the expiry date of the Contract time. The Contractor shall remove all debris from the site and any material stored on or adjacent to the site and leave the area tidy to the satisfaction of the Superintendent.

Grass areas shall have a healthy and vigorous grass sward appropriate to the area and trees and shrubs shall show signs of healthy vigorous growth. Trees in non irrigated areas shall have suitably sized watering saucer intact and weed free. All tree stakes and ties are to be removed unless adjacent to building works and timber edging between grass and garden beds is to be removed.

The Landscape Contractor shall give the Superintendent 14 days notice that the works are complete and in a condition suitable for final inspection. The Superintendent shall inspect the works and if any defects or deficiencies are found they shall be rectified within 14 days to the approval of the Superintendent and prior to the issue of a certificate of Final Completion.

6.6 Hold Points & Mandatory Inspection of Works

Hold Points are mandatory and shall be witnessed by the Superintendent and/or the Relevant Authorities representative. In addition hold points shall be recorded on the Construction Programme and Inspection and Test Plan.

The Contractor is to notify the Superintendent at least 24 hours in advance when each of the following phases are ready for inspection. Failure to advise and gain an inspection of the works at the nominated stage may invalidate the works and require reconstruction to the satisfaction of the Superintendent, wholly at the cost of the Contractor: The Contractor is encouraged to combine inspection of one or more phases to facilitate effective management of the Contract period.

The minimum requirements are as stated in the following Tables. Additional requirements are specified in the Technical Clauses:

Hold Point	Process/Stage
1	24 hours Prior to commencement of works and EMP, site safety plan shall be provided to the Superintendent for approval.
2	On completion of set-out
3	Prior to backfilling all main drainage & overflow infrastructure.
4	Prior to commencement of placing in-situ concrete formwork.
5	Prior to pouring concrete kerbs and pavements. Reinforcement shall be laid out in correct location before inspection
6	Prior to bulk ordering of all rain garden filter media, test results and samples shall be provided to ensure it meets specified requirements within this specification.
7	Prior to application of any surface treatment, the contractor shall provide the supervisor with a sample and wait for approval before commencing installation.

8	Immediately upon discovery of damage, injury or unexpected item that shall impact on works timeline and/or cost
9	Prior to demolishing existing surface paving
10	On completion of set-out for seating terrace
11	Prior to pouring concrete slabs and pavements. Reinforcement shall be laid out in correct location before inspection.

6.7 Samples / Test Results

The Contractor is to provide the Superintendent with the following samples. Samples are to be confirmed by the Superintendent before bulk orders are placed.

- Imported tree pit filter media (refer to section 2.17.15)
- Stone Mulch for tree pit

No works shall proceed or be covered up under this section until the works as specified above have been inspected and approved by the Superintendent. The Superintendent will reserve the right to re-open works if the contractor fails to give reasonable notice of inspection to the Superintendent.

6.8 Project Works Program

A draft Project Works Program shall be submitted as part of the tender submission. This Project Works Program will be finalized upon award of contract and shall assume that the start date for works shall be as soon as possible.

The Project Works Program shall include sufficient detail for tender analysis and be in a form as necessary to show:

- a project plan including the duration and timing of each activity in working days;
- the sequence of interdependent activities;
- milestones which identify significant events including completion of separable parts;
- inclusion and timing of hold points
- traffic management plan (pedestrians, bicycles, trams, busses, trucks and vehicles);
- company rostered days off & public holidays and non-working days.

The Project Works Program will be included in the Contract as the construction program until varied in accordance with any other provision of the Contract.

6.9 Traffic Management Plan

The Contractor shall prepare and submit a Temporary Traffic Management Plan which accords to the requirement of VicRoads or Relevant Authority for approval

prior to undertaking the works as part of the Project Works Program. Works shall not commence until authority approval has been granted.

The Traffic Management Plan must include how the Contractor shall:

- manage vehicular traffic on Carlisle Street so as not to impact the movement of vehicles or trams during the course of works;
- provide constant and safe pedestrian flow through or around the construction site (pedestrians must be able to move safely along or around the site, be able to access businesses on Carlisle Street and enter/leave the St Kilda Public Library);
- manage on-street parking adjacent to the site;
- manage other traffic related issues as they arise.

The Contractor shall be responsible for any damage arising from the neglect or insufficiency of such precaution.

7 SCHEDULE OF DRAWINGS

Drawings are available via www.tenderlink.com/portphillip

Drawing number	Description
1. LOC 2009/90425	Locality Plan
2. EXCON 2009/90425	Existing Conditions
3. DEMOLIB 2009/90425	Demolition Plan
4. LAYOUT1 2009/90425	Layout Library
5. DETLIB1 2009/90425	Details
6. DETLIB2 2009/90425	Details
Coomes Carlisle Street 141290 826R01	Locality Plan
Coomes Carlisle Street 141290 826R02	Detail Plan
Coomes Carlisle Street 141290 826R03	Detail Plan & Tree Pit Detail
Coomes Carlisle Street 141290 826R04	Typical Tree Pit Detail
Coomes Carlisle Street 141290 826R05	Setout Plan & Standard Detail
Coomes Carlisle Street 141290 826R06	Demolition Plan
7. DEMOTH 2009/90425	Demolition for Town Hall Paving
8. PAV 2009/90425	Paving Plan

8 LANDSCAPE MAINTENANCE/PLANT ESTABLISHMENT PERIOD

8.1 Scope of Works

The Plant Establishment period commences at the date of Practical Completion and is concurrent with the plant component of the Defects Liability Period as referred to in the Specification Document and other parts of the contract. Hard Landscape works are a separate component of the Defects Liability Period and refer to all other elements of the project except for the vegetation.

All maintenance works prior to Practical Completion shall be identical to those in the Landscape Maintenance / Plant Establishment period.

8.2 Extended Maintenance Period

Where requested in the schedules and/or provisional items, the Contractor shall provide a rate for the specified extended maintenance period and shall note that if enacted, this scheduled item will require an extension of the Defects Liability Period and all associated contractual obligations. All works in the extended maintenance period shall be identical to the works in the scheduled maintenance period as specified below.

8.3 Installation/Workmanship

8.3.1 Commencement

The Landscape Contractor shall give the Superintendent 7 days notice that the works are practically complete for commencement of Landscape Maintenance / Plant Establishment Period. The Superintendent shall inspect the works and if any defects or deficiencies are found they shall be rectified within 14 days.

8.3.2 General requirements

The Contractor is responsible for the satisfactory maintenance of all structural works, drainage systems, filter media, feature components and parts thereof prior to the issuance of the Final Completion Certificate.

Maintenance shall mean the care and maintenance of the contract area by accepted horticultural practices, as well as rectifying any defects that may become apparent in the works under normal use.

The Landscape Contractor is advised to ensure adequate insurance to cover the work during the Landscape Maintenance / Plant Establishment Period.

The maintenance period is to extend for 13 weeks from the date of practical completion. Any cost for the maintenance period is to be included in the Contractor's costs at tender.

8.4 Program

Furnish a proposed planting maintenance program, and amend it as required. Comply with the amended program.

8.5 Log book

Keep a log book recording when and what maintenance work has been done and what materials, including toxic materials, have been used. Make the log book available for inspection on request.

8.6 Recurrent works

Throughout the Landscape Maintenance / Plant Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, mowing, weeding, rubbish removal, fertilizing, pest and disease control, reseeding, returfing, staking and tying, replanting, cultivating, pruning, hedge clipping, aerating, renovating, top dressing, and keeping the site neat and tidy.

8.7 Replacements

The Landscape Contractor is responsible for all losses of plant material due to nursery stock failure or improper horticultural care during the Landscape Maintenance / Plant establishment Period. If plants die as a result of poor horticultural practice, they are to be replaced within 48 hours. If plants die or are removed for other reasons, such as theft or vandalism, the Contractor is to notify the Superintendent immediately and replace the effected planting within 48 hours.

8.8 Mulched surfaces

Maintain the surface in a clean and tidy condition and reinstate the mulch as necessary to maintain the required depths.

8.9 Stakes and ties

Adjust or replace as required. Remove those not required at the end of the Landscape Maintenance / Plant Establishment Period

8.10 Rubbish Removal

The Contractor is to ensure the site is kept free of rubbish and litter at all times. The Contractor is to notify the Superintendent if excessive rubbish is blown into site from building activity or dumped by builders.

8.11 Weed Control

Contractor to ensure all tree pits and garden beds are kept free from weeds at all times.

8.12 Water Restrictions

Trees, planted areas and grass areas are to be watered to maintain a healthy condition and stress free growth. The Contractor shall be responsible for provision of appropriate temporary water supply if necessary to meet these requirements.

All prices submitted by the Contractor are to make allowance for additional costs associated with the operation of water restrictions. No variation to the accepted tender price will be considered for costs incurred by the Contractor for watering under the operation of water restrictions.

It is the responsibility of the Contractor to be fully aware of the requirements of the water authorities, which may change during the construction and maintenance periods. Any fines incurred for violation of the water restrictions in force (regardless of level) are to be borne by the Contractor.

9 SCOPE OF WORKS: GENERAL

The Works in this contract include construction of all Works necessary for the proper completion of works as detailed in the drawings. The Works to be executed consist of but are not necessarily limited to the following.

- Traffic Control during construction works;
- Demolition and removal of existing features including trees, vegetation and hard landscaped surfaces;
- Demolition and removal of surface paving;
- Set out of works, or site preparation works;
- Decommissioning of side entry pits as noted;
- Construction of new kerb lintel inlets;
- Earthworks including trenching, excavation of tree pits and regrading;
- Supply and installation of in-situ concrete channels;
- Supply and installation of in-situ concrete kerbing including variable kerb profiles;
- Supply and installation of drainage system including pits and conduits;
- Instillation of specifically profiled tree pit media;
- Supply and installation of precast concrete surface paving units;
- Supply and installation of trees;
- Supply and installation of tree grates;
- All drainage connections to tree pits;
- Making good any surrounds that are disturbed by construction works;
- 13 weeks Maintenance of site features, trees and vegetation;
- Installation of custom furniture;
- installation of reinforced concrete slab
- and project management.

Nothing in this clause shall limit, modify or alter the extent or description of the Works set out in detail elsewhere in the Contract Documents.

10 ST KILDA TOWN HALL LIBRARY FORECOURT: SEATING PLINTH

The following are Contract Specific Clauses and are to be read in conjunction with the body of this Specification and take precedent over any conflicting clauses in the Contract General Clauses or Conditions of Contract. Where Council standard drawings are referred to in this document, it is the Contractor's responsibility to ensure that the most recent revision is adhered to.

10.1 Scope of Works

Under this portion of the contract the existing raised garden bed area located in the St Kilda Public Library Forecourt will be demolished and rebuilt as a seating terrace.

The scope of this section comprises but is not limited to:

- Demolition of existing raised garden bed and removal of debris;
- Installation of a reinforced concrete slab and access ramp;
- Removal and disposal of existing site furniture;
- installation of precast concrete paving units and
- Installation of custom built seating unit (supplied by others).

10.2 Construction Details

The contractor shall completely demolish the existing structure and remove all debris inclusive of four green painted metal bicycle hoops and rubble. Extreme care shall be taken to negate damage to the surrounding structures, underground infrastructure and the surface paving of the Library Forecourt.

See Drawings:

DEMOLIB 2009/90245

LAYOUTLIB 2009/90425

DETLIB1 2009/90425

DETLIB2 2009/90435

The new seating plinth shall be constructed as a reinforced concrete slab surrounded by concrete beams.

- The terrace shall sit on a compacted 100cm FCR base
- The beams shall form a rectangle 325cm high x 5200cm wide x 4900cm.
- The slab shall be a minimum of 100cm thick with a 1% cross fall to the street.
- The concrete is to be reinforced with SL 62 mesh (minimum 50mm cover) connected to a concrete beam with 10mm expansion joints at junctions between concrete beams.
- A 1500 x 2100 cm ramp leading up to the terrace on the eastern edge.

The surface of the seating terrace shall be paved with 1000x300x60mm precast Stonevue paving units supplied by Council. Pavers are to be installed atop the reinforced concrete slab with a 30mm mortar bed with 10mm non-shrink grout joints in-between units. Pavers shall be picked up from City of Port Phillip's White Street Depot, Port Melbourne. Contractor may arrange to view the paving units prior to submitting for this contract.

All concrete for the in-situ slab and surfaces to be Class 2 Boral Envirocrete or 'Green' concrete available from Boral with standard portland grey cement.

Supplier:

BORAL VIC, North Melbourne Depot, 133 006

Concrete formwork and finished product shall conform to all relevant Australian Standards.

A custom timber and steel bench set (supplied by others) shall be picked up from City of Port Phillip's White Street Depot, Port Melbourne shall be installed atop the terrace. Contractor may arrange to view the bench prior to submitting for this contract. The bench shall be affixed to the terrace using 10mm stainless steel masonry bolts.

11 CARLISLE STREET: WATER SENSITIVE URBAN DESIGN TREE PITS

The following are Contract Specific Clauses and are to be read in conjunction with the body of this Specification and take precedent over any conflicting clauses in the Contract General Clauses or Conditions of Contract. Where Council standard drawings are referred to in this document, it is the Contractor's responsibility to ensure that the most recent revision is adhered to.

11.1 *Scope of Works*

Tree pits are intended for the site in order to treat roof and surface run-off before delivering treated water into the existing stormwater infrastructure, while providing water to the root system of the trees.

The scope of this section comprises but is not limited to:

- Achievement of crucial levels in tree pit construction including invert levels and grades.
- Installation of drainage system as shown on the drawings.
- Installation of tree pit medium including crushed rock, sand, soil and inorganic mulch to engineered specifications.
- Decommissioning side entry pits;
- Instillation of tree pit and grated covers.
- Construction of kerb lintel Inlets
- Reinstatement of damaged road pavement.

Superintendent or nominated representative must approve tree pit filter media test results and sample prior to installation of media and again prior to commencement of planting.

11.2 *Levels*

The achievement of specified levels is fundamental to the functional aspect of this project. In each tree pit the crucial levels include:

- Invert or entry point to each pit
- Top and bottom finished levels for tree pit media
- Invert level of outfall pipe in drainage layer
- Invert level of outfall to existing stormwater drainage system

11.3 *Drainage*

The work in this section comprises, but is not limited to the supply and installation of;

- Drainage pipes and sub-surface drainage
- Junction pits and kerb lintels

All drainage works shall comply with AS3500 National Plumbing and Drainage Code.

The current editions of the following Australian Standards shall form part of this Specification for supply of all labour and materials:

AS 1477	Parts 1-6 uPVC pipes and fittings for pressure applications
AS 1462	Methods for testing unplasticised PVC pipe fittings
AS 2032	Code of Practice for installation of PVC pipe systems

11.4 Sub-surface drainage

Sub-surface drainage pipes to be SN8 100mm uPVC slotted and unslotted drainage pipes and matching fittings as appropriate to the situation. All joints shall be solvent welded, unless otherwise specified. All pipes, fittings, solvent and cements to conform to the relevant Australian Standards.

For all subsurface drainage where slots are required, the Contractor shall manually slot the uPVC using tools such as an angle grinder. A minimum of 5 slots at 100mm long every metre should be installed and slots shall be no greater than 1-2mm in width.

11.5 Decommissioning of existing side entry pits

The decommissioning of the existing side entry pits as shown on the plans is to be done by the Contractor.

Prior to decommissioning the existing side entry pits, Port Phillip Council is to be notified by the Contractor and approval is to be given. The existing kerb lintel is to be removed and the kerb is to be reinstated as per Port Phillip Council SD 1101.

A concrete pit cover is to be supplied and installed by the Contractor as per Port Phillip Council SD 2104.

11.6 Contaminated Soil

Where diesel oil, cement or other phytotoxic material has been spilt on the subsoil or topsoil, excavate the contaminated soil, dispose of it off the site, and replace it with site soil or imported topsoil, as directed, to restore design levels. Place the appropriate topsoil on the prepared subsoil to the depths shown on drawing. Any additional costs associated with the contamination of soil are to be covered by the Contractor.

11.7 Kerb and channel regrading

Where indicated on the design plans, the road kerb and channel is to be regraded. The kerb and channel is to be constructed is based on the B2 kerb shown on the VicRoads SD 2001, although it is to be constructed with a varying profile. The Contractor must be aware that all dimensions for construction are to be taken from the design drawings.

It is the Contractors responsibility to ensure all construction of the kerb and channel is to be in accordance with VicRoads standards relating to kerb and channel construction.

11.8 Filter Media

The soil media specifications require three layers of media:

- Filter media 350mm

- Transition layer 100mm
- Drainage layer 200mm

All soil media shall conform to FAWB Guideline specifications for soil media in bioretention systems, March 2007.

The bioretention media for the tree pits is to conform to the Facility of Advancing Water Biofiltration (FAWB) specifications provided with this tender documentation.

The Contractor can either create their own media in accordance with the specification, or pre purchase media from known garden suppliers such as Burdett's Sand Soil and Stone Suppliers.

In each case proof that the media conforms with the specification will be required. As soon as the media has been supplied to the site and is stockpiled, the Contractor is to arrange tests in accordance with the FAWB specification requirements.

If the media is deemed to be within specification construction of the tree pits can commence. If the media does not conform the media will need to be reworked or re supplied as required until a conforming media is found.

The inorganic mulch to be provided on the top 50mm of the tree pit is to be provided as part of the landscaping contract.

Also refer to testing and samples sections below.

11.9 Hydrolic conductivity Filter media

Filter media to be:

- 300mm - Sandy Loam - Hydraulic Conductivity of 50 - 200mm/hr.

Only minimal light compaction to avoid subsidence and uneven drainage should be carried out. The system will operate so that water will infiltrate into the filter media and move vertically down through the profile.

11.10 Testing and Samples

Testing hydraulic conductivity under various levels of compaction is vital to ensuring the long-term viability of the system and must be carried out prior to carting or ordering of bulk materials

Test imported topsoils and submit results for approval at least 5 working days in advance of carting. In addition, the contractor is to supply a 500 gram sample of the filter medium to the Superintendent for approval prior to purchasing bulk amount.

The following tests are to be conducted to determine the suitability of selected soil. The test results are to be submitted to the superintendent for approval before placing bulk orders:

- Particle size distribution (PSD)
- AS4419-2003 – Soils for landscaping and garden use – sandy loam

- Saturated Hydraulic Conductivity
- Water Holding Capacity, where PSD does not meet specifications but silt and clay is <12% pH

Where a supplier can provide PSD and/or AS4419-2003 test results for the specific batch of soil being purchased these will be accepted at the Superintendents discretion.

Particle size distribution of selected filter media (soil) to be as follows:

- Clay 2-4% (<0.002mm)
- Silt 4-8% (0.002-0.05mm)
- Very Fine Sand 5-10% (0.05-0.15mm)
- Fine sand 10-25% (0.15-0.25mm)
- Medium to Coarse Sand 60-70% (0.25-1.0mm)
- Coarse Sand 7-10% (1.0-2.0mm)
- Fine Gravel <3% (2.0-3.4mm)

11.11 Transition Layer and Drainage Layer

Transition layer to be:

100mm - Coarse Sand Material derived by the following sieve specifications:

% passing	1.4 mm	100%
	1.0 mm	80%
	0.7 mm	44%
	0.5 mm	8.4%

Drainage layer to be:

200mm - Fine Gravel comprising 2 - 5 mm nom. size crushed rock screenings

12 ST KILDA TOWN HALL LIBRARY FORECOURT: KERB EXTENSION

The following are Contract Specific Clauses and are to be read in conjunction with the body of this Specification and take precedent over any conflicting clauses in the Contract General Clauses or Conditions of Contract. Where Council standard drawings are referred to in this document, it is the Contractor's responsibility to ensure that the most recent revision is adhered to.

12.1 Construction of Kerb Lintel Inlets

The construction of the kerb lintel inlets as shown on the plans is to be done by the Contractor.

The construction is to be done in accordance with the supplied plans and City of Port Phillip Standards. Precast lintels as per VicRoads Standard Drawing 1061 are to be used in the construction of all new kerb lintel inlets.

The lintel inlets will convey stormwater runoff to the designated tree pits as shown on the design plans. The stormwater conveyance will be via a direct connection to the tree pit (when tree pit is alongside back of kerb) or a grate covered concrete channel (when tree pit is located some distance back from the roadway).

For tree pits set back from the kerb, all strip drains are to be installed to the dimensions specified on the drawings. Grates are to be supplied by ADF slimline grates and be of custom dimensions 900x1500mm. The steel frame to house the grate is to be cast in-situ with the concrete kerbing as indicated on the drawing. Installation of the grates shall be carried out in accordance with the manufacturing requirements.

Where the tree pit is located alongside the back of kerb, the pit will be constructed as per the drawings to convey stormwater runoff directly to the tree pit.

Install all new kerb lintel inlets to locations shown on the drawings. Lay drainage pipes on specified bedding material. Connect sub-surface drains to stormwater system as shown, with 100mm diameter pipes as specified. Cover sub-surface pipes with screenings, sand and sandy loam as specified on the drawings and in Soil Media section in this document.

12.2 Reinstatement of Damaged Road Pavement

Any asphalt damaged during the decommissioning of existing side entry pits or construction of kerb lintel inlets is to be reinstated as per Port Phillip Council SD 3103 by the Contractor.

13 PAVING: St Kilda Town Hall Forecourt footpath

The following are Contract Specific Clauses and are to be read in conjunction with the body of this Specification and take precedent over any conflicting clauses in the Contract General Clauses or Conditions of Contract. Where Council standard drawings are referred to in this document, it is the Contractor's responsibility to ensure that the most recent revision is adhered to.

13.1 Scope of Works

- Demolish approximately 250 square metres of asphalt footpath and dispose of rubble;
- Prepare surface and install precast concrete paving units and
- Match existing paving levels.

13.2 Demolition

Demolish approximately 250 square metres of existing asphalt footpath and dispose of debris.

Extreme care shall be taken to minimise damage to surrounding paving and underground infrastructure.

13.3 Installation of precast Stonevue paving units

Once existing pavement has been removed, the subgrade shall be compacted and made level.

Stonevue paving units 1000x300x60mm shall be installed on a 30mm mortar bed (10mm non-shrink grout joints) atop a 150mm concrete slab reinforced with SL 62 mesh (minimum 50mm cover) atop a 100mm layer of compacted FCR atop the compacted and levelled subgrade. There shall be a 3% grade to the street to facilitate drainage. The colour shall be specified to selected contractor.

Before placing new concrete on or against concrete which has set, the forms shall be retightened and the surface of the set concrete shall be roughened as required by the Superintendent, thoroughly cleaned of foreign matter, laitance, and loose or porous material and saturated with water. The surface shall then be covered with a thin coat of stiff neat cement to bond and concreting shall then proceed immediately. No work shall be stopped or temporarily discontinued within 300 mm of the top on any finished surface.

DEMOLIB 2009/90425	Demolition Plan
LAYOUT1 2009/90425	Layout Library
DETLIB1 2009/90425	Details
DETLIB2 2009/90425	Details

Contractor shall make joins and

seams with existing pavement outside of site zone flush with existing surface level and free from physical defects. Where possible, the existing paving material shall blend aesthetically into the new paving materials.

The pavers are to be sourced from Stonevue (<http://www.stonevue.com.au/>).

All concrete to be Class 2 Boral Envirocrete or 'Green' concrete available from Boral with standard portland grey cement.

Supplier:

BORAL VIC

North Melbourne Depot

133 006

See Drawings:

13.4 Bicycle Hoops

Two stainless steel bicycle hoops located near the main stairway of the St Kilda Town Hall shall be removed and repositioned elsewhere in the forecourt of the St Kilda Town Hall at the direction of the Superintendent.

13.5 Traffic Management

During demolition and construction pedestrian access into, around and in front of the St Kilda Town Hall must remain intact and safe. The contractor is to address this issue in the Traffic Management Plan.

13.6 Finishing

All directional tactiles shall be either retained or removed and replaced with like or comparable product.

Where there is a join between existing Stonevue precast pavement and new Stonevue precast pavement contractor shall take care not to damage existing Town Hall Forecourt Paving. Individual existing pavers shall be removed whole at the join line and replaced with new pavers to make the join between existing and new paving

seamless. The contractor shall not leave any pavers cracked at the join line and shall replace any damaged or cracked pavers.

14 CONCRETE: Water sensitive Urban design tree pits

14.1 Scope of works

The scope of works in this section comprises but is not limited to:

- Construction of in-situ concrete kerbs to tree pits;
- Construction of concrete strip drains;
- Casting of steel grate frames to concrete kerb and strip drains and
- Construction of reinforced concrete slab as part of seating plinth.

In-situ concrete walls

All concrete for the in-situ walls, kick rails and retaining walls to be Class 2 Boral Envirocrete or 'Green' concrete available from Boral with standard portland grey cement.

Supplier:

BORAL VIC

North Melbourne Depot

133 006

Concrete formwork and finished product shall conform to all relevant Australian standards. A list of relevant documentation is provided in this section under Standards section.

14.2 Construction of Concrete Strip Drains

Concrete strip drains are to be cast in accordance with the drawings supplied. Dimensions are to be as shown in the detailed drawings.

Lay drains to ensure even and regular grades between nominated finished levels. Trenches are to be free of loose debris. Remove debris and clean areas disturbed or affected by drainage works. Make good any damage caused by drainage works. Ensure galvanised grating sits flush with adjacent surfaces in all instances to allow for adequate draining of surface and to ensure there are no trip hazards.

14.3 Casting of Steel Grate Frames to Concrete Kerb and Strip Drains

The ADF slimline grate frames are to be cast in-situ with the concrete kerbing as indicated on the drawings and per the manufacturer's requirements. The steel grates for the strip drains can be installed once the concrete kerbing has cured to the superintendent's approval. However the installation of the tree pit grates is not to take place until the trees are in place.

14.4 Finish

Unless otherwise specified, all faces of the tree pits are to feature a consistent Class 1 (AS3610) smooth float rendered finish. Top edges to be chamfered 5mm at 45degrees.

14.5 Concrete - Samples

The Contractor shall sequentially supply up to four concrete samples in total (minimum 2 linear metres for wall) on site to enable confirmation of an approved colour, form and finish. Bulk installation shall not proceed until written approval is provided. Provide samples of the following concrete.

14.6 Concrete Finishes Schedule

Item	Strength and reinforcement	Colour	Aggregate	Surface Finish
Type A concrete – Tree pit walls, strip drain, kerbing	32 MPa SL81 in top Boral 'Envirocrete'	Standard – No Pigment	Envirocrete Class 2	Smooth Class 1 (AS3610) float finish. 20mm round edges where applicable

14.7 Inspection by Superintendent

The Contractor shall give reasonable notice to the Superintendent when inspections are specified.

No Works shall proceed or be covered up under this section until the following items have been inspected and approval to proceed has been granted:

Formwork and reinforcement fixed in place, braced and coated with form oil or other approved release agent.

14.8 New Concrete Against Old

Before placing new concrete on or against concrete which has set, the forms shall be retightened and the surface of the set concrete shall be roughened as required by the Superintendent, thoroughly cleaned of foreign matter, laitance, and loose or porous material and saturated with water. The surface shall then be covered with a thin coat of stiff neat cement to bond and concreting shall then proceed immediately. No work shall be stopped or temporarily discontinued within 300 mm of the top on any finished surface.

14.9 Defective Materials or Work not Complying

The Contractor is responsible for the supply and construction of the concrete works as specified.

Failure to comply with the specified supply, placing, accuracy, compaction, finish and curing of concrete or adequacy of the forms shall be dealt with as defective work under the Conditions of Contract.

Approvals by the Superintendent to various stages of the work shall not relieve the Contractor of his responsibility to comply with the Specification.

14.10 Finish

Refer 2.17.6 Concrete Finishes Schedule.

Construction Joints

Construction joints of galvanised steel reinforced rod dowels are to be placed in locations indicated on the plans, where applicable aligning with the aesthetic pattern shown on the drawings. Dowels are to be 500mm x Y12 smooth rod with a bond breaker on one side of the dowel.

14.11 Control Joints

The Contractor is responsible for providing control joints at a maximum spacing of 2 metres. The control joint can be constructed by:

- Formwork between concrete pours, or
- Creating a plane of weakness to a depth of one-third to one-quarter of the pavement thickness from the surface.
- The plane of weakness can be wetformed by scoring the plastic concrete using an appropriate tool, or providing a sawcut.

The Contractor must comply with AS 3727 when constructing the control joints.

14.12 Saw Cuts (Structural)

Structural saw cuts are to be placed in locations indicated, and where applicable, aligning with the aesthetic pattern shown on the plans. Depth of structural saw cuts not to exceed nominally 40mm. Sawcuts shall be carried out 5-10 hours after pouring concrete.

14.13 Standards

The current editions of the following Australian Standards shall form part of this specification for supply of all labour and materials:

AS 3600	Concrete structures
AS 3610	Formwork for concrete
AS 3500	National Plumbing and Drainage Code
AS 1315	Portland cement
AS 1316	Masonry cement (Metric units)
AS 2758	(Part 1) Aggregates and rock for engineering purposes
AS 1141	Methods for sampling and testing aggregates
AS 1379	Ready mixed concrete
AS 1012	Methods of testing concrete
AS 1509	Rules for design and construction of formwork
AS 1510	Code of practice for control of concrete surfaces
AS 1302	Steel reinforcing bars for concrete
AS 1303	Hard-drawn steel reinforcing wire for concrete
AS 1304	Welded wire reinforcing fabric for concrete
AS 3727	Guide to residential pavements

15 SEMI ADVANCED TREE PLANTING

15.1 Scope of Works

The work in this section comprises, but is not limited to the supply and installation of semi-advanced and advanced trees, including preparation of tree holes, backfilling and topsoiling, mulch to 75mm depth, stakes and ties.

15.2 Materials

All trees to be supplied are to be free of pests and pathogens, free of scarring, damaged leaders, abrasions of the bark, disfigured knots or fresh cuts of limbs that have not been callused. Trees to show a vigorous central leader, be self supporting at planting, open branching framework and well formed open 'V' limb crotches. All limbs and trunks to be well formed, sturdy, well rooted and free from root circling and 'J' roots. All dead wood is to be removed.

The Contractor must provide the Superintendent with three (3) days notice to inspect the trees. The Superintendent has the right to reject any trees and request that alternative trees be sourced.

15.3 Planting Hole

The Contractor is to observe proper precautions so as not to disturb or damage sub-surface conditions. Before doing any excavation the Contractor is to ascertain location of existing underground services. In the event such are uncovered, the Contractor is to promptly notify the Superintendent to enable the relocation of plant material.

The Contractor is to confirm location of trees prior to excavation of tree holes. The tree planting holes must be prepared in fine weather only, as wet weather will damage soil structure. The holes are to be free from glazing and clay sides. If glazing occurs, the Contractor is to loosen the affected soil with spade or other hand tool. Excess spoil must be disposed of from the site.

If the Contractor encounters any soil or drainage conditions which may be detrimental to the growth of the plant material, the Contractor must notify the Superintendent and discontinue any tree hole excavation works until the Superintendent has inspected the soil or drainage condition.

The Contractor is to remove all excess soil from the rootball prior to planting. The Contractor is to ensure minimal contamination of filtration media in the tree pit.

15.4 Fertiliser

Place 50 grams of approved slow release fertiliser in base of advanced deciduous tree holes and mix thoroughly with broken up soil. The Contractor is to ensure that no contact is made between roots and fertiliser.

15.5 Planting

All trees are to be supplied by the Contractor. No advanced trees are to be stored on site. The advanced trees are to be handled carefully to ensure that no damage to limbs, bark or rootball occurs. If damage does occur, the Contractor must replace the damaged tree at his/her own expense. The rootball must rest gently on the base of the hole and be supported during backfilling. The tree must be located centrally in

the hole and in a vertical upright position. Set plumb and level with adjacent soil, with no soil placed against the stem of the root crown.

The Contractor is to ensure that any existing soil around the root bulb is kept to a minimum prior to planting and any excess soil removed from the root system does not come in contact with the filter media. This will ensure contamination of the filter media is kept to a minimum.

15.6 Watering

The Contractor is to thoroughly water trees with a minimum of 10 litres of clean water immediately after planting, and at such times during the contract period as required to maintain growth, free from water stress. Any signs of water stress (leaf drop or yellowing) should be reported to the Superintendent for further investigation.

15.7 Pruning

Trees and shrubs shall be pruned as directed by the Superintendent. Pruning will be directed for the maintenance of dense foliage, or miscellaneous pruning as beneficial to the condition of the plants. Any damaged growth shall be pruned.

15.8 Inorganic Mulch

Inorganic mulch to be installed to a depth of 50mm on top of the filter media and to be of the same material composition as the drainage layer discussed in this document.

15.9 Instillation of Tree Pit Grates

The tree pit grates are to be a customised version of the Furphy's GOV34 grate and frame. The tree pit grates are to be installed once the trees have been planted in the tree pit. The grate allows maintenance access to the tree pit for cleaning, while still allowing runoff from pavement to enter the tree pit. The tree pit grates are to include reducer rings to trunk zone for increased pedestrian safety.

