

SNOWY RIVER SHIRE COUNCIL

DEVELOPMENT CONSTRUCTION SPECIFICATION

C273

LANDSCAPING

Amendment Record for this Specification Part

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
<i>EXAMPLE 1</i>	<i>Provision for acceptance of nonconformance with deduction in Payment</i>	<i>XYZ.00</i>	<i>AP</i>	<i>KP</i>	<i>2/6/97</i>
1	Landscaping materials list amended to suit alpine conditions	C273A	M, A, O	JW	18/2/05

SPECIFICATION C273 - LANDSCAPING

CLAUSE	CONTENTS	PAGE
GENERAL		1
C273.01	SCOPE	1
C273.02	REFERENCE DOCUMENTS	1
VEGETATION OF SLOPES AND DRAINS		1
C273.03	EXECUTION AND TIMING OF WORK	1
C273.04	MATERIALS	2
C273.05	VEGETATION OF SLOPES 3 TO 1 OR FLATTER	3
C273.06	VEGETATION OF SLOPES STEEPER THAN 3 TO 1	4
C273.07	VEGETATION OF OPEN DRAINS	6
LANDSCAPE PLANTING		7
C273.08	EXECUTION AND TIMING OF WORK	7
C273.09	MATERIALS	7
C273.10	PLANTING	8
C273.11	CARE OF LANDSCAPE PLANTING	9
SPECIAL REQUIREMENTS		10
C273.12	RESERVED	10
C273.13	RESERVED	10
C273.14	RESERVED	10
C273.15	RESERVED	10
C273.16	RESERVED	10
LIMITS AND TOLERANCES		11
C273.17	SUMMARY OF LIMITS AND TOLERANCES	11
MEASUREMENT AND PAYMENT		12
C273.18	PAY ITEMS	12

ANNEXURES

C273A LANDSCAPING MATERIALS



SPECIFICATION C273 : LANDSCAPING

GENERAL

C273.01 SCOPE

1. The work to be executed under this Specification consists of:
 - (a) The vegetation of cut and fill batters, median areas, pathways, verges, open drains and other areas within the site. Vegetation includes the initial surface preparation, topsoiling, fertilising, sowing of seed and may include surface protection works, hydroseeding, hydromulching and straw mulching.
 - (b) The supply of plants, planting at locations as shown on the Drawings, fertilising, mulching, staking, watering and maintenance of plants.

2. Requirements for quality control and testing, including maximum lot sizes and minimum test frequencies, are cited in the Specification Part for Quality Requirements.

Quality

C273.02 REFERENCE DOCUMENTS

1. Documents referenced in this Specification are listed in full below whilst being cited in the text in the abbreviated form or code indicated.

**Documents
Standards
Test Methods**

(a) Council Specifications

- | | | |
|------|---|---------------------------------------|
| C211 | - | Control of Erosion and Sedimentation. |
| C213 | - | Earthworks. |

(b) Australian Standards

- | | | |
|---------|---|---|
| AS 1160 | - | Bitumen emulsion for construction and maintenance of pavements. |
| AS 2507 | - | The storage and handling of pesticides. |
| AS 4419 | - | Soils for landscaping and garden use. |
| AS 4454 | - | Composts, soil conditioners and mulches. |
| AS 4843 | - | Synthetic weed blocking fabric. |

VEGETATION OF SLOPES AND DRAINS

C273.03 EXECUTION AND TIMING OF WORK

1. In association with the work to be executed under this Specification, the Contractor shall implement effective erosion and sedimentation control measures in accordance with the Specification for CONTROL OF EROSION AND SEDIMENTATION.

2. The work to be executed under this Vegetation of Slopes and Drains includes the vegetation of cut and fill batters, pathway verges, median areas, open drains and other areas within the site. Vegetation includes the initial surface preparation, topsoiling, fertilising and either sowing of seed or turfing as shown on the Drawings.

3. Exposed ground shall be vegetated before the area exceeds one hectare or lesser area in compliance with Council requirements.

**Contractor's
Responsibility**

Vegetation

**Exposed
Ground**

C273.04 MATERIALS**(a) Topsoil**

1. The Contractor shall use topsoil stockpiled on site under the Specification for EARTHWORKS. Where imported topsoil is required it shall comply with AS 4419 and shall:-

Quality

- be of a friable, porous nature;
- be free of weeds and weed seeds, bulbs, corms and vegetable propagules;
- contain no refuse or materials toxic to plant growth;
- contain no stumps, roots, clay lumps or stones larger than 50mm in size;
- have an organic content of at least 3 per cent by mass;
- have a pH neither less than 5.5 nor more than 7.5;
- have a soluble salt content not exceeding 0.06 per cent by mass.

(b) Herbicide

1. Herbicide used shall be a glyphosate based herbicide listed in Annexure C273A.

(c) Seed**Seed Type and Supplier**

1. All seed used shall be of the species and varieties listed in Annexure C273A and shall be sown at the application rates specified therein. The Contractor shall submit to the Superintendent the name/s of the proposed seed supplier/s within two weeks of the acceptance of the tender.

2. The Contractor's attention is drawn to the lead time that may be required to procure some native seed species. The native seed shall be delivered to the site in separate lots for each species and variety, clearly labelled to show species, variety and weight.

Lead Time for Native Seed

3. All seed must be accompanied by a "Certificate of Authenticity" which shall be furnished by the Contractor to the Superintendent upon request at any stage of the work. Grass and clover seed shall be pre-packed commercially with an accompanying certificate of germination.

Certification

4. The Contractor shall not take possession of the seed more than seven days before sowing is to occur. The seed shall be stored in clean, air tight containers and kept away from direct sunlight. It shall not be exposed to the elements at any stage during storage.

Storage

5. The Contractor shall replace at his own expense any exotic seed batch found not true to type.

Contractor's Cost**(d) Turf**

1. Turf shall consist of 25mm depth of dense, well rooted, vigorous grass growth with 25mm depth of topsoil. The type of grass turf to be used shall be selected from Annexure C273A and in accordance with the Drawings. Unless specified, Kikuyu grass shall not be used. Turf shall be free of weeds, soil pests and diseases. The turf shall be supplied as rolls in long lengths of uniform width, not less than 300mm, and shall be in sound unbroken condition.

(e) Fertiliser

1. Fertiliser shall be an organic type listed in Annexure C273A with Nitrogen: Phosphorus: Potassium (N:P:K) ratios of 8 : 3.6 : 2.

Type**(f) Vegetable Mulch**

1. Vegetable mulch used in hydromulching shall consist of straw, chaff, wood fibre, paper pulp or similar material all finely shredded to a maximum dimension of 10 mm. Meadow hay or weeds shall not be used and paper pulp if used shall not exceed 50 per cent by mass of the total mulch.

Composition**(g) Water**

1. Water used shall be potable.

Quality**(h) Binder**

1. The binder used in hydromulching and strawmulching shall be Grade ASS, slow setting anionic bitumen emulsion, complying with AS 1160.

(i) Wetting Agent

1. The soil wetting agent added in hydromulching or hydroseeding shall be listed in Annexure C273A and applied at the application rate specified therein.

(j) Pesticide

1. Pesticide used shall be a liquid or powder listed in Annexure C273A. The storage and handling of pesticides shall be in accordance with AS 2507.

C273.05 VEGETATION OF SLOPES 3 TO 1 OR FLATTER**(a) Preparation of Surface**

1. Slopes shall be sprayed with herbicide applied at the rate specified in Annexure C273A to kill weed infestation. Sprayed areas shall remain undisturbed for two weeks.

Herbicide Treatment

2. The surface shall then be tined to a depth of 200 mm to produce a loose surface and all large stones, rubbish and other materials that may hinder germination shall be removed before topsoiling.

Preparation**(b) Topsoiling**

1. Topsoil shall be uniformly applied to provide an average compacted thickness of 50mm with a minimum compacted thickness of 30mm at any location. The topsoiled area shall be cultivated to a depth of 50mm to provide a roughened surface with soil lumps not exceeding 50mm dimension.

Application**(c) Mixing of Seed**

1. The Contractor shall give the Superintendent two days' notice before each sowing operation. Seed shall be sown on the day of mixing with pesticide.

Notice

(d) Incorporation of Pesticide

1. Immediately before sowing, all grass and native seed shall be treated with pesticide. The pesticide shall be thoroughly mixed as a dry powder with the seed at the rate specified in Annexure C273A to the equivalent mass of seed to be spread on 1 hectare of the surface in accordance with Annexure C273A.

Mixing**(e) Sowing**

1. Sowing shall be carried out with an appropriate mechanical seeder. Where practicable, passes shall follow finished surface contours. Seed shall be sown at a depth of 5mm or shall be raked or harrowed to provide 5mm cover.

Seeder

2. Seed and fertiliser shall be evenly distributed over the areas to be sown at the rates specified in Annexure C273A. Fertiliser shall be applied concurrently with the seeding operation.

Sowing Rate**(f) Turfing**

1. Turf shall be placed on the prepared topsoiled surface. Runs of turf shall butt hard against each other and be placed perpendicular to the direction of water flow. Turf seams shall then be topdressed with topsoil.

Placing

2. Four to six weeks after placement, the turf shall be lightly topdressed with topsoil to correct any undulations or unevenness in the established turf.

Topdressing**(g) Watering**

1. The Contractor shall water areas to be sown to a moist condition and shall rewater areas to a moist condition without surface runoff on a daily basis for a minimum of 15 days after sowing, or as otherwise directed by the Superintendent, to promote and maintain growth.

C273.06 VEGETATION OF SLOPES STEEPER THAN 3 TO 1**(a) General**

1. Where shown on the Drawings or directed by the Superintendent, slopes shall be vegetated by one of the following methods:

Method

- (i) Topsoiling and hydromulching;
- (ii) Topsoiling, hydroseeding and straw mulching;
- (iii) Hydroseeding.

(b) Preparation of Surface

1. Weeds shall be killed by spraying with herbicides as specified under Clause C273.05(a).

Herbicide Treatment

2. No more than seven days before seeding all loose material shall be removed from fill batters and cut batters, which are not stepped, by dragging a heavy steel chain of minimum weight of 30 kilograms per metre of length or by other methods approved by the Superintendent.

Preparation

(c) Topsoiling

1. Where batters have been stepped, the steps shall be loosely filled with topsoil. Elsewhere, topsoil shall be uniformly applied to provide an average thickness of 50mm with a minimum compacted thickness of 30mm at any location.

Application**(d) Hydromulching or Hydroseeding**

1. The hydromulch or hydroseed shall comprise the materials shown in Table C273.1. The materials shall be applied at the application rates shown in Table C273.1.

Application Rate

2. Dry surfaces shall be watered by a fine spray before the application of the hydromulch.

Watering

3. The mixing and treatment of seed shall be carried out in accordance with Clause C273.05(c).

Treatment of Seed

4. During preparation of the hydromulch or hydroseed slurry, liquid form pesticide shall be added to the storage tank, to facilitate surface application, at a rate of 5 litres of pesticide to the equivalent volume of hydromulch or hydroseed slurry to be spread on 1 hectare of surface in accordance with Table C273.1.

Pesticide

5. Storage tanks, containers and equipment to be used in hydromulching or hydroseeding of slopes shall be clean and free of contamination from previous operations.

Equipment

6. A slurry mixture shall be produced by addition of the specified materials in the tank and agitated to maintain a uniform consistency during application. It shall be applied uniformly over the whole surface.

Uniform Mix

7. Hydromulch or hydroseed shall not be applied under the following weather conditions at the site:

Weather Conditions

- when temperature is higher than 35°C
- when winds exceed 15 km/hr;
- where, in the opinion of the Superintendent, the surface is too wet or
- during rain periods or when rain appears imminent.

8. Application rates shall be in accordance with Table C273.1

Material	Application Rate per Hectare	
	Hydromulching	Hydroseeding
i) Vegetable Mulch (kg)	2,500	Nil
ii) Water (l)	35,000	20,000
iii) Binder (l)	700	Nil
iv) Fertiliser	See Annexure C273A	
v) Seed	See Annexure C273A	
vi) Wetting Agent (l)	35	20
vii) Pesticide (l)	5	5

Table C273.1 - Materials and Application Rates

(e) Straw Mulching

1. The mulch to be applied after hydroseeding shall comprise a matrix of straw and an anionic slow setting bitumen emulsion binder. Meadow hay shall not be used. The straw mulch shall be uniformly applied by a suitable blower unit at a rate of 250 bales (each of 20 kilograms) of straw per hectare of surface. The bitumen emulsion shall be incorporated as a spray into the air stream of the mulch blower at a rate of not less than 2,500 litres of bitumen emulsion per hectare of surface. The finished straw mat shall have a minimum thickness of 20mm at any location.

Method

C273.07 VEGETATION OF OPEN DRAINS

(a) Preparation of Surface

1. The Contractor shall so execute the work that the excavation of open drains to the specified profiles is followed within seven days by the vegetation of the surface as specified in this Clause. Topsoil shall be spread to provide an average compacted thickness of 50mm with a minimum compacted thickness of 30mm at any location.

Profile and Topsoil

(b) Sowing

1. Before sowing, the surface shall be watered. Seed and fertiliser shall then be applied uniformly at the rates specified in Annexure C273A by one of the following procedures as directed by the Superintendent:

Procedure

- (i) Mechanical sowing.
- (ii) Hydromulching or hydroseeding.
- (iii) By hand.

(c) Surface Protection

1. Where shown on the Drawings or directed by the Superintendent, one of the following protective treatments shall be applied immediately to all or part of the sown surface.

Methods

- (i) Spraying with Bitumen Emulsion

An anionic slow setting bitumen emulsion, conforming with Grade ASS of AS 1160, shall be sprayed over the surface at a rate of 1 litre of bitumen emulsion per square metre of surface.

Application Rate

- (ii) Lining with Organic Fibre Mat

The channel surface shall be lined with an organic fibre mat listed in Annexure C273A. The runs of matting shall be laid along the direction of water flow. The matting shall be laid loosely on the soil surface and not stretched.

Laying

The upstream end of the matting shall be slotted into a trench 150mm wide by 150mm deep and pinned to the base of the trench at 200mm centres. The trench shall be backfilled with soil and compacted by foot.

Anchorage

The pins shall be 'U' shaped, 4mm gauge wire, 50mm wide and 150mm long legs.

Pins

Adjacent runs of matting shall be overlapped 100mm with the higher run lapped over the lower run. The matting shall be pinned along the sides of each run at 500mm centres and along the middle of each run at 1m centres. End overlaps shall be 150mm wide with the higher run end lapped over the start of the lower run and pinned at 200mm centres.

Lapping**(iii) Turfing**

Turf shall be as specified under Clause C273.04(d).

Quality

Runs of turf shall butt hard against each other and be placed perpendicular to the direction of water flow in the drain, and pinned into position at 500mm centres.

Placing

Seams of turf shall be topdressed with topsoil.

Topdressing**(d) Watering**

1. The Contractor shall water treated areas in order to promote and maintain growth as specified under Clause C273.05(g).

LANDSCAPE PLANTING

C273.08 EXECUTION AND TIMING OF WORK

1. The work to be executed includes the ground preparation, the supply of plants, planting as shown on the Drawings, fertilising, mulching, staking, watering and maintenance of plants.

Extent of Work

2. The Contractor shall give the Superintendent a minimum of two days' notice of commencement of planting. Landscape planting shall not be carried out in extreme weather conditions (above 35°C or below 10°C).

Notice of Commencement

C273.09 MATERIALS

(a) Topsoil

1. Topsoil shall comply with the requirements of Clause C273.04(a).

(b) Herbicide/Weed Blocking Fabric

1. Herbicide shall comply with the requirements of Clause C273.04(b).

2. Synthetic weed blocking fabric shall comply with AS 4843.

(c) Fertiliser

1. Fertiliser shall be a slow-release type in pellet form, listed in Annexure C273A, with a nine months' release period and having Nitrogen:Phosphorus: Potassium (N:P:K) ratios of 6.3 : 1.8 : 2.8.

Quality**(d) Mulch**

1. All mulches used for landscape planting shall consist of organic material complying with the requirements of AS 4454. Mulch shall be composted or pasteurized as indicated in Annexure C273A. The use of other materials as ground cover shall be as indicated on the Drawings and approved by Council.

Quality

2. A 10 kilogram sample of mulch proposed by the Contractor shall be submitted for approval to the Superintendent two weeks before its intended use. The mulch subsequently used shall be consistent in every respect with the sample approved by the Superintendent. **Sample**

(e) Plant Material

1. The Contractor shall obtain all plants from a nursery located in an area having a similar climate to the site of the Works. **Source**

2. There shall be no substitution of any species without the Superintendent's approval. All plant material shall be true to species and sizes. Plants shall be healthy, of good form, not soft or forced and with large robust root systems. They shall not be rootbound and shall be free from disease and insect pests. All container soil mix shall contain between 20 per cent and 25 per cent clay by volume. Trees shall have a single leading shoot. For hardening off purposes, all plants shall be delivered to a site within the locality of the Subdivision at least four weeks before planting out. Plant root systems shall be maintained moist at all times with particular attention being paid to watering during the on-site period before and during planting. Plant stock shall be classified as indicated in Table C273.2, and planted in accordance with the Drawings. **Quality**

	Type or Stock				
	50mm Tube	Gro-Tube	Semi Advanced	Advanced Stock	Super Advanced
Plant Container: dia (mm)	50	75	150	200	300
depth (mm)	75	100	150	200	300
Plant Height (mm) (leaf & stem)	200 min 300 max	300 min 400 max	300 min 400 max	300 min 500 max	500 min 750 max
Planting Holes: side dia (mm)	200	200	300	400	600
depth (mm)	200	200	300	400	600
Number of Fertilizer Pellets	2	3	5	5	7

Table C273.2 - Plant Stock

(f) Stakes

1. All stakes shall be 25mm square by 1,500mm long hardwood and sharpened at one end. **Size**

C273.10 PLANTING

(a) Mass Planting in Mulched Bed

1. The area to be planted shall be sprayed with herbicide, as specified under Clause C273.05(a). Sprayed areas shall remain undisturbed for two weeks. Alternatively, where approved by Council, a synthetic weed blocking fabric shall be applied to the area to be planted. **Herbicide/ Weed Blocking Treatment**

2. The surface shall be ripped at 500mm centres to a depth of 300mm and the top 200mm of the planting bed broken up by cultivation to a maximum size of 50mm. Mulch, 100mm thick, shall be spread over the planting bed. After removal of the localised mulch, planting holes shall be excavated to the dimensions and depths as shown in Table C273.2 and the material removed. **Surface Preparation**

3. The specified number of fertilizer pellets as shown in Table C273.2 shall be placed beside the rootball of each plant. **Fertilizer Pellets**
4. The planting hole shall be backfilled with topsoil complying with Clause C273.04(a) and compacted by foot up to surface level, care being taken to avoid mixing mulch with topsoil. A stake shall be driven 300mm deep and 200mm clear of each 'Advanced' and 'Super Advanced' size stock and the stock tied to it by a strip of 50mm wide hessian webbing. **Backfill and Staking**
5. Each backfilled hole shall receive 10 litres of water before the mulch is respread over the disturbed area. The mulch shall be left just clear of the plant stem. **Watering and Mulching**
- (b) Individual Planting**
1. A planting area 600mm dia. or square shall be loosened to a depth of 400mm. Planting holes shall be excavated to dimensions and depths as shown in Table C273.2 and the material spread evenly around each hole **Planting Holes**
2. The specified number of fertiliser pellets, as shown in Table C273.2, shall be placed beside the rootball of each plant. **Fertilizer Pellets**
3. The planting hole shall be backfilled with topsoil complying with Clause C273.04(a) and compacted by foot up to surface level. A stake shall be driven 300mm deep and 200mm clear of each 'Advanced' and 'Super Advanced' size stock and the stock tied to it by a strip of 50mm wide hessian webbing. **Backfill and Staking**
4. Each backfilled hole shall receive 10 litres of water. **Watering**
5. Weed infestation for a distance of 800 mm surrounding each proposed planting shall be killed by spraying with a herbicide as specified in Clause C273.05(a). All due care shall be taken to avoid damage caused by contact between herbicide and the plant by means of spray drift etc. Alternatively, where approved by Council, a synthetic weed blocking fabric shall be applied to the 800mm area surrounding each proposed planting. **Herbicide/ Weed Blocking Treatment**
6. Immediately after planting, mulch 100mm thick, starting just clear of the plant stem, shall be spread over an area of 600mm radius surrounding the plant. **Mulch**
- C273.11 CARE OF LANDSCAPE PLANTING**
1. The Contractor shall water all plants, from the time of planting, at the rate of 10 litres per plant every third day for the first twelve weeks. **Watering**
2. Missing plants, dead plants and plants nominated by the Superintendent as unhealthy shall be replaced by the Contractor. Replacement plants shall be of similar size and quality and of identical species and variety to the plant being replaced. The cost of replacement shall be borne by the Contractor. **Replacement Plants Contractor's Cost**
3. Weed and grass growth in mulched areas shall be killed by treatment with herbicide in accordance with the manufacturer's instructions at monthly intervals during the construction period and contract maintenance period. Contact of the herbicide with the new plants shall be avoided and any damage repaired or damaged plant material replaced by the Contractor at no cost to the Principal. **Weed Control**
- Contractor's Cost**

SPECIAL REQUIREMENTS

C273.12 RESERVED

C273.13 RESERVED

C273.14 RESERVED

C273.15 RESERVED

C273.16 RESERVED



LIMITS AND TOLERANCES

C273.17 SUMMARY OF LIMITS AND TOLERANCES

1. The limits and tolerances applicable to the various clauses in this Specification are summarised in Table C273.3 below.

Item	Activity	Limits/Tolerances	Spec Clause
1.	Topsoil		
	a) Organic Content	>3% by mass	C273.04a
	b) pH	>5.5 <7.5	C273.04a
	c) Soluble Salt	<0.06% by mass	C273.04a
2.	Turf	Widths >300mm.	C273.04d
3.	Vegetable Mulch		
	a) Material	maximum size <10mm	C273.04f
	b) Paper Pulp	<50% by mass of total mulch	C273.04f
4.	Topsoiling	Minimum compacted thickness at any location of 30mm	C273.05b C273.06c C273.07a
5.	Straw Mulching		
	a) Straw Mat	Finished thickness >20mm.	C273.06e
6.	Landscape Planting		
	a) Temperature	Planting not to be undertaken when temperatures >35°C or <10°C.	C273.08
7.	Mulch		
	a) Fines	Shall not exceed 5% by volume.	C273.09d
	b) Woodchip	Maximum size <50mm.	C273.09d
8.	Plant Material		
	a) Container Soil Mix	Contain >20% <25% by volume of clay.	C273.09e

Table C273.3 - Summary of Limits and Tolerances

MEASUREMENT AND PAYMENT

C273.18 PAY ITEMS

1. Payment shall be made for all activities associated with completing the work detailed in the Specification in accordance with Pay Items C273(a) to C273(d) inclusive.
2. A lump sum price for any of these items shall not be accepted.
3. If any item for which a quantity of work is listed in the Schedule of Rates has not been priced by the Contractor, it shall be understood that due allowance has been made in the prices of other items for the cost of the activity which has not been priced.
4. Notwithstanding any general statements to the contrary that may be made elsewhere in this Specification, in the context of landscape works all areas shall be measured in the plane of the surface and thicknesses specified shall apply perpendicular to the surface.
5. Erosion and sedimentation control measures are measured and paid in accordance with the Specification for CONTROL OF EROSION AND SEDIMENTATION.
6. Topsoil stockpiling is measured and paid in accordance with the Specification for EARTHWORKS.

Pay Item C273(a) VEGETATION OF SLOPES 3 TO 1 OR FLATTER

1. The unit of measurement shall be the square metre.
2. The schedule rate shall cover all costs associated with the vegetation of such areas, including surface preparation, topsoiling, sowing and/or turfing, and watering.

Pay Item C273(b) VEGETATION OF SLOPES STEEPER THAN 3 TO 1

1. The unit of measurement shall be the square metre.
2. The schedule rate shall cover all costs associated with the vegetation of such areas, including surface preparation, topsoiling, and as appropriate hydroseeding, hydromulching and/or straw mulching, and watering.

Pay Item C273(c) VEGETATION OF OPEN DRAINS

1. The unit of measurement shall be the square metre.
2. The schedule rate shall cover all costs associated with the vegetation of such areas, including surface preparation, topsoiling, sowing, surface protection by bitumen emulsion spraying, lining and/or turfing as appropriate, and watering.

Pay Item C273(d) LANDSCAPE PLANTING

Pay Item C273(d)(i) Provision of Mulched Bed for Mass Planting

1. The unit of measurement shall be the square metre.
2. The schedule rate shall cover all costs associated with the preparatory work of the mulched bed before planting.

Pay Item C273(d)(ii) Mass Planting

1. The unit of measurement shall be `each' plant.
2. The schedule rate shall cover all costs associated with the planting in the mulched bed and subsequent care of each plant.

Pay Item C273(d)(iii) Individual Planting

1. The unit of measurement shall be `each' plant.
2. The schedule rate shall cover all costs associated with the preparatory work, planting and subsequent care of each plant.

ANNEXURE C273A

LANDSCAPING MATERIALS
(SAMPLE ONLY - TO BE COMPLETED BY COMPILER)

MATERIAL	TYPE	MINIMUM APPLICATION RATE
1. HERBICIDE *	'Roundup' 'Bi Active Roundup' near waterways	Follow manufacturer's directions Follow manufacturer's directions
2. SEED *		
a) Dryland Grass for non-irrigated landscaped areas	Tall Fescue (<i>festuca arundinacea</i>)	140 kg/ha
	Perennial Rye Grass (<i>lolium perenne</i> – cv. Victorian)	50 kg/ha
	Chewings Fescue (<i>festuca rubra</i> ssp <i>commutata</i>)	40 kg/ha
	White Clover (<i>trifolium repens</i>)	20 kg/ha
		250 kg/ha
When sown between October and January inclusive ADD	Hulled Couch (<i>cynodon dactylon</i>)	30 kg/ha
		280 kg/ha
(b) Temporary Grass cover	Cereal Rye (<i>secale cereale</i>)	3 kg/ha
	Perennial Rye Grass (<i>lolium perenne</i>)	5 kg/ha
	Currie Cocksfoot (<i>dactylis glomerata</i>)	3 kg/ha
	Subterranean Clover (<i>trifolium subterraneum</i>)	5 kg/ha
	Crimson Clover (<i>trifolium incarnatum</i>)	3 kg/ha
		19 kg/ha
3. TURF GRASS *	Alpine blend	Refer to Drawings
4. FERTILISER *		
(a) Vegetation of Slopes/Drains	Dynamic Lifter 'Nitro'	1000 kg/ha
(b) Landscape Planting	'Kokei' pellets	Refer Table C273.2
5. WETTING AGENT *	'Aquasoil'	1 litre/1000 litres of mix water
6. ORGANIC FIBRE MAT *	'Sta-firma' (light grade)	-
7. MULCH *	Composted	100mm thick

* Material shall be as listed or equivalent as approved by Council.

SNOWY RIVER SHIRE COUNCIL SPECIES LIST

Scientific Name	Common Name	Native Y/N	Endemic I	Height approx (m)	Evergreen Deciduous E/D	Comments
Trees						
<i>Acacia dealbata</i>	Silver Wattle	y	i	6-30	e	
<i>Acer buergeranum</i>	Trident Maple	n		6-10	d	
<i>Acer palmatum</i>	Japanese Maple	n		6-10	d	Sheltered sites only
<i>Acer rubrum</i>	Canadian Maple	n		10-30	d	
<i>Betula dalecarlica</i>	cut leaf birch	n		12-15	d	
<i>Betula fastigata</i>		n		8-10	d	

<i>Betula pendula</i>	Silver Birch	n		12-15	d	
<i>Callitris enlicheri</i>	Black Cypress Pine	y	i	5-10	e	
<i>Cedrus atlantica</i>	Atlas Cedar	n		10-20	e	
<i>Cedrus deodara</i>	Deodar Cedar	n		6-10	e	
<i>Celtis australis</i>	Nettle tree	n		12-15	d	
<i>Cercis siliquastrum</i>	Judas Tree	n		6-8	d	
<i>Crataegus oxycanthus</i> var	Hawthorn	n		6-10	d	
<i>Cupressus arizonica</i>	Arizona Cypress	n		6-15	e	Good for difficult sites
<i>Cupressus sempervirens</i> Stricta	Pencil Pine	n		5-10	e	
<i>Cupressus torulosa</i>	Bhutan Cypress	n		6-20	e	
<i>Eucalyptus gregsoniana</i>	Wolgan Snow Gum	y	i	2-4	e	
<i>Eucalyptus macarthurii</i>	Paddys river gum	Y	i	15-25	e	
<i>Eucalyptus moorei</i>	Narrow leaved Sallee	y	i	3-6	e	
<i>Eucalyptus neglecta</i>	Ormeo Gum	y		6-10	e	
<i>Eucalyptus nicholii</i>	Willow Peppermint	Y		12-16	e	
<i>Eucalyptus parvula</i>	Small leaf Gum	y	i	6-10	e	
<i>Eucalyptus pauciflora</i>	White Sally	y	i	8-10	e	withstands dry conditions
<i>Eucalyptus pulverulenta</i>	Silver leaved Mountain Gum	y	i	6-10	e	
<i>Eucalyptus rubida</i>	Candlebark	y	i	15-30	e	
<i>Eucalyptus stellulata</i>	Black Sally	y	i	6-15	e	withstands dry conditions
<i>Eucalyptus viminalis</i>	Ribbon Gum	y	i	10-50	e	withstands dry conditions
<i>Fraxinus oxycarpa</i>	Desert Ash	n		12-15	d	
<i>Fraxinus pennsylvanica</i>	Red Ash	n		12-15	d	
<i>Fraxinus raywoodii</i>	Claret Ash	n		12-15	d	
<i>Laburnum vossii</i>	Golden Chain Tree	n		5-6	d	
<i>Malus</i> sp	Flowering Crabapples	n		6-8	d	
<i>Platanus orientalis</i>		n		20-30	d	
<i>Platanus x acerifolia</i>	London Plane Tree	n		15-30	d	
<i>Prunus</i> Sp	Flowering Plums/Cherries	n		4-15	d	
<i>Pyrus ussuriensis</i>	Manchurian Pear	n		10-20	d	
<i>Quercus coccinea</i>	Scarlet Oak	n		18-25	d	
<i>Quercus palustris</i>	Pin Oak	n		20-25	d	
<i>Quercus rubra</i>	Red Oak	n		20-25	d	
<i>Sorbus aucuparia</i>	Rowan Tree	n		8-10	d	
<i>Thuja plicata</i>	Western Red Cedar	n		10-20	e	Good hedging plant.
<i>Ulmus Procea</i>	English Elm	n		35-45	d	
SHRUBS						
<i>Abelia grandiflora</i>		n		1-2	e	
<i>Acacia boormanii</i>	Snowy River Wattle	y		3-5	e	
<i>Acacia cultriformis</i>	Knife Leaf Wattle	y		2-4	e	
<i>Acacia dealbata</i>	Silver Wattle	y		10	e	
<i>Acacia kettelwelliae</i>	Buffalo Wattle	y	i	4-7	e	
<i>Acacia melanoxylon</i>	Blackwood Wattle	y		2-6	e	
<i>Acacia pravissima</i>	Ovens Wattle	y		2-5	e	
<i>Acacia rubida</i>	Red stemmed wattle	y	i	3-5	e	
<i>Acacia siculiformis</i>	Dagger Wattle	y	i	1-3	e	
<i>Acacia verniciflua</i>	Varnish Wattle	y	i	1-3	e	
<i>Acacia vestita</i>	Hairy Wattle	y		3	e	
<i>Arbutus unedo</i>	Srawberry Tree	n		3-9	e	
<i>Banksia ericifolia</i>	Heath Banksia	y		1.5-3	e	
<i>Banksia marginata</i>	Silver Banksia	y		1-7	e	
<i>Berberis Atropurpureum</i>	Purple leaf Barberry	n		1-1.5	e	
<i>Berberis darwinii</i>	Darwin Barberry	n		1-1.5	e	
<i>Berberis Little Favourite</i>	Dwarf Barberry	n		.5	e	
<i>Buddlea davidii</i>	Butterfly Bush	n		2-3.5	d	
<i>Buxus sempervirens</i>	English Box	n		to 9m	e	Ideal for hedging
<i>Callistemon pallidus</i>	Lemon Bottlebrush	y		1-2	e	
<i>Callistemon pityoides</i>	Alpine Bottlebrush	y	i	1-2	e	
<i>Callistemon subulatus</i>	Dwarf Bottlebrush	y		2	e	
<i>Camellia japonica</i>		n		various	e	hundreds of cultivars

Camellia sasanqua		n		.6-6	e	hundreds of cultivars
Ceanothus Pacific Blue	California lilac	n		1-1.8	e	
Chamaemelum japonica	Japanese Quince	n		1-2	d	
Choysia temata	Mexican Orange Blossom	n		1-1.5	e	
Coleonema compacta	Dwarf Diosma	n		.5-1	e	
Coleonema pulchrum	Diosma	n		1-1.5	e	
Coleonema pulchrum Aurea	Golden Diosma	n		1-1.5	e	
Correa lawrenciana	Mountain Correa	y		1-3	e	
Deutzia sp	Wedding bell plant	n		1-1.5	d	
Erica darleyensis	Heath	n		.5-6	e	
Escallonia Sp		n		to 2m	e	
Euonymus alatus	Winged spindle	n		1-2	d	
Euonymus japonicus	Japanese spindle tree	n		1-3	e	
Forsythia suspensa		n		2-3	d	
Grevillea Australis	Mountain Grevillea	y		1-1.5	e	
Grevillea Canberra Gem		y		2	e	
Grevillea Canterbury Gold		y		5-2	e	
Grevillea lanigera	Woolly Grevillea	y		2	e	
Grevillea Poorinda Constance		y		2-3	e	
Grevillea rosmarinifolia	Rosemary Grevillea	y		1-2	e	
Grevillea victoriae	Royal Grevillea	y		2-4	e	
Hakea microcarpa	Small Fruit Hakea	y		1-2	e	
Hebe sp	Veronica	n		to 1.5	e	check with nursery as to frost tolerance
Hibiscus syriacus	Blue hibiscus	n		1.2-2	d	
Ilex crenata	Japanese Holly	n		1.2-4	e	
Kunzea ericoides	Burgan Tea Tree	y	i	2-4	e	
Lavandula angustifolia	English Lavender	n		.5-1.5	e	
Lavandula dentata	French Lavender	n		.5-1.2	e	
Lavandula stoechas	Spanish Lavender	n		.5-1	e	
Leptospermum lanigerum	Woolly Tea Tree	y	i	2-6	e	
Mirbelia oxylloboides	Mountain Mirbelia	y	i	1-3	e	
Nandina domestica	Sacred Bamboo	n		1.5-2	e	
Nandina domestica Nana		n		1	e	
Olearia phlogopappa	Daisy Bush	y	i	1.5-2	e	
Philadelphus mexicanus	Mock Orange Bush	n		2-3	d	
Photinia glabra rubens		n		to 3m	e	
Prostranthera cuneata	Alpine Mint	y		1	e	
Prostranthera lasianthos	Victorian Xmas Bush	y		1-4	e	
Prostranthera phyllifolia	Jindabyne Mint	y	i	.5-1	e	
Rosa sp	Rose	n		1-3	d	hundreds of cultivars
Rosmarinus officinalis	Common Rosemary	n		1.5-1.8	e	
Spiraea thunbergii	Spiraea	n		1-1.5	d	
Viburnum burkwoodii		n		2-2.5	d	
Viburnum opulus Sterile	Snowball Tree	n		to 4m	d	
Viburnum tinus	Laurustinus	n		2-4	e	
Weigela japonica		n		1-1.5	d	
GROUND COVERS/PERENNIALS						
Agapanthus Sp		n		to 1m	e	
Brachyscome aculeata	Hill Daisy	y		.3	e	
Brachyscome multifida	Native Daisy	y		.3	e	Short lived
Bulbine bulbosa		y	i	.3	p	
Carex sp	Sedge	n		various	e	check with local nursery for best species.
Cerastium tomentosum	Snow in Summer	n		.2	e	
Chrysocephalum apiculatum		y	i	.3	e	
Dianella sp	Flax Lily	y		1	e	check with local nursery for best species.
Dianthus sp	carnation	n		.6	e	
Dicentra sp	Bleeding Heart	n		.2	p	
Erigeron karvinskianus	Seaside daisy	n		.3	e	
Festuca glauca	Bluegrass	n		.2	e	ornamental grass
Grevillea Bronze Rambler		y		.4	e	

Grevillea Gaudi Chaudi		y		.3	e	
Grevillea Junipera		y		1	e	
Grevillea junipera Molonglo Hybrid		y		.8	e	
Grevillea Junipera Pink Lady		y		.8	e	
Helloborus orientalis	Winter Rose	n		.5	p	
Kunzea Badja Carpet		y		.3	e	
Lomandra lonifolia	Honey Reed	y		1	e	
Ophiopogon japonica	Dwarf Mondo Grass	n		.1	e	ornamental grass
Phlox subulata	Alpine Phlox	n		0	e	
Rannunculus sp	Native buttercups	y	i	.3	p	
Thymus sp	Creeping Thyme	n		.1	e	
Vinca minor		n		.3	e	