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SECTION 1: INTRODUCTION

1.1 PURPOSE

The Moreland Small Shopping Strip Public Domain Manual (the Manual) has been developed to provide guidance for the physical improvements of the Neighbourhood and Local Activity Centre shopping strips in Moreland City Council.

The Manual supports the Shopping Strip Renewal Policy (SSRP) and the associated Capital Works Program. The SSRP guides Council efforts to bring about physical enhancements, improve business performance, and activate the public spaces within local shopping strips in a manner which is equitable and sustainable over the long term.

Public works in shopping strips provide improvement to the pedestrian domain, improve disability access, integrate environmentally sustainable features, incorporate maintenance and cleaning, integrate existing local community facilities and support further improvement of business activities.

The objective of the Manual is to define design principles and provide a standard palette of materials and elements, with the aim to:

- Establish an attractive and consistent public domain image within shopping strips in Moreland
- Provide clarity in design rationale
- Guide the design delivery process and project documentation required for shopping strips
- Maintain construction standards for streetscape elements
- Facilitate integrated management, maintenance and repairs of Council assets

This document will be used by:
- Council’s urban design team, as a design guideline for the development of shopping strip design concepts
- Engineering consultants, as a reference document to construction documentation
- External civil contractors and landscaping contractors for material specification
- Council officers involved in long-term maintenance and cleaning including furniture-specific maintenance regime
- Council officers in development applications for properties within neighbourhood activity centres and local activity centres, as a reference document for reinstatement of footpath/other public realm construction
SECTION 1: INTRODUCTION

1.2 LOCATION

The Manual applies to shopping strips identified in the Shopping Strip Renewal Policy, Neighbourhood Activity Centres (NACs) and Local Activity Centres (LACs) in Moreland. The manual applies the same material palette for both NACs and LACs.

The Manual does not apply to the Coburg Principal Activity Centre and the Major Activity Centres of Brunswick and Glenroy which have their own distinct streetscape treatment documented within the Coburg Streetscape Masterplan, Brunswick Public Domain Manual and Glenroy Streetscape Masterplan.

Fig. 1 - Shopping Strip improvements completed in Widford Street in Glenroy, Tyson Street in Fawkner, Justin Avenue in Glenroy and Anderson Road in Fawkner.
Fig. 2 - Location of shopping strips
Fig. 3 - List of shopping strips
1.3 DESIGN CONCEPT

Shopping strips cater for a diversity of people including children and seniors walking to the centres as segments of customers unable to drive. They offer local convenience to meet daily needs and an opportunity to meet others in the neighbourhood. Public areas should therefore be designed as spaces for socialising and be accessible by different types of users. It is important to create a dignified design treatment for people with different ability through integrated design. The aspirations for public areas in shopping strips are highlighted in Figure 4 below.

![Conceptual Aspiration](image)

**Fig. 4** - Conceptual aspiration
The design palette is based on the key strength of our shopping strips as social centres for each area. Almost each shopping strip has a continuing social history dating back to the early days of Moreland. Our neighbourhood and local activity centres are places to get local fresh food, to obtain services and to socialise. Centre design should capitalise on the local identity of each shopping strip and strengthen the civic character of each area.

The design palette is designed to create a unified, cohesive design. Quality materials and well-considered design will never go out of style and will reduce replacement cost. The design suite is chosen to be versatile and relate to the enduring nature of the shopping strips, while modern in detailing.

Fig. 5 - Design palette concept
1.3.2 COLOUR CONCEPT

This Manual sets out a standard material palette for shopping strips to create a strong common identity across the network which will be different from the Principal and Major Activity Centres’ furniture suite. The simple colour palette of black and grey has been selected to reduce visual clutter while being versatile enough for shopping strips. Planter beds will provide colour accents to the shopping strips by using vibrant colours such as Kangaroo Paw, Yellow Button, and other understorey species as specified in the Streetscape Elements section. Timber is used for furniture, which provides a warm surface in colder months.

**COLOUR CONCEPT**

**BLACK AND GREY IN HARDSCAPE**

**WARM TIMBER IN INTERACTIVE FURNITURE**

**COLOURS IN SOFTSCAPE**

“Simplicity” linear pattern
“Dignified” black metals
“Warm & welcoming” timber slats
“Colourful” urban greenery

Fig. 6 - Colour concept
1.3.3 SHOPPING STRIP IDENTITY

The shopping strip name is an important branding element for the businesses within the shopping strip. The name can be displayed as a subtle signage incorporated into street furniture. Directional signage installed on major roads is also important to direct people to the shopping strip, including community facilities signage from major roads.

1.3.4 UNIQUE ELEMENTS

Unique elements strengthen the specific identity of each shopping strip and act as informal visual signage. The element can be a public artwork or a sculptural public furniture such as a bench, bike rack, fence or lighting. Commissioning of the elements may open up opportunities for engagement with local artists and the broader community which will strengthen the sense of ownership of shopping strips.

Fig. 7 - Public art as unique elements
Solid wood bench in Anderson Road, Fawkner

Divan seat in Tyson Street, Fawkner

Bike rack art in Minneapolis (Dero)

Poetry Fence in California

Lighting art in CBD Melbourne (Craig and Karl)

Public seating in Fitzroy (Bronwyn Snow)

Fig. 8 - Sculptural street furniture as unique elements
1.4 DESIGN GUIDELINES

This section provides design guidelines to assist in preparing in the concept designs for shopping strips, and to clarify when and where to apply Section 2 Streetscape Elements in a shopping strip project.

If additional materials are sought and are not within this manual, the new material proposed should align with the rationale of the guideline to ensure that it will not introduce an inconsistent overall look.

Although every shopping strip is different with specific needs, there are few universal elements which will need to be achieved through the physical improvements including: Pedestrian Priority, Business Activation, Unified Overall Design, Greenery Intensification and Integrated Transport and Facilities.

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**Greenery Intensification**
- Use of Water Sensitive Urban Design (WSUD) whenever possible
- Reclaim unnecessary street width as green area
- Improve urban ecology by selection of appropriate species

**Business Activation**
- Space(s) for outdoor dining
- Pedestrian scale night lighting for safety
- Accessible entry to businesses
- At least one accessible parking for disabled customers

**Pedestrian Priority**
- Slowing vehicle speed by visually narrowing down the street with trees
- Distinctive pedestrian crossing(s) to increase visibility on the road
- Comfortable seating spaces
- Improve crossing safety by applying narrower turning radius to slow down turning vehicles
- Accommodate accessibility

**Integrated Transport and Facilities**
- Locate public transport stops at visible corners
- Locate public toilets at strategic locations
- Provide facilities for bicycle riders and joggers
- Provide safe bike lanes around shopping strip areas

**Unified Overall Design**
- A simple and unified material palette
- Inviting furniture suite which is well maintained
- Reduce visual clutter
- Minimise complicated maintenance by careful selection of street elements

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*Fig. 9 - Shopping Strip Elements*
1.4.1 FOOTPATH TREATMENT

Poured concrete is chosen as the footpath material for shopping strips which will provide a durable finish that is also easy to maintain. Sawcutting is used to create a simple pattern that will assist in breaking down the scale. This pattern can be applied differently in the same linear manner. The exposed aggregate of the sandblasted concrete will provide texture which masks dirt and chewing gum on the pavement.

There are two pavement types used: standard pavement and feature pavement:

**STANDARD PAVEMENT**
For standard footpath areas, 2,000 - 3,000 mm wide in front of shops. Refer to Streetscape Elements section - Surface Treatment S1.

**FEATURE PAVEMENT**
For outstand areas, normally 3,000 - 6,000 mm wide in front of corner shops (corner outstand), shops at the centre of the strip (central outstand) or at the end of the strip as simple kerb outstand. Refer to Streetscape Elements section - Surface Treatment S2.

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**SANDBLASTING PROCESS**

“Wet sandblasting” process is preferred over conventional dry abrasive sandblasting because it reduces 95%, uses 50% less blasting media and produces less noise.

Proper notification must be done prior to sandblasting and other extensive construction process. Appropriate clean up should be done immediately to minimise business disruption.
1.4.2 STREET FURNITURE LOCATION

Location of fixed street furniture should respond to the nature of the business, and should not hinder potential use of the footpath for cafes and restaurant outdoor dining. Outdoor furniture placed by shop owners must be within the Permit Zone and comply with the Council Local Law, which includes a permit and yearly fee. All street furniture should be located on the footpath area where it does not obstruct the Pedestrian Zone and Kerbside Zone (refer to the table below). The dimensions ensure compliance with AS1428 obstruction free space of min. 1,500 mm in width and min. 2,000 mm in height along the shop front. Refer to Appendix A.2 for further guidance on setbacks and requirements for the location of street furniture.

<table>
<thead>
<tr>
<th>Pedestrian Zone</th>
<th>Distance from property line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footpath less than 3,500 mm wide</td>
<td>1,500 mm</td>
</tr>
<tr>
<td>Footpath 3,500 mm and wider</td>
<td>1,800 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kerbside Zone</th>
<th>Distance from face of kerb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent to parking space for people with disabilities</td>
<td>1,500 mm</td>
</tr>
<tr>
<td>Adjacent to a loading zone</td>
<td>700 mm</td>
</tr>
<tr>
<td>In all other cases</td>
<td>400 mm</td>
</tr>
</tbody>
</table>

* 600 mm should be provided for 45 & 90 degrees parking bays to ensure car hood overhang is far enough from the street furniture

Fig 11 - Table of Zone Widths from the Moreland Council Private and Commercial Use of Public Places Policy: Appendix B Footpath Declared Area Guidelines
1.4.3 LANDSCAPING

Landscaping is an important element of the shopping strip design. Trees provide shade for pedestrians and at the same time slow down traffic. Every shopping strip should aim for extensive greenery despite the often limited space within the footpath. This can be achieved by reclaiming road space into the landscaping area whenever possible. Refer to Appendix A.2 for further guidance on setbacks and spacing required for location of trees.

EXTENSIVE GREENERY

Planter bed areas with feature plants should be located in focal points such as outstands and be provided as generously as possible. The planter bed area provides a “safe” backing for seats with back rests.

PLANTER BED DETAIL

Planter bed areas are outlined by strips of blue stone edging of 45 mm around the bed to provide contrast with the surrounding concrete.

*Refer to the actual black tree grate specification in Section 2.*
PLANTS IN LIMITED SPACE

Plants in limited space require careful consideration of growing capacities, watering options and access to sunlight.

Vegetation strip in a parking lot as narrow as 300 mm can be utilised as greening opportunities. Access in-between planter beds should be provided if the strips are located around parking bays.

Fig. 13 - Planting selection in relation to awning and footpath width

Vegetation strip in a parking lot as narrow as 300 mm can be utilised as greening opportunities. Access in-between planter beds should be provided if the strips are located around parking bays.

PLANTING LARGER SIZE PLANTS

Specify installation of larger pot size for plants to create lush vegetation from the beginning. Installing larger trees also reduces chance of vandalism of tree snapping. Understorey planting with appropriate density will also reduce the chance of rubbish being thrown into the planting gaps after the 12 months landscaping maintenance has finished.

Planting on the roof of amenity block in Healesville.
1.4.4 ACCESSIBILITY

ACCESSIBLE CAR PARKING

Accessible car parking requires adequate ramp area which can be difficult in smaller footpath area. Shared area of access can be utilised as additional planting area.

TACTILE GROUND SURFACE INDICATOR (TGSI)

TGSI should lead a visually impaired person from a crossing to the building edge for ‘shore lining’. Two types of TGSI, directional (with lines) and hazard (with dots), should be installed as per the Australian Standard. The TGSI specified in this manual is black colour studs which will provide maximised contrast level against the substrate colour of grey concrete. Installation of the TGSI must be done by a qualified installer as adjustment on-site might be necessary in order to comply with the Australian Standards.

ACCESSIBLE DESIGN

The footpath should be at the same level as the shop entry level whenever possible to accommodate wheelchair access. For large ground level difference, shop owners must provide a ramp located within their shop. Ramps outside shops would create a tripping hazard.

In public space design, consideration for accessibility should be given (not only limited) to:
- Potentially obstructing objects
- Drinking fountains
- Toilet facilities
- Controls and operating mechanisms
- Signage
- Public telephones
- Fixed seats and tables

Example of a trench selection which is accessible for wheelchair, as well as anti-slip and safe for heels.
1.4.5 LIGHTING

LIGHTING FOR PEDESTRIAN AREAS

Lighting contributes to the usability and safety of the shopping precinct in the night. While the potential to apply new lighting is often limited for main roads, lighting to council-owned lanes and pedestrian links should be achievable. Local businesses can provide lighting outside their business which will contribute to the activation and safety of the shopping precinct.

Lighting colour has a significant impact on the perceived safety of pedestrian areas. Softer light highlights facial expression and increases the perception of safety while walking. It is important that the lights are installed at an adequate human scale height of approximately 3,500 mm. Lighting should be tested with photometric modelling before installing a lighting fixture. Ambience lighting can create a specific mood to outdoor night dining, which can be provided in form of fairy lights attached to a tree or embedded into the streetscape as public art lighting.

Existing light pole can be retrofitted to accommodate lighting at pedestrian scale height.

Solar powered lighting can be installed without cabling and can be done as a temporary solution (Wilson Avenue, Brunswick.)

Lighting combined with public art (Latrobe Lane)

Fairy lights as permanent feature (Southbank)
1.4.6 SERVICE AND UTILITIES

MINIMISING VISUAL CLUTTER
Signage, signals, and utility infrastructure should be located appropriately within the shopping strip to minimise visual clutter. Existing utilities such as traffic light boxes should be assessed from an accessibility aspect. If the structure is unmovable, repainting of the utility using contrasting colour will improve the visual contrast.

If any reconstruction is done to the underground infrastructure, lids, pits and grates should be located appropriately to not reduce smooth footpath and growth area for planting.

SURFACE MAINTENANCE
Whenever underground service repairs are required, the full concrete footpath panel is to be replaced, which is to be dowelled into the adjoining pavement.

Existing concrete paving should be cut in a large section to match the sawcutting line (300 mm wide) to ensure a neat pattern, stretching from the wall line to the kerb. New concrete must match the existing surface treatment and sawcutting lines must be rectified as per previous design.

PUBLIC ART ON UTILITIES
Utilities boxes that cannot be removed can be painted over with an artwork to add interest. It can also increases contrast and provide better visibility for people with visual impairment. Approval from utility company or property owners should be sought prior to commencement of the artwork. Artworks must be coated with anti graffiti coating upon completion.
Where possible, shopping strip projects should maximise environmental synergies through design and construction.

**Recycled content** - The project should aim to recycle construction waste by use of construction materials made of post consumer recycled content. Consider specifying products such as Boral Envirocrete (recycled concrete), Zeobond E-crete (concrete slag) and use of 100% recycled rubble for footpath sub-base.

**Energy conservation** - Energy reduction in the long-term operation can be minimised by specifying the use of LED lighting, solar powered parking meters, light/reflective surfaces on sidewalks and roadways to reduce lighting wattage, and use of dark sky-friendly lighting fixtures. Energy conservation in the construction includes deriving materials or products that have been extracted, harvested, recovered, or manufactured within proximity of the project site.

**Stormwater management** - Maximise use of rain water that falls within the catchment area utilising water sensitive urban design practices which provide water for the landscaping, improve water quality, and reduce the volume of stormwater that enters the combined sewer system. Consider use of permeable asphalt for parking bays where possible.

**Urban heat island mitigation** - Shopping strip design should aim to reduce ambient summer temperatures on streets via use of trees for shading and increased landscaping. Use of the latest construction material such as High-albedo Pavement (reflective, light coloured), Micro Concrete Overlay coatings on road asphalt (improving asphalt solar radiation index), Photocatalytic cement (reduces air pollution caused by exposure of the cement to ultraviolet light) should be explored depending on project brief and budget.

**Sustainable transportation** - The design of the shopping strip should improve accessibility to bus stops with good signage, shelters, and lighting and facilitate use of bicycles by providing safe bike lanes and bike parking. The overall footpath improvement encourages walking with fully accessible footpath and pram crossing.

**Water efficiency** - Shopping Strip project will minimise use of water irrigation through specifying native or climate-adapted non-natives, drought-tolerant plants for landscaping.

**Education & Research** - Design of the shopping strip project should include, as appropriate, public outreach materials to highlight innovative, sustainable design features of the streetscape. Data monitoring of stormwater initiatives, air quality and urban heat island effect can be gathered in coordination with university research projects to determine the long-term performance of the shopping strip.
SECTION 2: STREETSPEED ELEMENTS

2.1 SURFACE TREATMENT (S)

S1 FOOTPATH - STANDARD PAVEMENT

**Brush finish**
Standard concrete mix, brush finish aligned to the direction of the sawcutting. Sawcutting line width 300 mm.

S2 FOOTPATH - FEATURE PAVEMENT

**Brush finish and sandblasted finish**
Standard concrete mix, brush finish aligned to the direction of the sawcutting, alternated with sandblasted finish. Sawcutting line width 300 mm.

S3 KERB AND CHANNEL

**Concrete kerb and channel**
Refer to Council Standard SD201 (Appendix A1).

S4 PRAM CROSSING DETAIL

**Concrete with Edging**
Concrete surface with trowel finish/wet sandblasted finish with edging. Refer to Council Standard SD260 (Appendix A1) with modified edging.

S5 TACTILE GROUND SURFACE INDICATOR (TGSI)

**Polyblade (Cobble TAC)**
Black polyblade TGSI. Location of the tactiles must avoid sawcutting lines. Tactiles must be installed by a specialist installer to ensure it conforms with the AS1428 for the finished condition of the footpath.
SECTION 2: STREETSCAPE ELEMENTS

S6 PEDESTRIAN_THRESHOLD CROSSING - STAMPED COLOURED CONCRETE

Stamped concrete

S7 PEDESTRIAN_THRESHOLD CROSSING - LINE MARKING ON ASPHALT

Line marking on asphalt
White line marking on asphalt, piano keys on asphalt ramp.

S8 BUS_SPEED_HUMP

Rubber speed hump (Saferoads)
Black colour rubber speed hump. For roads with bus routes.

S9 PIT GRATE

Stainless 5 Star Heel-safe Anti-Slip Grate (ACO)
Grates for pedestrian traffic is accessible by wheelchairs and high-heels. Refer to Council Standard SD125 (Appendix A1).

S10 STORMWATER_TRENCH - ON CONCRETE FOOTPATH

Stainless 5 star Heel-safe Anti Slip (ACO)
Trench for pedestrian traffic is accessible by wheelchairs and high-heels. Trench with discrete raised mechanical nodes. Load B and C vehicle application.

S11 STORMWATER_TRENCH - ON ASPHALT

Iron Intercept Heel-safe Anti-Slip (ACO)
Trench for pedestrian traffic is accessible by wheelchairs and high-heels. Load B and C vehicle application.
**S12 PLANTER BED DETAIL**

Planter bed with blue stone edging
Polished blue stone edging 45 mm wide around planter bed to provide contrast.

**S13 TREE GRATE - ALUMINIUM**

Tree grate (Furphy)
Square tree grate in four parts, black cast aluminium 1,219 mm x 1,219 mm, narrow grooves for accessibility. Apply mulch ring to wrap the tree trunks underneath the tree grate to avoid garbage being shoved under the grate.

**S14 TREE GRATE - POROUS PAVING**

Tree grate (Waterpave)
Square tree grate in four parts size 1,200 mm x 1,200 mm with interchangeable rings. Porous paving in blue grey colour with integrated tree stake or tree guard holes.

**S15 PIT LID - ON FOOTPATH**

Drainage pit - light grey (Terra Firma)

**S16 PIT LID - ON LANDSCAPING**

Drainage pit - green (Terra Firma)
2.2 STREET FURNITURE (F)

**F1 SEAT**

Promenade Seat (Furphy)
Hardwood timber slats with cast aluminium frame. Black paint on arm rest and legs using excellent quality 2-pack paint protective coating such as Luxathane or similar. Bolt down fixing on concrete surface.

**F2 BENCH**

Promenade Bench (Furphy)

**F3 BENCH AND SEAT ON CONCRETE**

Promenade (Furphy)

**F4 CAFE TABLE**

Cafe round table (Furphy)
Metal with hardwood timber slats. Black paint on the metal frame using excellent quality 2-pack paint protective coating such as Luxathane or similar. Bolt down fixing on concrete surface.

**F5 CAFE CHAIR**

Cafe round chair (Furphy)

**F6 BIN**

Moreland bin (Draffin)
Metal bin surrounds with laser cut pattern holes with Moreland logo. Dulux Quantum Effect two pack paint “Metallic silver”.
F7 BICYCLE HUB

Bicycle hub (Securabike)
Bicycle hub with bike pump, tools and bike signage. Black paint on the metal frame using excellent quality 2-pack paint protective coating.

F8 SEMI-CIRCULAR BIKE HOOP

Semi-circle bike hoop (Embleton Coburg)
Stainless steel 90 mm dia. tubular frame. Bolt down fixing to be used on concrete surface. Refer to Council Standard SD403 (Appendix A1).

F9 SLIM BIKE HOOP

Slim bike hoop (Embleton Coburg)
Stainless steel 90 mm dia. tubular frame. Bolt down fixing to be used on concrete surface.

F10 POLE BICYCLE HOOP

Commuter hoop (Embleton Coburg)
Stainless steel 90 mm diameter tubular frame. Bolt down fixing to be used on concrete surface.

F11 PEDESTRIAN BOLLARD

Geo bollard sphere (Street Furniture Australia)
Sub-surface mounted bollard. Black paint on the metal frame using excellent quality 2-pack paint protective coating.

F12 FENCE

Urban fence
Fence must be applied only when necessary, consider other treatment such as vegetation buffer before using a fence. Metal slats in a simple frame. Black paint on the metal frame using excellent quality 2-pack paint protective coating.
SECTION 2: STREETSCAPE ELEMENTS

F13  DRINKING FOUNTAIN

Cascade drinking fountain (Furphy)
Cast aluminium frame drinking fountain with integrated dog bowl. Black paint on the metal frame using excellent quality 2-pack paint protective coating.

F14  MORELAND SIGNAGE FOR COUNCIL FACILITIES AND PARKS

Black signage
Refer to Draft Moreland Signage Guidelines.

F15  LIGHTING - STAND ALONE POLE

Eyris RB600 (WE-EF)
Lighting option: square throw, circular throw, or forward throw. LED option. Installed at approximately 3,500 mm height. Black paint on the metal frame using excellent quality 2-pack paint protective coating.

F16  LIGHTING - ATTACHMENT TO EXISTING POLE

DAC 200 (WE-EF)
Attached to existing pole. Black paint LED option. Installed at approximately 3,500 mm height.

F17  SOLAR POWERED LIGHTING - ATTACHMENT TO EXISTING WALL

Solar powered lighting (Highlux)
LED Luminaire, Lithium LiFePO4 battery with solar panel. Black paint.
F18  TREE GUARD

Tree guard (Furphy)
Slim tree guard diameter 400 mm, height 1,400 mm, bolts to grate. 8 vertical supports in metal slats. Laser cut Moreland logo and shopping strip name on the middle band. Black paint on the metal frame using excellent quality 2-pack paint protective coating.

F19  TREE STAKES

Tree stakes and tree ties
If tree guards are not used, use tree stakes and tree ties until 12 months. Tree stakes should be painted black with black tree ties.

F20  PLANTING FRAME FOR CLIMBERS

Planting frame for climbers (Furphy)
Slim size frame diameter 400 mm, height 2,200 mm frame with square mesh inside. Base to be bolted into Furphy tree grate. Laser cut Moreland logo and shopping strip name on the middle band. Black paint on the metal frame using excellent quality 2-pack paint protective coating.
2.3 PLANTING (P)

P1 STREET TREES - NATIVE DECIDUOUS

*Brachychiton acerifolia* ‘Illawarra’ - “Illawarra Flame Tree”. Native Deciduous. In cold areas the tree reaches height of only about 10,000 mm. Smooth foliage, oval-shaped and can have three or five lobes. Flowers are bright coral-red and bell-shaped occur in clusters.

P2 STREET TREES - NATIVE EVERGREEN

*Corymbia eximia* ‘Nana’ “Yellow Bloodwood”
A smaller growing form grows to about 8,000 mm compact gum tree with handsome, bold foliage, large yellow flower buds and cream flowers. It is typified by patchy, grey and brown bark, frequently on a crooked trunk.

P3 STREET TREES - EXOTIC DECIDUOUS

*Ulmus parvifolia* ‘Todd’ – Chinese Elm
Exotic deciduous. This tree has fairly upright growth. It has pendulous branches and small dark green leaves. The ornamental bark is orange-brown and finely flaking. The cultivar ‘Todd’ has a narrow form.

P4 STREET TREES - EXOTIC DECIDUOUS

*Lagerstroemia Hybrids* “Crepe Myrtle”
Exotic deciduous. Multi-stemmed wide-spreading tree to 6,000-8,000 mm tall. The flowers are very showy in summer and the autumn colour is quite striking.

P5 STREET TREES - NATIVE EVERGREEN

*Tristaniopsis laurina* ‘Luscious’ “Water Gum”
Native evergreen. Rounded to broad spreading small to medium tree to 8,000 mm height. Glossy green foliage, trunk often forms a gnarled and mottled appearance with age. This cultivar is more vigorous with handsome leaf.

P6 STREET TREES - NATIVE EVERGREEN

*Banksia marginata* “Silver Banksia”
Native evergreen. Erect small to medium tree to 6,000-10,000 mm height, green foliage on the top and white underneath. Flowers are yellow spikes borne throughout the year.
**P7** STREET TREES - NATIVE EVERGREEN

*Corymbia ficifolia ‘Summer Beauty’ “Red Flowering Gum”*. Native evergreen. Dense rounded tree to 8,000-10,000 mm. Masses of pink, red or orange flowers are borne on the outside of the canopy over summer. Must be planted in planter bed instead of concrete cut-outs due to gum nuts.

**P8** STREET TREES - EXOTIC DECIDUOUS

*Acer buergerianum “Trident Maple”*
Exotic Deciduous. Grow into a trouble-free tree up to 9,000 m tall by 6,000-7,000 mm broad. Autumn colour can be variable, some trees will colour to a vivid red or yellow.

**P9** STREET TREES - NATIVE EVERGREEN

*Eucalyptus mannifera (dwarf selection) “Little Spotty”*
Native evergreen. Resilient and drought tolerant small tree to 5,000-7,000 mm height and width 4,000 - 5,000 mm. Smooth white wavy trunk that displays bright red patches in early summer. Long flowering from late winter to summer.

**P10** STREET TREES - NATIVE EVERGREEN

*Eucalyptus leucoxylon ‘Eucy dwarf’ “Dwarf Yellow Gum”*. Small gum tree with an open canopy, single trunk and smooth, shedding bark. It features green grey leaves, which are surrounded by pink, red and cream flowers from Autumn to Summer.

**P11** UNDERSTOREY PLANTING

*Dianella longifolia “Pale Flax Lily”*
Indigenous plant. Tufted perennial herb. Flowers are whitish to dark blue or blue-green. Flowers from October to December. Fruit is a fleshy berry.

**P12** UNDERSTOREY PLANTING

*Lomandra confertifolia ‘Little Con’*
‘Little Con’ is a small, hardy native plant with size 300 mm x 300 mm. It has a rounded habit and small cream flowers that grow amongst the foliage in spring.
**P13 UNDERSTOREY PLANTING**

*Lomandra ‘Lime Tuff’*
Fine lime green leaves that stay lush all year round. In summer fragrant small yellow flower spikes emerge.

**P16 UNDERSTOREY PLANTING**

*Anigozanthos ‘Pink Joey’ “Kangaroo Paws”*
Similar to Bush Ranger, the flower-spikes grow to about 500 mm and the flowers are salmon-pink.

**P14 UNDERSTOREY PLANTING**

*Anigozanthos ‘Dwarf Delight’ “Kangaroo Paws”*
Compact plant to 800 mm tall with much branched flowering stems on top of strap-headed leaves. Flowers are covered with reddish hairs giving an overall impression of rich red flowers and stems.

**P17 UNDERSTOREY PLANTING**

*Einadia nutans subsp. “Nodding Saltbush”*
Native bush. Plants form a blanket on the surface with semi-succulent leaves. Flowers are inconspicuous green balls in summer which transform into tiny, bright-red berries during early autumn.

**P15 UNDERSTOREY PLANTING**

*Anigozanthos ‘Bush Gold’ “Kangaroo Paws”*
Similar to Dwarf Delight, this species grow to about 800 mm tall with yellow flowers.

**P18 UNDERSTOREY PLANTING**

*Chrysocephalum apiculatum “Common Everlasting, Yellow Buttons”*
Low, spreading perennial, growing up to 500 mm in height. Flowers from spring to autumn, it produces masses of small, yellow, button heads of flowers.
**P19 UNDERSTOREY PLANTING**

*Escallonia ‘pinkpixie’*
Evergreen shrub with small glossy leaves and masses of pale pink to white flowers. Fast growing, well suited to clipping into a formal hedge. Prefers a full sun to part shade position. Frost hardy and drought tolerant once established. Grows to 800 mm high x 800 mm wide.

**P20 CLIMBERS**

*Trachelospermum jasminoides “Star jasmine”*
Versatile climber plant. Leaves are attractive, glossy, with oval leaves which are pointed at both ends. Flowers are star-shaped whites which look like jasmine and fragrant. This plant needs support to climb and should be pruned to keep appearance neat.
3.1 APPLICATION

The Streetscape Elements within Section 2 of this Manual will apply to all small shopping strip projects. The number of street furniture fittings and construction size will depend on the budget allocated for each project.

3.2 PROJECT DELIVERY

Delivery of the shopping strip projects includes collaboration with relevant Council units to ensure that the projects and other capital works program are aligned, including budget, time line, and resources.

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**Fig. 14 - Roles and responsibilities for capital projects design and delivery**
3.3 MAINTENANCE

General maintenance of the selected street furniture within this Manual includes:

1. **Hardwood Timber Slats** - Hardwood located in outdoor areas should be initially re-coated after 3 months, and thereafter every 6 months. Re-coating should be done in warm weather with the following process:
   - Wash the surface to remove dust and dirt and allow to dry.
   - Apply one or two coats of timber oil using clean cloth and protective gear.
   - Do not apply a water-based stain, which is not compatible with timber oil and not resistant enough for outdoor furniture.
   - For degraded surface which appears greying and checking, a light sanding is recommended to freshen up the timber.

2. **Street Furniture Paint** - Street furnitures with paint colour should use paint product which has anti-graffiti coating, excellent abrasion resistance and outstanding weathering 2-Pack Paint such as Luxathane R - Polyurethane Gloss or similar. External surfaces should be regularly washed down using wet sponge, soft clean cloth and mild detergent to remove deposits (dry dusting will create scratch on the surface). Any exposed metal resulting from damage to the coating should be repaired quickly to avoid corrosion stains the metal.

3. **High Polished Metals** - If repolish is needed for corrosion or scratches, use metal polishing liquids such as Brasso. Deeper scratches and damage can sometimes be ground out and professionally re-polished.

4. **Graffiti Removal** - Use product that removes graffiti without damaging the furniture and removes all traces of the graffiti shadow. Refer to manufacturer’s instructions.

5. **Anti-graffiti Coating** - Artworks must be coated with anti graffiti coating upon completion. Use anti-graffiti coating, product which has excellent abrasion resistance and outstanding weathering such as Acrathane IF - Two Pack Acrylic Gloss or similar.

6. **Replacement Parts** - Replacement parts and some spares are available from specific supplier in Section 2 Streetscape Elements. Contact Urban Design Unit for contact details.

7. **Street furniture fixings** -
   - Bolts should be periodically checked and tightened as necessary. Check and tighten bolts at week one, week four and month three after positioning; then check and tighten bolts at a maximum of three monthly periods, depending upon usage and assessed risk
   - Screws on battens and other fixed parts should be manually and visually checked for integrity, at a maximum of three monthly periods.
APPENDIX - A.1
RELEVANT TECHNOTES/COUNCIL STANDARDS

This section provides reference to Technotes/Council Standards mentioned within Section 2 Streetscape Elements.

Materials palettes which are chosen generally align with the existing shopping strip treatments with a few special treatments to be developed as part of the implementation of shopping strip projects. The appendix section for the construction details is the live section of the document which will be expanded alongside shopping strip construction. The cost of technical detail documentation will be absorbed by the individual budget of each shopping strip project.
NOTES:

1. Concrete strength = 25 MPa, unless stated otherwise.

2. Pits shall be cast monolithically. Concrete to be thoroughly compacted by vibration during and immediately after placing in formworks. Cement render shall only be used to repair defects.

3. Pits over 2m in depth shall have F72 reinforcing fabric placed centrally in walls.

4. Step irons shall be fitted to pits greater than 1m in depth (See SD 190).

5. Minimum internal dimensions to be 600x900.

6. For blue stone pitch or asphalt right of ways, any exposed concrete shall be charcoal coloured.

7. Grate to be Weldlok PC6090L for areas with pedestrian traffic, PC6090M for cars traffic, PC6090H for truck traffic and PC6090KH for semi-trailer traffic.

8. Similar grate and frame shall be galvanized steel with the grate hinged to its frame. The proposed grate and frame set must be approved by Council before use.
INLET FOR B/STONE K&C

NOTES:
1. Concrete strength = 25 MPa, unless stated otherwise
2. Pits shall be cast monolithically. Concrete to be thoroughly compacted by vibration during and immediately after placing in formworks. Cement render shall only be used to repair defects
3. Pits over 2m in depth shall have F72 reinforcing fabric placed centrally in walls
4. Step irons shall be fitted to pits greater than 1m in depth (see SD190)
5. In street with bluestone k&c, asphalt or charcoal coloured concrete footpath, any exposed concrete, including lintel etc. shall be charcoal coloured
6. Lintel shall be SVC Code 15.370 or similar
7. Pit covers shall be Terra Firma, set in accordance with manufacturer's specification, unless specified otherwise.
8. In industrial & commercial area, cover shall be Class C, medium duty (Australian Road Covers, Gatic, etc.)
9. This dimension could vary if lintels other than SVC 15.370 are used.

Moreland City Council
SIDE ENTRY PIT (FOR TYPE B K&C) - 0.9m INLET
NOTES:

1. Concrete strength to be 25 MPa unless specified otherwise

2. "T" to be as specified on project drawings. When not specified, "T" to be 100mm minimum.

3. Charcoal colour concrete, where specified shall be by adding "Abilox" black colour powder or equivalent into the premix concrete. The rate of powder shall be 8.3% by weight of cementitious binder (approx. 25 kg per cubic metre of concrete)
NOTES:

1. Full pram crossing as shown to be casted integrally with kerb & channel layback.

2. Charcoal colour for concrete, when specified, shall be by adding "Ablix" black colour powder or equivalent at 8.3% by weight of cementitious binder (approx. 25 kg per cubic metre of concrete) to the concrete mix.

3. TGS1's shall be retrofit type (UCC's Tac-Pave, Eigen's PolyTac or equivalent), ivory colour unless specified otherwise on drawing. TGS1's shall conform to AS 1428.4-2002.

4. Directional TGS1's shall be aligned in the direction of pedestrian travel.

5. The hazard TGS1 pad shall be installed with an offset of 300 mm to the face of kerb at the control point.

6. At acute locations, the offset of the hazard TGS1 pad to the face of kerb may vary from 300mm desirable to 400mm max. at the centre line of installation.

7. When the width of footpath + nature strip is 3000mm or less and the grade of kerb ramp is flatter than 1 in 8.5, TGS1 are not required on face of kerb ramp, unless specified otherwise on drawing.

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**SECTION A - A**

**CONCRETE PRAM CROSSING**

**Moreland City Council**

**Revised July 09**

**Manager, Transport Infrastructure**

**Director, City Works**

**Plan No. SD 260**
NOTES:

1. Pedestrian crossing to be 200mm depth, FB2 reinforced concrete, unless specified otherwise. Concrete strength for paving to be 32 MPa.
2. Surface levels of pedestrian crossing to match levels of footpath on both sides as close as possible, taken into account the maximum slope of asphalt ramp.
3. Tactile ground surface indicators (TGSI's) shall be ceramic tiles, embedded onto the surface of the pedestrian crossing. Lay out of TGSI's to be varied to suit each individual site but must be in accordance with AS/NZS 1428.4:2002.
4. Fram crossings for pedestrian movement across the main street to suit each individual site and are not shown on this drawing.
304 STAINLESS STEEL BIKE RAIL WITH AND WITHOUT BASE PLATE

MATERIALS: 50.8mm OD, 1.6mm wall thickness, 304 stainless steel tube strengthened with 44.05mm OD, steel tube stiffener, or 3.0mm wall thickness with no tube stiffener.

FINISH: Polished.

BASE PLATE: Circular stainless steel base plates pre drilled with 3no. 12mm holes each for M10x65mm zinc plated dynabolts.

Extended leg version for installation in 350mm deep concrete footings.
NOTES:

1. Locate services (Ring Melbourne One Call Services) prior to setting out and excavation.
2. All excavation to be undertaken by hand.
3. Advanced trees to be approximately 2000mm high (40 - 50 litres container min.).
4. Apply 150 litres of water immediately after planting.
5. Apply 25 grams NPK (20:4:8) at planting per square metre of root zone.
6. When specified, use washed granitic sand lightly compacted, instead of wood mulch.
7. When specified, install 150x50 redgum edging along the perimeter of the cut out.
   The redgum edging is to be tied down with 50x50x600 redgum stakes spacing at Ø1000 centre.
NOTES:
1. Locate services with service authorities prior to setting out and excavation
2. All excavation to be undertaken by hand
3. Apply 15 litres of water immediately after planting
4. Apply 25 grams NPK (20:4:8) at planting per m² of root zone
This section provides reference to Section 1.5.2 Street Furniture Location and 1.5.3 Landscaping for technical dimensions required for landscaping, street furniture and public access.

Dimensioning and spacing related to street trees (from Moreland Street Landscape Strategy)

<table>
<thead>
<tr>
<th>Tree size</th>
<th>Kerb distance</th>
<th>Spacing</th>
<th>Median tree spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Trees</td>
<td>3,000 - 8,000 mm (height); 5,000 - 10,000 mm (width)</td>
<td>300 mm</td>
<td>4,000 - 6,000 mm (residential); 8,000 mm (commercial/industrial)</td>
</tr>
<tr>
<td>Medium Trees</td>
<td>8,000 -15,000 mm (height); 8,000 - 18,000 mm (width)</td>
<td>600 mm</td>
<td>8,000 mm (residential); 10,000 mm (commercial/industrial)</td>
</tr>
<tr>
<td>Large Trees</td>
<td>15,000 mm+ (height); 15,000 mm+ (width)</td>
<td>1200 mm</td>
<td>N/A (residential); 14,000 mm (commercial/industrial)</td>
</tr>
</tbody>
</table>

Note: Only very small trees are recommended under power lines. <6m (height); <6m (width)

Minimum setback from the centre of the tree to back of the kerb & footpath edge

In Shopping Strips, trees should be located between shops or parking bay if it's a road cut-out.

Concrete Cut-out size

<table>
<thead>
<tr>
<th>Tree size</th>
<th>Trees cut out on parking bay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Trees</td>
<td>600W x 1200L mm (min.); 2400W x 2400L mm (preferred)</td>
</tr>
<tr>
<td>Medium Trees</td>
<td>1200W x 1200L mm (min.); 3000W x 3000L mm (preferred)</td>
</tr>
<tr>
<td>Large Trees</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: Large trees are inappropriate to be planted within tree cut out and should be planted in a wider planter bed or nature strips

Trees road cut out (parallel parking only) should be encased with kerb to avoid use of car damage caused by tree guards or bollards

Setback from street lights (traffic lights)

<table>
<thead>
<tr>
<th>Intersection Setback</th>
<th>Driveway Setback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Arterials</td>
<td>Commercial</td>
</tr>
<tr>
<td>15,000 mm</td>
<td>3,000 mm (min.); 4,000 mm (preferred)</td>
</tr>
<tr>
<td>Secondary Arterials</td>
<td>Industrial</td>
</tr>
<tr>
<td>15,000 mm</td>
<td>3,000 mm (min.); 4,000 mm (preferred)</td>
</tr>
<tr>
<td>Collector Roads</td>
<td>Residential</td>
</tr>
<tr>
<td>10,000 mm</td>
<td>2,000 mm (min.); 3,000 mm (preferred)</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
</tr>
<tr>
<td>10,000 mm</td>
<td></td>
</tr>
</tbody>
</table>
CLEARANCES DIMENSION FOR PERMIT ZONE WITHIN A TRADING ZONE
(from Moreland Private and Commercial Use of Public Places Policy - Appendix B Footpath Declared Area Guidelines 2009)

<table>
<thead>
<tr>
<th>Tree maintenance/access zone setback</th>
<th>Pole setback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setback</td>
<td>300 mm</td>
</tr>
<tr>
<td></td>
<td>To bus stop (8,000 mm), to Parking Sign (2,000 - 4,000 mm), to Pedestrian Crossing (10,000 mm)</td>
</tr>
<tr>
<td>Note</td>
<td>between back of kerb and cut out for access to vehicle.</td>
</tr>
<tr>
<td></td>
<td>setback from an existing pole</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clearance distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corner kerb intersection</td>
</tr>
<tr>
<td>Pedestrian crossing</td>
</tr>
<tr>
<td>Tram stop</td>
</tr>
<tr>
<td>Fire hydrants, exit doors, hose reels, boosters and other emergency equipment</td>
</tr>
<tr>
<td>Council litter bins, public seats, pay phones, bicycle stands, mailboxes and other infrastructure accessed and used by the public</td>
</tr>
<tr>
<td>Other public assets</td>
</tr>
</tbody>
</table>

Corner kerb intersection clearances
(from Moreland Private and Commercial Use of Public Places Policy - Appendix B Footpath Declared Area Guidelines 2009)
APPENDIX - A.3
COMMON CONSTRUCTION ISSUES

This section provides reference for common construction issues, used as a consideration for Section 2 Streetscape Elements specification notes.

SAW Cutting
Sawcutting should be manually done with hand-held saw to create neat detailing and continuous saw cutting line up to the building lines.

COMPANY LOGO ON FURNITURE
Specify that no company logo is allowed on elements such as pit lids (e.g. Terra Firma)

INTEGRATED TACTILES INSTALLATION
Tactile installation should be done by qualified installer to ensure compliance with the Australian Standard and avoid poor detailing.

POLE SLEEVE
Pole sleeve must be installed during concrete pouring to avoid cut outs or bolting down.
EXPANSION JOINT
Expansion joint should be lower relative to concrete surface and in a neat straight line

FURNITURE STAINING
Ensure the furniture staining is properly done to avoid post-installation staining unto new concrete footpath

AVOID TREE LOCATION UNDER THE POWER LINE
Large trees should be located away from power lines.

AVOID TREE LOCATION CLOSE TO UNDERGROUND UTILITIES
Utilities underground should be identified in a survey to ensure that the landscaping bed avoids underground utilities and side entry pit that would limit vegetation growth. Service depthing must be undertaken in the concept design stage for all new tree pits and planter beds.