

LANDSCAPE TREATMENT POLICY FOR NATURE STRIPS AND MEDIANS IN STREETS, AVENUES AND BOULEVARDS

APRIL 2010



TABLE OF CONTENTS

Executive Summary

1.0 Introduction

- 1.1 Purpose
- 1.2 Background
- 1.3 Strategic Direction

2.0 Existing Conditions

- 2.1 Narrow Streets
- 2.2 Wide Streets
- 2.3 Boulevards

3.0 Design Criteria

- 3.1 Urban Character & Community Expectations
- 3.2 Environmental Quality
- 3.3 Landscape Character
- 3.4 Tree Health and Longevity
- 3.5 Installation Costs and Maintenance Implications

4.0 Materials Palette

- 4.1 Materials Review
- 4.2 Landholder or Developer Contributions
- 4.3 Standard Surface Materials
- 4.4 Special Surface Materials
- 4.5 Surface Materials Not Permitted

5.0 Landscape Treatment Selection Criteria

- 5.1 Selection Process
- 5.2 Selection Matrix
- 5.1 Landscape Treatment Plans - Narrow Streets
- 5.2 Landscape Treatment Plans - Wide Streets
- 5.3 Landscape Treatment Plans - Boulevards

6.0 Synthetic Turf Policy

7.0 Nature Strip Planting Policy

8.0 Special Circumstances

- 8.1 Arterial Roads, Roundabouts & Traffic Islands
- 8.2 Heritage Streetscapes
- 8.3 Docklands

9.0 Conclusion

Appendix 1

Consultation with Neighbouring Municipalities

EXECUTIVE SUMMARY

The City of Melbourne has developed a draft policy for Landscape Treatments for medians, nature strips and medians in streets avenues and boulevards.

The policy document was commissioned in response to a request to Council to install synthetic turf in a nature strip on St Kilda Road.

Strategically it was developed in response to changing environmental conditions and a requirement for a more consistent approach to the treatment of medians and nature strips in the City of Melbourne.

In summary, based on the review of existing landscape materials and conditions included in the document:

- **Three standard materials** have been selected for use in most situations;
- **Nine surface materials** have been selected for use in special circumstances only;
- **Two surface materials** are not permitted; and a
- **Landscape Treatment Selection Criteria** has been included to assist in clarification of appropriate materials

Generally, only standard surface materials would be installed and maintained by the City of Melbourne. These materials are already standards throughout the city.

The **three standard materials** are:

- Natural Grass (warm season);
- Asphalt;
- Sawn Bluestone.

The **two materials that are not permitted** for sustainability and maintenance reasons are:

- Rubber surface; and
- Painted pavement.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide a framework for the selection of landscape treatments for nature strips and medians within the City of Melbourne.

It supersedes the policy report titled 'Surface treatments of medians, nature strips and islands within the streets of the City of Melbourne' prepared in October 2003.

1.2 Background

Grassed nature strips and medians are declining due to sustained drought conditions, discontinuation of irrigation due to water restrictions, light and moisture competition from trees, and soil compaction from pedestrians and vehicles.

As the city population grows, and land-use density and pedestrian activity increases, the pressure on nature strips and medians will intensify.

Consultation with neighbouring Councils has indicated they want a consistent approach (refer Appendix 1).

1.3 Strategic Direction

This report builds upon the following City of Melbourne documents:

- City Plan 2010;
- Places for People 2004;
- Growing Green - Environmental Sustainability Plan 2003;
- Total Watermark - City as a Catchment;
- Water Sensitive Urban Design (WSUD) Guidelines; and
- Technical Notes.

2.0 EXISTING CONDITIONS

There are a wide range of nature strip and median landscape treatments in the City of Melbourne, and a new range of issues emerging as the city changes.

The main issues to be addressed in this policy are:

- **Character:** Melbourne's garden city image, urban character and heritage significance must be maintained.
- **Climate Change:** Melbourne's climate is getting hotter and drier. This affects the growing conditions of natural grass, garden beds and street trees.
- **Water Restrictions:** The ability to provide supplementary water (irrigation) is restricted, again affecting the growth of vegetation.
- **Increasing Population:** As the city's population and population density increases, this accelerates wear and tear on the City's surfaces.
- **Changing Design Standards and Work Practices:** DDA compliance, OH&S requirements and other emerging standards need to be incorporated.
- **Sustainability:** Landscape surfaces must be socially, environmentally and economically sustainable. This includes life cycle costs and maintenance.
- **Water Sensitive Urban Design (WSUD):** Surfaces must enhance storm water quality and soil health wherever possible.
- **Street Infrastructure:** The policy must be robust enough to deal with changing infrastructure requirements, such as additional service assets and new technologies.
- **New Materials:** Alternative surface materials are being developed that may address some of the above issues. These need to be assessed and their long-term viability investigated.

Grassed nature strips within the City of Melbourne are quite rare. They can be found at Southbank (a remnant of low density land-use in the past), the Commonwealth Games Village development in Parkville, and isolated locations throughout the municipality. The most common nature strip treatment is asphalt to the kerb, even in low density residential areas. The exception to this is boulevards, where grass and trees are commonly used in the nature strip.

This policy has identified three broad street typologies in the City of Melbourne that contain nature strips and/or medians* They are:

- **Narrow streets** (approximately 20 metres wide);
- **Wide streets** (approximately 30 metres wide); and
- **Boulevards** (approximately 60 metres wide).

Each of these typologies has specific issues that need to be addressed, as well as the main issues outlined above.

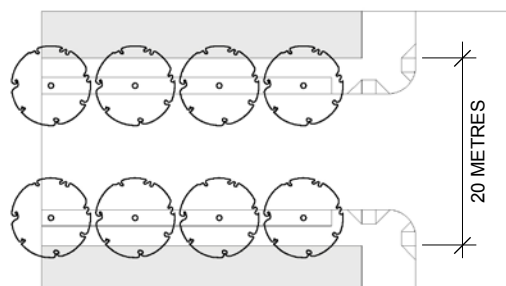
** not including freeways, major arterial roads and laneways*

2.1 NARROW STREETS



Specific Issues to be addressed:

- Improving amenity
- Providing for street trees
- Dealing with higher intensity pedestrian use
- Dealing with increasing land-use density
- Allowing for poorer growing conditions
- Allowing for high turnover on-street parking
- Allowing for frequent disturbance by service authorities
- Allowing for increased street furniture and service infrastructure
- Allowing for delivery vehicles and servicing.



Bellair Street Kensington



Whiteman Street, Southbank



Whiteman Street, Southbank

2.2 WIDE STREETS



Brougham Street, North Melbourne

Specific Issues to be addressed:

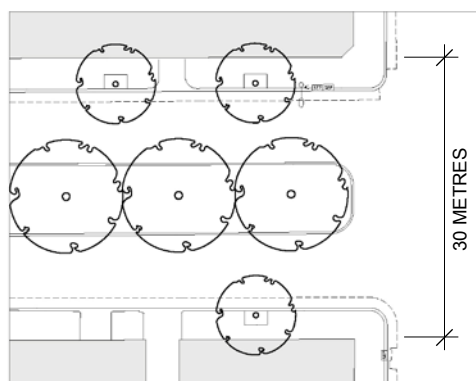
- Improving amenity
- Designing for a changing climate
- Allowing for poorer growing conditions
- Enhancing biodiversity
- Protecting significant trees and vegetation types
- Maintaining porous surface for improved storm water management
- Managing 'guerilla gardening' and resident planting of nature strips and medians
- Dealing with higher intensity pedestrian use
- Providing specific solutions for the different needs of each street



Abbotsford Street, North Melbourne



Lygon Street, Carlton



2.3 BOULEVARDS



Specific Issues to be addressed:

- Maintaining iconic boulevards
- Dealing with higher intensity pedestrian use and high turnover on-street parking
- Adapting to increasing land-use density
- Designing for a changing climate, allowing for poorer growing conditions and protecting significant trees
- Allowing for frequent disturbance by service authorities.
- Allowing for increased street furniture and service infrastructure.
- Allowing for delivery vehicles and servicing.
- Managing landowner treatments to nature strips



St Kilda Road (grassed nature strip)



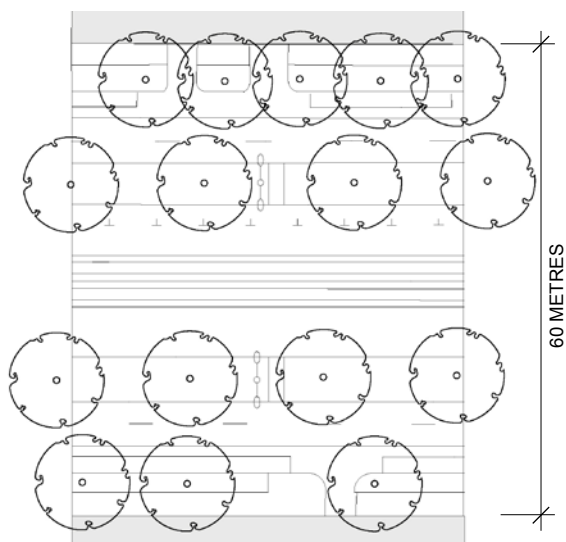
St Kilda Road (granitic gravel)



St Kilda Road (asphalt)



St Kilda Road (synthetic turf by landowner)



3.0 DESIGN CRITERIA

Based on assessment and performance of existing landscape treatments, and principles established in existing strategies, the following objectives and actions will guide the selection of the most appropriate landscape treatment for any given street in the municipality.

3.1 Urban Character & Community Expectations

Objective: Select landscape treatments that will enhance the existing urban character, particularly those elements with heritage, social or aesthetic significance, and will maintain or improve existing uses and community expectations.

Action:

- Maintain the limited range of surface treatments to enhance urban character.
- Maintain the predominant grassed median character of Melbourne's boulevards.
- Maintain the simple broad and continuous surface treatments of each material where possible.
- Limit grass and ground-cover planting to low density residential areas.
- Limit gravelled areas to high-use areas, narrow or short medians, and small islands.
- Limit asphalt paving to high use areas, pedestrian refuge areas, narrow or short medians and small islands.

3.2 Environmental Quality

Objective: Select landscape treatments that improve and contribute to the environmental quality, resource conservation and sustainability of an area.

Action:

- Use predominantly porous surface materials where possible to minimise storm water run-off and erosion.
- Use nonreflective materials to minimise reflective glare and provide relief from severe sunlight.
- Use grass and plant species with low water requirements (suited to Melbourne's climatic conditions).

3.3 Landscape Character

Objective: Select landscape treatments that will improve and enhance the landscape character of the street.

Action:

- Use grass in medians opposite grassed parks and gardens to complement and extend the character of open space.
- Use grass and groundcover planting in residential areas to improve amenity.

3.4 Tree Health and Longevity

Objective:

Select surface treatments that will improve and enhance the health and longevity of trees, both existing and new.

Action:

- Use predominantly porous paving materials within the drip-zones of trees to promote good water penetration and gaseous exchange to the root zones.
- Use porous or granular paving materials within the drip zones of trees to minimise compaction of soil over the root zone.
- Investigate and trial new paving materials (consistent with other objectives)
- Ensure tree pit sizes allow for the future healthy growth of the tree.

3.5 Installation Costs and Maintenance Implications

Objective:

Select surface treatments that are cost effective, robust, durable and low maintenance.

Action:

- Use long-lived landscape materials with proven performance under high traffic.
- Use landscape materials that are easily maintained, replicated and replaced.
- Use local materials as much as possible, as parts and replacement units are generally more readily available.

4.0 MATERIALS PALETTE

4.1 Materials Review

This policy outlines the advantages and disadvantages of each material, and the relative cost of installation and maintenance.

It also identifies the following sub-groups:



Standard surface material

For use in most situations



Special surface material

For use in special circumstances only



Surface material is not permitted

Generally, standard surface materials only would be installed and maintained by the City Melbourne. They are the default material for most situations.

However, there may be instances where special surface materials might be used and maintained. These may be used as specific treatments in certain neighbourhoods, or to define high profile areas.

To maintain streetscape consistency and ease of maintenance, surface materials identified with a red cross are not permitted.

4.2 Landholder or Developer Contributions

As noted in the materials review, standard surface materials only would be installed and maintained by the City Melbourne.

However, there may be instances where special surface materials might be used and maintained with the assistance of developer or landholder contributions if agreed to by the landholder and the City of Melbourne.

Developer contributions are one of a number of options available to local government for funding of infrastructure. Development contributions are payments or in-kind works made by the proponent that contribute towards the provision or upgrade of infrastructure.




Obtaining development contributions through the planning system can occur by:

- Development Contributions Plans (DCPs)
- Conditions on planning permits
- Voluntary agreements.




4.3 Standard Surface Materials

Material	Advantages	Disadvantages
Natural Grass (warm season)  <p><i>Low Capital Cost</i> (\$10-30 per m2) <i>Medium Maintenance Cost</i></p>	<ul style="list-style-type: none"> • Green most of the year, including summer. • More tolerant of hot, dry & drought conditions. • Provides a cooling effect. • Sequesters carbon. • Produces oxygen. • Abates dust and controls erosion (when healthy). • Provides a porous surface and reduces run-off. • Bio-filtrates. • Provides greater biodiversity (insects, worms, birds). • Maintains soil health. • Self-repairing. 	<ul style="list-style-type: none"> • Not shade tolerant & dormant (yellow) in winter. • Can be invasive. • Affected by high pedestrian traffic. • Can require horticultural chemicals, pesticides and herbicides to prevent pests & diseases. • Non-native turf species decrease local biodiversity and increase weed potential. • Fertilisers can affect soils and water catchments. • Other environmental effects (petrol use, CO2 emissions, pollution and maintenance costs). • On-going maintenance costs.
Asphalt  <p><i>High Capital Cost</i> (\$40-60 per m2) <i>Low Maintenance Cost</i></p>	<ul style="list-style-type: none"> • Consistent appearance. • Inexpensive to maintain. 	<ul style="list-style-type: none"> • Relatively non-porous. • Installation can affect tree roots. • A petroleum industry product. • The surface can become very hot in bright sunlight (contributing to the urban heat island effect). <p><i>Note:</i> City of Melbourne are currently pursuing the option of using porous paving on nature strips to reduce the environmental impacts of traditional asphalt as per above.</p>
Sawn Bluestone  <p><i>Very High Capital Cost</i> (\$300-600 per m2) <i>Medium Maintenance Cost</i></p>	<ul style="list-style-type: none"> • Consistent appearance. • Distinctive Melbourne material. • Robust. • Relatively inexpensive to maintain. 	<ul style="list-style-type: none"> • Expensive. • Requires concrete slab footings.

4.4 Special Surface Materials

Material	Advantages	Disadvantages
Garden Bed  <i>Medium Capital Cost</i> (\$5-20 per m2 unirrigated) (\$40-60 per m2 irrigated) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Provides green alternative.• Provides greater biodiversity (plant species, insects, worms, birds).• Maintains soil health.• Self-repairing.	<ul style="list-style-type: none">• Requires irrigation for optimum growth.• May obstruct sight lines and clear zones.• Requires protection from high pedestrian traffic.
Granitic Gravel  <i>Medium Capital Cost</i> (\$20-30 per m2) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Consistent appearance.• Distinctive Melbourne material.• Relatively inexpensive to install and maintain.• Generally provides a porous surface and reduces run-off.• Self-repairing over large areas.	<ul style="list-style-type: none">• Can become dusty.• Gravel can migrate and spoil hard surfaces.• Gravel can be a safety hazard on hard surfaces.• Can erode on sloping sites.• Can be wind-blown.• Can be glary in bright sunlight.• Can create a hot microclimate.• Can over-compact and become non-porous.• When compacted, can affect tree health.• Storm water run-off maybe harmful to water catchments.
Bluestone Cobbles  <i>Very High Capital Cost</i> (\$300-600 per m2) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Consistent appearance.• Distinctive Melbourne material (sourced from local stone).• Can provide a porous surface and reduce run-off.	<ul style="list-style-type: none">• Local supply is very expensive.• Requires skilled installation.• Stone-type may not be suitable for cobbles.



4.4 Special Surface Materials

Material	Advantages	Disadvantages
Organic Mulch  <i>Low Capital Cost</i> (\$5-10 per m2) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Provides best surface treatment for street tree health.• Relatively inexpensive to install and maintain.• Provides a porous surface and reduces run-off.• Breaks down and improves soil.• Provides greater biodiversity (insects, worms, birds).• Maintains soil health.• Self-repairing.	<ul style="list-style-type: none">• Looks unfinished.• Can migrate and spoil hard surfaces.• Can be a safety hazard on hard surfaces.• Can be wind-blown.• Can wash away and block storm water systems.
Indigenous Grassland  <i>Medium Capital Cost</i> (\$5-20 per m2) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Relatively inexpensive to maintain.• No irrigation required.• Minimal mowing regime required.• Provides greater biodiversity (plant species, insects, worms, birds).• Maintains soil health.• Self-repairing.	<ul style="list-style-type: none">• May appear untidy and neglected.• Requires large areas for aesthetic effect.• Requires signage and explanation for local residents.• May require more intense weed management.• May require skilled workers to manage effectively.
Bonded Gravel  <i>High Capital Cost</i> (\$120-180 per m2) <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Robust surface that can accept high pedestrian traffic.• Provides a porous surface and reduces run-off.	<ul style="list-style-type: none">• Expensive.• Difficult to repair, match or replace.• Can fade or discolour.• Variable settlement.• Some brittleness over time.

4.4 Special Surface Materials

Material	Advantages	Disadvantages
Ornamental Gravel  <i>Medium Capital Cost (\$20-30 per m2) Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Relatively inexpensive to install and maintain.• Generally provides a porous surface and reduces run-off.• Self-repairing over large areas.	<ul style="list-style-type: none">• A consistent specification is required.• Can migrate and spoil hard surfaces.• Can be a safety hazard on hard surfaces.• Glare in bright sunlight.
Concrete  <i>High Capital Cost (\$80-150 per m2) Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Robust surface that can accept high pedestrian traffic.	<ul style="list-style-type: none">• Expensive.• Difficult to repair, match or replace.• Can fade or discolour.• Installation can affect tree roots.
Synthetic Turf  <i>High Capital Cost (\$80-120 per m2) Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Green all-year.• Very low water requirements.• Consistent appearance if applied to entire block/street.• Less chemical & physical inputs over time.• Suitable for difficult areas and flexible uses.• Low maintenance costs.• Controls erosion and abates dust.• Suitable for very high use pedestrian areas.	<ul style="list-style-type: none">• High supply, installation and maintenance costs.• A petrochemical industry product.• Disinfectant cleaning required• Non - biodegradable at end of life.• Potential vandalism in uncontrolled areas.• Life span (10-35 years).• Variable product quality.• Difficult replacement after service authority works• In some cases installation method, lack of permeability and porosity inconsistent with good soil and plant health.

4.5 Surface Materials Not Permitted

Material	Advantages	Disadvantages
Rubber Surface (EPDM)  <i>High Capital Cost</i> <i>(\$120-240 per m2)</i> <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Robust surface that can accept high pedestrian traffic.• Provides a porous surface and reduces run-off.	<ul style="list-style-type: none">• Expensive.• Difficult to repair, match or replace.• Can fade or discolour.• Some products have rubber infill with Volatile Organic Compounds (VOCs) and heavy metal content.• Installation can affect tree roots.
Resin / Aggregate coatings  <i>High Capital Cost</i> <i>(\$120-180 per m2)</i> <i>Medium Maintenance Cost</i>	<ul style="list-style-type: none">• Provides a contrasting colour on an asphalt base.• Robust surface that can accept high pedestrian traffic.	<ul style="list-style-type: none">• Expensive.• Difficult to repair, match or replace.

5.0 LANDSCAPE TREATMENT SELECTION CRITERIA

Streetscape character and site conditions vary from neighbourhood to neighbourhood, street to street, and block to block. Any proposed landscape treatment policy must be flexible, and take into account local conditions.

The following Selection Process and Selection Matrix should be used to assess the conditions and assist in selecting the most appropriate Landscape Treatment for each situation.

Landscape treatment plans have been prepared for three typical street or boulevard conditions in the City of Melbourne. These have been split up as follows:

- 20 metre road reserves (narrow streets);
- 30 metre road reserves (wide streets); and
- 60 metre road reserves (boulevards).

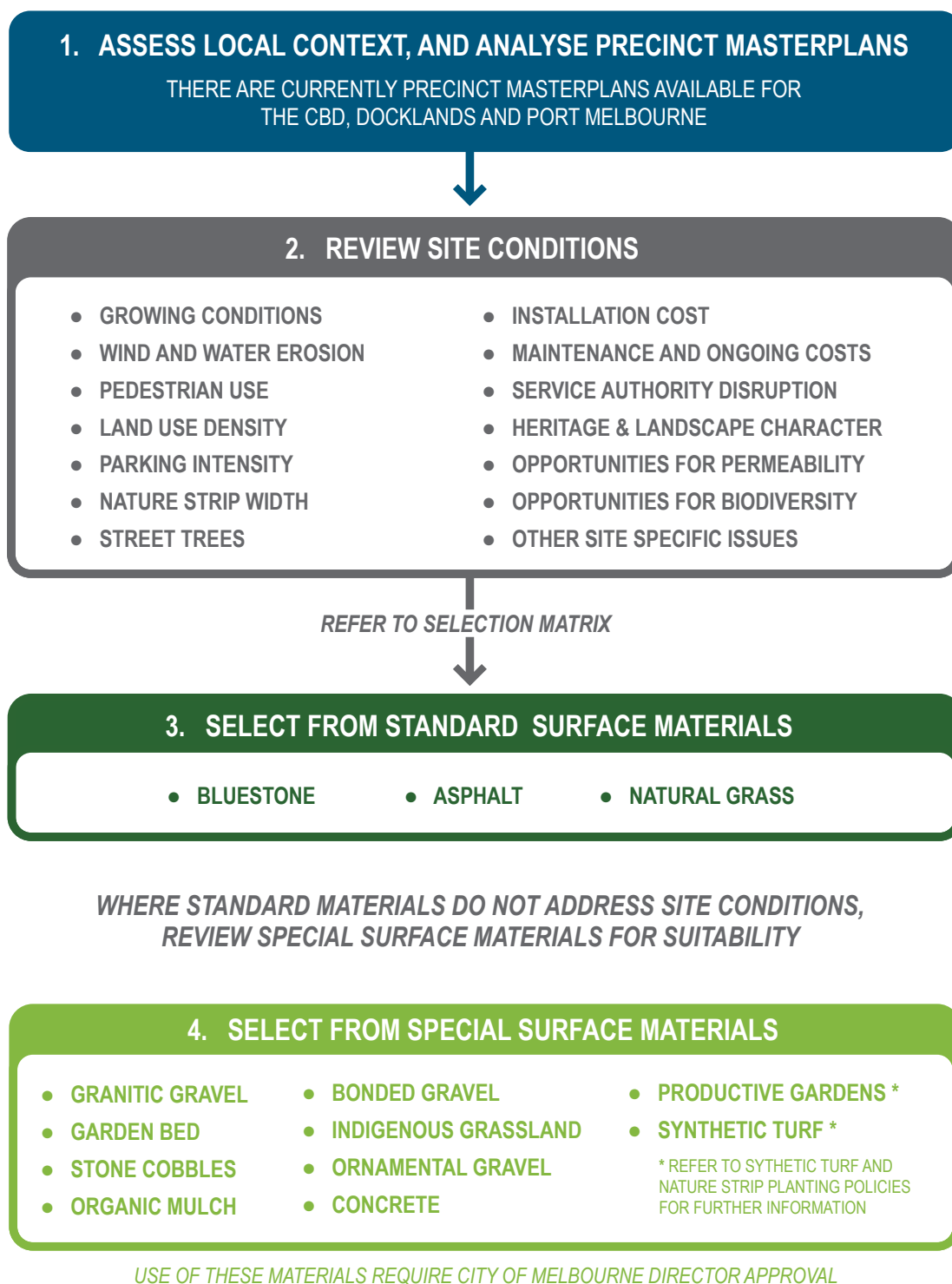
For each location, the following design factors will need to be considered:

- Weather & Climate;
- Water Supply;
- Heritage;
- Storm water Drainage;
- Path Width, Capacity & Design Standards;
- Design Integration; and
- Personal Safety & Security.

It has become clear during the preparation of this policy that there are many unusual street arrangements, including road closures, awkward shaped traffic islands and landscape areas within the road reserve that operate as pocket parks.

While typical treatments for these situations have not been included, the materials palette can be applied to these situations in a similar way.

5.1 Selection Process


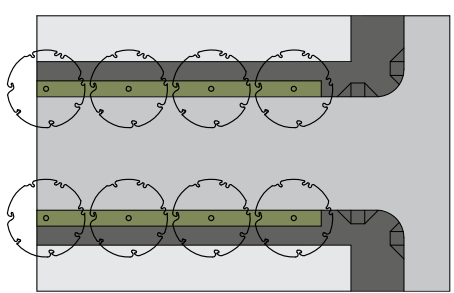

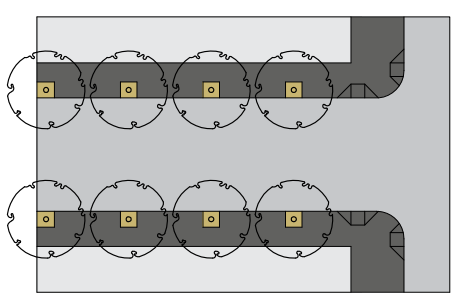

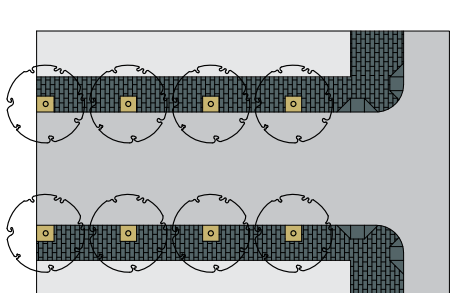


5.2 Selection Matrix


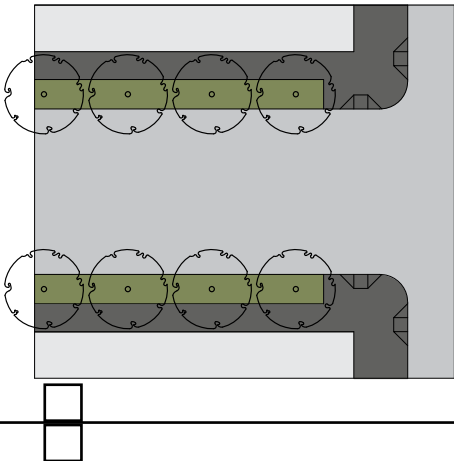

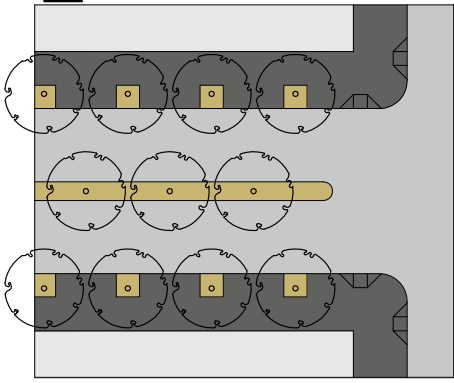

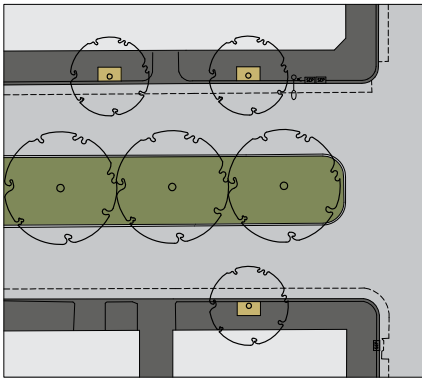

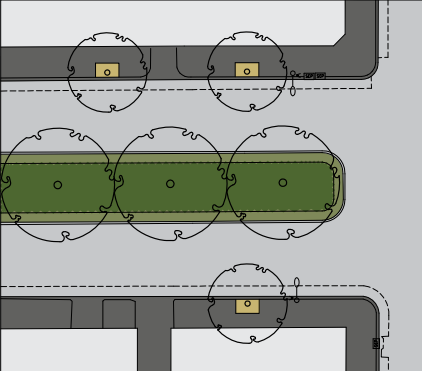
		Site Conditions										Special Conditions		
		Poor Growing Conditions	Wind & Water Erosion Potential	High Urban Character	High Pedestrian Intensity	High Parking Intensity	High Adjacent Landuse Density	Narrow Nature Strip	Wide Nature Strip	Street Tree Root Zone	Regular Service Authority	Heritage & Landscape Character	Permeability	Maintenance of Biodiversity
Standard Surface Materials														
Natural Grass														
Asphalt														
Sawn Bluestone														
Special Surface Materials														
Granitic Gravel														
Garden Bed														
Stone Cobbles														
Organic Mulch														
Bonded Gravel														
Indigenous Grassland														
Ornamental Gravel														
In-situ Concrete														
Permeable Pavers														
Productive Gardens														
Synthetic Turf														

This matrix provides information on the suitability of each material for use in specific site conditions. It should be used during the selection process along with the information provided in the Materials Palette.


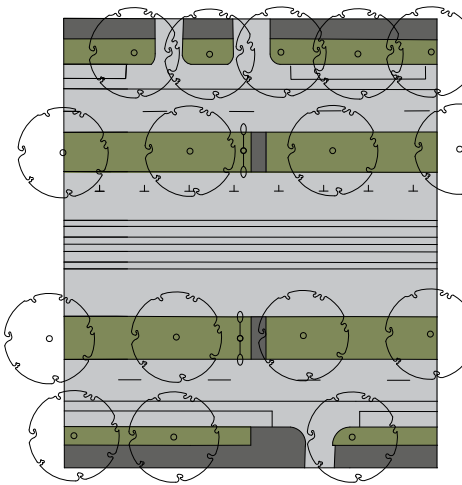

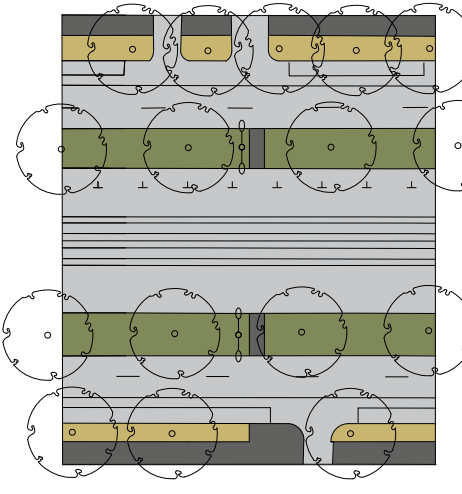
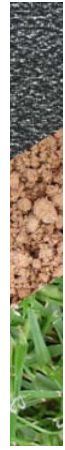
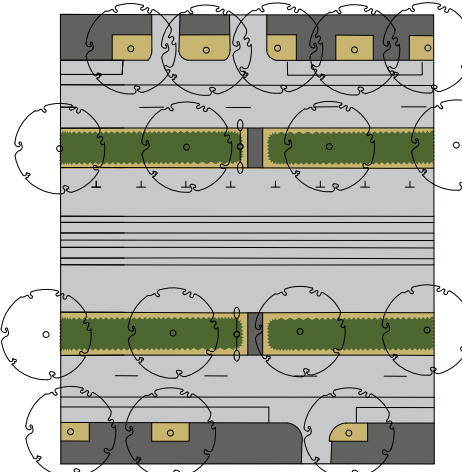
5.3 Landscape Treatment Plans - Narrow Streets (20m road reserve)

Description	Typical Plan	Criteria / Application
 <p>Natural Grass</p>		<p><i>General Applications:</i></p> <ul style="list-style-type: none"> • Very low pedestrian traffic only • Low density urban character • Optimum growing conditions only
 <p>Asphalt</p>		<p><i>General Applications:</i></p> <ul style="list-style-type: none"> • High pedestrian traffic • High density urban character • Poor growing conditions • Granitic gravel & steel edged tree pits
 <p>Sawn Bluestone</p>		<p><i>Special Applications:</i></p> <ul style="list-style-type: none"> • Very high pedestrian traffic • High density urban character • High profile public spaces • Consistent Melbourne material • Possible new development contribution

5.4 Landscape Treatment Plans - Wide Streets (30m road reserve)

Description	Typical Plan	Criteria / Application
 <p>Grass Nature Strip</p>		<p><i>General applications:</i></p> <ul style="list-style-type: none"> • Wide nature strips (greater than 2.5 metres wide) • Wide footpaths (greater than 2.5 metres wide) • Low pedestrian traffic • Low density urban character • Optimum growing conditions
 <p>Asphalt Footpath Granitic Gravel Median</p>		<p><i>General applications:</i></p> <ul style="list-style-type: none"> • High pedestrian traffic • High density urban character • Poor growing conditions • Narrow median strip (less than 1.5 metres wide)
 <p>Asphalt Footpath Grass Median</p>		<p><i>General applications:</i></p> <ul style="list-style-type: none"> • Low pedestrian traffic • Optimum growing conditions
 <p>Asphalt Footpath Indigenous Grass Median</p>		<p><i>General applications:</i></p> <ul style="list-style-type: none"> • Low pedestrian traffic • Low density urban character • Remnant or emergent indigenous grasses with Eucalyptus over storey • Must include appropriate management regime. • Must include explanatory signage

5.5 Landscape Treatment Plans - Boulevards (60m road reserve)

Description	Typical Plan	Criteria / Application
 <p>Asphalt Footpaths</p> <p>Grass Naturestrips</p> <p>Grass Medians</p>		<p>General Applications:</p> <ul style="list-style-type: none"> • Low pedestrian traffic • Adjacent to public open spaces • Optimum growing conditions • Supplementary irrigation available • Premium maintenance regime
 <p>Asphalt Footpaths</p> <p>Granitic Gravel Naturestrips</p> <p>Grass Medians</p>		<p>General Applications:</p> <ul style="list-style-type: none"> • Moderate pedestrian traffic • Poor growing conditions • Standard maintenance regime
 <p>Asphalt Footpaths</p> <p>Asphalt Nature Strip With Tree Pits</p> <p>Garden Bed Medians</p>		<p>General Applications:</p> <ul style="list-style-type: none"> • High pedestrian traffic • Poor growing conditions • Standard maintenance regime

6.0 SYNTHETIC TURF POLICY

The use of synthetic turf will only be supported in the following applications on a case-by-case basis:

- As an all-weather playing surface for active recreation use.
- As a high-wearing surface in children's play-spaces.
- Where synthetic turf is the only appropriate remaining material from the Standard Surface Materials and Special Surface Materials in Section 4.
- Where the installation and maintenance costs are met by the developer/residents/stakeholders in private or semi-private locations.

If used for the above applications, synthetic turf within the City of Melbourne must be designed and installed according to an approved construction method or technical note. This will ensure selected synthetic turf is of high quality, consistent across the city, and considers maintenance and/or replacement.

7.0 NATURE STRIP PLANTING POLICY

Generally resident nature strip planting or 'guerilla gardening' is not supported across the municipality owing to inconsistent streetscape treatment as a result, and the impact of possible contaminated soil on edible crops. However, the use of medians for community planting is currently being explored and we welcome the opportunity to work with the community on safe, sustainable plantings in median strips, for example in instances where the risk of contaminated soil has been eliminated by the introduction of clean fill.

8.0 SPECIAL CIRCUMSTANCES

8.1 Arterial Roads, Roundabouts and Traffic Islands

Whilst typical arterial road, roundabout and traffic island treatments are not included within this document, the materials palette can be applied in a similar way.

A key criteria for the surface treatment of arterial roads, roundabouts and traffic islands is minimising exposure to Occupational Health and Safety issues. As traffic management is required for maintenance, minimising maintenance time (safety risks and costs) is a primary consideration.

8.2 Heritage Streetscapes

Melbourne's heritage boulevards, including Royal Parade, Flemington Road, Victoria Parade and St Kilda Road, are intrinsic to the image of the city. To maintain the heritage, aesthetic and tourism values of the boulevards, enhanced water allocation and an increased maintenance regime should be considered.

Further investigation and consultation is required for the long-term management and renewal of Melbourne's boulevards.

8.3 Docklands

There are a diverse range of materials used in Docklands. The precincts have been developed by a number of different stakeholders with different design teams, and distinguishing Docklands from the rest of the city has been a key design objective.

The 'Melbourne Docklands - Urban Design and Street Furniture Manual' prepared by VicUrban in April 2008 is a guiding document that attempts to create a public realm "that integrates the precincts whilst maintaining the creative energies of the design teams".

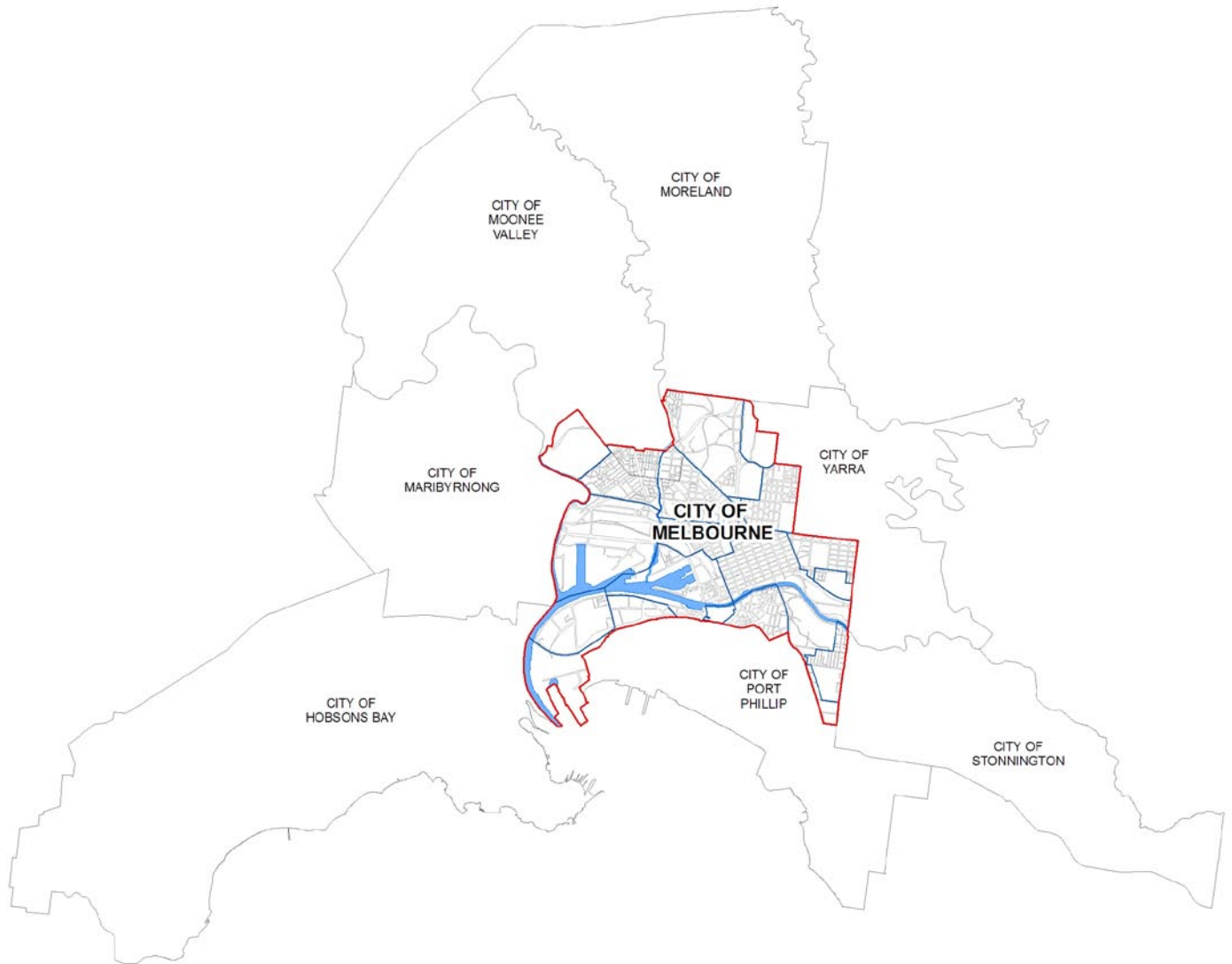
The 'Docklands Planting and Surfaces Assessment Report' prepared by Australian Landscape Management in March 2009 identifies unsuccessful surface treatments (focusing on grass and garden bed areas) and recommends works to rectify them. Whilst there is some overlap, Docklands and waterfront treatments in general, are excluded from this document.

9.0 CONCLUSION

This policy is a response to the effect of drought on grassed nature strips in the City of Melbourne, the increased pressures of a growing population, and the use of alternative landscape materials, such as synthetic turf.

While this report addresses some of these issues, other studies will assist in developing landscape treatment policies in the City of Melbourne over time. Parallel investigations currently underway include paving around trees in the CBD, integration of Docklands within the City of Melbourne, and the St Kilda Road masterplan.

APPENDIX 1



Consultation with Neighbouring Municipalities

During the preparation of this report, landscape officers from neighbouring municipalities and authorities were consulted.

In summary, most municipalities do not have formal policies on nature strips.

VicRoads are investigating the use of alternative surface materials, such as synthetic turf, in specific applications where occupational health and safety issues are a concern (to minimise maintenance times). The medians of major arterial roads are the focus of their attention.

A number of neighbouring municipalities have expressed an interest in a co-ordinated approach.

City of Moonee Valley

- A formal nature strip policy is being developed. However, it focuses on issues such as car parking on nature strips, and replacement by local residents of natural grass with shrubs and ground covers.

City of Yarra

- There is no formal nature strip policy.
- The City of Yarra has relatively few areas with natural grass nature strips, but have large grassed medians in North Carlton. There has been no requests to use synthetic turf.
- The main nature strip issue within the City of Yarra is the conversion of natural grass to garden beds and food production.

City of Stonnington

- There is no formal nature strip policy.
- An emerging issue is the use of synthetic turf.
- Permission has been sought by some residents to use synthetic turf on nature strips. Stonnington have rejected these requests on environmental grounds. However, some have been installed without permission, and no action has been taken at this time.
- Stonnington officers are mainly concerned with environmental issues and maintenance issues over time. Installation of synthetic turf requires minimum 50mm depth excavation, which removes the feeder roots of mature street trees. It is a plastic product that has a limited life span and does not break down.

City of Port Phillip

- An emerging issue is the use of synthetic turf.
- There is no formal policy on the use of synthetic turf in nature strips.
- The main concern of Port Phillip officers in relation to synthetic turf is medium and long term maintenance, product disposal at the end of its useful life, and its embedded energy during production.
- The City of Melbourne and the City of Port Phillip have met to discuss consistency of approach for issues such as parking meter charges, sandwich boards, WSUD tree pits and the use of synthetic turf. Discussions are expected to continue.

VicRoads - Metro North West Region

- New surface material types are being investigated.
- Synthetic turf is being considered to replace garden beds on the Hoddle Street centre median between Victoria Parade and Elizabeth Street.
- This is proposed to reduce on-going maintenance costs and OH&S risks.
- Other VicRoads regions have used synthetic turf, and their feedback has generally been positive. Minor vandalism has been highlighted as an issue.
- The ability to maintain garden beds or granitic gravel on busy roads is limited due to traffic management requirements and costs (ie. lane closures, etc). Clear zone and sight-line requirements are also a consideration.
- Following discussions with City of Melbourne officers, cobbles or sets are now being considered as an option.