City of Fremantle

D.E.4 **PAVING POLICY FOR CENTRAL FREMANTLE**

OBJECTIVE

The objective of this policy is to identify a limited and coordinated range of long lasting paving materials that can be progressively used throughout the public places of the city centre, both in regular maintenance and replacement programmes and in special streetscape improvement projects. The intention is to provide paving that enhances Fremantle's unique sense of place and heritage assets, and that unifies the city in a restrained a dignified manner while reinforcing the city's structure and legibility. The selected range of paving satisfies the rigorous structural and durability requirements of the central city and provides affordable combinations of standard and special materials. The policy is also to establish a range of installation details that will provide an attractive, safe, accessible, comfortable and functional treatment of the ground level of the city's public places.

This policy consists of the following four sections:

1. INTRODUCTION
2. PAVING MATERIALS
3. DESIGN & CONSTRUCTION DETAILS
   - 3.1 Footpath paving layout
   - 3.2 Kerb geometry
   - 3.3 Plaques and artworks
   - 3.4 Footpath elements
4. IMPLEMENTATION OF THE POLICY

POLICY

1 INTRODUCTION

1.1 This policy applies to the footpaths, roads, parking areas and other public spaces within the central city; generally that area bounded by Parry Street, Norfolk Street and the railway line.

1.2 Paving in the waterfront precincts adjacent to the city centre should recognise their own characters while being coordinated within the overall paving policy for the city centre.

1.3 This policy presents:

* Paving materials, sizes and finishes.
* Typical design and construction details for paving and the various elements required to be incorporated into paving, such as kerb ramps, etc.
* Guidelines for implementation of the policy.

The policy is to be augmented by technical notes that provide the specifications for materials and the drawings, notes and dimensions for the design and construction details. It is intended that the technical notes be progressively prepared. The notes should also be regularly

reviewed in response to ongoing research and improvement of materials and techniques.

2 PAVING MATERIALS

2.1 A 'family' of paving materials has been selected to provide a standard range for use throughout the central city. This range comprises:

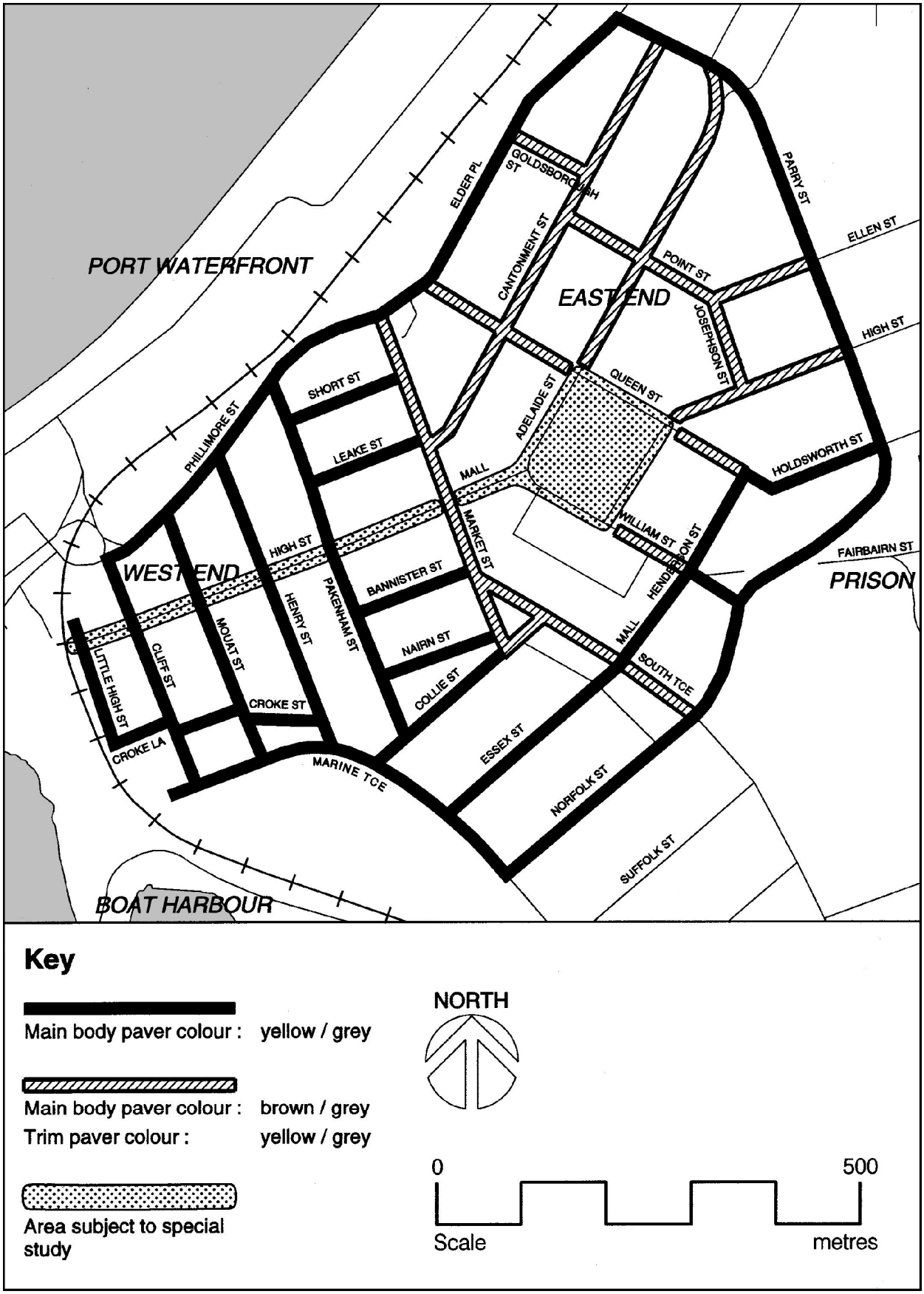
- Precast exposed aggregate pavers in two different colours and in a limited range of modular sizes for footpaths.
- Concrete brick sized pavers for major shared vehicle/pedestrian zones.
- Asphalt for traffic and parking areas.
- Sandstone for footpath paving at special locations.

2.2 The following table provides the details of paving materials to be used:

MATERIAL	DESCRIPTION	USE (also see Maps 1 and 2)
Yellow/grey exposed aggregate precast concrete	Flagstones Urbanstone 'Albany Grey' or approved equivalent Light shotblast finish for footpaths Tactile surface for kerb ramps Surface to be sealed with an approved sealer after installation to assist with cleaning	Footpaths in the West End and Prison townscape areas and as a trim in the East End area. Sizes: Phillimore Street, Marine Terrace, Parry Street, Elder Place and 'major open spaces' 600mm x 600mm x 60 'cross peninsular streets' in the West End and as a trim in the East End 600mm x 300mm x 60 crossovers (West End) 300mm x 200mm x 70
Brown/grey exposed aggregate precast concrete	Flagstones Urbanstone 'Golden Gunmetal' or approved equivalent also known as 'Swinborne Black' Light shotblast finish for footpaths Tactile surface for kerb ramps Surface to be sealed with an approved sealer after installation	Footpaths in the East End townscape area, including South Terrace and Market Street. Sizes: all areas 400mm x 400mm x 60 crossovers 300mm x 200mm x 70
concrete bricks	'Charcoal' colour or similar standard interlock and rectangular shapes	For shared vehicle/pedestrian areas such as major intersections and pedestrian crossings. Interlock to be used only where major turning movements occur. Concrete bricks not to be used in the West End and Prison townscape areas.
asphalt	Different colours to be used as follows: granite (light grey) in traffic areas diorite (dark grey) in parking areas red/brown with exposed aggregate for special design locations.	Roadways, parking areas and other vehicle areas.
sandstone	Flagstones and special details	For use in special locations, such as entry forecourts to important civic buildings, and for feature detailing, such as a trim around trees, in special design areas (see 3.1.4). Not to be used in areas accessed by vehicles or in gutters or areas liable to receive a high degree of staining. sizes: large flagstone sizes preferred, for example 900mm x 600mm or 600mm x 600mm to suit location.

TABLE 1: Paving materials

Refer to Technical Note for materials specifications.



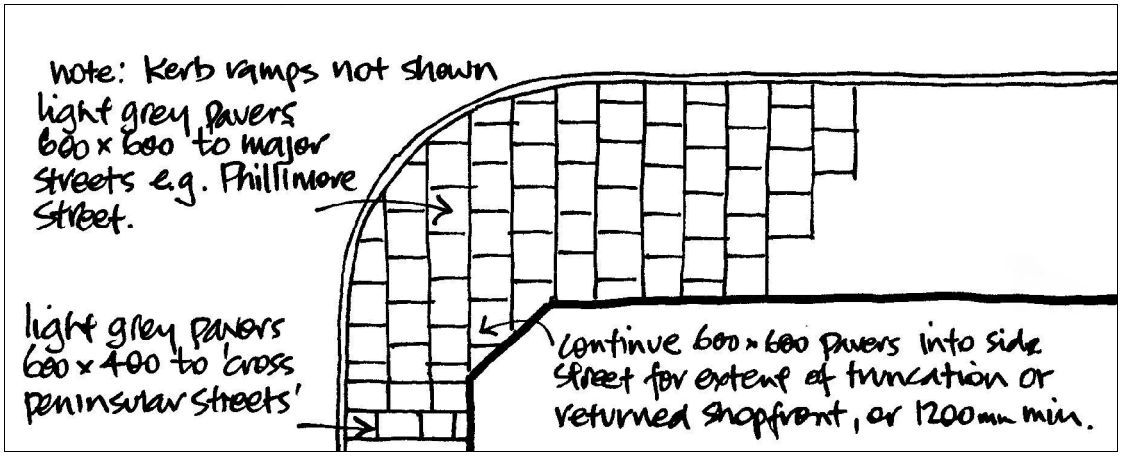
MAP 1 Colour palette for footpath paving

3 DESIGN & CONSTRUCTION DETAILS

3.1 Footpath paving layout

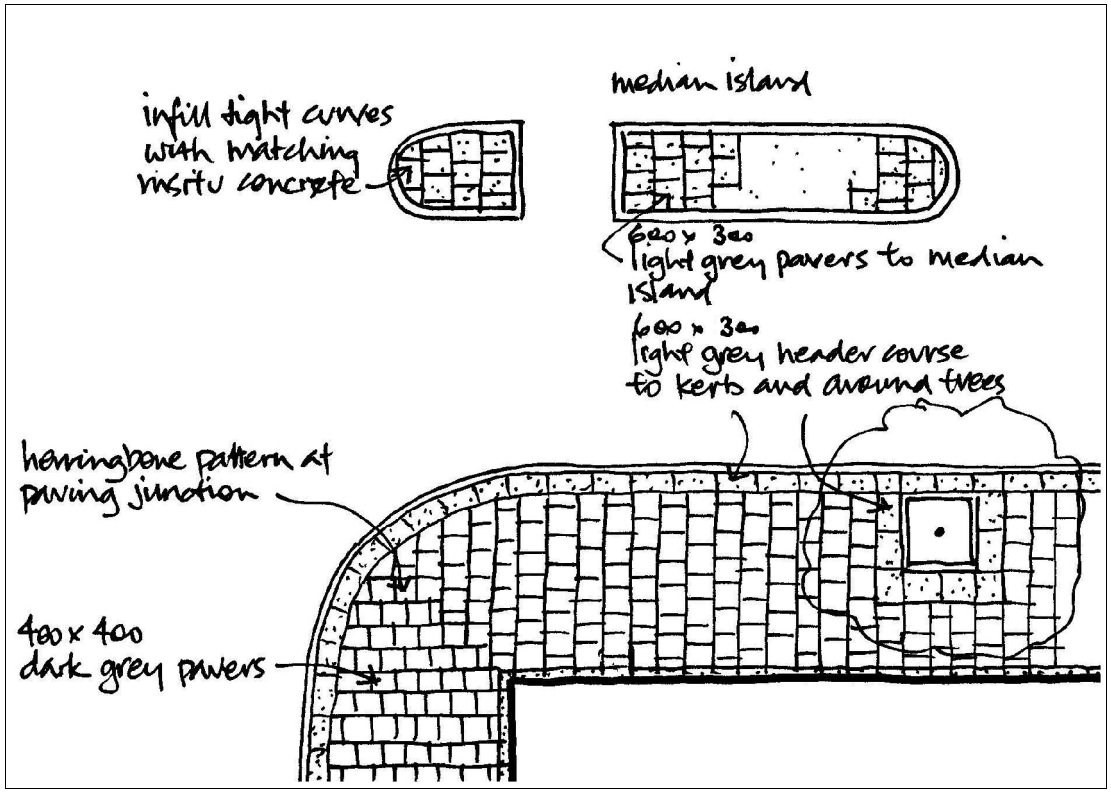
3.1.1 Paving treatments should be simple. Details should be dictated principally by the need to provide legible pedestrian and vehicle areas and routes and by structural, safety and drainage needs. Refer to Technical Note for standard paving layout and construction details of footpaths and shared vehicle/pedestrian areas.

3.1.2 In the West End and Prison townscape areas (see Map 1) only one colour of paving material should be used throughout in a simple stretcher bond. Hierarchy of streets and spaces should be reinforced through the use of different sized pavers - larger pavers for major streets and spaces and smaller pavers for minor (and narrower) streets and spaces (see Table 1 and Map 2).



West End: typical paving layout

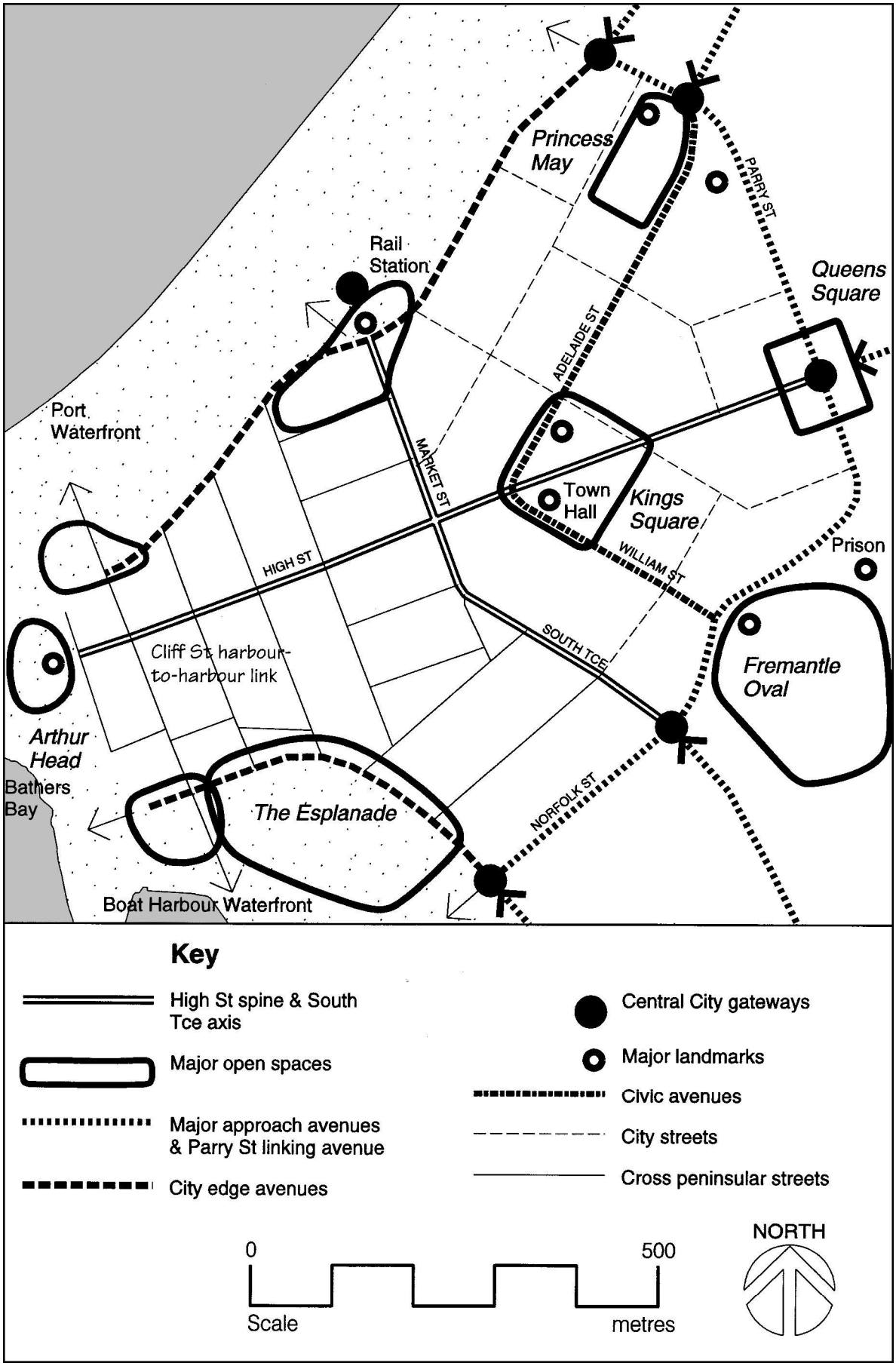
3.1.3 In the East End (see Map 1) two colours of paving material should be used. A brown/grey colour would cope better with the demands of high use areas such as bus stops and outdoor dining areas. A yellow/grey trim (the same colour as used in the West End) would help identify the kerb and change of level and would visually lighten the effect of the darker pavers.



East End: typical paving layout

3.1.4 Special urban design studies should be carried out of the areas defined in the 'City Structure' (see Map 2) as major open spaces and of the High Street spine and South Terrace axis. These studies may identify the need for special paving designs in those areas. These designs should predominantly use paving materials from the selected range, however special materials may be identified as appropriate in specific locations (for example, the possible use of crushed limestone in the Arthur Head Reserve).

3.1.5 Any remaining historically authentic paving and other below ground features should be maintained and protected. Opportunities for the appropriate display of the paving and features should be investigated.

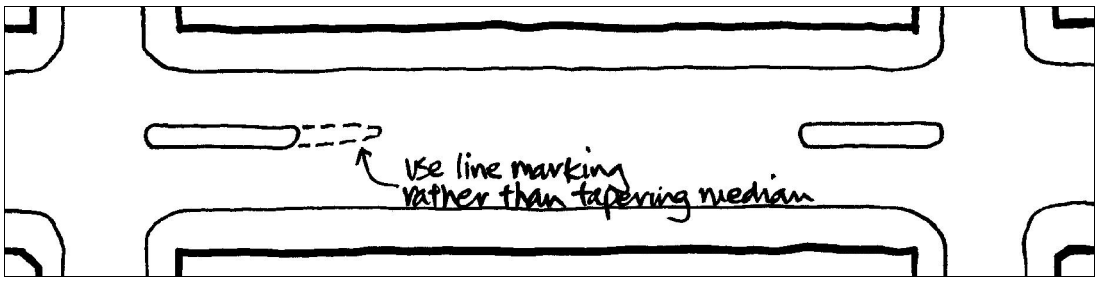


MAP 2: City structure

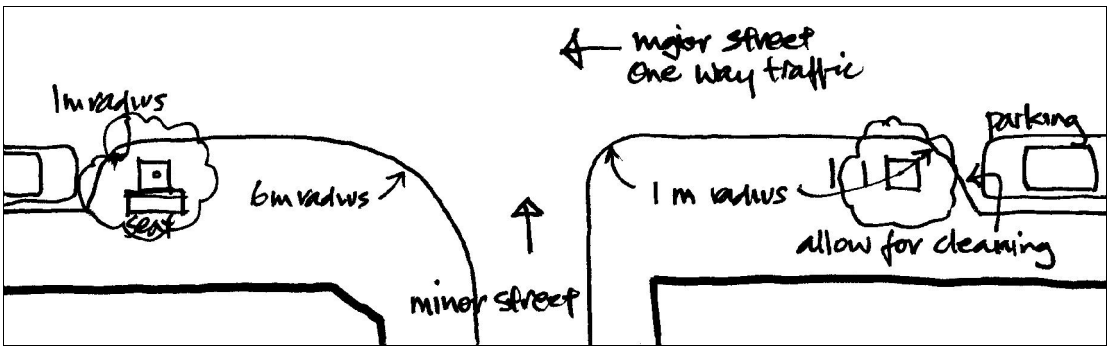
3.2 Kerb geometry

3.2.1 Kerbs should be parallel with the building / street alignment wherever possible.

3.2.2 Median islands should be parallel with the building / street alignment wherever possible, and symmetrical in shape.



3.2.3 Kerb extensions (widening of the footpath) at intersections should be progressively installed in the wider streets of the East End area in order to provide safer crossing conditions for pedestrians and to provide space for street trees and street furniture. Kerb extensions should be provided as shown on the detail drawing.



3.2.4 Kerb extensions and median islands are not traditional to the street geometry in the West End Conservation Area and are therefore not appropriate. However Marine Terrace and Phillimore Street are wider streets and pedestrian safety could be enhanced by the careful installation of median islands and/or kerb extensions. Their appropriateness for High Street in the West End should be considered as part of a special urban design study of the street. They are not appropriate in the Prison Precinct.

3.2.5 On-street parking bays should be at road level and paved with bitumen (or concrete bricks in special design areas).

3.2.6 Corner radii should be designed to encourage slow traffic speeds, to increase footpath space and generally to recognise a pedestrian friendly environment rather than a traffic environment.

3.2.6 'Pinch points' (occasional narrowing of the roadway) and 'speed humps' should be avoided in the city centre. Good traffic management and low traffic speeds should be pursued through the use of minimal lane widths, minimal kerb radii and block paving of roadways.

3.3 Plaques and artworks

3.3.1 The limited use of carefully located 'decoration' within paving can augment the interest of an area. This 'decoration' could take the form of

information plaques and markers of early buildings and features (such as the line of the early foreshore and the outline of the original St Johns Church in King's Square). The information plaques could be part of a coordinated design related to special walk trails across the city.

3.3.2 Paving marking the location of the foreshore at the date of Roe's survey of the city plan should be retained.

3.3.3 Special paving could be used to mark and enhance the entrance and environs of major public buildings, for example the Town Hall, the railway station, major churches and public halls.

3.3.4 This special paving should be high quality, durable and non-slip and be carefully integrated into the general paving of the area.

3.3.5 Decoration of paving in footpaths and roads (murals, patterns, etc) relating to adjacent private buildings and commercial activities should be considered carefully to ensure that it doesn't lead to visual clutter and confusion, doesn't add to the City's maintenance responsibilities and wouldn't lose relevance in the longer term as activities and businesses change. This form of decoration may be appropriate if designed as an artwork (rather than as advertising) and contains no reference to a commercial name or activity. It should be privately funded, however the design should be subject to the Council's approval. The Council should not be liable for any special maintenance requirements and repairs.

3.3.6 The views of the Artworks in Public Places Committee should be sought on any proposal.

3.3.7 Existing entrance paving detailing of heritage significance should be retained and maintained.

3.4 Footpath elements

3.4.1 Various footpath elements, such as kerbs, kerb ramps, crossovers, etc, should be integrated both visually and physically into footpaths and roadways. The standard of design and construction of these elements is just as important to the quality of the city's public spaces as are the particular paving materials used.

3.4.2 The design and construction of these elements should meet the requirements of special user groups, particularly the physically and visually impaired.

3.4.3 Technical Notes should be prepared to provide design and construction details for

- Kerb
- Pedestrian kerb ramp
- Vehicle crossover
- Service pit cover
- Tree surround
- Drainage grates and pits
- Road dimensions
- Parking dimensions
- Other elements as required.

4 IMPLEMENTATION OF THE POLICY

4.1 Where existing footpath paving is in good physical condition its immediate replacement is not warranted just because it is a different material to that proposed in this policy. The policy should be progressively implemented as the following opportunities occur:

- The ongoing programme of repair and replacement of aged and deteriorating surfaces.
- Repair and reinstatement of footpaths as a result of adjacent property redevelopment. (Joint funding by the Council and the private developer/property owner should be encouraged wherever possible.)
- Enhancement projects of major public spaces (such as the High Street Mall).
- Funding for city wide programmes associated with special events and celebrations (such as the centenary of Federation).

4.2 Programmes should be prepared and costed that aim to carry out repaving of complete street blocks, including both sides of the street, so that each area looks as complete as possible.

4.3 Tree planting and reticulation should be given consideration in the design phase of any footpath repaving scheme (subject to the City Centre Landscaping Policy).

PAVING POLICY FOR CENTRAL FREMANTLE

TECHNICAL NOTES

The policy is augmented by technical notes that provide the specifications for materials and the drawings, notes and dimensions for the design and construction details.

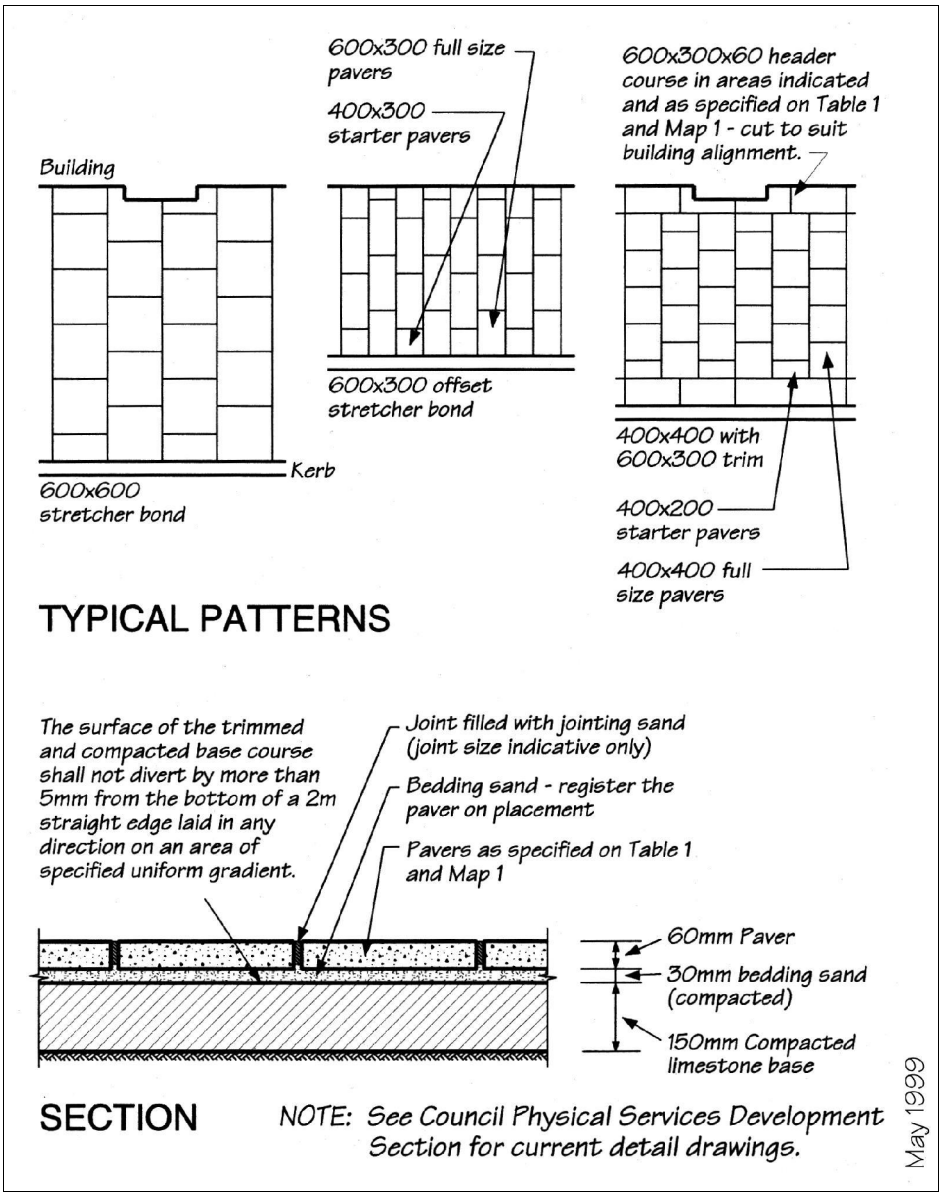
The technical notes do not form part of the policy and are issued for guidance only. It is intended that additional technical notes be progressively prepared. The notes should also be regularly reviewed in response to ongoing research and improvement of materials and techniques.

See the City of Fremantle Physical Services Development Section for current specifications and detail drawings.

TECHNICAL NOTE

P1 STANDARD PAVING LAYOUT & CONSTRUCTION DETAILS *– May 1999*

1. *All footpath paving should be laid in a stretcher bond with continuous joints across the footpath and staggered joints in the direction of the major pedestrian movement.*
2. *Commence laying from the kerb to ensure whole or half pavers along the kerb edge.*
3. *Commence laying at each end of a length of footpath (i.e. between crossovers and/or intersections) to ensure full pavers at each end and that cut pavers are located at mid point along the length.*
4. *Double cut pavers where necessary to avoid units less than 100mm wide.*
5. *Leave joints of 3-4mm between pavers and fill with an approved cohesive jointing sand. Apply sand to manufacturer's directions to avoid staining of pavers.*
6. *Provide expansion joints at the back of the kerb and at every 4 metres along the length of the footpath. Fill the expansion joint with an approved compressible filler.*
7. *Lay pavers on compacted limestone base and sand bedding as illustrated.*



TECHNICAL NOTE

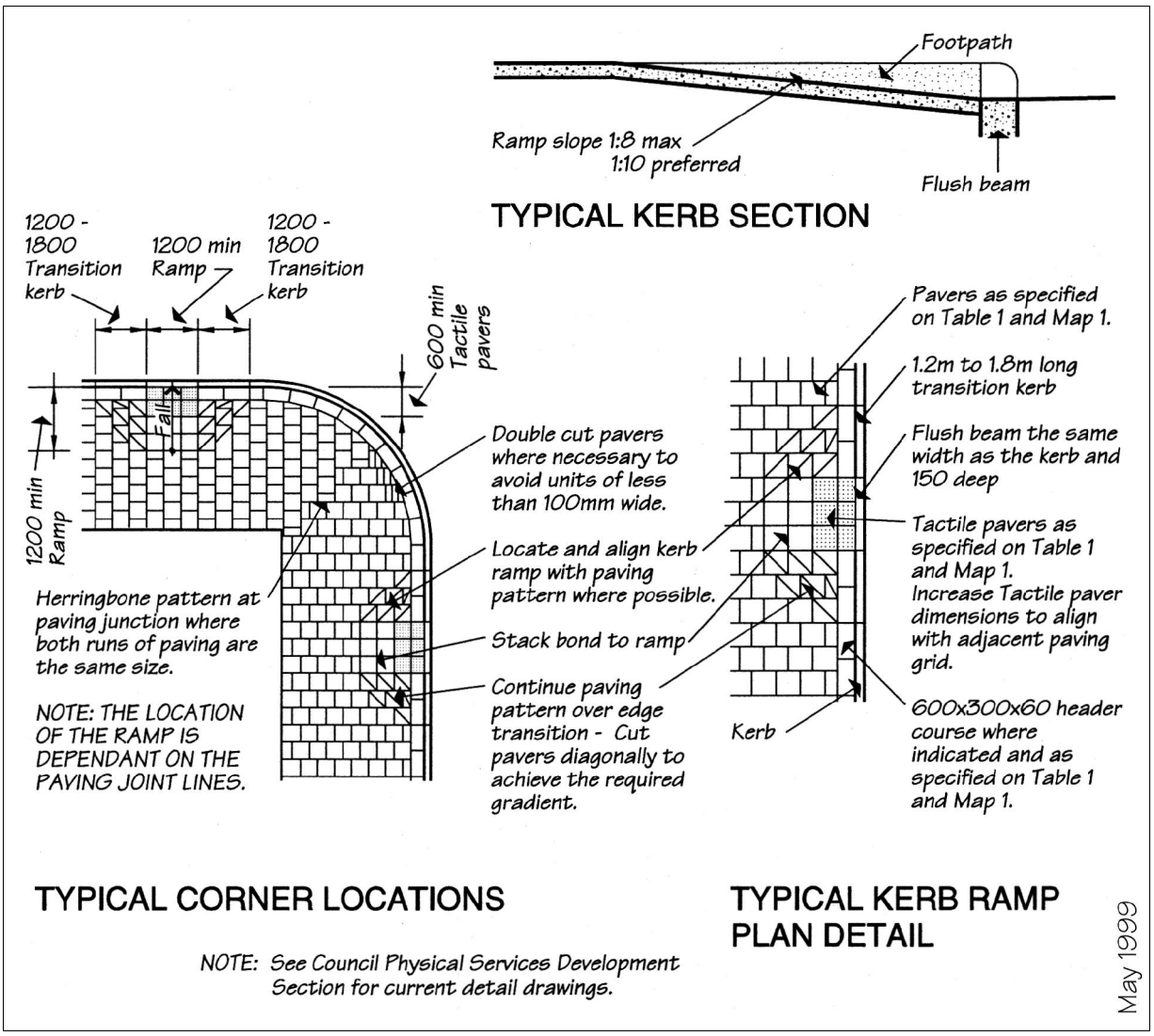
P2 STANDARD KERB *– May 1999*

1. *Precast concrete kerbs have traditionally been used in central Fremantle. Existing precast kerbs should be retained and wherever practicable old kerbs should be reused for patching, rather than using new ones.*
2. *Where new kerb construction is inevitable insitu concrete kerbs should be installed to match the precast kerb as closely as possible, particularly in the West End Conservation Area. Frequent joints should be inscribed into the concrete and a partly exposed aggregate finish sought. A barrier kerb profile should be used unless traffic management circumstances require otherwise.*
3. *The kerb should be continuous along the street. At crossovers and kerb ramps the kerb should be reset at a lower level as a flush kerb to match the profile of the access ramp.*
4. *For standard dimensions, see City of Fremantle Physical Services Development Section detail drawings.*

TECHNICAL NOTE

P3 STANDARD KERB RAMP FOR PEDESTRIANS– *May 1999*

1. *Kerb ramps should be provided at all intersections and pedestrian crossings. The ramp should be aligned with the opposite ramp to indicate direction of travel for the visually impaired. Openings should be provided in median islands opposite kerb ramps.*
2. *Ramps should be constructed of the same material and finish as the adjoining footpath to provide a smooth safe surface and for visual continuity.*
3. *The kerb should be dropped to be level with the road surface and be in a contrasting colour to the ramp material to define the road edge.*
4. *Tactile paving should be incorporated into the base of the ramp to warn of the edge of the road.*
5. *For standard dimensions and gradients see detail drawing.*



TECHNICAL NOTE

P4 STANDARD VEHICLE CROSSOVER *– May 1999*

1 *Vehicle crossovers (driveways) should be constructed at footpath level and in the same material as the adjoining footpath to slow vehicles and to signal to drivers that they are crossing a pedestrian priority zone. A smooth and flat surface maintains ease of movement for pedestrians.*

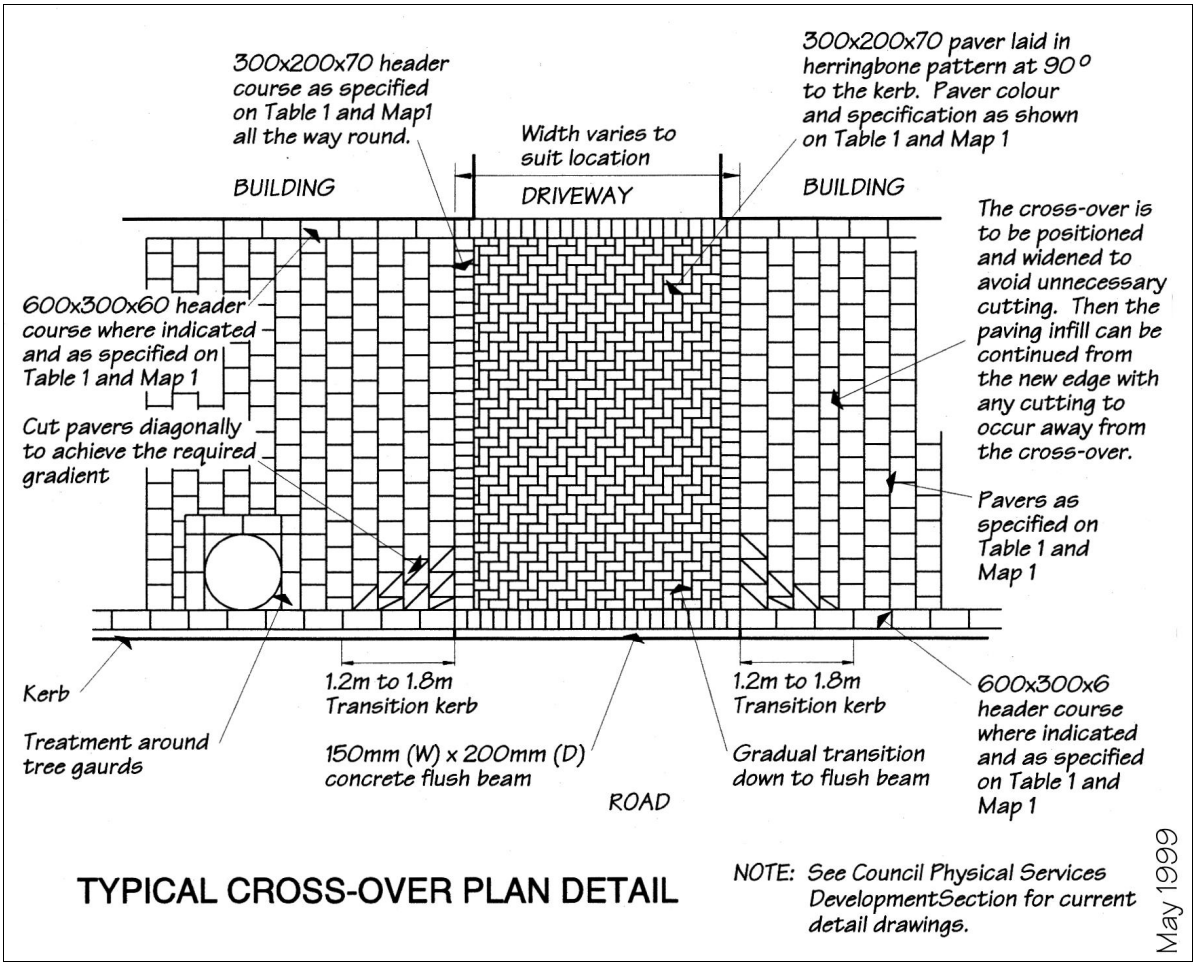
2 *Smaller rectangular pavers in a herringbone pattern indicates the location of the crossover to pedestrians and provides suitable strength for turning vehicles.*

3 *Locate crossover when possible to ensure whole footpath pavers each side of the crossover.*

4 *Widen crossover when necessary to allow whole pavers and minimum cuts to crossover paving.*

5 *Accommodate fall at each side of the crossover with full diagonal cuts of each paver where necessary.*

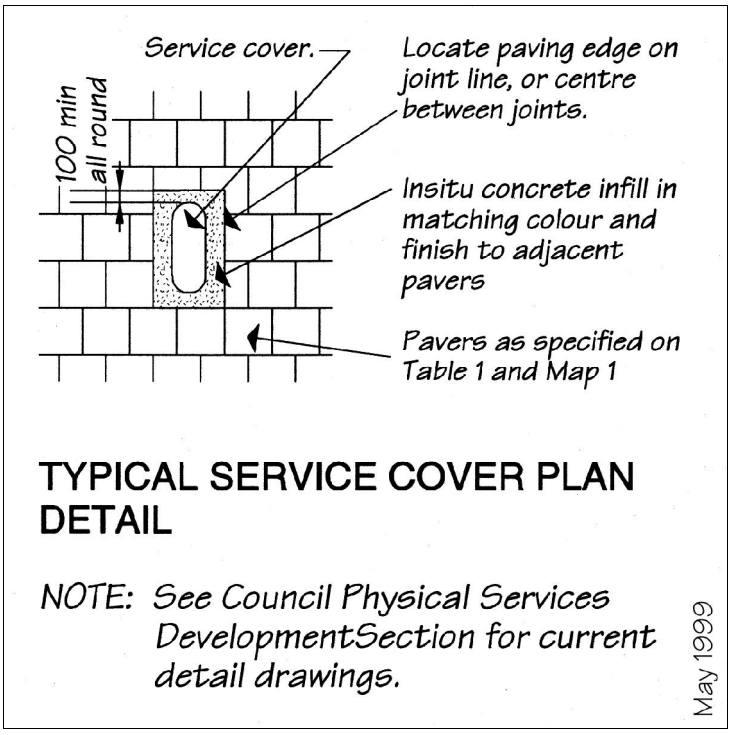
6 *For standard dimensions and gradients see detail drawing.*



TECHNICAL NOTE

P5 STANDARD SERVICE COVER *– May 1999*

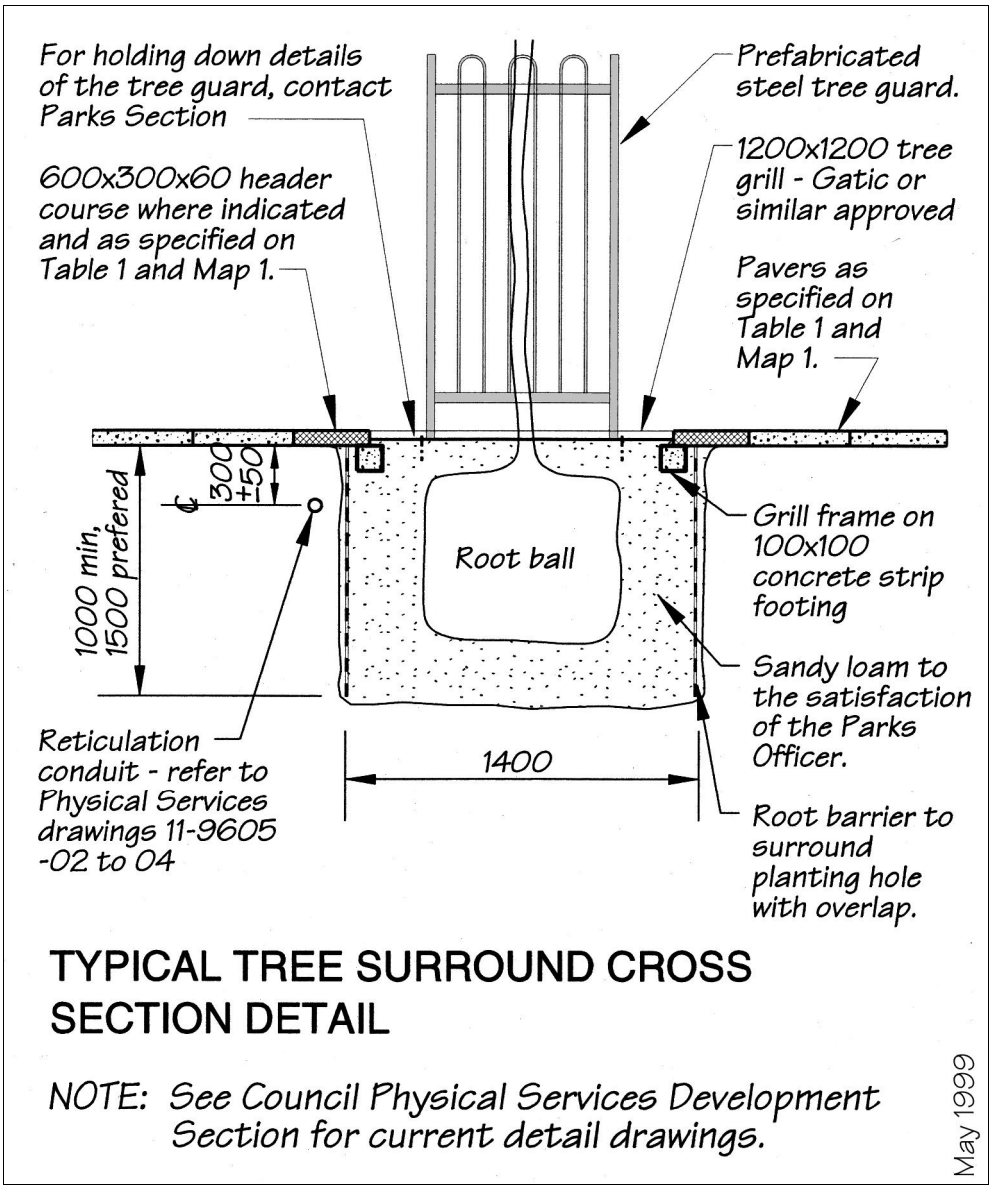
1. *Whenever practicable service covers should be relocated to below the paving and their location indicated by an appropriate mark on the paver above.*
2. *Service covers that cannot be practically relocated below the paving should be repositioned to:*
   - line up with the paving
   - be level with the paving.
3. *Pavers should be cut neatly to the edge of exposed rectangular and square service covers if sufficient compaction can be achieved adjacent to the service pit and where the minimum width of the paver is 200mm. Paving should be level with the service cover.*
4. *Around circular service covers, and where sufficient compaction and/or paving width cannot be achieved, paving should be stopped at the closest joint line, or centred between joints, with a minimum gap of 100mm and the gap infilled with insitu concrete in a matching strength, colour and finish to the paving material. The insitu concrete should be a minimum depth of 90mm. The cut edge of the paving should be parallel to the paving joints.*

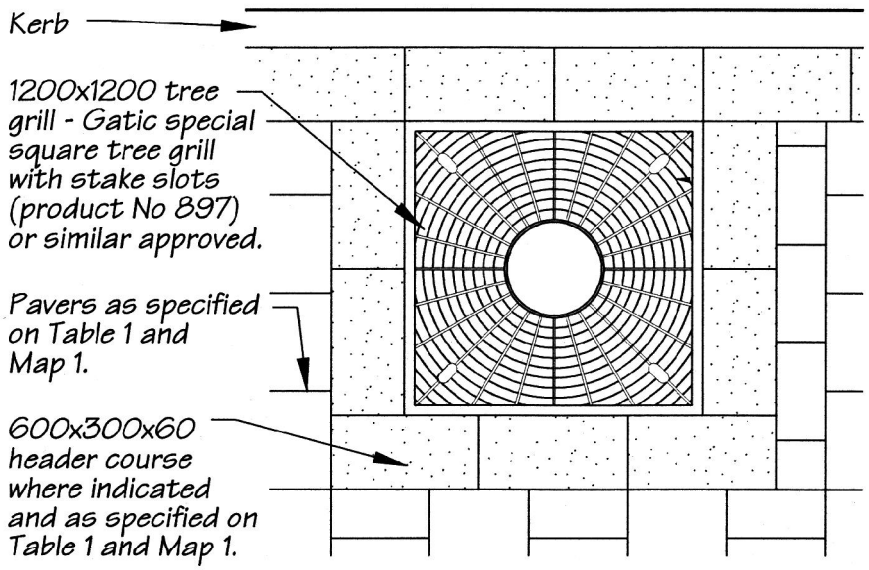


TECHNICAL NOTE

P6 STANDARD TREE SURROUND *– May 1999*

1. *Tree surrounds should be covered in heavily trafficked footpaths in order to protect the root zone from compaction, to provide air and water to the root zone, and to provide a hazard free walking surface.*
2. *The tree surround should be in a contrasting colour to warn of its location.*
3. *The frame of the tree surround should be aligned with the paving joints.*
4. *For standard materials and dimensions see detail drawing.*

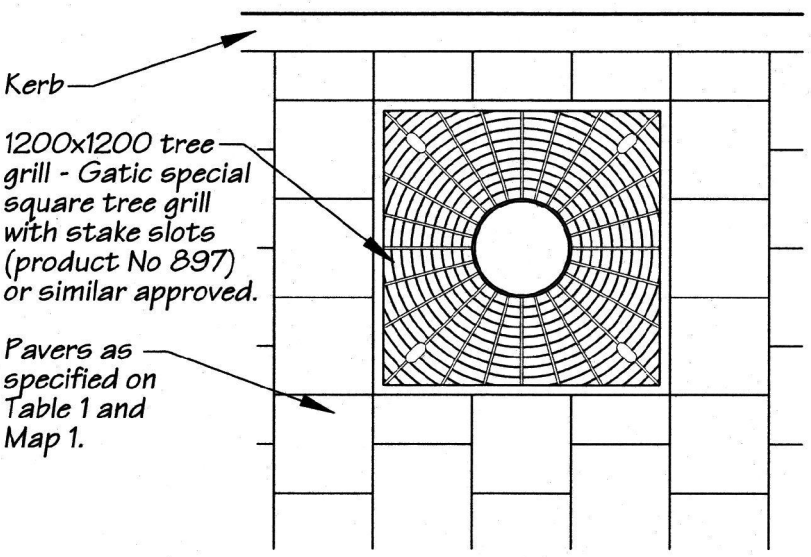




TYPICAL TREE SURROUND ADJACENT TO KERB (WITH HEADERS) - PLAN DETAIL

NOTE: See Council Physical Services Development Section for current detail drawings.

May 1999



TYPICAL TREE SURROUND ADJACENT TO KERB (WITHOUT HEADERS) - PLAN DETAIL

NOTE: See Council Physical Services Development Section for current detail drawings.

May 1999

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