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Knuckey Street key Moves *ribbons of green* 2009

**greening the  
Territory**  
fresh ideas | real results



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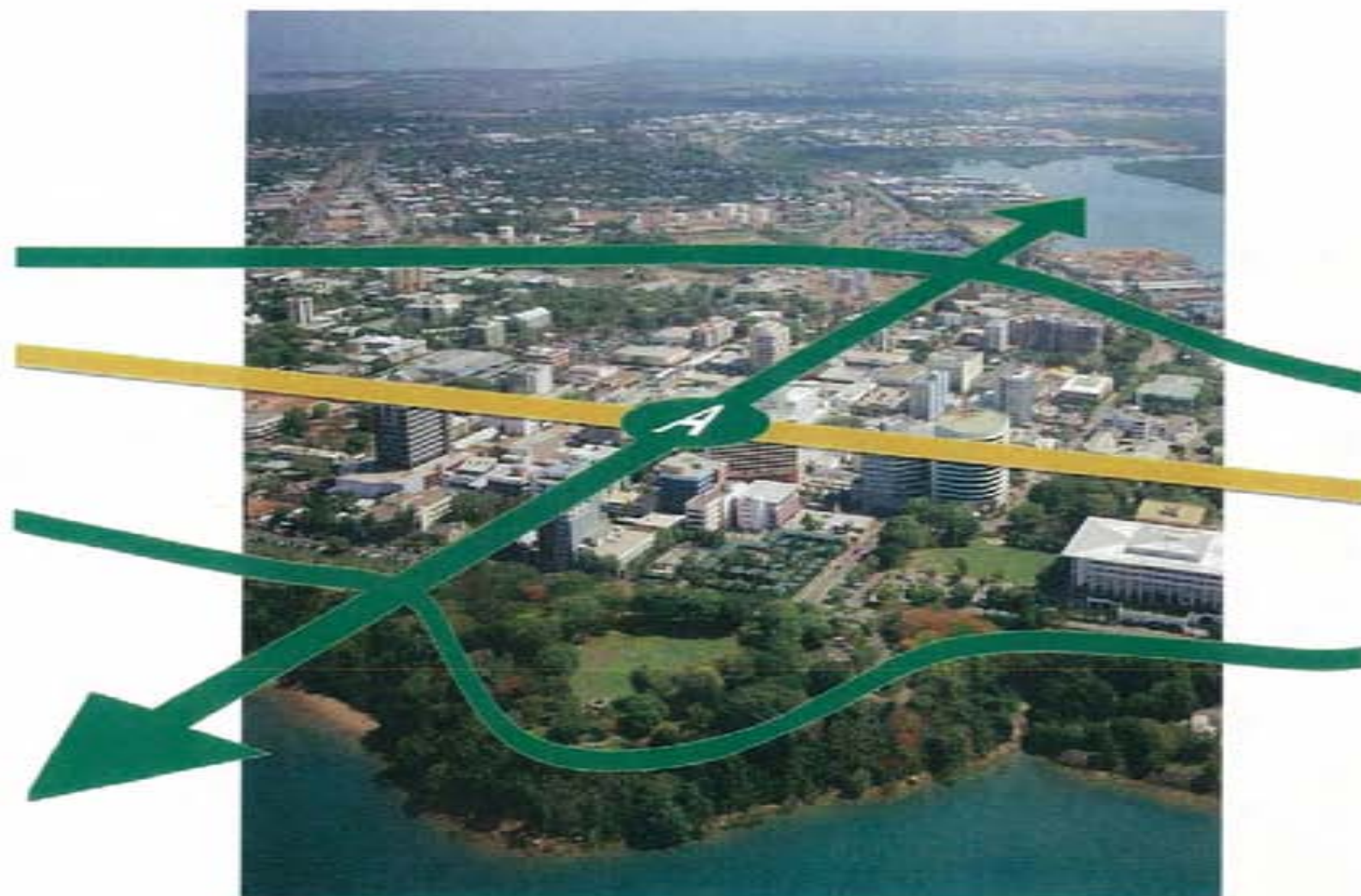
## Introduction

This is not a detailed study but a broad examination of the key moves and issues that affect Knuckey Street. This document is the next step in the Northern Territory Government's 'Ribbons of Green Strategy' (2007) and Darwin City Council's 'Central Darwin Streetscape Strategy' (2006). It examines an individual street within the CBD and identifies 'key moves' that should be embraced in any future staged upgrades.

This document underpins a core aim of the 'Central Darwin Streetscape Strategy' – to "recognise and value the role of street and park planting in defining the unique tropical character of Darwin". It also addresses a key recommendation of 'The Darwin CBD Landscape Manual' – to "adopt a coherent street tree masterplan that establishes and reinforces a welcoming, shaded, tropical character for the CBD with a high level of amenity for all road users."

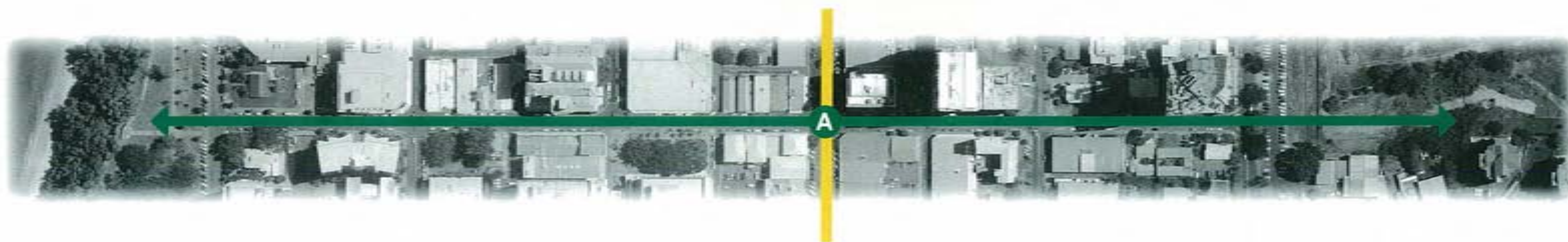
In summary this document attempts to balance the positive urban outcomes associated with street trees with the commercial imperatives of carparking.





## 1 Knuckey Street Overview

Knuckey Street is the key pedestrian orientated cross street in the CBD. It provides a strong retail and pedestrian spine which links the three main CBD streets, Mitchell Street, Smith Street and Cavenagh Street. Significantly Knuckey Street provides the opportunity to move from a point of prospect; the cliff top environment of Bicentennial Park to a place of refuge; the coastal environment of Frances Bay. The Smith and Knuckey Street intersection (A) is the key retail crossroad within the CBD and a major tourist nodal point.





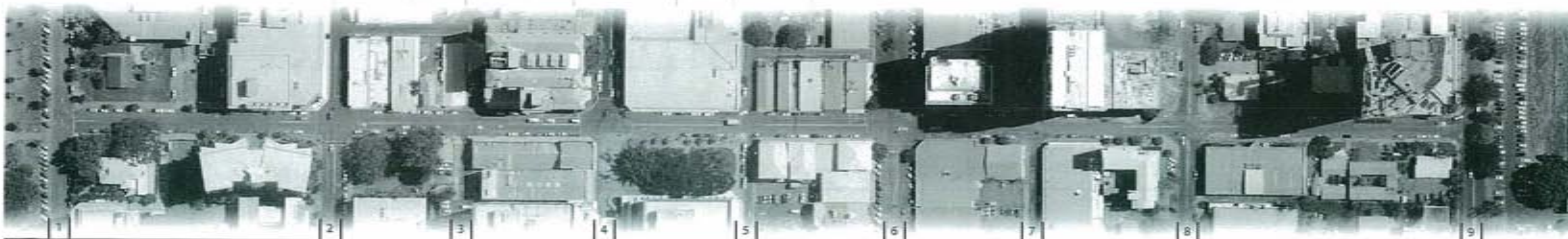
## 2 Existing Streetscape

Currently the road reserve to Knuckey Street is a car dominated domain. Shopfront awnings provide a degree of wet weather protection however the lack of shade trees does not -

- a. Promote an active retail edge.
- b. Encourage pedestrians to linger and 'window shop'.
- c. Soften the impact of adjoining high density development.



FOOTPATH   PARALLEL CARPARKING   LANE   LANE   PARALLEL CARPARKING   FOOTPATH



1. The Esplanade 2. Mitchell Street 3. West Lane 4. Smith Street 5. Austin Lane 6. Cavenagh Street 7. Litchfield Street 8. Woods Street 9. McMinn Street

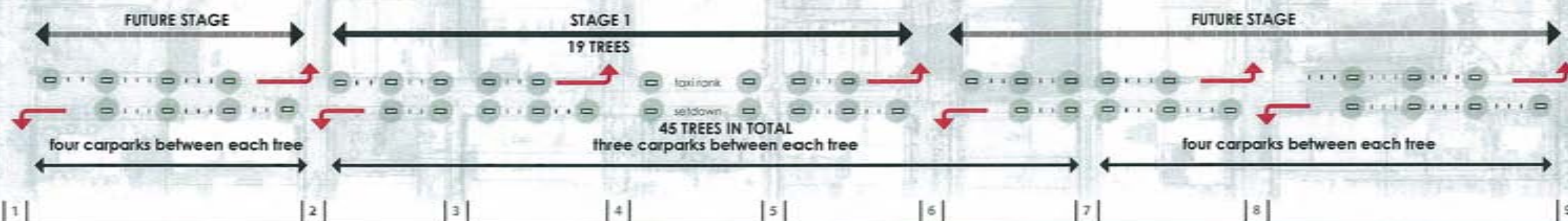
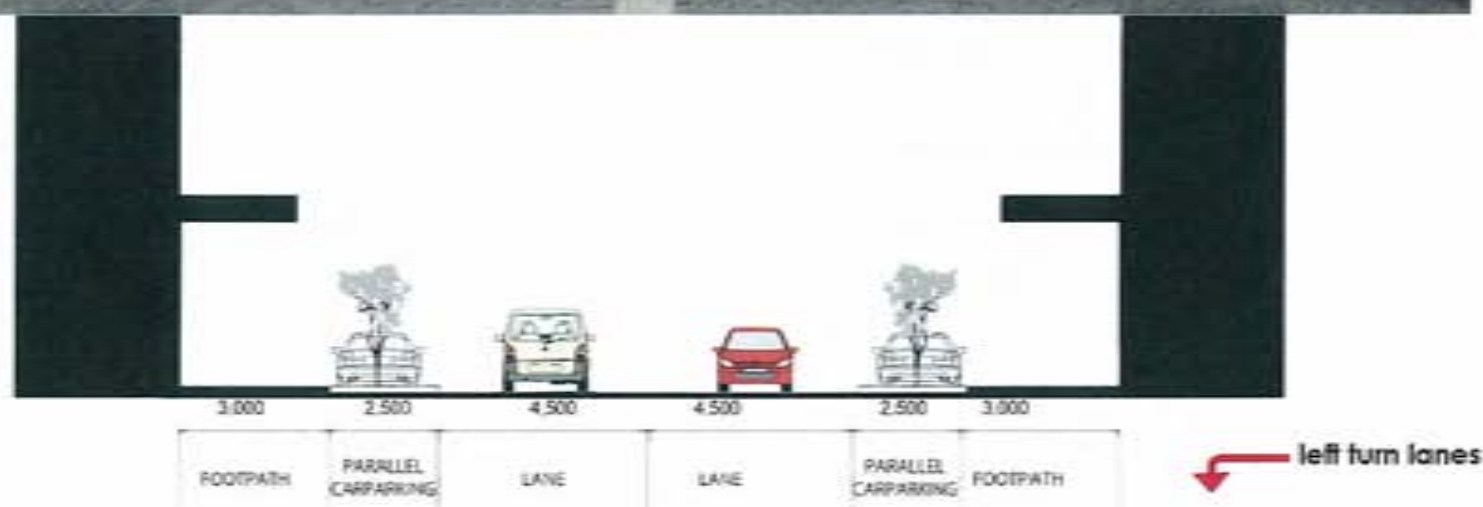


### 3 Proposed Streetscape

This document proposes approximately forty-five (45) street trees, a build-out every four to five car spaces (24-30metres) and a build-out length of 5.4m. This length allows for an adequate deep soil zone and significant groundcover planting. It also enables the build-out to be slotted easily into the revised carparking layout and is a more relaxed, less urban approach in keeping with Darwin's locality.

Stage one involves the building of approximately nineteen (19) build-outs between Mitchell and Cavenagh Street. The final layout of stage one works will require detailed survey information and civil engineering input and may differ slightly from the indicative plans shown in this document. As indicated all existing or potential left turning lanes in Knuckey Street are to be retained.

It must be noted that tree build-outs will bring about a net reduction in on-street carparking numbers. Approximately fifteen (15) cars will be lost as part of stage one works and a total of thirty (30) associated with the entire Knuckey street project.





## 4 Proposed Streetscape - tree species

The proposed species of street tree are 100L *Syzygium armstrongii* (Small white Bush Apple).

The *Syzygium armstrongii* -

1. Is a pre-existing Darwin CBD Primary Street Tree native to the top-end.
2. Has dense attractive foliage.
3. Has a more vertical / conical form.
4. This form reduces the potential conflict between motor vehicles and low hanging branches, does not impede ground-level retail sightlines and reduces possible conflict between mature canopy and CCTV.
5. Flowers during the wet season (nice display of colour).
6. Is a relatively tough and proven species.
7. Is fast growing.

Groundcover planting will be colourful, drought resistant and robust.

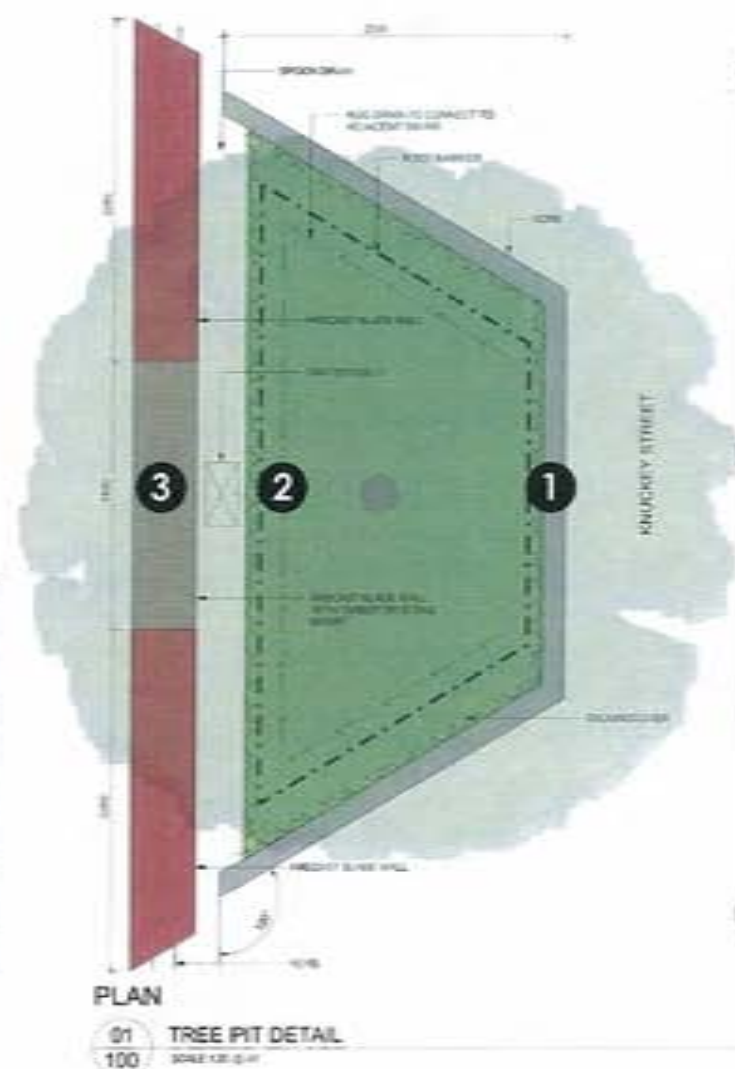


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FOOTPATH TREE & PARALLEL CARPARKING LANE LANE TREE & PARALLEL CARPARKING FOOTPATH



1. The Esplanade 2. Mitchell Street 3. West Lane 4. Smith Street 5. Austin Lane 6. Cavenagh Street 7. Litchfield Street 8. Woods Street 9. McMinn Street



## 5 Proposed Streetscape - build-outs

The proposed tree pit is a slight variation to DCC's current standard tree build-out detail (as constructed as part of the Pandarus Development in Knuckey Street).

Key changes include –

1. an altered kerb shape.
2. enhanced water sensitive urban design (WSUD) capability.
3. a low height wall to deter pedestrian rat running across the soft planting bed with flexibility for local stone, public art or seating insertions.

All buildouts are free-standing and are detached from the existing kerb line. Trees in build-outs (within the road pavement) have number of advantages over trees in footpaths, they:

- a. enable a continuous awning within the road reserve that does not come into conflict with street trees.
- b. enhance street tree coverage and the tropical feel of the CBD.
- c. eliminates the need for tree grates or stabilised Terrabond in favour of loose mulch and soft planting.
- d. provides a larger area for air and water penetration to the root system.
- e. reduces the problems of root and tree growth lifting pedestrian footpaths and creating trip hazards.
- f. Plantings in a build-out will also reduce the potential for unbalanced tree growth due to phototropism (growing towards the light) which can effect trees in areas where buildings or awnings impede natural growth and crown form.



1. The Esplanade 2. Mitchell Street 3. West Lane 4. Smith Street 5. Austin Lane 6. Cavenagh Street 7. Litchfield Street 8. Woods Street 9. McMinn Street

The core components of KSC1 are:

- **Greening** the CBD

Trees - *Allosyncarpia ternata* & *Syzygium armstrongii*.

Groundcover - *Gardenia*.

- **Connecting** people to places

*De-cluttering* - trees in buildouts.

*Lighting* - tree uplighting.

*Seating* - timber and local stone inserts to precast concrete walls.

*Signage* - wayfinding.

- **Meeting** in my 0800

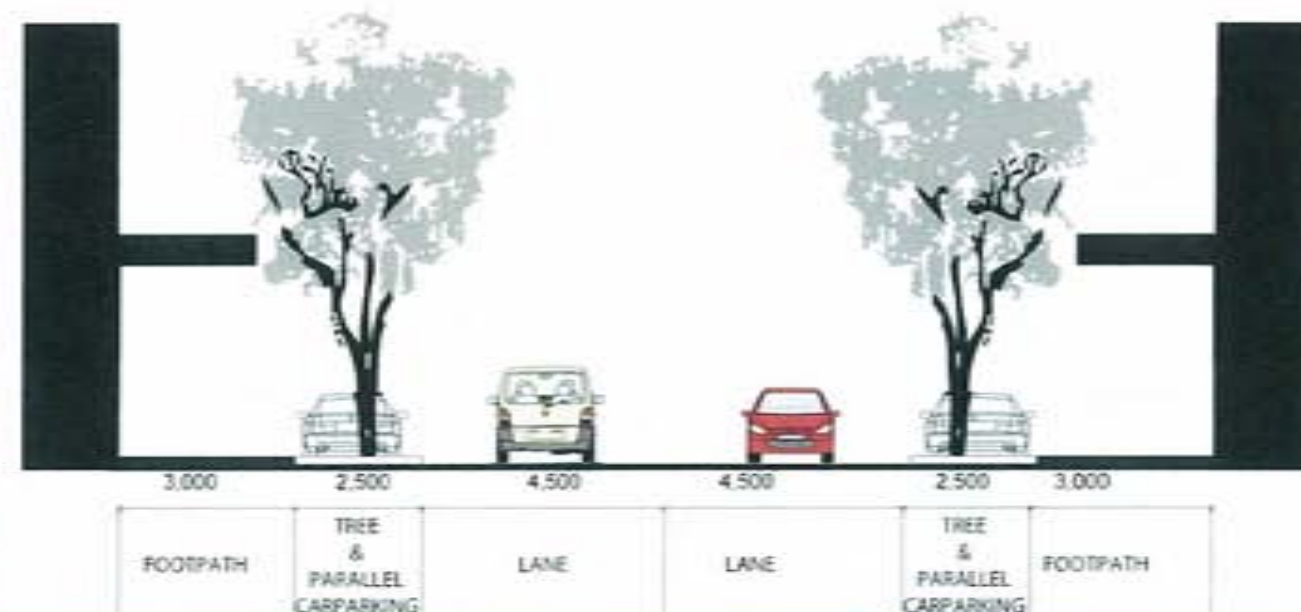
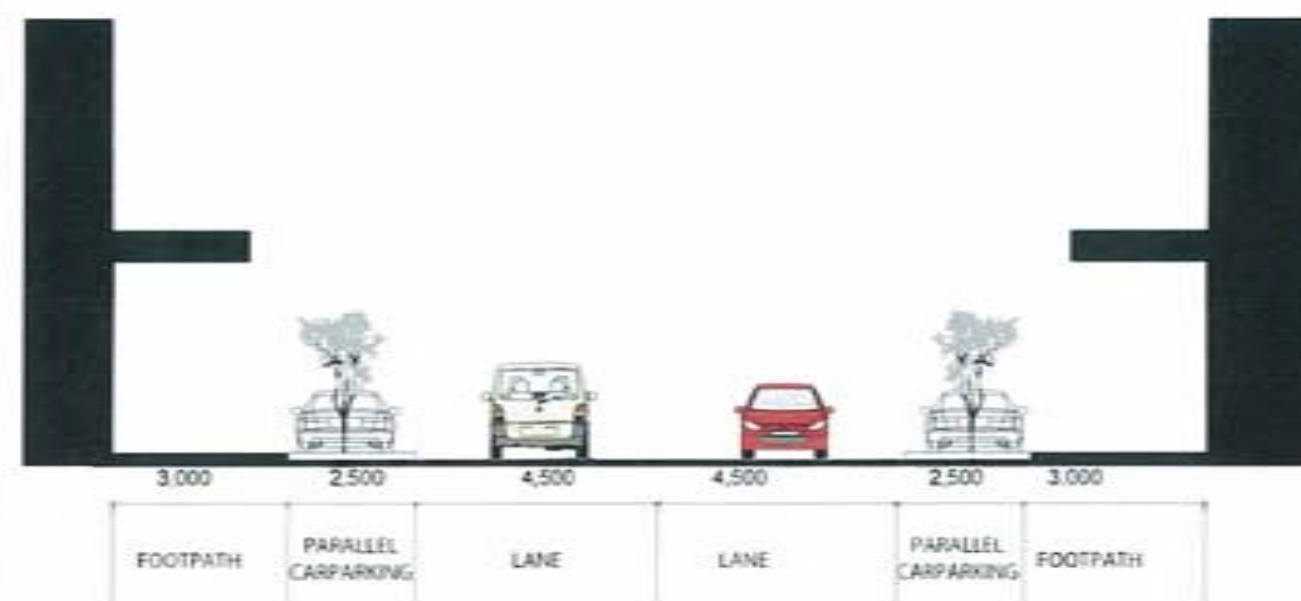
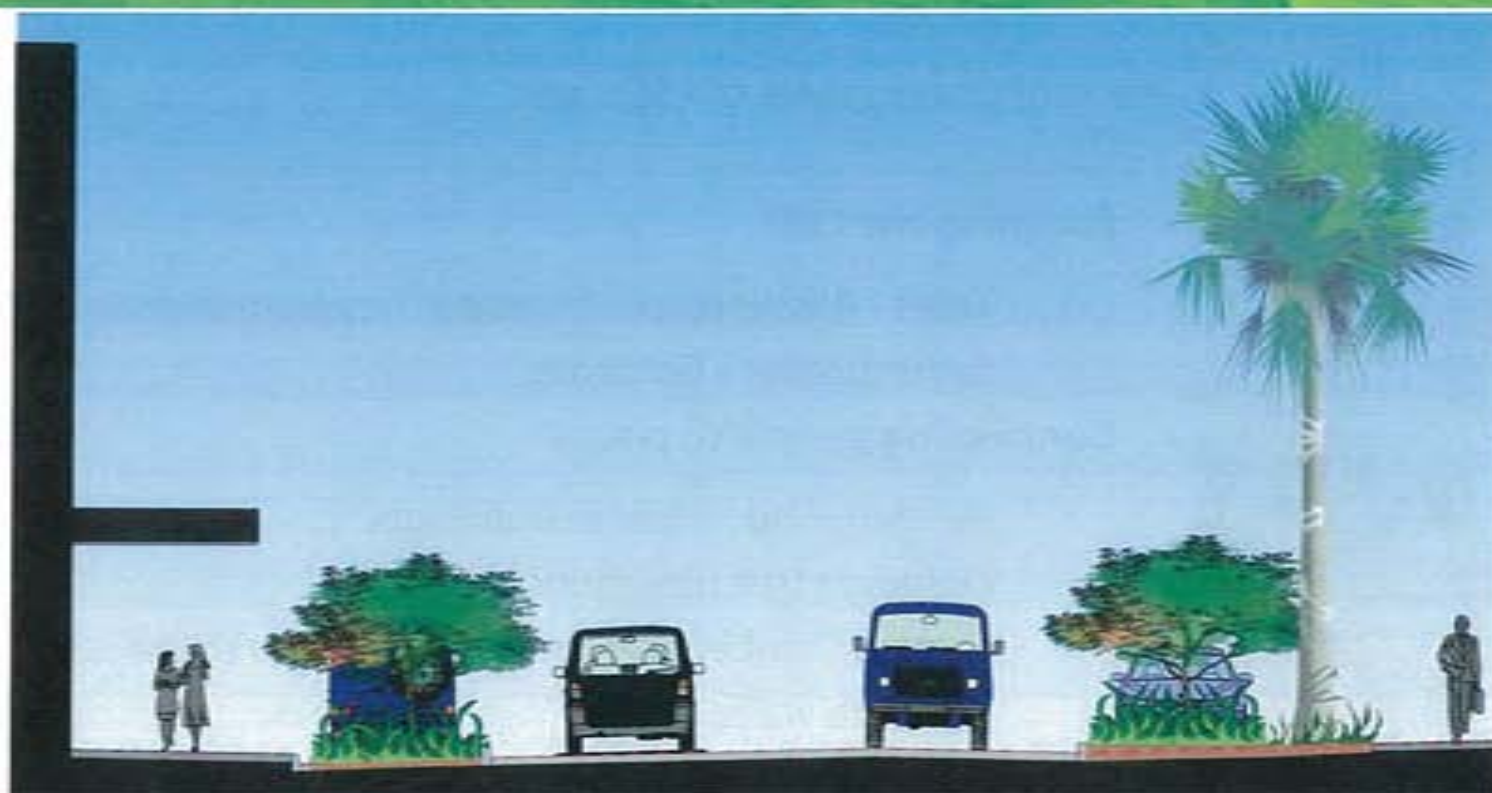
*Retail spaces* - cross town links.

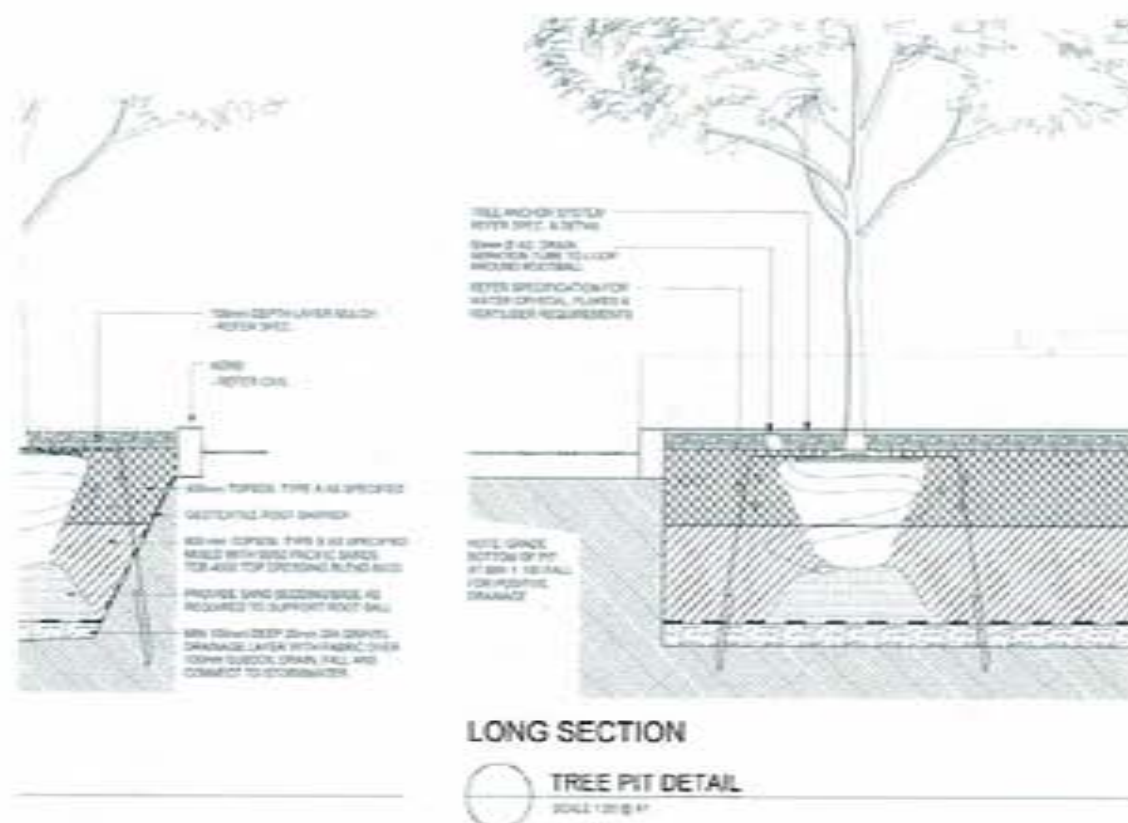
*Event spaces* - enhanced tourist bus set down and taxi rank.





# Knuckey Street Connection 1 (KSC1) *The key retail & microcross road*





## 6 Where to from here?

The core components of this study are:

1. Installation of 'build-outs' every four to five parking spaces.
2. The establishment of street trees in these buildouts.

Technical issues relating to the location of services and the construction of tree pits will require a more detailed study. Similarly, the overall financial costs associated with these recommendations.

To move to the next stage will require community and key stakeholder consultation, a detailed Identification (ID) Survey and further input by the following public and private sector consultants:

1. Urban / Town Planners
2. Landscape Architects
3. Architects
4. Lighting and Environmental signage consultants
5. Structural, Civil and Services engineers
6. Quantity Surveyors / Cost and Program Consultants

A four week consultation period will involve:

1. Hardcopy display at DCC offices and a digital copy on DCC's website.
2. A DCC press release.
3. Radio, TV and print stories/advertisements.
4. Key stakeholder meetings.

The consultation process will engage with the Darwin community, the Northern Territory Government (NTG), Property Council of Australia (PCA) and Knuckey street property owners (stage one only).

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DCC Presentation 1 - *project overview August* 2009





## The Masterplan existing assets

0800





Core components of the city

It is intended that this project will kick start the revitaliation of Darwin's CBD.

The core components of the city are :

- *The sustainable city* - recognising and valuing the role of street and park planting in defining the unique tropical character of the city and to promote Darwin as a walk-able city.
- *The event city* - creating streets and public spaces capable of staging important cultural and civic events.
- *The retail city* - building better, less cluttered connections whilst establishing a framework for private sector investment in street level retail.
- *The 24 hour city* - promoting a safe and covered pedestrian environment.



Core components of the project

The core components of the project are :

- **Greening** the CBD

  - Trees

  - Groundcover

- **Connecting** people to places

  - De-cluttering*

  - Shelter*

  - Lighting*

  - Seating*

  - Signage*

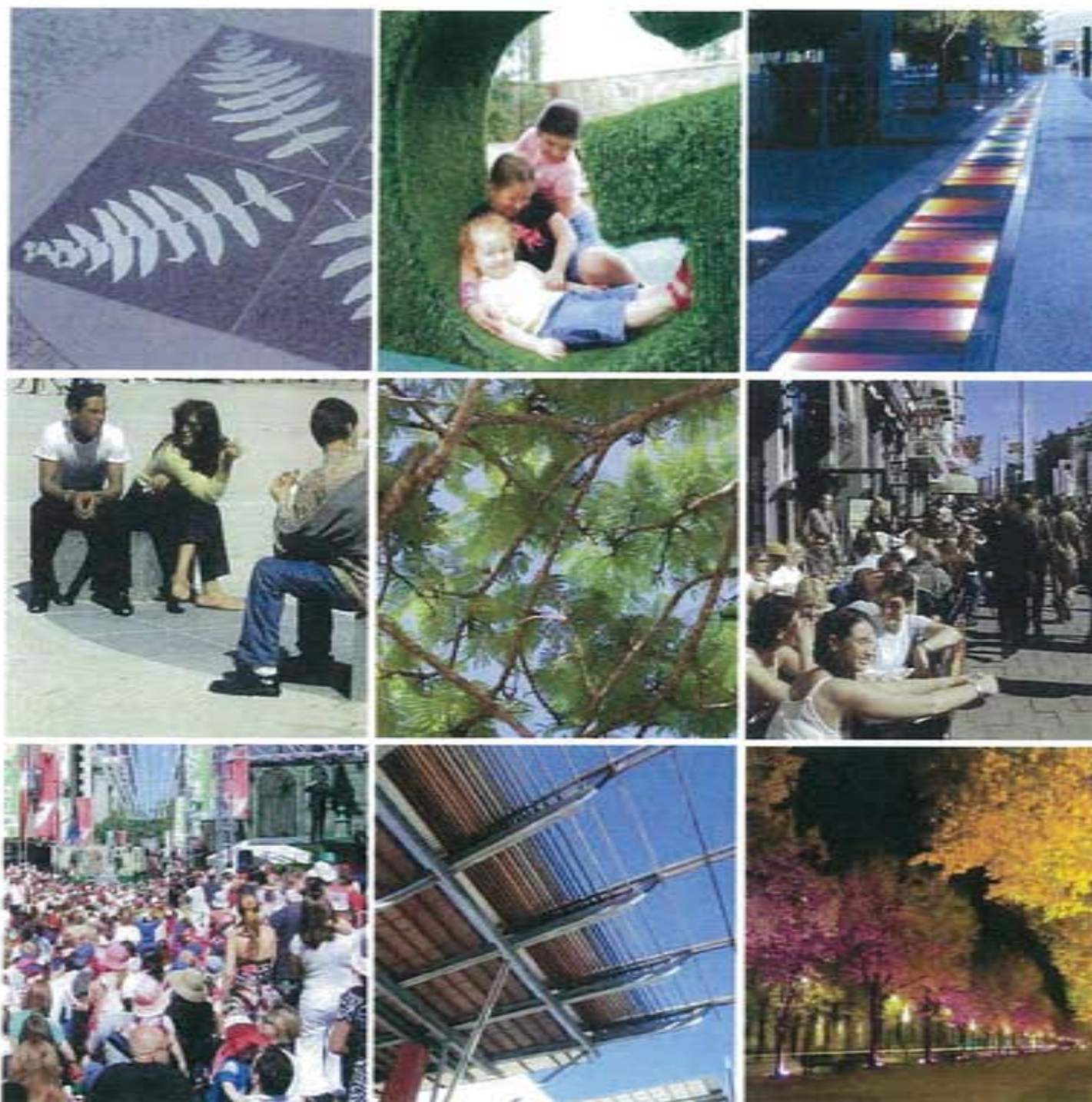
  - Public Art*

- **Meeting** in my 0800

  - Play spaces*

  - Event spaces*

  - Retail spaces*





The Team



Australian Government



Northern  
Territory  
Government



darwin  
City Council

Tract



dotdash



aurecon

RLB Rider Levett Bucknall





The Vision

0800

SSC3

KSC1

RTP

SSC2





## The Cost

### CONSTRUCTION ESTIMATES\* (EXCL. GST)

#### A SMITH STREET CONNECTION 2 (SSC2)

TOTAL SSC2 \$3,000,000

#### B KNUCKEY STREET CONNECTION (KSC1)

TOTAL KSC1 \$1,500,000

#### C SMITH STREET CONNECTION 3 (SSC3)

TOTAL SSC3 \$1,200,000

#### D RAIN TREE PARK (RTP)

TOTAL RTP \$1,000,000

**TOTAL (A+B+C+D) \$6,700,000**

\*including survey costs and consultant fees

#### MARGIN & ADJUSTMENTS

PUBLIC ART (ALLOWANCE) 4.0% \$ 268,000

END OF PROJECT AUDIT \$ 26,000

**TOTAL PROJECT BUDGET \$6,994,000**

(rounded up)

**\$7,000,000**

RLCIP contribution \$3,600,000

NTG contribution \$1,750,000

DCC contribution \$1,150,000

Private Sector contribution \$ 500,000





## Smith Street Connection 3 (SSC3) *The 'everyday' promenade*

*Smith Street can be considered the traditional main street of the city. Smith Street is the centre of town, a place to meet and throughout Darwin's European history it was the 'everyday' street for locals.*

### **Current Problems**

- Lack of retail sightlines (street to shop-front).
- Unsafe environment at night.
- Lack of a continual covered connection between China Town Carpark and the Mall.



The core components of SSC3 are :

- **Greening** the CBD

Trees - six *Allosyncarpia ternata*.

Groundcover - Turf promenade

- **Connecting** people to places

*De-cluttering* - raised planters and shrubbery.

*Shelter* - new awning to Spillet House.

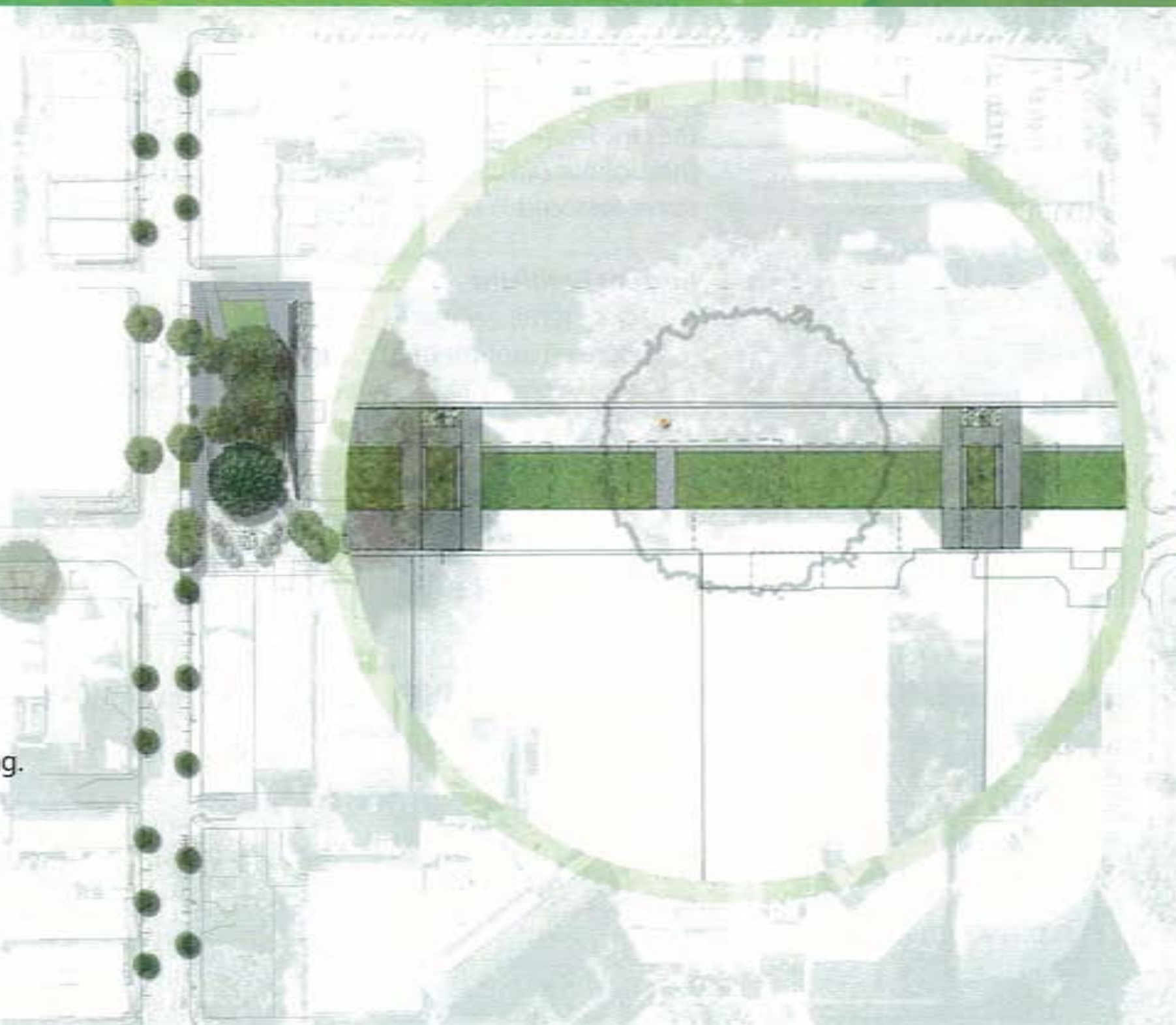
*Lighting* - pedestrian & tree uplighting.

*Seating* - local stone blade walls.

*Signage* - wayfinding.

- **Meeting** in my 0800

*Retail space* - catalyst for future retail /alfresco dining.





Smith Street Connection 3 (SSC3) *The everyday promenade*

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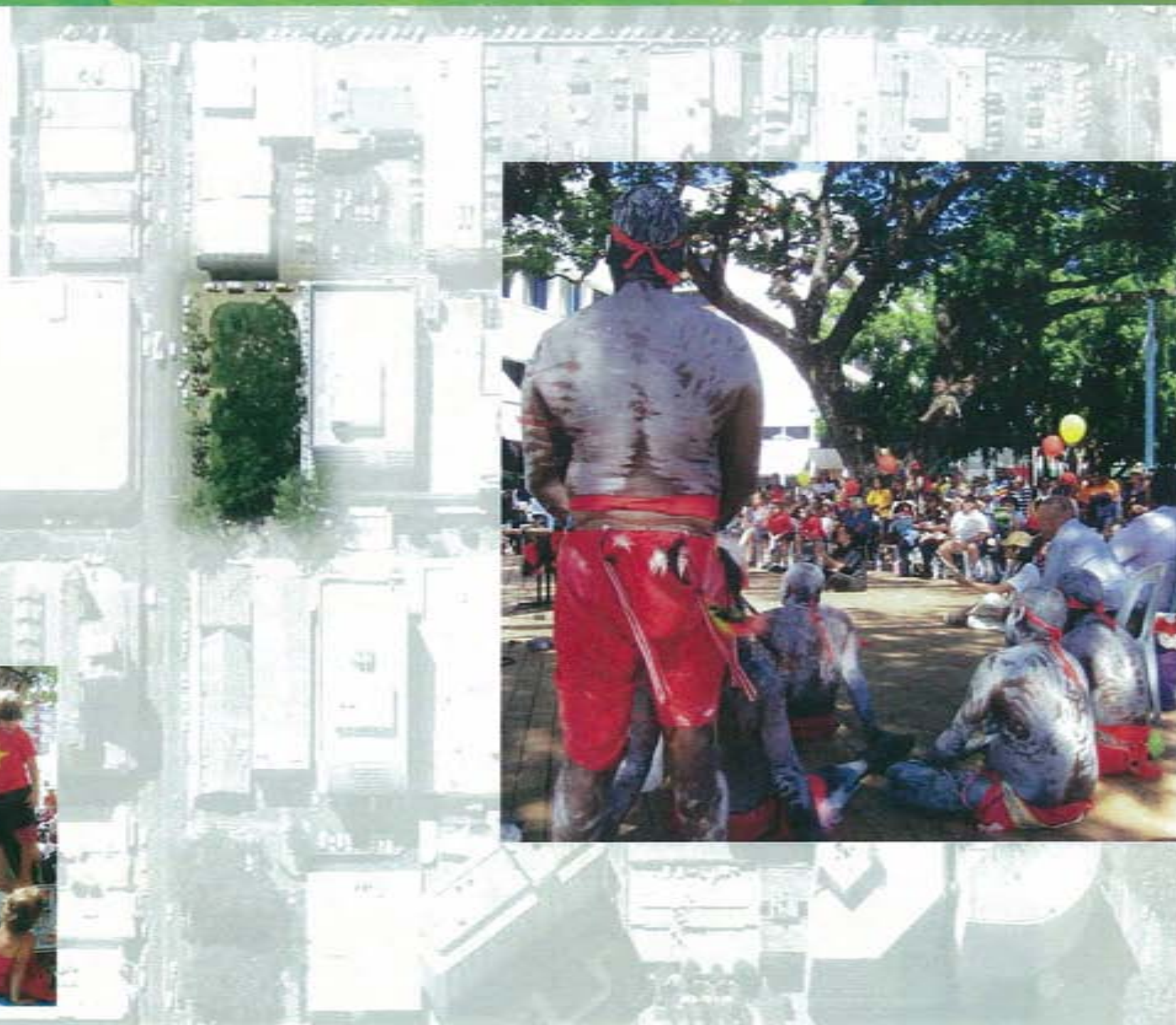


Rain Tree Park (RTP) *Air conditioning & community events*

*Raintree Park is a key pocket park centrally located in the CBD.*

### **Current Problems**

- Conflict between paving and tree health.
- Weak edges.
- Isolated heart.





## Rain Tree Park (RTP) - *press, drink & community events*

The core components of RTP are :

- **Greening** the CBD

Trees - *Allosyncarpia ternata*, Rain Trees, *Ficus*.  
Groundcover - Turf & *Gardenia*.

- **Connecting** people to places

*De-cluttering* - soft heart / urban edge.  
*Shelter* - new awning to retail promenade.  
*Lighting* - pedestrian & tree uplighting.  
*Seating* - timber around *ficus*.  
*Signage* - environmental & wayfinding.

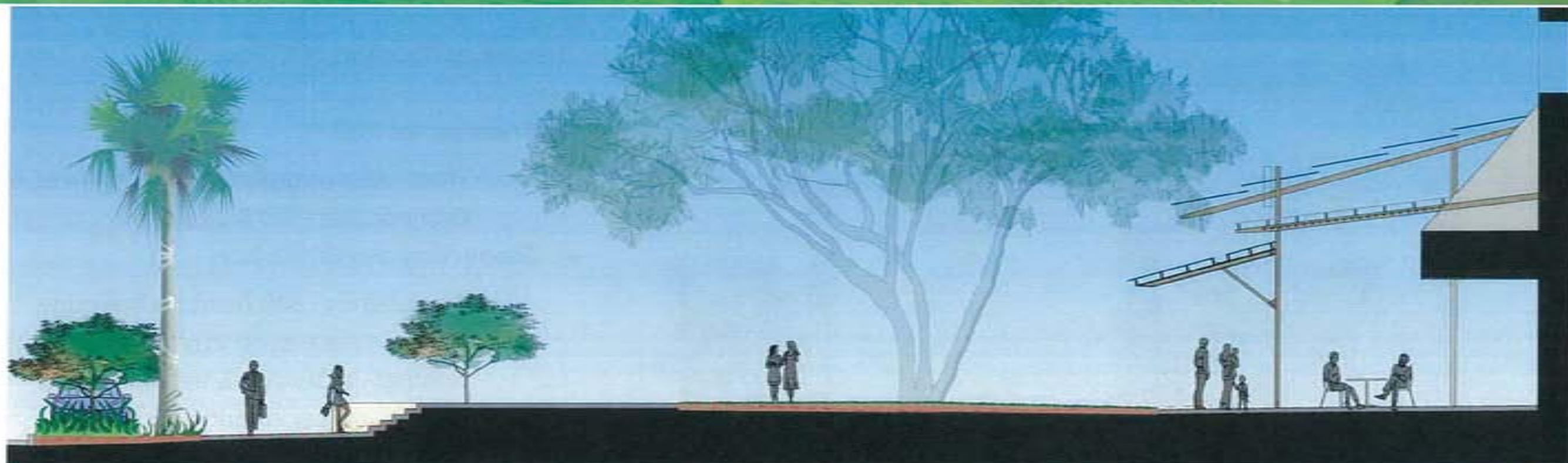
- **Meeting** in my 0800

*Play spaces* - the long lawn.  
*Event spaces* - the city stage.  
*Retail spaces* - the retail promenade.



Rain Tree Park (RTP) *affordable living & community events*

0800



*The pedestrianised section of Smith Street (The Smith Street Mall) was last upgraded over ten years ago.*

### Current Problems

- Too much clutter.
- Bad sightlines.
- Colour scheme.
- Tired and outdated.



The core components of SSC2 are :

- **Greening** the CBD

Trees - *Allosyncarpia ternata* & *Bismarkia nobilis*.

Groundcover - *Gardenia*.

- **Connecting** people to places

*De-cluttering* - raised planters, seating, info box.

*Shelter* - upgrade shade structures.

*Lighting* - pedestrian & tree uplighting.

*Seating* - local stone blade walls.

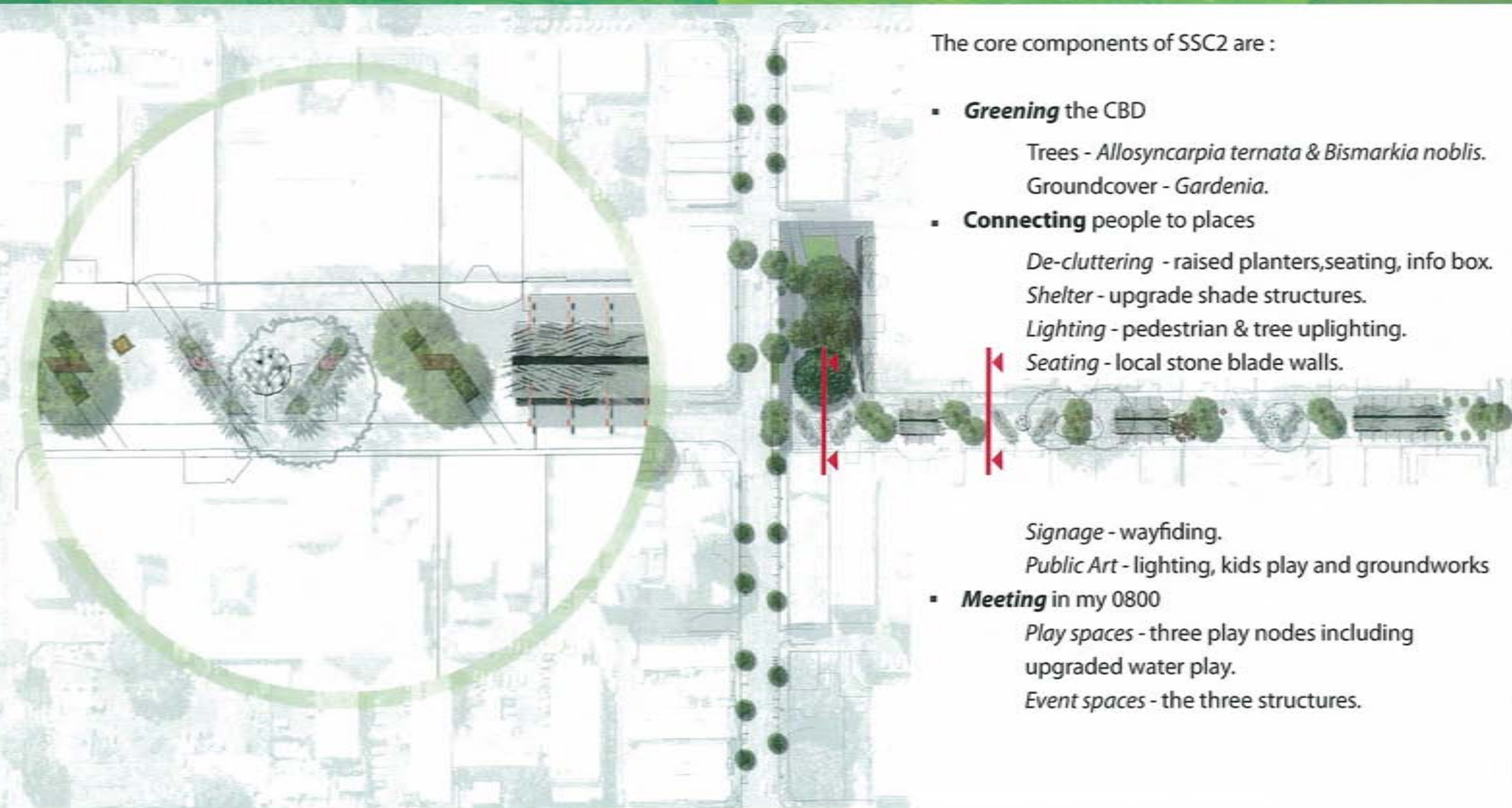
*Signage* - wayfinding.

*Public Art* - lighting, kids play and groundworks

- **Meeting** in my 0800

*Play spaces* - three play nodes including upgraded water play.

*Event spaces* - the three structures.





Smith Street Connection 2 (SSC2) *The city heart*

0800





## Smith Street Connection 2 (SSC2) *The city heart*

