ST MORRIS RESERVE - CONCEPT PLAN REPORT

Project	St Morris Reserve
Ref No.	20.054
Client	City of Norwood, Payneham & St Peters
Date	24.03.2023
Engineer	Stantec / Cardno
Issue	Concept

City of Norwood Payneham & St Peters

LANDSKAP

PROJECT INTRODUCTION

In March 2019, the Council resolved to invest $38.4 million over 15-years to upgrade the City's stormwater drainage network to help reduce the impacts of flooding and to protect residents, homes and properties, as well as the City's assets such as footpaths, kerbing and street trees. The Trinity Valley Stormwater Upgrade Project, which comprises of four individual phases, is one component of the overall Stormwater Drainage Program.

In recognition of the importance of the Trinity Valley Stormwater Upgrade Project the Federal Government, through the Preparing Australian Communities Local Stream Program, is contributing approximately $9.9m, to assist the Council with the construction and project management costs of delivering all four phases of the Trinity Valley Stormwater Upgrade Project. In order to meet the requirements of the Federal Government's grant, all four phases of the Trinity Valley Project need to be completed by May 2025.

The purpose of the Federal Government's Preparing Australian Communities Local Stream Program is to target local projects across the nation, with a focus on improving resilience against natural disasters, such as floods.

Each of the four phases (Phase 1 through to Phase 4) of the Trinity Valley Stormwater Upgrade Project will provide a flood risk reduction benefit as standalone projects, with maximum benefit to flood risk reduction occurring at the completion of all four phases. In order to maximise the flood risk protection a Detention Basin needs to be constructed in St Morris Reserve.

The Detention Basin in St Morris Reserve will take the form of an open basin, which will require excavation and grading of the Reserve. The Council's decision to construct an open Detention Basin at St Morris Reserve has created the opportunity for the Council to renew and upgrade all of the open space and recreational assets within St Morris Reserve.

While the construction of a Detention Basin will help to manage stormwater and flooding risk, it has also formed the foundation for delivering better outcomes for residents by providing the opportunity for an improved playground, new recreational facilities, and new vegetation and trees throughout the Reserve.

The purpose of this Concept Plan is to outline the vision for St Morris Reserve and identify the recreational elements that will be included as part of the in St Morris Reserve upgrade.

Community consultation & feedback

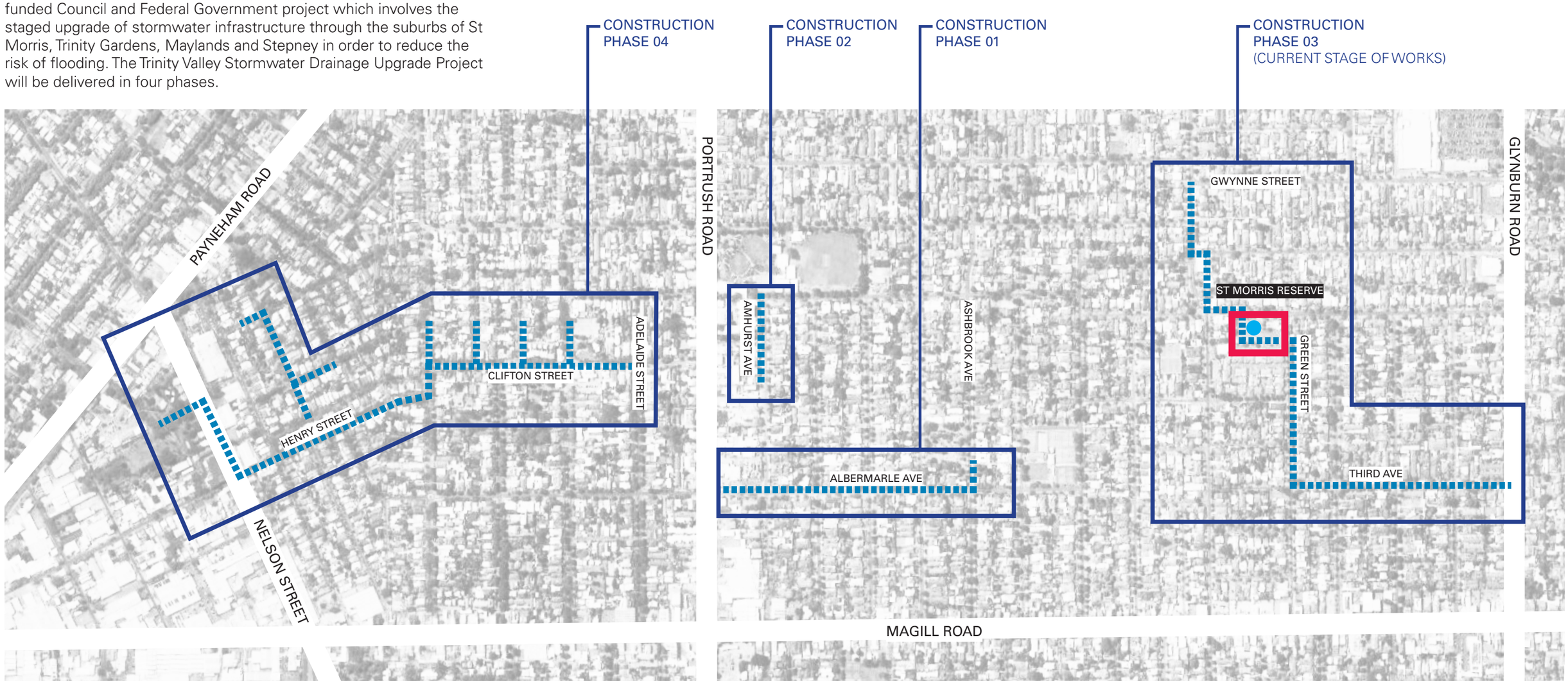
Existing St Morris Reserve

Stormwater infrastructure upgrades

New facilities in St Morris Reserve

TRINITY VALLEY STORMWATER UPGRADES
LOCATION MAP & STAGING

The Trinity Valley Stormwater Drainage Upgrade Project is a jointly funded Council and Federal Government project which involves the staged upgrade of stormwater infrastructure through the suburbs of St Morris, Trinity Gardens, Maylands and Stepney in order to reduce the risk of flooding. The Trinity Valley Stormwater Drainage Upgrade Project will be delivered in four phases.



- Stormwater infrastructure upgrades
- St Morris Reserve
- Detention basin location

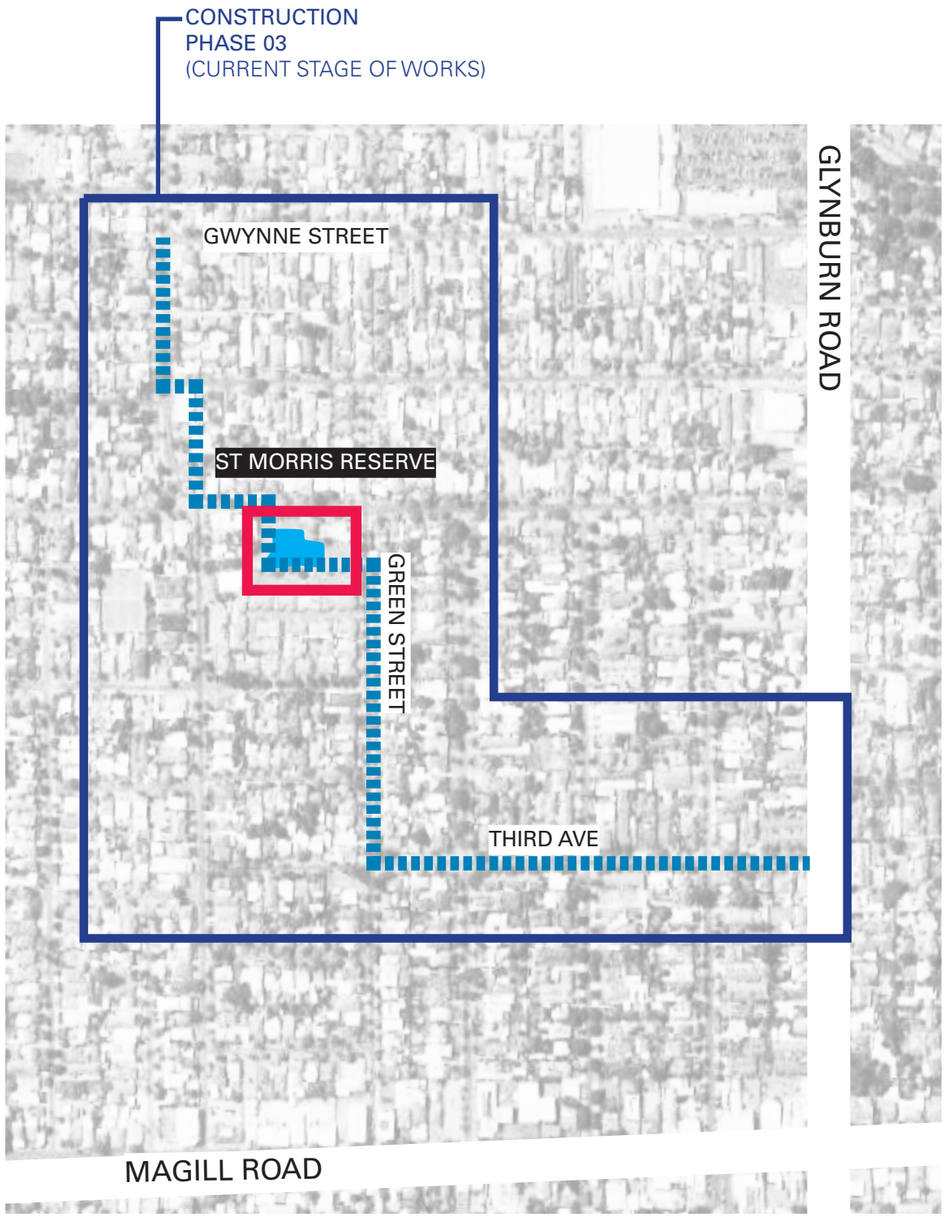
Phase 1
Overland flow interception and detention storage within Albermarle Avenue, Trinity Gardens. Scheduled to be delivered in 2023-2024.

Phase 2
Overland flow interception and detention storage within Jones Avenue and associated pipework along Amhurst Avenue, Trinity Gardens. Scheduled to be delivered in 2023-2024.

Phase 3
Overland flow interception and detention storage (ie Detention Basin) within St Morris Reserve, St Morris. Scheduled to be delivered in 2023-2024.

Phase 4
Overland flow interception and trunk drainage capacity upgrades within the suburbs of Stepney and Maylands. Scheduled to be delivered in 2024-2025.

TRINITY VALLEY STORMWATER UPGRADES
ROLE OF ST MORRIS RESERVE



Detention Basin Works

The St Morris Reserve detention basin is designed to ensure that stormwater is captured and overland flow is diverted from entering the Council from Glynburn Road up to the 1% Annual Exceedance Probability (AEP) rainfall event (i.e. a rainfall event that occurs on average once every 100 years).

Stormwater will be transferred to the open detention basin at St Morris Reserve by the installation of a new 900mm pipe running along Glynburn Road and Third Avenue between the existing open drainage channel on the eastern side of Glynburn Road and Williams Avenue, St Morris and a new 750mm pipe along Green Street, St Morris between Third Avenue, St Morris and the detention basin. A new 450mm pipe will discharge stormwater from the detention basin to the existing drainage along Gage Street, St Morris.

The grassed area of the St Morris Reserve will be fenced off during the construction of the Detention Basin, which is expected to take approximately three (3) months to complete. The playground area will remain open and accessible during the construction period of the Detention Basin. Following completion of the Detention Basin, the construction of the playground together with all of the other recreation elements will commence.

- Stormwater infrastructure upgrades
- St Morris Reserve
- Detention basin location

Upgrade of Facilities

One of the benefits of an open Detention Basin is that different elements within the Reserve such as the playground, landscaping and the introduction of water sensitive urban design can be incorporated into the overall design.

The current playground at St Morris Reserve is nearing its end of life and therefore this project presents an ideal opportunity for the Council to consider the replacement of the equipment as part of the Project.

The playground at St Morris Reserve is classified as a Neighbourhood Level Playground, which indicates that the play equipment should be good quality and could include equipment for different age groups. However, should comprise of predominately standard rather than unique equipment and surrounds, and cater for the needs of the local neighbourhood.

The role of this Concept Plan is to outline the future vision for the Reserve and to provide the foundation for the detail design and upgrades for St Morris Reserve to occur.

ST MORRIS RESERVE
EXISTING SITE

1	Play
2	Basketball court
3	Bin & water fountain
4	Irrigated lawn
5	Perimeter fencing
	Project scope

ST MORRIS RESERVE
EXISTING SITE

View 01: Open space and existing playground beyond (facing north-east)

View 02: Existing playground (facing north-east)

View 03: View of basketball ring and playground beyond (facing east)

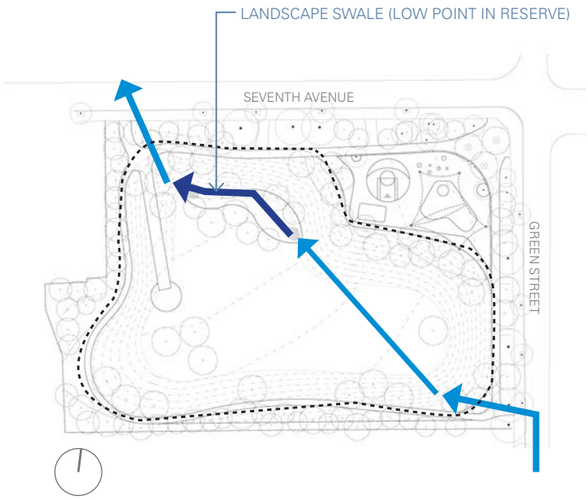
View 04: View of Seventh Avenue and playground (facing east)

ROLE OF THE DETENTION BASIN

The diagrams below show the potential flood levels in St Morris Reserve, once the new stormwater infrastructure upgrades are implemented. Flood levels are shown at:

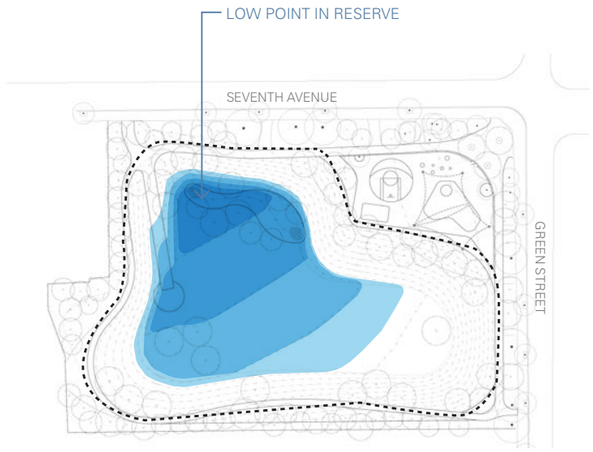
- 20% probability of flooding in a given year
- 5% probability of flooding in a given year
- 1% probability of flooding in a given year

By way of example, during a 1% probability event where it rains for 180 minutes, the basin will take approximately 3 hours to fill and the detention basin is expected to hold water for approximately 7-8 hours after the end of the rain event.



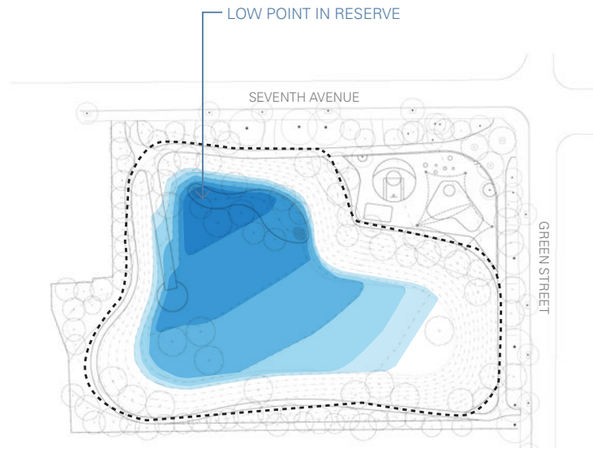
Proposed stormwater upgrades

- New stormwater pipe
- New landscape swale
- Extent of basin
- Extent of flooding



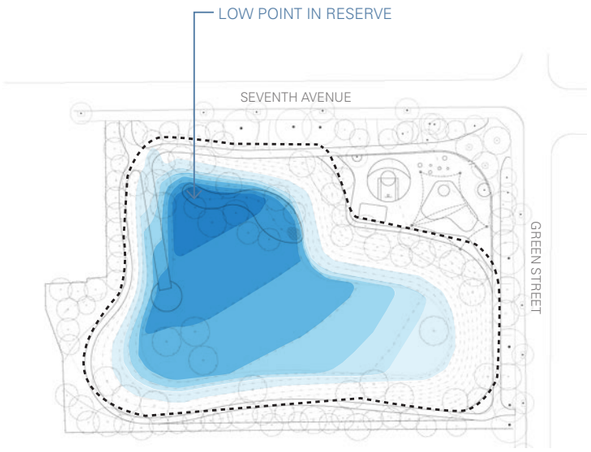
20% probability of flooding

Max depth: 0.86m
(at deepest point in detention basin)



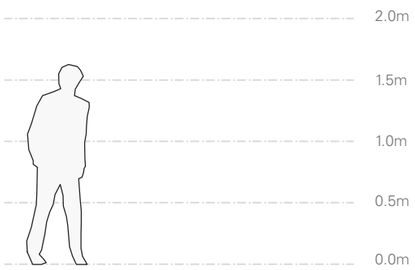
5% probability of flooding

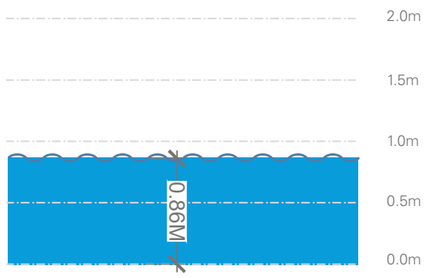
Max depth: 0.98m
(at deepest point in detention basin)



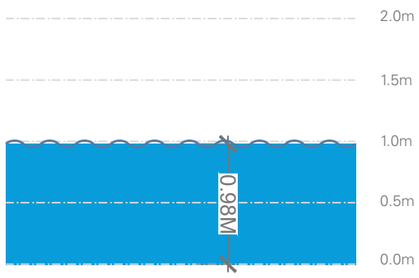
1% probability of flooding

Max depth: 1.47m
(at deepest point in detention basin)

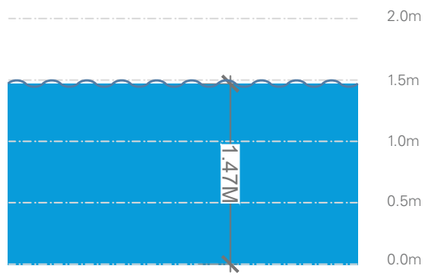




0.86m at deepest point in detention basin



0.98m at deepest point in detention basin



1.47m at deepest point in detention basin

CONCEPT PLAN

1	Upgraded playground
2	Entry statement
3	Multi-purpose court
4	Toilet & shelter with seating and BBQ
5	Graded lawn
6	Path
7	Lawn / detention basin
8	Garden beds / landscaping
9	Stormwater outlet/inlet
10	Boundary fencing
11	Playground fence
12	Landscaped WSUD swale
13	Maintenance access path
14	Steps
15	Bouldering / climbing wall
16	Seating
17	Historical signage

New tree

Existing tree

Notes

The location of the detention basin and path are fixed.

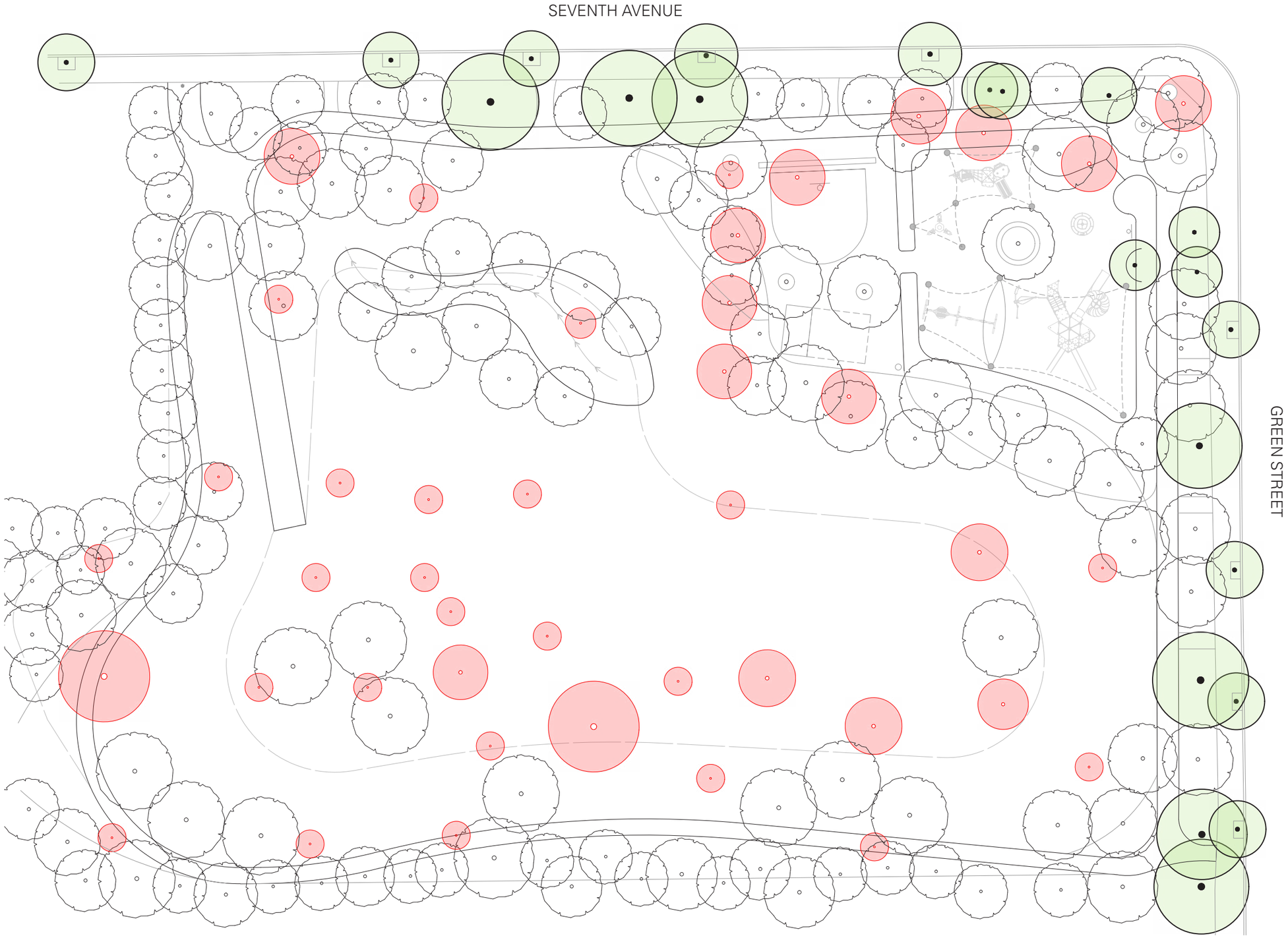
As part of detailed design, Council will investigate low level bollard lighting in parts of the Reserve, subject to budget.

North

SCALE 1:400 / A3

0 2 5 10 20

TREES



Existing tree to remain

Existing tree proposed for removal

Potential new trees

Notes
Trees in detention basin must be removed due to the re-grading of site for the proposed detention basin.

Final tree removals are subject to detailed design.

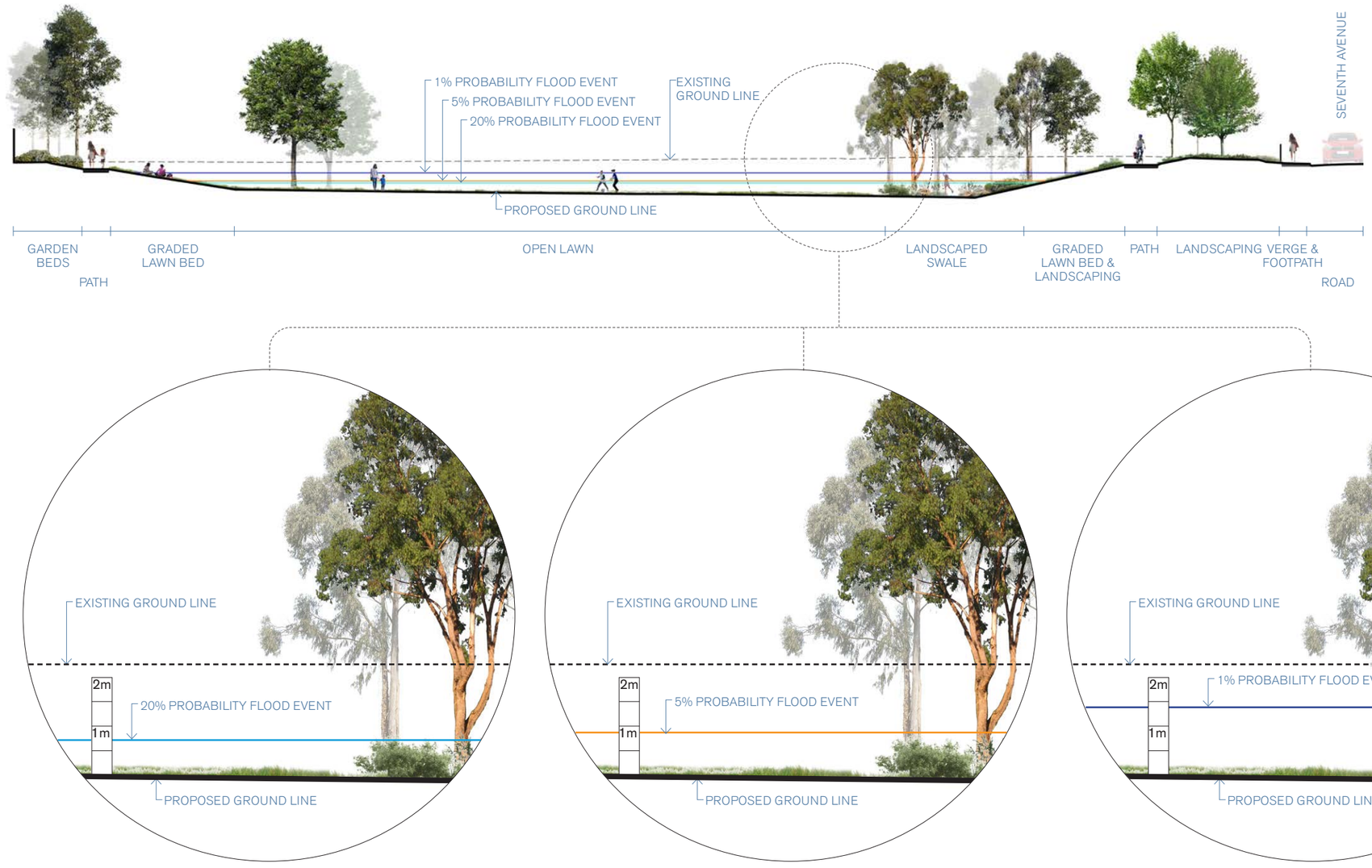
North

SCALE 1:400 / A3

0 2 5 10 20

CROSS SECTIONS

SECTION AA



NOT TO SCALE

SECTION SCALE 1:300

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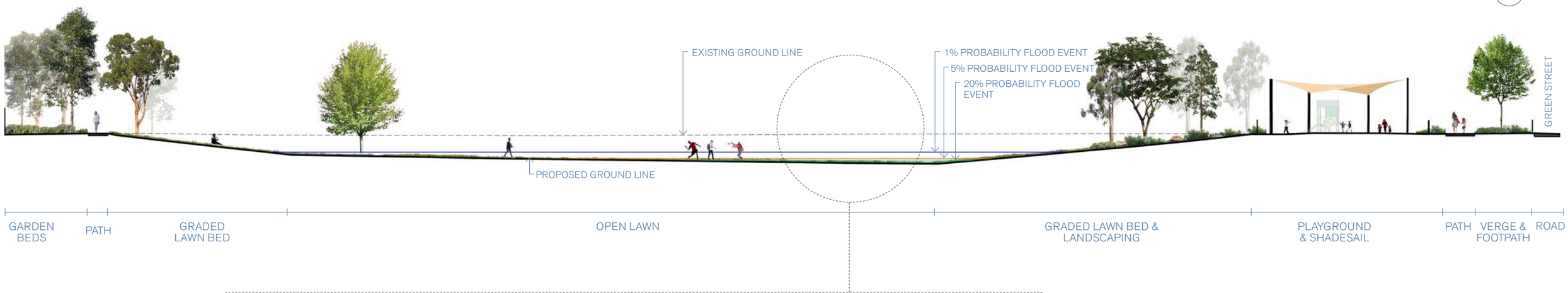
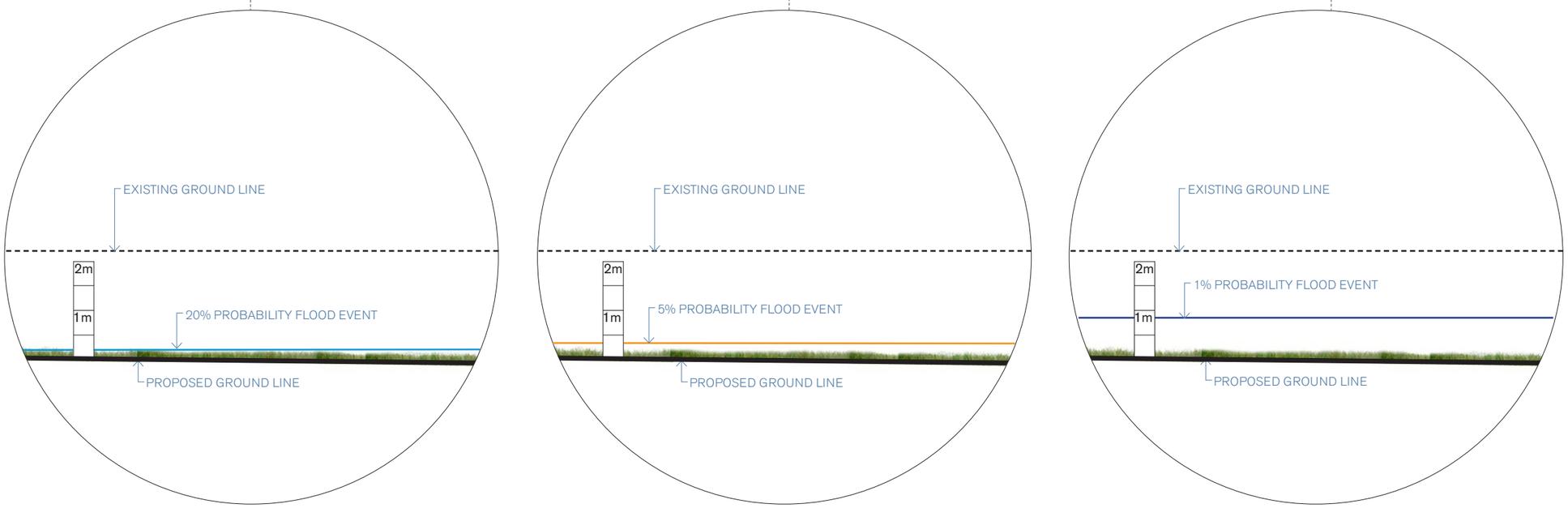
CROSS SECTIONS

SECTION BB





NOT TO SCALE

SECTION SCALE 1:300

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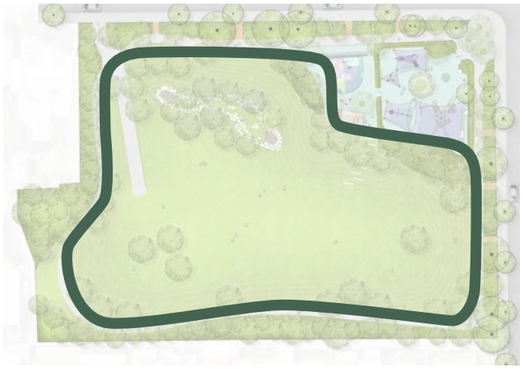
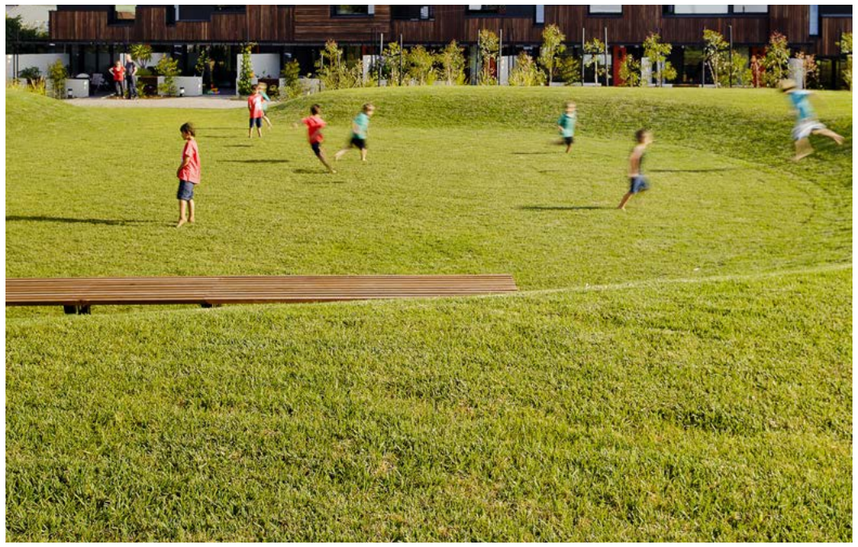
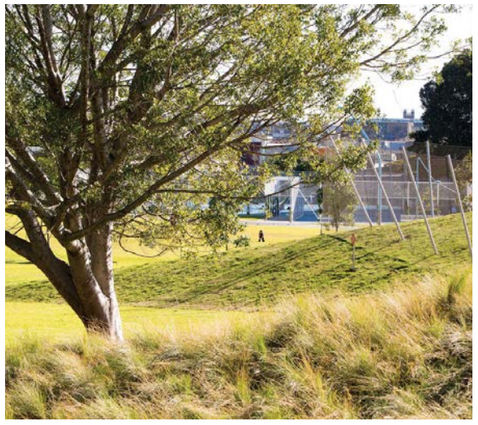
OPEN SPACE
POSSIBLE IDEAS

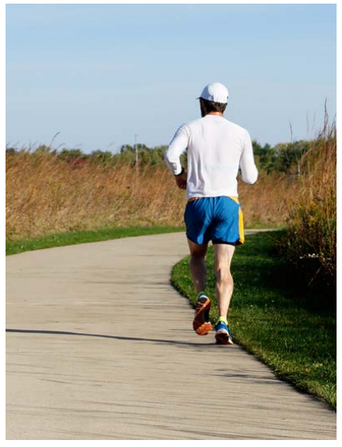






PLAY & RECREATION
POSSIBLE IDEAS

PATH & EDGES
POSSIBLE IDEAS



VIEW 01
EXISTING

Viewshed

VIEW 01
ARTIST IMPRESSION (CONCEPT ONLY)

VIEW 02
EXISTING

Viewshed

VIEW 02
ARTIST IMPRESSION (CONCEPT ONLY)

URBAN DESIGN, LANDSCAPE
ARCHITECTURE & GARDENS

HELLO@LANDSKAP.COM.AU
LANDSKAP.COM.AU