CRC for
Water Sensitive Cities

Elwood Integrated Research Project

Focussing on Elwood as a case study and expanding to explore the Elster Creek Catchment, the Elwood Integrated Project draws on methods from social science, architecture and environmental engineering to develop opportunities for increasing Elwood's liveability and its resilience to flooding.

This research has been conducted by the Cooperative Research Centre for Water Sensitive Cities (CRCWSC), an interdisciplinary program funded by the Australian Government and over 85 partners from industry, government and research.

This research includes five individual projects of the CRCWSC, involving community envisioning workshops, urban design processes, urban development and flood risk modelling, and adaptation option analysis.

Swamped exhibition


2065
ELWOOD
VISION
2016
SWAMPED
EXHIBITION
2020 Planning
Zoning 2017
8,000 BC
45,000 BC
10,000 BC
9,000 BC

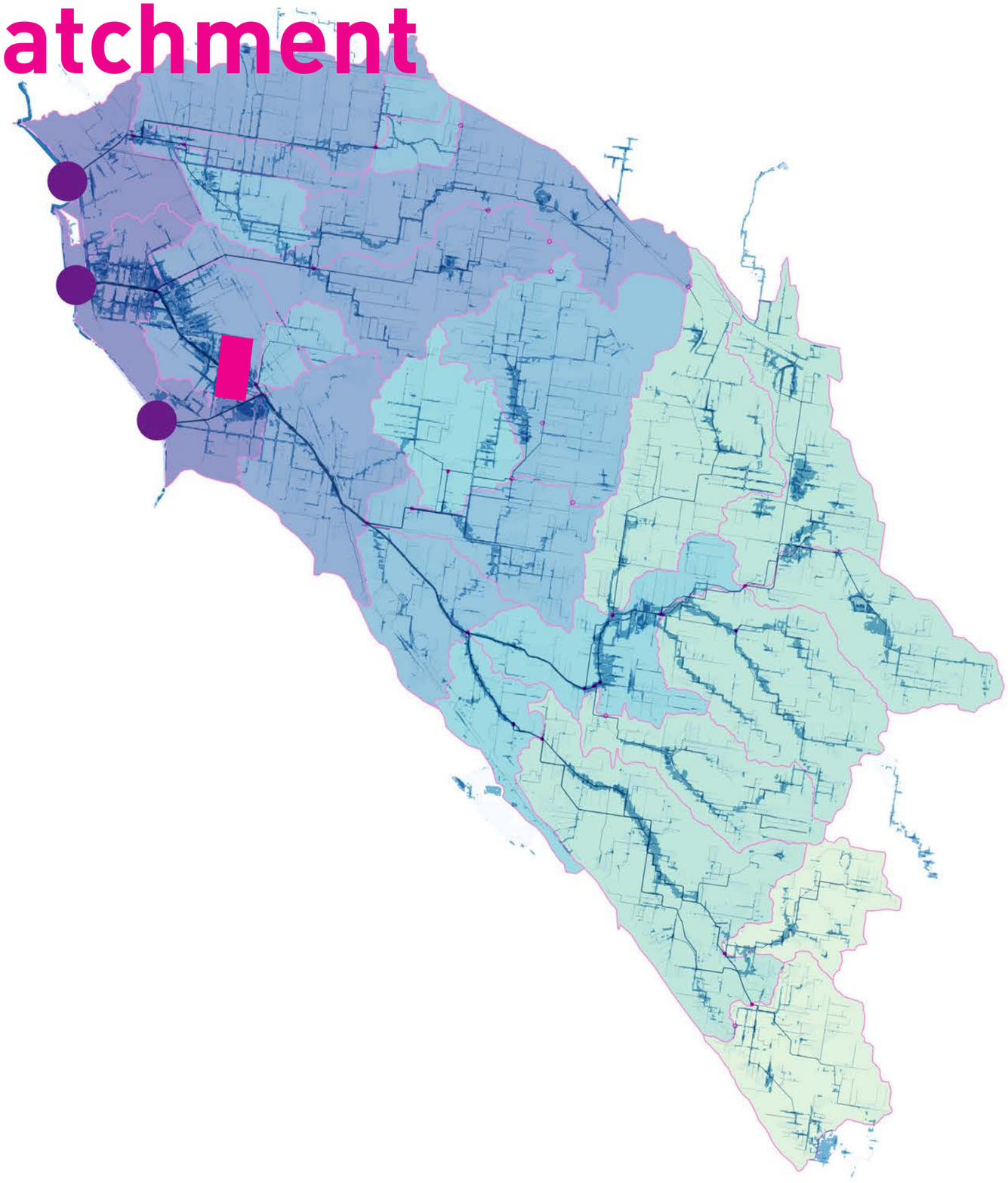
ELWOOD INTERACTIVE
VISUALISATION

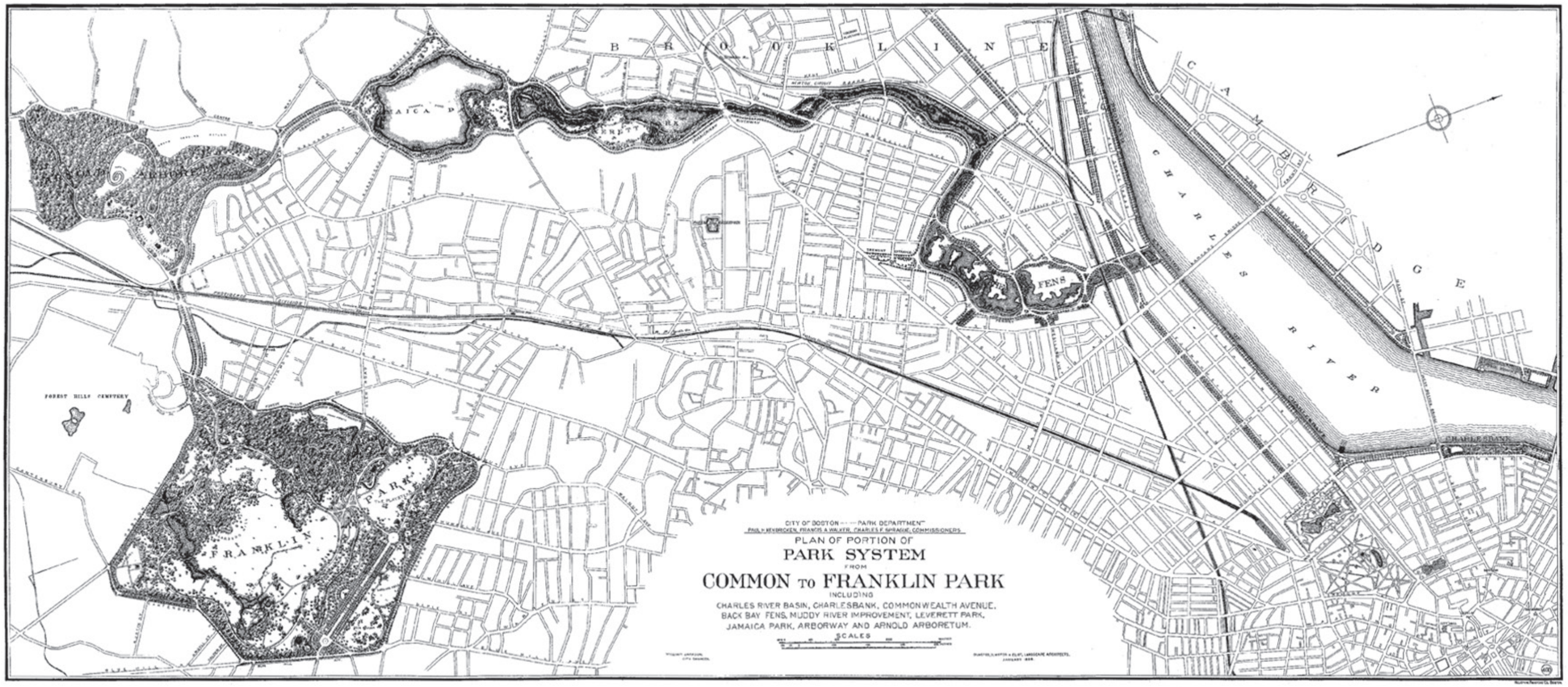
Elwood Community Workshops

Catchment City

Elwood

Elsternwick Park + Elster Creek Catchment

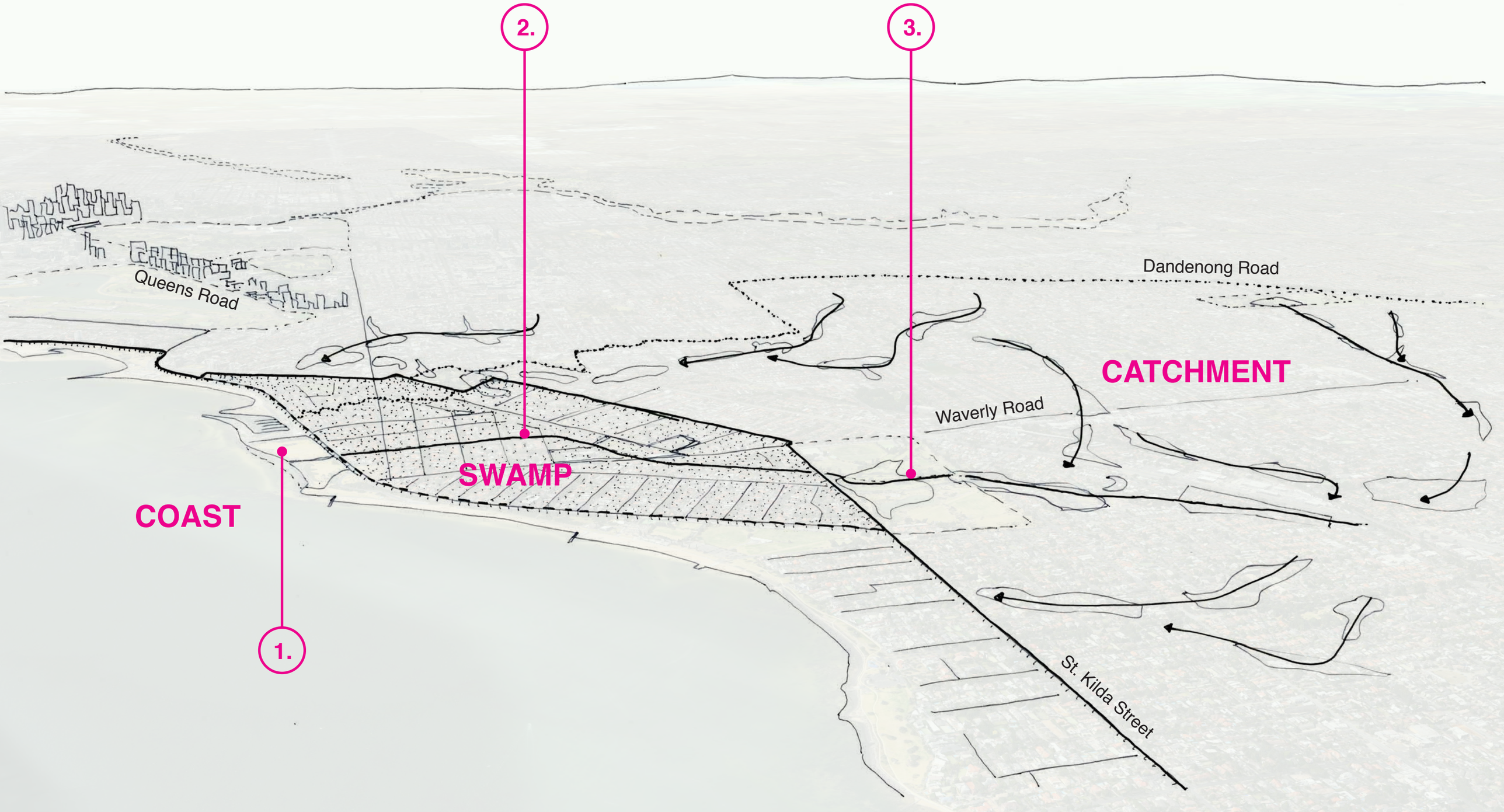




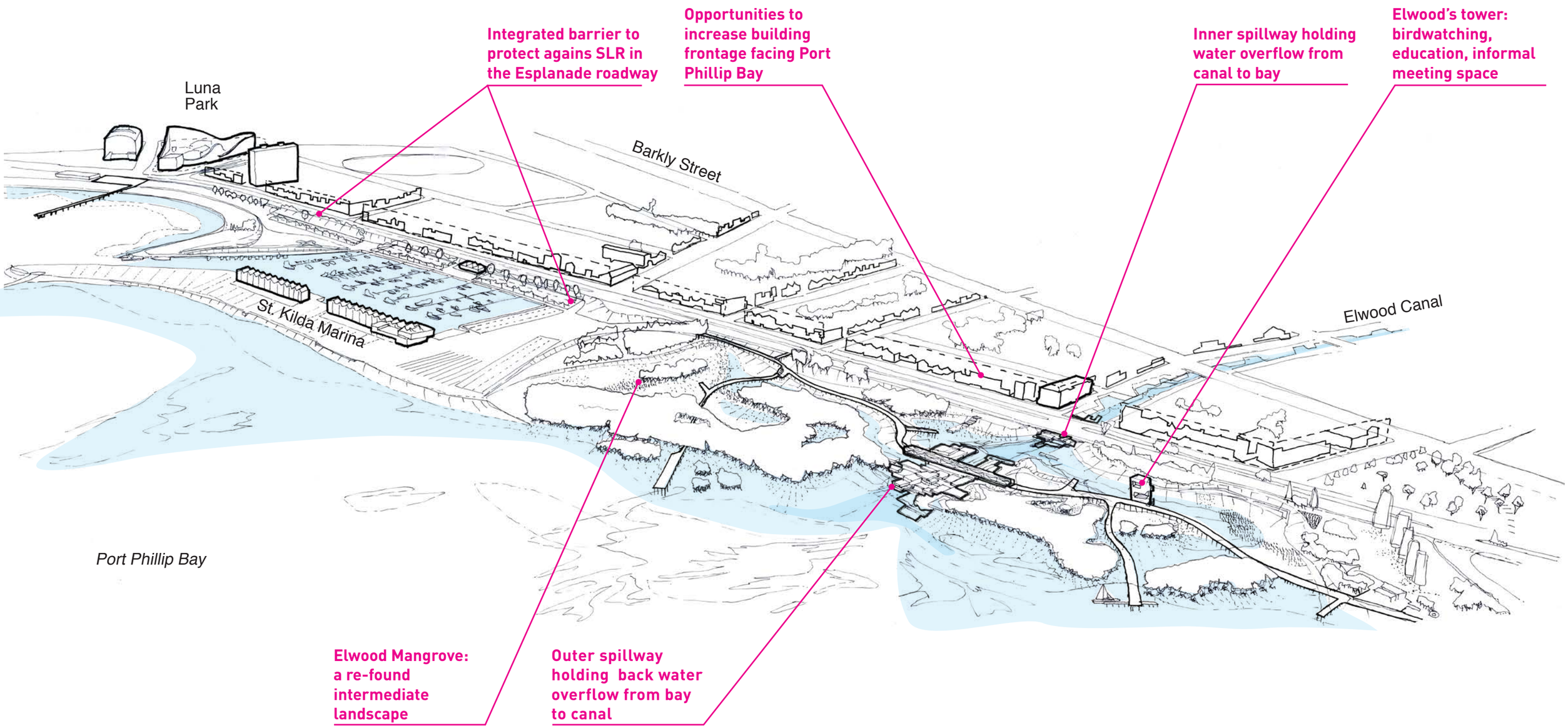
Emerald Necklace

public realm networks

three landscape types



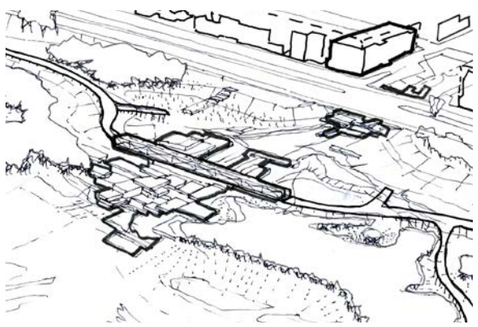
1. COAST - MOUTH OF CANAL



1. PRECEDENT: STAWELL STEPS




Hiroshi Nakao + Monash Architecture, Stawell Steps 2013. Photos: peter bennetts, monash architecture



1. MANGROVES

1. FLOOD MODELLING RESULTS W/ SLR + 100 ATI

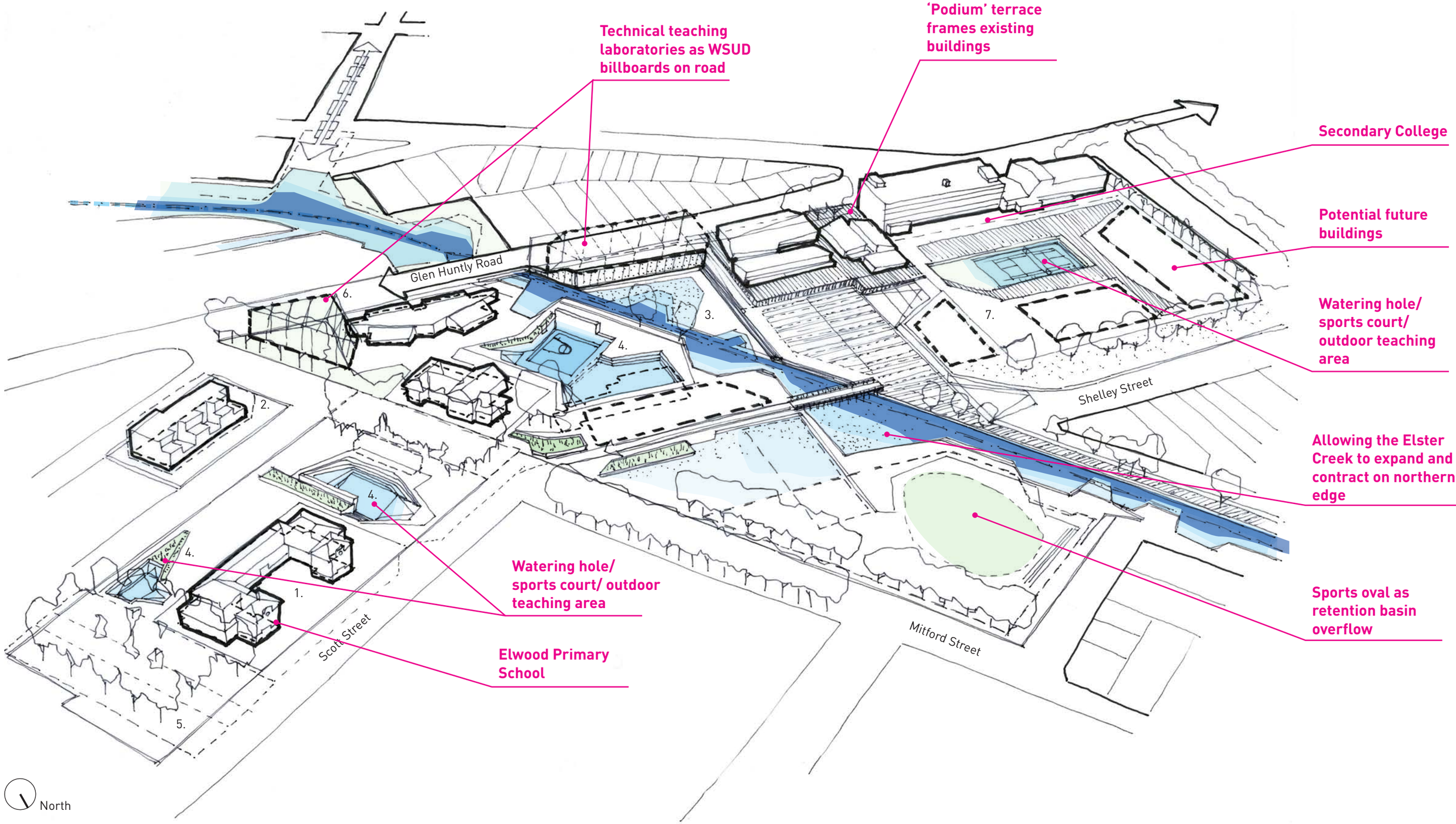
100yr ATI storm – 210mm Sea Level Rise – 20160530_NoAdaptation_Results – no implementation of flood adaptation measures

NO ADAPTATION

100yr ATI storm – 210mm Sea Level Rise – 20160530_ForeshoreDetention_Results – wetland in the foreshore area where water from the canal can be stored

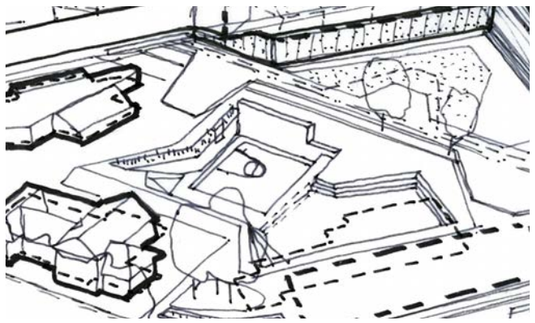
MANGROVE + SPILLWAYS

2. SWAMP - SCHOOL SITES WATER SQUARE



2. PRECEDENT WATER SQUARE

De Urbanisten and Ds+V, Watersquare 2013. Photos: pallesh + azarfane, jurgen bals, de urbanisten

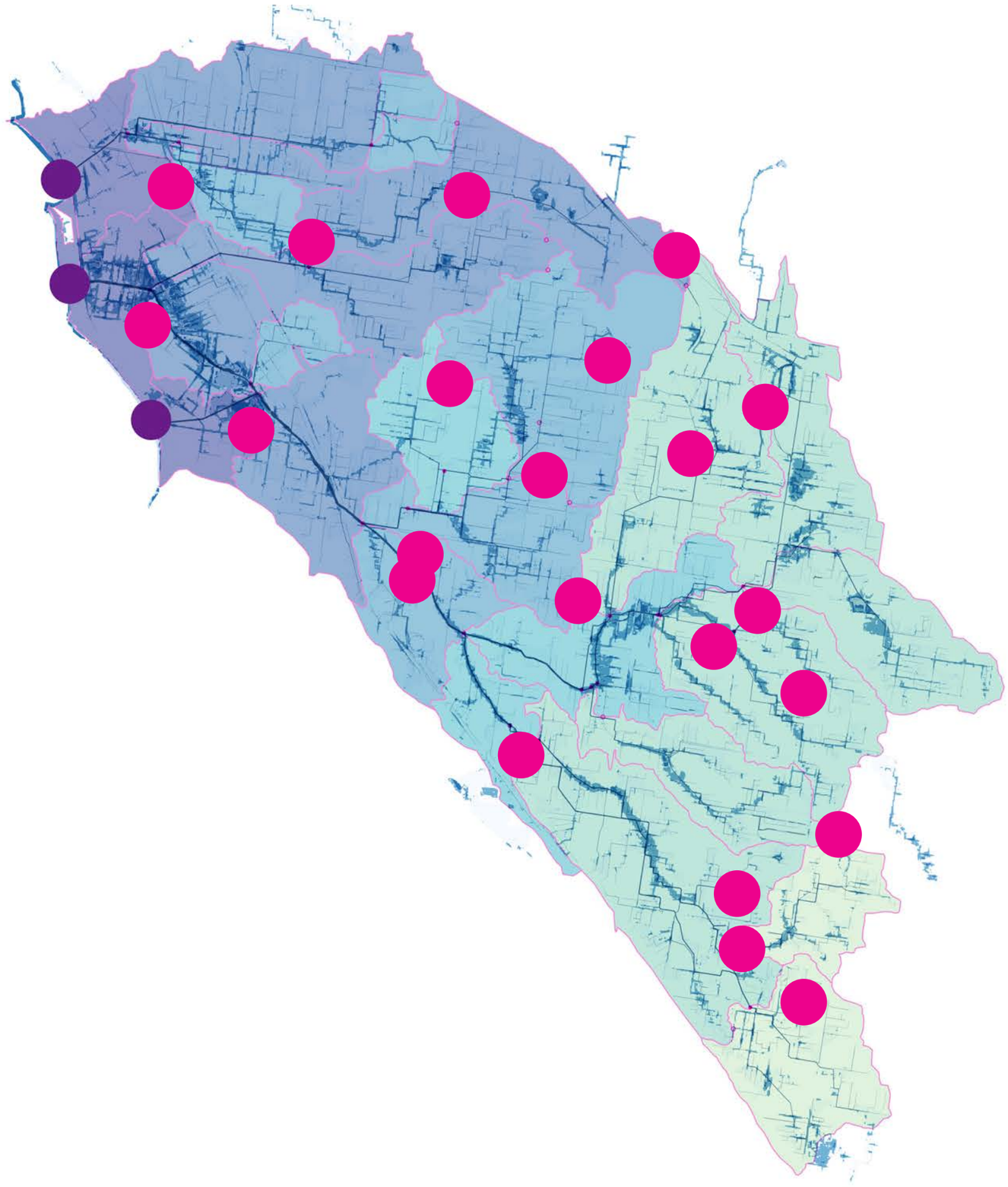


2. FLOOD MODELLING RESULTS W/ SLR + 100 ATI

NO ADAPTATION

SCHOOL SITE WATER SQUARES

2. HOWEVER THERE ARE 25 SCHOOLS IN THE CATCHMENT!



A Network of Thousands of Small Rain Gardens
The network of rain gardens, which uses smart-grid technology, integrates water resources and flood-risk management. It will gradually form a resilient environmental network in Sendai and provide green-blue public spaces.

Stawell Steps spillway

STAWELL REGIONAL NETWORK

Winmera River

STAWELL

Lake Lonsdale

Wartook Reservoir

Lake Fyans

Lake Bellfield

GRAMPIANS

STAWELL LOCAL NETWORK

DAMLINK PIPE

7.5ML
DARLINGTON DAM 9

NORTH PARK OVAL + ATHLETIC TRACK
5ML
10ML

MOONEE DAMS 12, 11 and 12
32ML
30ML
20ML

2ML
2ML

CURTIS STREET DAMS
5ML
1.5ML
3ML
7.8 ML

5ML
10ML

15ML

MAIN STREET, LIBRARY + CARPARK
8ML

WATER REUSE DAMS 2,3 and 4
7ML
2.5ML Reuse
1ML Environmental Flow
3.5ML Reuse
1.5ML Environmental Flow

MAIN DRAIN

7ML Reuse
2ML Environmental Flow

Water Reuse from DAM 1 waters both secondary college ovals

SECONDARY COLLEGE DAM 1

DETENTION BASIN
0.3ML

UNDERGROUND ROADSIDE RETENTION
0.24ML

STAWELL LOCAL NETWORK

STAWELL

WATER NETWORK

a. pipe from Lake Fyan
b. water course
c. wetlands
d. drain culvert (also 7)
e. Cato Lake
f. Stawell Steps (also 10)
g. water basins
h. flooded gold mines
i. gold mind reservoirs

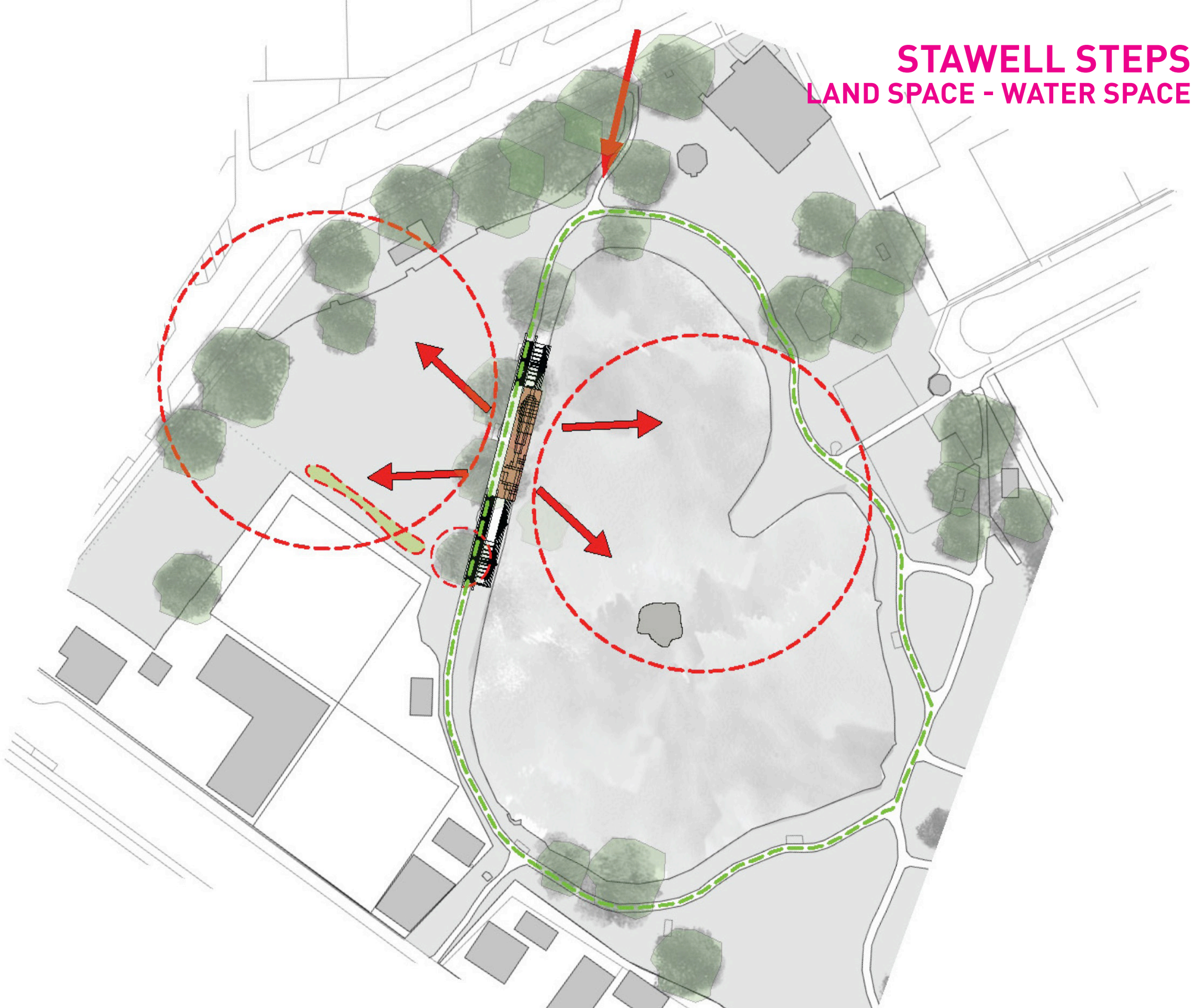
EARTH NETWORK

1. new roo[illegible]
2. abandoned diggings
3. old gold mining [illegible]
4. brickworks
5. clay pits
6. silos
7. drain culvert (also d)
8. old Town Hall
9. station
10. Stawell Steps (also f)
11. grandstand
12. church
13. Town Hall
14. powder magazine
15. main street
16. fire Station

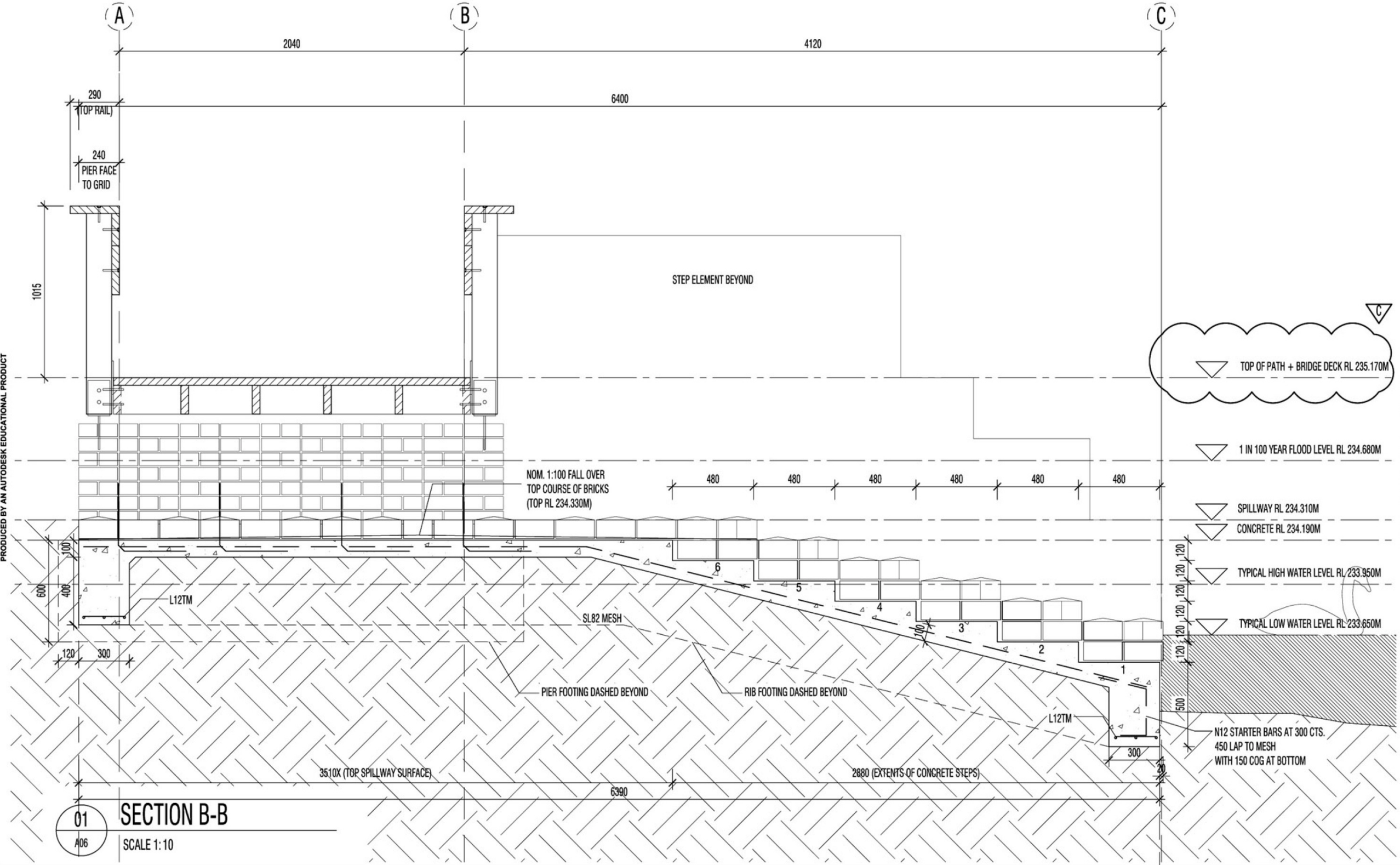
0 100m 500m 1km

STAWELL TOWN CENTRE
CONTROL OF CONDITIONS

STAWELL STEPS
LAND SPACE - WATER SPACE



STAWELL STEPS
DRY CONDITION



01 / A06

SECTION B-B

SCALE 1:10

NOTES

REVISION

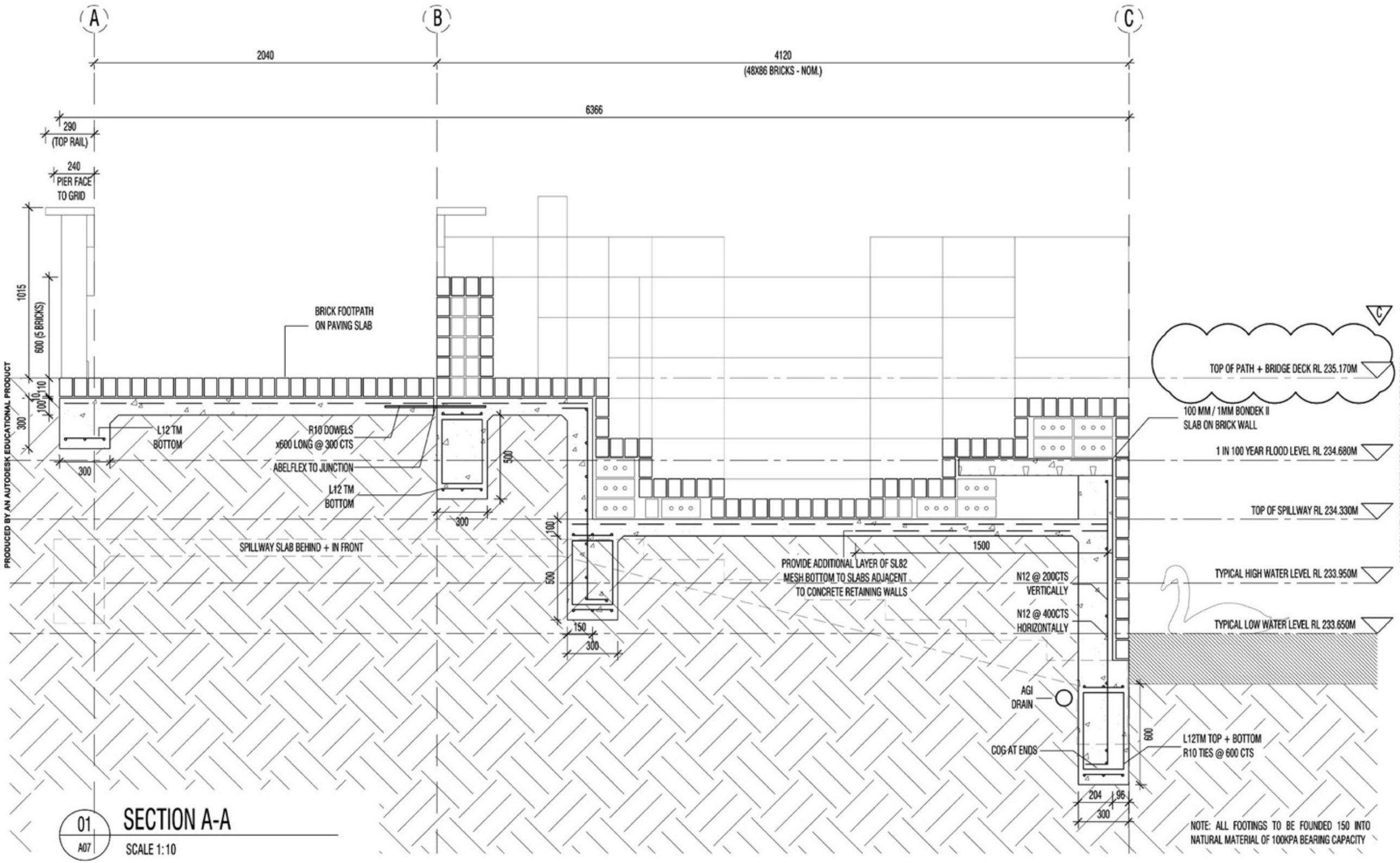
No.	Date:	Description:	Initial:
A	24.09.2012	ENGINEER'S REVIEW	RJR
B	29.09.2012	DESIGN REVIEW	RJR
C	02.10.2012	DESIGN REVIEW - HEIGHTS ABOVE SPILLWAY	RJR

SECTION B-B

Date Drawn: 24/09/2012
Date Issued: 02/10/2012
Drawn By: CLR

MONASH UNIVERSITY
DEPARTMENT OF ARCHITECTURE
STAWELL STEPS
CATO PARK LAKE, STAWELL

DWG: A 06
REVISION: C



01
A07

SECTION A-A

SCALE 1:10

NOTES

REVISION

No.	Date:	Description:	Initial:	No.	Date:	Description:	Initial:	No.	Date:	Description:	Initial:
A	24.09.2012	ENGINEERS REVIEW	RJR	-	-	-	-	-	-	-	-
B	25.09.2012	DESIGN REVIEW	RJR	-	-	-	-	-	-	-	-
C	02.10.2012	DESIGN REVIEW - HEIGHTS ABOVE SPILLWAY	RJR	-	-	-	-	-	-	-	-

SECTION A-A

Date Drawn: 24/09/2012
Date Issued: 02/10/2012
Drawn By: RJR

MONASH UNIVERSITY
DEPARTMENT OF ARCHITECTURE
STAWELL STEPS
CATO PARK LAKE, STAWELL

DWG: A 07
REVISION: C

STAWELL STEPS
CONSTRUCTION

STAWELL STEPS
DRY CONDITION

STAWELL STEPS
DRY CONDITION

STAWELL STEPS
NORMAL CONDITION

STAWELL STEPS
NORMAL CONDITION

STAWELL STEPS
FLOOD CONDITION

STAWELL STEPS
FLOOD CONDITION

Elwood Integrated Research Project

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MONASH
ART
DESIGN &
ARCHITECTURE

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