

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2023/1383
Date: 23 August 2023



AMENDED IN RED

By: Jennifer Davison

Date: 25 July 2023



CONSULTANTS

Site Based Stormwater Management Plan and Engineering Services Report

HPG Oxley Retirement Living

Lot 302 Oxley Priority Development Area
Oxley QLD

Prepared for: HPG Oxley Retirement Living

Document no: BR220217

Issue no: 03

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REVISIONS

Revision	Date	Purpose	Prepared By	Approved By
01	28/06/22	For Comments/Coordination	Eugene Pivnev	Niall Davidson
02	27/10/2022	Coordination update	Cameron Riach	Matt Godwin
03	04/11/2022	Coordination update	Niall Davidson	 Niall Davidson RPEQ 28025 2022.11.04 15:36:34+10'00'

Review Panel		
Division/Office	Revision	Name
Civil / Brisbane, QLD	02, 03	Matt Godwin
Civil / Brisbane, QLD	01	Eugene Pivnev

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1 Introduction

1.1 Background

ACOR Consultants (QLD) Pty. Ltd. were engaged by HoneyCombes Property Group (Client) to prepare a Site Based Stormwater Management Plan (SBSMP) and Engineering Services Report for the proposed Oxley PDA by Conrad Gargett at the Oxley Retirement Living (Site).

1.2 Scope

The following items will be addressed in this Report;

- Lawful point of discharge for the development
- Proposed concept stormwater quantity management plan for the Site.
- Proposed concept stormwater quality management plan for the Site.
- Comments on flood assessment prepared by Design Flow
- Comments on services infrastructure near the Site.

1.3 Criteria

This Report has been compiled based on:

- Design documentation for the original site was prepared by KN Group Pty Ltd and Landpartners Pty Ltd
- Proposed development plans for the Site prepared by Conrad Gargett Pty Ltd (Architect)
- Discussions with the Client and the consultant team
- Information obtained from Council's online mapping system

2 Site Characteristics

2.1 Location and Description

The proposed HPG Retirement Living site is currently identified as Lot 302 on SP326512 of the Oxley Priority Development Area (Subdivision) located at 53 Seventeen Mile Rocks Road, Oxley QLD 4075, over the lot described as Lot 102 on SP322408 under the original Subdivision.

Lot 302 will be referred to as the Site, which has a total area of approximately 0.96 hectares.

At the completion of the subdivision work by others, the Site will be fronted by a new road along the southern boundary, drainage reserve open space to the north and west, and a Public Recreation Park to the north and east.

Refer to **Appendix A** for the overall subdivision layout.



Figure 1 – Site Locality

Source: BingMap 2021

2.2 Watercourses and Topography

An existing watercourse runs south to north, to the west of the Site.

The Site is provided with a grade of approximately 6% towards the northern boundary (drainage reserve), with levels ranging from approximately 21.0m AHD to approximately 12.5m AHD.

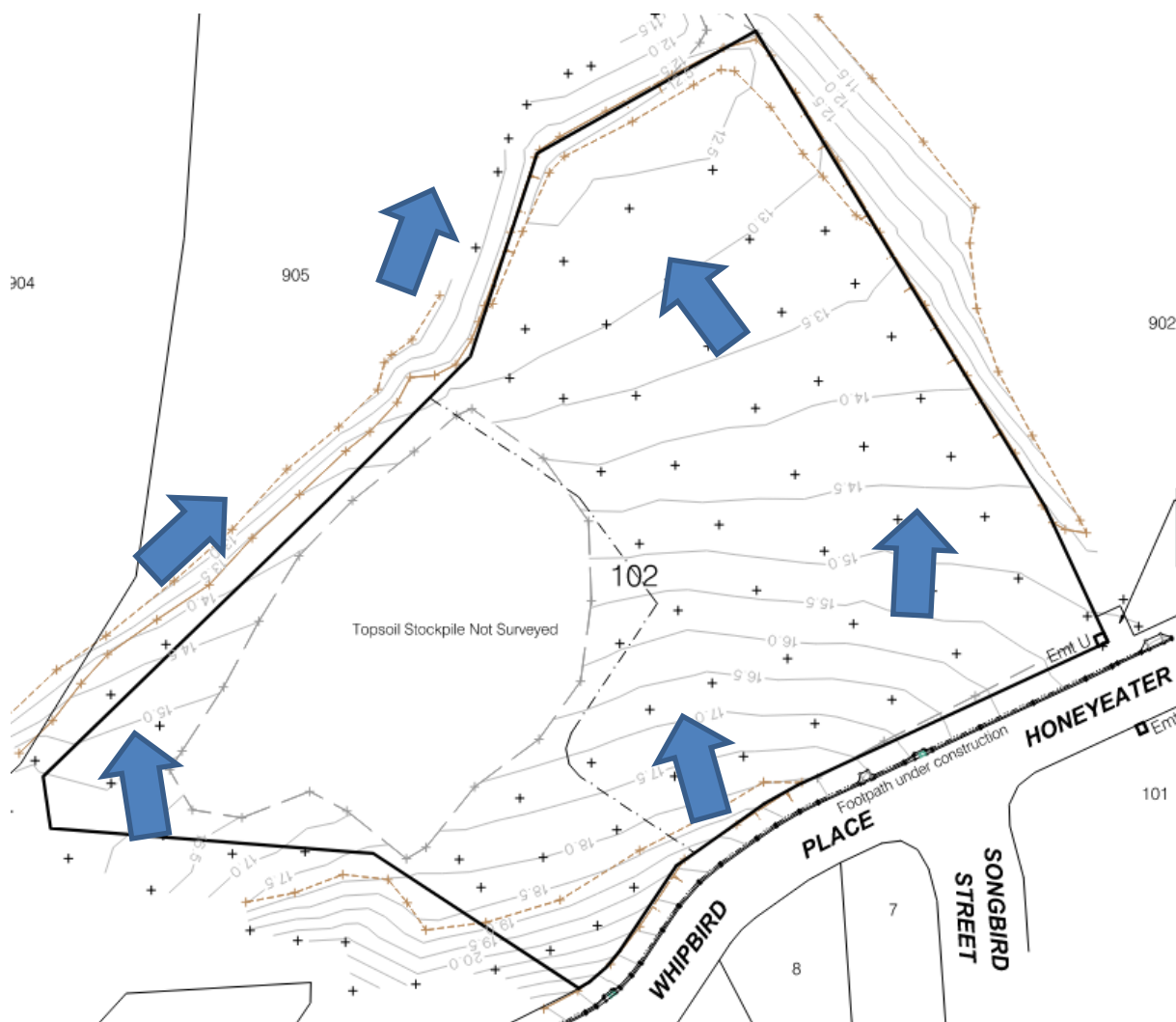


Figure 2 – Existing topography of the Site

Source: Landpartners Pty Ltd – Detailed Survey

Refer to **Appendix B** for the design of the Site as per the subdivision documentation.

2.3 Existing Land Use and Proposed Development

The Site area was previously a secondary college.

The surrounding area is currently being redeveloped as a residential/commercial subdivision.

The proposed development is a retirement living facility with three buildings, residential units and communal facilities on the ground floor (e.g. pool, gym etc.) and the multi-floor above for residents. A separate community centre with a café and lounge is proposed towards the front of the site.

Refer to **Appendix C** for the proposed development plans.

3 Services

3.1 Water Reticulation

A review of Urban Utilities' water reticulation infrastructure records and Brisbane City Council (BCC) ebimap2 in the Site's immediate vicinity has been completed. The information indicates a 300mm diameter main along Seventeen Mile Rocks Road and 150mm diameter mains along Seventeen Mile Rocks Road and Blackheath Road.

However, the Site is expected to be serviced by a new 150mm diameter main along its road frontage that is being constructed as part of the overall Subdivision (not yet documented in the mapping system).

Urban Utilities will confirm the capacity of the new main and connection details at the time of detailed design for the Site.

Refer to **Appendix B** for the water main being designed and constructed as part of the overall Subdivision.

3.2 Sewer Reticulation

A review of Urban Utilities' sewer reticulation infrastructure records and Brisbane City Council (BCC) ebimap2 undertaken in the Site's immediate vicinity has been completed. The information indicates existing reticulation infrastructure within the vicinity of the Site.

As part of the ongoing subdivisional work, a new reticulation sewer main has been constructed within the south-eastern corner of the Site, along with a 150mm diameter property connection to service the development.

The final location of the sewer reticulation line and connection point is expected to be confirmed prior to the commencement of the detailed design.

Refer to **Appendix B** for the sewer main being designed and constructed as part of the overall Subdivision.

3.3 Telecommunications & Electrical

The subdivisional work also provides electrical and NBN infrastructure along the road frontage of the Site. These infrastructures are expected to be designed to allow for connection to the Site.

Refer to **Appendix B** for the telecommunication and electrical infrastructure being designed and constructed as part of the overall Subdivision.

The capacity and details of the connection are expected to be confirmed with the relevant authority.

4 Stormwater Quantity Management

4.1 Existing Stormwater Infrastructure and Lawful Point of Discharge

The existing stormwater infrastructure within the drainage reserve and public recreation park along northern and eastern boundaries and the existing 375mm dia connection pipe is considered the lawful point of discharge for the development.

Refer to **Appendix B** for the stormwater infrastructure being constructed as part of the overall Subdivision and the stormwater Lawful Point of Discharge

4.2 Proposed design

During detailed design, the Site will be graded to discharge to the lawful discharge point.

Refer to **Appendix D** for the preliminary civil layout sketch.

The overall Subdivision is being developed per a precinct-wide Stormwater Management Plan prepared by Design Flow. Design Flow has also prepared a technical letter, "Oxley PDA Retirement Living Precinct – Stormwater and Flooding Compliance" (ref: projects/ 4277 dated 17 June 2021), summarising their allowances for the development site as part of the overall Subdivision works.

The technical letter outlines the following allowances that have been made for the Site;

- Fraction impervious up to 80%
- Nominated low flow drainage diversion to a regional bio-retention basin
- Requirement for exclusion fencing along with the north-western boundary interfacing with detention external detention basin and water corridor.

Based on our review of the architectural plans, the proposed development layout only has a fraction impervious of 75%. As this value is less than the value assumed by Design Flow, we consider that no on-site detention system will be required for the development.

Refer to **Appendix E** for the technical letter prepared by Design Flow.

4.3 Overland Flow

Conveyance of stormwater to the lawful point of discharge from the carpark has been analysed to confirm sufficient capacity in the minor and major systems proposed for the Site.

As illustrated in Figure 3, Catchment A at 1% AEP overland flow capacity has been calculated to be gravity piped to the lawful point of discharge. The proposed 675mm diameter pipe is to be connected to the existing 375mm diameter pipe at the lawful point of discharge via a new surcharge pit.

The 0.2% AEP runoff at the end of the critical location will be controlled and conveyed as overland flow to the lawful discharge point of Catchment A in the event that the pipe system becomes 100% blocked.

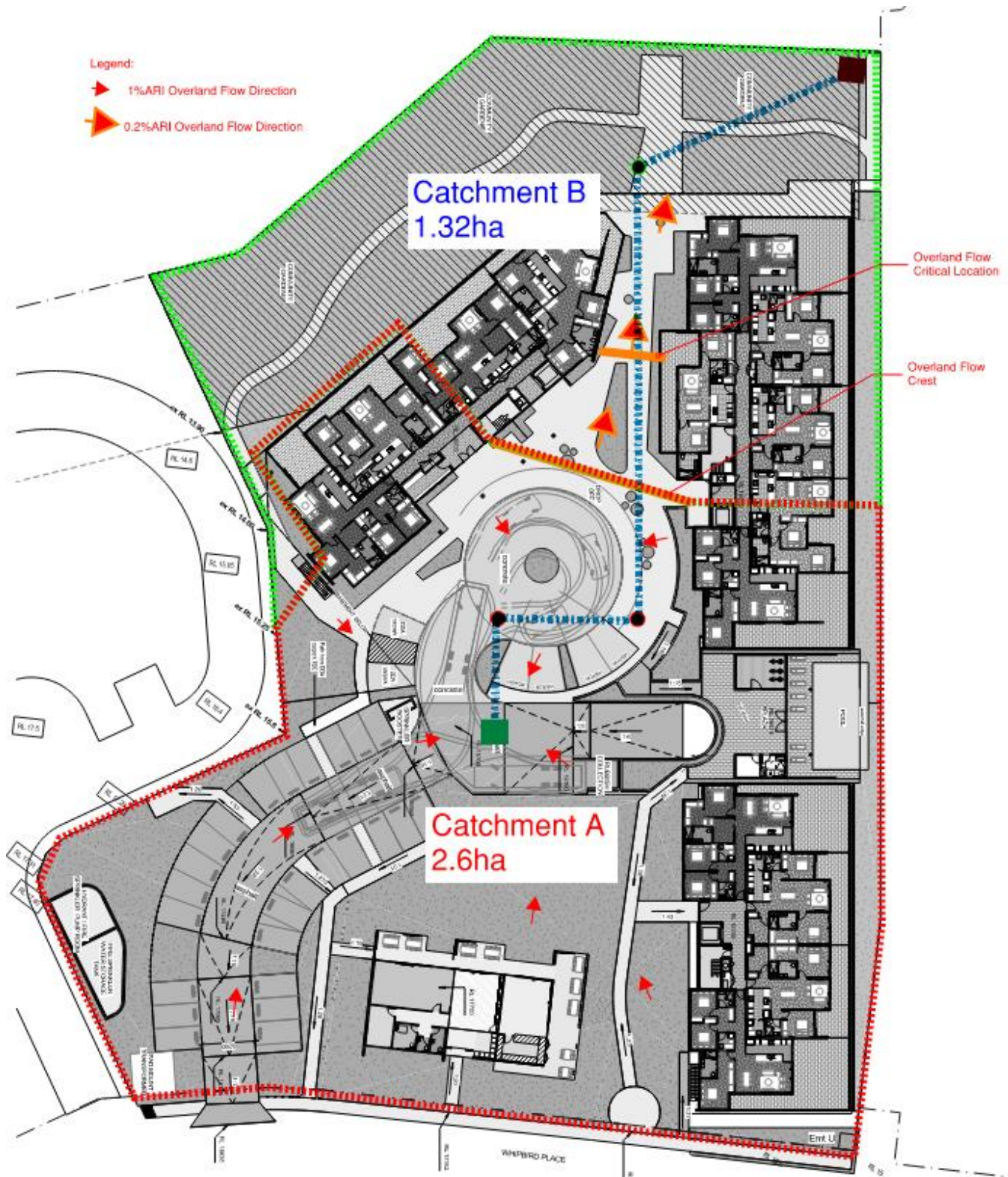


Figure 3 – Site Overland Flow Arrangement

The table below summarises the calculations at the critical location. The calculations have been undertaken with the following conservative assumptions:

- Although the current design crossfall grade of the carpark is 3%, calculations have been undertaken to allow this to increase up to 1%.
- Sensitivity capacity check for pipes being fully blocked scenario.
- The rainwater tank system is assumed to be full with no retention capacity.
- 0.2% AEP considered 100% blockage factor of the lateral conveyancing

Table 1 – Overland Flow Capacity

ARI/AEP	Flow (m ³ /s)	Flow Depth (m)	Velocity (m/s)	D*V (m ² /s)
Major System 0.2% AEP (Pits and pipes assumed to be fully blocked)	0.721	0.112	1.057	0.118
Building Class 2 Section Capacity at freeboard	2.075	0.200	1.596	0.319

Catchment B will be serviced via the proposed flow path at the site's northern boundary directing overland flow to the lawful point of discharge.

Results show that, even when the pipes are fully blocked, the Sections have the capacity to convey major flows to the lawful point of discharge.

Refer to **Appendix F** for the calculations of the stormwater conveyance through the sections and assumptions for channel section parameters.

5 Stormwater Quality Management

5.1 Operational Phase

5.1.1 Water Quality Objectives

The proposed development is required to meet or exceed the stormwater management design objectives under the State Planning Policy (SPP) and Council's planning scheme and guidelines. The following minimum load reduction targets, in mean annual load from unmitigated development, are required to be achieved in the post-developed Site's treatment:

- Total Suspended Solids (TSS) 80% reduction of average annual load
- Total Phosphorus (TP) 60% reduction of average annual load
- Total Nitrogen (TN) 45% reduction of average annual load
- Gross pollutants (greater than 5mm) 90% reduction of average annual load

5.1.2 7.2 Treatment Train

The technical stormwater letter "Oxley PDA Retirement Living Precinct – Stormwater and Flooding Compliance", prepared by Design Flow (ref: projects/ 4277 dated 17 June 2021), specifies the treatment train for the overall Subdivision, including a fully developed scenario for the Site.

This treatment train does not include a separate treatment device for the Site. Therefore, we consider that no additional on-site treatment train is required for the Site.

Refer to **Appendix E** for the technical letter prepared by Design Flow.

The stormwater connection stub provided for the Site will convey post-development flows from the Site to the proposed bioretention basin being constructed (to the northeast of the Site) as part of the overall subdivision works

Refer to **Appendix B** for a concept of the discussed stormwater connection arrangement.

In addition to the above, the following permanent stormwater quality best management practices have been identified for the development's operational phase to assist in water quality protection.

- Rubbish Bins provided on Site;
- Street sweeping of pavement areas;
- Litter basket devices installed on all inlet pits within the carpark and service yard areas;
- Maintenance of all stormwater quality improvement devices.

5.2 Construction Phase

5.2.1 Water Quality Objectives

The following list summarises the required construction phase water quality objectives for the Site:

- Control measures are to be implemented to protect downstream properties from nuisance flows.
- Maximum of 50mg/L of total suspended solids present in runoff discharged from the Site during the construction stage, and a pH between 6.5 and 8.5

5.2.2 Reference and Guidelines

Erosion and sediment control management for the development should be in accordance with the International Erosion Control Association (IECA) Best Management Practices (2008), the Institute of Engineers (QLD) 'Sediment and Erosion Control Guidelines' and Council requirements.

All erosion and sediment control devices used during and after construction is to be in line with current best management practices and all practical measures applicable to the Site. Erosion and Sediment Control Measures should include, but not be limited to, details within the Erosion and Sediment Control Plan Drawings to be provided at the detailed design stage.

As per the Environmental Protection Act (EPA) 1994, all personnel must comply with the general environmental controls under Sections 319 and 320, provided as follows:

- Section 319 of the EPA states that all persons involved in the project, from design to construction, must act in accordance with the 'general environmental duty. This requires all reasonable and practicable measures to be adopted to prevent or minimise environmental harm. Consequently, any erosion and sediment control devices proposed or implemented on the Site must represent current best management practices and all practical measures applicable to the Site.
- In addition, in Section 320 of the EPA, all personnel have a legally binding duty to notify their employer, their Local Regulatory Authority and the Environmental Protection Agency (QLD) should they become aware of a potential or actual incident of environmental harm. The principal contractor should therefore be aware of their responsibility to ensure all persons on Site are aware of their environmental duties.

5.2.3 Responsibility

In addition to the above, it is the contractor's responsibility to put in place all the erosion and sediment control measures on the Site until all disturbed areas are reinstated, including maintenance of such measures.

The contractor is, at all times, responsible for the erosion and sediment control measures to ensure minimal environmental harm and compliance with Council's standards.

5.2.4 Proposed Erosion & Sediment Control Measures

During the construction phase of the development, an Erosion and Sediment Control Program will be implemented to minimise water quality impacts.

The Contractor will develop this Program engaged to design and construct plan and, will hence, not be available until closer to the start of construction.

Details of the required construction phase sediment and erosion control measures will be provided on the engineering drawings (detailed design phase) and shall be in accordance with the SPP 2017. However, the contractor shall be responsible for preparing and implementing an Erosion and Sediment Control Program and meeting the required minimum construction phase water quality objectives.

The information below is provided to identify possible controls and procedures that could be adopted to mitigate erosion and sediment impacts, including who is responsible for them. It is recommended to be incorporated into the Erosion and Sediment Control Program.

5.2.4.1 Pre Construction

- Establish a single stabilised entry/exit point for each stage of construction. This point should also include a vehicle shakedown device to mitigate the transportation of dust and dirt.
- Sediment fences are to be placed along the low side of the Site to slow flows, reduce scour and capture some sediment runoff.
- Sediment fences are to be constructed at the base of fill embankments.
- Divert up-slope water around the work site and appropriately stabilise any drainage channels.
- Areas for plant and construction material storage areas to be designated along with associated diversion drains and spillage holding ponds.
- Diversion banks are to be created at the upstream boundary of construction activities to ensure upstream runoff is diverted around any areas to be exposed. Catch drains are to be created at the downstream boundary of construction activities.
- Construction of temporary sediment basins where required.
- Site personnel are to be educated on the sediment and erosion control measures implemented on the Site.

5.2.4.2 During Construction

- Progressive stabilisation of filled areas and fill batters.
- Construction activities are to be confined to the necessary construction areas.
- The provision of a construction entry/exit to prevent the tracking of debris from vehicles' tyres onto public roads and to limit the movement of construction equipment.
- The topsoil stockpile location will be nominated to coincide with areas previously disturbed. A sediment fence is to be constructed around the bottom of the stockpile to trap sediment. A diversion drain is to be installed upstream of the stockpile if required.
- Roof downpipes should be installed as soon as practicable after the roof is constructed.
- Transport loads that are subject to loss through wind or spillage shall be covered or sealed to prevent the entry of pollutants into the stormwater system.
- Regular inspection and maintenance of silt fences, sediment basins and other erosion control measures. Following rainfall events greater than 50mm, erosion control measures and removal of collected material should be inspected. Replacement of any damaged equipment should be performed immediately.

5.2.4.3 Post Construction

- The Contractor/ Developer will be responsible for the maintenance of erosion and sediment control devices from the possession of the Site until stabilisation has occurred to the satisfaction of the superintendent and Principal.
- The Erosion and Sediment Control Management Plans should be provided to all people involved with the Site, including sub-contractors, private certifiers, body corporates and regulators.

6 Flooding

The overall Subdivision is being developed per a precinct-wide Stormwater Management Plan prepared by Design Flow. Design Flow has also prepared a technical letter "Oxley PDA Retirement Living Precinct – Stormwater and Flooding Compliance" (ref: projects/ 4277 dated 17 June 2021) summarising the following flowing specific requirements and design thresholds for the Site.

- Exclusion fencing to north-western site boundary interfacing with flood detention basin 1 and drainage corridor
- Local 1% AEP flood level adjacent to the north-western boundary is primarily 12.36m AHD, increasing to 14.09m AHD upstream in the water corridor in front of the adjacent property.
- Brisbane River 0.2% AEP flood level is 15.45 mAHD
- Refer to **Appendix E** for the technical letter prepared by Design Flow.

The proposed development includes the following levels across the site.

- Building 1 (Community Centre) – 17.70m AHD
- Building 2 ground floor – 16.70m AHD
- Building 3 ground floor – 16.00m AHD
- Building 4 ground floor – 16.00m AHD
- Upper Basement carpark (under building 2) – 13.40m AHD
- Lower Basement carpark (under building 2) – 12.50m AHD
- Unroofed carparking – varies 15.90m AHD to 18.40m AHD
- Vehicle manoeuvring areas – varies 15.90m AHD to 18.40m AHD
- Essential electrical equipment in basement – 12.86m AHD

The following table summarises the relevant flood levels and the required minimum design levels for the Site as per Council's Flood Overlay Code and Design Flow's technical letter.

Table 2 – Relevant flood levels (from Creek/Waterway) – Building Class 2

Development Type & Category	Category	Critical Flood Source	Required Minimum Flood Planning Level (Criteria)	Required Minimum Flood Planning Level	Proposed Levels
Building floor level	Category A	Creek/ Waterway	1% AEP + 500mm	12.86m AHD (Ground Floor)	Min 16.00m AHD (Ground Floor)
Building floor levels for habitable rooms	0.2% AEP	Creek/ Waterway	0.2% AEP	15.45m AHD (Ground Floor)	Min 16.00m AHD (Ground Floor)
Unroofed car park	Category D	Creek/ Waterway	1% AEP	12.36m AHD	Min 15.90m AHD
Vehicle Access and Manoeuvring Areas	Category D	Creek/ Waterway	1% AEP	12.36m AHD	Min 15.90m AHD
Essential Electrical Services	Category A	Creek/ Waterway	1% AEP + 500mm	12.86m AHD	Min 12.86m AHD

The proposed development levels are at or above the required minimum design levels.

Refer to **Appendix D** for the concept civil layout sketch

7 Conclusion and Recommendations

Services including water, sewer, stormwater, electrical and NBN, being installed as part of the overall subdivision work, are expected to service the proposed development.

A stormwater management plan has been prepared to manage the stormwater quantity and quality for the proposed development.

Stormwater infrastructure (to manage quantity and quality) being designed and constructed as part of the overall Subdivision has made allowance for fully developed flows from the Site. Therefore, no on-site detention or treatment train is proposed for the Site.

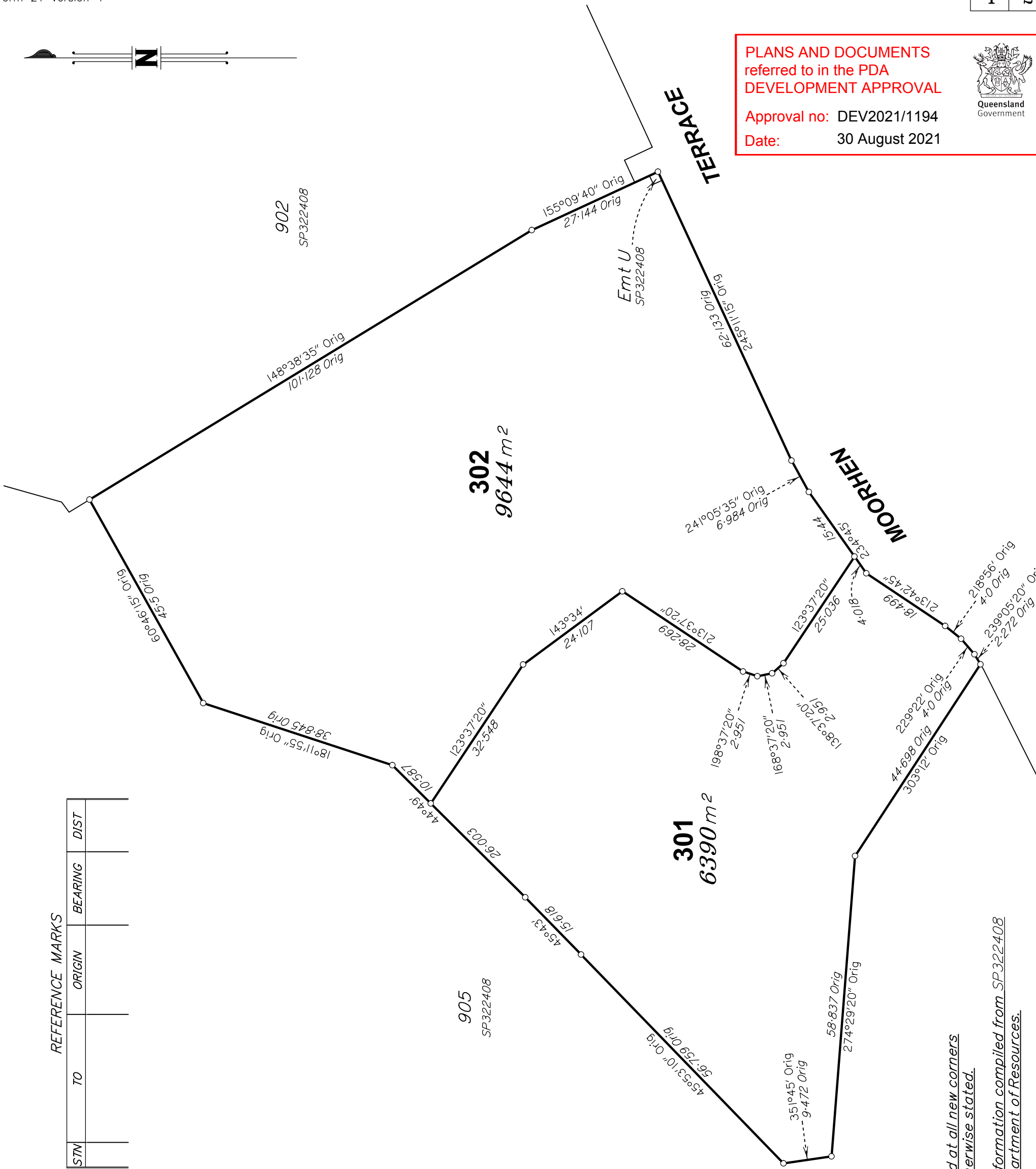
Parts of the Site are affected by flooding. Relevant flood levels for the Site have been confirmed by Design Flow. Proposed levels for the development are at or above the relevant flood planning levels.

Appendix A – Subdivision Lot Layout Plan



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2021/1194
Date: 30 August 2021



REFERENCE MARKS

STN	TO	ORIGIN	BEARING	DIST

PRELIMINARY STATUS

ALL DIMENSIONS AND AREAS ON THIS PLAN ARE
SUBJECT TO SURVEY AND REQUIREMENTS FOR
LODGEMENT OF SURVEY PLANS IN THE
DEPARTMENT OF RESOURCES.



DRAFT

Plan of Lots 301 & 302

Cancelling Lot 102 on SP322408

LOCAL
GOVERNMENT: BRISBANE C.C.

LOCALITY: OXLEY

Meridian: Vide SP322408

AMENDED IN RED

By: Jen Davison
Date: 27 August 2021



SP326512

Scale: 1:750
Format: STANDARD

Survey
Records: No

Peg placed at all new corners
unless otherwise stated.

Original information compiled from SP322408
in the Department of Resources.

WARNING : Folded or Mutilated Plans will not be accepted.
Plans may be rolled.
Information may not be placed in the outer margins.

(Dealing No.)

4. Lodged by

(Include address, phone number, email, reference, and Lodger Code)

I. Existing		Created		
Title Reference	Description	New Lots	Road	Secondary Interests
	Lot 102 on SP322408	301 & 302	—	—

Reinstatement Report

.....
.....
.....

301 & 302	Lot 550 on SP142916
Lots	Orig

2. Orig Grant Allocation :

3. References :
Dept File :
Local Govt :
Surveyor : BRSS7460.001

5. Passed & Endorsed :

By : LandPartners Pty Ltd
Date :
Signed :
Designation : Liaison Officer

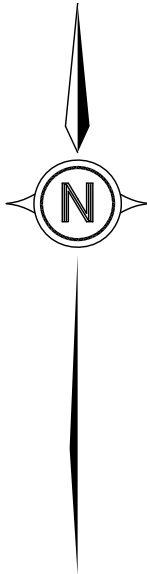
6. Building Format Plans only.
I certify that :
* As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road;
* Part of the building shown on this plan encroaches onto adjoining * lots and road

.....
Cadastral Surveyor/Director* Date
* delete words not required

7. Lodgement Fees :

Survey Deposit	\$	
Lodgement	\$	
.....New Titles	\$	
Photocopy	\$	
Postage	\$	
TOTAL	\$	

8. Insert Plan Number
SP326512



LEGEND

---	BOTTOM OF WALL
---	TOP OF WALL
---	LIP OF KERB
---	BACK OF KERB
---	EDGE OF CONCRETE
---	EDGE OF ROCK
---	CONTOURS
---	CHANGE OF GRADE
---	BOTTOM OF BANK
---	TOP OF BANK
---	CROWN OF ROAD
---	FENCE

NOTES

—ALL STORMWATER PIPES ARE RCP "2" U.N.O.

Works As Constructed

It is certified that the locations, Levels and dimensions of the infrastructure shown herein are a true representation of the constructed works and that the As-Constructed survey was performed to the prescribed accuracy standards.

Authorised Delegate.....*Ross McDowall*.....(DIRECTOR)

Date.....25/05/2022.....

LandPartners Pty Ltd (ACN I18 146 008) Surveyor No. S4118

Works As Constructed

It is certified that works herein have been constructed to Local Government standards, relevant approved specifications and the operational works approval. The As-Constructed Drawings for these works constitutes a true and correct record of the works constructed and complies with the design intent.

Signature.....RPEQ No.....

Date of Practical Completion.....

Engineering
Consultant.....

A1

ISSUE	DATE	AUTHOR	COMMENTS	ISSUE	DATE	AUTHOR	COMMENTS
1	20/04/2022	BJB	INITIAL ISSUE				
2	11/05/2022	BJB	ADD HEADWALL SPILLWAYS				
3	25/05/2022	BJB	ADD ROCK CHUTES				



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CLIENT
ECONOMIC DEVELOPMENT QUEENSLAND

PROJECT
**OXLEY PDA RETIREMENT SITE
AS CONSTRUCTED STORMWATER &
TOPOGRAPHY
DEV2021/1194**

ENGINEERING CONSULTANT
KN GROUP

LGA/SERVICE PROVIDER
BRISBANE CITY COUNCIL

0 10 25 55m
SCALE 1:500

SHEET 1 of 1		
DATUM	AHD	LEVEL ORIGIN -
CONTOURS	0.5m	FILE NO. BRSS7460-001-109-3
DRAWN	BJB	DATE 25/05/2022
CHECKED	RA	DATE 25/05/2022
APPROVED	RA	DATE 25/05/2022
PLAN NUMBER BRSS7460-001-110-3		

Appendix B – Subdivision Design Documentation

NOTE
REFER VMP DRAWINGS FOR
EXISTING TREE RETENTION

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR APPROVAL	18/02/2020	DJS
B	REISSUE FOR APPROVAL	21/02/2020	DES
C	REISSUE FOR APPROVAL	24/06/2020	SLK
D	REISSUE FOR APPROVAL	19/08/2020	DES

Associated Consultants

Client

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1



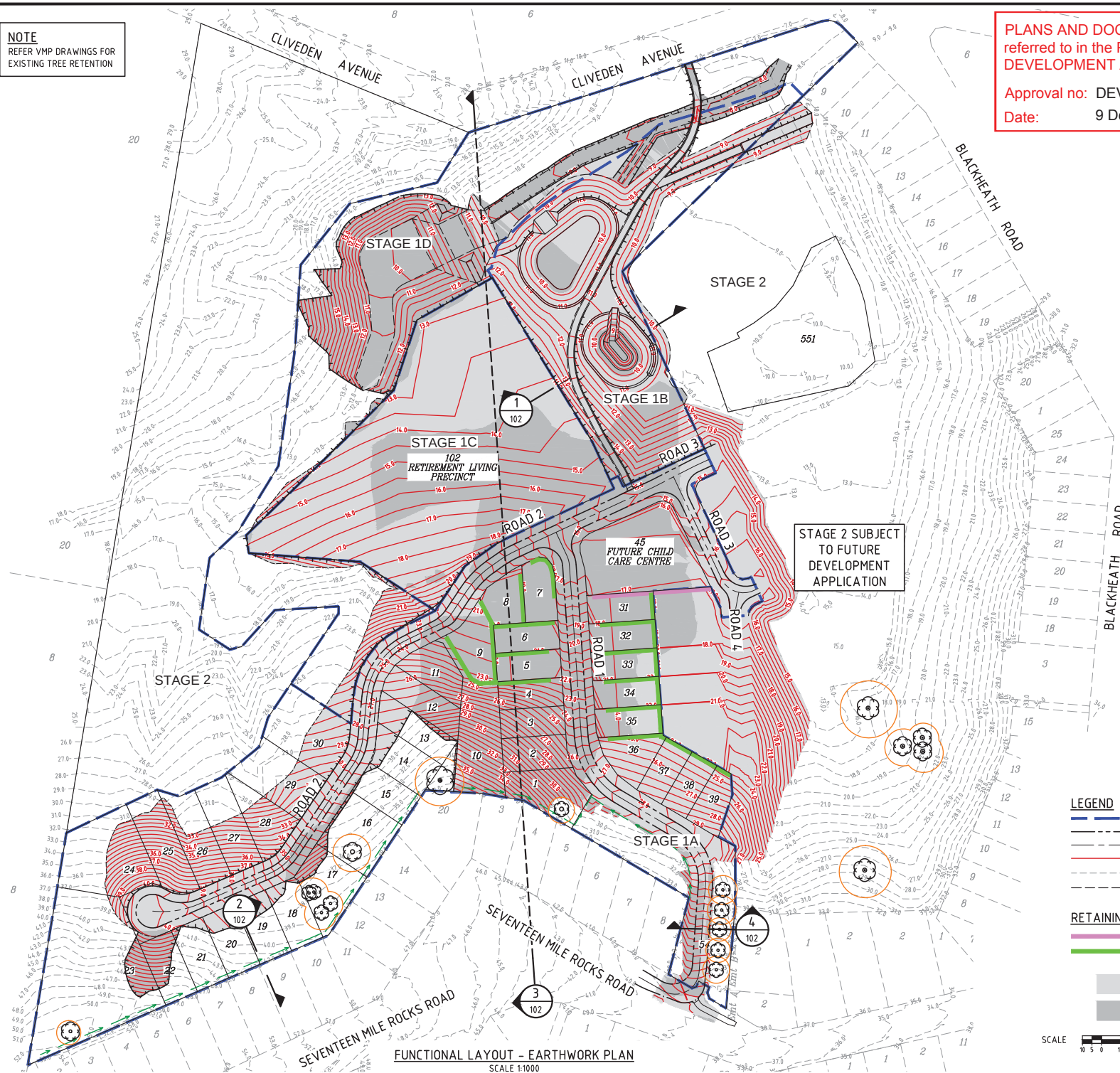
LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL knp@knp.com.au
ABN 35 112 053 611

Approved

Drawing title

FUNCTIONAL LAYOUT
EARTHWORKS PLAN

Drawn	Designed	Checked	Date
RW	DJS	GBG	FEB 20
Scale	Sheet	Revision	
AS SHOWN	1 of 11		
A1	19-173-101	D	



RETIREMENT VILLAGE
PRECINCT BOUNDARY

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



AMENDED IN RED

By: Jennifer Davison

Date: 23 November 2020



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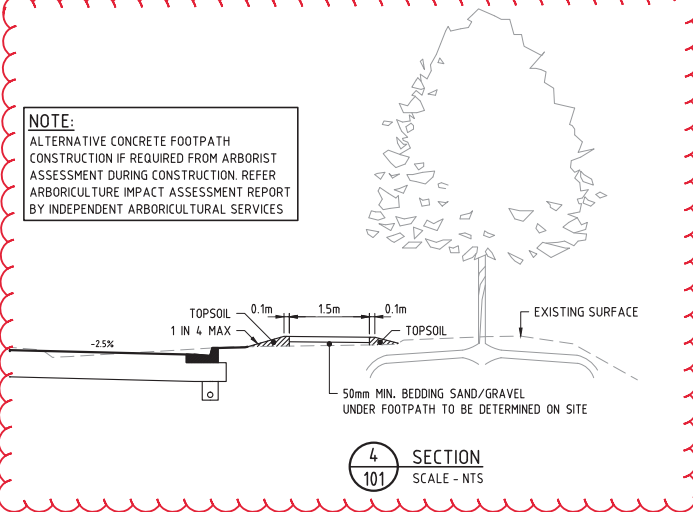


LOCALITY PLAN

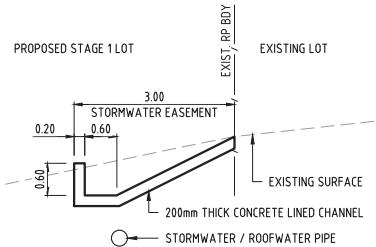
Amend in accordance with design
endorsed by Compliance Assessment
Condition 18

1 SECTION
101 SCALE 1:100

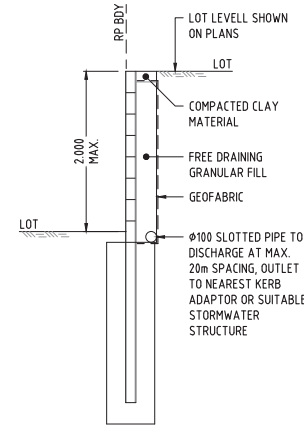
NOTE:
ALTERNATIVE CONCRETE FOOTPATH
CONSTRUCTION IF REQUIRED FROM ARBORIST
ASSESSMENT DURING CONSTRUCTION. REFER
ARBORICULTURE IMPACT ASSESSMENT REPORT
BY INDEPENDENT ARBORICULTURAL SERVICES



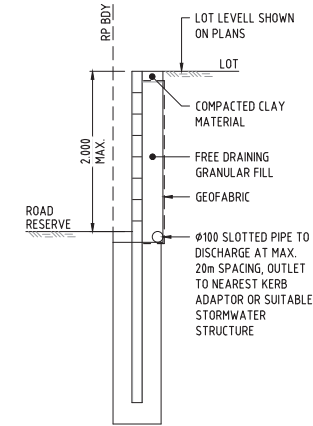
4 SECTION
101 SCALE - NTS



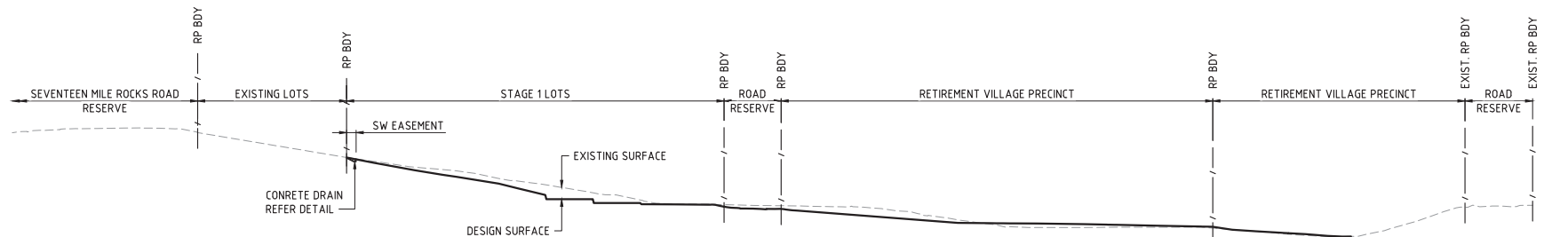
2 SECTION - TYPICAL
101 SCALE 1:50



TYPICAL CONCRETE SLEEPER WALL DETAIL
SCALE 1:25



TYPICAL CONCRETE SLEEPER WALL DETAIL
- ADJACENT TO ROAD RESERVE
SCALE 1:25



3 SECTION
101 SCALE 1:50

SCALE 1:50 (A1 UNREDUCED)

SCALE 1:100 (A1 UNREDUCED)

REVISIONS

No	Description	Date	By
A	FOR APPROVAL	18/02/2020	DJS
B	REISSUE FOR APPROVAL	21/02/2020	DES
C	REISSUE FOR APPROVAL	29/08/2020	DES

Associated Consultants

Client

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1

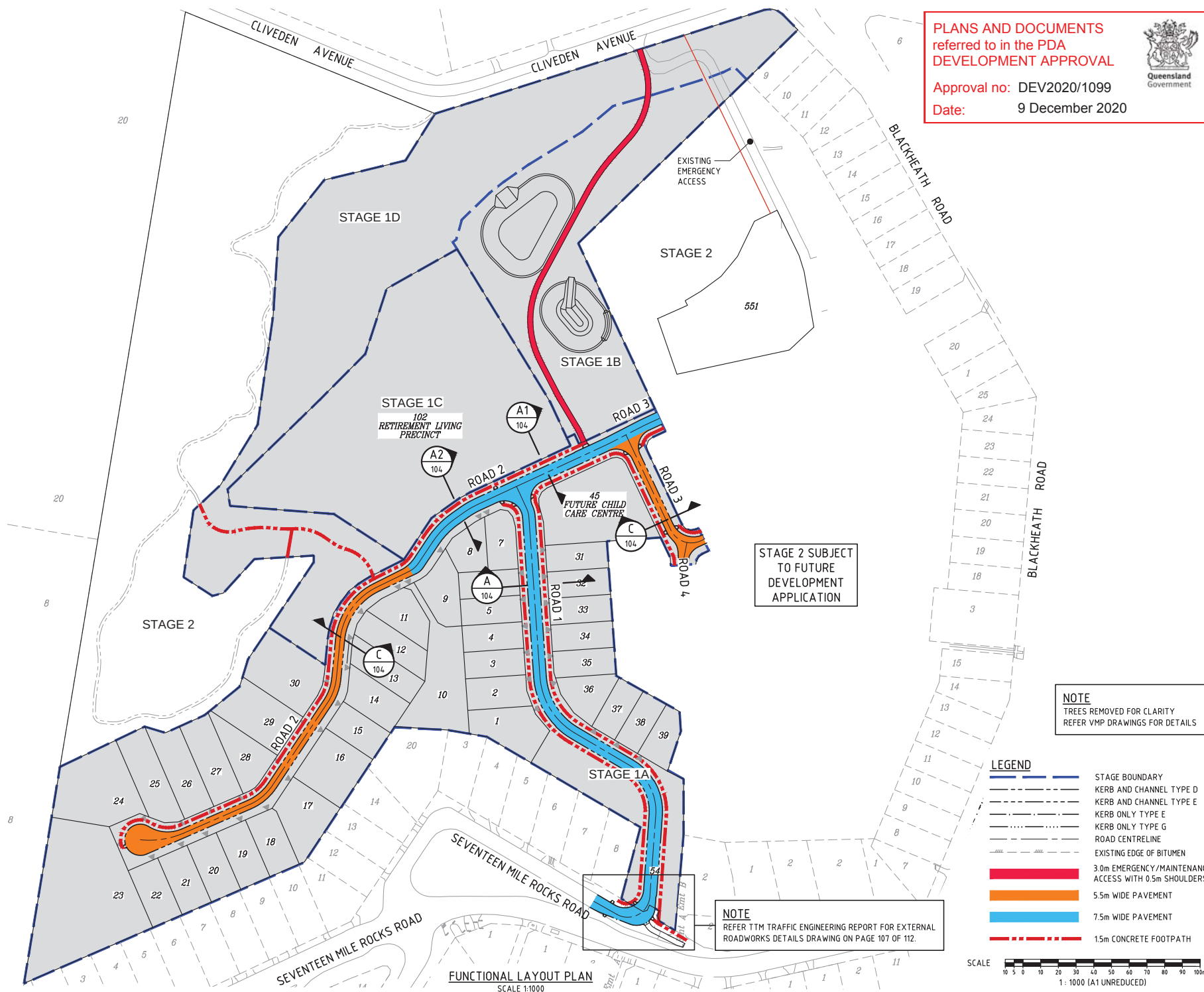


LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kn@knpl.com.au
ABN 35 112 053 611

Approved

Functional Layout
EARTHWORKS PLAN
SECTIONS

Drawn	Designed	Checked	Date
RW	DJS	GBG	FEB 20
Scale	AS SHOWN	Sheet	2 of 11
Drawing No	19-173-102	Revision	C



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



LOCALITY PLAN

REVISIONS

[illegible]

Associated Consultants

Client	
--------	--

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1



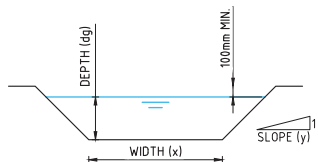
LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kng@knpl.com.au
ABN 35 112 053 611

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Drawing Title
FUNCTIONAL LAYOUT
ROAD WORKS

Drawn RW	Designed DJS	Checked GBG	Date FEB 20
Scale AS SHOWN			Sheet 3 of 1
A1	Drawing No 19-173-103		Revision D





OVERLAND FLOW CHANNEL - TYPICAL SECTION

NTS
NB: FOR DESIGN, CONSTRUCTION AND SURFACE TREATMENT DETAILS
REFER STORMWATER MANAGEMENT PLAN BY DESIGNFLOW

LEGEND

- STAGE BOUNDARY
- KERB FACE
- PROPOSED STORMWATER
- EXISTING STORMWATER
- INDICATIVE DRIVEWAY LOCATION
- PROPOSED ROOFWATER
- OVERLAND FLOW CHANNEL
- DRAINAGE SWALE (REFER SECTION 2 ON KN DWG 19-173-102)

NOTE

TREES REMOVED FOR CLARITY
REFER VMP DRAWINGS FOR DETAILS

AMENDED IN RED

By: Jennifer Davison

Date: 23 November 2020



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



STAGE 2 SUBJECT
TO FUTURE
DEVELOPMENT
APPLICATION

Amend in accordance with
Condition 21

STORMWATER LAYOUT PLAN

SCALE 1:1000

SCALE 1: 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



LOCALITY PLAN

REVISIONS

No	Description	Date	By
A	FOR APPROVAL	18/02/2020	DJS
B	REISSUE FOR APPROVAL	21/02/2020	DES
C	REISSUE FOR APPROVAL	24/06/2020	SLK
D	REISSUE FOR APPROVAL	19/08/2020	DES

Associated Consultants

Client

**ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)**

Project

**OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1**

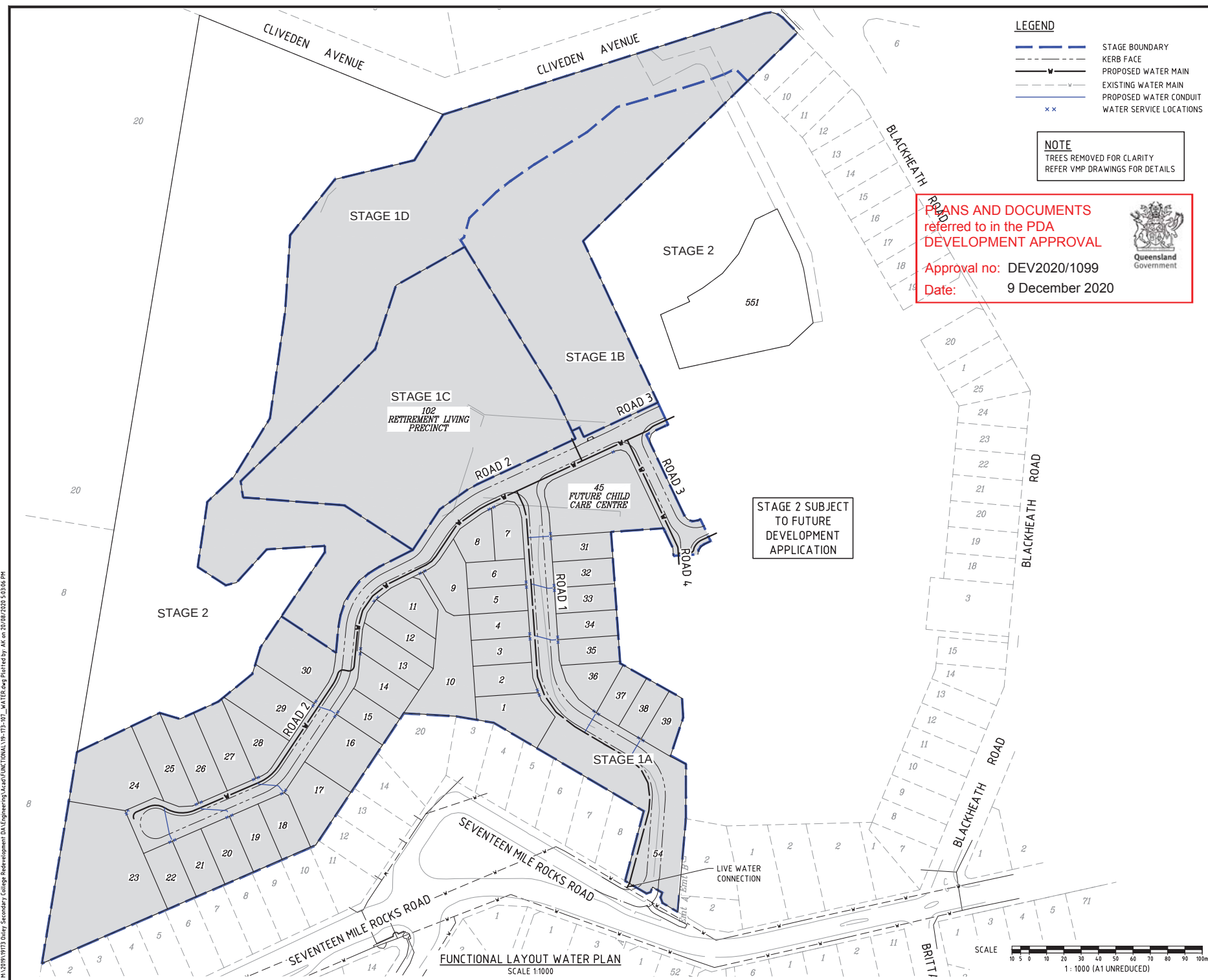


LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kn@knpl.com.au
ABN 35 112 053 611

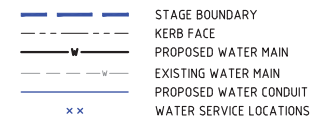
Approved

Drawing title
**FUNCTIONAL LAYOUT
STORMWATER**

Drawn	Designed	Checked	Date
RW	DJS	GBG	FEB 20
Scale	Sheet	Revision	
AS SHOWN	5 of 11		
A1	19-173-105	D	



LEGEND



NOTE

TREES REMOVED FOR CLARITY
REFER VMP DRAWINGS FOR DETAILS

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



REVISIONS

[illegible]

Associated Consultants

Client	
--------	--

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1

LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kng@knpl.com.au
ABN 35 112 053 611

Approved _____

Drawing Title

FUNCTIONAL LAYOUT
WATER RETICULATION

Drawn RW	Designed DJS	Checked GBG	Date FEB 20
Scale AS SHOWN			Sheet 7 of 1
A1	Drawing No 19-173-107		Revision D

FOR CONTINUATION REFER KNG DWG No 19-173-110

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



STAGE 2 SUBJECT
TO FUTURE
DEVELOPMENT
APPLICATION

NOTE
REFER VMP DRAWINGS FOR
EXISTING TREE RETENTION

LEGEND

- STAGE BOUNDARY
- KERB FACE
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- EXISTING STORMWATER
- EXISTING SEWER
- FUTURE SEWER
- PROPOSED ELECTRICAL/COMMS/GAS ALIGNMENT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED ELECTRICAL STREET LIGHT
- PROPOSED WATER SERVICE
- PROPOSED WATER CONDUIT
- INDICATIVE DRIVEWAY LOCATION
- PROPOSED SWALE
- PROPOSED BUILDING ENVELOPE
- PROPOSED STREET TREES

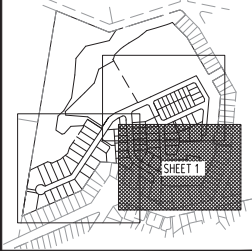
SCALE
10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

OVERALL SERVICES LAYOUT PLAN
SCALE 1:500

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	18/02/2020	DJS
B	REISSUE FOR APPROVAL	21/02/2020	DES
C	REISSUE FOR APPROVAL	24/06/2020	SLK
D	REISSUE FOR APPROVAL	19/08/2020	DES

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DEVELOPMENT
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Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1



LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kn@knpl.com.au
ABN 35 112 053 611

Approved

Drawing Title

FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 1

Drawn	Designed	Checked	Date
RW	DJS	GBG	FEB 20
Scale	Sheet	Revision	
AS SHOWN	8 of 11		
A1	19-173-108	D	

FOR CONTINUATION REFER KNG DWG No 19-173-109

NOTE
REFER VMP DRAWINGS FOR
EXISTING TREE RETENTION

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020



STAGE 2

FOR CONTINUATION REFER KNG DWG No 19-173-110

FUTURE CHILD
CARE CENTRE

FOR CONTINUATION REFER KNG DWG No 19-173-108

SEVENTEEN MILE ROCKS ROAD

OVERALL SERVICES LAYOUT PLAN
SCALE 1:500

LEGEND

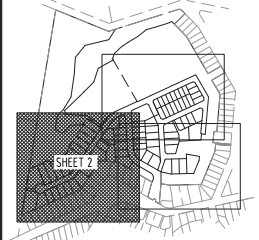
- STAGE BOUNDARY
- KERB FACE
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED WATER RETICULATION
- EXISTING STORMWATER
- EXISTING SEWER
- FUTURE SEWER
- PROPOSED ELECTRICAL/COMMS/GAS ALIGNMENT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED ELECTRICAL STREET LIGHT
- PROPOSED WATER SERVICE
- PROPOSED WATER CONDUIT
- INDICATIVE DRIVEWAY LOCATION
- PROPOSED SWALE
- PROPOSED BUILDING ENVELOPE
- PROPOSED STREET TREES

SCALE
1 : 500 (A1 UNREDUCED)

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LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	18/02/2020	DJS
B	REISSUE FOR APPROVAL	21/02/2020	DES
C	REISSUE FOR APPROVAL	24/06/2020	SLK
D	REISSUE FOR APPROVAL	19/08/2020	DES

Associated Consultants

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ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1



LEVEL 1 - 62 ASTOR TCE
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PHONE 07 3017 1900
EMAIL kn@knpl.com.au
ABN 35 112 053 611

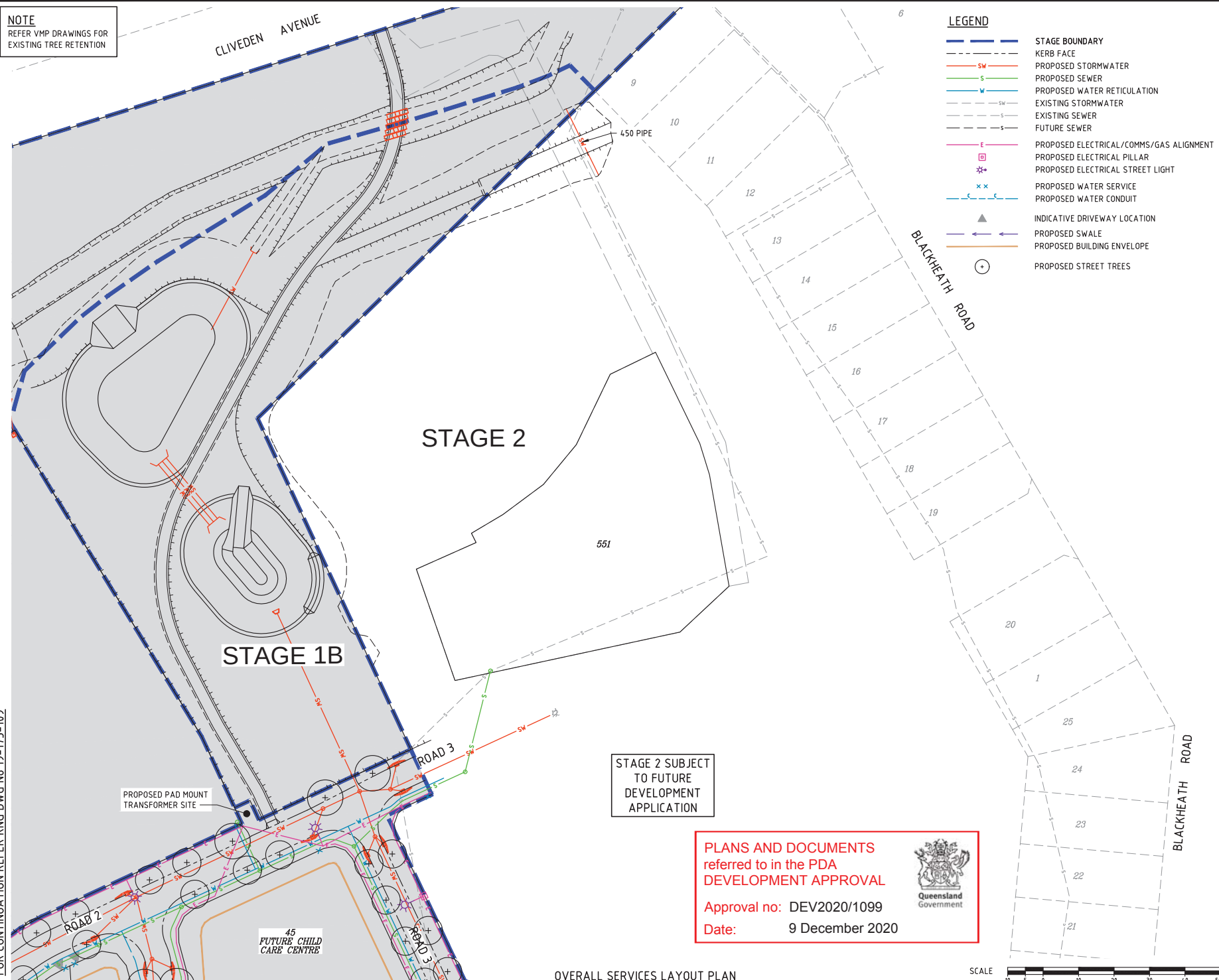
Approved

Drawing Title

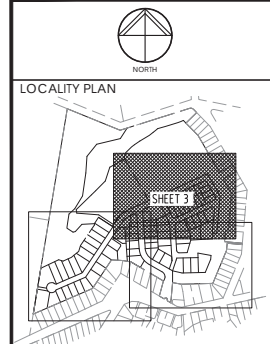
FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 2

Drawn	Designed	Checked	Date
RW	DJS	GBG	FEB 20
Scale	Sheet	Revision	
AS SHOWN	9 of 11		
A1	19-173-109	D	

NOTE
REFER VMP DRAWINGS FOR
EXISTING TREE RETENTION



DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



REVISIONS

[illegible]

Associated Consultants

Client

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DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1



LEVEL 1 - 62 ASTOR TCE
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PHONE 07 3017 1900
EMAIL kng@knpl.com.au
ABN 35 112 053 611

Approved

Drawing Title

FUNCTIONAL LAYOUT
OVERALL SERVICES
SHEET 3

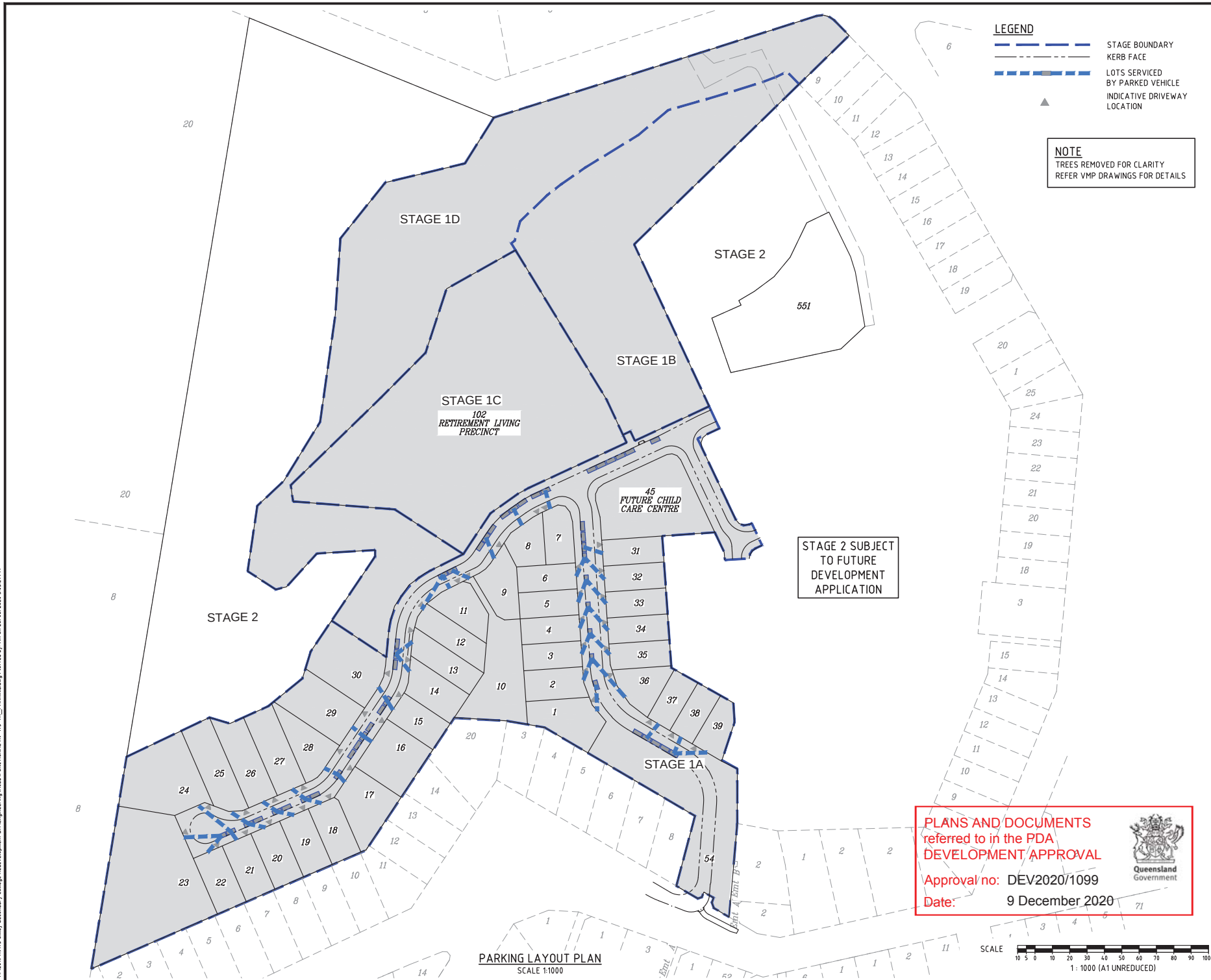
Drawn RW	Designed DJS	Checked GBG	Date FEB 20
Scale AS SHOWN			Sheet 10 of 11
A1	Drawing No 19-173-110		Revision D

FOR CONTINUATION REFER KNG DWG No 19-173-108

OVERALL SERVICES LAYOUT PLAN
SCALE 1:500

SCALE  1 : 500 (A1 UNREDUCED)

FOR CONTINUATION REFER KNG DWG No 19-173-109



LOCALITY PLAN

REVISIONS

[illegible]

Associated Consultant:

Client

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

Project

OXLEY SECONDARY
COLLEGE REDEVELOPMENT
STAGE 1

LEVEL 1 - 62 ASTOR TCE
SPRING HILL, QLD 4000
PHONE 07 3017 1900
EMAIL kng@knpl.com.au
ABN 35 112 053 611

Approved

Drawing Title

FUNCTIONAL LAYOUT
PARKING

Drawn RW	Designed DJS	Checked GBG	Date FEB 20
Scale AS SHOWN			Sheet 11 of 1
A1	Drawing No 19-173-111		Revision D

Appendix C – Proposed Development Plan



Revision			
REV	DESCRIPTION	DATE	INT.
1	Preliminary DD Issue	23.08.2022	AS
2	Issue for Information	30.09.2022	AC
3	50% DD	28.10.2022	AC

Client
Honeycombes Property Group

Project
Blume, Oxley

Drawing
GA Basement Floor Plan

PRELIMINARY

A1 Scale	
Project	18386
Issue	3
Drawn	Author
Drawing	SD - DR - AR - 1002

Details
Copyright Conrad Gargett. ACN 010 350 633 ABN 49 325 21 350.
Do not scale this drawing and verify all dimensions and levels on site.
Nominated Architect : Lawrence Toaldo NSW Reg. 10255.
5 0 5 10 15 20 25 30 35
SCALE 1:500 m

Revision			
REV	DESCRIPTION	DATE	INT.
1	Preliminary DD Issue	23.08.2022	AS
2	Issue for Information	30.09.2022	AC
3	Issue for Information	10.10.2022	AS
4	50% DD	28.10.2022	AC

Client
Honeycombes Property Group

Project
Blume, Oxley

Drawing
GA Ground Floor Plan

PRELIMINARY

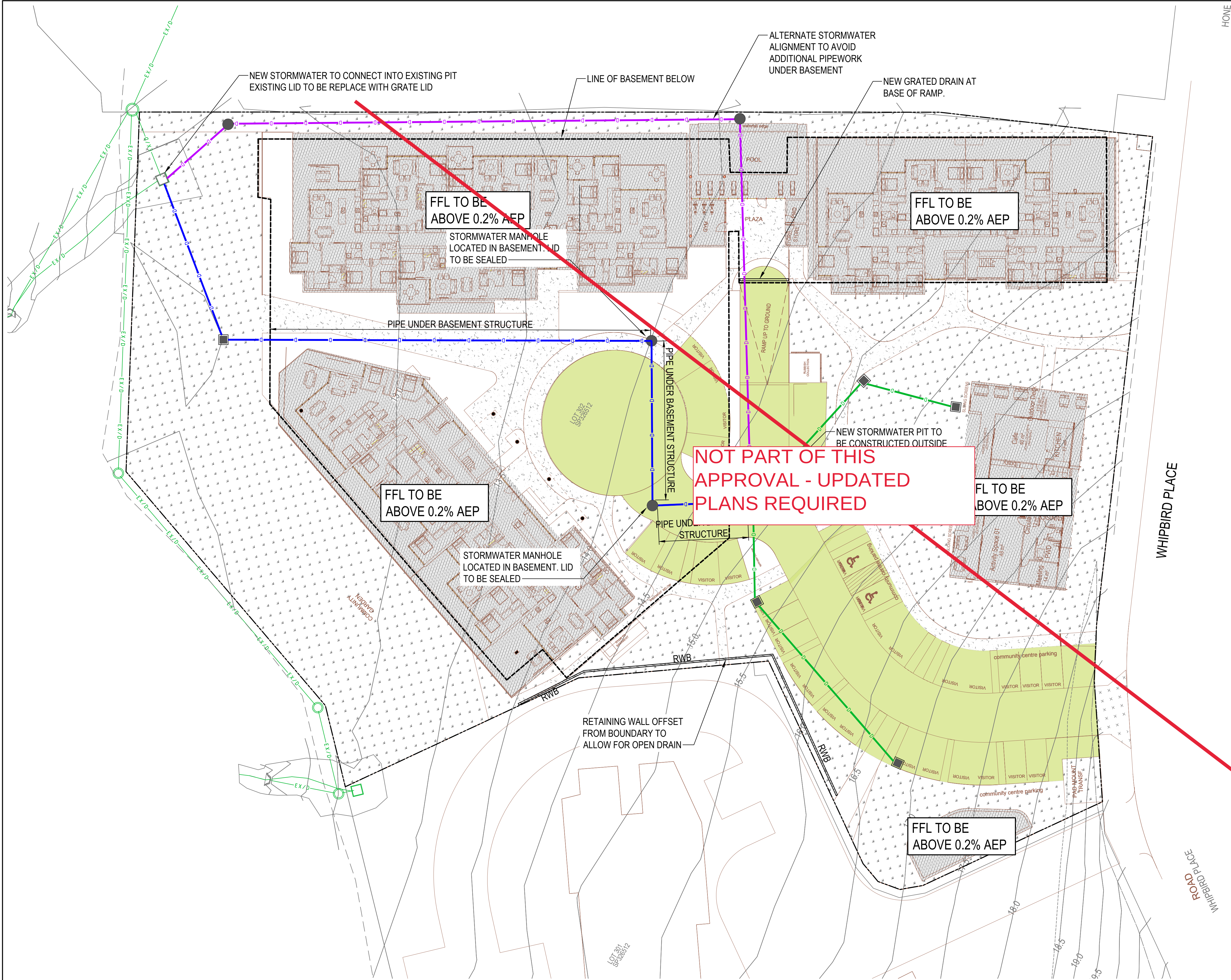
A1 Scale
Project 18386
Issue 4
Drawn Author
Drawing SD - DR - AR - 1003

Details
Copyright Conrad Gargett. ACN 010 350 633 ABN 49 325 21 350.
Do not scale this drawing and verify all dimensions and levels on site.
Nominated Architect : Lawrence Toskdo NSW Reg. 10255.

5 0 5 10 15 20 25 30 35
SCALE 1:500 m



Appendix D – Concept Civil Layout sketch



SITEWORKS AND DRAINAGE LEGEND

- PROPOSED STD HEAVY DUTY CROSSOVER
- PROPOSED CARPARK PAVEMENT
- PROPOSED CONCRETE FOOTPATH
- PROPOSED LANDSCAPING
- SITE BOUNDARY
- PROPOSED STORMWATER PIPE - Q10 FLOWS
- PROPOSED STORMWATER PIPE - Q100 FLOWS
- ALTERNATE STORMWATER ALIGNMENT
- PROPOSED BLOCK RETAINING WALL - REFER STRUCTURAL CONSULTANTS DRAWINGS FOR DETAILS
- PROPOSED STRUCTURE NUMBER AND TOP OF GRATE/LID LEVEL
- PROPOSED STORMWATER GRATED DRAIN

EXISTING FEATURES LEGEND

- EXISTING CONTOURS - 0.5m INTERVAL
- EXISTING STORMWATER DRAINAGE

NOTES

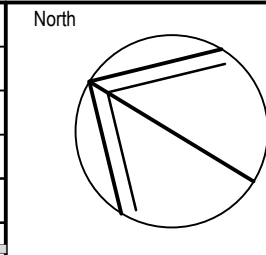
- BASEMENTS TO BE DESIGNED AS FULLY WATERTIGHT HYDROSTATIC BASEMENTS.
- ALL SERVICES, DRAINAGE SUBSOILS IN BASEMENT TO BE DETAILED TO PREVENT BACK FLOWS SURCHARGING INTO THE BASEMENT INCLUDING VIA PIPE BEDDING MATERIALS, AT PIT INTERFACES IN TO BASEMENT SLAB ETC.

SCALE 1:250 @ A1
SCALE 1:500 @ A3

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This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by:

Issue	Description	Date	Drawn	Approved
C	FOR APPROVAL	04.11.22	ND	ND
B	FOR APPROVAL	21.10.22	SC	CR
A	FOR APPROVAL	10.06.22	JG	BH



Client
MINISTER FOR ECONOMIC DEVELOPMENT QLD
1 WILLIAM ST, BRISBANE CITY
QLD 4000
PHONE : 07 3452 7880

Architect
CONRAD GARGETT
LEVEL 26 / 240 QUEEN STREET BRISBANE
QLD 4000
PHONE : 07 3229 3555

ACOR Consultants (QLD) Pty Ltd
Level 7, 22 Cordelia Street
South Brisbane QLD 4101
T +61 7 3844 5900
ACOR CONSULTANTS ENGINEERS | MANAGERS | INFRASTRUCTURE PLANNERS | DEVELOPMENT CONSULTANTS

Project
OXLEY PDA RETIREMENT SITE
57 SEVENTEEN MILE ROCKS ROAD, OXLEY
QLD 4075

Drawing Title SITEWORKS PLAN					
Drawn JG	Date JUNE 2022	Scale 1:250	A1	Q.A. Check ND	Date 04.11.22
Designed BH	Project No. BR220217	Dwg. No. C04-001	Issue C		

NOT FOR CONSTRUCTION

THIS DRAWING IS TO BE
PRINTED IN COLOUR

Appendix E – Stormwater Technical Letter by Design Flow

Our Ref: projects/4277

DesignFlow

1 June 2022

Addison Flynn
Assistant Development Manager
Honeycombes Property Group
GPO Box 1223
Brisbane Qld 4001

(via email)

Dear Addison

RE: Oxley PDA Retirement Living Precinct – Stormwater and Flooding Compliance

Please find below the key aspects of the *Oxley Priority Development Area Stormwater Management Plan – Version 3b* (DesignFlow, 2020) and subsequent *Oxley Priority Development Area Stormwater Management Design Report – Version 2* (DesignFlow, 2021) that are to be addressed as part of development of the Retirement Living Precinct.

The retirement living site falls within the regional stormwater quality and flood management strategy developed for the overall PDA site. Flood and stormwater quality management basins have been designed to receive discharge from the retirement site and area being constructed as part of Oxley PDA Stage 1. The following site specific requirements and design thresholds apply to the Retirement Living Precinct:

1. Site fraction impervious up to 80% has been allowed for.
2. Low flow drainage diversion (equivalent to 3 month ARI) from the retirement site to the Bioretention Basin B1 (east) with balance of site discharge (including overland flow) directed to Flood Basin 1 (north).
3. Exclusion fencing to north western site boundary interfacing with flood detention basin 1 and drainage corridor
4. Local 100 year ARI (1% AEP) flood level adjacent to the north-western boundary varies from 12.36 mAHD to 14.09 mAHD (refer to Figure 1 attached).
5. Brisbane River 0.2% AEP (1 in 500 AEP) flood level is 15.45 mAHD.

If you have any questions relating to the information provided above, please contact DesignFlow.

Yours Sincerely



Shaun Leinster
RPEQ 15637
DesignFlow

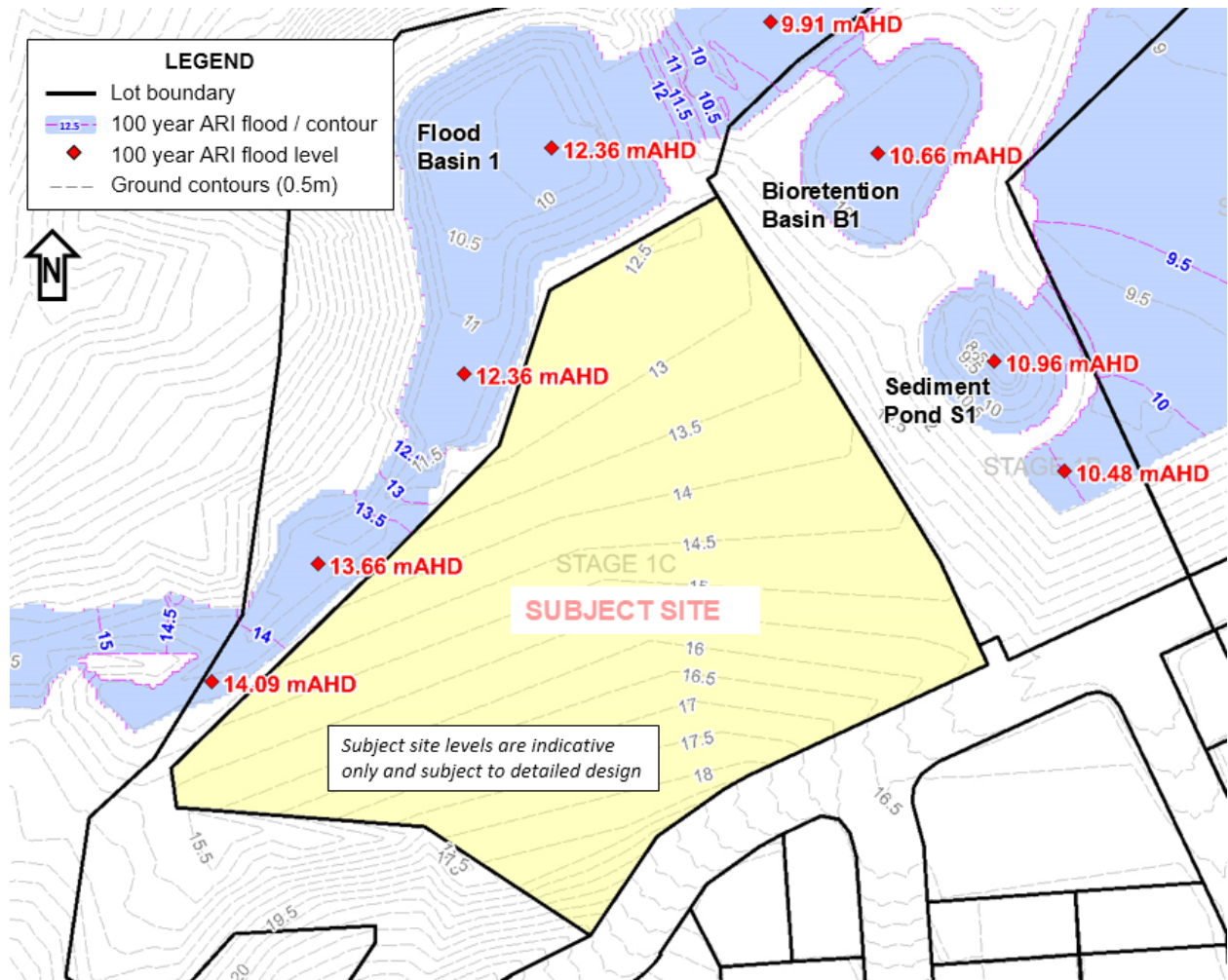


Figure 1: 100 year ARI flood levels

Appendix F – Overland Flow Conveyance Calculations

CATCH DRAIN DESIGN: Overland flow section (Smallest Width)

PROJECT:-

HPG Oxley

DESIGNER:-

ND

JOB No:-

BR220217

DATE:-

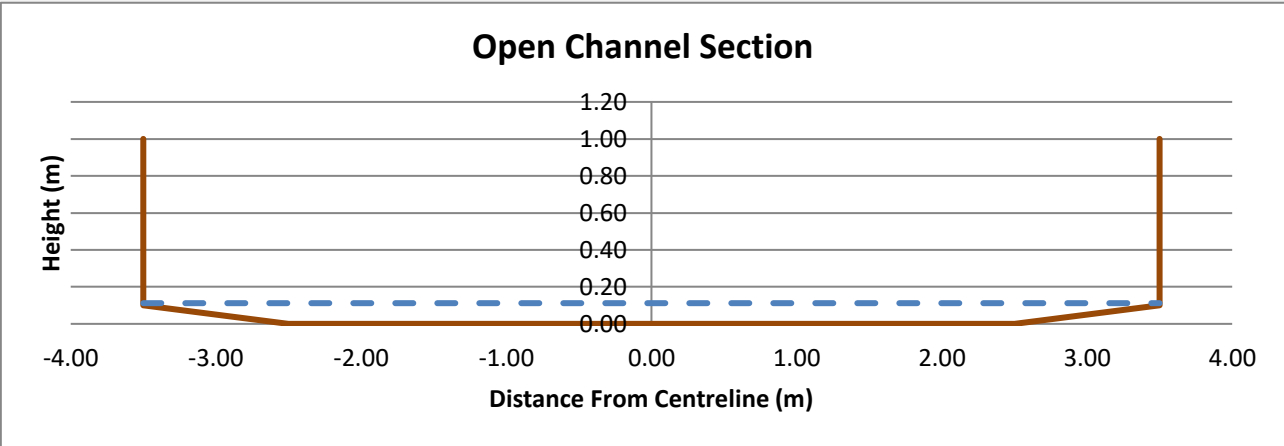
4/Nov/22

Catchment	A		Storm Event	0.2% AEP	
Mannings 'n'	0.020		R _h	0.097	
Longitudinal Grade	1.0%		Flow Velocity	1.057	m/s
Invert Datum	0.000	m	Flow Capacity	0.723	m ³ /s
Water Level	0.112	m	Target Flow Capacity	0.721	m ³ /s
Depth	0.112	m			
Test Freeboard	0.000	m	Depth	0.112	m
			Velocity	1.057	m/s
Final Freeboard	0.057	m	Depth * Velocity	0.118	m ² /s

	Distance	Height	Water level	Vertical Face	Slope	Area	Wp
Insert Below	-3.50	1.00	0.112	0.012	0.000	0.000	0.012
	-3.50	0.10	0.112	0	-0.100	0.062	1.005
	-2.50	0.00	0.112	0	0.000	0.280	2.500
	0.00	0.00	0.112	0	0.000	0.280	2.500
	2.50	0.00	0.112	0	0.100	0.062	1.005
	3.50	0.10	0.112	0.012	0.000	0.000	0.012
Insert Above	3.50	1.00	0.112				

Remove above values of segments wholly above water level

	Area	Wp
Total	0.684	7.034



CATCH DRAIN DESIGN: Overland flow section (Crest)

PROJECT:-

HPG Oxley

DESIGNER:-

ND

JOB No:-

BR220217

DATE:-

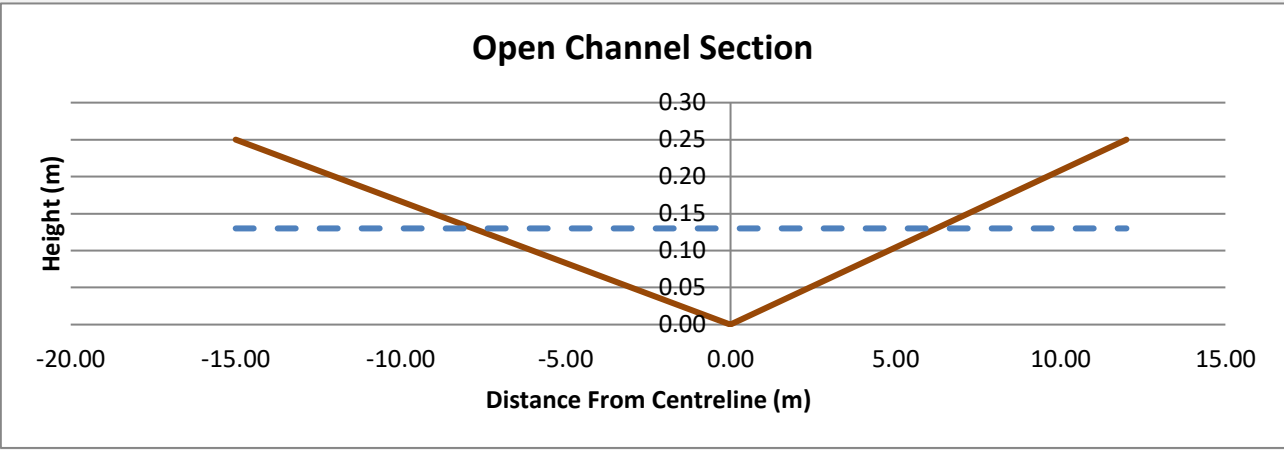
4/Nov/22

Catchment	A	Storm Event	0.2% AEP
Mannings 'n'	0.020	R _h	0.065
Longitudinal Grade	1.0%	Flow Velocity	0.808 m/s
Invert Datum	0.000 m	Flow Capacity	0.738 m ³ /s
Water Level	0.130 m	Target Flow Capacity	0.721 m ³ /s
Depth	0.130 m		
Test Freeboard	0.000 m	Depth	0.130 m
		Velocity	0.808 m/s
Final Freeboard	0.033 m	Depth * Velocity	0.105 m ² /s

	Distance	Height	Water level	Vertical Face	Slope	Area	Wp
Insert Below	-15.00	0.25	0.130	0	-0.017	0.507	7.801
	0.00	0.00	0.130	0	0.021	0.406	6.241
Insert Above	12.00	0.25	0.130				

Remove above values of segments wholly above water level

	Area	Wp
Total	0.913	14.042



Major System 1% AEP

PROJECT : HPG Oxley Retirement Living
JOB No. : BR220217
DATE : 23/06/2022 9:44
DES. BY : EP



Manning's n = 0.013

From MH	To MH	Added Flow (Enter)	Added Flow (m³/s)	Design Flow (m³/s)	Length (m)	Pipe Diameter (mm)	Slope %	Cap. (m³/s)	Vel. (m/s)	Surf. Elev.	Invert Out	Invert In	Avg. Depth Range
Inlet	2	0.485	0.485	0.485	12.21	675	1.50	1.030	2.877	15.70	11.600	11.417	2.04
2	3		0.485	0.485	16.88	675	0.50	0.594	1.661	12.40	11.377	11.293	1.07
3	4		0.485	0.485	53.62	675	0.50	0.594	1.661	12.40	11.253	10.985	1.58
4	Outlet		0.485	0.485	25.62	675	1.05	0.861	2.407	13.00	10.945	10.676	1.99
Outlet										12.61			

[https://acorgroupservicesptyltd-my.sharepoint.com/personal/epivnev_acor_com_au/Documents/Desktop/\[V2.xls\]storm](https://acorgroupservicesptyltd-my.sharepoint.com/personal/epivnev_acor_com_au/Documents/Desktop/[V2.xls]storm)
23/06/2022 9:44