



ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/6-2023

Dated: 28 April 2023

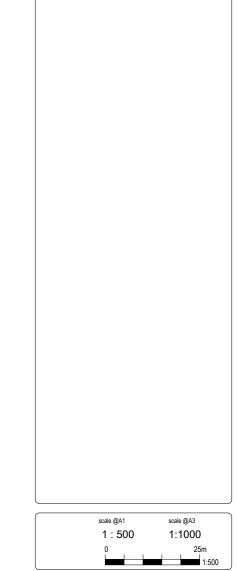
GENERAL NOTES

- CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK.

 ALL WORKS TO BE CARRIED OUT TO LOCAL AUTHORITY REQUIREMENTS.

 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH
- SPECIFICATION AND ASSOCIATED NOTES.

 DO NOT SCALE THIS DRAWING. IF IN DOUBT, ASK.







ROMAN CATHOLIC TRUST CORP. FOR THE DIOCESE OF ROCKHAMPTON T/A CATHOLIC EDUCATION DIOCESE OF ROCKHAMPTON

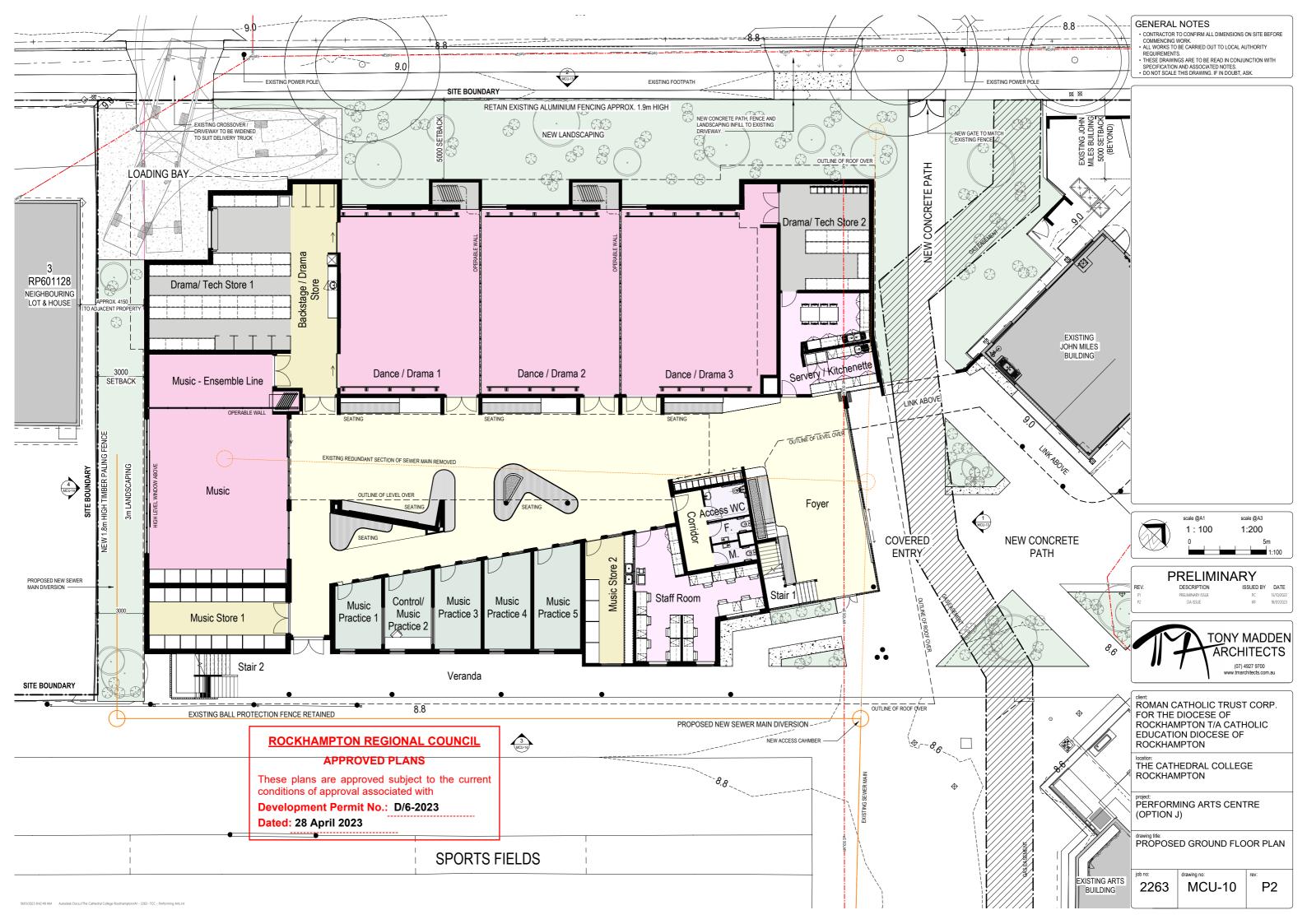
THE CATHEDRAL COLLEGE ROCKHAMPTON

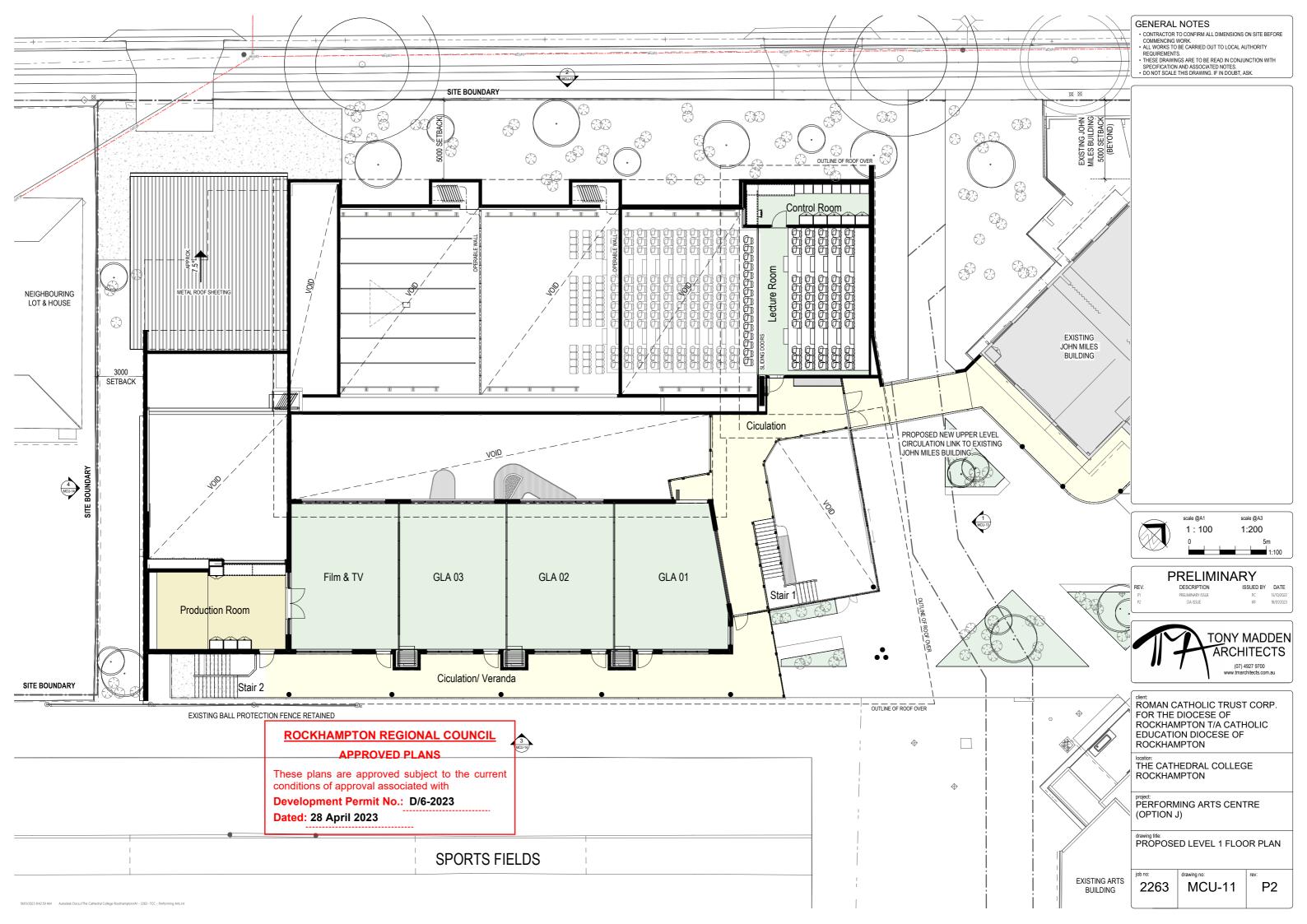
project:
PERFORMING ARTS CENTRE

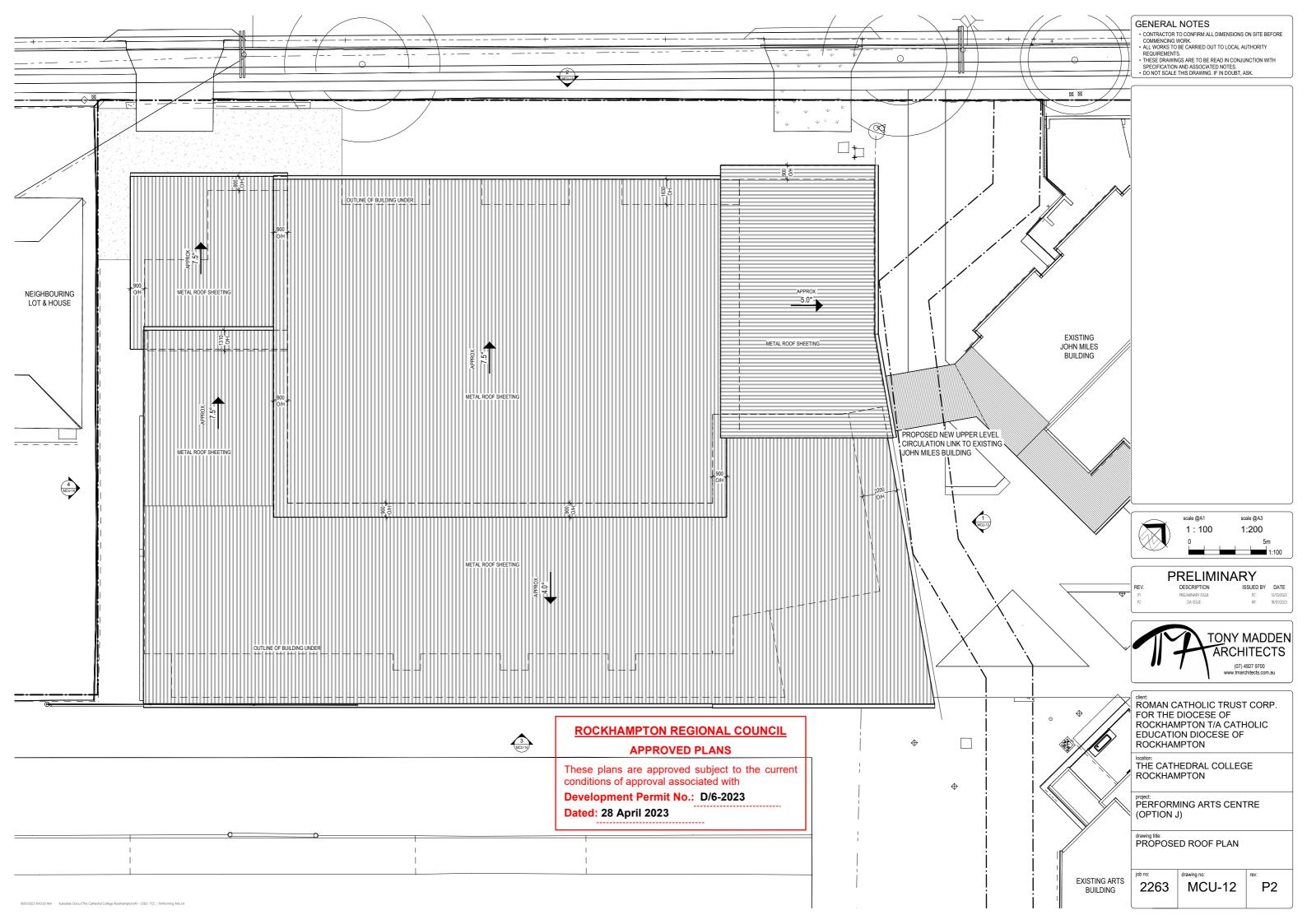
drawing title:
STREET ELEVATIONS

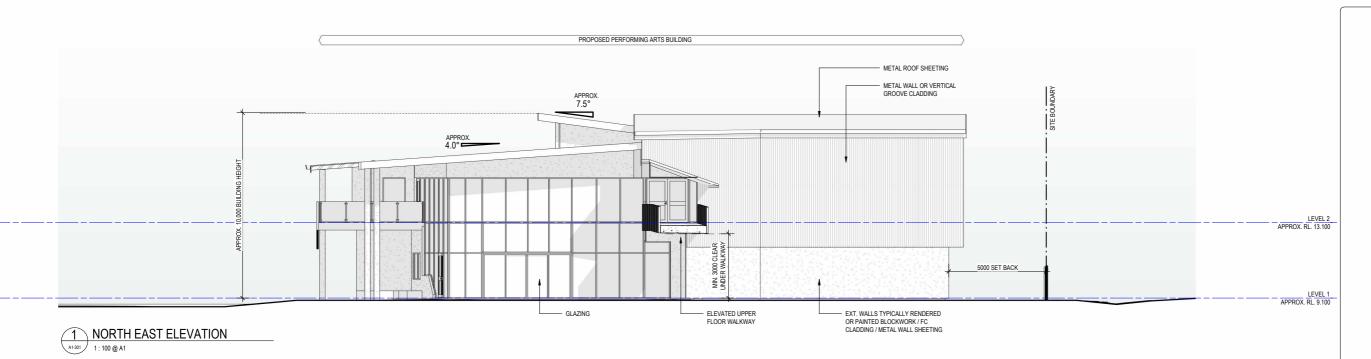
2263 MCU-04

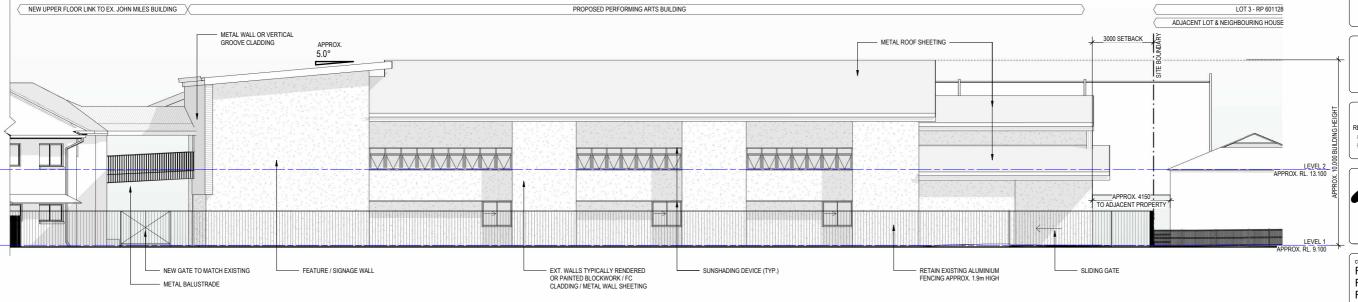
P2













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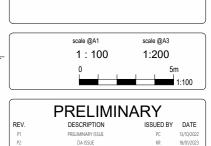
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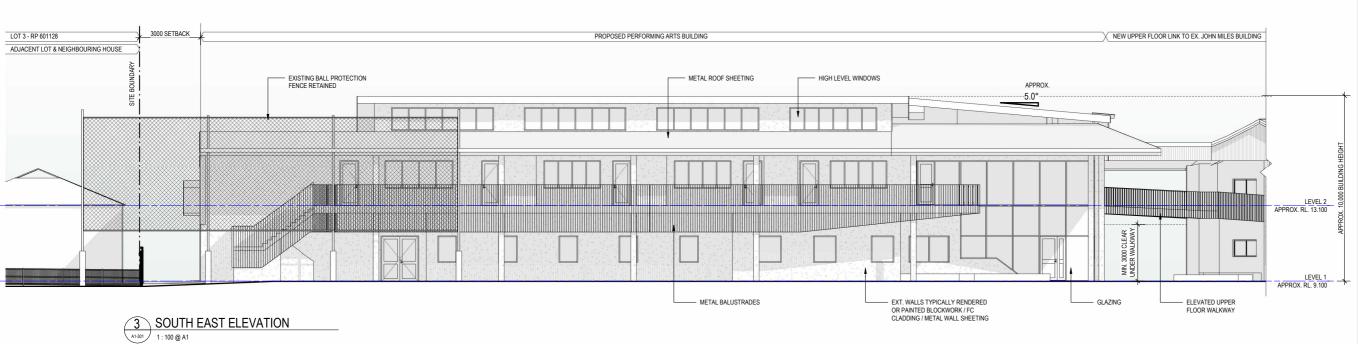
THE CATHEDRAL COLLEGE ROCKHAMPTON

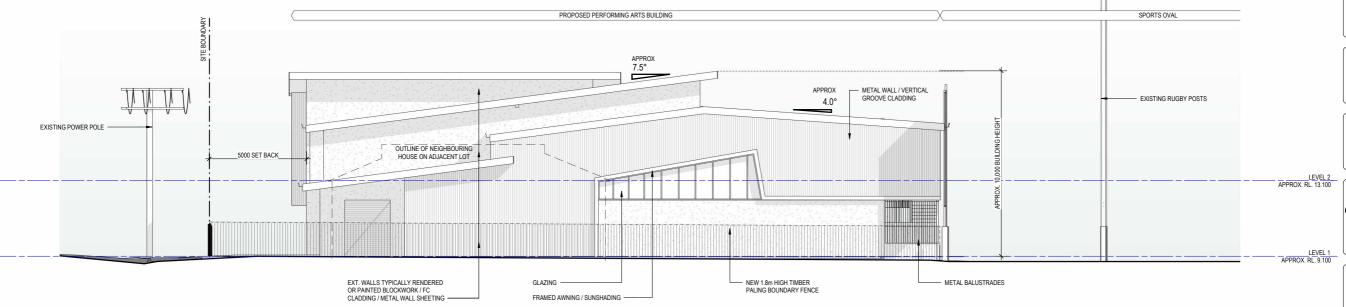
PERFORMING ARTS CENTRE (OPTION J)

drawing title:
PROPOSED ELEVATIONS

2263 MCU-13

P2





SOUTH WEST ELEVATION

1:100 @ A1

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SPECIFICATION AND ASSOCIATED NOTES.

DO NOT SCALE THIS DRAWING. IF IN DOUBT, ASK. scale @A1 scale @A3 1:100 1:200 **PRELIMINARY** ISSUED BY DATE DESCRIPTION



ROMAN CATHOLIC TRUST CORP.
FOR THE DIOCESE OF ROCKHAMPTON T/A CATHOLIC EDUCATION DIOCESE OF ROCKHAMPTON

THE CATHEDRAL COLLEGE ROCKHAMPTON

project:
PERFORMING ARTS CENTRE (OPTION J)

drawing title:
PROPOSED ELEVATIONS

2263 MCU-14

P2



Janes and Stewart Structures Pty Ltd
ABN: 30 620 233 025
120 William Street, PO Box 1072
Rockhampton 4700
07 4922 1948
janes.and.stewart@jsstructures.com.au

Letter – 23001LETTM01 Tony Madden Architects PO Box 94 Rockhampton, QLD 4700

Attention: Luke Madden luke@tmarchitects.com.au

Dear Luke,

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/6-2023

Dated: 28 April 2023

Technical Letter – Sewer Reticulation and Stormwater Management Performing Arts Building, The Cathedral College 189 William Street, Rockhampton

Janes and Stewart Structures Pty Ltd has prepared this civil engineering technical letter in support of the Development Application for Material Change of Use (MCU) relating to a new performing arts centre at The Cathedral College, Rockhampton (Lot 104 on SP260367). The performing arts centre is proposed to be located on the footprint of an existing off-street car park on the college site, where the car park will be demolished as part of the project. The proposed ground floor site plan for the performing arts centre prepared by Tony Madden Architects in attached to this letter.

This letter intends to provide advice in relation to the following aspects of the project:

- Intended treatment of the existing Council gravity sewer main traversing the area of the project.
- Overview of the intended stormwater drainage strategy including a review of stormwater quantity and quality requirements associated with the project.

The locality of the subject site can be seen in the following aerial photo.



Figure 1 Locality Image (Aerial Source: QLD Globe)



Sewer Reticulation

An existing gravity sewer main exists within the footprint of the proposed performing art centre. This sewer main is a Rockhampton Regional Council asset and is primarily in place to service the neighbouring residential allotment (Lot 3 on RP601128) to the west of the proposed building area.

Based on Council's services information, the existing gravity sewer main is currently a 150mm diameter of Earthenware material type where the Council gravity sewer system traverses through the college site towards Derby Street. Existing access chambers are in place at the upstream end and at change in direction points along the network. Two of the existing access chambers will be under the proposed building footprint.

The existing sewer layout on the college site can been seen in the following extract from Rockhampton Regional Council's Geographical Information System (GIS).

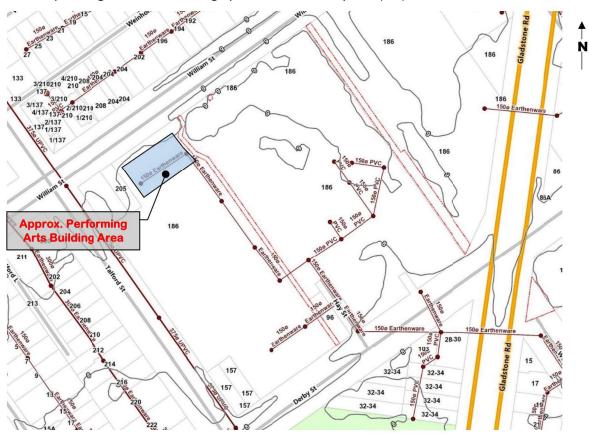


Figure 2 Existing Sewer Infrastructure - shown in red (Source: RRC Mapping)

In order to comply with Rockhampton Regional Council's Building Over/Adjacent to Local Government Sewerage Infrastructure policy, it is proposed to divert the section of sewer main including access chambers that are situated under the proposed building footprint shown in Figure 2 above. All existing live sanitary drainage connections into this section of sewer main would be reinstated into the new diverted section of sewer, including the connection from the neighbouring residential allotment.



The sewer diversion including lampholes and access chambers will be installed to comply with Council's current Building Over/Adjacent to Local Government Sewerage Infrastructure Policy and in line with the current specifications of the Capricorn Municipal Development Guidelines (CMDG) for sewer reticulation design.

The final alignment of the sewer diversion is subject to further detailed design and consultation with Council in subsequent stages of the project. However, the following key features of the sewer diversion are proposed:

- New sewer diversion to be 150mm diameter of PVC, Class SN8 material and installed at a minimum grade of 1 in 100.
- New lamphole installed at the upstream reach of the line.
- New access chamber at the downstream reach of the line.
- New jump up connection into the lamphole.

A preliminary alignment of the intended sewer diversion is provided in the sketch below:

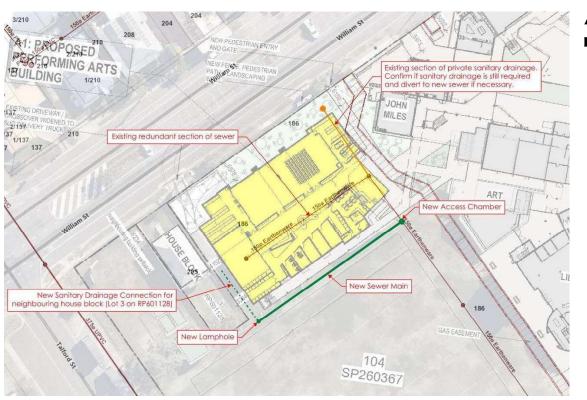


Figure 3 Preliminary Sewer Diversion Proposal Sketch

The proposed performing arts complex will connect to the sewer infrastructure available on the site, where it is expected that the increase in load on the sewer network from the new building will be negligible in relation to the existing load and available capacity. The viability to use any of the existing connections will be checked during further detailed design phases of the project and if needed a new connection could be installed. All internal sanitary drainage will be documented during the detailed design phases of the project and appropriate approvals sought from Rockhampton Regional Council (RRC).

Stormwater

An analysis of the existing stormwater situation has been completed for the area where the proposed performing arts centre is intended on the college site. The stormwater strategy for the proposed building considers the existing situation where a review of the stormwater quantity and quality requirements has been undertaken.

Stormwater Quantity

The performing arts centre is located within a broader catchment on the college site which discharges to the road reserve of Hay Street, which adjoins Derby Street on the southern side on the college. This catchment includes the majority of the grassed sports field as well as part of the main college campus buildings. The extent of this catchment which has been derived by a combination of detailed survey, aerial survey and existing service drawings is shown in the below image:

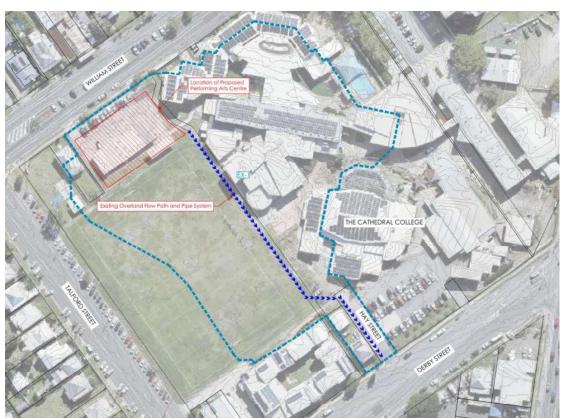


Figure 4 Hay Street Stormwater Catchment Extent

Runoff within the catchment is conveyed to the discharge point generally through a main overland flow path in between the main campus buildings and the eastern edge of the sports field. An underground stormwater pipe network is also in place along this flow path mainly conveying roofwater and surface water from hardstand areas within the catchment. This internal pipe network connects to existing pipe infrastructure within Hay Street which discharges to a main Council pipe system in Derby Street.

It is intended that the proposed performing arts centre will remain a part of the catchment that discharges to Hay Street and ultimately, Derby Street.

With the demolition of an existing on-site concrete car park to make way for the proposed performing arts centre, a comparison of the existing fraction impervious against the proposed fraction impervious scenarios shows that there is minimal change within the college catchment discharging to Hay Street. The calculated fraction impervious is shown in the following table for the existing and proposed cases:

Table 1 Hay Street Catchment Summary – Existing and Proposed Scenarios

Catchment ID	Area (ha) Fraction I		npervious (%)		
Catchinent iD	Area (ha)	Existing	Proposed		
EX-1	2.0	52.3	53.2		

Given there is less than a 1% change in the fraction impervious between the existing and proposed scenarios for the catchment discharging to Hay Street, the peak flows are not expected to significantly increase with the installation of the new building. Therefore, no stormwater detention systems are proposed as part of the new performing arts centre project.

Stormwater Quality

As determined in the stormwater quantity review, the performing arts centre is to be situated within an existing catchment that discharges to Hay Street and this discharge location will remain the same in the proposed scenario. The proposal does not significantly alter the impervious area from the existing arrangement for the catchment that discharges to Hay Street. A change in impervious area of less than 1% is proposed as part of the project which is achieved through the demolition of an existing concrete car park on the site to make way for the new building. Therefore, it is proposed that no specific stormwater quality treatment devices are required with the re-development based on the minimal change to the impervious area on the site and considering the triggers of the State Planning Policy.

Stormwater Management

The overall stormwater drainage strategy for the new performing arts centre will ensure runoff is controlled and conveyed to the Hay Street road reserve as per the existing legal point of discharge.

It is expected that roofwater will be captured through a new roofwater piped drainage system and new overland flow paths created around the building to direct runoff to the discharge point.

Overland flow paths and underground pipe systems are in place on site to direct runoff to Hay Street for the given catchment. The suitability and capacity of these systems will be checked during the further detailed design phases of the project to determine if any upgrades are required to these systems to cater for the new works.

Project Number 23001
Date 10 January 2023

Janes and Stewart
Structural+Civil
CONSULTANTS

We trust that this provides an overview of the sewer reticulation proposal and intended stormwater drainage strategy for the new performing arts centre at The Cathedral College, Rockhampton. Should you have any queries in relation to this letter, please feel free to contact our office.

Yours sincerely

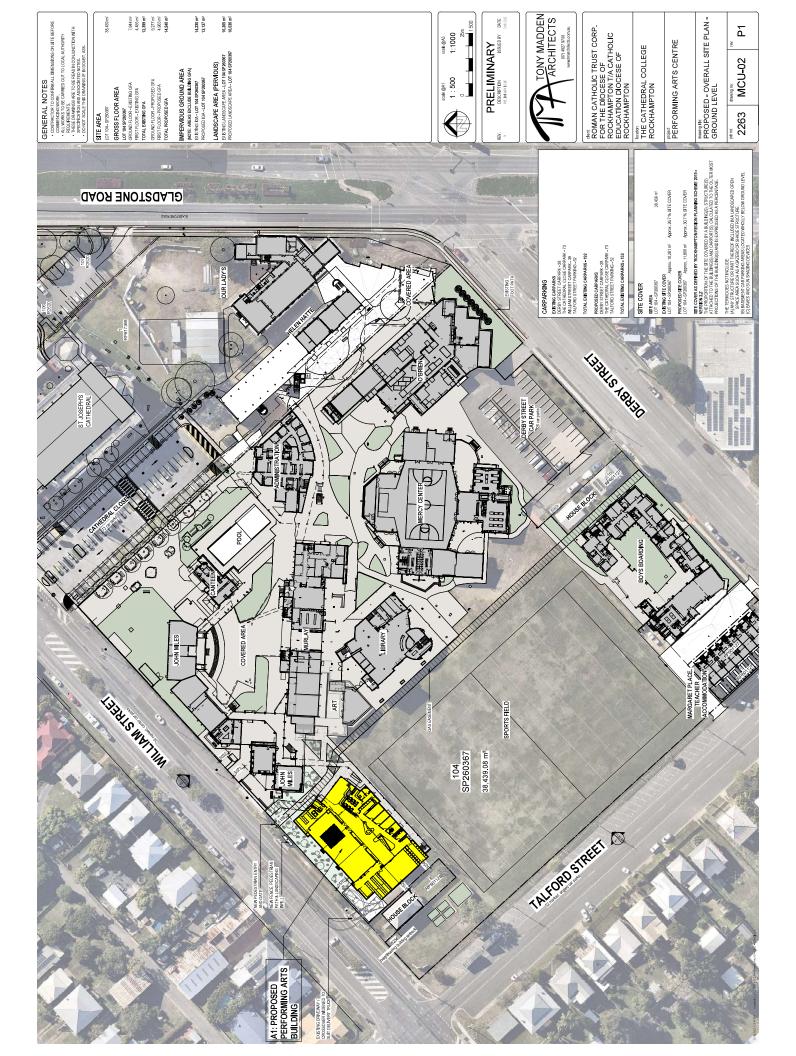
Matthew Dennis

Senior Civil Engineer (RPEQ 24862)

for and on behalf of Janes and Stewart Structures Pty Ltd

ATTACHMENTS

1. Proposed – Overall Site Plan – Ground Level MCU-02 (prepared by Tony Madden Architects)



Project number 23001
Date 27 February 2023



Janes and Stewart Structures Pty Ltd
ABN: 30 620 233 025
120 William Street, PO Box 1072
Rockhampton 4700
07 4922 1948

janes.and.stewart@jsstructures.com.au

Letter – 23001LETTM02 Development Planning + Approvals PO Box 4499 Mackay, QLD 4740

Attention: Justin Peel justinpeel@bigpond.com

Dear Justin,

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS

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Development Permit No.: D/6-2023

Dated: 28 April 2023

Technical Letter – Flood Hazard Overlay Code Assessment Performing Arts Building, The Cathedral College 189 William Street, Rockhampton

Janes and Stewart Structures Pty Ltd refers to the information request response received from Rockhampton Regional Council dated 9 February 2023 relating to the development application for a new performing arts building at The Cathedral College, Rockhampton.

Item 1 of the information request from Council states the following:

Council's latest flood modelling shows the proposed building area as being subject to minor inundation during a local storm event. Please provide an assessment against the Flood Hazard Overlay Code in the Rockhampton Region Planning Scheme. The assessment should address any loss of flood storage as a result of the proposed building and associated earthworks, as well as any adverse off-site impacts related to the displacement of the flood waters.

The intent of this letter is to provide further information to address the query from Council noted above on both riverine flooding and localised stormwater inundation on the site.

Riverine Flooding

Based on Rockhampton Regional Council flood hazard overlay mapping for riverine Fitzroy River Flooding, the Cathedral College site is only impacted to a low level, with a small section of the site subjected to the flood hazard overlay on the Derby Street side of the site. The proposed performing arts building is intended to be located along the William Street frontage of the site and will therefore be located well outside of the flood hazard overlay extent mapped by Council for the defined flood event (1% AEP), for a riverine Fitzroy River flood. The development will not impact on any flood storage capacity or alter any flood water flow paths within the Council defined flood hazard overlay. An extract of Council's flood hazard overlay mapping from the current version of the RRC planning scheme is provided below for reference:



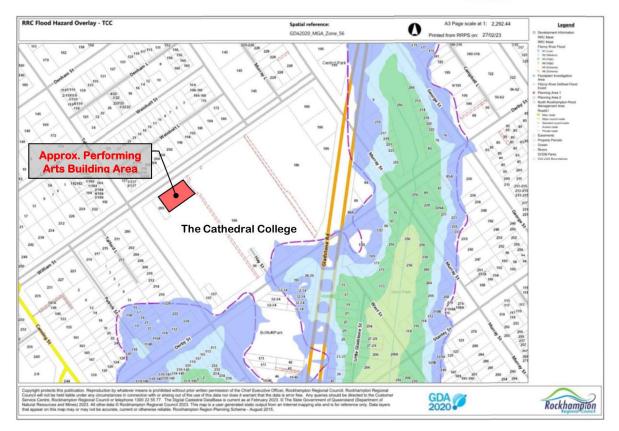


Figure 1 Extract of Flood Hazard Overlay from Riverine Fitzroy River Flooding (Source: RRC Planning Scheme)

Local Catchment Flooding

The flood report provided by Council as part of the information request letter identifies that some water surface ponding occurs on The Cathedral College site in a 1% AEP local catchment event. There is currently existing stormwater infrastructure on the site within the area of surface ponding where runoff is captured and conveyed through turfed drainage swales and combined with field inlets connected to an underground pipe system. The surface water extent shown on the Council modelling suggests that water temporarily sits on the surface above the field inlets in a 1% AEP before being discharged via the pipe and swale system.

As part of the detailed design for the performing arts building, the stormwater drainage for the new building and the area in the vicinity of the new building works will be reviewed to ensure no worsening to the stormwater situation on the site. Any localised upgrades to improve and manage drainage on the site will be considered, including analysis of stormwater overland flow paths and internal stormwater pit and pipe systems. The performing arts centre is located on the fringe of the local catchment flood inundation extent provided by Council and therefore we expect to have negligible impact to the local catchment flood situation to neighbouring properties and road reserves. The building floor level will be assigned considering the surrounding stormwater situation to ensure appropriate freeboard levels are obtained in line with current standard and guidelines.

Project Number 23001

Date 27 February 2023



We trust that this provides an assessment against the RRC flood hazard overlay code, and addresses Council's query stated in item 1 of the development application information request for the new performing arts centre at The Cathedral College, Rockhampton. Should you have any queries in relation to this letter, please feel free to contact our office.

Yours sincerely

Matthew Dennis

Senior Civil Engineer (RPEQ 24862) for and on behalf of Janes and Stewart Structures Pty Ltd

ATTACHMENTS

1. RRC Flood Report

Flood Report for 186 West Street Allenstown QLD 4700

Ratepayer Address: PO BOX 8207 ALLENSTOWN QLD Owners: Roman Catholic Trust Corporation

SP260367/104 Parcel ID: Land use:







Riverine Catchment: Fitzroy River Flood Study

Creek Catchment: South Rockhampton Local Catchment Study 2018

Mitigation Area: N/A

Elevation / WSL: mAHD Velocity: m/sec Horizontal Datum: MGA 56, GDA 2020

Comments

N/A

		Rive	<u>rine</u>		
PMF WSL Min: PMF WSL Max: PMF Velocity Min: PMF Velocity Max: AEP 0.05% WSL Mi	in:	11.90 0.04 0.33	AEP 2% WSL Min AEP 2% WSL Max AEP 2% Velocity AEP 2% Velocity AEP 5% WSL Min	Min: Max:	N/A N/A N/A N/A
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AEP 0.2% WSL Mii AEP 0.2% WSL Ma AEP 0.2% Velocity AEP 0.2% Velocity	ix: Min:	8.94 0.00	AEP 10% WSL Min AEP 10% WSL Ma AEP 10% Velocity AEP 10% Velocity	x: Min:	N/A N/A N/A N/A
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AEP 1% WSL Min: AEP 1% WSL Max: AEP 1% Velocity M AEP 1% Velocity M	: ⁄lin:	8.19 0.00	AEP 39% WSL Mi AEP 39% WSL Ma AEP 39% Velocity AEP 39% Velocity	ax: / Min:	N/A N/A N/A N/A

Property Elevation

Ground Elevation (Min): 7.48 Ground Elevation (Max): 10.29

Creek \ Local Catchment

PMF WSL Min:	8.99	AEP 5% WSL Min:	7.89
PMF WSL Max:	9.81	AEP 5% WSL Max:	9.56
PMF Velocity Min:	0.03	AEP 5% Velocity Min:	0.00
PMF Velocity Max:	1.74	AEP 5% Velocity Max:	1.61
AEP 0.05% WSL Min:	8.21	AEP 10% WSL Min:	7.86
AEP 0.05% WSL Max:	9.76	AEP 10% WSL Max:	9.55
AEP 0.05% Velocity Min:	0.00	AEP 10% Velocity Min:	0.00
AEP 0.05% Velocity Max:	1.60	AEP 10% Velocity Max:	1.66
AEP 0.2% WSL Min:	8.10	AEP 18% WSL Min:	7.81
AEP 0.2% WSL Max:	9.75	AEP 18% WSL Max:	9.38
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AEP 0.2% Velocity Max:	1.61	AEP 18% Velocity Max:	1.61
AEP 0.5% WSL Min:	8.04	AEP 39% WSL Min:	7.88
AEP 0.5% WSL Max:	9.73	AEP 39% WSL Max:	9.23
AEP 0.5% Velocity Min:	0.01	AEP 39% Velocity Min:	0.00
AEP 0.5% Velocity Max:	1.62	AEP 39% Velocity Max:	0.68
AEP 1% WSL Min:	8.02	AEP 63% WSL Min:	8.00
AEP 1% WSL Max:	9.73	AEP 63% WSL Max:	9.01
AEP 1% Velocity Min:	0.00	AEP 63% Velocity Min:	0.00
AEP 1% Velocity Max:	1.63	AEP 63% Velocity Max:	0.31

7.97

9.72

0.00

1.44

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AEP 2% WSL Min:

AEP 2% WSL Max:

AEP 2% Velocity Min:

AEP 2% Velocity Max: