

project name

Proposed Facility Upgrade

project address

65-69 Alma Street Rockhampton City QLD 4700

project owner

Alma St Veterinary Hospital

drawing schedule

Architect :
BEAT Architects

Project No. BT230987

drw.	title	rev.
A00.00	Coversheet	P3
A01.01	Existing Site Plan	P3
A01.02	Proposed Site Plan	P3
A02.01	Extg/Demo. Ground Floor Plan	P3
A02.02	Proposed Ground Floor Plan	P3
A02.03	Proposed First Floor Plan	P3
A03.01	Proposed Elevations	P3
A03.02	3D Views	P3

ROCKHAMPTON REGIONAL COUNCIL

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Development Permit No.: D/194-2024

Dated: 23 April 2025



Revisions			
rev	date	description	by
P1	13/06/24	Preliminary Issue	GC/ RD
P2	19/11/24	MCU Application	TG
P3	04/03/25	MCU RFI Response	RD

Sketch Design

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Project Details

client

Alma St Veterinary Hospital

project

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65-69 Alma Street
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4700

title

Coversheet



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Rockhampton
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date	4/03/2025	job no.	BT230987		
scale		dwg no.	SD.A00.00		
orig size	A3	sheet	1 of 16	rev.	P3

ABBREVIATIONS

COMMS Communication Pit.
e. Existing.
EVC Electric Vehicle Charger.
MH Manhole.
n. New.
PP Power Pole.
SW Storm Water.
WM Water meter.

Property Details

Lot 87 on SP139763
Existing Site: 1,012m²
Existing Building Area: 471.5m²
Existing Site Coverage: 46.5%

Existing Carparking Area: 444m²
Existing Landscaping Area: 96.5m²

Property Details

Lot 2 on RP602473
Existing Site: 510m²
Existing Building Footprint: 215m²
Existing Site Coverage: 42.1%

Existing Landscaping: 295m²

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Existing Site Plan



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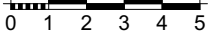
design GC/RD drawn TG chkd GC/RD
date 4/03/2025 job no. BT230987
scale dwg no. SD.A01.01
orig size A3 sheet 3 of 16 rev. P3



Existing Site Plan

1:200

5m @ 1:200



ABBREVIATIONS

COMMS Communication Pit.
e. Existing.
EVC Electric Vehicle Charger.
MH Manhole.
n. New.
PP Power Pole.
SW Storm Water.
WM Water meter.

Property Details

Lot 87 on SP139763
Existing Site: 1,522m²
Existing Building Area: 471.5m²
Proposed Building Area: 343.7m²
TOTAL BUILDING AREA: 792.2m²
Existing Site Coverage: 53.5%

Proposed Carparking Area: 529.8m²
Proposed Landscaping Area: 200m²

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Proposed Site Plan

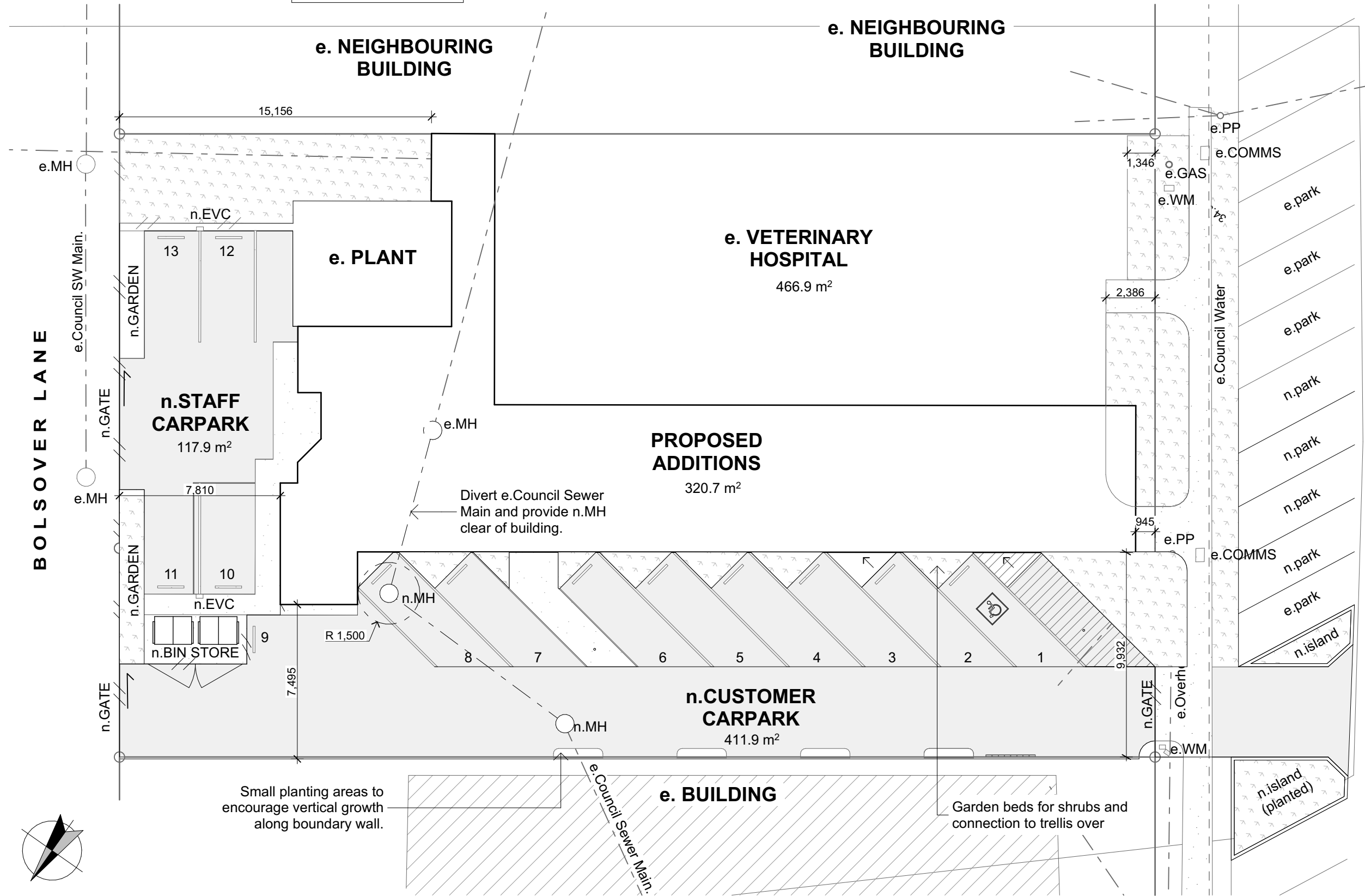


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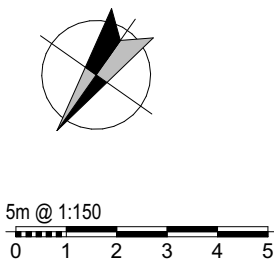
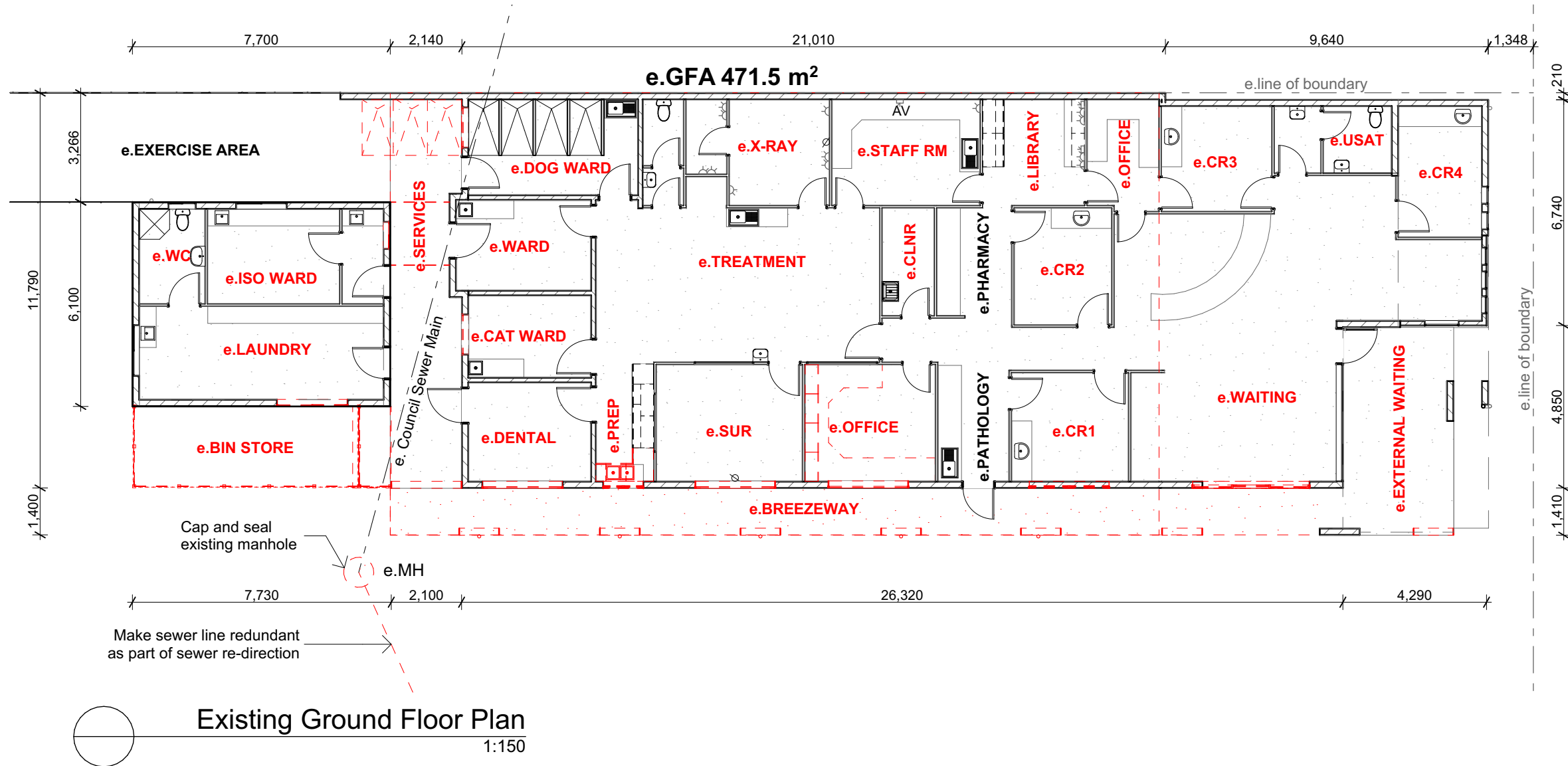
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5m @ 1:200
0 1 2 3 4 5

Proposed Site Plan
1:200



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**Extg/Demo. Ground
Floor Plan**



27 East Street
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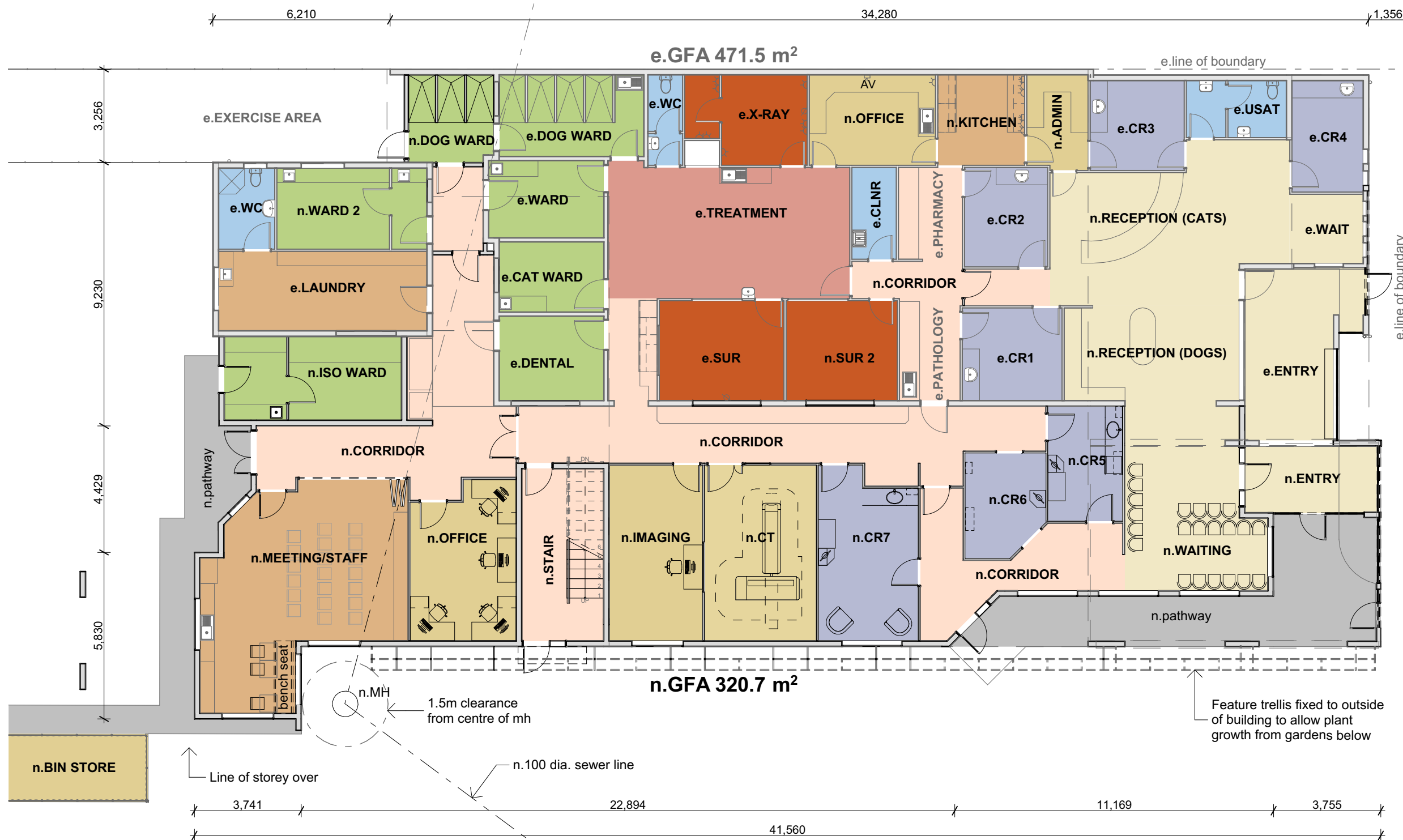
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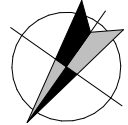
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Proposed Ground Floor Plan
1:150



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Proposed Ground Floor Plan



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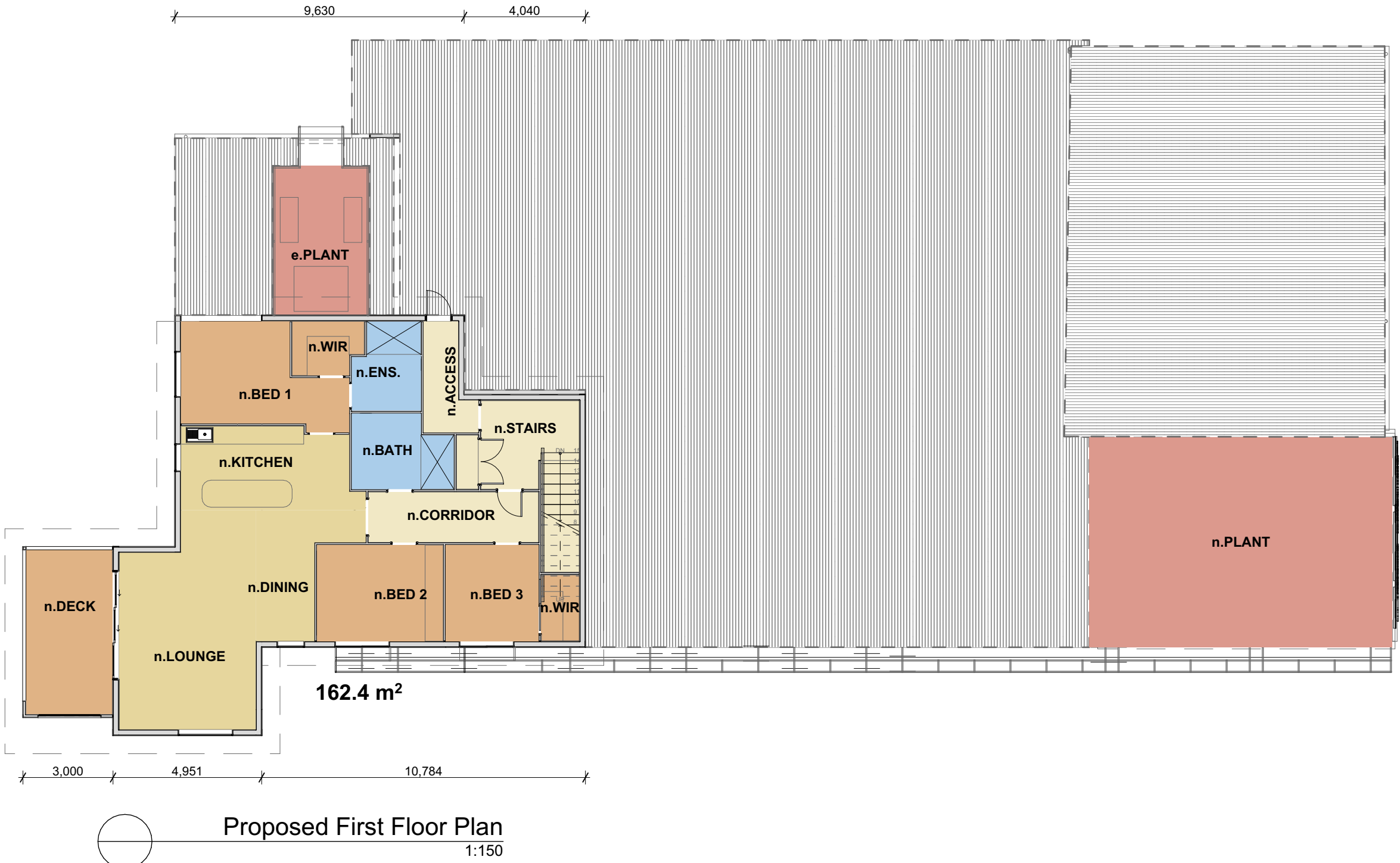
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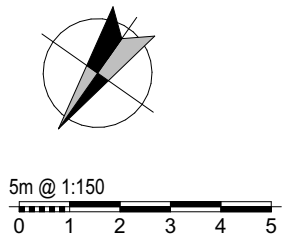


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Proposed First Floor Plan
1:150



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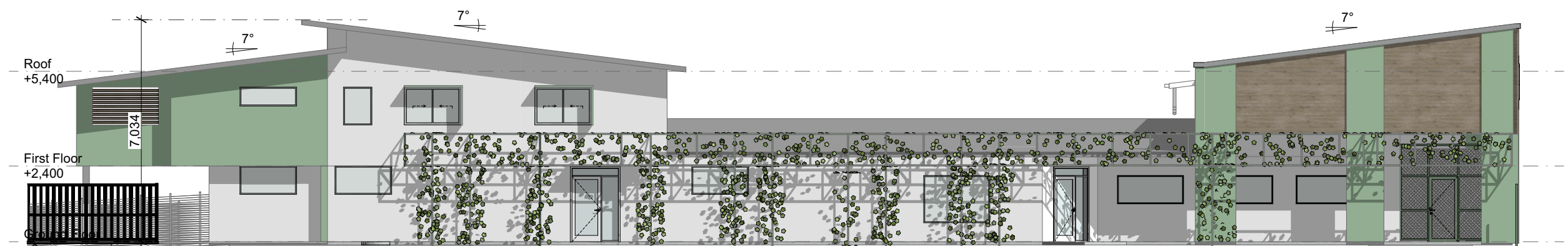
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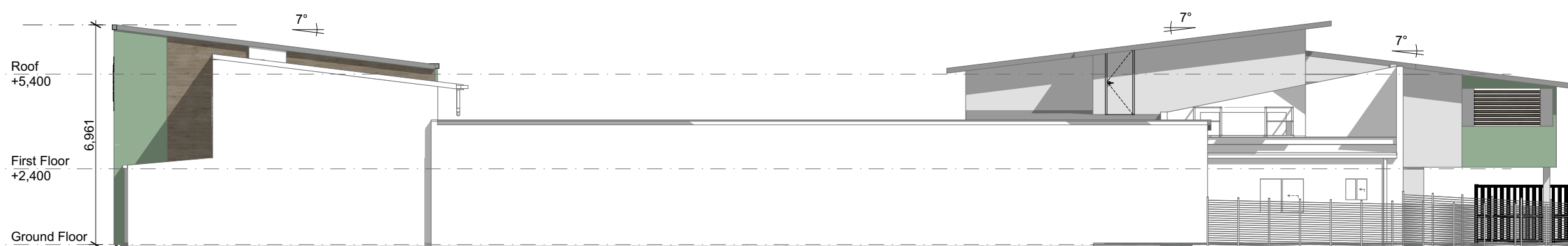
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scale	1:150	dwg no.	SD.A02.03		
orig size	A3	sheet	8 of 16	rev.	P3



E-01 North Elevation
1:150



E-02 West Elevation
1:150



E-03 South Elevation
1:150



E-04 East Elevation
1:150

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5m @ 1:150
0 1 2 3 4 5

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Proposed Elevations



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Street View

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Rear View



Side View

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3D Views



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date 4/03/2025 job no. BT230987
scale dwg no. SD.A03.02
orig size A3 sheet 16 of 16 rev. P3

Project number 24024
Date 28 February 2025



Janes and Stewart Structures Pty Ltd
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120 William Street, PO Box 1072
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07 4922 1948
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Letter – 24024LETTM01
Rockhampton Regional Council
PO Box 1860
Rockhampton, QLD 4700

Attention: Development Advice
DevelopmentAdvice@rrc.qld.gov.au

Dear Sir / Madam,

ROCKHAMPTON REGIONAL COUNCIL

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**Technical Memorandum – Stormwater Management
Alma Street Veterinary Hospital Upgrade
65-69 Alma Street, Rockhampton City**

Janes and Stewart Structures Pty Ltd has prepared this civil engineering technical letter in support of the development application for the proposed upgrade of the Alma Street Veterinary Hospital, located at 65-69 Alma Street, Rockhampton City. The works include a new extension of the existing building to the north-west and a new off street car parking facility. The real property description of this freehold parcel of land is Lot 87 on SP348699.

The building extension will provide more floor area for the existing veterinarian to operate and will also provide caretaker accommodation for on-call staff or visiting staff.

A Development Application for this site has been submitted to Rockhampton Regional Council (Ref: D194-2024). A request for further information from Council has been received, dated 13 January 2025. Item 1 requests a stormwater management plan ensuring the development does not adversely impact adjacent properties or infrastructure compared to the pre-development scenario, and is to also include a conceptual design of the proposed stormwater drainage strategy.

The intent of this letter is to address the stormwater management item in the information request. This letter provides a high-level overview of the stormwater quantity impacts associated with the building extension and new car parking facility.

Stormwater Drainage

Pre-Development Scenario

The site is situated within the Rockhampton CBD. An aerial image showing the locality of this site is below:



Figure 1- Locality Image (Image Source: QLD Globe)

The existing veterinary clinic (vet) is located over one allotment and currently consists of an existing building and an off-street car parking facility. The extension to the proposed vet is intended to utilise the adjoining allotment to the north-west, which currently consists of a dwelling (studio). The studio is intended to be demolished to allow for the vet extension. The following describes the current stormwater characteristics of the site:

- The existing vet car park has a central ridge and surface drainage is split either direction, where runoff from the eastern side of the car park discharges to Bolsover Lane and runoff on the western side discharges to Alma Street.
- The runoff discharging to Alma Street is conveyed by an existing grated drain across the car park aisle at the property boundary, which ultimately discharges via outlet pipes to the Alma Street Kerb and Channel.
- There is an existing, council-controlled 450mm diameter reinforced concrete pipe (RCP) in the Bolsover Lane Road Reserve.
- The roofwater drainage of the Vet building and the roofwater from the western portion of the dwelling both discharge to the Alma Street Kerb and Channel.

Whilst there is limited information available relating to the roofwater drainage from the eastern side of the existing dwelling (studio), it is expected that the existing roofwater discharges to Bolsover Lane.

Stormwater in the Alma Street Road Reserve drains towards two kerb inlets located at the intersection of Alma Street and Archer Street, while stormwater in the Bolsover Lane Road Reserve travels towards the kerb inlet at the intersection of Bolsover Lane and Archer Street. Both the kerb inlets and the underground stormwater infrastructure within Bolsover Lane connect to the Archer Street stormwater system which ultimately discharges to the Fitzroy River.

The catchments in the pre-development scenario used to analyse this site are shown on the drawing SK01 attached to this letter. The catchment details and peak flows for both the minor and major design storm events are shown in the table below:

Table 1 - Existing Catchment Details

Catchment ID	EX-1	EX-2	Unit
Discharge Location	Alma Street	Bolsover Lane	
Catchment Area	0.0768	0.0755	ha
Fraction Impervious	90	63	%
Critical Time of Concentration [1]	5	5	minutes
Coefficient of Discharge (C10)	0.88	0.808	-
Minor Design Storm 10% AEP	0.038	0.034	m ³ /s
Major Design Storm 1% AEP	0.064	0.061	m ³ /s

[1] Time of concentration has been adopted to be 5 minutes in accordance with QUDM recommendations for this particular site.

Post-Development Scenario

The proposed drainage strategy is to generally follow a similar strategy to the pre-development case and is listed below:

- The car park and driveway area will fall towards both Alma Street and Bolsover Lane.
- An underground pit and pipe system is proposed in the off-street car park area which is intended to convey runoff from the minor design storm event from the car park area and the adjacent respective building roofwater from the vet hospital.
- The pit and pipe system is proposed to be split with one network discharging to the Alma Street kerb and channel and the other connecting into the existing 450mm diameter RCP in Bolsover Lane.

The Stormwater Management Plan (SK03), is attached to this letter which shows the proposed site stormwater strategy. A preliminary pit and pipe layout is shown, with sizing to be confirmed as part of future design stages of the project.

The proposed catchments are similar to the existing catchments with one for each discharge location. Considering the proposed pit and pipe system will connect to the existing 450mm RCP in Bolsover Lane, a third catchment (PR-C) has been analysed to assess peak flows discharged to the existing pipe. The proposed catchments are shown on drawing SK02 attached to this letter. The catchment details and peak flows for both the minor and major design storm events are shown in the below table:

Table 2 - Proposed Catchment Tables

Catchment ID	PR-A	PR-B	PR-C	Unit
Discharge Location	Alma Street	Bolsover Lane	450mm RCP [1]	
Catchment Area	0.0806	0.0085	0.0635	ha
Fraction Impervious	94	20	100	%
Critical Time of Concentration [2]	5	5	5	minutes
Coefficient of Discharge (C10)	0.888	0.71	0.9	-
Minor Design Storm 10% AEP	0.040	0.003	0.032	m ³ /s
Major Design Storm 1% AEP	0.067	0.006	0.053	m ³ /s

[1] Gap flow between the 10% and 1% AEP peak flow travel overland to Bolsover Lane.

[2] Time of concentration has been adopted to be 5 minutes in accordance with QUDM recommendations for this particular site.

Pre-Development and Post-Development Comparison

The pre-development and post-development scenarios have been compared to assess if there are any adverse impacts to adjacent properties or infrastructure and if any further stormwater mitigation strategies are required. A comparison between the peak flow at each of the discharge locations is shown below:

Table 3 - Peak Flow Comparison

Discharge Location	Pre-Development		Post-Development		Difference	
	10% AEP Peak Flow (m ³ /s)	1% AEP Peak Flow (m ³ /s)	10% AEP Peak Flow (m ³ /s)	1% AEP Peak Flow (m ³ /s)	10% AEP Peak Flow (m ³ /s)	1% AEP Peak Flow (m ³ /s)
Alma St	0.038	0.064	0.040	0.067	0.002	0.003
Bolsover Lane	0.034	0.061	0.003	0.027 [1]	-0.031	-0.034
450mm RCP	0.000	0.000	0.032	0.032	0.032	0.032
Total	0.072	0.125	0.075	0.126	0.003	0.001

[1] Peak flow to Bolsover Lane is the entire 1% AEP peak flow from Catchment PR-3.2 and the gap flow between the 10% AEP and 1% AEP peak flow from Catchment PR-3.3.

As can be seen above, the peak surface flows to Bolsover Lane are proposed to be reduced as a result of utilising available pipe capacity in Bolsover Lane. Bolsover Lane is not resilient to the effects of stormwater as there are no kerbs within the road reserve and there are varying sag points which result in ponding. The reduction in surface water discharging to Bolsover Lane will ensure no worsening to the current situation of the laneway surface and grading.

There is a small increase in peak flow to Alma Street (0.003m³/s) in a 1% AEP event, however this is considered to be negligible in comparison to the magnitude of the pre development flows discharging from the site and the magnitude of the runoff from the contributing catchments of Alma Street.

The increase in peak flow to the 450mm RCP is not expected have a negative impact on the existing infrastructure. The access chamber mid-way along the site frontage in Bolsover Lane is at the top of the line with no known existing stormwater connections. Furthermore, the runoff is conveyed to the

same location and pipe network (kerb inlets at Archer Street) as if it were to remain being conveyed overland in the Bolsover Lane Road Reserve. The on-grade capacity of this pipe is $0.239\text{m}^3/\text{s}$ with no head being considered. Therefore, the existing 450mm RCP pipe has capacity to convey the flow from the contributing site catchments.

With the overall increase in 1% AEP peak flow from the development of the site being $0.001\text{m}^3/\text{s}$, the increase is considered extremely minor and is not expected to have any negative impacts on adjacent properties or infrastructure. As such, stormwater mitigation devices such as detention tanks are not required for this development.

Stormwater Quality

The State Planning Policy-July 2017 (SPP) states any material change of use that involves a premises $2,500\text{m}^2$ or greater, and results in an impervious area greater than 25% of the net developable area, must achieve the design objectives set out within the SPP. The site area is under the threshold with a land area of only approximately $1,523\text{m}^2$. Therefore, stormwater quality modelling is not required for this project.

We trust that this technical letter provides an overview of the stormwater management strategy for the proposed upgrade of the Alma Street Veterinary Hospital, located at 65-69 Alma Street, Rockhampton City.

If you should have any queries relating to this technical letter, please feel free to contact our office and speak with the undersigned.

Yours sincerely



Matthew Dennis

Senior Civil Engineer (RPEQ 24862)

for and on behalf of Janes and Stewart Structures Pty Ltd



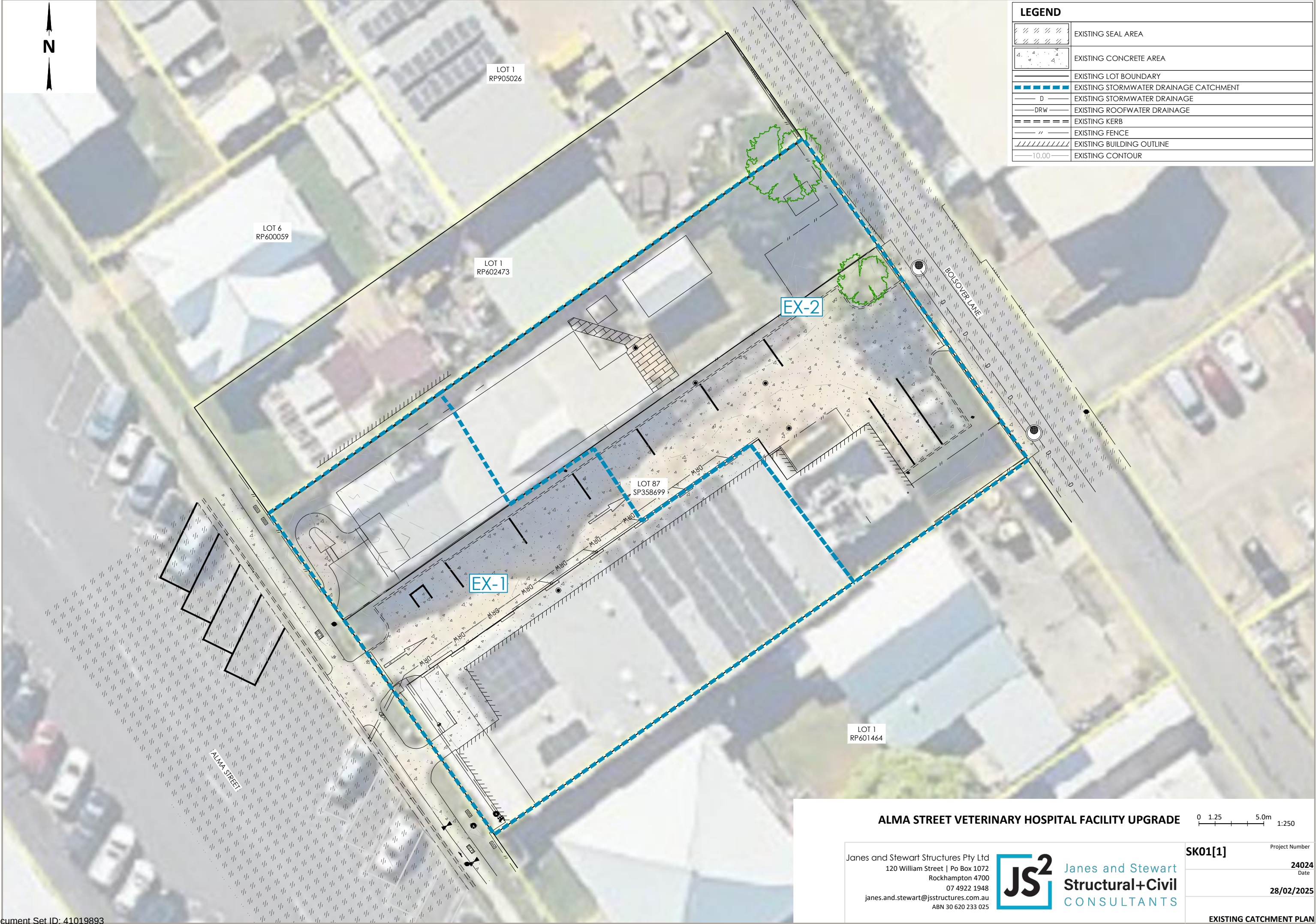
Jayden Campbell

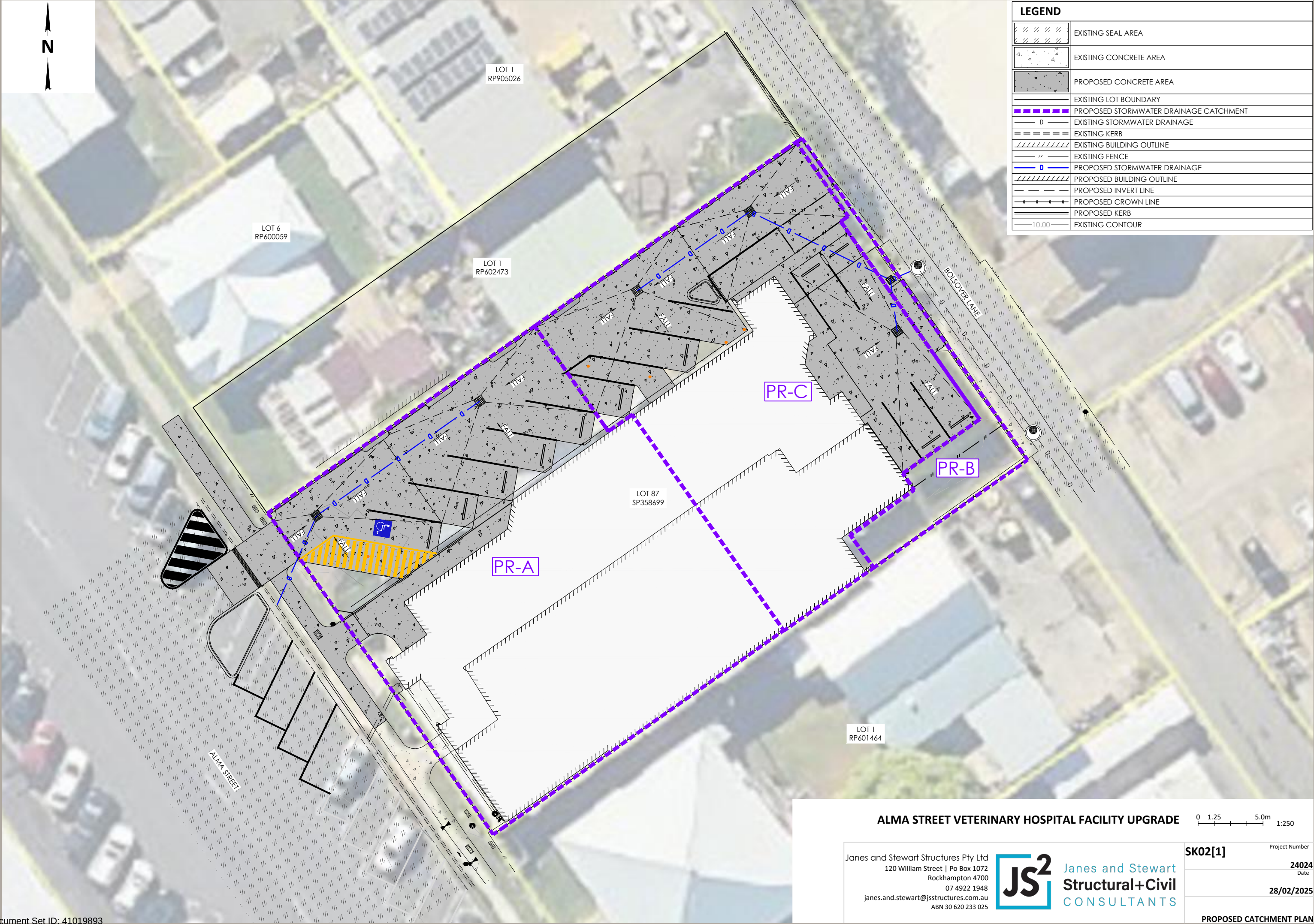
Civil Engineer

for and on behalf of Janes and Stewart Structures Pty Ltd

Attachments:

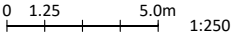
1. Existing Catchment Plan
2. Proposed Catchment Plan
3. Proposed Stormwater Management Plan





LEGEND	
	EXISTING SEAL AREA
	EXISTING CONCRETE AREA
	PROPOSED CONCRETE AREA
	EXISTING LOT BOUNDARY
	PROPOSED STORMWATER DRAINAGE CATCHMENT
	EXISTING STORMWATER DRAINAGE
	EXISTING KERB
	EXISTING BUILDING OUTLINE
	EXISTING FENCE
	PROPOSED STORMWATER DRAINAGE
	PROPOSED BUILDING OUTLINE
	PROPOSED INVERT LINE
	PROPOSED CROWN LINE
	PROPOSED KERB
	10.00 EXISTING CONTOUR

ALMA STREET VETERINARY HOSPITAL FACILITY UPGRADE

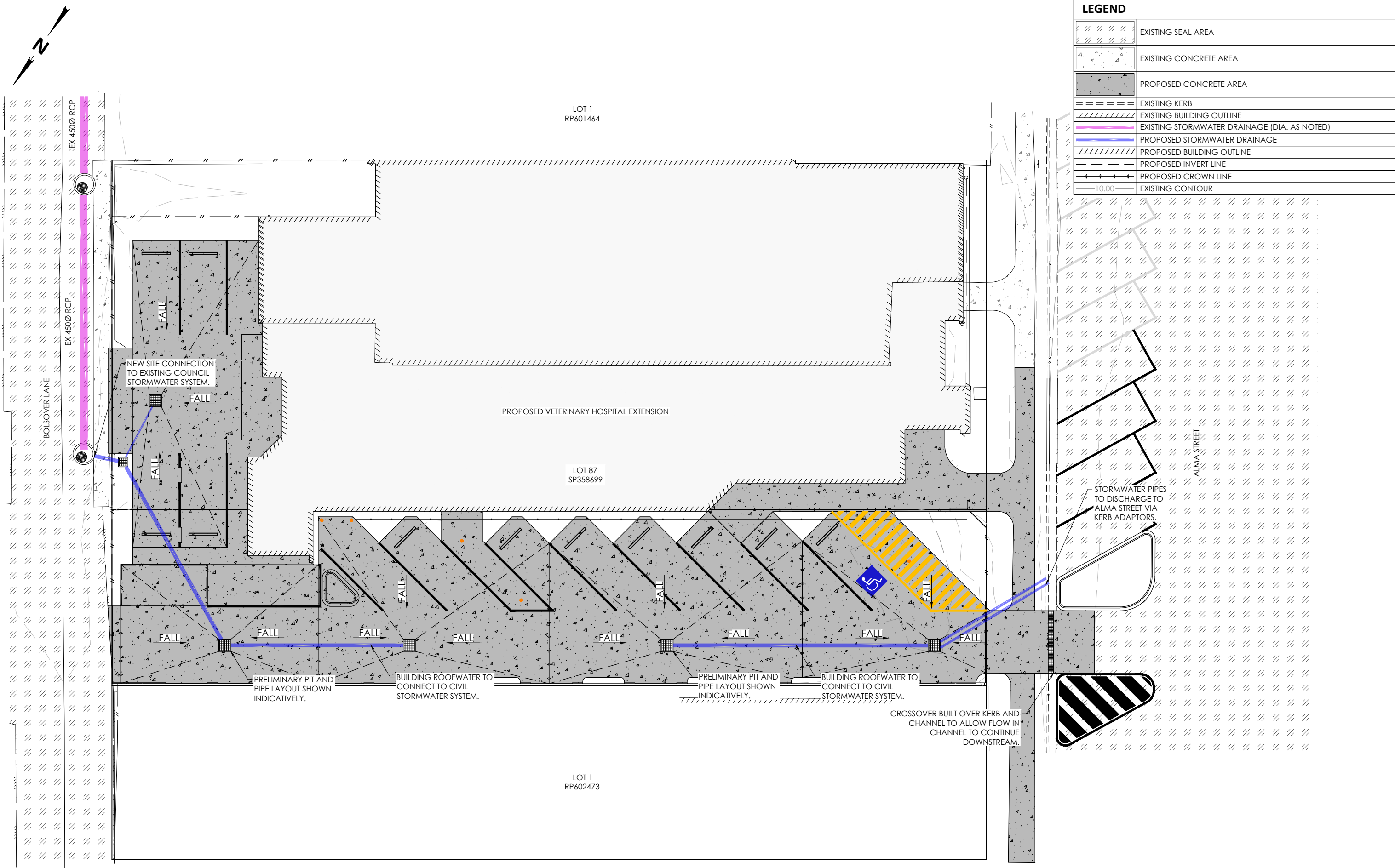


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SK02[1]	Project Number
24024	Date
28/02/2025	

PROPOSED CATCHMENT PLAN



LEGEND	
	EXISTING SEAL AREA
	EXISTING CONCRETE AREA
	PROPOSED CONCRETE AREA
	EXISTING KERB
	EXISTING BUILDING OUTLINE
	EXISTING STORMWATER DRAINAGE (DIA. AS NOTED)
	PROPOSED STORMWATER DRAINAGE
	PROPOSED BUILDING OUTLINE
	PROPOSED INVERT LINE
	PROPOSED CROWN LINE
	EXISTING CONTOUR

ALMA STREET VETERINARY HOSPITAL FACILITY UPGRADE 0 1.0 4.0m 1:200

PRELIMINARY

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JS² Janes and Stewart
Structural+Civil
CONSULTANTS

SK03[1]	Project Number
24024	Date
28/02/2025	
SITE STORMWATER MANAGEMENT PLAN	