Received 27.05.2021 (SR)

CONCISE CERTIFICATION
www.concisecert.com.au

CONSTRUCTION CERTIFICATE APPLICATION FORM

Under the Environmental Planning and Assessment Act 1979/ Environmental Planning and Assessment Regulation 2000

SUBJECT LAND	**Address:** 30 Loftus Road, Yennora NSW 2161		
	Lot: Lot 8	**Section:**	**DP/SP:** DP 1233715
APPLICANT/S CONSENT	**Name/Company Name:** West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust c/- 151 Property Pty Ltd & **Plan Project Management Pty Ltd**		
	Address: Level 6, 151 Castlereagh Street, Sydney NSW 2000		
	Contact Number: 0416 858 044		
	Email Adress: lydia@planpm.com.au & (additional) Toni.Ryan@151property.com.au		

APPLICANTS DECLARATION

I apply for approval to carry out the development or works described in this application. I declare that all the information in the application and checklist is, to the best of my knowledge, true and correct. I also understand that if the information is incomplete the application may be delayed or rejected or more information may be requested. I acknowledge that if the information provided is misleading any approval granted 'may be void'.

Signature:	**Date:** 27/05/2021

Note: *The applicant must be the property owner or a person authorised by the owner to lodge the application.*

OWNER/S CONSENT AND AUTHORITY TO ENTER AND INSPECT LAND

As the registered owner (s) of the property, I/We give consent to the above Applicant to make an application for a Construction Certificate for the above mentioned property.

As the registered owner(s) of the above property, I/we consent to the Certifying Authority, or an Accredited Certifier, to enter the subject property at any reasonable time for the purpose of carrying out an inspection in connection with the assessment of this application. I/we will take all necessary steps to make access available to the property to enable the inspection to be carried out.

Name(s) / Company Name:	West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust c/- 151 Property Pty Ltd & **Plan Project management Pty Ltd**
Address:	Level 6, 151 Castlereagh Street, Sydney NSW 2000
Contact Number:	0416 858 044
Email Address:	lydia@planpm.com.au & (additional) Toni.Ryan@151property.com.au
Owner/s Name:	West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust
Signature/s:	**Date:** 27/05/2021

Note: *The application form must be signed by all owners of the subject property. If the allotment contains two owners, each owner must sign the form. If the allotment is owned by a company, the applicaton form must be signed by two directors or one director and one company secretary.*

Note*: For works that affect common property, the Owner's Corporation's consent is required. The Applicant must ensure that the Owner's Corporation has given a valid consent. By the stamp being affixed to this Application Form, the Owner's Corporation confirm they give unconditional approval for the development and the requirements of the Stata Management Act 2015 have been satisfied.*

STRATA STAMP OR SEAL TO BE AFFIXED HERE (IF APPLICABLE)

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Accredited Certifiers / Building Regulation Consultants
Office 1300 057 046 **Email** admin@concisecert.com.au
Address PO Box 603, Engadine NSW 2233 **ABN** 70 612 151 014

DESCRIPTION OF WORK	*Please provide a brief description of the development (this should be the description of works as listed on the DA consent).* Fire Services Upgrade including new building occupant wanring system, new fire sprinkler system and new fire hydrant system	
BUILDING CODE OF AUSTRALIA CLASSIFICATION	Class: 5, 7b and 8	*Note: If the subject development contains more than one classification all BCA classes must be listed.*
ESTIMATED COST OF WORK (INCLUSIVE OF GST)	*The contract price, or if there is no contract a genuine and accurate estimate, for all labour and material costs associated with all demolition and construction required for the development, including the cost of construction of any building and the preparation of a building for the purpose for which it is to be used (such as the costs of installing plant, fittings, fixtures and equipment). GST is also to be included.* ***Note:*** *The Cost of Works prescribed above must be consistent with the amount paid to the Long Service Levy Corporation and/or Home Building Compensation Fund Insurance.*	
	$ 1,025,000.00	
DEVELOPMENT CONSENT	Development Consent No:	DA2020/0488
	Date of Development Consent:	29/09/2020
	Name of Consent Authority:	Cumberland Council

ACCOMPANYING DOCUMENTS		
ITEM	*DOCUMENT*	*RECEIVED*
1.	*Construction Certificate Application Form*	☑
2.	*PCA Application Form*	☑
3.	*DA Consent and PLans*	☑
4.	*Fire Services Plans*	☑
5.	*Fire services design certification*	☑
6.	*Architectural Plans*	☑
7.	*Structural design statement*	☑
8.	*LSL and Bonds Reciepts*	☑
9.	*Sedimenation control plans*	☑
10.	*Other supporting documents*	☑

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INFORMATION TO BE COLLECTED FOR THE AUSTRALIAN BUREAU OF STATISTICS (ABS)

ALL NEW BUILDINGS	Site Area (m^2)	
	Number of Storeys	
	Gross floor area of the existing building (m^2)	
	Gross floor area of new building (m^2)	
	What is the current use of the building?	
	What will be the new buildings use?	
RESIDENTIAL BUILDINGS ONLY	No. of pre-existing dwellings	
	No. of dwellings to be demolished	
	No. of dwellings to be constructed	
	Will the new dwelling(s) be attached to other new buildings?	☐ YES ☐ NO
	Will the new building(s) be attached to existing buildings?	☐ YES ☐ NO
	Does the site contain a dual occupancy?	☐ YES ☐ NO

MATERIALS TO BE USED

Please tick a box which best describes the materials of which the new work will be constructed:

	WALLS	CODE
☐	Brick Veneer	12
☐	Full Brick	11
☐	Single Brick	11
☐	Concrete Block	11
☐	Concrete/Masonry	20
☐	Concrete	20
☐	Steel	60
☐	Fibrous Cement	30
☐	Hardiplank	30
☐	Timber	40
☐	Cladding-aluminum	40
☐	Curtain Glass	50
☐	Other	50
☐	Other	80
☐	Unknown	90

	ROOF	CODE
☐	Aluminum	70
☐	Concrete	20
☐	Concrete Tile	10
☐	Fibrous Cement	30
☐	Fiberglass	80
☐	Masonry Shingle	10
☐	Slate	20
☐	Steel	60
☐	Terracotta Tile	10
☐	Other	80
☐	Unknown	

	FLOOR	CODE
☐	Concrete	20
☐	Timber	40
☐	Other	80
☐	Unknown	90

	FRAME	CODE
☐	Timber	40
☐	Steel	60
☐	Aluminum	70
☐	Other	80
☐	Unknown	90

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LIST OF FIRE SAFETY MEASURES WITHIN THE BUILDING

Note: *Do not complete this section if your application relates to a dwelling house or building ancillary to a dwelling house).*

ITEM	ESSENTIAL FIRE SAFETY MEASURES	EXISTING	PROPOSED
1.	Access panels, doors and hoppers to fire resisting shafts	☐	☐
2.	Automatic fail safe devices	☐	☐
3.	Automatic fire detection and alarm system.	☐	☐
4.	Automatic fire suppression system (sprinkler)	☐	☐
5.	Automatic fire suppression (others-specify)	☐	☐
6.	Emergency lifts	☐	☐
7.	Emergency lighting	☒	☒
8.	Emergency warning and intercommunication system	☐	☐
9.	Exit Signs	☒	☒
10.	Fire Alarm Monitoring (ASE)	☐	☐
11.	Fire Control Centres and Rooms	☐	☐
12.	Fire Dampers	☐	☐
13.	Fire Doors	☐	☐
14.	Fire Hose Reel Systems	☒	☒
15.	Fire Hydrant Systems	☒	☒
16.	Fire Seals (protecting openings in fire resisting components of the building)	☐	☐
17.	Fire Shutters	☐	☐
18.	Fire Windows	☐	☐
19.	Lightweight Construction	☐	☐
20.	Mechanical Air Handling Systems	☐	☐
21.	Perimeter Vehicle Access for Emergency Vehicles	☐	☒
22.	Portable Fire Extinguishers & Fire Blankets	☒	☒
23.	Pressurising Systems	☐	☐
24.	Safety Curtains in Proscenium Openings	☐	☐
25.	Smoke and Heat Vents	☐	☐
26.	Smoke Dampers	☐	☐
27.	Smoke Detectors and Heat Detectors	☐	☐
28.	Smoke Doors	☐	☐
29.	Solid-Core Doors	☐	☐
30.	Stand-By Power Systems	☐	☐
31.	Wall Wetting Sprinkler and Drencher Systems	☐	☐
32.	Warning and Operational Signs	☐	☐
33.	Other (Specify)	☐	☐
34.	Fire Engineering Report	☐	☒

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Pre-Application Submission Form

Certificate Case Number
CFT-38708

Apply for certificate

Select the certificate action you would like to apply for	Construction certificate
Select the type of certificate you wish to apply for	Certificate for the full development
Is the application for modification of a current construction certificate?	No
Which approval type is this certificate in relation to?	Development Application number (DA)
Please enter DA number of the approval which is related to this certificate application (please include the DA prefix)	DA/2020/0488
Please enter CDC number of the approval which is related to this certificate application (please include the CDC prefix)	
Enter State determined number of the approval which is related to this certificate application (please include the SSD/SSI prefix)	
Was the DA applied for via the NSW Planning Portal?	No
Was the CDC applied for via the NSW Planning Portal?	
Please provide portal application number (PAN)	
Please provide portal application number (CDC)	
Has the DA been determined?	Yes
Has the CDC been determined?	
Has the SSI / SSD case been determined?	
Date of determination of the DA Case	29/09/20
Date of determination of the state determined case	
Kindly provide the construction certificate application number issued by the certifier	
Please enter the date the construction certificate was issued	

Site address #	1
Street address	30 Loftus Road, Yennora
Local government area	
Lot / Section Number / Plan	
Primary address?	Yes
Planning controls affecting property	Land Application LEP: NA Land Zoning: NA Height of Building: NA Floor Space Ratio (n:1): NA Minimum Lot Size: NA Heritage: NA Land Reservation Acquisition: NA

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	Foreshore Building Line NA

Applicant details

Title	Miss
First given name	Lydia
Other given name/s	
Family name	Bezina
Contact number	0416858044
Email	lydiabezina@hotmail.com
Address	Shop 2, 18B Letitia St, Oatley NSW 2223
Is the applicant a company?	Yes
Name	PLAN PROJECT MANAGEMENT PTY LTD
ABN	21624589779
ACN	624589779
Trading Name	

Developer details

Name	151 PROPERTY PTY LIMITED
ABN	89 102 249 294
ACN	102 249 294
Trading Name	
Email	toni.ryan@151property.com.au
Address	

Land owner details

Owner/s of the Development Site	A company, business, government entity or other similar body owns the development site
Owner Builder?	
Title	
First given name	
Other given name/s	
Family name	
Contact number	
Email	
Address	
Company name (if applicable)	WEST INFILL SUB TC PTY LTD C/- 151 PROPERTY PTY LTD
ABN/ACN	89 102 249 294
I declare that I have shown this document, including all attached drawings, to the owner(s) of the land, and that I have obtained their consent to submit this application.	
Who will be doing the building work?	Licensed Builder

Builder details or Principal Contractor

Builder Type	A Company , business , government entity or other similar body
Company Name	MAINBRACE CONSTRUCTIONS PTY LIMITED
ABN	45002970658
ACN	002970658
Trading Name	MAINBRACE CONSTRUCTIONS (NSW) PTY LTD
Billing Address	4/170 Pacific Hwy, Greenwich NSW 2065
Email Address	tshaw@mainbrace.com.au

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Long Service Levy

Have you paid the Long Service Levy?	Yes
Are there any security or site conditions which may impact on the person undertaking the inspection? eg: locked gates, dogs, animals etc	No
Provide details	

Payer details

Payer Type	A company, business, government entity or other similar body
Company Name	151 Property Pty Ltd
ABN	89 102 249 294
ACN	102 249 294
Trading Name	151 Property Pty Ltd
Billing Address	151 Castlereagh St, Sydney NSW 2000
Email ID	toni.ryan@151property.com.au
Title	
First given name	
Other given name/s	
Family name	
Contact number	
Email	
Billing address	

Proposed development details

Type of development	Alterations and additions to industrial development
Class of development	Class 5 Class 7b Class 8
Please provide a detailed description of the development	Fire Services Upgrade including new building occupant warning system, new fire sprinkler system and new fire hydrant system.
Please provide the estimated cost of the development? Note: please state the full contract price inclusive of GST	$1,025,000.00

Information to be collected for the Australian Bureau of Statistics

Land area (sqm)	22000
What is the current gross floor area (sqm) of the development	8196
When complete, what will the gross floor area of the new development be?	8196
What are the current uses of all parts of the building(s)/land? (if vacant please state)	Industrial
What is the proposed use of all parts of the building(s)/land?	Industrial
Is the proposed building is attached, detached (i.e. free standing) or semi-detached?	
Number of one bedroom dwellings in the proposed developmentRequired	
Number of two bedroom dwellings in the proposed development	
Number of three bedroom dwellings in the proposed development	
Number of four bedroom dwellings in the	

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proposed development	
Ultimate height of the development (m)	18,820
Number of pre-existing dwellings on site	1
Number of dwellings to be demolished	0
Number of dwellings proposed as part of this certificate	
Number of storeys proposed in the new building(s)	0
Number of proposed lots	

Fire safety measures

Are you proposing to carry out alterations/modifications to existing 'relevant fire safety systems'?	Yes
Fire Safety Measure	Access Panels, doors and hoppers to fire resisting shaft
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Automatic fail-safe devices
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Automatic fire detection and alarm system*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Automatic fire supression system (sprinkler)*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Emergency lighting
Is this measure installed in the building?	Yes
Please enter current standard of performance	BCA E4.2 AS 2293.1
Fire Safety Measure	Emergency lifts
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Emergency warning and intercommunication system
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Exit signs
Is this measure installed in the building?	Yes
Please enter current standard of performance	BCA E4.6 AS 2293.1
Fire Safety Measure	Fire control centres and rooms
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire dampers
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire hydrant systems*
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2419.1
Fire Safety Measure	Fire seals (protecting openings in fire resisting components of building)
Is this measure installed in the building?	No

Please enter current standard of performance	
Fire Safety Measure	Fire shutters
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire windows
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Hose reel systems
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2441
Fire Safety Measure	Lightweight construction
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Mechanical air handling systems (smoke control)*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Perimeter vehicle access for emergency vehicles
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Portable fire extinguishers
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2444
Fire Safety Measure	Safety curtains in proscenium openings
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke and Heat Vents
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke dampers
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke detectors and heat detectors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Solid-Core doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Standby Power Systems
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Wall wetting sprinkler and drencher systems*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Warning and operational signs
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Other (please specify)
Is this measure installed in the building?	Yes

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Please enter current standard of performance	Paths of travel to fire exits - EP&A Reg 2000, part 9, division 7
Fire Safety Measure	Access Panels, doors and hoppers to fire resisting shaft
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Automatic fail-safe devices
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Automatic fire detection and alarm system*
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS1670.1 2018 Clause 3.22 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
Fire Safety Measure	Automatic fire supression system (sprinkler)*
Is this measure installed in the building?	Yes
Please enter current standard of performance	BCA Specification E1.5, AS2118.1-2017 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
Fire Safety Measure	Emergency lighting
Is this measure installed in the building?	Yes
Please enter current standard of performance	BCA E4.2 AS 2293.1
Fire Safety Measure	Emergency lifts
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Emergency warning and intercommunication system
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Exit signs
Is this measure installed in the building?	Yes
Please enter current standard of performance	BCA E4.6 AS 2293.1
Fire Safety Measure	Fire control centres and rooms
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire dampers
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire hydrant systems*
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2419.1
Fire Safety Measure	Fire seals (protecting openings in fire resisting components of building)
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire shutters
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Fire windows
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Hose reel systems
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2441

Fire Safety Measure	Lightweight construction
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Mechanical air handling systems (smoke control)*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Perimeter vehicle access for emergency vehicles
Is this measure installed in the building?	Yes
Please enter current standard of performance	Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA
Fire Safety Measure	Portable fire extinguishers
Is this measure installed in the building?	Yes
Please enter current standard of performance	AS 2444
Fire Safety Measure	Safety curtains in proscenium openings
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke and Heat Vents
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke dampers
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke detectors and heat detectors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Smoke doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Solid-Core doors
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Standby Power Systems
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Wall wetting sprinkler and drencher systems*
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Warning and operational signs
Is this measure installed in the building?	No
Please enter current standard of performance	
Fire Safety Measure	Other (please specify)
Is this measure installed in the building?	No
Please enter current standard of performance	
Are proposed fire safety measures to be installed in the building?	Yes
Fire Safety Measure	Access Panels, doors and hoppers to fire resisting shaft
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Automatic fail-safe devices
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Automatic fire detection and alarm system*

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Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Automatic fire supression system (sprinkler)*
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Emergency lighting
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	BCA E4.2 AS 2293.1
Fire Safety Measure	Emergency lifts
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Emergency warning and intercommunication system
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Exit signs
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	BCA E4.6 AS 2293.1
Fire Safety Measure	Fire control centres and rooms
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire dampers
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire hydrant systems*
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2419.1
Fire Safety Measure	Fire seals (protecting openings in fire resisting components of building)
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire shutters
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire windows
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Hose reel systems
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2441
Fire Safety Measure	Lightweight construction
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Mechanical air handling systems (smoke control)*
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Perimeter vehicle access for emergency vehicles
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Portable fire extinguishers

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Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2444
Fire Safety Measure	Safety curtains in proscenium openings
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke and Heat Vents
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke dampers
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke detectors and heat detectors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Solid-Core doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Standby Power Systems
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Wall wetting sprinkler and drencher systems*
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Warning and operational signs
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Other (please specify)
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	Paths of travel to fire exits - EP&A Reg 2000, part 9, division 7
Fire Safety Measure	Access Panels, doors and hoppers to fire resisting shaft
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Automatic fail-safe devices
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Automatic fire detection and alarm system*
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS1670.1 2018 Clause 3.22 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
Fire Safety Measure	Automatic fire supression system (sprinkler)*
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	BCA Specification E1.5, AS2118.1-2017 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
Fire Safety Measure	Emergency lighting
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	BCA E4.2 AS 2293.1
Fire Safety Measure	Emergency lifts
Is this measure installed in the building?	No

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Please enter proposed standard of performance	
Fire Safety Measure	Emergency warning and intercommunication system
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Exit signs
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	BCA E4.6 AS 2293.1
Fire Safety Measure	Fire control centres and rooms
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire dampers
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire hydrant systems*
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2419.1
Fire Safety Measure	Fire seals (protecting openings in fire resisting components of building)
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire shutters
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Fire windows
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Hose reel systems
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2441
Fire Safety Measure	Lightweight construction
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Mechanical air handling systems (smoke control)*
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Perimeter vehicle access for emergency vehicles
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA
Fire Safety Measure	Portable fire extinguishers
Is this measure installed in the building?	Yes
Please enter proposed standard of performance	AS 2444
Fire Safety Measure	Safety curtains in proscenium openings
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke and Heat Vents
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke dampers
Is this measure installed in the building?	No

Please enter proposed standard of performance	
Fire Safety Measure	Smoke detectors and heat detectors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Smoke doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Solid-Core doors
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Standby Power Systems
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Wall wetting sprinkler and drencher systems*
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Warning and operational signs
Is this measure installed in the building?	No
Please enter proposed standard of performance	
Fire Safety Measure	Other (please specify)
Is this measure installed in the building?	No
Please enter proposed standard of performance	

Nominated accredited certifier details

Enter the name of the nominated accredited certifier of your choice.	Concise Certification Pty Ltd
Company name	Concise Certification Pty Ltd
Trading name	
ABN	70612151014
ACN	
Address	PO Box 603 Engadine NSW 2233

Declarations

I declare that all the information in the application and checklist is, to the best of my knowledge, true and correct	Yes
I agree to the appropriately delegated assessment officers attending the site for the purpose of inspection	Yes
I/we own the subject land, consent to this application and consent to Council officers entering the premises during normal office hours for the purpose of conducting inspections relative to this application. I accept that all communication regarding this application will be through the nominated applicant. In the case of an owners corporation, a seal is required, or if crown land, written authorisation of the relevant statutory authority.	Yes
I have read and agree to the collection and use of my personal information as outlined in the Privacy Notice.	Yes
I declare that all works that are the subject of the relevant consent have been completed and that all conditions that are required to be satisfied prior to the issue of this certificate have been satisfied	Yes

Review of application

What is the outcome of your review?	Accept application
Additional certifier comments	N/A
Certifier reference number	200101-01
Has the applicant paid the application fees?	Yes
Enter the date the application was lodged into the certifier's system	27/05/21

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust
ABN 81 858 856 414
C/ - LEVEL 6, 151 CASTLEREAGH STREET, SYDNEY NSW 2000
POSTAL: PO BOX N817, GROSVENOR PLACE, SYDNEY NSW 1220
TELEPHONE +61 2 8257 6600 FACSIMILE +61 2 8257 6655

28 July 2021

~~Blackett Maguire + Goldsmith~~
~~Attention: Steven Rodriguez (PCA)~~
~~2/22-36 Mountain Street~~
~~Ultimo NSW 2007~~

CONCISE CERTIFICATIONS
ATTENTION: STEVEN RODRIGUEZ (PCA)
3/51-53 LANTANA ROAD
ENGADINE, NSW 2233

Dear Steven,

OWNERS CONSENT – DA, CC & OC SUBMISSION
PROPERTY: 30 LOFTUS ROAD, YENNORA

I/we as the person/s with the benefit of the consent **(West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust C/- 151 Property Pty Ltd)** authorise **Plan Project Management Pty Ltd** (as the external Project Managers) to lodge the below:

1. Development Applications (and any subsequent Modifications to the consent as needed).
2. Complying Development Certificate Application (and any subsequent Modified Complying Development Certificate applications).
3. Construction Certificate Application (and any subsequent Construction Certificate, Modified Construction Certificate applications).
4. Occupation Certificate Application (and any subsequent Part, Partial or Whole Occupation Certificate applications).

Yours sincerely,

Executed by **West Infill Sub TC Pty Ltd**)
as trustee for West Infill Sub II Trust)
accordance with section 127 of the
Corporations Act 2001 (Cth):

.....
Director

Craig Newman
.....
Name of Director (print)

.....
Director

Matt Koskinen
.....
Name of Director (print)

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Received
02.07.2021 (SR)

CONCISE CERTIFICATION
www.concisecert.com.au

NOTICE OF COMMENCEMENT OF BUILDING WORK AND APPOINTMENT OF A PRINCIPAL CERTIFIER

Under the Environmental Planning and Assessment Act 1979/ Environmental Planning and Assessment Regulation 2000

SUBJECT LAND	**Address:** 30 Loftus Road, Yennora NSW 2161		
	Lot: Lot 8	**Section:**	**DP/SP:** DP 1233715
DESCRIPTION OF WORK	*Please provide a detailed description of works (as per the description on the Construction Certificate).* Fire Services Upgrade including new building occupant wanring system, new fire sprinkler system and new fire hydrant system		
DEVELOPMENT CONSENT	**Name of Council:**	Cumberland Council	
	Date Development Consent Issued:	29/09/2020	
	Number/Identifier:	DA2020/0488	
CONSTRUCTION CERTIFICATE (CC) DETAILS	**Name of Registered Certifier:**	Steven Rodriguez	
	CC Number/Identifier:	200101-01	
	Date of CC:	13 August 2021	
BUILDER DETAILS	**Principal Contractor/Owner Builder:**	Mainbrace Constructions Pty Ltd	
	License No/Owner Builder Permit No:	TBC	
	Builder ABN	45 002 970 658	
	Contact Name:	Tom Shaw	
	Contact No:	0405 248 987	
	Email Address:	tsaw@mainbrace.com.au	
	Address:	Level 4, 170 Pacific Highway, Greenwich, NSW, 2065	
DETAILS OF PERSON APPOINTING THE PC	**Name/Company Name:**	West Infill Sub TC Pty Ltd ATF West Infill Sub II Trust c/- 151 Property Pty Ltd & P**lan Project Management Pty Ltd**	
	Address:	Level 6, 151 Castlereagh Street, Sydney NSW 2000	
	Contact Number:	0416 858 044	
	Email Address:	lydia@planpm.com.au & (additional) Toni.Ryan@151property.com.au	
	Note: *Only the person with the benefit of the Development Consent can appoint the PC (i.e. the building owner or tenant). The builder/ architect cannot appoint the PCA unless they are the building owner.*		
APPLICANTS DECLARATION	*I declare that:* • *I/we as the applicant have met all the conditions in the Construction Certificate that must be completed prior to the commencement of work.* • *I hereby appoint the below mentioned as the Principal Certifier.* • *I/we as the applicant confirm that all fields of this application form have been filled in correctly and to the best of my knowledge the information within this form is correct.* • *I/we also declare that the owner of the premises has reviewed and consented to the application submitted to Concise Certification.* • *I/we as the applicant confirm that authority is given to Concise Certification to enter the subject property at any reasonable time for the purpose of carrying out any statutory inspections.*		
	Applicants Signature:		**Date:** 02/07/2021
	Note: The applicant must be the property owner or a person authorised by the owner to lodge the application or a person which is the beneficiary of the Development Consent. A building contractor cannot be the applicant unless they are the owner of the property.		

Concise Certification Pty Ltd
Reference: 200101-01
Date: 2/07/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Accredited Certifiers / Building Regulation Consultants
Office 1300 057 046 **Email** admin@concisecert.com.au
Address PO Box 603, Engadine NSW 2233 **ABN** 70 612 151 014

NOTICE OF COMMENCEMENT	*Please provide the date work is to commence on (note: not less than 2 business days' notice must be provided): To be completed by the Principal Certifier*	
	Date:	16 August 2021
AGREEMENT OF APPOINTMENT OF THE PRINCIPAL CERTIFIER (OFFICE USE ONLY)	**Principal Certifier's Name:**	Steven Rodriguez
	Accreditation Number:	BDC - 0823
	Accreditation Grade:	A1 - Registered Certifier - Building Surveyor - Unrestricted
	Accreditation Body:	NSW Fair Trading
	Principal Certifying Authority's Address:	PO Box 603, Engadine NSW 2233
	I consent to being appointed as the PC for this Development and confirm that all relevant conditions of the development consent have been satisfied prior to the work commencing.	
	Signature of Principal Certifier: 	**Date:** 13 August 2021

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Fire Safety Statement

Approved under the Environmental Planning and Assessment Regulation 2000.

Version 2.0 Effective from 1 December

How to complete this form

1. Please print in CAPITAL LETTERS
2. Please complete all relevant sections in full

Note

1. A reference to 'the Regulation' in this statement is a reference to the Environmental Planning and Assessment Regulation 2000
2. A reference to a CFSP in this statement is a reference to a 'competent fire safety practitioner' as defined by clause 167A of the Regulation

Section 1: Type of statement

This is (mark applicable box) x an annual fire safety statement (complete the declaration at Section 7 of this form)

☐ a supplementary fire safety statement (complete the declaration at Section 8 of this form)

Section 2: Building the subject of this statement

Street No.	Street Name	Suburb	Postcode
30	LOFTUS ROAD	YENNORA NSW	2161

Lot No (if known)	DP/SP (if known)	Building Name (if applicable)

This statement applies to (mark applicable box) x the whole building

☐ part of the building

Section 3: Description of the building or part of the building the subject of this statement

Storeys above ground in the building (No.)	Storeys below ground in the building (No.)

If statement relates to a part – describe that part and its location in the building

Uses of building or part subject to this statement (e.g. retail, offices, residential, assembly, carparking)

INDUSTRIAL & WAREHOUSE

Section 4: Name and address of owner of the building or part

Title	Given Name/s	Family Name
	INDUSTRIAL ZONE REAL ESTATE	

Street No.	Street Name	Suburb	Postcode
UNIT 3 60	FAIRFORD ROAD	PADSTOW NSW	2211

NSW GOVERNMENT

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Section 5: Fire Safety Measures

1. All essential fire safety measures (including critical fire safety measures) must be listed for an annual fire safety statement
2. Only critical fire safety measures must be listed for a supplementary fire safety statement

Fire Safety Measure	Date Assessed	CFSP*	Minimum Standard of Performance
Fire Hose Reels	12/04/2019	RF	AS2441 – 1995
Fire Hydrant System	12/04/2019	RF	AS2419.1 – 1994
Emergency Lighting	12/04/2019	RF	AS2293.1 – 1998
Exit Signs	12/04/2019	RF	AS2293.1 – 1998
Portable Fire Extinguishers	12/04/2019	RF	AS 2444 – 1996
Paths of travel	12/04/2019	RF	EP&A Reg 2000 Part 9 Div 7

* Insert initials of CFSP

Section 6: Details of competent fire safety practitioners (CFSPs)

The table must include details of:

1. Each CFSP who endorsed a fire safety measure referred to in Section 5 of this form
2. Each CFSP who inspected the building in accordance with clause 175(b) of the Regulation (in a shaded row)

Initials	Given Name/s	Family Name	Phone	Email	Signature
RF	Rodger	Fogarty	9986 2233	general@superiorfire.com.au	
RF	Rodger	Fogarty	9986 2233	general@superiorfire.com.au	

NSW GOVERNMENT

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Section 7: Annual fire safety statement declaration

I, Click here Bill Omar (insert full name)

being the (mark applicable box) ☐ owner

☑ owner's agent

certify that: a) each essential fire safety measure specified in this statement has been assessed by a competent fire safety practitioner and was found, when it was assessed, to be capable of performing:

i. in the case of an essential fire safety measure identified in Section 5 of this form and the fire safety schedule - to a standard no less than that specified in the schedule, or

ii. in the case of any other essential fire safety measure identified in Section 5 of this form - to a standard no less than that to which the measure was originally designed and implemented, and

b) the building has been inspected by a competent fire safety practitioner and was found, when it was inspected, to be in a condition that did not disclose any grounds for a prosecution under Division 7 of the Regulation.

~~Owner~~/Agent Name	~~Owner~~/Agent Signature	Date
Bill Omar		3/5/19

Section 8: Supplementary fire safety statement declaration

I, Click here (insert full name)

being the (mark applicable box) ☐ owner

☐ owner's agent

certify that each critical fire safety measure specified in this statement has been assessed by a competent fire safety practitioner and was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which this statement is issued.

Owner/Agent Name	Owner/Agent Signature	Date
John Canna		9/9/19

Section 9: Owner's authorisation

(To be completed where an agent makes the declaration in Section 7 or Section 8 of this form)

I, being the owner, authorise the agent named in Section 7 or Section 8 to act on my behalf to make the declaration.

Owner's Name	Owner's Signature	Date
John Canna		9/9/19

Section 10: Contact details of person issuing this statement

Title	Given Name/s	Family Name

Phone	Email

Section 11: Fire safety schedule

A current fire safety schedule for the building must be attached to this statement.

NSW GOVERNMENT

BUILDING AND CONSTRUCTION INDUSTRY

LEVY ONLINE PAYMENT RECEIPT

Long Service Corporation

MAINBRACE CONSTRUCTIONS
LEVEL 4 170 PACIFIC HIGHWAY
GREENWICH NSW 2065

APPLICATION DETAILS

Applicant Name:	MAINBRACE CONSTRUCTIONS
Levy Number:	5355656
Application Type:	DA
Application Number:	DA2020/0488
Approving Authority:	CUMBERLAND COUNCIL

WORK DETAILS

Site Address:	30 LOFTUS ROAD YENNORA NSW 2161
Value of work:	$1,025,000
Levy Due:	$3,587.00

PAYMENT DETAILS

LSC Receipt Number:	492187
Payment Date:	30/06/2021 5:08:49 PM
Bank Payment Reference:	2996056832
Levy Paid:	$3,587.00
Credit card surcharge:	$17.94
Total Payment Received:	$3,604.94

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Building plan assessment application

Application number: 1175247
Property address: 30 Loftus Rd, Yennora 2161
Lot details: Lot 8, Deposited Plan 1233715

25/06/2021

Dear Tom Shaw

Your building plan assessment application has been

APPROVED

This Approval is provided subject to the Conditions and Important Information issued to you by Sydney Water, which you are taken to have accepted by using the approval.

This Approval is based on the information you provided to us through Sydney Water Tap in.

If any of the information you have provided is incorrect or incomplete, Sydney Water may revoke this Approval.

This approval is valid until 25/06/2022 (one year).

ANY QUESTIONS?

Email us
swtapin@sydneywater.com.au

Call us
1300 082 746

STRUCTURES

The structures and information you supplied are displayed below.

Structure(s) that will not impact Sydney Water infrastructure

Structure 1	Sprinkler Pump Room	9.0 m x 5.5 m x 2.3 m
Structure 2	Sprinkler Water Tank	8.85 m x 8.85 m x 0.3 m

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Structure 1 of 2: Sprinkler Pump Room

Application number: 1175247
Property address: 30 Loftus Rd, Yennora 2161
Lot details: Lot 8, Deposited Plan 1233715

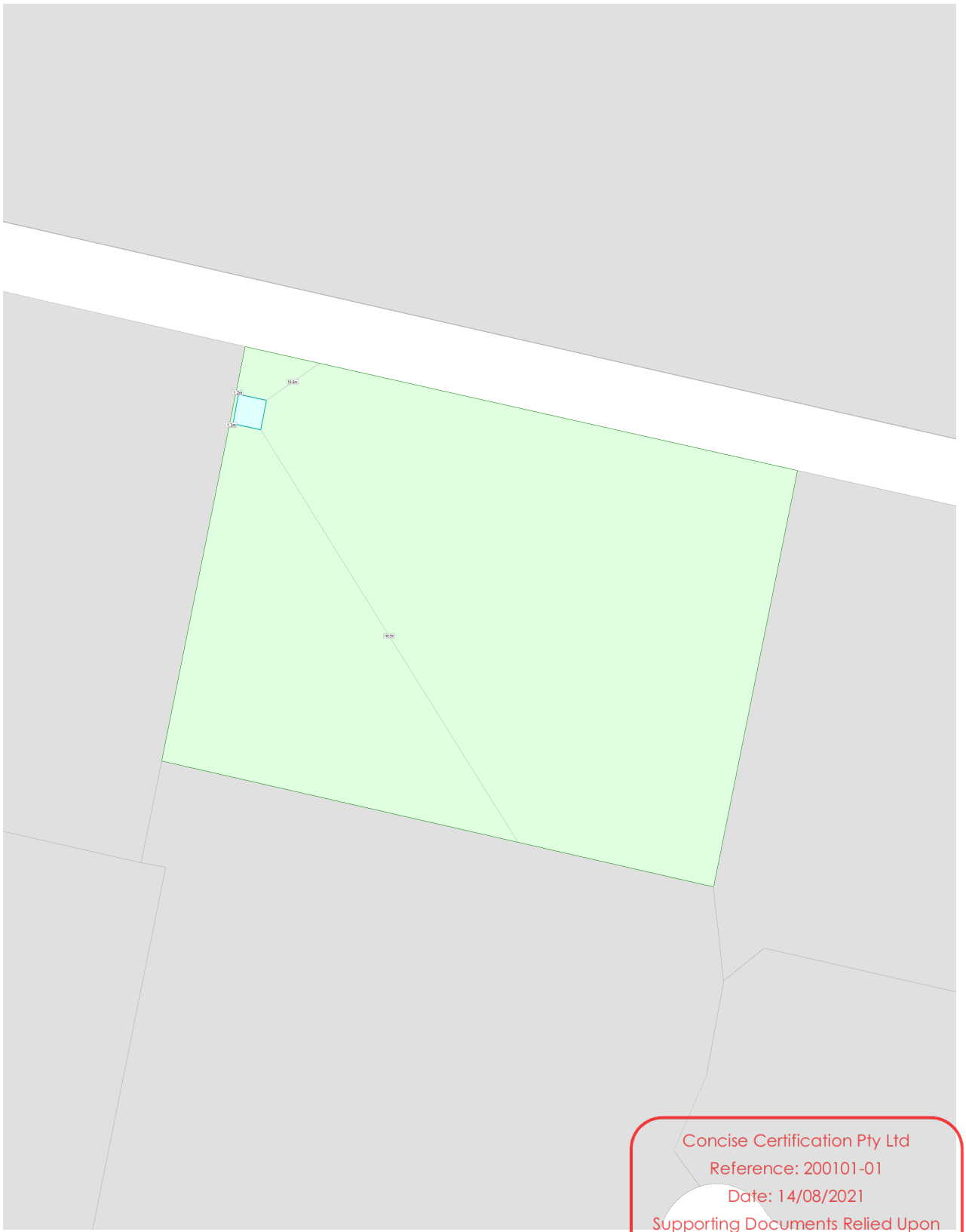
This structure will not impact Sydney Water infrastructure.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Structure 2 of 2: Sprinkler Water Tank

Application number: 1175247
Property address: 30 Loftus Rd, Yennora 2161
Lot details: Lot 8, Deposited Plan 1233715

This structure will not impact Sydney Water infrastructure.



Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Conditions and Important Information

Attention: You must read the information below.

1 The approval of your building plan by Sydney Water (Approval) has been generated by an automated system based on the information you have provided to Sydney Water through the Sydney Water Tap in. Sydney Water does not make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Approval.

2 It is your responsibility to ensure that the information is correct and complete when submitting your building plan for approval through Sydney Water Tap in and, if any of the information is incorrect or incomplete, to resubmit information that is correct and complete. If any of the information that you have provided is incorrect or incomplete, this may result in the revocation of the Approval.

3 The Approval is provided on each of the following conditions which you are taken to have accepted by using the Approval. To the fullest extent permitted by law:

(a) all conditions and guarantees concerning the Approval (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:

i. the supplying of the Approval again; or

ii. payment of the cost of having the Approval supplied again;

(b) in no event will Sydney Water be liable for, and you release Sydney Water from all Losses arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval:

i. whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water; and

ii. regardless of whether Sydney Water is or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;

(c) you will indemnify, defend and hold harmless Sydney Water from and against all Losses of Sydney Water in respect of, or in connection with loss or damage to any property, personal injury (including death or illness of any person), arising out of or in connection with:

i. you providing incorrect or incomplete information to Sydney Water in connection with the Approval; or

ii. any third party claim against Sydney Water; and

(d) you assume all risks associated with the use of the Sydney Water Tap in and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water from all Losses which might arise in respect of your use of the websites.

4 Subject to condition numbered 3(c) in this document, your liability under condition numbered 3(c) in this document is reduced to the extent that the loss, liability, expense or damage:

(a) is caused solely and directly by any negligent act or omission of Sydney Water; or

(b) could not reasonably be foreseen and was not reasonably within the contemplation of you and Sydney Water at the time of the loss, liability, expense or damage.

5 The position of the proposed building/building works in relation to Sydney Water's pipes and structures is satisfactory. You are responsible for, amongst other things:

(a) protecting underground structures, including Sydney Water's pipelines, from damage and interference;

(b) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;

(c) preventing loss or damage to any property, personal injury (including death or illness of any person) arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;

(d) repairing or making good loss or damage to any property or the environment arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;

(e) ensuring that connections to Sydney Water's sewer, watermain or stormwater are only be made following the issue of a permit to a licensed plumber/drainer;

(f) ensuring that all proposed fittings will drain to Sydney Water's sewer;

(g) ensuring that all plumbing and/or drainage Work is to be carried out in accordance with the NSW Code of Practice, AS 3500 and the Sydney Water Act 1994;

(h) ensuring that gullies, inspection shafts and boundary traps are not placed under any roof, balcony, verandah, floor or other cover unless otherwise approved by Sydney Water; and

(i) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures.

6 "**Sydney Water**" means Sydney Water Corporation and its employees, agents, representatives and contractors. References to "you" include references to your employees, agents, representatives, contractors, executors, administrators, successors, substitutes, assigns and anyone else using the Approval. References to "Losses" means all liabilities, losses, damages, expenses, compensations, fines, penalties, charges and costs (including legal costs on a full indemnity basis and whether incurred or awarded) of any kind or nature however they arise and whether they are present or future, fixed or unascertained, actual or contingent and including any loss of profits, loss of revenue or loss of opportunity. To the extent of any inconsistency, the conditions numbered 1 to 6 in this document will prevail over any other information provided or made available to you by Sydney Water.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 92 (24 hours, 7 days).

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

RECOM ELECTRICAL
SERVICES

RETAIL & COMMERCIAL – ELECTRICAL ENGINEERING & CONTRACTING – COMMUNICATIONS - SERVICE & MAINTENANCE

9th June 2021 Our Ref:06062021

DESIGN CERTIFICATE ELECTRICAL SERVICES-

SUBJECT PREMISES: *New Pump Room,* 30 Loftus Street, Yennora NSW 2161
STAGE: *Limited to the confines of the new pump room.*
AREAS: *The new pump room.*
ADDRESS: *30 Loftus Street, Yennora, NSW, 2161*

Pursuant to the provisions of the Building Code of Australia and applicable Australia Standards, and DA conditions listed below;

- *AS3000/2018(v3) AS1680.0 / 2009, AS2293.1 2018, AS4282-2018, AS1158*
- *NCC/BCA 2019 Clauses –Section J6 and J8.3 where applicable*
- *NCC/BCA 2019Clauses –SECTIONS- E4.2, E4.4, E4.5, E4.6, E4.8*
- *NCC/BCA 2019 Clauses –SECTIONS- F4.4,*

I hereby certify that the above-mentioned area will be designed in accordance with normal engineering practice and will meet the listed requirements of Building Code of Australia and relevant Australian Standards as listed.

Our company employees appropriately qualified and competent people in this area who can certify that the design and performance of the design systems comply with the above as detailed on the following drawings as issued for construction.

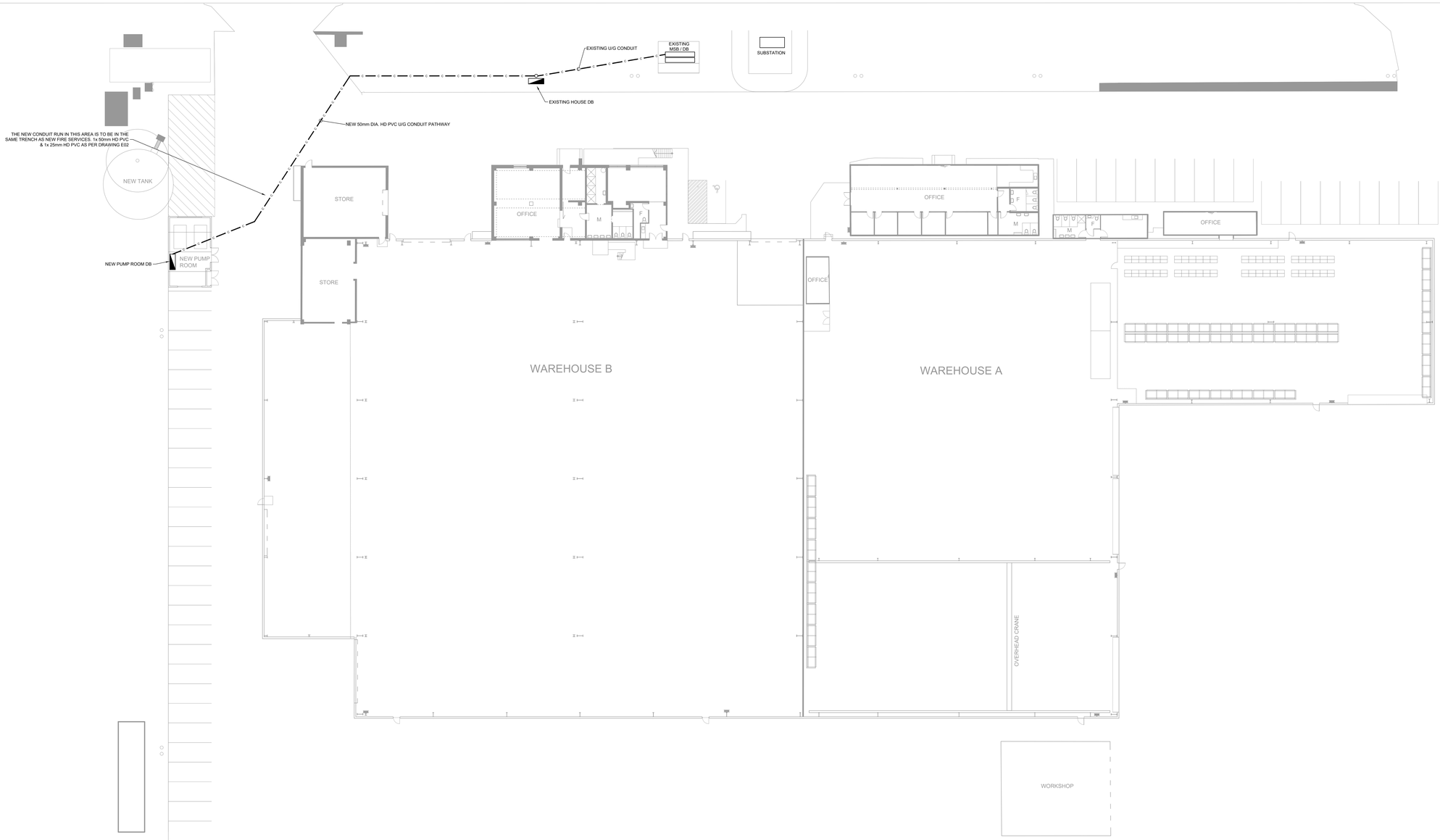
Full Name of Installer: Recom Electrical Services
Qualifications: Electrical Contractor +25 years
Address of Installer: 1/79 Newton Road, Wetherill Park, 2164
Business Telephone No: 02 9881 5877
Name of Employer: Recom Electrical Services Pty Ltd

Yours Faithfully,

P. Koller

Paul Koller
Director

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823



FOR CONSTRUCTION

rev.	date	revision detail	drawn	check	app.
B	15/0621	REVISED TO "FOR CONSTRUCTION". CONDUIT PATH REVISED	CT	-	PK
A	03/0621	PRELIMINARY ISSUE	CT	-	PK

client: MAINBRACE

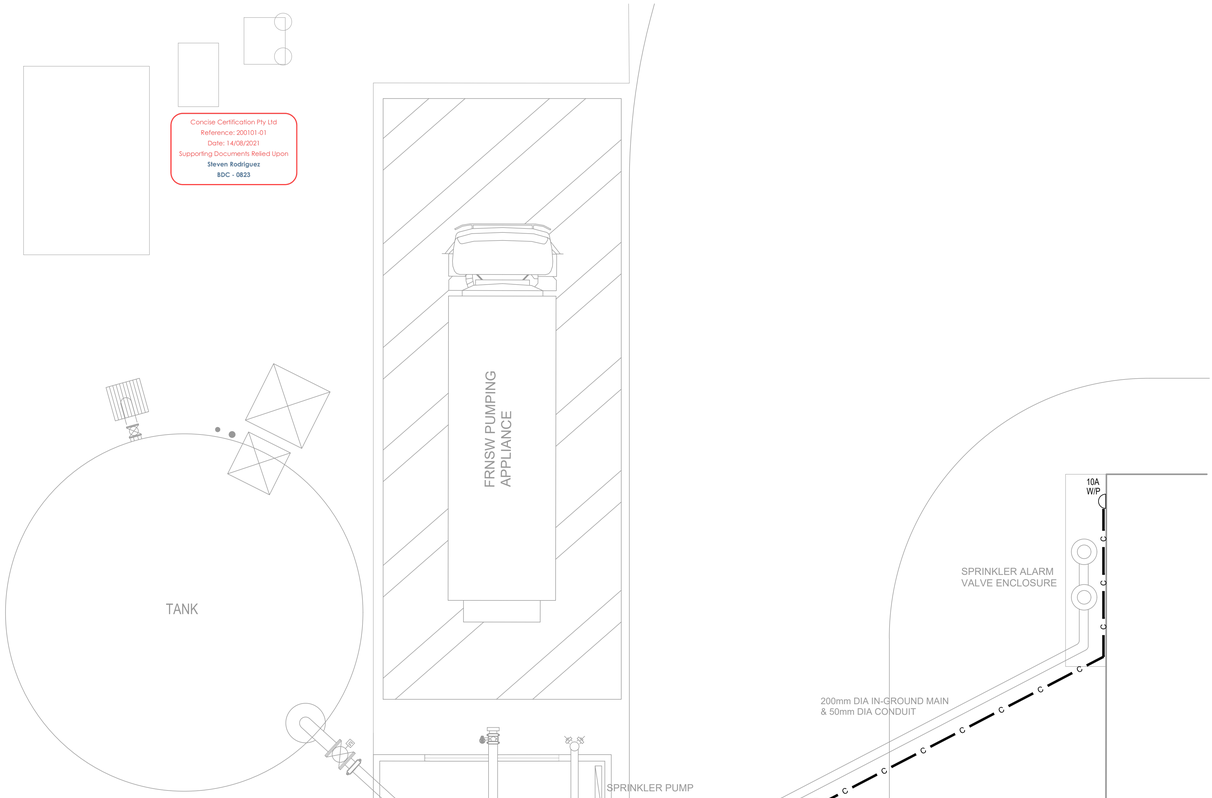
electrical contractor: RECOM ELECTRICAL SERVICES
1/79 NEWTON RD
WETHERILL PARK
NSW 2164
PH: 02 9881 5877
FX: 02 9608 8606
www.recomelectrical.com.au

drawing prepared by: LIVESPACE DESIGN
info@livespace.com.au

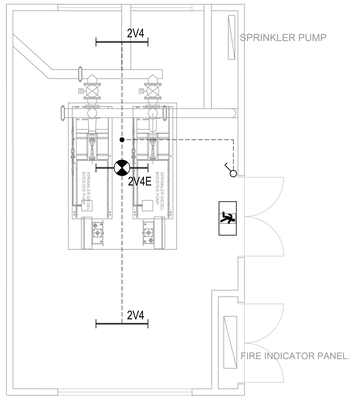
project: 30 LOFTUS RD
YENNORA NSW

drawing title: **ELECTRICAL SERVICES**
SITE PLAN

ARCH. PLAN USED	RCP USED	drawn	approved
1.02(F)	-	CT	PK
MECHANICAL PLAN USED	**FIRE SPRINKLER PLAN USED**	date of first issue 03/06/21	scale 1:200 @ A0
-	-	drawing no. **E01**	issue **B**



SPRINKLER PUMP ROOM POWER LAYOUT
1:50



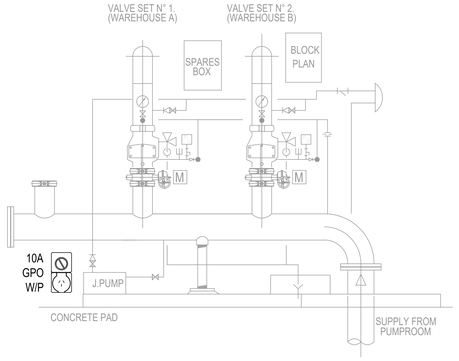
SPRINKLER PUMP ROOM LIGHTING LAYOUT
1:50

LIGHTING LEGEND

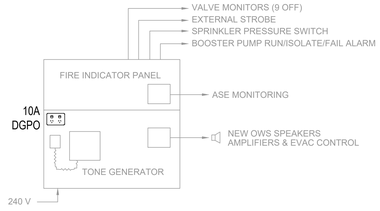
SYMBOL	DESCRIPTION
2V4	LED BATTEN 4'
2V4E	LED BATTEN 4' w INTEGRAL BATTERY PACK
	LED EXIT SIGN
	SWITCH

POWER LEGEND

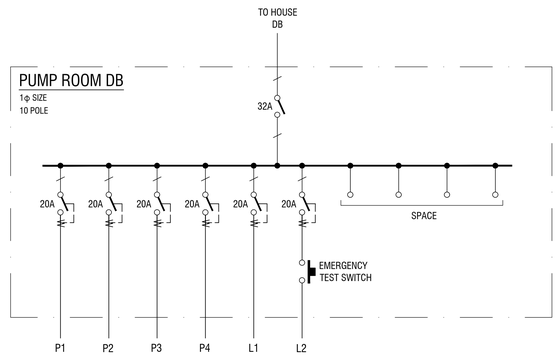
SYMBOL	DESCRIPTION
	SINGLE GPO (10AMP UNLESS SPECIFIED)
	DOUBLE GPO (10AMP UNLESS SPECIFIED)
	DISTRIBUTION BOARD
	CONDUIT
(1200)	MOUNTED AT 1200 AFFL
15A	15 AMP RATING
20A	20 AMP RATING
32A	32 AMP RATING



SPRINKLER VALVE STATION ELEVATION
NTS



FIRE INDICATOR PANEL ELEVATION
NTS



SINGLE LINE DIAGRAM
NTS

FOR CONSTRUCTION

rev.	date	revision detail	drawn	check	app
B	15/06/21	REVISED TO 'FOR CONSTRUCTION'	CT	-	PK
A	03/06/21	PRELIMINARY ISSUE	CT	-	PK

client: MAINBRACE

electrical contractor: RECOM ELECTRICAL SERVICES
1/79 NEWTON RD
WETHERILL PARK
NSW 2164
PH: 02 9881 5877
FX: 02 9608 8606
www.recomelectrical.com.au

drawing prepared by: LIVESPACE DESIGN
info@livespace.com.au

project: 30 LOFTUS RD
YENNORA NSW

drawing title: **ELECTRICAL SERVICES**
SPRINKLER ROOM LAYOUTS
SCHEMATICS & SLD

ARCH. PLAN USED	RCP USED	drawn	approved
1:02(F)	-	CT	PK
MECHANICAL PLAN USED	FIRE SPRINKLER PLAN USED	date of first issue 03/06/21	scale VARIOUS @ A0
-	-	drawing no. E02	issue B

ADP Consulting : Engineering

ABN 81 139 719 529
adpconsulting.com.au

11th June 2021

Att: Tom Shaw
Project Supervisor
Mainbrace Constructions
Level 4, 170 Pacific Highway
Greenwich, NSW 2065

tshaw@mainbrace.com.au

SYD1792 – 30 Loftus Rd, Yennora - Fire Pump Enclosure

Dear Tom,

We hereby advise that the design has been completed for the following new building services (where completed by ADP Consulting) and meets with the requirements of the Schedule of Reference Documents:

Schedule of Reference Documents:

This statement is based on the following rules, codes of practice, publications, specifications, etc.:

> Building Code of Australia 2019 Amendment 1.

> AS 1668.4-2012 – Natural Ventilation of Buildings

> AS 2941-2013 – Fixed Fire Protection Systems (Section 11.5)

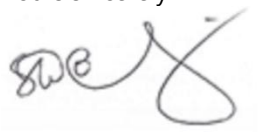
MECHANICAL DRAWING SET

Drawing No.	Title	Revision
SK-ME-001	FIRE PUMP ROOM	A

This statement does not include services that remain outside the scope of this project and shall not remove from any other contracted party any contractual obligations, liabilities or any other requirements to be provided for the project.

Modification to design that this certification relates to renders this certificate null and void.

Yours sincerely



Stuart Bowling

Mechanical Engineer MIE CP Eng NER

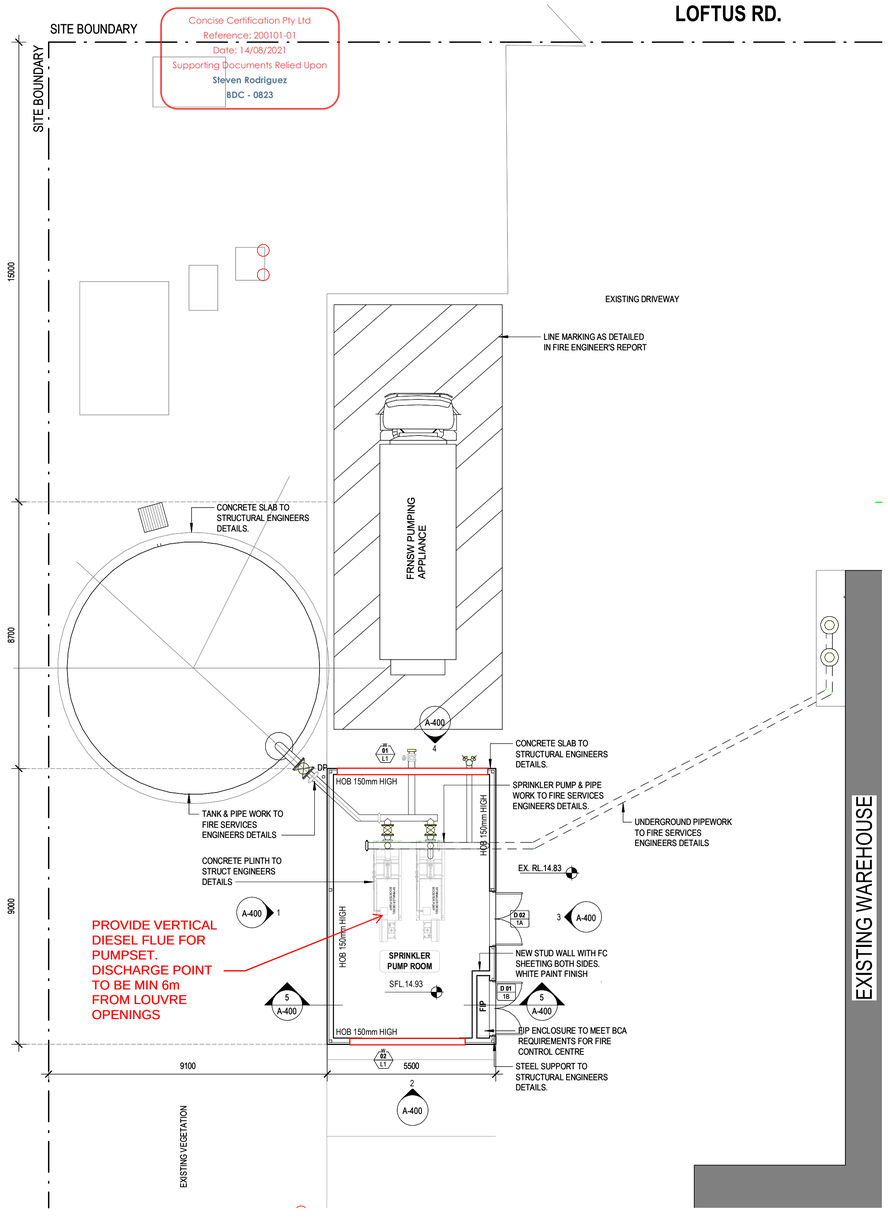
Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Creating great environments with great people.

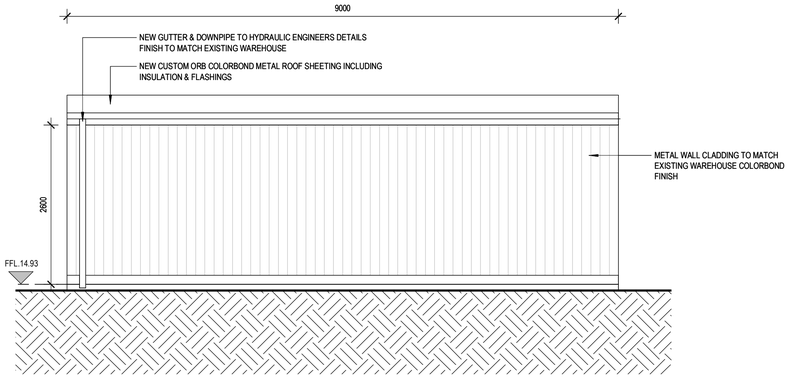
Sydney
Level 3, 8 Spring Street
Sydney NSW 2000
T. 02 8203 5447

Melbourne
Level 11, 60 Albert Road
South Melbourne VIC 3205
T. 03 9521 1195

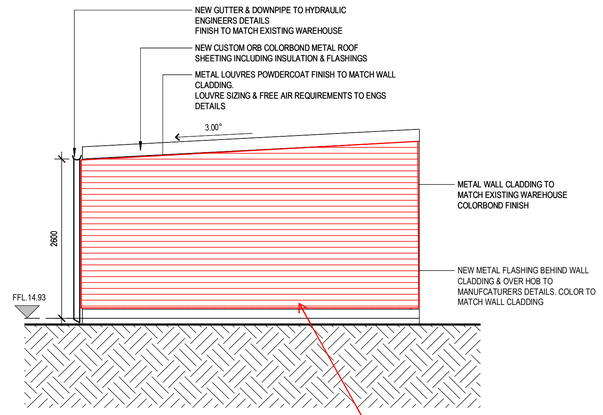
Brisbane
Level 16, 15 Adelaide Street
Brisbane QLD 4000
T. 07 3088 4022



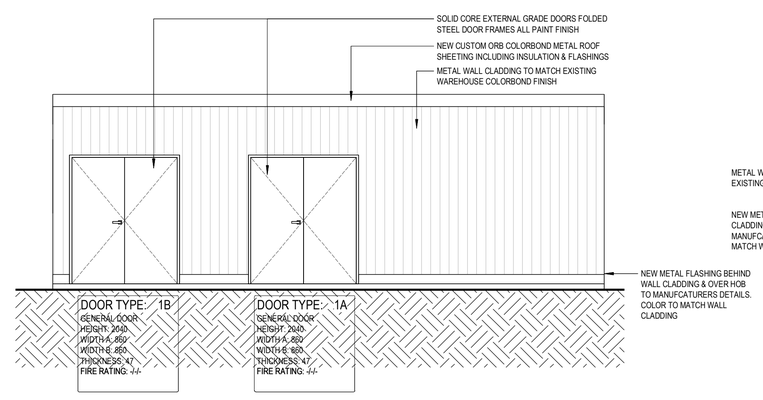
1 / A-100 GENERAL ARRANGEMENT PLAN - GROUND FLOOR
1 : 100



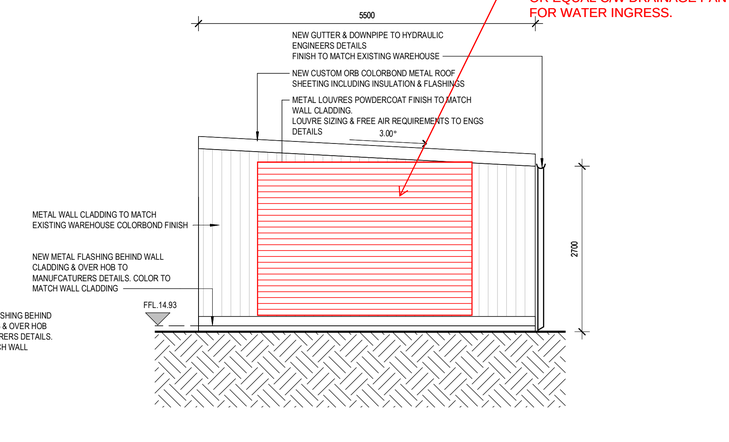
1 / A-400 WEST ELEVATION
1 : 50



2 / A-400 SOUTH ELEVATION
1 : 50



3 / A-400 EAST ELEVATION
1 : 50



4 / A-400 NORTH ELEVATION
1 : 50

Date	11.06.21	Drawn by	SB
Scale	1:50	Checked by	
Sheet Size		Approved by	

Building Services Engineers
ADP CONSULTING PTY LTD
ADP Consulting | Engineering
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SYDNEY Level 3 8 Spring St Sydney NSW 2000 +612 8203 5447
BRISBANE Level 4 490 Upper Edward St Spring Hill QLD 4000 +617 3088 4022
www.adpconsulting.com.au contact@adpconsulting.com.au

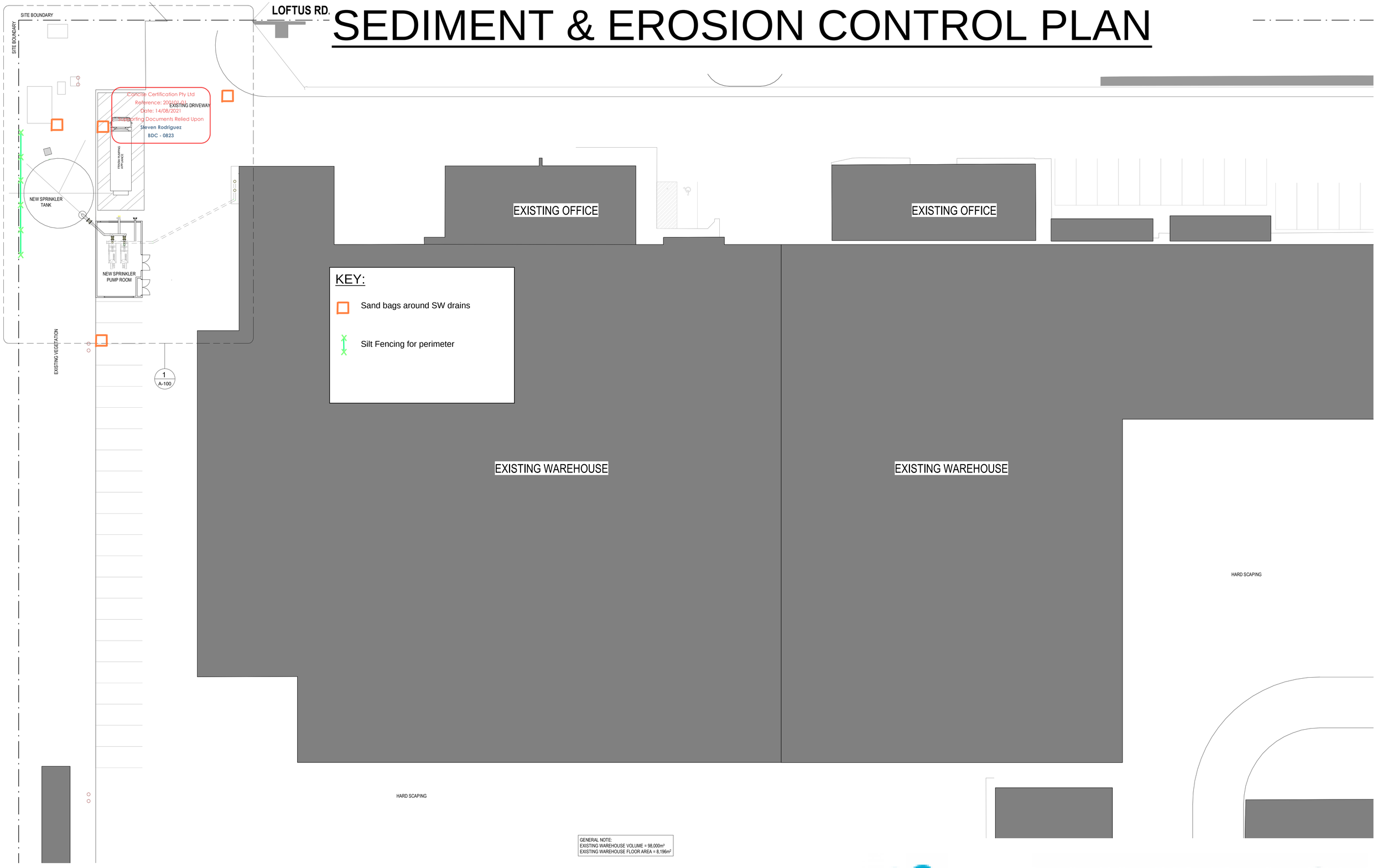
Project Name:
30 LOFTUS RD. YENNORA

Title:
FIRE PUMMP ROOM - NATURAL VENTILATION DESIGN

Client:
MAINBRACE

Job No.	Drawing / Sketch No.	Rev.
SYD1792	SK-ME-001	A

SEDIMENT & EROSION CONTROL PLAN



1 / A-010 PROPOSED SITE PLAN
1 : 200

Project.
30 Loftus Rd, Yennora

Address.
30 Loftus Rd, Yennora

Client.
Mainbrace Construction

Rev.	Description.	Date.	By.
C	ISSUE FOR CONSTRUCTION CERTIFICATE	21.06.21	BS
B	ISSUE FOR COORDINATION	16.06.21	BS
A	ISSUE FOR COORDINATION	28.05.21	BS

Status.
Issue for Construction Certificate

Become.
Suite 603, 250 Pitt St, Sydney, NSW 2000
studio@become.com.au

MAINBRACE CONSTRUCTIONS

H&H Consulting Engineers Pty Ltd *(trading as Henry & Hymas)*

ABN 77 091 243 355
ACN 091 243 355

Address
Suite 2.01
828 Pacific Highway
Gordon
New South Wales 2072

Telephone
+61 2 9417 8400

Facsimile
+61 2 9417 8337

Email
email@hhconsult.com.au

Web
www.henryandhymas.com.au

30th June 2021
Our Ref: A21G40-S01 [C]/et

Mainbrace Constructions
Level 4/170 Pacific Highway,
Greenwich NSW 2065

Attention: Tom Shaw

Dear Sir,

RE: Structural Adequacy Assessment of Existing Structure to Support New Fire Sprinkler Loads at 30 Loftus Road, Yennora, NSW 2161

Further to your request Edwin Tran of our office inspected the existing roof structure for the proposed fire sprinkler loads at the above address on 23rd June 2021. This report is to be read in conjunction with proposed fire sprinkler layout referenced 'Fire Sprinkler Layout Warehouse 'B' – Pumproom Valveroom & Water Storage Tank & OWS Speaker Details' (File Ref: 'FS-01_30 Loftus Rd') & 'Fire Sprinkler & OWS Speaker Layout Warehouse 'A'' (File Ref: 'FS-02_30 Loftus Rd') dated 1st December 2020 attached to the end of this report. The report is also to be read in conjunction with strengthening mark-up referenced 21G40-SK08 [A] attached to the end of this report.

The existing structure was found to have adequate capacity to support the additional load. The proposed sprinkler pipes are to be installed in accordance with the following instructions:

- All 65 diameter pipes are to be supported at every second purlin.
- All 150 diameter pipes are to be supported by strengthened purlins over in accordance with sketch referenced 21G40-SK08 [A].
- All connection details between sprinkler pipes to existing structure are assumed to be proprietary and are to be installed in accordance with manufacturer specifications.

Our assumptions and limitations are as follows:

- The existing purlins are Z200 at maximum 1.5m centres as confirmed onsite. We have assumed a minimum gauge thickness of 1.9mm. These dimensions are to be verified onsite.
- The fire sprinklers to be installed are:
  - 65 diameter pipe running perpendicular to purlins with a maximum lineal operational mass of 10.42kg/m.
  - 150 diameter pipe running parallel to purlins with a maximum lineal operational mass of 38.55kg/m.
- Inspection within Warehouse 'A' was limited due to large obstructions onsite.
- The structure was reviewed for vertical / gravity loads only. No lateral wind/earthquake analysis of the existing structure was undertaken in our assessment.

henry&hymas

- It is also assumed the existing structure has been built in accordance with relevant Australian Standards, code relevant safety factors and standard building practices.
- Our design assessment assumes existing structural members do not have any structural deficiencies. It was noted during our inspection that several columns exhibited localized damage from previous impact(s) approximately 500mm – 1000mm above slab level. However we believe that the structure has sufficient capacity in its current state to support the imposed loads. Care should be taken and possible protective measures put in place to avoid any additional impact damage.
- We also noted that the existing gutter support purlin along the south west corner of Warehouse B was exhibiting signs of corrosion. Whilst this does not affect the support of the proposed sprinkler loads, we recommend that this purlin be treated, within the near future, to ensure long term durability.

It should be noted that the advice provided in this report is based on site measurements and the assumptions listed above. We have assumed that there are no external factors which would affect the performance of the existing structure.

Our involvement shall be taken as in no way relieving the contractor of any of his legal responsibilities.

We hope this satisfies your requirements, please do not hesitate to contact myself on 9417 8400 to discuss this matter or any future concerns.

Yours faithfully,

EDWIN TRAN
Site Representative
B.Eng (Hons)

For, and on behalf of, H & H Consulting Engineers Pty Ltd.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

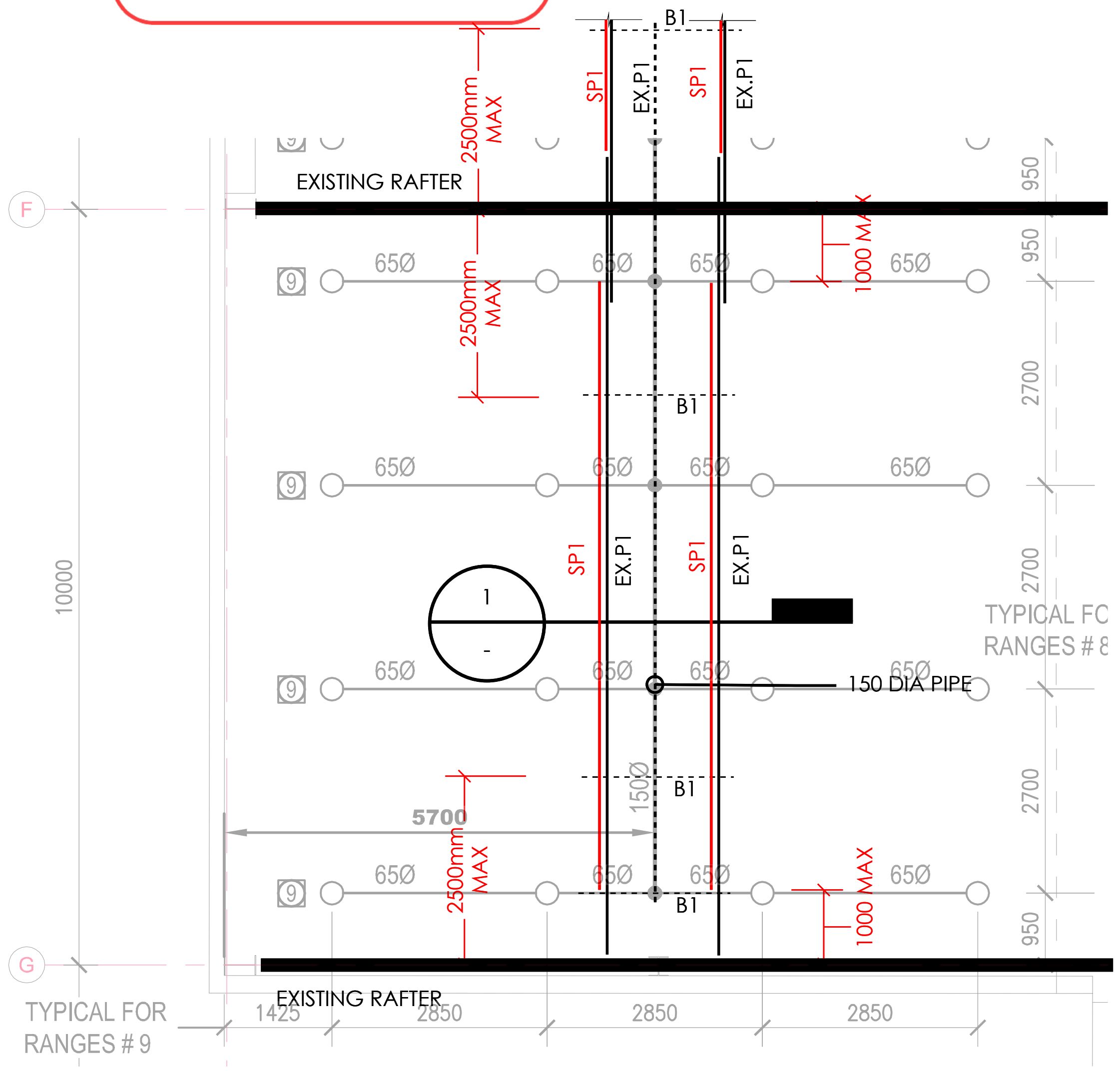
STEEL MEMBER SCHEDULE

EX. P1 - EXISTING PURLINS MINIMUM Z20019 WITH 2 ROWS OF BRIDGING @1500mm MAXIMUM CENTRES
SP1 - SZ20019 STRENGTHENING PURLIN, 8M LONG TO SUPPORT 150 DIA PIPE
B1 - BRIDGING MEMBERS SHOWN INDICATIVELY ONLY AND ARE TO CONTRACTORS DETAILS. BRIDGING MEMBER TO BE LOCATED MAXIMUM 2500mm FROM EXISTING RAFTER. BRIDGING MEMBER IS TO BE FIXED TO WEB OF STRENGTHENED PURLINS. IT IS UNDERSTOOD THAT THE 150 DIAMETER PIPES ARE ABLE TO SPAN UP TO 5m. FIRE SPRINKLER CONTRACTOR TO CONFIRM/VERIFY 150mm DIA PIPE CAN SPAN 5m BETWEEN B1's.

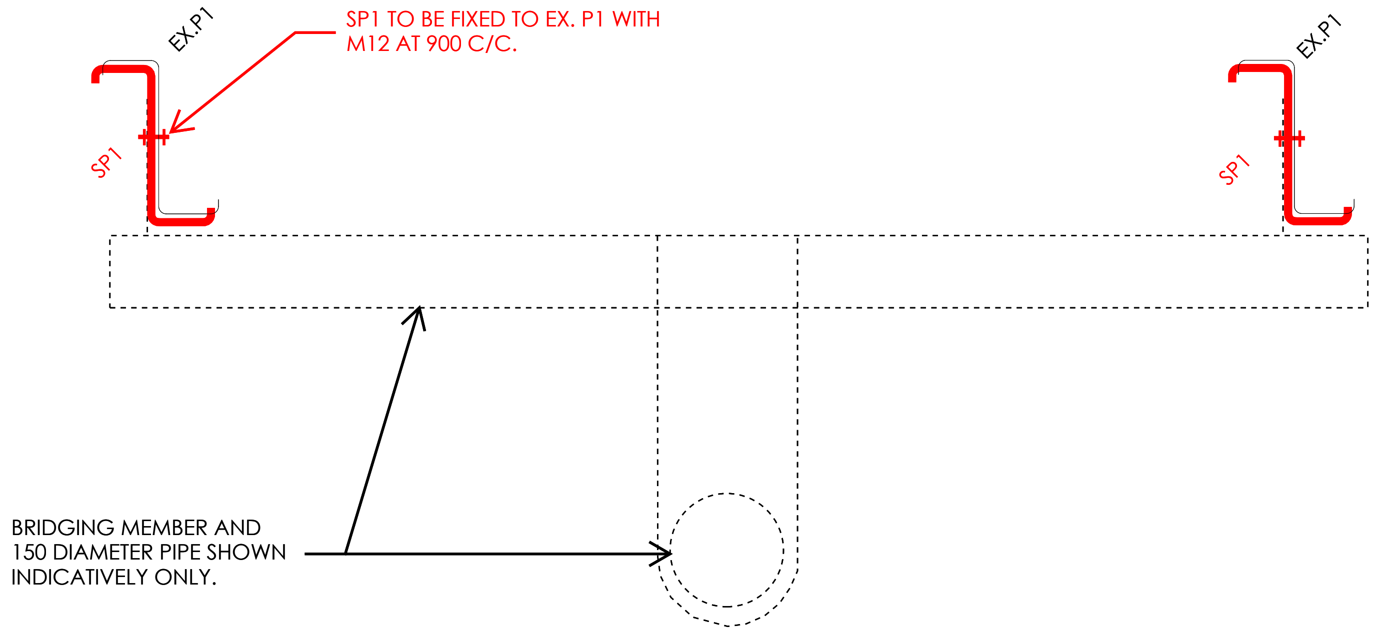
Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

NOTES:

- BUILDER TO NOTIFY ENGINEER OF ANY DISCREPANCIES OR LATENT SITE CONDITIONS ENCOUNTERED ON SITE PRIOR TO FABRICATION/INSTALLATION.
- ADEQUACY OF STRUCTURAL SCHEME TO BE CONFIRMED UPON SITE INVESTIGATION



ROOF STRENGTHENING GENERAL ARRANGEMENT PART PLAN
TYPICAL AT ALL 150 DIA SPRINKLER MAINS
SCALE 1:100



SECTION 1 / -
SCALE 1:10

NOT FOR CONSTRUCTION

PRINT IN COLOUR

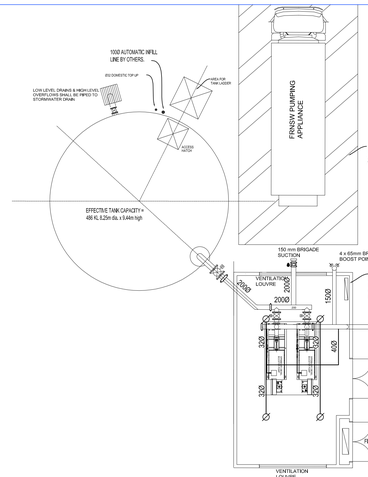
Suite 2.01
828 Pacific Highway
Gordon, NSW 2072
Tel: +61 2 9417 8400
Fax: +61 2 9417 8337
email@hhconsult.com.au
henry&hymas

TITLE		
PURLIN STRENGTHENING WORKS AT 30 LOFTUS ROAD, YENNORA		
DESIGN BY ET	DATE 29/06/2021	SCALE AS NOTED IN A3
PROJECT No 21G40	DRAWING No SK08	ISSUE A

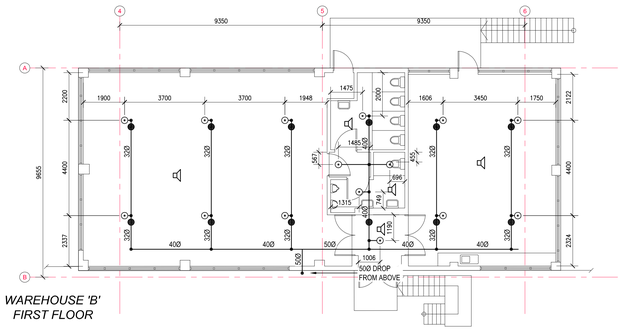
FIRE SPRINKLER LEGEND	
Sym	Description
⊙	15mm, CHROME SPRINKLER 68°c WITH WHITE 2 PIECE ESCUTCHEON PLATE
○	20mm, BRASS PENDANT SPRINKLER 93°c
⊘	15mm, BRASS UPRIGHT SPRINKLER 68°c
●	15mm, BRASS CONVENTIONAL CONCEALED SPRINKLER 68°c
⊱	15mm, BRASS HORIZONTAL SIDEWALL SPRINKLER 68°c
⊠	K25 STORAGE MODE SPRINKLER 93°c

FIRE SERVICES SYMBOL LEGEND	
Symbol	Description
———	FIRE SPRINKLER MAIN PIPEWORK
———	FIRE SPRINKLER RANGE PIPEWORK
—●—	MAIN PIPEWORK WITH RISE/DROP
—●—	RANGE PIPEWORK WITH RISE/DROP
—[	PLUGGED END FOR FUTURE USE
◉	FIRE SPRINKLER CONTROL VALVE
	OCCUPANT WARNING SYSTEM CEILING SPEAKER
	OCCUPANT WARNING SYSTEM HORN SPEAKER

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Document Relied Upon
Steven Rodriguez
BDC - 0823



PUMPROOM - VALVE ROOM AND TANK DETAILS



WAREHOUSE 'B' FIRST FLOOR

FIRE SPRINKLER CONTROL VALVE ENCLOSURE. MANIFOLD TO HAVE ROLL GROOVE CAPPED END FOR FUTURE IN-RACK SPRINKLERS

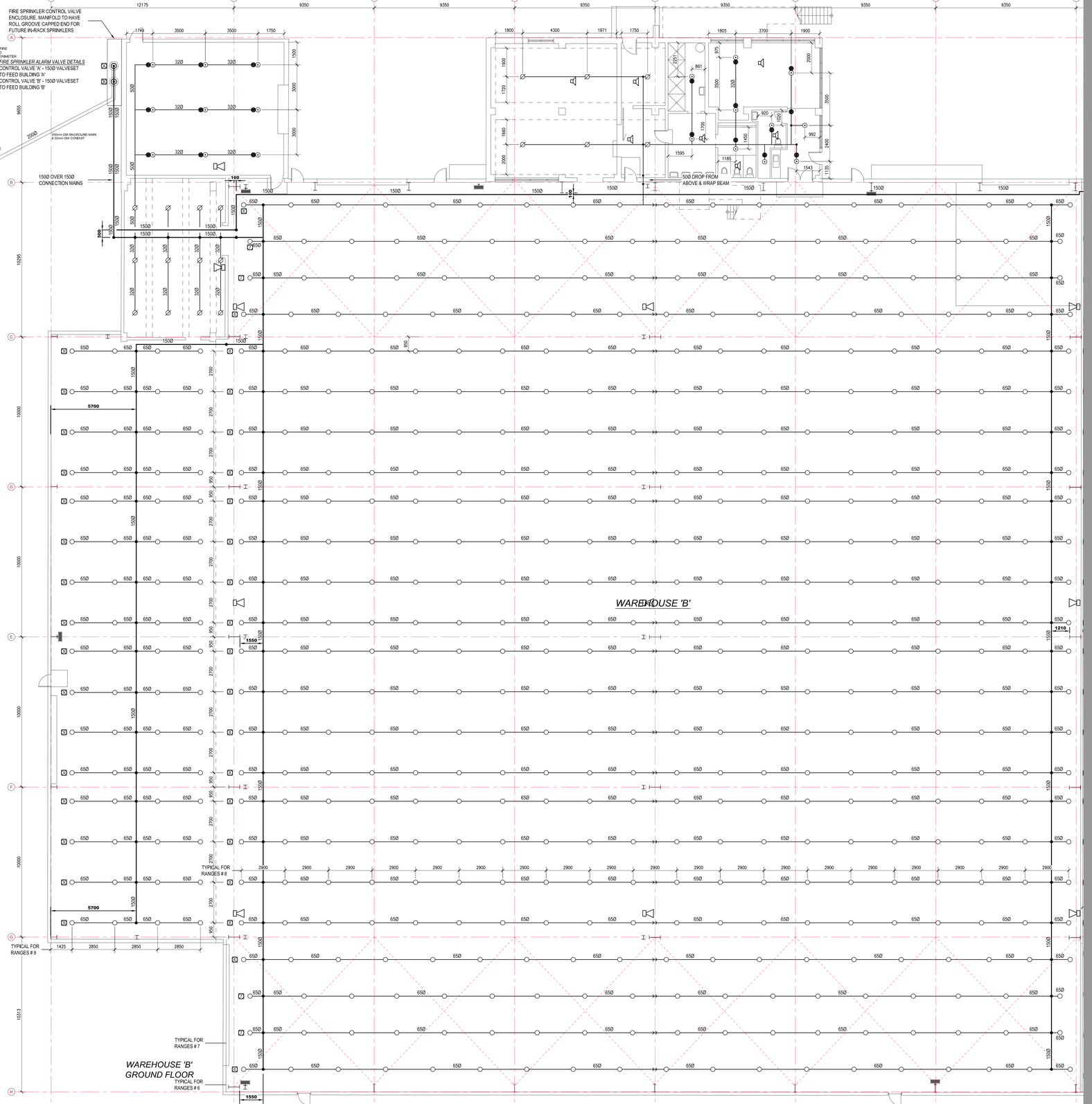
FIRE SPRINKLER ALARM VALVE DETAILS
CONTROL VALVE 'A' - 150Ø VALVESET TO FEED BUILDING 'A'
CONTROL VALVE 'B' - 150Ø VALVESET TO FEED BUILDING 'B'

200mm DIA IN-GROUND MAIN & 50mm DIA CONDUIT

150Ø OVER 150Ø CONNECTION MAINS

500 DROP FROM ABOVE & WRAP BEAM

500 DROP FROM ABOVE



NOTES :

WAREHOUSE 'B' - K16 CONTROL MODE FIRE SPRINKLERS.
- 15xK16 SPRINKLER HEADS OPERATING @ 140 kPa TO BE SUPPLEMENTED BY FUTURE IN-RACK SPRIBKLERS.

FLOW/PRESSURE REQUIREMENTS :
2899 L/min @ 419 kPa.
AS PER HYENA CALCULATIONS : RM1351 YEM WH B REM 6

REV	REVISION DESCRIPTION	DATE
C	FOR CONSTRUCTION	11.06.21
B	OWS SPEAKERS & NOTES ADDED	08.06.21
A	FOR APPROVAL	03.06.21

FPS Fire Protection Systems (Australia)
P.O.BOX 493
BANKSTOWN
N.S.W. 1885
Ph. 02 9790 0577
Fax 02 9790 2166

ARCH:

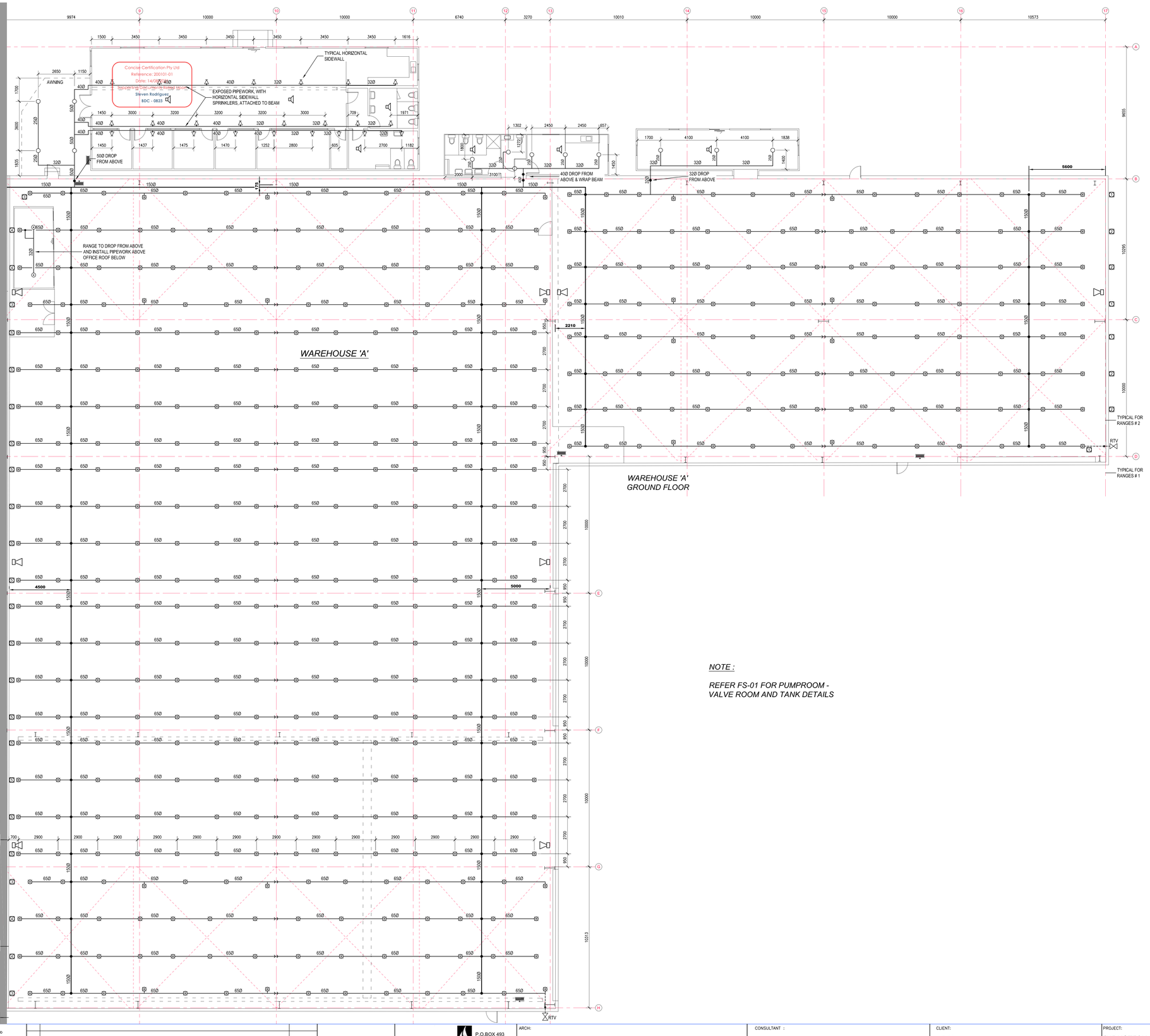
CONSULTANT :

CLIENT: MAINBRACE CONSTRUCTIONS

PROJECT:
INDUSTRIAL DEVELOPMENT
30 LOFTUS ROAD,
YENNORA, NSW 2161

TITLE: FIRE SERVICES
FIRE SPRINKLER LAYOUT WAREHOUSE 'B' - PUMPROOM VALVEROOM & WATER STORAGE TANK & OWS SPEAKER DETAILS

DRAWN	DAB	APPRD	M. Davey	DATE	01.12.20
DESIGN	MD	SCALE	1: 100 ON A0 (UNO)		
No IN SET	—	JOB No	---_---	DRAWING No	FS-01
REV	C				



FIRE SPRINKLER LEGEND	
Sym	Description
⊙	15mm, CHROME SPRINKLER 68°c WITH WHITE 2 PIECE ESCUTCHEON PLATE
○	20mm, BRASS PENDANT SPRINKLER 93°c
⊘	15mm, BRASS UPRIGHT SPRINKLER 68°c
●	15mm, BRASS CONVENTIONAL CONCEALED SPRINKLER 68°c
▷	15mm, BRASS HORIZONTAL SIDEWALL SPRINKLER 68°c
⊡	K25 STORAGE MODE SPRINKLER 93°c

FIRE SERVICES SYMBOL LEGEND	
Symbol	Description
	FIRE SPRINKLER MAIN PIPEWORK
	FIRE SPRINKLER RANGE PIPEWORK
	MAIN PIPEWORK WITH RISE/DROP
	RANGE PIPEWORK WITH RISE/DROP
	PLUGGED END FOR FUTURE USE
	FIRE SPRINKLER CONTROL VALVE
	OCCUPANT WARNING SYSTEM CEILING SPEAKER
	OCCUPANT WARNING SYSTEM HORN SPEAKER

NOTE :

REFER FS-01 FOR PUMPROOM - VALVE ROOM AND TANK DETAILS

NOTES :

WAREHOUSE 'A' - K25 ESFR PENDANT FIRE SPRINKLERS.
Storage Mode - 12xK25 SPRINKLER HEADS OPERATING @ 210 kPa FOR A MAXIMUM ROOF HEIGHT 0F 10.7 Mtr.
MAXIMUM SPACING @ 3.1 Mtr.
MINIMUM SPACING @ 2.4 Mtr.
FIRE SPRINKLERS TO BE min. 300mm. CLEAR OF BRACING STEELWORK.

FLOW/PRESSURE REQUIREMENTS :
6386 L/min @ 967 kPa.
AS PER HYENA CALCULATIONS : RM1351 YEM WH A REM 8

REV	REVISION DESCRIPTION	DATE
C	FOR CONSTRUCTION	11.06.21
B	OWS SPEAKERS & NOTES ADDED	08.06.21
A	FOR APPROVAL	02.06.21

FPS Fire Protection Systems (Australia)
P.O.BOX 493
BANKSTOWN
N.S.W. 1885
Ph. 02 9790 0577
Fax 02 9790 2166

ARCH:

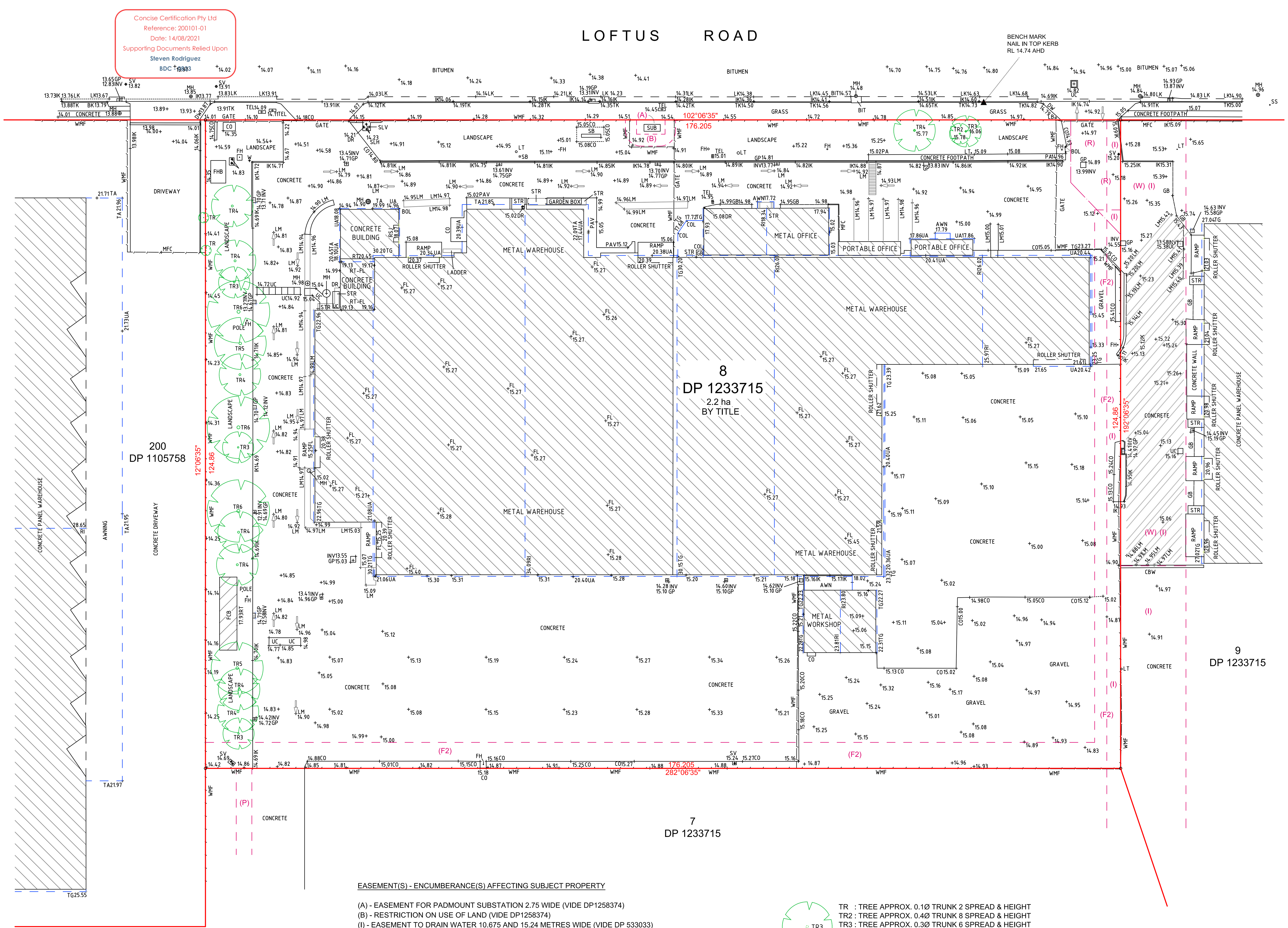
CONSULTANT :

CLIENT: MAINBRACE CONSTRUCTIONS

PROJECT: INDUSTRIAL DEVELOPMENT
30 LOFTUS ROAD,
YENNORA, NSW 2161

TITLE: FIRE SERVICES
FIRE SPRINKLER & OWS SPEAKER LAYOUT
WAREHOUSE 'A'

DRAWN	DAB	APPRD	M. Davey	DATE	01.12.20
DESIGN	MD	SCALE	1: 100 ON A0 (UNO)		
No IN SET	JOB No	DRAWING No	REV
–	---_---	FS-02	C



Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC

M.G.A.
DP 1233715

GENERAL / SPECIFIC NOTES

THESE NOTES ARE AN INTEGRAL PART OF THIS PLAN. THE INFORMATION SHOWN ON THIS PLAN OR IN THE ASSOCIATED CAD FILE IS SUPPLIED ON THE CONDITION THAT THESE GENERAL NOTES ARE ALWAYS SHOWN\KEPT ON ANY COPY OR EXTRACT OF THE HARD COPY\DATA FILE.

INFORMATION SHOWN ON THE SUPPLIED HARD COPIES TAKES PRECEDENCE OVER ANY DIGITAL OR ELECTRONIC DATA.

THIS PLAN HAS BEEN PREPARED FOR FEATURE & LEVEL PURPOSES ONLY OVER THE SUBJECT SURVEY AREA.

LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) THE ORIGIN OF WHICH IS SSM 154508 RL 15.55 AHD (SOURCE: SCIMS 29-03-2020).

THE LOCATION OF PROPERTY BOUNDARIES ARE INDICATIVE. BOUNDARIES HAVE BEEN COMPILED FROM SURVEY MEASUREMENTS & REGISTERED PLANS OBTAINED FROM NSW LAND REGISTRY SERVICES AND REPRESENT TITLE DIMENSIONS.

ANY CONSTRUCTION OR WORKS RELYING ON CRITICAL SETBACKS FROM BOUNDARIES WILL REQUIRE ADDITIONAL BOUNDARY SURVEY & PLACEMENT OF BOUNDARY/SETOUT MARKS PRIOR TO COMMENCEMENT OF ANY WORKS. REALSERVE WILL NOT BE HELD RESPONSIBLE FOR ANY ISSUES RESULTING FROM NON COMPLIANCE WITH THIS ADVICE.

THE LOCATION OF EASEMENTS HAVE BEEN COMPILED FROM PLANS & RECORDS OBTAINED FROM N.S.W LRS AND ARE SUBJECT TO ADDITIONAL SURVEY IF LOCATION IS CRITICAL CADASTRAL SURVEY.

THE LOCATION OF ADJOINING BUILDING FEATURES HAVE BEEN OBTAINED WHERE VISIBLE FROM THE SUBJECT PROPERTY. ANY ADDITIONAL INFORMATION REQUIRED IS SUBJECT TO ADDITIONAL SURVEY & ACCESS BEING GRANTED TO ADJOINING PROPERTIES.

THE LOCATION & LEVELS OF BUILDING RIDGES AND ROOF FEATURES HAVE BEEN DETERMINED BY INDIRECT METHODS (WHERE VISIBLE) & ACCURATE TO APPROXIMATELY +/- 0.02m.

THE RECORDS OF THE SERVICE AUTHORITIES HAVE NOT BEEN INVESTIGATED. ONLY THOSE SERVICES VISIBLE / APPARENT AT THE TIME OF SURVEY HAVE BEEN SHOWN.

SCHEDULE OF ABBREVIATIONS

AWN - AWNING
BK - BACK KERB
BIT - BITUMEN
BOL - BOLLARD
CBW - CONCRETE BLOCK WALL
CO - CONCRETE
DR - DRAIN
DW - DRIVEWAY
FCB - FIBROUS CEMENT BUILDING
FH - FIRE HYDRANT
FHB - FIRE HYDRANT BOOSTER
FL - FLOOR LEVEL
GB - GARDEN BORDER
GP - GRATE PIT
IK - INVERT KERB
INV - INVERT
LK - LIP KERB
LM - LINE MARKING (APPROX SPACING)
LT - LIGHT POLE
MFC - METAL FENCE
MH - MANHOLE
PAV - PAVING
RI - ROOF RIDGE (APPROX HEIGHT)
RT - ROOF (APPROX HEIGHT)
RSJ - ROLLED STEEL JOIST
SB - SWITCH BOARD
STR - STAIR
SS - STREET SIGN
SUB - SUB STATION
SV- STOP VALVE
TA - TOP AWNING (APPROX HEIGHT)
TAP - WATER TAP
TG - TOP GUTTER (APPROX HEIGHT)
TK - TOP KERB
UA - UNDERSIDE AWNING (APPROX HEIGHT)
UC - UNCLASSIFIED PIT
WMF - WIRE MESH FENCE

0 5 10 15 20
SCALE 1 : 400

EASEMENT(S) - ENCUMBERANCE(S) AFFECTING SUBJECT PROPERTY

(A) - EASEMENT FOR PADMOUNT SUBSTATION 2.75 WIDE (VIDE DP1258374)
(B) - RESTRICTION ON USE OF LAND (VIDE DP1258374)
(I) - EASEMENT TO DRAIN WATER 10.675 AND 15.24 METRES WIDE (VIDE DP 533033)
(F2) - EASEMENT FOR FLOOD MITIGATION WORKS 5 WIDE & VARIABLE (VIDE DP 1233715)
(P) - EASEMENT TO DRAIN WATER 1.5 & 3 WIDE (VIDE DP 1233715)
(R) - RIGHT OF ACCESS 9.6 WIDE & VARIABLE (VIDE DEALING AM754799)
(W) - RIGHT OF ACCESS 12.58 WIDE (VIDE DP 1233715)

TR3

TR : TREE APPROX. 0.1Ø TRUNK 2 SPREAD & HEIGHT
TR2 : TREE APPROX. 0.4Ø TRUNK 8 SPREAD & HEIGHT
TR3 : TREE APPROX. 0.3Ø TRUNK 6 SPREAD & HEIGHT
TR4 : TREE APPROX. 0.4Ø TRUNK 8 SPREAD & HEIGHT
TR5 : TREE APPROX. 0.5Ø TRUNK 10 SPREAD & HEIGHT
TR6 : TREE APPROX. 0.6Ø TRUNK 12 SPREAD & HEIGHT

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DATE	REV	COMMENTS

PLAN PREPARED FOR:
PLAN PROJECT MANAGEMENT

DATUM : A.H.D	SCALE : 1:400 @ A1	DATE : 31-03-2020
ORIGIN OF LEVELS : SSM 154508	LOCALITY : YENNORA	SURVEY : JP
CONTOUR INTERVAL : N/A	L.G.A. : CUMBERLAND	DRAWN : JP
SHEET No. 1 OF 1	REF : 74817JP	CHECKED : AK

DESCRIPTION:
PLAN SHOWING SELECT FEATURES & LEVELS
LOT 8 IN DP 1233715
No. 30 LOFTUS ROAD, YENNORA, NSW

MAINBRACE
CONSTRUCTIONS

COUNCIL ASSET DILAPIDATION REPORT

30 Loftus Rd, Yennora

6th July 2021

WE ARE RETAIL SPECIALISTS

PROJECT INFORMATION

Project:	30 Loftus Road, Yennora
Job No:	1276
Location of Site:	Yennora
Date Visited:	23/06/21
Report Prepared by:	Tom Shaw
Submitted to:	Cumberland Council. C/o Lydia Bezina – Plan PM

INSPECTION DETAILS

Records Taken:	Y
Photos	Y
Video	N
Written	N

INTRODUCTION

This report is derived from notes and photographic evidence obtained on 23rd June by a visual inspection of the following areas.

Adjacent property DB Schenker Yennora

Adjacent street – Norris Street and Pine Road

etc

The aim of the report is to record the existing condition of the surveyed areas prior to the commencement of the construction works for 30 Loftus Road, Yennora which is Sprinkler and fire services upgrade to the existing warehouse including new ordinary hazard system to warehouse A which will be occupied, new high hazard system to warehouse B which will be vacant during project and modification to the existing hydrant main including build of new pump room & water tank and associated builders works.

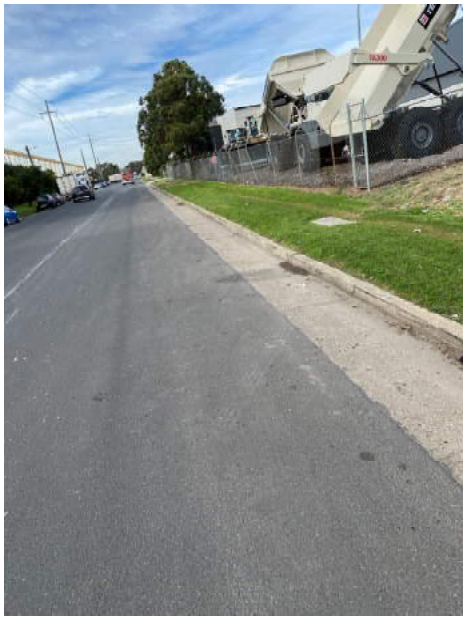
The report shall be used along with other means to assist in the determination of responsibility for any damage and rectification thereof arising out of the construction works to the areas noted above.

ITEMS TO NOTE

Significant damage to existing council assets noted as per below report.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 1	Telecommunications box damaged, rubbish inside.	Description: 2	Telecommunications box damaged, rubbish inside.
. 			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 3	Telecommunications box damaged, rubbish inside.	Description: 4	Telecommunications box damaged, rubbish inside.
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 5	Photo of Loftus Road, Marks on road from Machinery	Description: 6	Photo of Loftus Road, Marks on road from Machinery
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 7	Photo of electrical box On Loftus Road	Description: 8	Photo of gutter on Loftus Road Yennora.
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 9	Photo of kerb and gutter pavement on Loftus Road.	Description: 10	Photo of kerb and gutter pavement on Loftus Road.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 11	Photo of barb-wired fencing situated on 30 Loftus Road.	Description: 12	Photo of barb-wired fencing situated on 30 Loftus Road.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description:13	Photo of barb-wired fencing situated on 30 Loftus Road.	Description: 14	Photo of barb-wired fencing situated on 30 Loftus Road.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 15	Photo of barb-wired fencing situated on 30 Loftus Road.	Description: 16	Photo of barb-wired fencing situated on 30 Loftus Road.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 17	Photo of kerb and gutter pavement on Loftus Road.	Description: 18	Photo of barb-wired fencing situated on 30 Loftus Road.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 19	Photo of kerb and pavement on Loftus Road.	Description: 20	Close up photo of kerbside pavement on Loftus Road.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 21	Photo of kerbside pavement on Loftus Road.	Description: 22	Photo of kerbside pavement on Loftus Road.
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 23	Photo of fencing and site entry via Loftus Road	Description: 24	Photo of site tap which is located on entry via Loftus Road
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 25	Photo of driveway and kerbside pavement on Loftus Road	Description: 26	Photo of on-site tap.
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 27	Photo of site security gate which allows access to 30 Loftus Road.	Description: 28	Photo of onsite-tap which is in average condition
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 29	Photo of site security gate which allows access to 30 Loftus Road.	Description: 30	Photo of site security gate which allows access to 30 Loftus Road.
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 31	Photo of Hydrant booster system from Loftus Road.	Description: 32	Photo of Hydrant booster system from Loftus Road.
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 33	Photo of warehouse entry via Loftus Road.	Description: 34	Photo of Hydrant booster (Loftus Road)
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 35	Photo of Site entry and the warehouse.	Description: 36	Photo of hydrant pump system which is located on Loftus Road.
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 37	Damaged telecommunications box, rubbish inside.	Description: 38	Photo of Hydrant Booster systems.
			
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 39	Telecommunications box damaged, rubbish inside.	Description: 40	Photo of damaged telecommunications box.
			

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 41	Telecommunications box damaged, rubbish inside.	Description: 42	Telecommunications box damaged, rubbish inside.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 43	Photo of hydrant booster system.	Description: 44	Photo of hydrant booster system.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 45	Photo of pump system and where new system will be going	Description: 46	Photo of area were new hydro system and telecommunications will be put

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 47	Photo of Loftus Road and kerbside pavement.	Description: 48	Photo of damaged telecommunications box

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 49	Phot of area were new system will be installed	Description: 50	Photo of entry to complex

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 51	Photo of Hydrant Booster System.	Description: 52	Photo of Hydrant Booster System.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 53	Photo of Hydrant Booster System.	Description: 54	Photo of Hydrant Booster System.

Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 55	Damaged telecommunications box, rubbish inside.	Description: 56	Photo of driveway in complex, construction machinery/vehicles will be here.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Title:	**30 Loftus Road, Yennora**	**Title:**	**30 Loftus Road, Yennora**
Description: 57	**Photo of construction area in complex, construction machinery/vehicles will be here.**	**Description: 58**	**Photo of construction area in complex, construction machinery/vehicles will be here.**
			
Title:	**30 Loftus Road, Yennora**	**Title:**	**30 Loftus Road, Yennora**
Description: 59	**Photo of construction area in complex, construction machinery/vehicles will be here.**	**Description: 60**	**Photo of construction area in complex, construction machinery/vehicles will be here.**
			

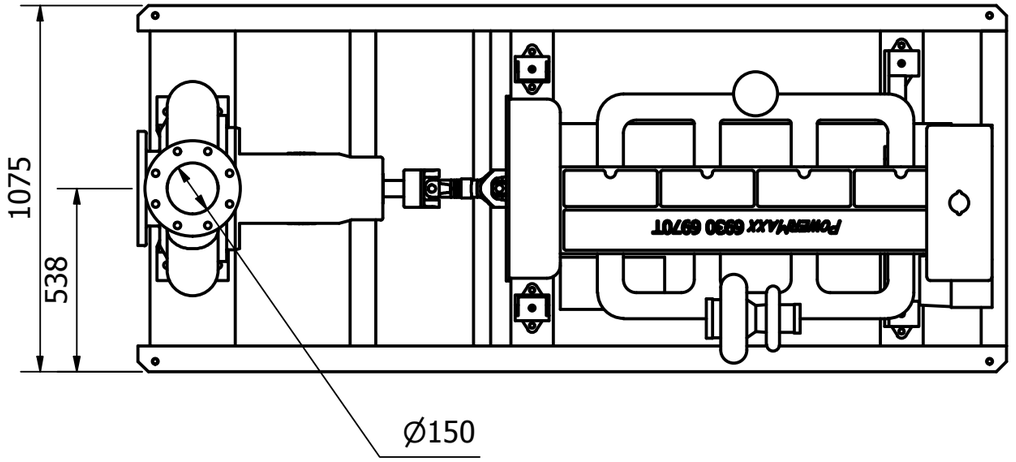
Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

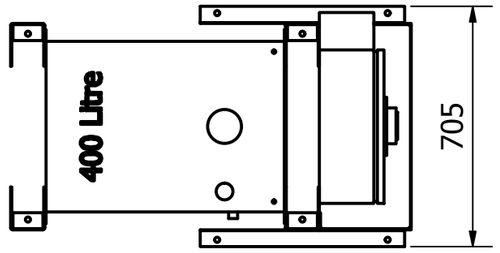
Title:	30 Loftus Road, Yennora	Title:	30 Loftus Road, Yennora
Description: 61	Photo of construction area in complex, construction machinery/vehicles will be here.	Description: 62	Photo of exiting hydrant booster system.
			

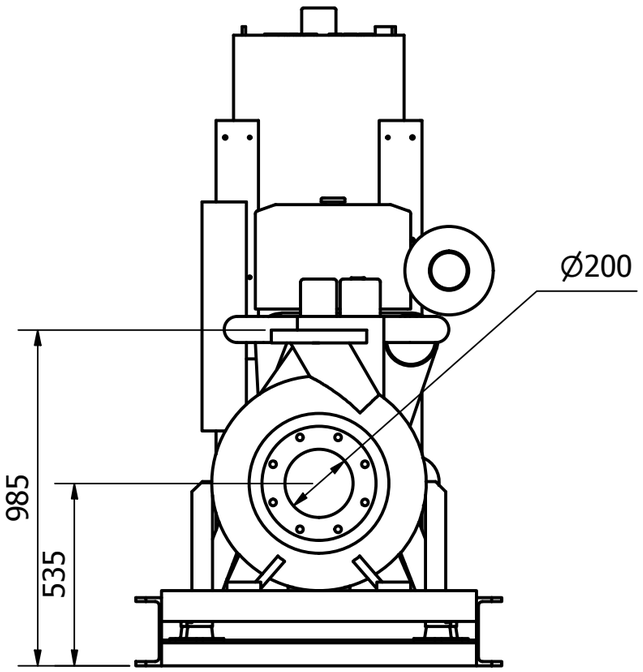
End of Report.

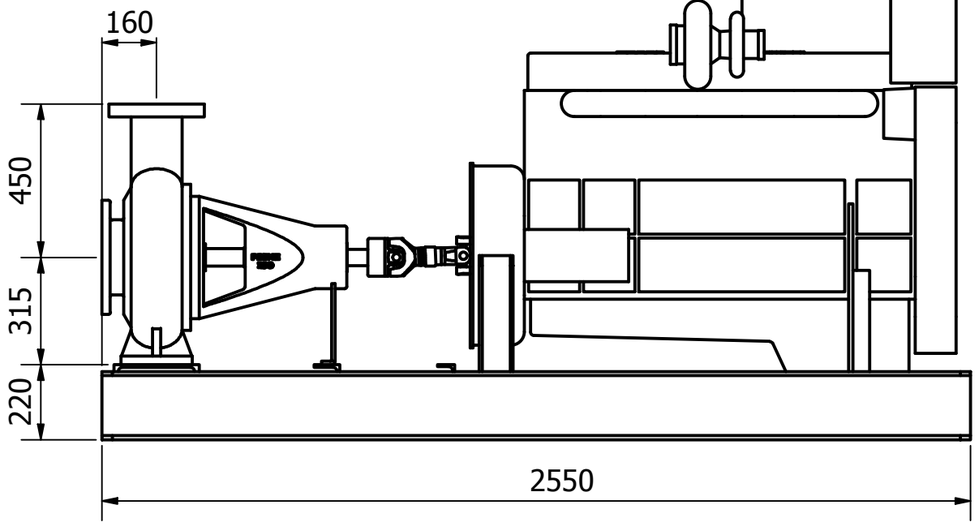
Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

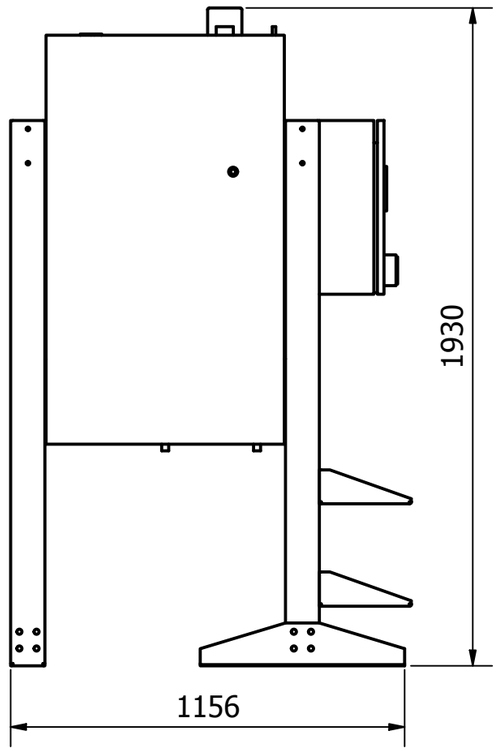
Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823











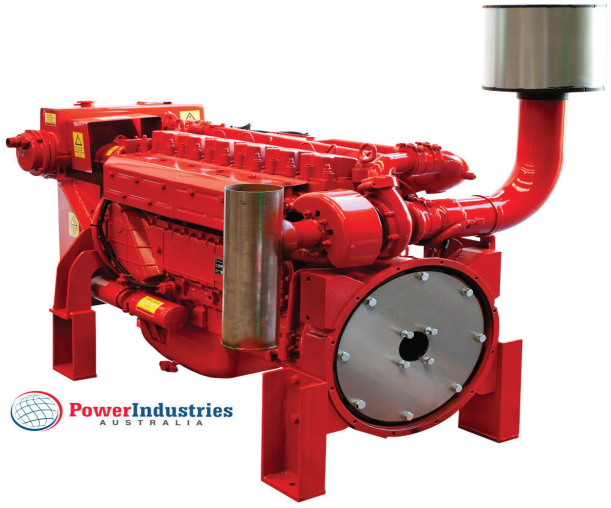
PUMPSET MODEL: ISO150-400_1550R_DP6970

JOB NO:	SERIAL NO:	A3	SCALE: 1 : 18
DRIVER HEIGHT: 425 mm	PUMP HEIGHT: 315 mm	FUEL TANK VOLUME: 400 Litres	
PUMP SUCTION FLANGE: 200NB Table E	PUMP DISCHARGE FLANGE: 150NB Table E		
DRAWN: D. Boyd	DATE: 28/9/18		
CHECKED:	DATE:		

PRIME PUMPS
AUSTRALIAN OWNED ABN 33 078 590 628
SYDNEY • BRISBANE • MELBOURNE • PERTH

POWERMaXX FIRE

PowerIndustries AUSTRALIA



FIREPUMP DP6970T DIESEL POWER PACK (HEAT EXCHANGER COOLED)

OVERVIEW

SHORT MOTOR CONSTRUCTION

Cast Iron Block - Dry Liners - Fully Floating Pistons - Forged Steel Crankshaft - High Volume Oil Pump - High Volume Oil Sump

CYLINDER HEAD

Individual Cast Iron Cylinder Heads Adjustable Rocker Arms - Rubber Valve Gasket

CONSTRUCTION

Heavy Duty Design - High Volume Cooling System - Simple, Maintenance Free High Pressure Fuel System - Direct Injection Combustion Chamber - P Type Injectors - High Flow Donaldson Fuel, Oil and Donaldson Air Filters

MAXIMUM POWER RATING - FOR 'HP' MULTIPLY X 1.34

Model	1800rpm	2000rpm	2200rpm	2500rpm
DP6970T	186kW	194kW	202kW	210kW

DESIGN SPECIFICATIONS

Design & Quality

POWERMaXX firepump engines offer industry leading value for money. Proven quality and Australian design, powering over thousands of firepumps nationwide. All engines come backed by a 2 year warranty and are constructed to last. When the job needs to be done, you can rely on POWERMaXX to perform.

Service Kits

All engines can be supplied with service kits. All parts used in service are readily available, high quality parts including Donaldson filters.
Kits provide a complete ready package for servicing. Included in the kits are belt set, hose kit and all filters; oil, primary and secondary fuel and air cleaners

Controller

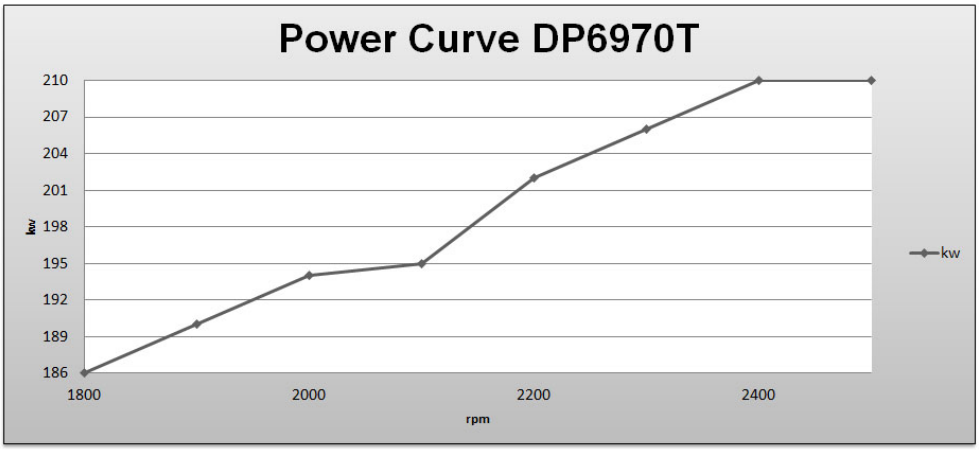
The FireGuard diesel engine control system delivers simplicity and reliability. Proudly Australian designed and built to AS2941-2013 (Fixed Fire-Pumpset Systems).
Available in 12V & 24V. Monitors, displays and records diesel engine information. The construction incorporates high quality industrial components and an advanced microprocessor controller.

DETAILED SPECIFICATIONS

Model	DP6970T
Type	Inline 6 Cylinder - 2 Valve P/Cyl - OHV
Fuel	Direct Injection - Inline Pump - Mechanical Governor
Bore/Stroke	126 x 130
Capacity	9.7Ltr
Compression	16:5:1
Intake	Turbocharged
Cooling	Water
Voltage	24V
Min Speed	850rpm
Max Speed	2500rpm

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

DESIGN SPECIFICATIONS



POWER CURVE

Power Output Rated: 210kW @ 2500rpm

Fuel Consumption: 240 grams/kW.hr

Power Rating Standard - ISO3046

ENGINE SPECIFICATIONS

Fuel Consumption @ 75% Load - 2200rpm	.240gr/kWhr
Approx Fuel Consumption at 100% load - 2600rpm	50ltrs per/hour
Cooling Water Supply	2.9ltrs/sec @ 20DegC
Intake Air Flow	210ltrs/sec
Exhaust Pipe Size	5"/125mm
Exhaust Flow	710 ltrs/sec
Exhaust Heat Rejection	140kW
Heat Rejection to Atmosphere	15kW
Cooling System Heat Rejection	126kW
Exhaust Temp Max	620degC
Max Exhaust Backpressure	7kPa
Max Coolant Temp	85 DegC

SERVICE INFORMATION

Fuel Filter	Donaldson P550932 x2 & P550778
Oil Filter	Donaldson P553771 X2
Air Filter	Donaldson C125004
Oil Capacity	25 Ltrs
Recommended Battery - Min	720CCA x 2 / A/H x 2
Bell Housing	SAE1
Cooling System Capacity	30ltrs
Drive	SAE 14"
Service Interval	First Service at 12Month/ 150Hours Then Each 12month /250Hours
Major Service	2 Years/1000 Hours of Operation
Oil Type	15W40 - SAE30
Coolant	Min 40% Glycol Mix

COOLING SYSTEM

Type	Heat Exchanger Cooled-Tube Type

ENGINE MOUNTING

Mounting Bolts	M16

ELECTRICAL

Starter Motor	24V -7kW - Reduction Drive
Alternator	24V - 40Amp - External Regulator
Oil Pressure Sender	5 Bar (VDO Compatible)
Temp Sender	30 - 120DegC
RPM Sensor	Magnetic Pulse Type - M18 x 1.5
Fuel STOP Solenoid	24V - Pull to Stop - Two Wire - Body Earth

POWER PACK SUPPLIED WITH:

Produced to comply with AS2941-2013
Oil Pressure Sender & Temp Sender
SAE 14" Flywheel
Mounting Feet
Belt Guard

Flexible Exhaust Coupling
Condensation Trap & Muffler
Pull to Stop Solenoid
Oil & Coolant
Jacket Heater

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Note:
Variations to engines may be made without notice.

Login

Payment Confirmation

You have successfully completed the checkout process. Please print a copy of the information on this page for future reference or enquiries.

Transaction Details

Transaction Date	09-Jul-2021
Payment Reference	39375
Transaction Amount	$6,696.63

Charge Details

Reference	Details	Charge Description	Charge	Charge Tax	Charge Total
Application Payment BG2021/0998	Bonds and Guarantees - Security	Amount Paid	$6,660.00		$6,660.00
		Credit Card Surcharge	$36.63	$0.00	$36.63
		Total			$6,696.63

Email Address Details

Email Address* tshaw@mainbrace.com.au

Print

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

CUMBERLAND CITY COUNCIL

TAX INVOICE

ABN 22 798 563 329

Mainbrace Constructions (NSW) Pty Lty
Level 4/170 Pacific Highway
GREENWICH NSW 1585

Date	08 July 2021
Invoice Number	202243
Application Ref.	BG2021/0998
Application Type	Bonds and Guarantees - Security
Property	30 Loftus Road YENNORA NSW 2161
Due Date	07/08/2021

CHARGE SUMMARY

Description	Qty	Comment	Ex. Tax Amount	Discount	GST	Inc. Tax Amount	Balance
Bld Const - Industrial Building - (Per m frontage)	176.21	Maximum	$6660.00	$0.00	$0.00	$6660.00	$6660.00
Total Amount Due							$6660.00

PLEASE DETACH AND RETURN THIS SECTION WITH YOUR PAYMENT:

Balance Statement *– This section provides the* ***charge balance for ALL charges on Application Number BG2021/0998****, including unpaid amounts from previous Tax Invoices issued by Cumberland City Council.*

Issue Date	08 July 2021	**Invoice No:**	202243
Applicant:	Mainbrace Constructions (NSW) Pty Lty	**Receipt Source:**	Bags
Application Ref:	**BG2021/0998**	**Amount:**	**$6,660.00**
Receipt No. & Date:		**Payment Due Date:**	**07/08/2021**

METHODS OF PAYMENT

Online Services: onlineservices.cumberland.nsw.gov.au and click on 'Application Payment'
If paying by CREDIT CARD, an additional 0.55% processing fee will apply.

By Mail: Make cheque payable to 'Cumberland City Council' and crossed 'Not Negotiable'.
Mail payment to Cumberland City Council, PO Box 42, Merrylands NSW 2160

In Person: Present this payment slip to Customer Services at:
Auburn Service Centre - 1 Susan Street, Auburn NSW 2144
Merrylands Service Centre - 16 Memorial Avenue, Merrylands NSW 2160

Lydia Bezina

From: Yamemi Esber <yamemi.esber@cumberland.nsw.gov.au>
Sent: Thursday, 8 July 2021 3:13 PM
To: Lydia Bezina
Subject: RE: 30 Loftus Road - CC - Damage Deposit Bonds (DARef: DA2020/0488)
Attachments: 30 Loftus Road, Yennora.pdf

Good Afternoon,

Please see attached invoice,
Good Afternoon,

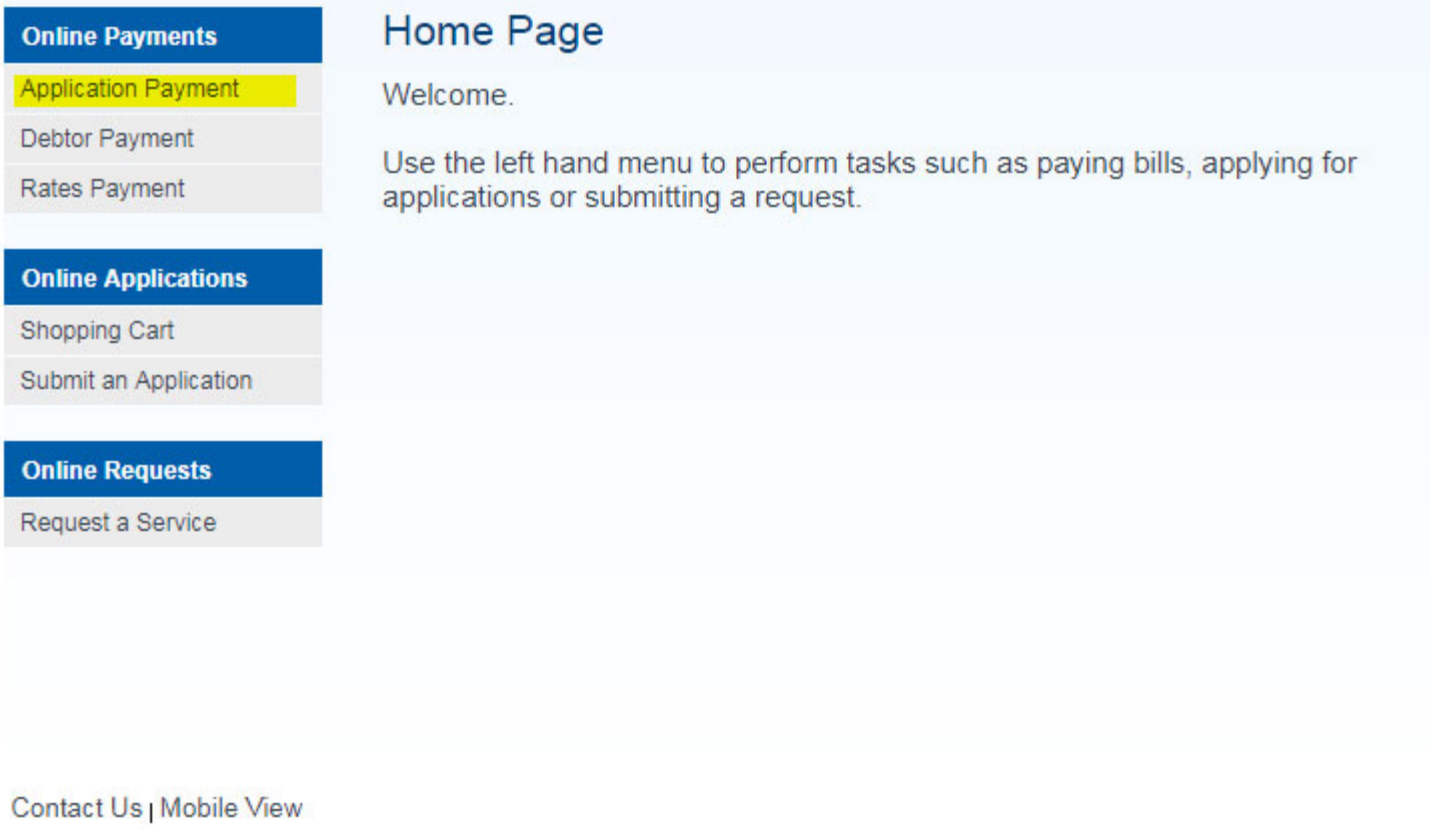
Please see attached invoice,
Please organise online payment of your application (invoice attached) within 48 hours of receipt of the invoice by clicking on the link below.

NOTE: DUE TO TECHNICAL ISSUES USING GOOGLE CHROME & MICROSOFT EDGE, PLEASE PROCEED WITH PAYMENT OF APPLICATIONS USING INTERNET EXPLORER OR ANY OTHER BROWSER.

https://cumberland-web.t1cloud.com/T1PRDefault/WebApps/eProperty/P1/GuestHome.aspx?r=CC.WEBGUEST&f=%24P1.EPR.GUESTHME.VIW

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

CUMBERLAND CITY COUNCIL



If you have any further questions, please contact Council on 8757 9000.

Kind Regards,

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

YAMEMI ESBER
CUSTOMER CONTACT OFFICER

16 Memorial Avenue, PO Box 42 Merrylands NSW 2160
T +61 2 8757 9342
E yamemi.esber@cumberland.nsw.gov.au
W www.cumberland.nsw.gov.au

From: Lydia Bezina <lydia@planpm.com.au>
Sent: Wednesday, 7 July 2021 12:03 PM
To: Records Department <council@cumberland.nsw.gov.au>
Cc: Tom Shaw <tshaw@mainbrace.com.au>; Khalid Hourani <khalid@planpm.com.au>
Subject: FW: 30 Loftus Road - CC - Damage Deposit Bonds (DARef: DA2020/0488)
Importance: High

Hi Cumberland City Council,

Just following up on the below email thread regarding my query about the payable **Damage Deposit Bond for the Construction Certificate issue re DA2020/0488**.

Can someone please get back to me about this?

Thanks in advance.

Regards,
Lydia Bezina
Project Manager

0416 858 044
lydia@planpm.com.au
Shop 2, 18B Letitia St, Oatley NSW 2223

From: Lydia Bezina
Sent: Monday, 5 July 2021 4:03 PM
To: council@cumberland.nsw.gov.au
Cc: tshaw@mainbrace.com.au; Khalid Hourani <khalid@planpm.com.au>
Subject: 30 Loftus Road - CC - Damage Deposit Bonds (DARef: DA2020/0488)
Importance: High

Good afternoon Cumberland City Council,

30 Loftus Road, Yennora - DARef: DA2020/0488
Payable Damage Deposit Bond for Construction Certificate Issue

I was informed over the phone, that in order to calculate the 'Damage Deposit Bonds' payable, I was required to send through the **DA notice of determination** highlighting the below conditions:

7. **DACCB01 - Damage Deposit for Council Infrastructure**
A Damage Deposit (calculated in accordance with Council's adopted Fees and Charges) shall be paid to Council prior to the issue of the Construction Certificate. This Damage Deposit can be refunded upon the completion of all works with the issue of an Occupation Certificate. A written request shall be submitted to Council to release the bond.

Council may use part or all of the deposit to carry out rectification work for any damage caused by the development to Council's infrastructure.

(Reason: To protect Council infrastructure)

9. **DACCB06 - Photographic Record of Council Property - Damage Deposit**
The applicant shall submit to Council prior to demolition commencing and/or issue of any Construction certificate, for the purposes of the damage deposit bond lodged to cover making good any damage caused to the property of Council, a full photographic record of the condition of Council's property (i.e., road pavement, kerb and guttering, footway, stormwater drainage, etc.) adjacent to the subject site.

The purpose of the photographic record is to establish any pre-existing damage to Council's property to ensure that you are not liable for any re-instatement works associated with that damage. However, if in the opinion of Council, the existing damage has worsened or any new damage occurred during the course of construction, Council may require either part or full re-instatement.

Failure to provide a full photographic record described above, is likely to render the applicant liable to rectify all damages unless satisfactory proof can be provided that the damage was pre-existing.

(Reason: Maintain public assets)

Also noting that all works are to take place only within the site boundary and not on Council land.
Can you please send me the invoice for the Damage Deposit/Bond so that I can process payment right away?

Thank you in advance.

Regards,
Lydia Bezina
Project Manager

PLAN
PROJECT MANAGEMENT

0416 858 044
lydia@planpm.com.au
Shop 2, 18B Letitia St, Oatley NSW 2223

Become.

07.07.2021

Mainbrace Constructions
Tom Shaw
4/170 Pacific Hwy,
Greenwich NSW 2065

Dear Tom,

Re: New Sprinkler Pump Room, 30 Loftus Rd, Yennora, – Architectural Certificate for CC

SHED* Pty Ltd t/a Become. Architecture have been commissioned by Mainbrace Constructions to act as the construction Architect for the above-mentioned project.

We have undertaken the construction documentation of the subject building based on the approved Development Application produced by Tim Farrell Pty Ltd, and have produced documentation appropriate for construction certificate, which forms the basis of the Construction Certificate application, and which is in accordance with the Development Application Documentation prepared by Tim Farrell Pty Ltd.

We note that our documentation is in accordance with the BCA co-ordination that has been undertaken with the BCA Consultant however the BCA Report provided which relates to the overall warehouse development does not incorporate the pump room or water tank works.

We note that there is no Accessibility Compliance Report relating to the Sprinkler Pump Room, however we understand that accessible provisions are not required to the Sprinkler pump room as this room would be considered inappropriate because of the particular purpose for which the area is used and is considered an area that would pose a health or safety risk for people with a disability.

We note that the Fire Engineering Report is related to the main warehouse building and that the Sprinkler Pump Room construction works do not impede the requirements of the Fire Engineering Report.

We note that there is no Energy Efficiency Report, and the Basix, Nathers/ABSA Commitments are not applicable.

We note that we believe the carpark design of the overall site is as per relevant standards as this was completed by the previous architect and this is outside the scope of this project.

We note there are no Aluminium composite panels on this project.

Regards,

B R

Ben Reid – Director

Become.
Suite 603, 250 Pitt Street, Sydney, NSW 2000
Nominated Architect: Ben Reid NSW 8767

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

CONCISE CERTIFICATION
www.concisecert.com.au

PRE CONSTRUCTION CERTIFICATE INSPECTION

Clause 143B, 143C and 162D of the Environmental Planning and Assessment Regulations 2000

SUBJECT LAND

Address of Development:	30 Loftus Road, Yennora NSW 2161
Lot/DP:	Lot 8 in DP 1233715

APPLICANT DETAILS

Applicant:	Plan Project Management Pty Ltd
Address:	Shop 2, 18B Letitia Street, Oatley NSW 2223
Phone:	0416 858 044

DEVELOPMENT APPLICATION

Consent Authority:	Cumberland Council
Development Application No:	DA2020/0488 (modified by) Mod2021/0084
Description of Works:	Fire Services Upgrade including installation of a building occupant warning system, new fire sprinkler system and new fire hydrant system

CONSTRUCTION CERTIFICATE

Registered Certifier:	Steven Rodriguez
Construction Certificate No:	200101-01

DETAILS OF REGISTERED CERTIFIER

Registered Certifier:	Steven Rodriguez
Inspection Date:	12 July 2021
Registration No:	NSW Fair Trading BDC - 0823

INSPECTION RESULTS

In accordance with Clause 143B of the Environmental Planning and Assessment Regulation 2000, I confirm that the proposed works that are subject to this Construction Certificate application had not commenced. The Construction Certificate drawings and specifications provided adequately and accurately depict the condition of the existing building/ site conditions.

Significant Fire Safety Issues – Clause 162D of the Environmental Planning and Assessment Regulations

Significant Fire Safety Issues have been identified within the building however these are being upgraded to the degree necessary and include new sprinklers, hose reels, hydrants and perimeter access.

Note: In accordance with Clause 162D(4) a Certifying Authority or Principal Certifier is not required to give notice if the fire safety issue is being addressed by a Fire Order or by development that is the subject of the Construction Certificate application.

This inspection record does not remove any liability from the building contractors responsible for the carrying out the works.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

It is the responsibility of the project builder to ensure that all contractors on site are suitably licensed and qualified and have carried out works in accordance with all relevant codes, standards and development consent conditions and documentation approved under the Construction Certificate.

Please also note that the quality of the development is the responsibility of the principal contractor's, owner builder, individual contractors and trades during the construction phase. This is not the role of the Principal Certifier.

The NSW Office of Fair Trading have published a "Guide to Standards and Tolerances ISBN 0 73476010 8. The guide can be viewed from the Office of Fair Trading website at http://www.fairtrading.nsw.gov.au/pdfs/corporate/publications/dft242.pdf.

Furthermore, please be advised that the Principal Certifier does not undertake quality control inspection and the role of the Principal Certifier is primarily to ensure that the development proceeds in accordance with the consent, Construction Certificates and the development is fit for Occupation in accordance with its classification specified under the National Construction Code / Building Code of Australia.

Critical stage inspection undertaken by the Registered Certifier do not provide the level of supervision required to ensure that the minimum standards and tolerances specified by the "NSW Guide to Standards and Tolerances 2017" are achieved. The quality of any development is the function of the quality of the principal contractor's supervision of individual contractors and tradespersons on a daily basis during the development. The Principal Certifier does not and will not be held responsible for the lack of quality control by the principal contractor responsible for undertaking this role.

If you have any enquires regarding the above, please do not hesitate to contact the undersigned.

SIGNED BY:

Steven Rodriguez
Concise Certification Pty Ltd

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Appendix A: Existing Fire Safety Measures

The Fire Safety Measures identified in the existing building are as follows:

Existing Fire Safety Measure	Yes	Existing Fire Safety Measure	Yes
Access Panels, Doors & Hoppers	☐	Mechanical Air Handling Systems	☐
Alarm Signalling Equipment	☐	Paths of Travel	☐
Automatic Fail Safe Devices	☐	Perimeter Vehicular Access	☐
Automatic Fire Detection & Alarm System	☐	Portable Fire Extinguishers	☐
Automatic Fire Suppression Systems	☐	Pressurising Systems	☐
Building Occupant Warning System (activated by the Sprinkler System	☐	Required Exit Doors (power operated)	☐
Emergency Evacuation Plan	☐	Residential Automatic Sprinkler System	☐
Emergency Lifts	☐	Safety Curtains in Proscenium Openings	☐
Emergency Lighting	☑	Self-Closing Fire Hoppers	☐
Exit Signs	☑	Smoke Alarms	☐
Exit Signs (non-illuminated)	☐	Smoke Dampers	☐
EWIS	☐	Smoke Doors	☐
Fire Blankets	☐	Smoke and Heat Vents	☐
Fire Control Centres and Rooms	☐	Smoke and/or Heat Alarm Systems	☐
Fire Dampers	☐	Smoke Hazard Management Systems	☐
Fire Doors	☐	Solid Core Doors	☐
Fire Hose Reels	☑	Stand-by Power Systems	☐
Fire Hydrant Systems	☑	Wall-Wetting Sprinklers	☐
Fire Seals	☐	Warning & Operational Signs	☐
Fire Shutters	☐	Fire Engineering Reports	☐
Fire Windows	☐	Other	☐
Lightweight Construction	☐		

PRIME PUMPS
AUSTRALIAN OWNED
ABN 33 078 590 628
SYDNEY • BRISBANE • MELBOURNE • PERTH

Fire Pump Data Sheet

Project: 30 Loftus Street Yennora

DESIGN	ITEM REFERENCE	Diesel Pump
	Quantity Required	2
	Capacity - l/s	106.4 l/s
	Head – kPa	967 kPa (+50kPa)
	Water Supply	Tank
	Standard Specified	AS2941-2013 / AS2118-1999
PUMP	Pump Type	End Suction Centrifugal
	Pump Manufacturer	Grundfos
	Pump Model	ISO NKG 200x150-400
	Suction Dia. / Flange Standard	200 mm / Table E
	Discharge Dia. / Flange Standard	150 mm / Table E
	Efficiency at Duty	79 %
	Power at - Duty / 130%	137 kW / 163.4 kW
	NPSHR Metres @130%	5.46 metres
	Casing Working Pressure kPa.	1600 kPa
	Pump Curve Number	-
MATERIALS	Casing / Stages	Cast Iron / One
	Impeller dia. mm	404 mm Bronze
	Shaft Material	Stainless Steel
	Shaft Sleeve	Fitted
	Bearings	Ball
	Packed Gland/Mechanical Seal	Mechanical Seal
	Impeller Wear Ring	Bronze
	Baseplate	Painted
	Coupling	Driveshaft
	Coupling Guard	Galvanised Steel
ELC	Motor: Make/kW/Speed	*
	Controller: Make/starter/FLC (A)	*
	Volt/Phase/Hz	*
DSL	Make & Model	PowerMaxx / DP6970T
	KW/RPM	195 kW/ 1,960 rpm
	Cooling	Heat Exchanger – Cooled
UNIT SPECIFICATION	Spares & Tools	*Not included*
	Instrumentation with Tachometer	Included
	Pressure Switches	*Not included*
	Control Panel	Included
	6 Hour Fuel Tank	Included
	Exhaust Silencer Fitted	Included
	Starting Batteries	Included
	Control Batteries	*
	Certification Test	Included
	Site Commissioning	Included
	Delivery	FIS Sydney
	Delivery Time (Working Days)	4-5 Working Weeks
	Extras:	
	Rubber Mounts	Included
	Stainless Steel Exhaust Flexible	Included

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

*** Means, does not apply.**

Steven Rodriguez

From: Tim Farrell <tf@tfa.co>
Sent: Thursday, 27 May 2021 11:00 AM
To: Lydia Bezina
Cc: Steven Rodriguez; Khalid Hourani; Laurence Kwong; Tom Shaw
Subject: RE: 30 Loftus Road, Yennora - Volume Calculations for FER.

Hi Lydia,

Confirming we have checked the volume of the building and the total volume is 98,800 cubic metres.

Total floor area is 8196 sqm.

Note that there is an RL 22.96 indicated on the western gutter of Warehouse B (Section A-A) that should be on the gutter of the lower section of roof.

Regards,

Tim Farrell
0410 569 426

Tim Farrell Pty Ltd Architects ■ Nominated Architect Tim Farrell 6257
Tel +61 2 9614 4500 ■ tf@tfa.co ■ ABN 92 138 300 740 ■ www.tfa.co

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From: Lydia Bezina
Sent: Thursday, 27 May 2021 9:33 AM
To: Tim Farrell
Cc: 'Steven Rodriguez'; Khalid Hourani; Laurence Kwong; Tom Shaw
Subject: 30 Loftus Road, Yennora - Volume Calculations for FER.
Importance: High

Hi Tim,

As per our conversation just now, just confirming that the total building volume is actually within 100,000 cubic meters, and of that is being calculated from a total floor area of 8,196sqm.

Thank you!

Note: In order to comply with the required smoke compartment calculations, we need to be within 18,000 sqm and 108,000 cubic meters.

Regards,
Lydia Bezina
Project Manager

Core Engineering Group • Fire • Risk • Emergency Management

151 Property
Level 6, 151 Castlereagh Street
Sydney, NSW, 2000

27 May 2021 | Final Issue | Report No. F201323_FER_02

Fire Engineering Report

Warehouse Development

30 Loftus Road, Yennora, NSW, 2161

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

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201 Kent Street, Sydney NSW 2000
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Melbourne VIC 3000
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REPORT DETAILS

Project: Warehouse Development, 30 Loftus Road, Yennora, NSW, 2161
Document: Fire Engineering Report
Report No.: F201323_FER_02

Report Revision History

REV	DATE ISSUED	COMMENT	PREPARED BY	REVIEWED BY	VERIFIED BY
01	08/04/21	Draft Issue for Comment	**Julien Christopher** *B Eng (Mechanical) (Hons)*	**Laurence Kwong** *MEng (Building Fire Safety and Risk Engineering)* *MIEAust*	
02	27/05/21	Final Issue	**Laurence Kwong** *MEng (Building Fire Safety and Risk Engineering)* *MIEAust*	**Graham Morris** *MEng (Structural and Fire Safety)* *MIEAust, CPEng, NER (Fire Safety)*	**Sandro Razzi** *BE (Building)* *Grad Dip (Performance Based Building & Fire Codes)* *Accredited Fire Engineer (0501)* *FIEAust, CPEng* 

DOCUMENT REVISION HISTORY

The following table summarises the changes incorporated in each revision of this report.

Report Revision History

REV	DATE ISSUED	COMMENT
01	08/04/2021	Draft Issue for Comment
02	27/05/2021	Final Issue • Additional Performance Solution in Section for the location of the sprinkler booster assembly in Section 8.4 • Inclusion of hydraulic plans (Appendix G) and fire services plans (Appendix H)

EXECUTIVE SUMMARY

CORE Engineering Group has been engaged by 151 Property to develop a Performance Solution for the existing one storey warehouse facility located at 30 Loftus Road, Yennora, NSW, 2161. The project encompasses the voluntary upgrade of the fire services systems, generally involving the installation of a new AS2118.1:2017 compliant sprinkler system.

This Fire Engineering Report (FER) highlights areas of non-conformance with the Building Code of Australia 2019 Amendment 1 (BCA) [1] Deemed-to-Satisfy (DtS) Provisions for the project.

The FER outlines the scope of work for the Fire Engineering Analysis, sets down the basis on which the analysis has been undertaken (as agreed by the stakeholders), the necessary acceptance criteria and specifies a Fire Safety Strategy and work schedule for compliance.

The following table lists the departures from the DtS Provisions of the BCA for the works and those Fire Engineering requirements formulated as part of the evaluation. The procedures outlined in BCA clause A2.2 has been used to identify the BCA DtS Provisions and Performance Requirements that are relevant to the Performance Solutions. The assessment methodology for the Fire Engineering Assessment has been prepared in accordance with the International Fire Engineering Guidelines (IFEG) [3].

Due to the complexity of the building design a fully prescriptive approach of complying with the BCA DtS Provisions for occupant egress, fire resisting construction and fire services would not satisfy the desired architectural and client aspirations. As such, Performance Solutions have been developed to account for the following issues which do not comply with the DtS Provisions:

- Perimeter Access On Adjoining Allotment
- Location of Sprinkler Booster Assembly

As detailed within this report, evaluation of those Performance Solutions has identified that the project will comply with the Performance Requirements of the BCA.

Table 1-1: Summary of Performance Solutions

BCA DTS PROVISIONS	DETAILS OF PERFORMANCE BASED SOLUTION
Perimeter Access On Adjoining Allotment **BCA DtS Provisions** Provision C2.4: Perimeter Access **Performance Requirements** CP9	**Relevant BCA DtS Provisions** Provision C2.4: Continuous perimeter access must be provided around the entire building and be wholly within the allotment boundary or from a public road. **DtS Variation** The perimeter access path requires travel onto an adjacent allotment, to the north east of the site boundary. **Performance Solution** The Performance Solution shall permit travel along the perimeter access path, onto the adjoining allotment, reliant on the following: • Existing right of carriageway easement to the east of the site boundary, providing legal right to use the allotment for perimeter vehicular access. • The building shall be sprinkler protected throughout, reducing reliance on fire brigade intervention. • Compliant perimeter access is otherwise afforded around the building. **Approaches and Method of Analysis** The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used in order to establish that the design satisfies the relevant Performance Requirements such that sufficient access to the building can be achieved during the event of a fire. **Acceptance Criteria** Access must be provided to and around the building to facilitate fire brigade and other emergency service intervention.

BCA DTS PROVISIONS	DETAILS OF PERFORMANCE BASED SOLUTION
Location of Sprinkler Booster Assembly **BCA DtS Provisions** Provision E1.5: Sprinklers **Performance Requirements** EP1.4	**Relevant BCA DtS Provisions** DtS Provision E1.5: A sprinkler system must comply with the requirements of AS2118.1. AS2118.1:2017 in turns requires that the sprinkler booster assembly conform to the requirements of AS2419.1. AS2419.1:2005: The fire brigade booster assembly, if remote from the building, must be at the boundary of the site and within sight the main entrance of the building, as well as adjacent to the principal vehicular access to the site **DtS Variation** The proposed sprinkler booster assembly is in front of the pump house set back approximately 20 m from the front allotment boundary. **Performance Solution** The Performance Solution permits the location of the sprinkler booster assembly, reliant upon: • Dedicating parking on the hardstand is provided adjacent to the sprinkler booster to permit staging. • The sprinkler booster assembly is located at the boundary of the site, close to the fire pump room, Main FIP, sprinkler valve enclosure, and hydrant booster assembly near the principal vehicular entry point • Dedicated fire brigade appliance hardstand for sprinkler suction which does not impede on the required 6 m perimeter access path **Approaches and Method of Analysis** The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used to determine whether the location of the sprinkler booster assembly will impede fire brigade operations. **Acceptance Criteria** The location of the sprinkler booster assembly must not delay the intervention of the fire brigade.

As a result of the identified building and occupant characteristics, fire safety objectives, identified fire hazards and DtS non-compliances the Fire Safety Strategy (Trial Design) has been formulated.

In this instance the following is put forward as a summary of the fire safety measures required by the Fire Engineering Assessment in ensuring the Performance Solutions assessed herein comply with the relevant Performance Requirements of the Building Code of Australia. Where not commented on herein it is expected that all other relevant fire safety requirements either through the BCA or Australian Standards are to comply.

Table 1-2: Summary of Fire Engineering Requirements

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
General		
BCA DtS compliance	With the exception of the Performance Solution assessed herein all other aspects relating to fire safety within the building are assumed to comply with the Deemed-to-Satisfy Provisions of the BCA.	BCA Section B, C, D and E
Fire Resistance		
Type of construction	The building is required to be of Type C fire-resisting construction.	BCA Specification C1.1

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
Services and Equipment		
Fire hydrants	A hydrant system must be provided for the warehouse in accordance with BCA Provision E1.3 and AS2419.1:2005 with the following considerations: • The system shall incorporate a ring main with isolation valves that are external to the building and numbered, with the corresponding numbers indicated on the block plan. • Hydrant coverage to the warehouse is to be achieved solely through the use of external hydrants. • All hose connections in the system are to be fitted in accordance with FRNSW Technical information sheet – FRNSW compatible hose connections (available at firesafety.fire.nsw.gov.au). These couplings should be tested as part of the system when the commissioning tests are undertaken. • The fire hydrant booster, to the north-west of the site, shall be within sight of the main entry and greater than 10 m from any substation, in accordance with FRNSW Guide Sheet No.2 'Location of AS2419.1 Booster Assembly' available at www.fire.nsw.gov.au.	BCA DtS Provision E1.3 AS2419.1:2005
Fire hose reels	Fire hose reels must be provided in accordance with the Relevant Regulatory Requirements.	BCA DtS Provision E1.4 AS2441:2005
Sprinklers	A fire sprinkler system shall be provided throughout the building in accordance with BCA Specification E1.5 and AS2118.1:2017. • Activation of the sprinkler system must notify the fire brigade and activate the building occupant warning system. The dedicated hardstand for the sprinkler suction connection shall comply with all requirements of FRNSW's Guideline: Access for Fire Brigade Vehicles and Firefighters. These being: • The hardstand shall be in front of any suction-connection outlet • Any hardstand area serving a suction-connection outlet must be positioned at an angle not greater than 45° from the outlet's longitudinal direction • The position of the hardstand must not impede the carriageway such that a minimum clear width of 3.5 m on the carriageway is provided • The outline of the hardstand area should be painted on the pavement in `Golden Yellow' coloured non-slip paint (refer Australian Standard AS2700 reference number Y14). The outline is to be filled with diagonal lines angled at 60 degrees to the horizontal, spaced at 300 mm intervals	BCA Specification E1.5 AS2118.1:2017 **FRNSW's Guideline: Access for Fire Brigade Vehicles and Firefighters** **Performance Solution**
Fire extinguishers	Portable fire extinguishers must be provided throughout the building with their location and selection relevant to the risk class in accordance with the relevant Regulatory Requirements.	BCA DtS Provision E1.6 AS2444:2001
Occupant warning system	All new works on the BOWS shall be to AS1670.1:2018. The BOWS shall be activated by the sprinkler system throughout the entire building.	Clause 3.22 of AS1670.1:2018

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
Emergency lighting	Emergency lighting must be installed in accordance with the relevant Regulatory Requirements.	BCA DtS Provision E4.2 and E4.4 AS2293.1:2018
Exit signs	Exit signs and direction signs to exits must be installed in accordance with the relevant Regulatory Requirements.	BCA DtS Provisions E4.5, E4.6 and E4.8 AS2293.1:2018
Fire Brigade Intervention		
Vehicular perimeter access	A vehicular access path shall be provided around the building in all-weather surface capable of supporting all FRNSW appliances (maximum weight of 29,300 kg) in accordance with '*Access for fire brigade vehicles and firefighters'* available from www.fire.nsw.gov.au or otherwise shown to enable the passage of firefighting appliances. • The hardstand for the sprinkler tank suction points must be line-marked and located such that the connected brigade appliance does not obstruct vehicular access around the building • A clear unobstructed width of 6 m for perimeter vehicular access is to be provided no greater than 18 m from the external wall of the building. • All secured vehicle access gates on the eastern allotment boundary are to be secured with a non-hardened metal chain, with locks to be keyed alike, and a copy of the key deposited with the two nearest FRNSW fire brigade stations. Alternatively, locks openable by a 003 key may be used.	BCA DtS Provision C2.3, C2.4 FRNSW Guideline "*Access for Emergency Vehicles And Emergency Service Personnel*" **Performance Solution**
Notification	An automatic link shall be provided directly to an approved monitoring centre on activation of the sprinkler systems.	BCA Specification E2.2a Clause 7 Clause 3.3 of AS2118.1:2017
Control and indicating equipment	The building shall be provided with a Main Fire Indicator Panel (FIP) adjacent to the sprinkler booster to the north west of the site.	BCA Provision E2.2, AS1670.1:2018
Block plans	Zone block plans are to be provided for use by the fire brigade adjacent to the Fire Indicator Panel, sprinkler control valves and hydrant booster assembly.	AS1670.1:2018 AS2118.1: 2017 AS2419.1:2005
Building Management Requirements		
Inspection, testing and maintenance	Periodic inspection, testing and maintenance of all fire safety systems should be implemented. This includes sprinklers, smoke detection, fire hydrants, fire hose reels, emergency lighting, exit signage, doors, fire resistance, portable fire extinguishers etc.	AS1851:2012.
Right of carriageway easement	A right of carriageway easement shall be burdened on the adjoining allotment (Lot 9, DP1233715) to the benefit of the subject building. This easement must provide a pathway at least 6 m wide as per Figure 8-2. The following statement must be included on the Fire Safety Schedule as an Essential Fire Safety Measure:	**Performance Solution**

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
	• "*Perimeter access for this building is partially provided onto the adjoining allotment, Lot 9, (DP1233715) which is located to the east of Lot 8. The Western hardstand of Lot 9 must therefore maintain at least a 6 m wide access path and turning circle for vehicular movement adjacent to the boundary between both buildings. At no time may this area be used for the storage of materials. This requirement is to be confirmed during each Annual Fire Safety Inspection.*"	

CONTENTS

1 INTRODUCTION

1.1 OVERVIEW

This Fire Engineering Report has been undertaken to nominate proposed Performance Solutions for assessing compliance with the nominated Performance Requirements of the BCA [1] in accordance with the methodologies defined in the IFEG [3] and provide a workable and safe Fire Safety Strategy through a trial design. In order to develop and assess the nominated non-compliances the following flowchart process is to be adopted.

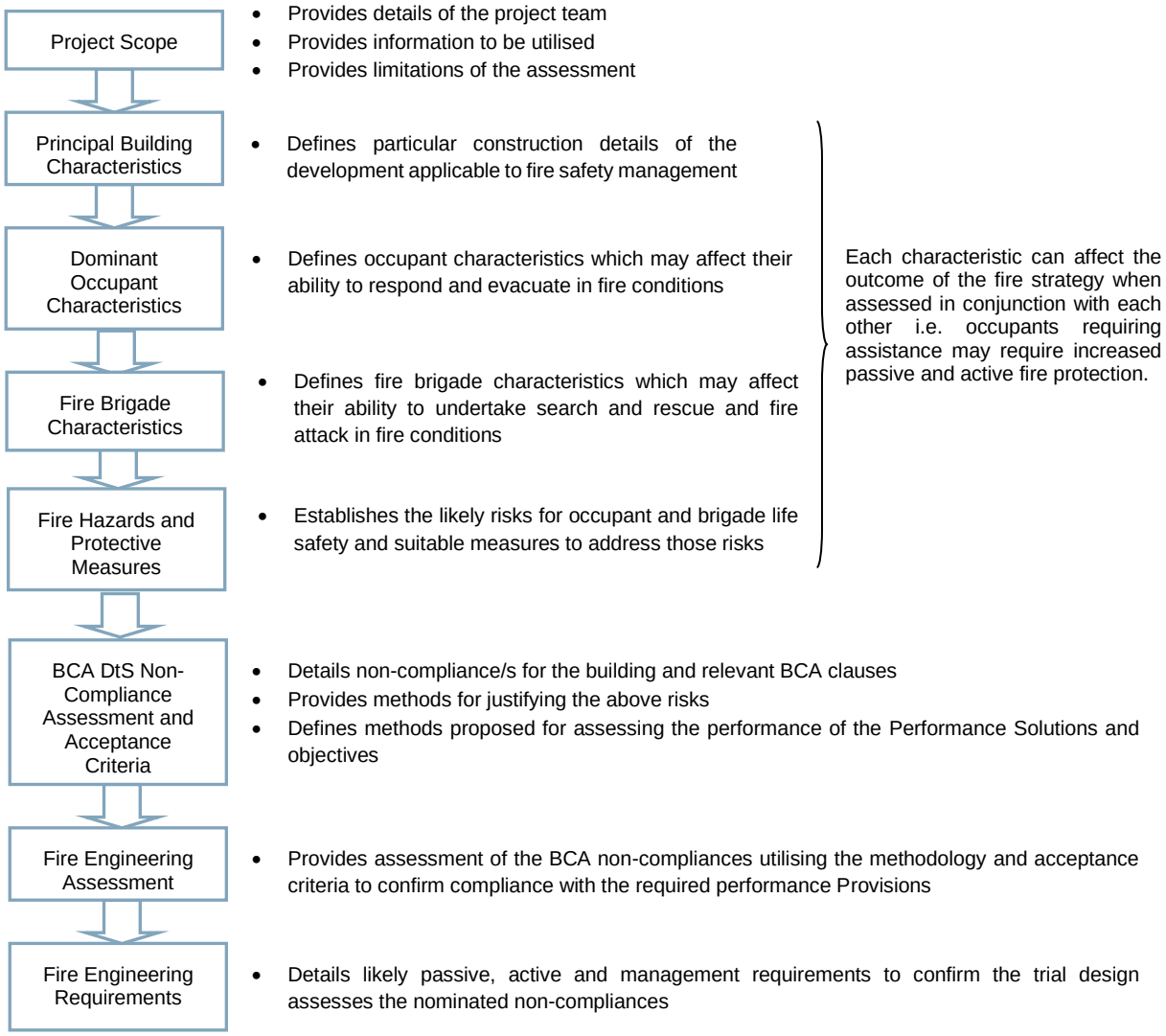


Figure 1-1: Fire Engineering Report Process

1.2 FIRE SAFETY OBJECTIVES

The objective of this Fire Engineering Assessment is to develop a Fire Safety System, which satisfies the performance requirements of the BCA whilst maintaining an acceptable level of life safety, protection of adjacent property and adequate provisions for Fire Brigade intervention. At a community level, fire safety objectives are met if the relevant legislation and regulations are complied with. As stated in the BCA, "*A Building Solution will comply with the BCA if it satisfies the Performance Requirements*". In addition to this, certain non-regulatory objectives exist as detailed below.

1.2.1 Building regulatory objectives

The following items are a summary of the fire and life safety objectives of the BCA:

- **Life safety of occupants -** the occupants must be able to leave the building (or remain in a safe refuge) without being subject to hazardous or untenable conditions. The objective of the Fire Engineering Assessment is to demonstrate that the proposed building design and fire safety systems would minimise the risk of exposing building occupants to hazardous or untenable conditions in an event of a fire.
- **Life safety of fire fighters -** fire fighters must be given a reasonable time to rescue any remaining occupants before hazardous conditions or building collapse occurs. The objective of the Fire Engineering Assessment is to demonstrate that the proposed building design and fire safety systems would facilitate fire brigade intervention and minimise the risk of exposing fire fighters to hazardous or untenable conditions in an event of a fire.
- **Protection of adjoining buildings** - structures must not collapse onto adjacent property and fire spread by radiation should not occur. The objective of the Fire Engineering Assessment is to demonstrate that the proposed building design and fire safety systems would minimise the risk of fire spreading from one building to another.

1.2.2 Fire Brigade objectives

The overall philosophical Fire Brigade objectives throughout Australia are to protect life, property and the environment from fire according to the Fire Brigade Intervention Model (FBIM) [9] as per the Fire Services State and Territory Acts and Regulations.

Over and above the requirements of the BCA, the Fire Brigade has functions with regard to property and environmental protection and considerations regarding occupational health and safety for its employees.

1.2.3 Non-prescribed objectives

Fire Engineering has an overarching benefit to many facets of the built environment where non-prescribed objectives can have an influence on the Fire Safety Strategy adopted. Although not assessed within, the following can be considered if requested.

Business continuity - will the loss of a particular facility due to fire / smoke damage result in excessive financial impact on the client? For example, is the facility critical to business continuity?

- **Public perception -** should a fire occur within the facility is there likely to be questionable public perception about the safety and operation of the facility?
- **Environmental protection -** fires of excessive sizes can have significant effects on the environment which may require a detailed risk assessment to minimise such outcomes.
- **Heritage salvation -** buildings can have a heritage value for both cultural and educational purposes which can be destroyed by insufficient fire protection.
- **Risk mitigation / insurance limitations -** are there specific limitations on insurance with respect to risk mitigation and fire safety design? i.e. Does the relevant insurer have concerns with respect to open voids through the building?
- **Future proofing (isolation of systems) -** what flexibility is required in the overall design to allow for future development or changes in building layout?
- **Occupational Health and Safety (OHS) requirements -** buildings may have specific fire safety requirements pertaining to OHS requirements.

1.3 REGULATORY FRAMEWORK OF THE FIRE ENGINEERING ASSESSMENT

1.3.1 Building Code of Australia

One of the goals of the BCA is the achievement and maintenance of acceptable standards of safety from fire for the benefit of the community. This goal extends no further than is necessary in the public interest and is considered to be cost effective and not needlessly onerous in its application.

Section A2.1 of the BCA [1] outlines how compliance with the Performance Requirements can be achieved, being satisfied by one of the following:

(a) A Performance Solution which demonstrates–

  (i) Compliance with all relevant Performance Requirements; or

  (ii) The solution is at least equivalent to the Deemed-to-Satisfy Provisions; or

(b) A Deemed-to-Satisfy Solution; or

(c) a combination of (1) and (2).

Section A2.2 of the BCA provides several different methods for assessing that a Performance Solution complies with the Performance Requirements, through one or a combination of the following Assessment Methods:

(a) Evidence of suitability that shows the use of a material, product, form of construction or design meets the relevant Performance Requirements.

(b) A Verification Method including the following:

  (i) the Verifications Methods in the NCC; or

  (ii) other Verification Methods, accepted by the appropriate authority that show compliance with the relevant Performance Requirements.

(c) Expert Judgement.

(d) Comparison with the Deemed-to-Satisfy Provisions.

Where a Performance Requirement is satisfied entirely by a Performance Solution, the following method must be used to determine the Performance Requirements relevant to the Performance Solution:

(a) Identify the relevant Performance Requirement from the Sections or Part to which the Performance Solution applies.

(b) Identify Performance Requirements from other Sections of Parts that are relevant to any aspects of the Performance Solution proposed or that are affected by the application of the Performance Solution.

Under Section A2.4, the following method must be used to determine the relevant Performance Requirements when using a Performance Solution in combination with a Deemed-to-Satisfy Solution: These methods are summarised as follows:

(a) Identify the relevant Deemed-to-Satisfy Provisions of each Section or Part that are to be the subject of the Performance Solution.

(b) Identify the Performance Requirements from the same Section or Part that are relevant to the identified Deemed-to-Satisfy Provisions.

  (i) Identify Performance Requirements from the other Sections and Parts that are relevant to any aspects of the Performance Solution proposed or that are affected by the application of the Deemed-to-Satisfy Provisions that are the subject of the Performance Solution.

1.3.2 International Fire Engineering Guidelines

The IFEG [3] document has been developed for use in fire safety design and assessment of buildings and reflects world's best practice. The document is intended to provide guidance for fire engineers as they work to develop and assess strategies that provide acceptable levels of safety.

The document is particularly useful in providing guidance in the design and assessment of Performance Solutions against the Performance Requirements of the BCA. The prescribed methodology set out in the IFEG has been generally adopted in the Fire Engineering Report.

2 PROJECT SCOPE

2.1 OVERVIEW

CORE Engineering Group has been engaged to develop a Performance Solution for the existing one storey warehouse facility located at 30 Loftus Road, Yennora, NSW, 2161. The project encompasses the voluntary upgrade of the fire services systems, generally involving the installation of a new AS2118.1:2017 compliant sprinkler system.

Specifically, this fire engineering report presents Performance Solutions to address the following items that do not conform with the DtS Provisions of the BCA.

- Perimeter Access On Adjoining Allotment
- Location of Sprinkler Booster Assembly
-

2.2 RELEVANT STAKEHOLDERS

This Performance Solution has been developed collaboratively with the relevant stakeholders as identified below:

Table 2-1: Relevant Stakeholders

ROLE	NAME	ORGANISATION
Client Representative	Darren Sanderson	151 Property Pty Ltd
Adjacent Lot Owner	Danys Bentacur	XL Precast
Project Managers	Lydia Bezina Khalid Hourani	Plan PM Pty Ltd
Principal Certifying Authority	Steven Rodriguez	Concise Certification
Architect	Tim Farrell	Tim Farrell Pty Ltd
Fire Services Engineer	Richard George	RG Fire Consultancy
Hydraulic Engineer	Paul McDonald	Inline Hydraulic Services
Fire Authority		Fire and Rescue NSW
Fire Safety Engineer	Julien Christopher Laurence Kwong Graham Morris	CORE Engineering Group
C10 Accredited Fire Engineer	Sandro Razzi	

It should be noted that at times some parties may have a vested interest in the outcome of the Fire Engineering assessment. Such parties can include local fire brigades, insurers, Environmental Protection Authority (EPA), project control groups, end users and community representatives. Although not always a legislative requirement, the design team should give due consideration to their inclusion in the Fire Engineering process. Where not required by legislation it is the client's decision to involve such parties, especially local fire brigade, to ensure a transparent and adequate fire safety solution for all. Where we are not notified of the inclusion of such parties it is assumed the client / representative has given due consideration to the above.

2.3 SOURCES OF INFORMATION

The following sources of information have been provided by the design team:

- Architectural Plans provided by Tim Farrell as indicated in Table 2-2 below.
- Hydraulic drawings provided by Paul McDonald of Inline Hydraulic Services (Appendix G):
  - Drawing No. H02, Rev P5, dated 20/05/21
  - Drawing No. H03, Rev P5, dated 20/05/21

- Drawing No. H04, Rev P5, dated 20/05/21

- Fire services drawings provided by Richard George of RG Fire (Appendix H):
  - Drawing No. F01, Issue F, dated 19/05/21
  - Drawing No. F02, Issue F, dated 19/05/21
- Evidence of existing easement as per Appendix F

Table 2-2: Drawings

DRAWING NO.	DESCRIPTION	ISSUE	DATE
LTS-1.01(D)	Site Plan	D	29/01/21
LTS-1.02(C)	Floor Plans	C	27/01/21
LTS-1.03(C)	Sections + Pump Room	C	29/01/21
LTS-1.03(C)	Elevations	C	29/01/21

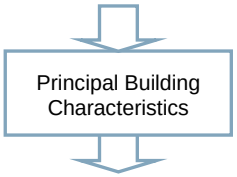
2.4 LIMITATIONS AND ASSUMPTIONS

In this instance the Fire Engineering Report is developed based on applicable limitations and assumptions for the development which are listed as follows:

- The report is specifically limited to the project described in Section 3.
- The report is based on the information provided by the team as listed above in Section 2.3.
- Building and occupant characteristics are as per Section 3 and 4 respectively of this report. Variations to these assumptions may affect the Fire Engineering Strategy and therefore they should be reviewed by a suitably qualified Fire Engineer should they differ.
- As per any building design, DtS or otherwise, the report is limited to the fire hazards and fuel loads as prescribed in Appendix B. The report does not provide guidance in respect of areas, which are used for Dangerous Good storage, processing of flammable liquids, explosive materials, multiple fire ignitions or sabotage of fire safety systems.
- The development complies with the DtS Provisions of the BCA [1] with all aspects for fire and life safety unless otherwise stated in this report. Where not specifically mentioned, the design is expected to meet the BCA DtS requirements of all relevant codes and legislation at the time of construction and / or at the time of issue of this report.
- The assessment is limited to the objectives of the BCA and does not consider property damage such as building and contents damage caused by fire, potential increased insurance liability and loss of business continuity.
- Malicious acts or arson with respect to fire ignition and safety systems are limited in nature and are outside the objectives of the BCA. Such acts can potentially overwhelm fire safety systems and therefore further strategies such as security, housekeeping and management procedures may better mitigate such risks.
- This report is prepared in good faith and with due care for information purposes only and should not be relied upon as providing any warranty or guarantee that ignition or a fire will not occur.
- The Fire Engineering Report is only applicable to the completed building. This report is not suitable, unless approved otherwise, to the building in a staged handover.
- Where parties nominated in Section 2.2 have not been consulted or legislatively are not required to be, this report does not take into account, nor warrant, that fire safety requirements specific to their needs have been complied with.

3 PRINCIPAL BUILDING CHARACTERISTICS

3.1 OVERVIEW



Building characteristics are assessed as part of the Fire Engineering Review due the following:

1. The location can affect the time for fire brigade intervention and potential external fire exposure issues.
2. The structure will impact on the ability to resist a developing fire and support conditions to allow occupants to escape the building and the fire brigade to undertake firefighting to the degree necessary.
3. The floor area determines the potential fire size and area required to be evacuated in the event of a fire.
4. BCA details such as Type of Construction, Class and Height will dictate passive and active fire safety systems.

3.2 SITE LOCATION

The development site is located in an industrial area of Yennora, approximately 29 km west of Sydney's central business district. The site is bound to the north by Loftus Rd, to the east and west by existing industrial facilities, and to the south by an unoccupied lot. Access to the site is via Loftus Rd only and the site is legally described as Lot 8 of DP1233715.

Figure 3-1: Local Context

The building site influences the likely fire brigade intervention times and the close proximity to the nearest fire station is expected to facilitate a relatively convenient and expedient fire brigade response. The two nearest fire brigade stations provided with permanent staff are Yennora and Guilford approximately 1.3 km and 4.6 km from the site respectively.

3.3 SITE LAYOUT

The total area of the site is approximately 22,000 m² whilst the total area of the existing building footprint is approximately 8,200 m². The existing warehouse building is divided into two portions:

- Warehouse A which has a total area of ~3,600 m² and a ridge height of 10.73 m
- Warehouse B which has a total area of ~4,600 m² and a ridge height of 18.82 m

The total volume of the building as confirmed by the architect is ~98,800 m³.

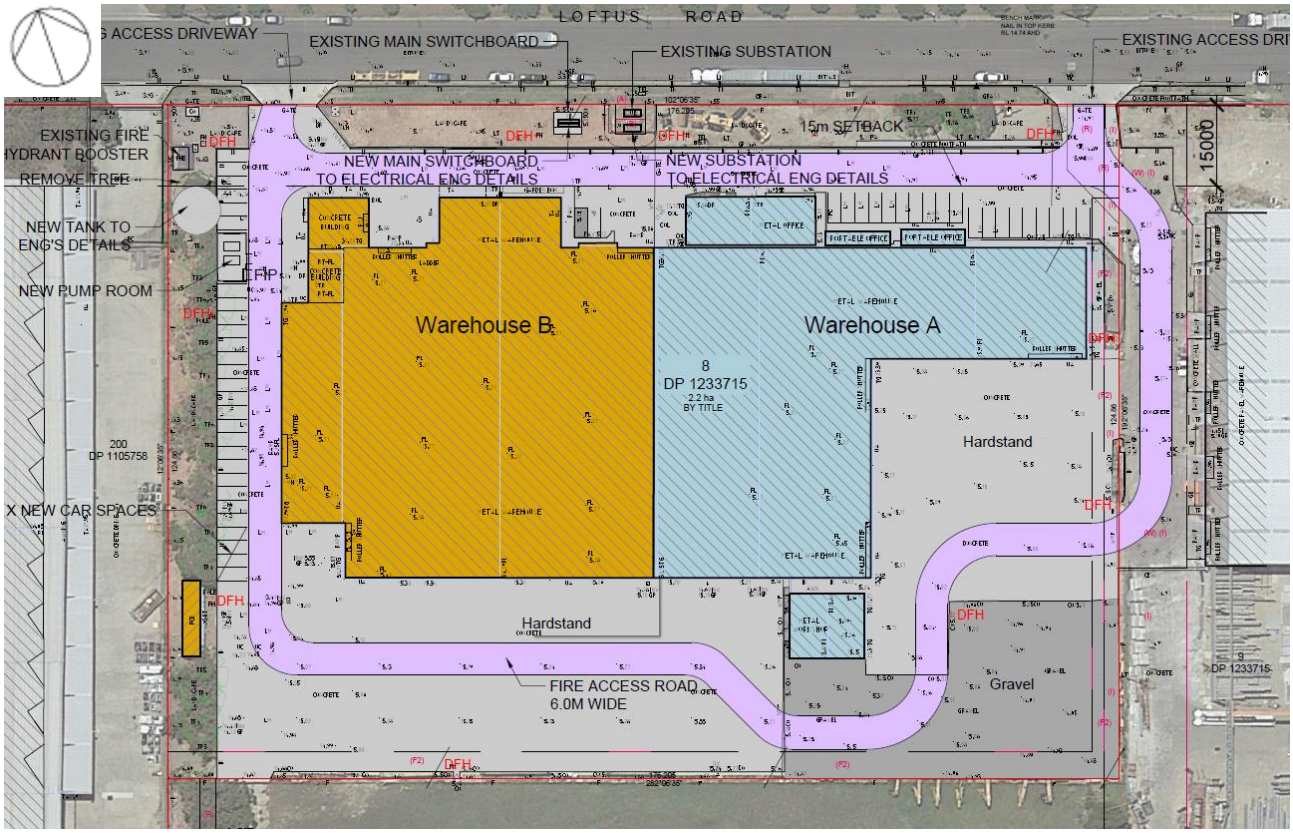


Figure 3-2: Site Plan

Warehouse A has a single storey ancillary office whilst Warehouse B has a 2-storey ancillary office. Car parking is located along the western end of the site, as well as at the north-east corner. Hardstands for both buildings are located at the southern portion of the site.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

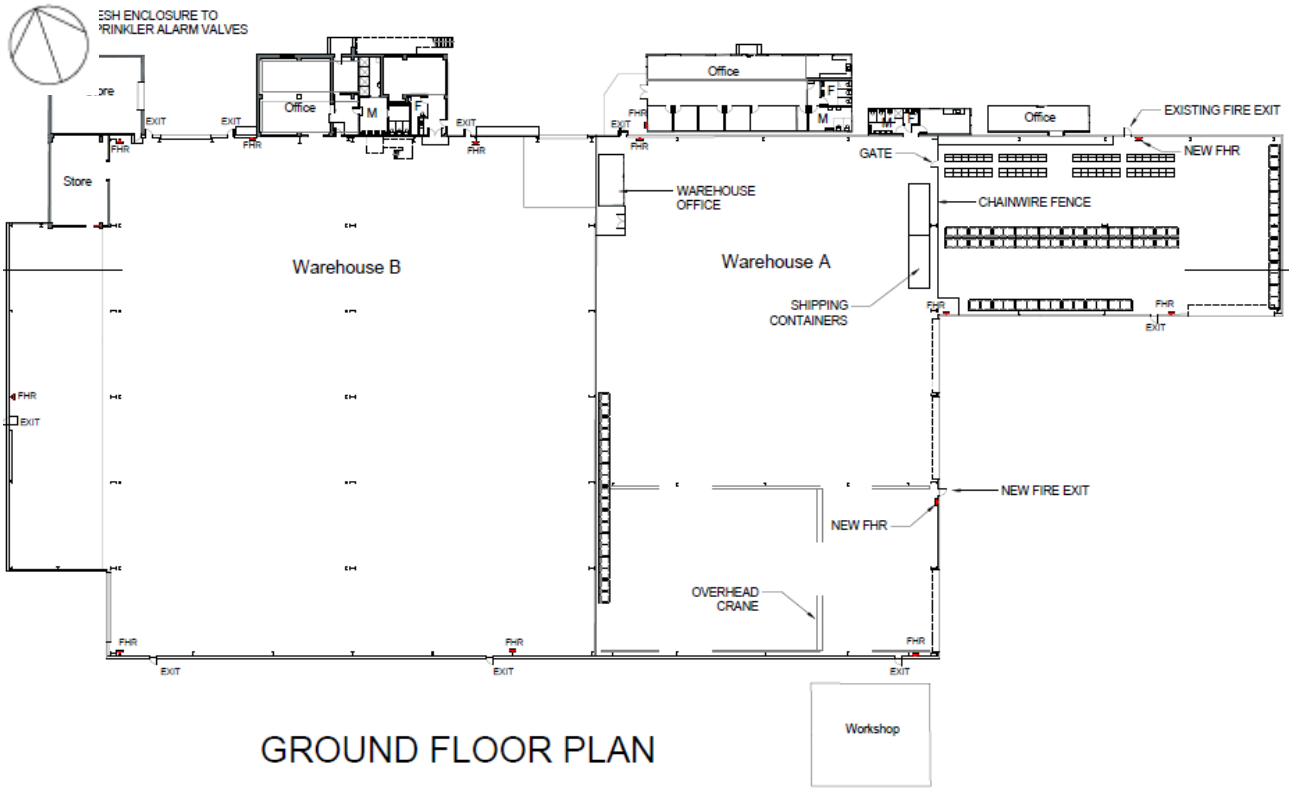


Figure 3-3: Ground Floor Plan

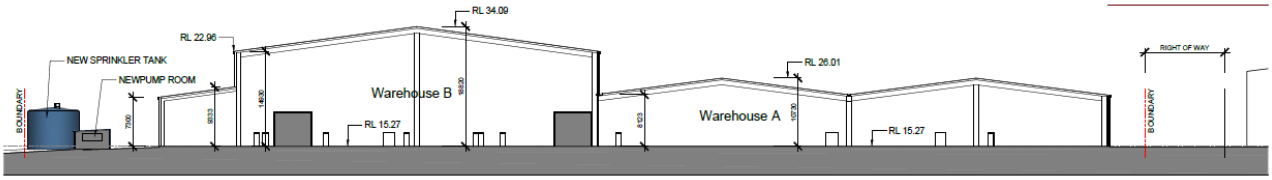


Figure 3-4: Section A-A

3.4 BUILDING STRUCTURE

The warehouse has an existing steel portal frame structure with existing internal steel columns. The existing external walls are steel cladding. Materials and finishes are understood to be in accordance with the DtS requirements for Type C construction.

Materials used in construction will conform with the testing methodology outlined in the DtS Provisions so as to avoid the spread of smoke and fire and minimise the risk to occupants and fire fighters.

3.5 BCA ASSESSMENT SUMMARY

Table 3-1: BCA Building Characteristics

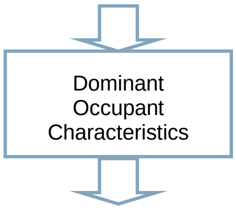
CHARACTERISTIC	DESCRIPTION
Classification	Class 5 (Office), Class 7b (Storage), Class 8 (Process/Manufacturing)
Construction Type	Type C required (Large Isolated Building)
Rise in Storeys	Two (2)
Effective Height	< 12 m

CHARACTERISTIC	DESCRIPTION	
Floor Area *Approximate – for information only*	Warehouse	7,500 m²
	Office	700 m²
	Building Total:	**8,200 m²**
Volume	**Building Total**	**98,800 m³**

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

4 DOMINANT OCCUPANT CHARACTERISTICS

4.1 OVERVIEW



The occupant characteristics are assessed within the Fire Engineering Report due to the following:

1. Population numbers can dictate the time required to evacuate the building and the required life safety systems to be provided due to evacuation times.
2. Physical and mental attributes affect the occupants' capacity to respond to various fire cues and react accordingly.
3. Familiarity of occupants can affect the time taken to evacuate the building and subsequent active / passive requirements.

4.2 OCCUPANT NUMBERS AND DISTRIBUTION

Table D1.13 of the BCA provides a means of estimating the population of an area based on the use of that area and its size. The following occupant densities are considered applicable to each area in this building:

- Warehouse: 30 m² per person
- Office: 10 m² per person

These values result in the following estimated populations based on the floor areas provided in Section 3.5.

Table 4-1: Estimated Building Population (DtS Table D1.13)

WAREHOUSE	BUILDING PART	FLOOR AREA	ESTIMATED POPULATION
Warehouse A	Warehouse	3,300 m²	110
	Office	250 m²	25
Warehouse B	Warehouse	4,200 m²	140
	Office	450 m²	45
		Total	**320**

In the absence of specific occupant numbers provided by the tenant, the population estimated from Table D1.13 of the BCA DtS Provisions will be utilised in the analysis, therefore providing a conservative population in the warehouse parts.

4.3 OCCUPANT ATTRIBUTES

Occupants in the building may be of mixed age, although the elderly and children are generally not expected to be present. The population is therefore expected to be that of the general working public and be adults between the ages of 16 to 70. Due to the nature of the work conducted the majority of occupants are assumed to be able bodied people with less mobile occupants not expected to be present within the warehouse portions of the building.

All occupants are expected to be awake and alert adults or in the direct company of an adult, capable of entering the leaving the building under their own volition. Occupants in all of these areas are not expected to be adversely impaired by drugs, alcohol, fatigue or other adverse conditions to degrees greater than in other warehouse and office buildings.

- ***Staff and Security*** are expected to be mobile with normal hearing and visual abilities, and occupants in this group are considered to take and implement decisions independently, and require minimal assistance during evacuation in a fire emergency. This occupant group is expected to be awake and fully conscious at all times when inside the building; and
- ***Clients / Visitors*** are expected to be mobile with normal hearing and visual abilities, this occupant group are expected to be capable of making and implementing decisions independently however may require assistance in locating the nearest and safest egress path in an emergency; and
- ***External Maintenance Contractors*** are expected to be mobile with normal hearing and visual abilities and occupants in this group are considered to take and implement decisions independently and require minimal assistance during evacuation in a fire emergency. The contractors are expected to be awake and aware of their surroundings at all times when inside the building; and

- ***FRNSW*** are expected to be equipped with safety equipment and will be educated in firefighting activities and the dangers associated with fire incidents. This occupant group would be expected to be in a position to assist other occupants requiring assistance to evacuate. It is not expected that this occupant group would be present in the building at the time of fire ignition; however, they are expected to enter the building at a later stage to assist with the evacuation of occupants, if required, and to undertake fire suppression activities.

4.4 OCCUPANT FAMILIARITY

The majority of occupants within the building are expected to be staff and therefore the population in general are likely to react favourably in an emergency situation.

- ***Staff, Maintenance and Security*** can be expected to have a good familiarity with the building and the fire safety systems provided and may be trained in emergency procedures; and
- ***Clients and /or Visitors*** may or may not be familiar with the layout of the building and may require assistance in locating the exits; and
- ***External Maintenance Contractors*** this occupant group is expected to have a reasonable familiarity with the building as they would have to undergo site specific induction prior to commencement of work on site; and
- ***FRNSW*** are not expected to have any familiarity of the building layout, however are assumed to obtain the required information from the site block plans and tactical fire plans available prior to entering the building. Notwithstanding this they will be equipped with breathing apparatus and specialist equipment to prevent them from being adversely affected by fire hazards.

4.5 EMERGENCY TRAINING

Occupants should be familiar with escape procedures through fire drills and designated fire wardens being appointed to mitigate. Clear escape routes should be maintained with doors unlocked, and no obstructions or rubbish to hinder evacuation.

Staff and visitors are not expected to have fire suppression training and such training is not relied upon for this building population; however, staff may attempt to extinguish a fire or limit fire spread by removing objects in the vicinity of the fire in order to defend their belongings.

5 FIRE BRIGADE CHARACTERISTICS

5.1 OVERVIEW

Fire Brigade Characteristics

The fire brigade characteristics are assessed within the Fire Engineering Report due to the fact that Fire Brigade characteristics can dictate the time required for fire brigade intervention including search and rescue and fire attack.

5.2 FIRE BRIGADE ASSESSMENT SUMMARY

Figure 5-1 illustrates the site plan with fire brigade vehicular access shown. The site FIP, hydrant booster, and sprinkler booster are also shown, proposed to be located at the north-western site entry point. It is noted that the hydrant booster shall remain in its existing location and as part of the fire services upgrade, a new sprinkler booster, pump room and FIP shall be provided.

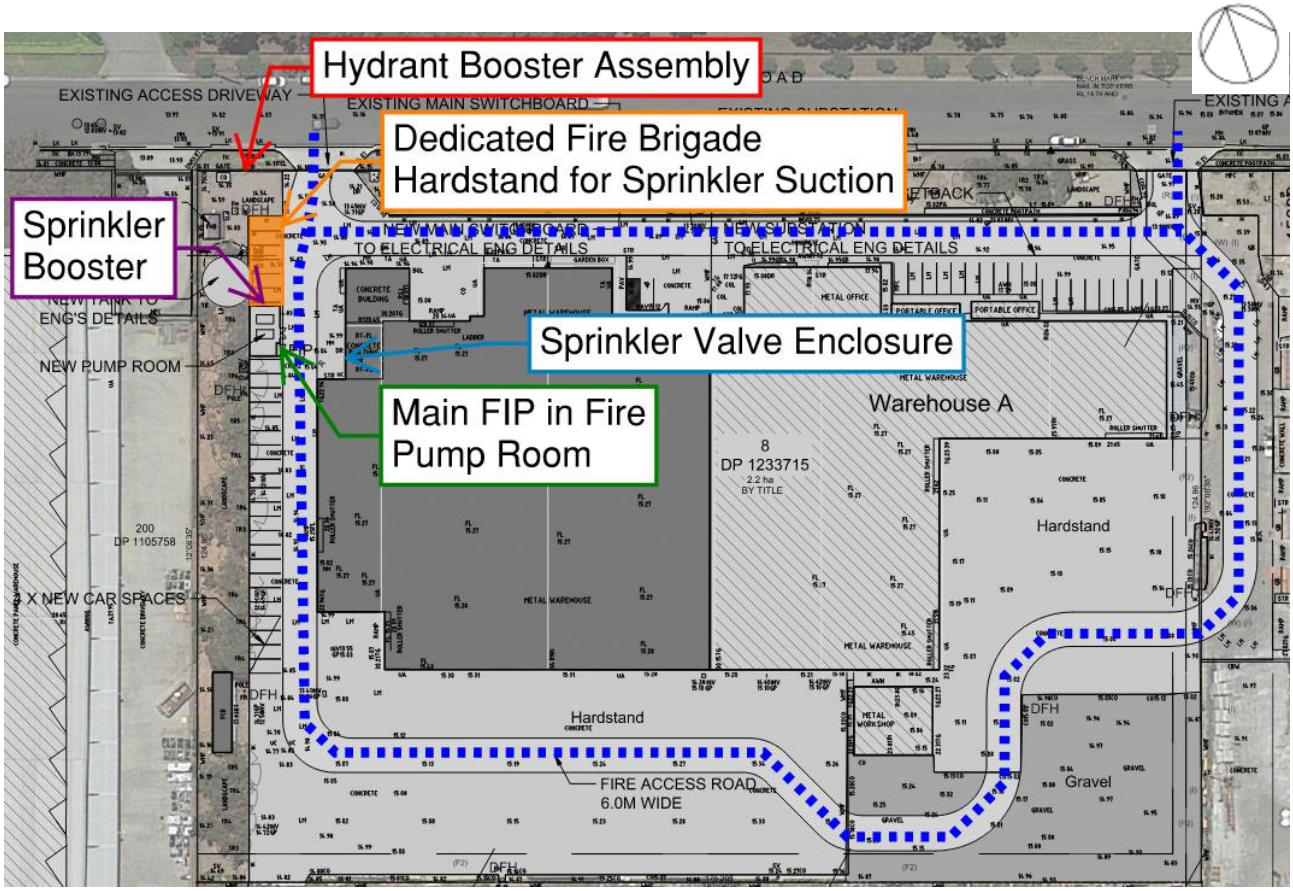


Figure 5-1: Fire Brigade Access and Site Facilities

The building is located within the Fire and Rescue New South Wales (FRNSW) jurisdictional turnout area. The closest two fire stations to the site that are provided with permanent staff are located in Yennora and Guilford approximately 1.3 km and 4.6 km from the site respectively.

Based on these distances, the building characteristics and fire safety systems installed, the time between fire ignition and when the attending fire brigade are able to attack the fire has been estimated through the Fire Brigade Intervention Model (FBIM) to be 24.5 minutes as presented in Appendix A.

6 HAZARDS AND PROTECTIVE MEASURES

6.1 OVERVIEW

The fire hazard analysis forms the basis for the review of non-compliances within the building. In assessing expected and statistically validated hazards, preventative and protective measures are developed commensurate with those expected risks. The following section reviews applicable hazards and recommends possible measures to address those risks. Furthermore, hazards identified can form a justified basis for selected scenarios.

6.2 FIRE HAZARDS

Subsequent to a review of the relevant fire statistics and hazards presented in Appendix B, the fire hazards are specific to this building are summarised below.

6.2.1 General Layout

Exits are provided around the buildings' perimeter to allow for multiple alternative egress opportunities. Due to the open nature of the warehouse, there are limited dead end travel routes to exits.

No hazards to adjoining buildings have been identified and internal hazards are minimal. Due to the open space and multiple egress opportunities, internal fire exposures are also expected to be minimal as occupants in the area of fire origin are likely to immediately become aware of fire and are likely to commence evacuation.

6.2.2 Activities

Given the industrial nature of the facility, the presence of manufacturing processes, hot works, etc. cannot be discounted. It is noted that Warehouse A is currently tenanted by a business that undertakes maintenance on mobile plant such as excavators. There is the potential for both Warehouse A and B to contain high piled combustible storage in the future.

6.2.3 Ignition Sources

Based on the statistical review contained in Appendix B ignition sources relevant to this site, in order of occurrence:

Warehouse

- Intentional
- Electrical distribution / lighting
- Heating equipment
- Shop tools / industrial equipment

Office

- Cooking Equipment
- Electrical/Lighting equipment
- Heating equipment
- Intentional

6.2.4 Fuel Sources

Quantity of Materials

- Warehouse - The racked storage areas are likely to have the densest fire load, with between 200 MJ/m² - 1700 MJ/m² expected depending on the type of items stored.
- Office – 420 MJ/m² with isolated peak values reaching 760 MJ/m².

Dangerous Goods

Dangerous goods cannot be discounted from being present in the building. However, the quantity will be limited by the space available and relevant workplace health and safety regulations will apply governing storage allowances (quantity) and requirements.

Location of Materials

Significant fuel loads will be limited to the warehouse areas. Products will be distributed through high rack storage, storerooms, and waste and rubbish containers, but are anticipated to be the densest within the racking aisles of the warehouse spaces. The lobbies and stairways are to be maintained clear of furniture, stored items and the like and constructed with materials and assemblies in accordance with C1.10 to reduce fire spread and smoke production in the event of fire in common areas.

Fire Behaviour

Fire growth rates will vary with fuel type and conditions of ventilation and compartmentation. The most likely outcome of any fire outbreak within the building is a sprinkler-controlled fire. This would be expected to grow at an ultra-fast t^2 fire growth rate until sprinkler activation in the warehouse areas, at which point the sprinklers are expected to suppress or control the fire. A medium t^2 fire growth rate is expected in the office areas.

6.3 PREVENTATIVE AND PROTECTIVE MEASURES

6.3.1 Fire Initiation and Development and Control (Sub-System A)

To minimise the risk of fires initiating and growing to a size which may impact on building occupants, fire safety systems are provided within the building as listed in the following sections.

6.3.2 Smoke Development and Spread and Control (Sub-System B)

It is recognised that smoke is one of the most serious threats to life safety in the event of a fire. Whilst this warehouse is not fitted with an automatic smoke exhaust system:

- The volume of the building acts as a large smoke reservoir to increase the available evacuation time for occupants.

6.3.3 Fire Spread and Impact and Control (Sub-System C)

To limit the extent and impact of fire spread through the building, the following are implemented in the building.

- Type C construction.

6.3.4 Fire Detection, Warning and Suppression (Sub-System D)

The following active systems provided within the building to facilitate occupant warning and suppress a potential fire.

- Occupant Warning System.
- High hazard sprinklers to warehouse.
- Sprinkler system to the office.
- Fire Hose Reels.
- Fire Extinguishers.

6.3.5 Occupant Evacuation and Control (Sub-System E)

The building is provided with the following systems to assist in the evacuation of occupants:

- Emergency Lighting.
- Exit Signage.

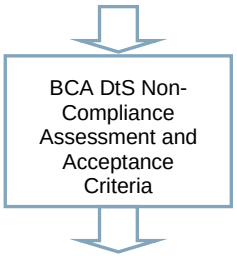
6.3.6 Fire Services Intervention (Sub-System F)

The building is provided with the following systems to assist in fire brigade intervention:

- FIP
- Fire Hydrant Booster.
- External Fire Hydrants.
- Automatic Link to Fire Brigade.
- Continuous vehicular perimeter access with minor non-conformances.

7 BCA DTS NON-COMPLIANCE ASSESSMENT

7.1 OVERVIEW



In this instance the BCA DtS non-compliances have been formulated based on the regulatory review as provided by the principal certifying authority. Where not listed herein the building is required to achieve compliance with relevant DtS Provisions or if existing, comply with relevant codes, reports and / or Standards approved at the time of consideration.

The following table lists the departures from the DtS Provisions of the BCA for the proposed building and the analysis methodology proposed for the Fire Engineering assessment, which is to be generally in accordance with the IFEG [3].

7.2 BCA DTS NON-COMPLIANCES AND PERFORMANCE SOLUTIONS

Table 7-1: Summary of Performance Solutions

BCA DTS PROVISIONS	DETAILS OF PERFORMANCE BASED SOLUTION
Perimeter Access On Adjoining Allotment **BCA DtS Provisions** Provision C2.4: Perimeter Access **Performance Requirements** CP9	**Relevant BCA DtS Provisions** Provision C2.4: Continuous perimeter access must be provided around the entire building and be wholly within the allotment boundary or from a public road. **DtS Variation** The perimeter access path requires travel onto an adjacent allotment, to the north east of the site boundary. **Performance Solution** The Performance Solution shall permit travel along the perimeter access path, onto the adjoining allotment, reliant on the following: • Existing right of carriageway easement to the east of the site boundary, providing legal right to use the allotment for perimeter vehicular access. • The building shall be sprinkler protected throughout, reducing reliance on fire brigade intervention. • Compliant perimeter access is otherwise afforded around the building. **Approaches and Method of Analysis** The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used in order to establish that the design satisfies the relevant Performance Requirements such that sufficient access to the building can be achieved during the event of a fire. **Acceptance Criteria** Access must be provided to and around the building to facilitate fire brigade and other emergency service intervention.
Location of Sprinkler Booster Assembly **BCA DtS Provisions** Provision E1.5: Sprinklers	**Relevant BCA DtS Provisions** DtS Provision E1.5: A sprinkler system must comply with the requirements of AS2118.1. AS2118.1:2017 in turns requires that the sprinkler booster assembly conform to the requirements of AS2419.1. AS2419.1:2005: The fire brigade booster assembly, if remote from the building, must be at the boundary of the site and within sight the main entrance of the building, as well as adjacent to the principal vehicular access to the site **DtS Variation** The proposed sprinkler booster assembly is in front of the pump house set back approximately 20 m from the front allotment boundary.

BCA DTS PROVISIONS	DETAILS OF PERFORMANCE BASED SOLUTION
Performance Requirements EP1.4	**Performance Solution** The Performance Solution permits the location of the sprinkler booster assembly, reliant upon: • Dedicating parking on the hardstand is provided adjacent to the sprinkler booster to permit staging. • The sprinkler booster assembly is located at the boundary of the site, close to the fire pump room, Main FIP, sprinkler valve enclosure, and hydrant booster assembly near the principal vehicular entry point • Dedicated fire brigade appliance hardstand for sprinkler suction which does not impede on the required 6 m perimeter access path **Approaches and Method of Analysis** The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used to determine whether the location of the sprinkler booster assembly will impede fire brigade operations. **Acceptance Criteria** The location of the sprinkler booster assembly must not delay the intervention of the fire brigade.

8 FIRE ENGINEERING ASSESSMENT

8.1 OVERVIEW

In order to establish that the required BCA Performance Requirements have been adequately assessed the following section details the results of the analysis and compares those results to each applicable Performance Requirement. The results of the analysis are collated and evaluated taking into consideration the DtS requirements, assessment methodology, and acceptance criteria.

8.2 PERIMETER ACCESS ON ADJOINING ALLOTMENT

8.2.1 Regulatory assessment

In order to assess the non-compliance of the relevant BCA DtS clause(s) the following table is provided to outline the relevant regulatory requirements and assessment methods.

Table 8-1: Regulatory Assessment

REGULATORY REQUIREMENT	DESCRIPTION / DETAILS
BCA DtS Provisions:	Provision C2.4: Continuous perimeter access must be provided around the entire building and be wholly within the allotment boundary or from a public road.
Non-compliance with DtS Provisions:	The perimeter access path requires travel onto an adjacent allotment, to the north east of the site boundary.
Relevant Performance Requirements:	CP9
Approaches and Method of Analysis:	The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used in order to establish that the design satisfies the relevant Performance Requirements such that sufficient access to the building can be achieved during the event of a fire.
Acceptance criteria:	Access must be provided to and around the building to facilitate fire brigade and other emergency service intervention.

8.2.2 Introduction

The perimeter access path is required for all large isolated buildings by DtS Provision C2.3, to provide FRNSW access around the building in order to facilitate intervention. Provision C2.4 states that the perimeter access path must be continuous, have a width of 6 m, and no part of its furthest boundary more than 18 m from the building, whilst remaining wholly within the allotment boundary or from public road. As shown in Figure 8-1 below, the perimeter access path to the north east of the site boundary, requires travel onto the adjoining allotment.

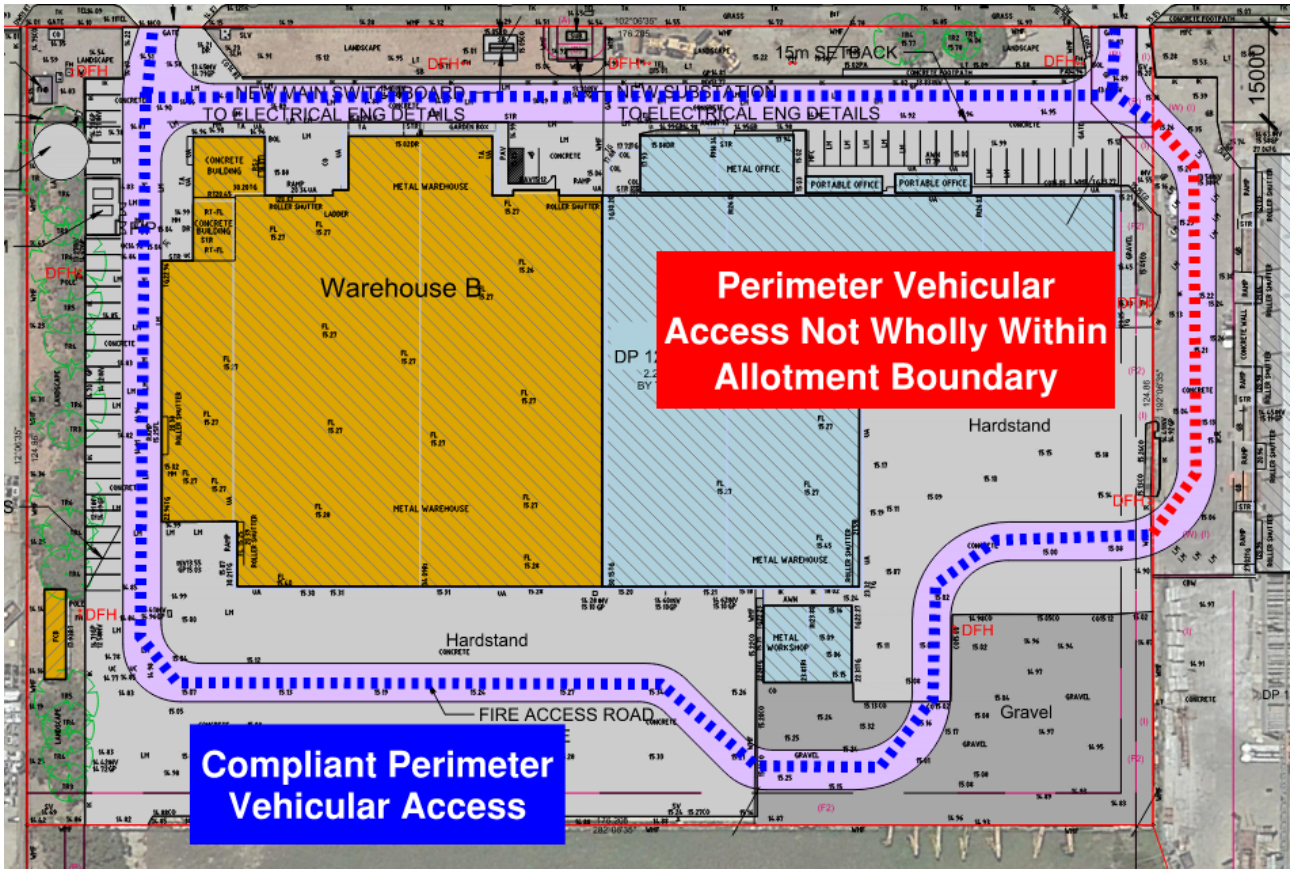


Figure 8-1: Location of DtS Non-Compliant Perimeter Access

8.2.3 Intent of the BCA

The Guide to BCA states that the intent of Provision C2.4 is "*to set the minimum requirements for open space around a building and the provision of vehicular access for the fire brigade*". This provision intends to provide a dedicated pathway suitable for the intervention of emergency services whilst also mitigating the risk of fire spread.

To make an assessment of whether the emergency vehicle access around the building achieves compliance with Performance Requirement CP9, the intent of the BCA must first be understood. Performance Requirement CP9 is designed to provide the attending fire brigade with access to, and around, a building during a fire to undertake search and rescue and fire-fighting operations.

The Guide to the BCA [2] states that the reason for the fire brigade vehicular access is to enable the brigade to intervene and fight the fire, assist with evacuation, and stop the spread of a fire to another building. The vehicular access also provides other emergency services personnel, such as ambulance officers, with the ability to access the building as necessary.

Further emphasis with regard to the requirements for vehicular access is also provided:

- *Consideration should be given to ensuring that the access is wide enough for a large fire truck, able to support the truck's weight, and incorporate a suitable hard stand area if the brigade needs to use pump units to fight the fire; and*
- *The need for the brigade to fight the fire, considering such factors as the size and type of the building, the nature of any fire safety systems in the building, and the contents of the building.*

The criteria that need to be satisfied to achieve adequate fire brigade access are:

- *The required vehicular access must have access from the public road system; and*
- *The required vehicular access must have the width, height and load-bearing capacity to allow the passage in a forward direction around the entire building and parking of fire brigade vehicles; and*
- *The required vehicular access must also have the necessary pedestrian access to the building.*

8.2.4 Performance Solution

The Performance Solution shall permit travel along the perimeter access path, onto the adjoining allotment, reliant on the following:

- Existing right of carriageway easement to the east of the site boundary, providing legal right to use the allotment for perimeter vehicular access.
- The building shall be sprinkler protected throughout, reducing reliance on fire brigade intervention.
- Compliant perimeter access is otherwise afforded around the building.

8.2.5 Fire Engineering Analysis

The Performance Solution shall demonstrate that sufficient access is provided around the building to facilitate fire brigade intervention, despite the eastern perimeter access path requiring travel onto the adjoining allotment.

Right of Carriageway Easement

Where the perimeter pathway requires travel on the adjoining allotment, there is a risk that the owner of the adjoining allotment may install security fencing or otherwise not permit access by emergency vehicles.

To mitigate this risk, an existing right-of-carriageway easement has been registered which burdens the adjoining allotment (Lot 9, DP1233715) to the benefit of the subject building. This easement provides a legal right for vehicles to travel on the adjacent allotment to access the subject site, including fire brigade vehicles, thereby permitting the fire brigade to intervene no differently to a DtS Solution.

To ensure that the 6 m path remain free of obstructions, the easement will be included on the fire safety schedule for the subject building as an Essential Fire Safety Measure. The easement is also existing and is not subject to change due to the proposed works, therefore it is considered that this will provide sufficient access to, and around, the building during a fire to undertake search and rescue and fire-fighting operations.

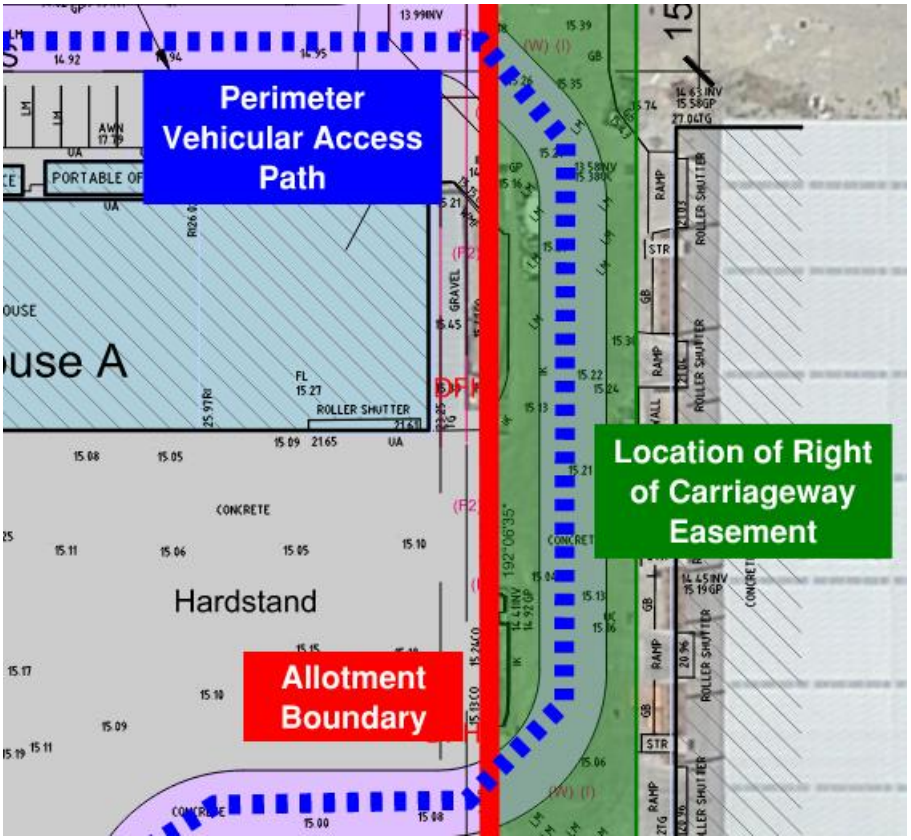


Figure 8-2: Location of Right of Carriageway Easement Adjacent to Allotment Boundary

Perimeter Access Gates

Across the allotment boundary it is not expected that there will be obstructions restricting access along the perimeter access path, therefore allowing for continuous access throughout the non-compliant section of the path. The non-compliant section of the vehicle access path will also be used as the main vehicle access to the

hardstand of Warehouse A and therefore, this path is anticipated to remain clear of obstructions in order to facilitate regular vehicular access.

Figure 8-3 shows the existing layout of the easement, with both allotments being currently separated by a wire fence, and a combination of swinging and sliding gates. All secured gates must be secured in accordance with Section 7.7 of the Fire Safety Guideline "*Access for Emergency Vehicles And Emergency Service Personnel*", available from www.fire.nsw.gov.au. Gates are therefore required to be secured with a non-hardened metal chain, with locks to be keyed alike and a copy of the key deposited with the two nearest FRNSW fire brigade stations. Alternatively, a lock that is openable by a 003 key may be used.

As this is recognised in the brigade's access guidelines as a means of providing access through vehicle checkpoints for firefighters, it is not anticipated that these gates will impede fire brigade access.

Figure 8-3: Photo of Existing Easement Separating Warehouse A (Left) from Warehouse on Adjoining Allotment (Right)

8.2.6 Conclusions

It has been demonstrated through the above analysis that efficient and uninhibited access to the building can be achieved during the event of a fire. This is reliant on the fire engineering requirements as presented in Section 9 of this report being implemented and maintained.

The Performance Solution described herein has been assessed in accordance with A2.2(1)(a) and A2.2(2)(b)(ii) and therefore complies with the requirements of A2.2(3) and Performance Requirement CP9

8.4 LOCATION OF SPRINKLER BOOSTER ASSEMBLY

8.4.1 Regulatory assessment

In order to assess the non-compliance of the relevant BCA DtS clause(s) the following table is provided to outline the relevant regulatory requirements and assessment methods.

Table 8-2: Regulatory Assessment

REGULATORY REQUIREMENT	DESCRIPTION / DETAILS
BCA DtS Provisions:	DtS Provision E1.5: A sprinkler system must comply with the requirements of AS2118.1. AS2118.1:2017 in turns requires that the sprinkler booster assembly conform to the requirements of AS2419.1. AS2419.1:2005: The fire brigade booster assembly, if remote from the building, must be at the boundary of the site and within sight the main entrance of the building, as well as adjacent to the principal vehicular access to the site
Non-compliance with DtS Provisions:	The proposed sprinkler booster assembly is in front of the pump house set back approximately 20 m from the front allotment boundary.
Relevant Performance Requirements:	EP1.4
Approaches and Method of Analysis:	The assessment methodology follows Clauses A2.2(1)(a) and A2.2(2)(b)(ii) of the BCA. An absolute and qualitative approach shall be used to determine whether the location of the sprinkler booster assembly will impede fire brigade operations.
Acceptance criteria:	The location of the sprinkler booster assembly must not delay the intervention of the fire brigade.

8.4.2 Introduction

As a result of the layout of the site and the location of the sprinkler tank, the sprinkler booster assembly is located in the north-western corner of the site, set back approximately 20 m from the front boundary, in lieu of at the boundary of the site.

This is indirectly non-conformant with the DtS Provisions which requires that the sprinkler system be designed and installed in accordance with AS2118.1:2017 which in turns requires the sprinkler booster to comply with the design requirements of AS2419.1:2005. As such, a Performance Solution was required to demonstrate the location of the sprinkler booster is suitable to firefighter intervention.

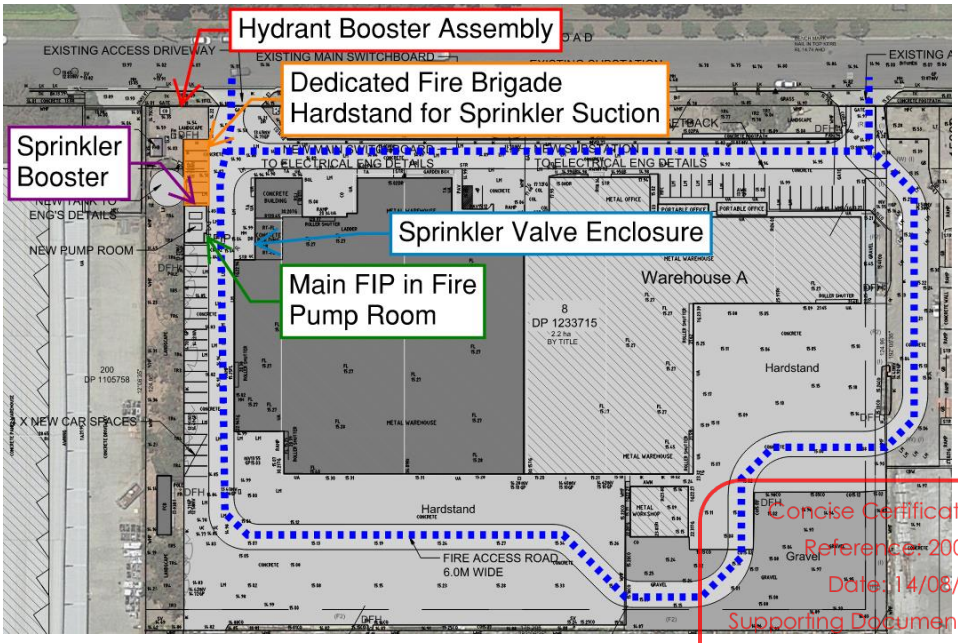


Figure 8-4: Location of Sprinkler Booster Assembly

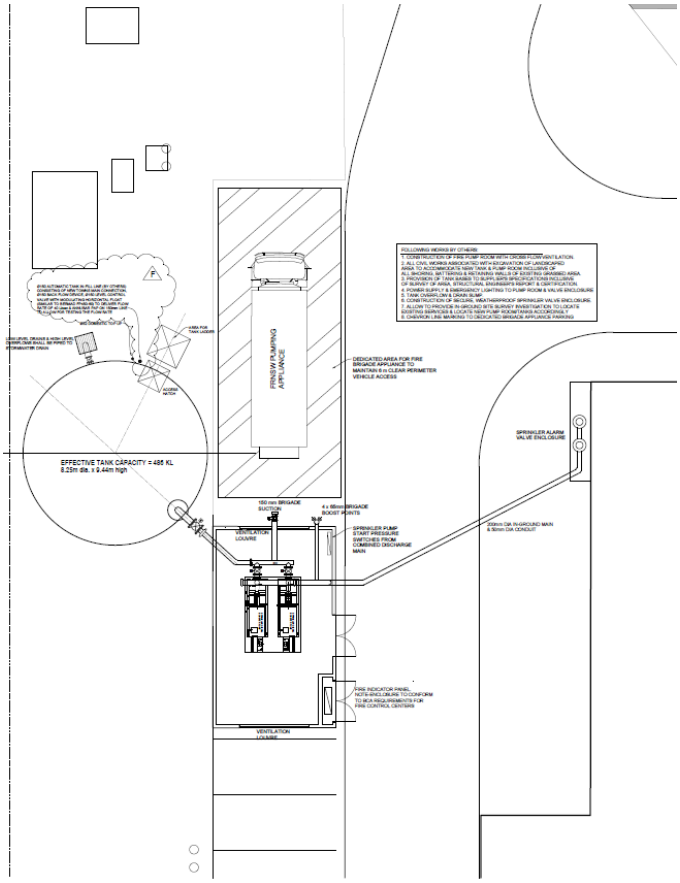


Figure 8-5: Dedicated Fire Appliance Hardstand for Sprinkler Suction

8.4.3 Intent of the BCA

The Guide to the BCA states that the intent of DtS Provision E1.5 is "*to require the installation of suitable fire sprinkler systems where necessary to address specific hazards*". The overarching intent of this provision is to provide a system that is amenable to the building as well as the operations of the attending fire brigade as necessary.

The applicable Performance Requirement is EP1.4 which requires an automatic fire suppression system be installed to the degree necessary to control the development and spread of fire.

As such, the analysis of the Performance Solution must demonstrate that the intent of the DtS Provision and Performance Requirement are satisfied.

8.4.4 Performance Solution

The Performance Solution permits the location of the sprinkler booster assembly, reliant upon:

- Dedicating parking on the hardstand is provided adjacent to the sprinkler booster to permit staging.
- The sprinkler booster assembly is located at the boundary of the site, close to the fire pump room, Main FIP, sprinkler valve enclosure, and hydrant booster assembly near the principal vehicular entry point
- Dedicated fire brigade appliance hardstand for sprinkler suction which does not impede on the required 6 m perimeter access path.

8.4.5 Fire Engineering Analysis

Hazard and Risk

The risk arising from the non-conformant location of the sprinkler booster assembly is that the fire brigade may be delayed in identifying the booster.

Mitigating Factors

It is considered that there are multiple positive factors associated with the proposed location of the sprinkler booster assembly that shall facilitate fire brigade intervention. Primarily, the sprinkler booster assembly shall be located in close proximity to the site fire brigade services, being adjacent to the fire pump room containing

the site Main FIP as well as the sprinkler valve enclosure. As the pump room will be provided a strobe above the Main FIP location, it is anticipated that firefighters will be capable of readily locating the sprinkler booster assembly. To further support this, it can be seen from Figure 8-4 that the booster is also set back approximately 20 m from the front allotment boundary near the principal vehicular entry point where the hydrant booster is located, as well as being along the perimeter access path.

The location of the sprinkler booster is also not anticipated to impede fire brigade appliances, being located along the perimeter access path with a dedicated parking area on the northern hardstand that permits the staging of appliances. As shown in Figure 8-5, this dedicated hardstand does not impede on the required 6 m wide perimeter access path, permitting passage of other emergency vehicles. Connection of the brigade appliance to the suction point is also straight and not at an angle, ensuring that brigade appliances can utilise the booster assembly.

Considering the above, the location of the sprinkler booster assembly is not anticipated to impede firefighter intervention.

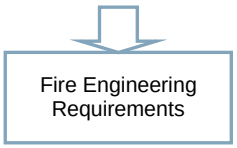
8.4.6 Conclusions

It has been demonstrated through the above analysis that efficient and uninhibited access to the building can be achieved during the event of a fire. This is reliant on the fire engineering requirements as presented in Section 9 of this report being implemented and maintained.

The Performance Solution described herein has been assessed in accordance with A2.2(1)(a) and A2.2(2)(b)(ii) and therefore complies with the requirements of A2.2(3) and Performance Requirement EP1.4

9 FIRE ENGINEERING REQUIREMENTS

9.1 OVERVIEW



The following are the design requirements, to be undertaken by others, to achieve the nominated fire safety objectives of this report.

All other items not specifically addressed are to be in accordance with DtS Provisions of the BCA or as accepted by the relevant authorities. Any change in this information to suit future building works or re-organisation will require further analysis to confirm compliance with the regulations and this Fire Engineering Report.

Table 9-1: Summary of Fire Engineering Requirements

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
General		
BCA DtS compliance	With the exception of the Performance Solution assessed herein all other aspects relating to fire safety within the building are assumed to comply with the Deemed-to-Satisfy Provisions of the BCA.	BCA Section B, C, D and E
Fire Resistance		
Type of construction	The building is required to be of Type C fire-resisting construction.	BCA Specification C1.1
Services and Equipment		
Fire hydrants	A hydrant system must be provided for the warehouse in accordance with BCA Provision E1.3 and AS2419.1:2005 with the following considerations: • The system shall incorporate a ring main with isolation valves that are external to the building and numbered, with the corresponding numbers indicated on the block plan. • Hydrant coverage to the warehouse is to be achieved solely through the use of external hydrants. • All hose connections in the system are to be fitted in accordance with FRNSW Technical information sheet – FRNSW compatible hose connections (available at firesafety.fire.nsw.gov.au). These couplings should be tested as part of the system when the commissioning tests are undertaken. • The fire hydrant booster, to the north-west of the site, shall be within sight of the main entry and greater than 10 m from any substation, in accordance with FRNSW Guide Sheet No.2 'Location of AS2419.1 Booster Assembly' available at www.fire.nsw.gov.au.	BCA DtS Provision E1.3 AS2419.1:2005
Fire hose reels	Fire hose reels must be provided in accordance with the Relevant Regulatory Requirements.	BCA DtS Provision E1.4 AS2441:2005
Sprinklers	A fire sprinkler system shall be provided throughout the building in accordance with BCA Specification E1.5 and AS2118.1:2017. • Activation of the sprinkler system must notify the fire brigade and activate the building occupant warning system.	BCA Specification E1.5 AS2118.1:2017

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
	The dedicated hardstand for the sprinkler suction connection shall comply with all requirements of FRNSW's Guideline: Access for Fire Brigade Vehicles and Firefighters. These being: • The hardstand shall be in front of any suction-connection outlet • Any hardstand area serving a suction-connection outlet must be positioned at an angle not greater than 45° from the outlet's longitudinal direction • The position of the hardstand must not impede the carriageway such that a minimum clear width of 3.5 m on the carriageway is provided • The outline of the hardstand area should be painted on the pavement in `Golden Yellow' coloured non-slip paint (refer Australian Standard AS2700 reference number Y14). The outline is to be filled with diagonal lines angled at 60 degrees to the horizontal, spaced at 300 mm intervals	**FRNSW's Guideline: Access for Fire Brigade Vehicles and Firefighters** **Performance Solution**
Fire extinguishers	Portable fire extinguishers must be provided throughout the building with their location and selection relevant to the risk class in accordance with the relevant Regulatory Requirements.	BCA DtS Provision E1.6 AS2444:2001
Occupant warning system	All new works on the BOWS shall be to AS1670.1:2018. The BOWS shall be activated by the sprinkler system throughout the entire building.	Clause 3.22 of AS1670.1:2018
Emergency lighting	Emergency lighting must be installed in accordance with the relevant Regulatory Requirements.	BCA DtS Provision E4.2 and E4.4 AS2293.1:2018
Exit signs	Exit signs and direction signs to exits must be installed in accordance with the relevant Regulatory Requirements.	BCA DtS Provisions E4.5, E4.6 and E4.8 AS2293.1:2018
Fire Brigade Intervention		
Vehicular perimeter access	A vehicular access path shall be provided around the building in all-weather surface capable of supporting all FRNSW appliances (maximum weight of 29,300 kg) in accordance with '*Access for fire brigade vehicles and firefighters'* available from www.fire.nsw.gov.au or otherwise shown to enable the passage of firefighting appliances. • The hardstand for the sprinkler tank suction points must be line-marked and located such that the connected brigade appliance does not obstruct vehicular access around the building • A clear unobstructed width of 6 m for perimeter vehicular access is to be provided no greater than 18 m from the external wall of the building. • All secured vehicle access gates on the eastern allotment boundary are to be secured with a non-hardened metal chain, with locks to be keyed alike, and a copy of the key deposited with the two nearest FRNSW fire brigade stations. Alternatively, locks openable by a 003 key may be used.	BCA DtS Provision C2.3, C2.4 FRNSW Guideline "*Access for Emergency Vehicles And Emergency Service Personnel*" **Performance Solution**

FIRE ENGINEERING REQUIREMENT	DETAILS	STANDARD OF COMPLIANCE
Notification	An automatic link shall be provided directly to an approved monitoring centre on activation of the sprinkler systems.	BCA Specification E2.2a Clause 7 Clause 3.3 of AS2118.1:2017
Control and indicating equipment	The building shall be provided with a Main Fire Indicator Panel (FIP) adjacent to the sprinkler booster to the north west of the site.	BCA Provision E2.2, AS1670.1:2018
Block plans	Zone block plans are to be provided for use by the fire brigade adjacent to the Fire Indicator Panel, sprinkler control valves and hydrant booster assembly.	AS1670.1:2018 AS2118.1: 2017 AS2419.1:2005
Building Management Requirements		
Inspection, testing and maintenance	Periodic inspection, testing and maintenance of all fire safety systems should be implemented. This includes sprinklers, smoke detection, fire hydrants, fire hose reels, emergency lighting, exit signage, doors, fire resistance, portable fire extinguishers etc.	AS1851:2012.
Right of carriageway easement	A right of carriageway easement shall be burdened on the adjoining allotment (Lot 9, DP1233715) to the benefit of the subject building. This easement must provide a pathway at least 6 m wide as per Figure 8-2. The following statement must be included on the Fire Safety Schedule as an Essential Fire Safety Measure: • "*Perimeter access for this building is partially provided onto the adjoining allotment, Lot 9, (DP1233715) which is located to the east of Lot 8. The Western hardstand of Lot 9 must therefore maintain at least a 6 m wide access path and turning circle for vehicular movement adjacent to the boundary between both buildings. At no time may this area be used for the storage of materials. This requirement is to be confirmed during each Annual Fire Safety Inspection.*"	**Performance Solution**

10 NOMENCLATURE

ACRONYM	EXPANSION
ABCB	Australian Building Codes Board
AFSS	Annual Fire Safety Statement
BCA	Building Code of Australia
CFD	Computational Fluid Dynamics
DtS	Deemed-to-Satisfy
EPA	Environmental Protection Authority
FCC	Fire Control Centre
FER	Fire Engineering Report
FIP	Fire Indicator Panel
FRL	Fire Resistance Level
FRNSW	Fire Rescue NSW
FSS	Fire Safety Strategy
IFEG	International Fire Engineering Guidelines
NCC	National Construction Code
NFPA	National Fire Protection Association
OHS	Occupational Health and Safety
RTI	Response Time Index

11 REFERENCES

1. ABCB, “Building Code of Australia, Volume One”, CanPrint Communications, Canberra 2019 Amendment 1.
2. ABCB, “Guide to the BCA 2019”, CanPrint Communications, Canberra 2019 Amendment 1.
3. ABCB, “International Fire Engineering Guidelines”, ABCB, Canberra, 2005.
4. BS 9999: Code of practice for fire safety in the design, management and use of buildings, October 2008.
5. Budnick, E.K. “Automatic sprinkler system reliability”, Fire Protection Engineering, Issue No. 9, Winter 2001.
6. Campbell, R., “U.S. Structure Fires in Office Properties”, National Fire Protection Association, Quincy MA, August 2013.
7. Campbell, R., “Structure Fires in U.S. Warehouses”, National Fire Protection Association, Quincy MA, June 2013.
8. England, J., “Guide for the design of fire resistance barriers and structures”, Building Control Commission, Australia, 2000.
9. “Fire Brigade Intervention Model V2.2”, Australasian Fire Authorities Council, October 2004.
10. Fire & Rescue NSW, “Annual report 2018/19”, 31 October 2019.
11. FM Global Data Sheet 2-0, Installation Guidelines for Automatic Sprinklers, March 2010.
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13. Kook, K.W., “Exterior Fire Propagation in a High-Rise Building,” Master’s Thesis, Worcester Polytechnic Institute, Worcester, MA, November 1990.
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15. Marryatt, H.W., “Fire: A Century of Automatic Sprinkler Protection in Australia and New Zealand 1886-1986”, Australian Fire Protection Association, Melbourne, Australia, 1988.
16. Rohr, KD 2003, “US Experience with Sprinklers”, National Fire Protection Association, Quincy, MA.
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APPENDIX A FIRE BRIGADE INTERVENTION MODEL

The building is located within the Fire and Rescue New South Wales (FRNSW) jurisdictional turnout area. The closest two fire stations to the site that are provided with permanent staff are located in Yennora and Guilford approximately 1.3 km and 4.6 km from the site respectively and the expected routes from these stations to the project site are illustrated in Figure A-1.

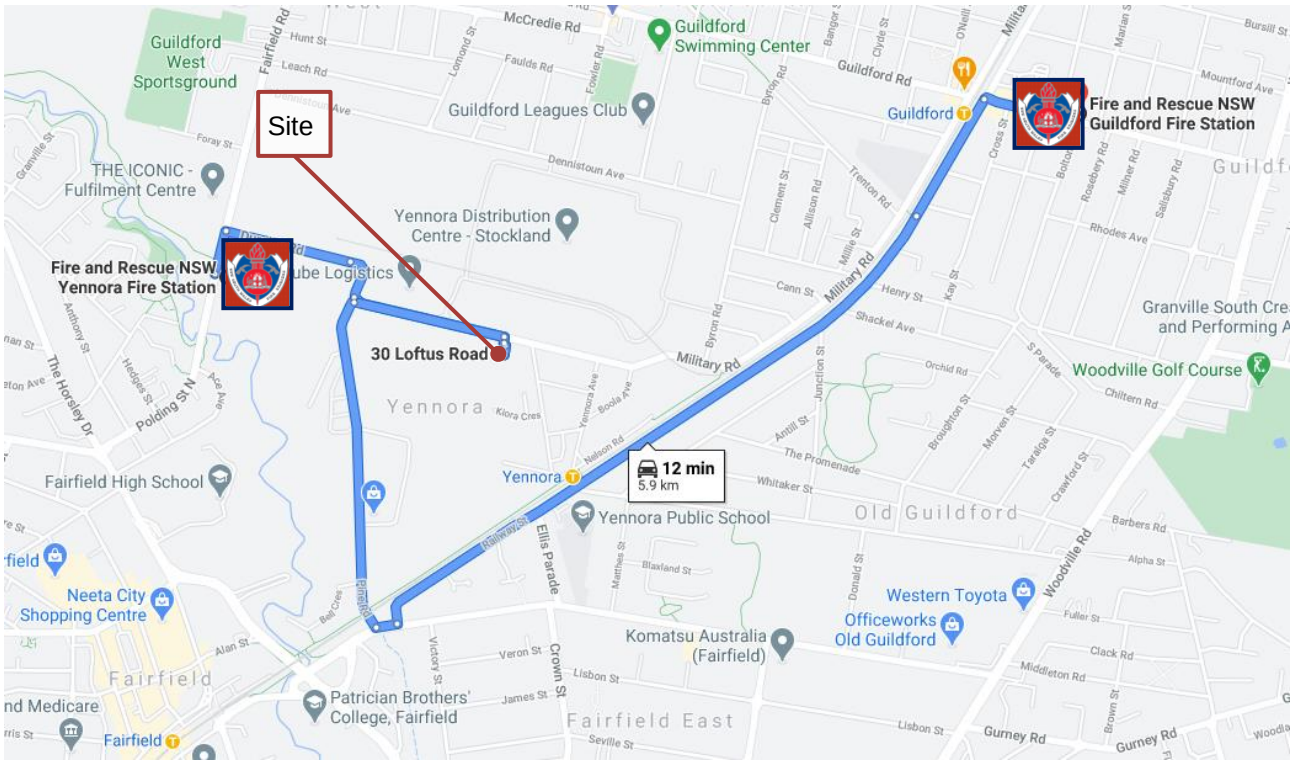


Figure A-1: Location of Site with Respect to Closest FRNSW Stations **www.google.com.au/maps**

Due to the nature of the Fire Brigade Intervention Model (FBIM), it is necessary to justify the results through the inclusion of assumptions. The accuracy of results weighs heavily upon the measure of which assumptions are made and the sources from which they are derived. The model produced details the time it will take for brigade personnel within the aforementioned location to receive notification of a fire, time to respond and dispatch resources, time for resources to reach the fire scene, time for the initial determination of the fire location, time to assess the fire, time for fire fighter travel to location of fire, and time for water setup such that suppression of the fire can commence. The following are details of the assumptions utilised in this FBIM:

Location of Fire

- This FBIM will only be an indicative model of one fire scenario within the building. For conservative purposes, the FBIM will consider a fire in the furthest habitable location from the point of entry.

Time between Ignition and Detection

- It is assumed that the initial brigade notification is via the Sprinklers. The activation time calculated has considered a fire with an ultra-fast growth rate, which is expected to be indicative of the rate of growth expected in an area of such use.

Based on calculations utilising Alpert's Correlation (refer to Figure A-2), the activation time has been calculated to occur 349 seconds following fire ignition.

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Alpert's Correlation			
The ambient temperature of the room, T_{∞} =	20	(°C)	
Fire Category =	Ultrafast		α = 0.1778 (kW/s^2)
Output time step =	10	(s)	
The distance of the detector from the fire, r =	2.12	(m)	
The height of the ceiling above the fire, H =	18.82	(m)	
The Response Time Index of the detector, RTI =	150.00	($m^{1/2}s^{1/2}$)	
Sprinkler density of discharge =	10	mm / min	
Detector activation temperature =	101	(°C)	
Calculated quantities at detector activation			
The gas temperature at activation, T =	118.22	(°C)	
HRR at activation, Q =	**21530**	**(kW)**	
The gas velocity, U =	10.04	(m/s)	
Time at activation, t =	**349**	**(s)**	
Ratio, r / H =	0.11		

Figure A-2: Smoke Detector Activation Time

- An additional time of 180 seconds has been allowed for the depressurisation of the sprinkler system to subsequently activate the alarm.

Time for Initial Brigade Notification

- Fire brigade notification is expected to occur via a direct monitored alarm.
- Time for alarms/fire verification and any notification delays is 20 seconds based on Table B of the Fire Brigade Intervention Model [9].
- Therefore, the time from ignition at which the fire brigade will be notified is (349 + 180 + 20) = 549 seconds

Time to Dispatch Resources

- The two fire stations are assumed to be manned at the time of the fire.

Time for fire fighters to respond to dispatch call and leave fire station is included in the travel time for fire brigade in NSW [9]).

Time for Resources to Reach Fire Scene

Based on statistics of FRNSW response time from the 2018/2019 annual report [10], the average time for the fire brigade to respond to an emergency call (including call processing, turnout time and travel time) is less than 8 minutes. Further, the 90th percentile is less than 12 minutes. This is highlighted in Figure A-3. As the site is within the FRNSW jurisdictional turnout area, a time of 12 minutes can be conservatively assumed to represent the travel time required in this instance.

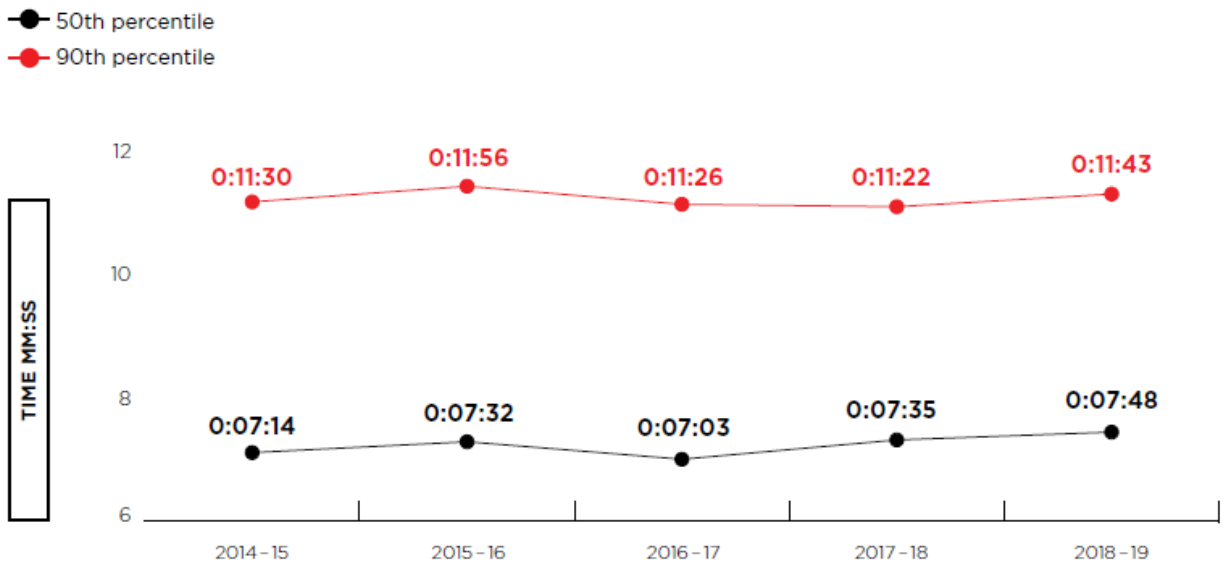


Figure A-3: FRNSW Response Time from 2018/2019 Annual Report

Time for Initial Determination of Fire Location

- On arrival, the fire location is not visible to the approaching brigade personnel, thus requiring information to be obtained from the Fire Indicator Panel (FIP) and evacuating occupants.
- Fire brigade personnel assemble at the FIP at the pump room area.
- Fire brigade tactical fire plans will be provided.
- It is assumed that a fire would occur during business hours and that staff are present on site providing assistance to fire brigade personnel in relation to identifying the fire location and entry into the building. As such, forced entry into the building is not required.

Time to Assess the Fire

- Horizontal egress speeds have been based on fire brigade personnel dressed in turnout uniform in BA. An average travel speed of 1.4m/s with a standard deviation of 0.6 m/s are utilised. As such, for the purposes of the calculations, a horizontal travel speed of 1.40 - (1.28 x 0.6) = 0.63 m/s is utilised.

Table A-1: FBIM Data for Horizontal Travel Speeds

GRAPH	TRAVEL CONDITIONS	SPEED (m/s)	
		MEAN (μ)	STANDARD DEVIATION (σ)
Q1	Dressed in turnout uniform	2.3	1.4
Q2	Dressed in turnout uniform with equipment	1.9	1.3
Q3	**Dressed in turnout uniform in BA with or without equipment**	**1.4**	**0.6**
Q4	Dressed in full hazardous incident suit in BA	0.8	0.5

- Horizontal travel distances (not including travel via lifts or stairs) will include the following:
  - Travel from kerb side into the pump room, via the Fire Indicator Panel is 5 m.
  - Based on the above, the total horizontal travel distance of 5 m coupled with an egress speed of 0.63m/s results in a horizontal travel time of up to 8 seconds.

Time for Water Setup

- The first appliance would be expected to commence the initial attack on the fire.
- Time taken to connect and charge hoses from on-site hydrants to the fire area is based on V3 Table V of the Fire Brigade Intervention Model Guidelines, which indicates an average time of 45.3 seconds, and a standard deviation of 17.1 seconds. Using a 90th percentile approach as documented in the FBIM [9], the

standard deviation is multiplied by a constant *k*, in this case being equal to 1.28. Therefore, the time utilised in this FBIM is 45.3 + (1.28 x 17.1) = 68 seconds.

Search and Rescue

- Search and Rescue will consist of a perimeter search of large areas and a walk in and out of rooms. This will provide firefighting personnel with an additional 83 m of travel. At a speed of 0.63 m/s, this will take firefighting personnel approximately 132 seconds.

Table A-2: Summary of the Fire Brigade Intervention Model (FBIM)

ACTION	TIME TAKEN FOR ACTION	CUMULATIVE TIME FROM IGNITION
Fire Ignition	-	0s
Sprinkler activation	349s	349s
Depressurisation of sprinkler system	180s	529s
Verification of alarm	20s	549s
Dispatch resources	-	-
Travel to scene	720s	1269s
Arrive at Scene	**-**	***21.2 minutes***
Assess and access fire	132s	1401s
Water set-up	68s	1469s
Attack Fire	**-**	***24.5 minutes***
Search and rescue	132s	-

As summarised in Table A-2, the FBIM indicates that the arrival times of the brigade from the nearest fire station is after approximately 21.2 minutes respectively after fire ignition, and it is estimated that it takes another 4 minutes for the fire brigade to carry out activities including the determination of fire location and preparation of firefighting equipment. As such, the initial attack on the fire is expected to commence approximately 24.5 minutes after fire ignition.

APPENDIX B STATISTICS

B.1 FIRE STATISTICS

In order to assess the most likely fire hazards within the building, and subsequently the risk presented by these hazards it is necessary to develop an understanding of the factors that have an influence on the fire safety of building occupants. The best method in doing so is to review existing statistical data.

Existing data is an invaluable tool in providing an overview of the situations in which occupant deaths have, and are likely to occur, and factors that contribute to more severe fires. This aids in understanding, and helps evaluate the effectiveness of, and the need for various fire safety systems. Reference is made to the American database as it is significantly larger than Australian data sets, but is generally considered to be representative of the Australian situation.

Table B-1: Civilian fatalities in various occupancy types

STRUCTURE USE	FIRES PER YEAR	CIVILIAN FATALITIES PER YEAR	CIVILIAN FATALITIES PER 1000 FIRES
Hospice	38	0	0
Hospitals	1,288	0	0
Schools	4,060	0	0
Public assembly*	5,390	0	0
Eating and Drinking Establishments	7,480	3	0.40
Retail/Department Store	1,150	1	0.87
Business offices	**2,890**	**3**	**1.04**
Manufacturing	**5,303**	**7**	**1.32**
Industrial	**2,860**	**4**	**1.40**
Stores/Other mercantile properties	10,210	15	1.47
Vehicle Storage/Garage	6,200	10	1.61
Day-care	580	1	1.72
24-hour nursing homes	2,749	5	1.82
Hotels or motels	3,610	11	3.05
Apartments	106,380	410	3.85
Homes	260,180	2165	8.32

* Excluding Eating and Drinking Establishments and Religious and Funeral Properties.

Source: NFPA 'Structure Fires by Occupancy 2007-2011' Report [8]

B.2 OCCUPANCY STATISTICS

B.2.1 Office Fire Risk Statistics

From the NFPA 'Structure Fires by Occupancy 2007-2011 – Annual Averages' Report [6], the civilian fatality rate from 2007 to 2011 was 3 civilian deaths per year due to fire in office buildings. This reflects the general population characteristics of offices; occupants are generally of working age (between 18 and 70), are alert and are capable of rational and unimpaired decision making when they are present. For this reason, evacuation (if required) generally begins early in comparison to structures where occupants are asleep.

Statistics taken from the NFPA report on "U.S Structure Fires in Office Properties" by Campbell [6] allow an analysis of the peak times that fires occur, death rates, the cause of fires and their area of origin and the extent

of fire spread, based on data from 2007-2011. With only 4 civilian fatalities per year in office buildings, fatality data is deemed not to accurately represent risk and so has been omitted from the graphs.

Alarm Time

Figure B-1 presents the percentage of fires by time of alarm. Less than one-third (31%) of the total fires occurred between 19:00 and 07:00. The peak time of day for fires in these properties is between 12:00 and 14:00.

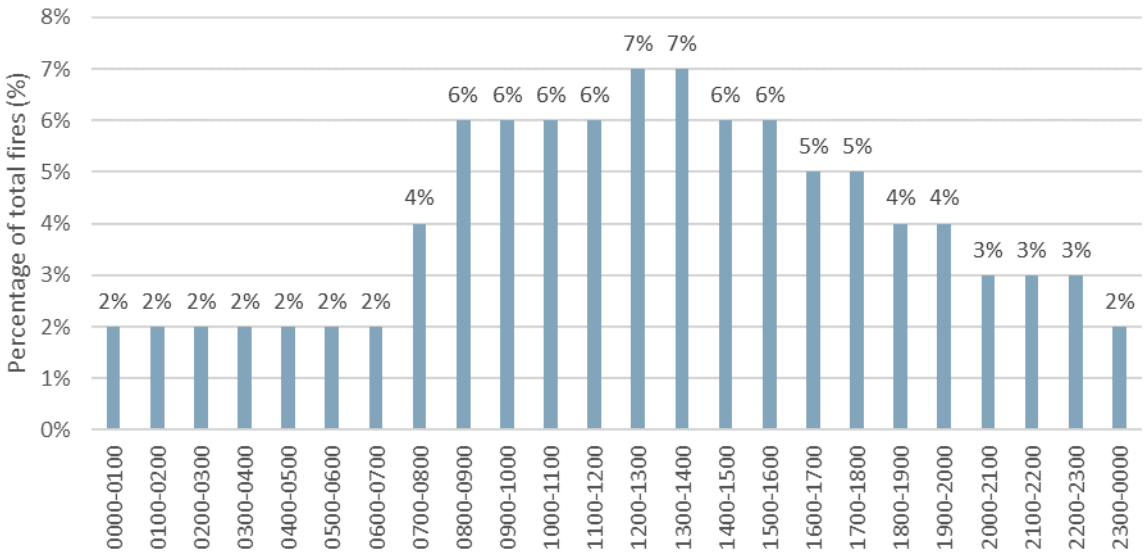


Figure B-1:Fires by Alarm Time for Office Properties [6]

Causes of Fires

Figure B-2 presents the leading cause of fire in office properties. The most probable cause of fire in these structures is cooking equipment with more than one in every four office property fires (29%) being caused by this factor. Fires that were intentionally set count as one-tenth (10%) of the total fires.

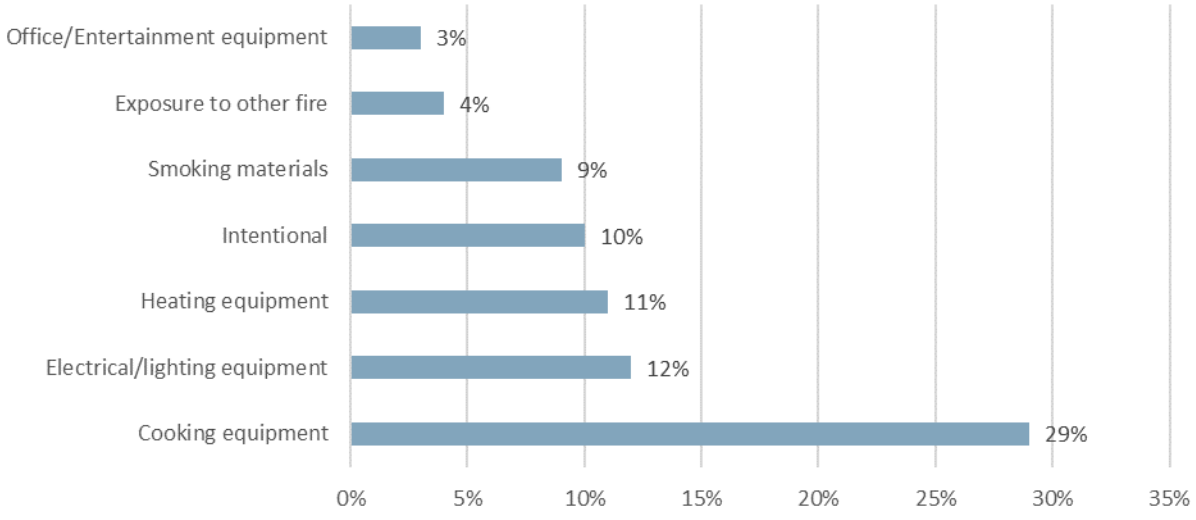


Figure B-2:Leading Causes of Fire in Office Structures [6]

Areas of Fire Origin

Figure B-3 presents data on the area of origin of fires in office properties. Just over one-fifth (22%) of the reported fires in office properties began in the kitchen or cooking area, making this the most likely area of origin for fire in these structures. The next most likely area of origin is office areas, accounting for 12% of fires.

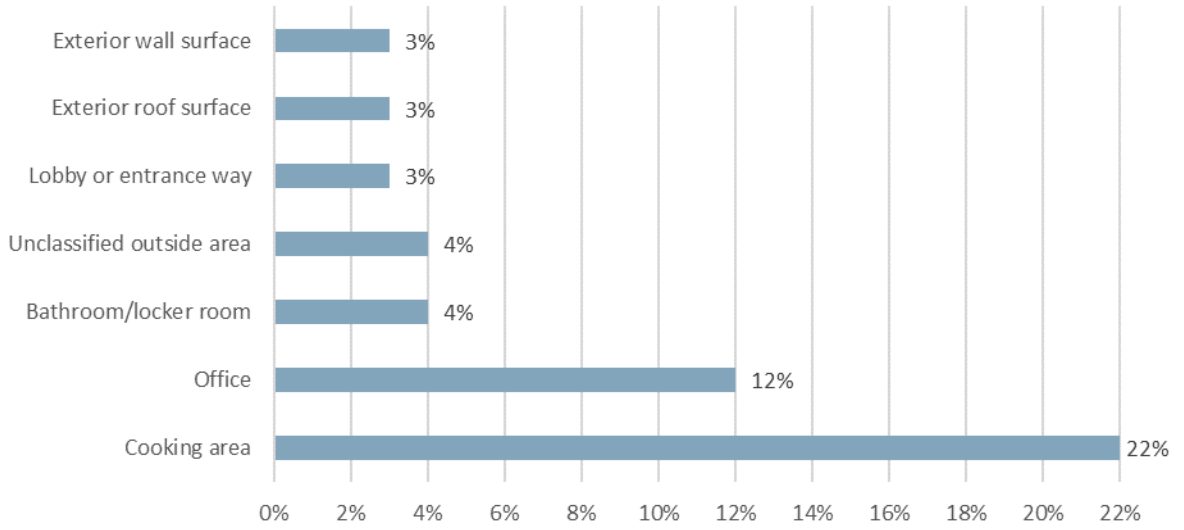


Figure B-3:Areas of Origin for Fires in Office Structures [6]

Extent of Fire Spread

Figure B-4 presents data on the extent of fire spread for office properties. As the figure shows, four out of five office property fires (80%) were confined to the room of origin. The vast majority of fires (98%) were confined to the building of origin.

It should be noted that the probability of whether a fire spreads beyond the room of origin is considered approximately equivalent to the occurrence of that fire reaching flashover [6]. This is based upon the reasonable assumption that if automatic or human/manual fire suppression was to occur to control fire growth, that this is likely to only be effective if it is carried out prior to a fire spreading beyond the room of origin - due to high risk to life safety in the room of origin and the fact that if a fire has spread from a room, it has most likely fully involved the room of origin.

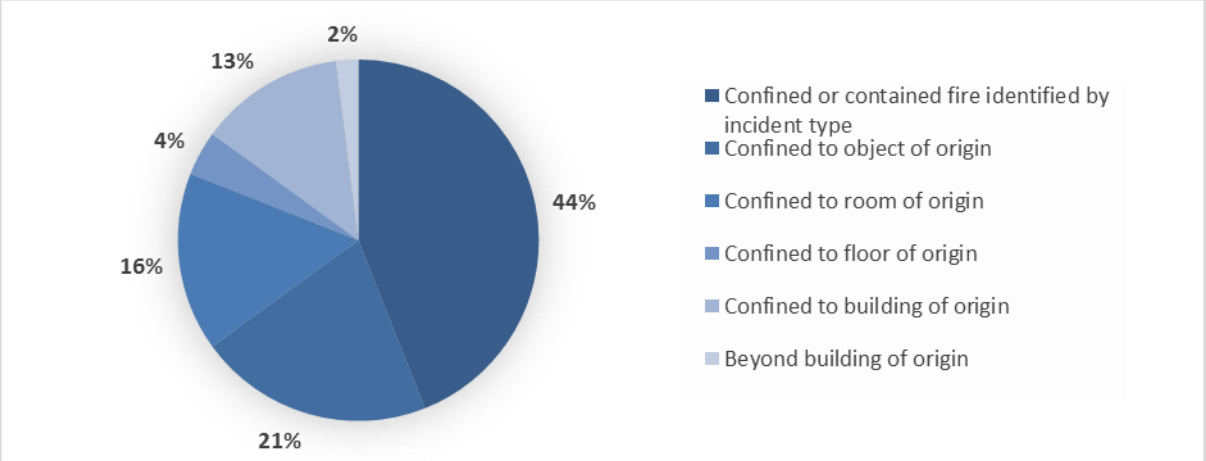


Figure B-4:Extent of Fire Spread for Office Properties [6]

B.2.2 Warehouse Fire Risk Statistics

The civilian fatality rates from 2007 to 2011 in storage warehouses have a medium risk to life compared to other property types with 3.15 civilian deaths per 1000 fires on average. This indicates a much greater risk per fire than other non-residential occupancies; however, this is balanced by the relatively low number of fires that occur. A total of 1,270 structure fires were reported in warehouses between 2007 and 2011. The fires recorded resulted in 4 occupant fatalities and 23 occupant injuries.

Statistics taken from the NFPA report on “Structure Fires in U.S. Warehouses” by Campbell [7] allow an analysis of the peak times that fires occur, death rates, the cause of fires and their area of origin and the extent of fire spread, based on data from 2007-2011.

Alarm Time

Figure B-5 presents the percentage of fires by time of alarm. Warehouse fires are less common at night, between 23:00 and 08:00, but throughout the day with no one definitive peak period.

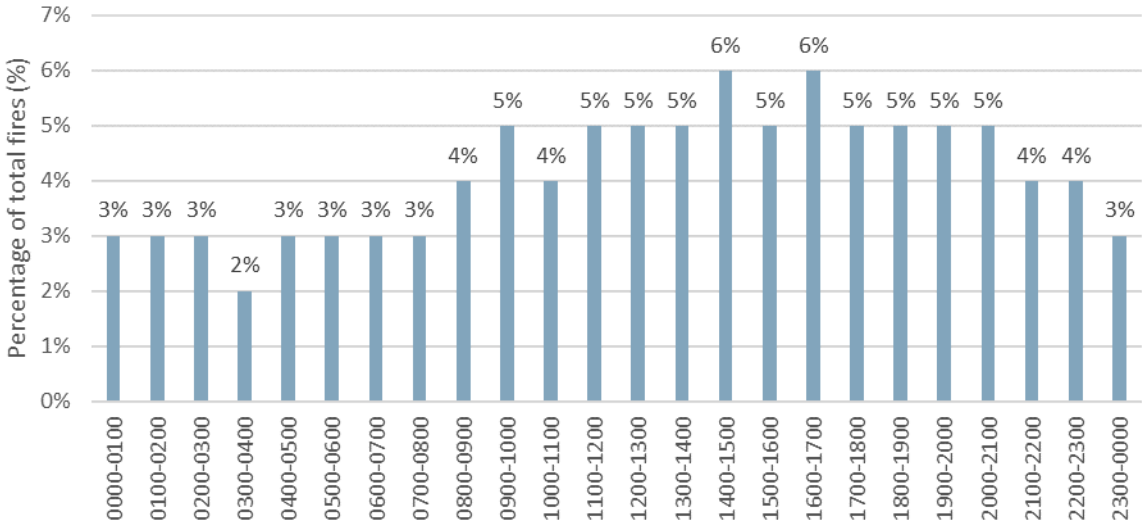


Figure B-5:Fires by Alarm Time for Warehouses [7]

Causes of Fires

Figure B-6 presents the leading cause of fire for warehouse properties. The most probable cause of fire is intentional ignition accounting for 19% of warehouse fires between 2007-2011 but no civilian injuries were reported from these fires. Shop tools and industrial equipment caused 8% of fires; these fires resulted in 27% of the civilian injuries recorded annually.

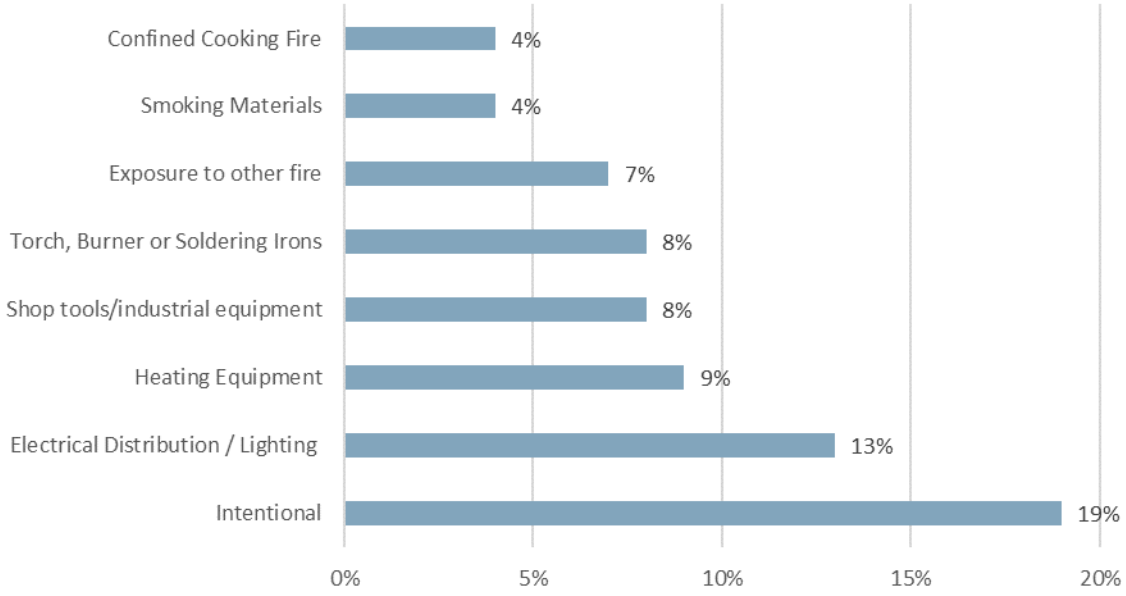


Figure B-6:Leading Causes of Structure Fires in Warehouse [7]

Areas of Fire Origin

Figure B-7 presents data on the area of origin of fires in warehouse properties. The most likely areas of origin in warehouse fires were areas associated with storage. The most probable area of fire origin is unclassified storage areas, accounting for 13% of fires.

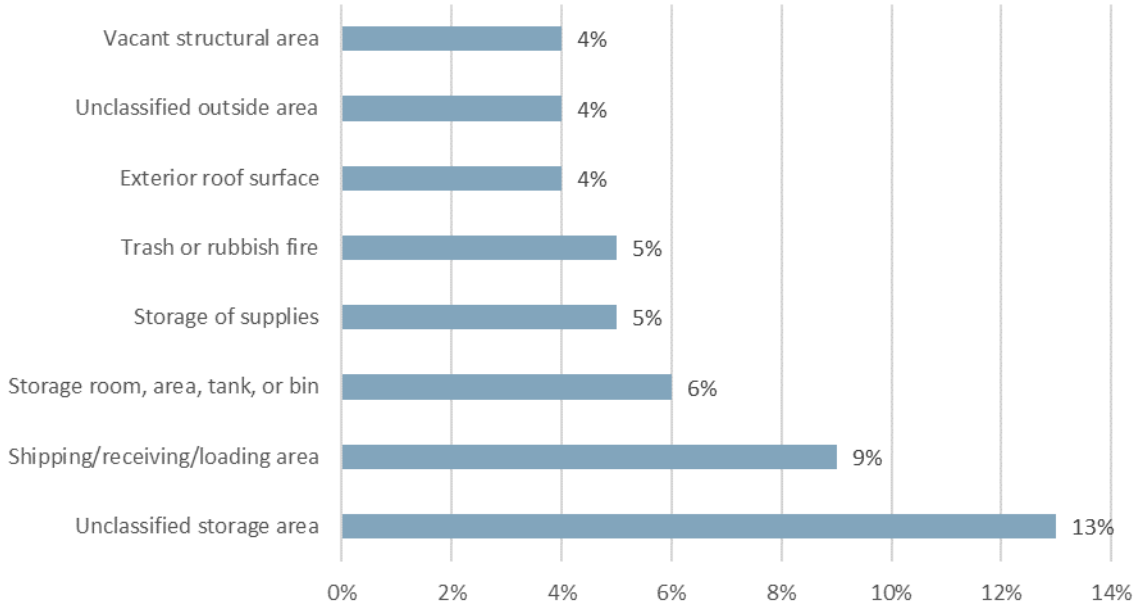


Figure B-7:Leading Areas of Origin of Structure Fires in Warehouses [7]

Extent of Fire Spread

Figure B-8 presents data on the extent of fire spread for warehouses. The figure illustrates that under half (41%) of the fires were confined to the object of origin and 60% were confined to the room of origin. 6% of the warehouse fires spread beyond the building of origin.

It should be noted that the probability of whether a fire spreads beyond the room of origin is considered approximately equivalent to the occurrence of that fire reaching flashover [6]. This is based upon the reasonable assumption that if automatic or human/manual fire suppression was to occur to control fire growth, that this is likely to only be effective if it is carried out prior to a fire spreading beyond the room of origin - due to high risk to life safety in the room of origin and the fact that if a fire has spread from a room, it has most likely fully involved the room of origin.

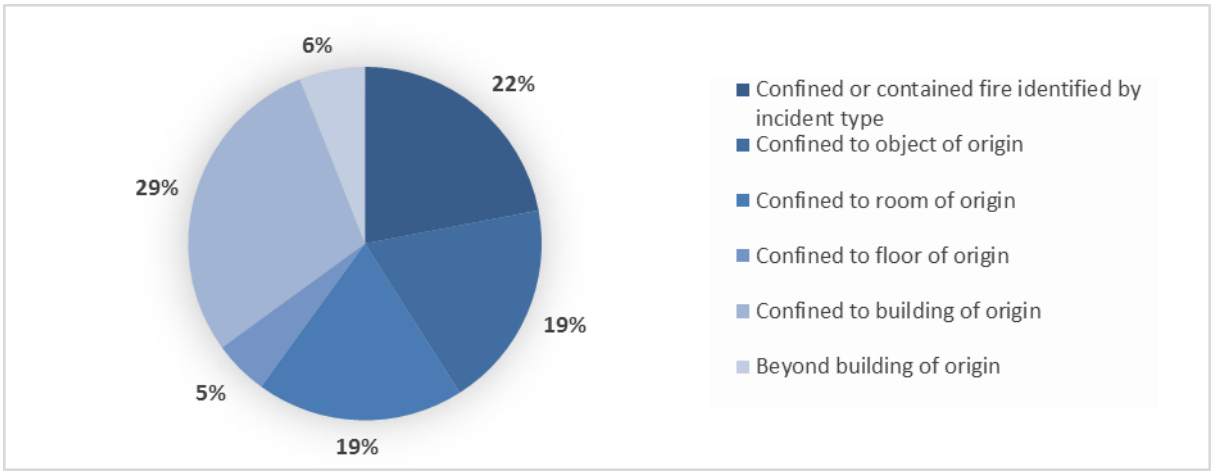


Figure B-8: Extent of Fire Spread for Warehouses [7]

B.3 FIRE LOAD

The fire load within a room or compartment will influence the duration and severity of a fire and resultant hazard to occupants. The effective fire load for the building has been estimated by consideration of the typical spaces within the building.

The following fire loads have been extracted from Chapter 3.4 of the International Fire Engineering Guidelines [3] and are listed in Table 6-1. This data is derived from Switzerland, however is also applicable to buildings in Australia of similar use.

Table B-2: Fire Load Densities

TYPE OF OCCUPANCY	AVERAGE FIRE LOAD
Forwarding facility dealing in: **beverages, food, furniture, glassware, plastic products, printed goods, textiles, varnish/polish.**	**Range from;** **200 MJ/m² – 1700 MJ/m²**
High Rise Office Building	800 MJ/m²
Office, Business	800 MJ/m²
Office, Manufacturing	**400 MJ/m²**
Storage of paper	1000 MJ/m²/m
Storage of rubber products	5000 MJ/m²/m

The IFEG indicates that for well-defined occupancies, average values should be multiplied by a factor of 1.35 to 1.65 to reach the 90% fractile value and for isolated peak values a factor of 2 should be used.

B.4 FIRE GROWTH RATE AND INTENSITY

As the fire increases in size, the rate of fire growth accelerates. The growth rate of a fire can result in various hazards for occupants due to the following:

- Protective and preventative measures may not be adequate
- Occupants may have insufficient time to evacuate
- Occupants may perceive a reduced threat from slow growing fires

The rate of fire growth is generally expressed in terms of an energy release rate. The most commonly used relationship is what is commonly referred to as a quadratic t-squared fire. In such a fire, the rate of heat release is given by the expression:

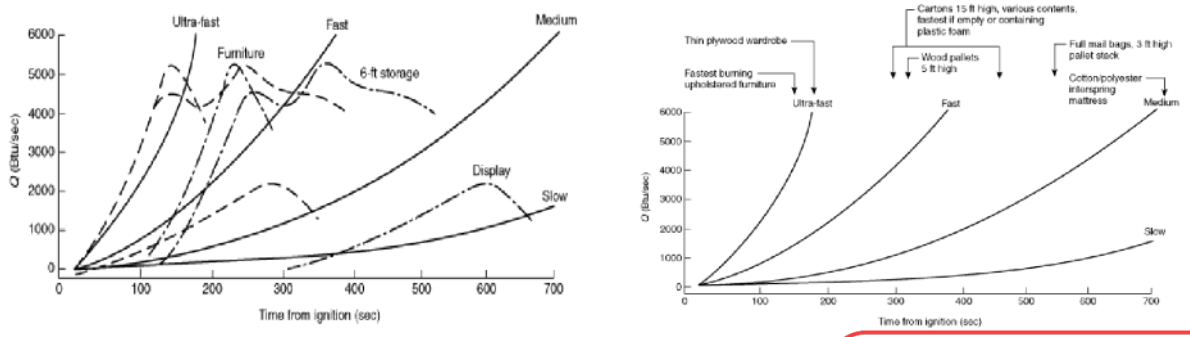
$$Q = \left(\frac{t}{k}\right)^2$$

Where:

- t = time from ignition of the fire (seconds);
- k = the growth time (seconds) for the fire to reach a heat output of 1.055 MW.

The continued growth of a fire defined by the above equation relies on both a sufficient source of fuel and air and assumes that flashover has not been reached. The rate of fire growth can be estimated from the results of a number of fire tests that have been performed on various fuel commodities.

National Fire Protection Association Standard NFPA 92B [17], provides information on the relevance of t-squared approximation to real fire as depicted in Figure B-9.



(a) t-squared fire, rates of energy release (b) Relation of t-squared fires to some fire tests

Figure B-9: NFPA 92B Design Fires and Heat Release Rates

A slow fire growth is not considered to be the most challenging in terms of fire and life safety or fire brigade intervention.

The continued growth of a fire defined by the above equation relies on both a sufficient source of fuel and air and assumes that flashover has not been reached. The rate of fire growth can be estimated from data published in British Standard (BS) 9999:2008 [4] as shown below.

Table B-3: Fire Growth Rates as Specified in BS 9999:2008

BUILDING AREA PROVIDING FUEL	GROWTH RATE	BUILDING AREA PROVIDING FUEL	GROWTH RATE
Reception area	Slow	Restaurant/Canteen	Medium
Office	**Medium**	Teaching Laboratories	Fast
Shop	Fast	Meeting Room	Medium
Warehouse	Medium/Fast/**Ultrafast**	Waiting Room	Slow

From the above table it is concluded that the likely fire scenarios in this warehouse development can be represented by an ultrafast t^2 fire for the warehouse and a medium t^2 fire in the office.

APPENDIX C EFFECTIVENESS OF SPRINKLERS

The building is protected by a storage mode fire sprinkler system installed in accordance with the requirements of Factory Mutual Loss Prevention Data Sheets (Data Sheets 2-0 and 8-9). This system is designed to quickly suppress a fire. With reference to the data sheet, as of 2002 [11], [12] there have been 6 known fires involving suppression mode sprinkler protection. In all of these incidents, suppression mode protection was successful and no more than four sprinkler heads operated.

In general, the effectiveness of automatic fire sprinklers in limiting fire spread and growth is supported by statistics and studies undertaken into the effects of these systems within buildings. These studies show that fire sprinkler systems operate and control fires in 81% to 99.5% of fire occurrences [**5**]. The lower reliability estimates of 81.3% [14] as well as some of the higher values of 87.6% [13] appear to reflect significant bias in data in terms of the small number of fire incidents and the lack of differentiation between fire sprinklers and other fire suppression systems. A number of the lower figures are results of dated studies.

It must be noted that the higher reliability of fire sprinklers reported by Marryatt [15] of 99.5% reflect fire sprinkler systems where inspections, testing and maintenance exceeded normal expectations and applies to installations specifically in Australia and New Zealand. The statistical data indicates that sprinklers with appropriate maintenance are highly effective in reducing the loss of life and limiting fire spread.

In addition, analysis of the likelihood of sprinkler failure shows that most sprinkler system failures are due to impaired water supplies such as closed valves, blocked pipes, impaired sources, etc., which tend to affect sections of or the entire system [15]. As such, system reliability can be increased by active monitoring of water supplies and controls. The general consensus within the fire protection industry is that problems with individual sprinkler heads are rare. This information combined with sprinkler reliability data is favourable when compared with the reliability of fire compartmentation [3].

Budnick [**5**] reports that masonry fire rated construction has been documented to have a reliability of 81-95%, and gypsum 69-95%, with the upper level in both instances having been reported within the IFEG [3]. Both reported ranges are considered to be less than that offered by automatic sprinkler systems. Table C-1 lists the effectiveness of sprinkler systems in the event of a fire growing to a size that facilitates sprinkler head activation [16].

Table C-1: Effectiveness of Sprinkler systems

PROPERTY TYPE	EFFECTIVENESS OF SPRINKLERS IN EVENTS WHERE SPRINKLERS OPERATE
Public Assembly	90%
Educational	93%
Health care / Correctional Centre	95%
Residential (average)	97%
Office / Retail	***91%***
Manufacturing	93%
Storage	***86%***
Cold Storage	89%

Table C-2: The Effectiveness of Sprinklers in Offices

EXTENT OF FLAME DAMAGE	FIRES WITH SPRINKLER PROTECTION	FIRES WITHOUT SPRINKLER PROTECTION
Confined to object of origin	68.2%	46.9%
Confined to area of origin	21.5% (89.7%)	22.7% (69.6%)
Confined to room of origin	5.6% (95.3%)	8.1% (77.7%)

EXTENT OF FLAME DAMAGE	FIRES WITH SPRINKLER PROTECTION	FIRES WITHOUT SPRINKLER PROTECTION
Confined to fire-rated compartment of origin	1.9% (97.2%)	1.2% (78.9%)
Confined to floor of origin	0.9% (98.1%)	3.6% (82.5%)
Confined to structure of origin	1.9% (100.0%)	14.9% (97.4%)
Extended beyond structure of fire origin	0.0%	2.4%
Total:	*1,070 fires*	*3,350 fires*

Table C-3: The Effectiveness of Sprinklers in Storage Facilities

EXTENT OF FLAME DAMAGE	FIRES WITH SPRINKLER PROTECTION	FIRES WITHOUT SPRINKLER PROTECTION
Confined to object of origin	50.0%	19.9%
Confined to area of origin	27.8% (77.8%)	14.1% (34.0%)
Confined to room of origin	6.7% (84.5%)	4.9% (38.9%)
Confined to fire-rated compartment of origin	1.1% (85.6%)	0.6% (39.5%)
Confined to floor of origin	2.4% (88.0%)	1.1% (40.6%)
Confined to structure of origin	10.0% (98.0%)	45.0% (85.6%)
Extended beyond structure of fire origin	2.2% (100%)	14.3% (100%)
Total:	*900 fires*	*29,330 fires*

APPENDIX D ASSESSMENT METHODOLOGY

D.1 TIME LINE ANALYSIS

The aim of a time line analysis is to provide a method for determining if a performance based solution is acceptable and ensures life safety in situation where travel distance, smoke extract and other non-compliance issues exist in a building. The design evaluation depends upon a time based comparison of the time available for occupants to escape before conditions become untenable (Available Safe Egress Time – ASET) and the escape time (Required Safe Egress Time – RSET). The ASET RSET relationship can be seen below.

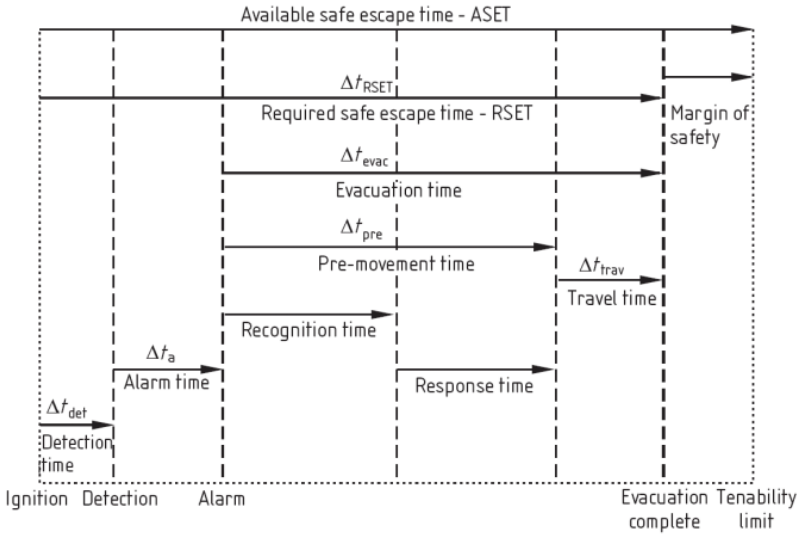


Figure D-1: ASET – RSET TIME LINE

D.2 AVAILABLE SAFE EGRESS TIME

The prediction of the ASET requires the use of fire modelling techniques, in this case computational fluid dynamics software Fire Dynamics Simulator (FDS). The geometry, design fire including the growth curves for major toxic products, smoke and heat must be defined and base case fire scenarios developed for modelling. The point at which it is deemed that the conditions within the enclosure have become untenable due to the effects of fire and smoke is called the Tenability Criteria. This criterion is defined in the following sections.

D.3 REQUIRED SAFE EGRESS TIME

The RSET is the time taken for the occupants to escape and depends upon the detection time, types of warning systems and range of other factors related to occupant evacuation behaviour and movement. Broadly speaking this evacuation behaviour can be broken down into two categories; Pre-movement behaviour and Travel behaviour.

The pre-movement behaviour involves the response of occupants before they start to move toward an exit and the time taken to recognise a fire cue. An important finding of behavioural research is that this time is often longer than the travel time. The travel behaviour involves the movement of occupants into and through escape routes taking into account congestion and flow rates through openings as well as typical walking speeds.

Required Safe Egress Time (RSET) = Alarm Time + Pre-Movement Time + Travel Time

D.4 MARGIN OF SAFETY

An important consideration in any timeline analysis is the margin of safety (t_{margin}) and is represented by the difference between the ASET (t_{ASET}) and RSET (t_{RSET}) as shown in the following equation:

$$t_{margin} = t_{ASET} - t_{RSET}$$

Typically for a base case scenario the following relationship must be satisfied:

$$t_{ASET} \geq 1.5 \times t_{RSET}$$

APPENDIX E TENABILITY CRITERIA

E.1 OCCUPANT LIFE SAFETY CRITERIA

The tenability criteria for occupant life safety is based on the SFPE Handbook of Fire Protection Engineering and CIBSE Guide E – Fire Safety Engineering [18], which requires temperature, visibility and toxicity conditions to be maintained so that they do not endanger human life, by satisfying either one of the following criteria:

E.2 CRITERIA 1 – SMOKE LAYER ABOVE 2.1 M

The limiting condition for tenable condition with radiant heat from a hot layer or other fire condition is 2.5 kW/m². This radiant heat level generally occurs when temperatures are approximately 200°C in small enclosures with relatively low ceiling heights. Therefore, the acceptance criteria are when the smoke layer height is greater than 2.1 m and the smoke temperature is less than 200°C.

E.3 CRITERIA 2 – SMOKE LAYER BELOW 2.1 M

Untenable conditions are considered to occur if the smoke layer drops below 2.1 m and any of the following temperature, visibility and toxicity limits are exceeded:

- Smoke Temperature > 60°C
- Visibility < 10 m (optical density < 0.1 m^{-1})
- CO Toxicity > 1,400 ppm

Toxicity is generally considered to be acceptable if the visibility criterion is satisfied.

E.4 FIRE BRIGADE LIFE SAFETY CRITERIA

The Fire Engineering Assessment considers fire-fighter life safety where occupant tenability limits have been exceeded and intervention is required by the Fire Brigade.

Search and rescue operations require enclosure to be safe for fire fighters. According to the Fire Brigade Intervention Model V2.2 the following criteria are used to determine the tenable conditions for fire fighters relative to height of 1.5 m above floor level:

E.4.1 Routine Condition

Elevated temperatures, but not direct thermal radiation

- Maximum Time: 25 minutes
- Maximum Air Temperature: 100°C (in lower layer)
- Maximum Radiation: 1 kW/m²

E.4.2 Hazardous Condition

Where firefighters would be expected to operate for a short period of time in high temperatures in combination with direct thermal radiation

- Maximum Time: 10 minutes
- Maximum Air Temperature: 120°C (in lower layer)
- Maximum Radiation: 3 kW/m²

E.4.3 Extreme Condition

These conditions would be encountered in a snatch rescue situation or a retreat from a flashover

- Maximum Time: 1 minutes
- Maximum Air Temperature: 160°C (in lower layer)
- Maximum Air Temperature: 280°C (in upper layer)
- Maximum Radiation: 4-4.5 kW/m²

E.4.4 Critical Conditions

These conditions have not been considered as the FBIM states that firefighters would not be expected to operate in such conditions.

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Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon

APPENDIX F RIGHT OF CARRIAGEWAY EASEMENT

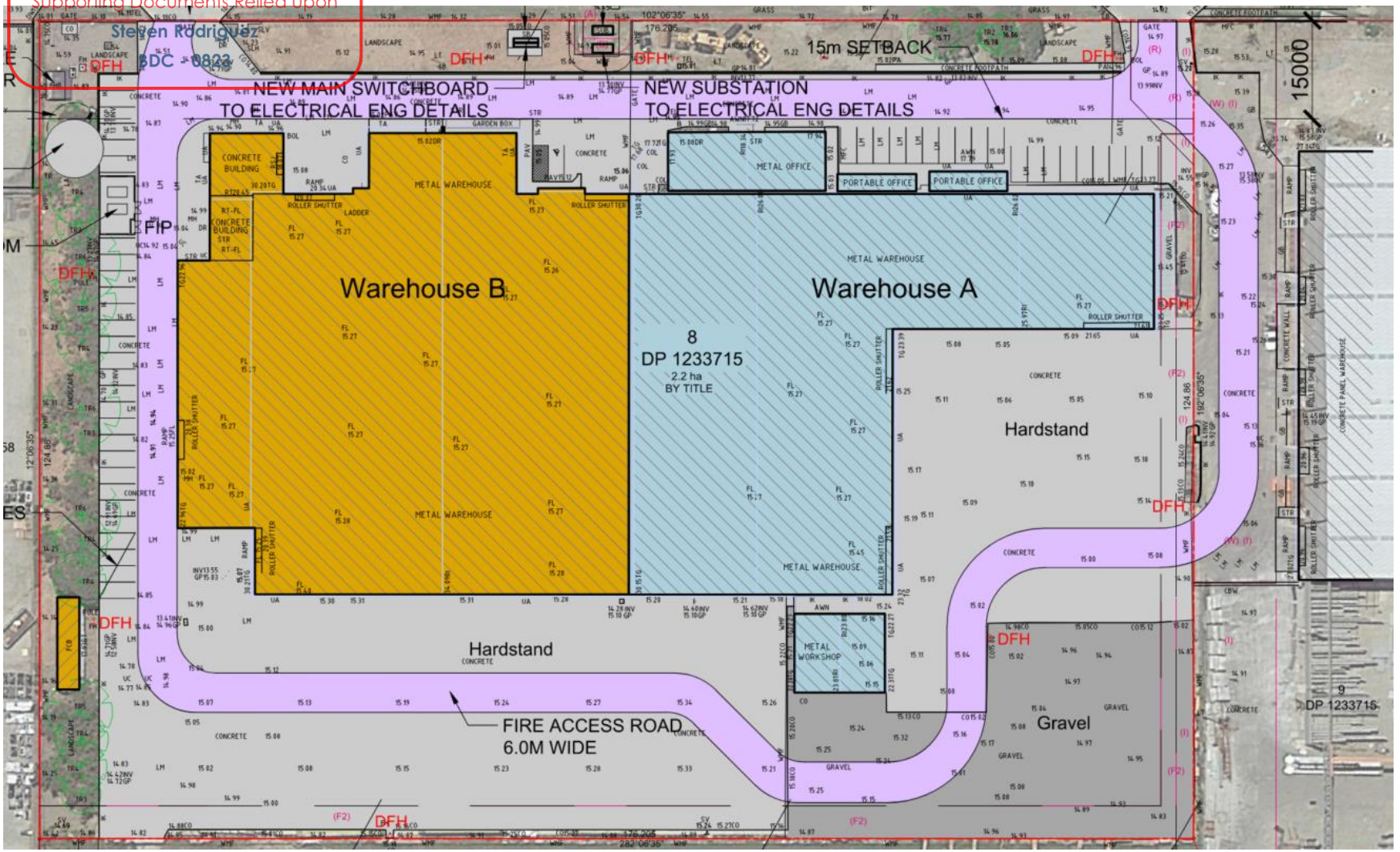

Figure F-1: Site Plan Indicating Location of Easements

EASEMENT(S) - ENCUMBERANCE(S) AFFECTING SUBJECT PROPERTY

(A) - EASEMENT FOR PADMOUNT SUBSTATION 2.75 WIDE (VIDE DP1258374)
(B) - RESTRICTION ON USE OF LAND (VIDE DP1258374)
(I) - EASEMENT TO DRAIN WATER 10.675 AND 15.24 METRES WIDE (VIDE DP 533033)
(F2) - EASEMENT FOR FLOOD MITIGATION WORKS 5 WIDE & VARIABLE (VIDE DP 1233715)
(P) - EASEMENT TO DRAIN WATER 1.5 & 3 WIDE (VIDE DP 1233715)
(R) - RIGHT OF ACCESS 9.6 WIDE & VARIABLE (VIDE DEALING AM754799)
(W) - RIGHT OF ACCESS 12.58 WIDE (VIDE DP 1233715)

Figure F-2: Name and Type of Easements Affecting Subject Property

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Date: 14/08/2021
Supporting Documents Relied Upon
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LAND REGISTRY SERVICES **Title Search** InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 8/1233715

SEARCH DATE	TIME	EDITION NO	DATE
4/2/2019	4:09 PM	3	19/10/2018

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY NATIONAL AUSTRALIA BANK LIMITED.

LAND

LOT 8 IN DEPOSITED PLAN 1233715
AT YENNORA
LOCAL GOVERNMENT AREA CUMBERLAND
PARISH OF ST JOHN COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1233715

FIRST SCHEDULE

AONARI PT6 PTY LTD (T AM969743)

SECOND SCHEDULE (13 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 LAND EXCLUDES MINERALS WITHIN THE PART(S) SHOWN SO INDICATED ON THE TITLE DIAGRAM - SEE CROWN GRANT(S)
3 DP533033 EASEMENT TO DRAIN WATER 10.675 AND 15.24 METRES WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP1105758 RESTRICTION(S) ON THE USE OF LAND
5 DP1137917 EASEMENT TO DRAIN WATER 4.375 METRE(S) WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
6 DP1233715 EASEMENT TO DRAIN WATER 1.5 AND 3 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
7 DP1233715 EASEMENT TO DRAIN WATER VARIABLE WIDTH APPURTENANT TO THE LAND ABOVE DESCRIBED
8 DP1233715 RIGHT OF ACCESS 12.58 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
9 DP1233715 EASEMENT FOR FLOOD MITIGATION WORKS 5 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
10 AM754799 RIGHT OF ACCESS 9.6 WIDE AND VARIABLE AFFECTING THE SITE DESIGNATED (A) IN PLAN WITH AM754799
11 AM969744 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
12 AN795008 LEASE TO P F M RENTALS (AUST) PTY LTD OF WAREHOUSE A, 30 LOFTUS ROAD, YENNORA. EXPIRES: 31/1/2023. OPTION OF RENEWAL: 5 YEARS.
13 AN795009 LEASE TO PORTER EQUIPMENT AUSTRALIA PTY LIMITED OF WAREHOUSE B, 30 LOFTUS ROAD, YENNORA. EXPIRES:

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Date: 14/08/2021
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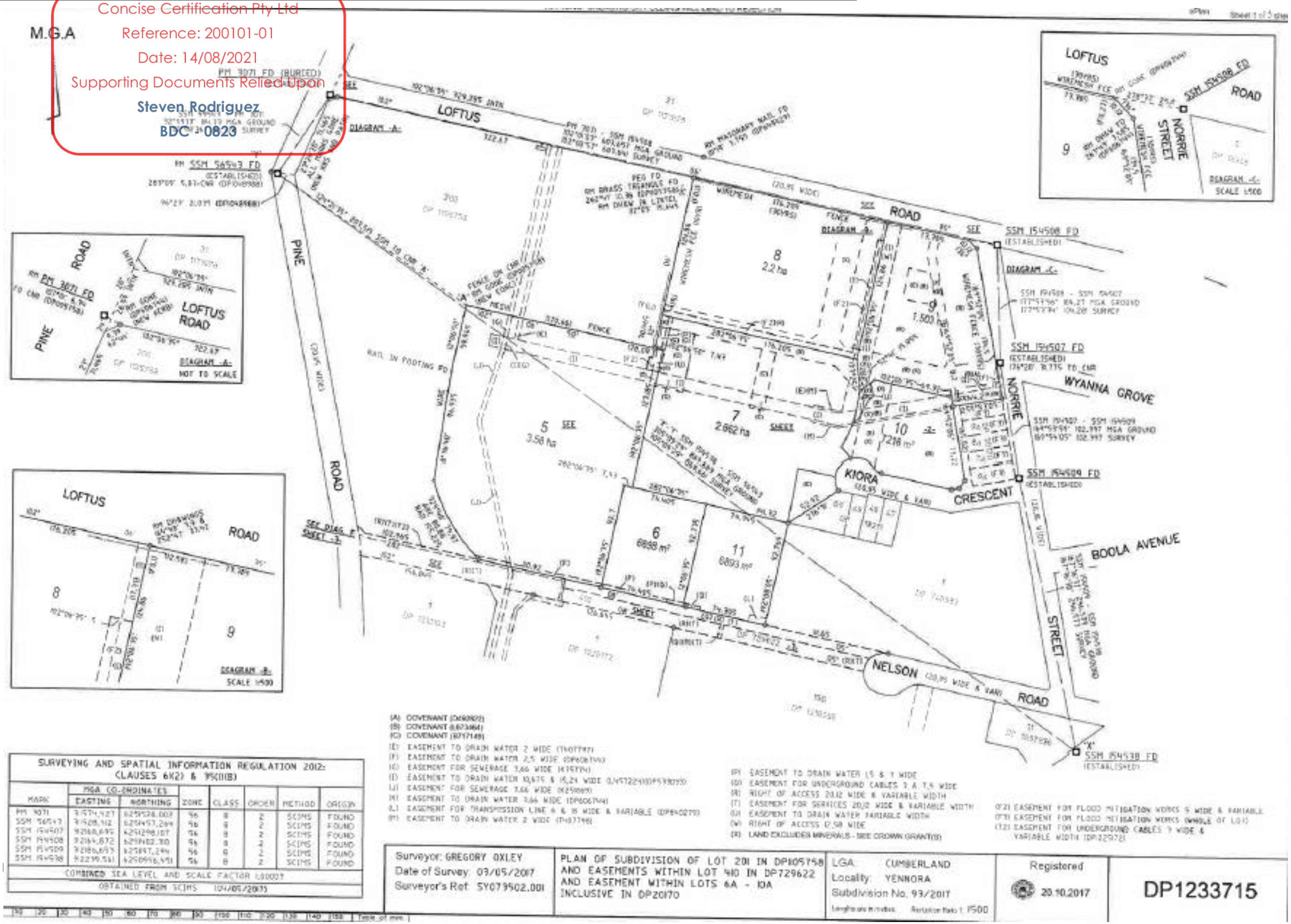
BDC 0823



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PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET Sheet 2 of 3 sheet(s)

Office Use Only

Registered: 20.10.2017

Office Use Only

DP1233715

PLAN OF SUBDIVISION OF LOT 201 DP1105758 AND EASEMENTS WITHIN LOT 410 DP 729622 AND EASEMENT WITHIN LOTS 6A-10A INCLUSIVE IN DP20170.

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: .....

Date of Endorsement: .....

Pursuant to Sec. 88B of the Conveyancing Act as amended it is intended to create:

1. Easement to Drain water 1.5 and 3 wide (P).
2. Easement for Underground Cables 3 & 7.5 wide (Q).
3. Right of Access 20.12 wide and variable width (R).
4. Easement for Services 20.12 wide and variable width (T).
5. Easement to Drain Water variable width (U).
6. Right of Access 12.58 wide (W). & variable
7. Easement for Flood Mitigation Works 5 wide (F2)
8. Easement for Flood Mitigation Works (whole of lot) (F3)

Lot No.	Street No.	Street Name	Street Type	Locality
5		Nelson	Road	Yennora
6A		Nelson	Road	Yennora
6B		Nelson	Road	Yennora
7		Klora	Cresent	Yennora
8		Loftus	Road	Yennora
9		Norrie	Street	Yennora
10		Klora	Crescent	Yennora

If space is insufficient use additional annexure sheet

Surveyor's Reference: 73502.001 Stage 2

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
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ePlan

INSTRUMENT SETTING OUT TERMS OF EASEMENTS OR PROFITS À PRENDRE INTENDED TO BE CREATED OR RELEASED AND OF RESTRICTIONS ON THE USE OF LAND OR POSITIVE COVENANTS INTENDED TO BE CREATED PURSUANT TO SECTION 88B CONVEYANCING ACT 1919.

Sheet 1 of 9 sheets

Plan: DP1233715

Plan of Subdivision of Lot 201 DP1105758 and Easements within Lots 410 DP729622 and Easement within Lots 6A-10A inclusive in Deposited Plan 20170 covered by Council Consent No. 093 dated 30 August 2019

Full name and address of the owner of the land:

LPR Kiora Pty Limited
ABN: 12 604 245 673
Suite 2, Level 29, Aurora Place
88 Phillip Street
SYDNEY NSW 2000

Part 1 (Creation)

Number of item shown in the intention panel on the plan	Identity of easement, profit à prendre, restriction or positive covenant to be created and referred to in the plan	Burdened lot(s) or parcels:	Benefited lot(s), road(s), bodies or Prescribed Authorities
1	Easement to Drain Water 1.5 and 3 wide (P)	5 6 7	6, 7, 8, 11 11 8
2	Easement for Underground Cables 3 & 7.5 wide (Q)	410/729622 6, 11	Epsilon Distribution Ministerial Holding Corporation ABN: 59 253 130 878 Epsilon Distribution Ministerial Holding Corporation ABN: 59 253 130 878
3	Right of Access 20.12 wide & variable width (R)	410/729622	5, 6, 11
4	Easement for Services 20.12 wide & Variable width (T)	410/729622	5, 6, 11
5	Easement to drain water variable width (U)	10 5	8, 9 7

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
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Plan: DP1233715

Plan of Subdivision of Lot 201 DP1105758 and Easements within Lots 410 DP729622 and Easement within and 6A-10A inclusive in Deposited Plan 20170 covered by Council Consent No. 013 dated 30 August 2017

Sheet 2 of 9 sheets

6	Right of Access ~~of Access~~ 12.58 wide (W)	9	8
7	Easement for flood mitigation works 5 wide (F2) # variable	5,8	7
8	Easement for flood mitigation works (F3) (whole of Lot)	6A/20170 7A/20170 8A/20170 9A/20170 10A/20170	7

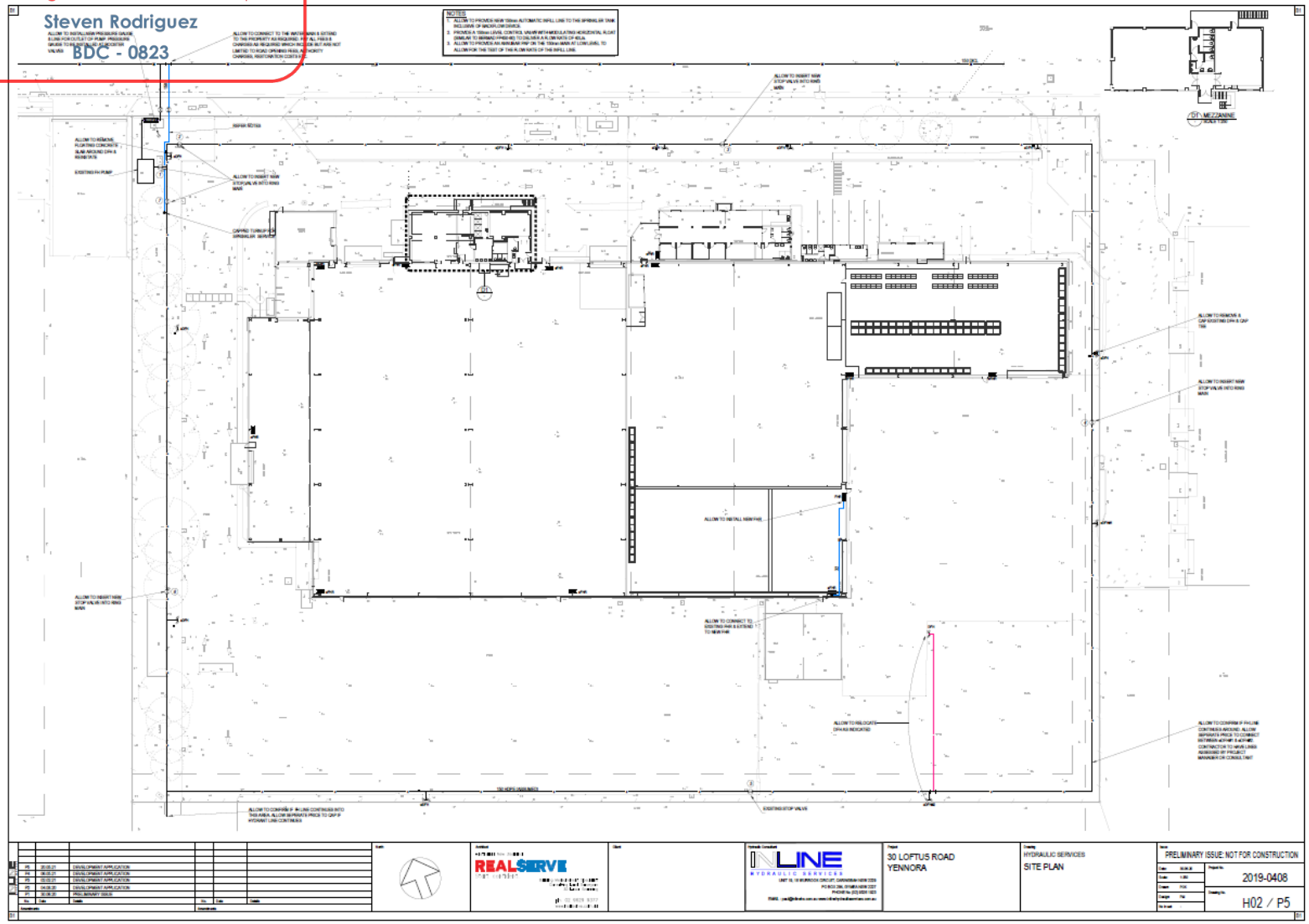
Concise Certification Pty Ltd

Reference: 200101-01

Date: 14/08/2021

Supporting Documents Relied Upon

APPENDIX G HYDRAULIC DRAWINGS



Concise Certification Pty Ltd

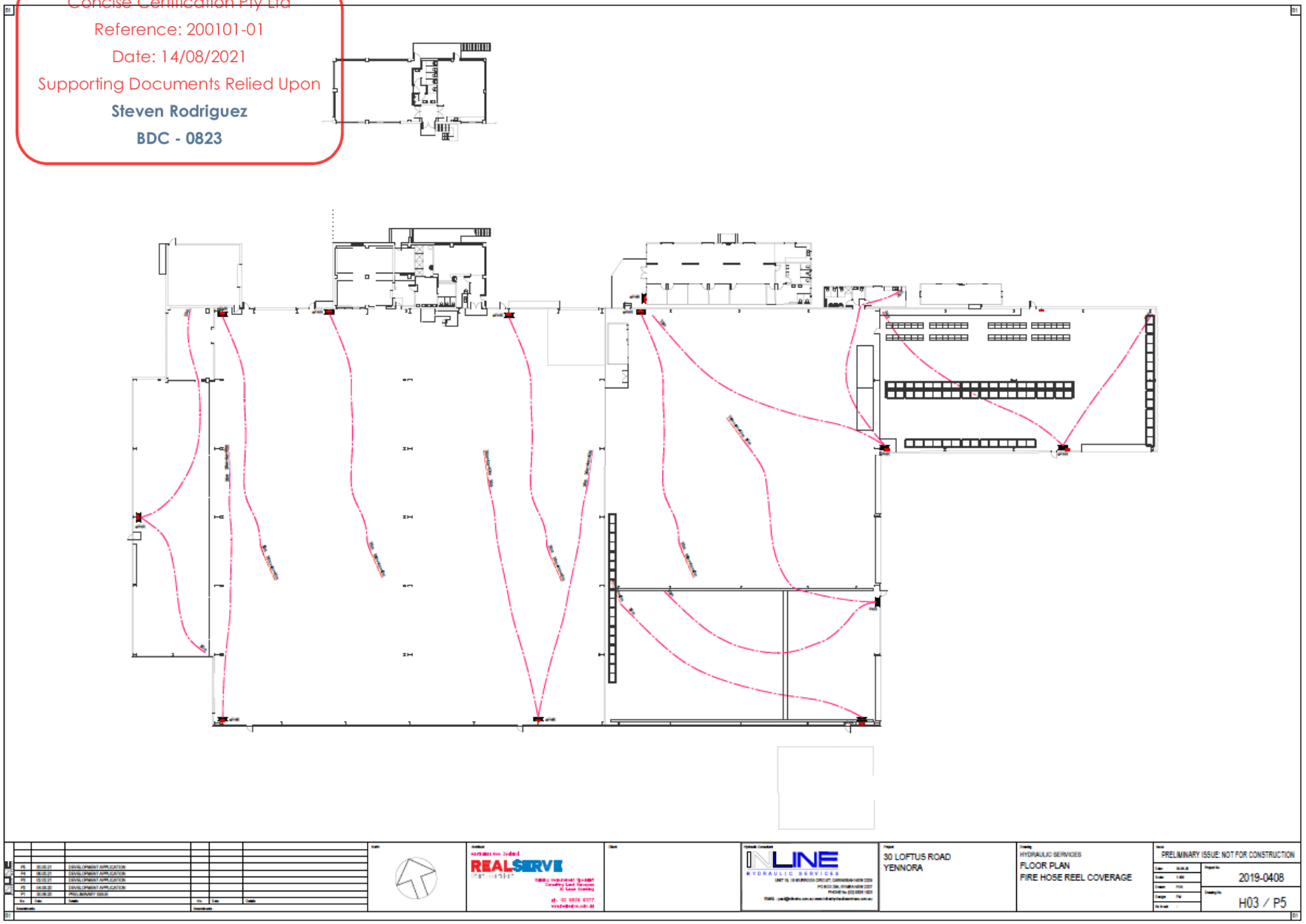
Reference: 200101-01

Date: 14/08/2021

Supporting Documents Relied Upon

Steven Rodriguez

BDC - 0823



Concise Certification Pty Ltd

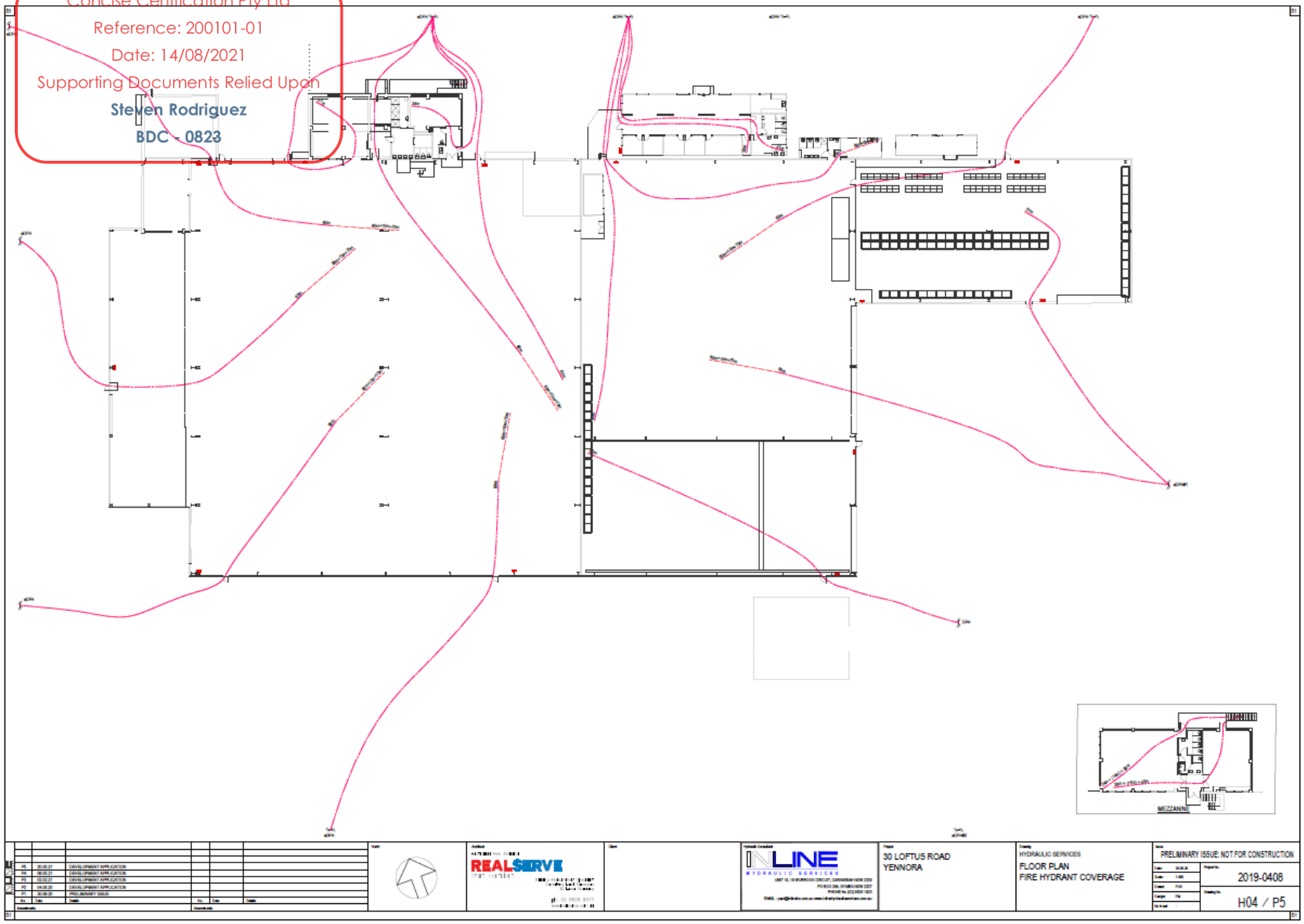
Reference: 200101-01

Date: 14/08/2021

Supporting Documents Relied Upon

Steven Rodriguez

BDC - 0823



Concise Certification Pty Ltd

Reference: 200101-01

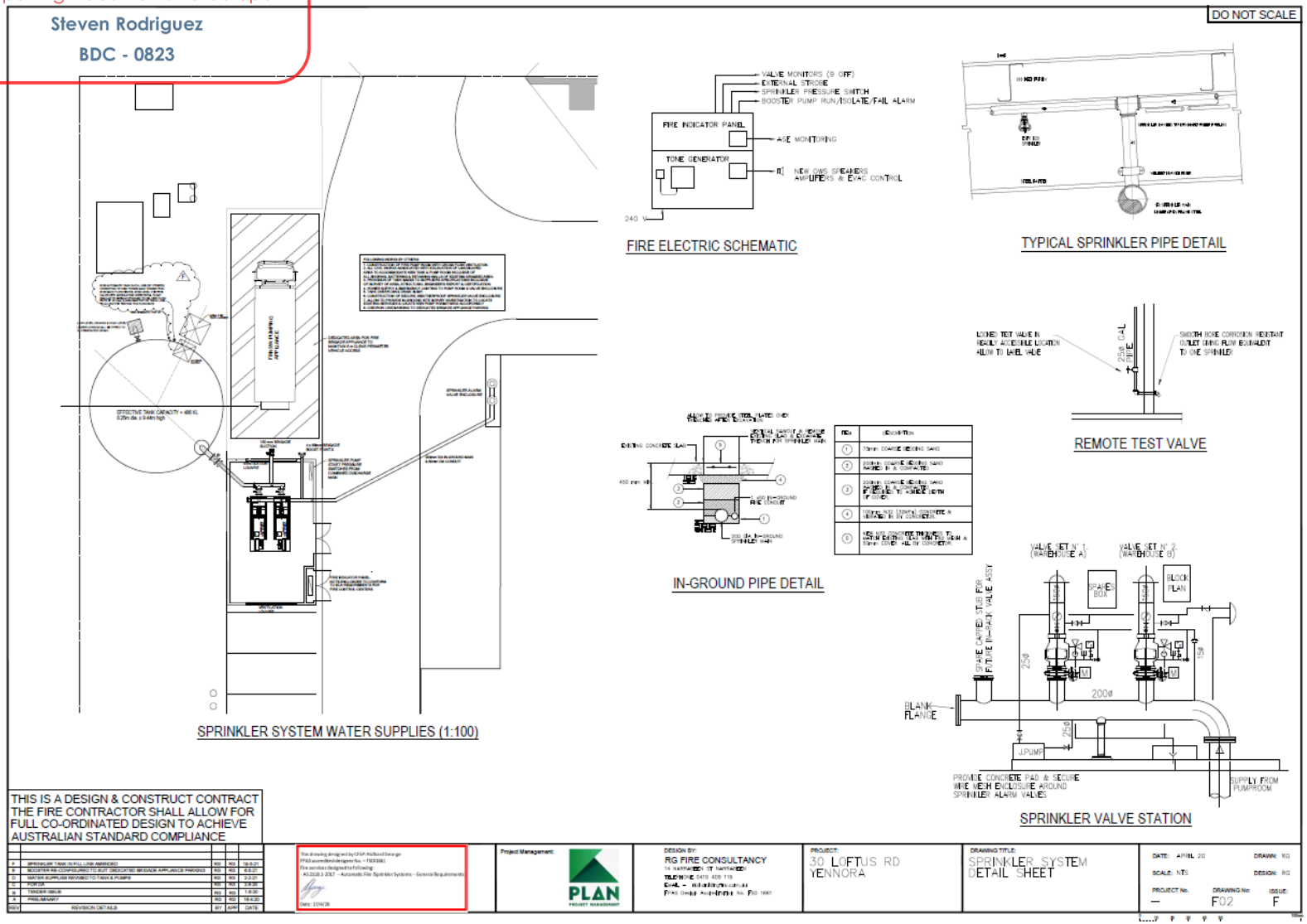
Date: 14/08/2021

Supporting Documents Relied Upon

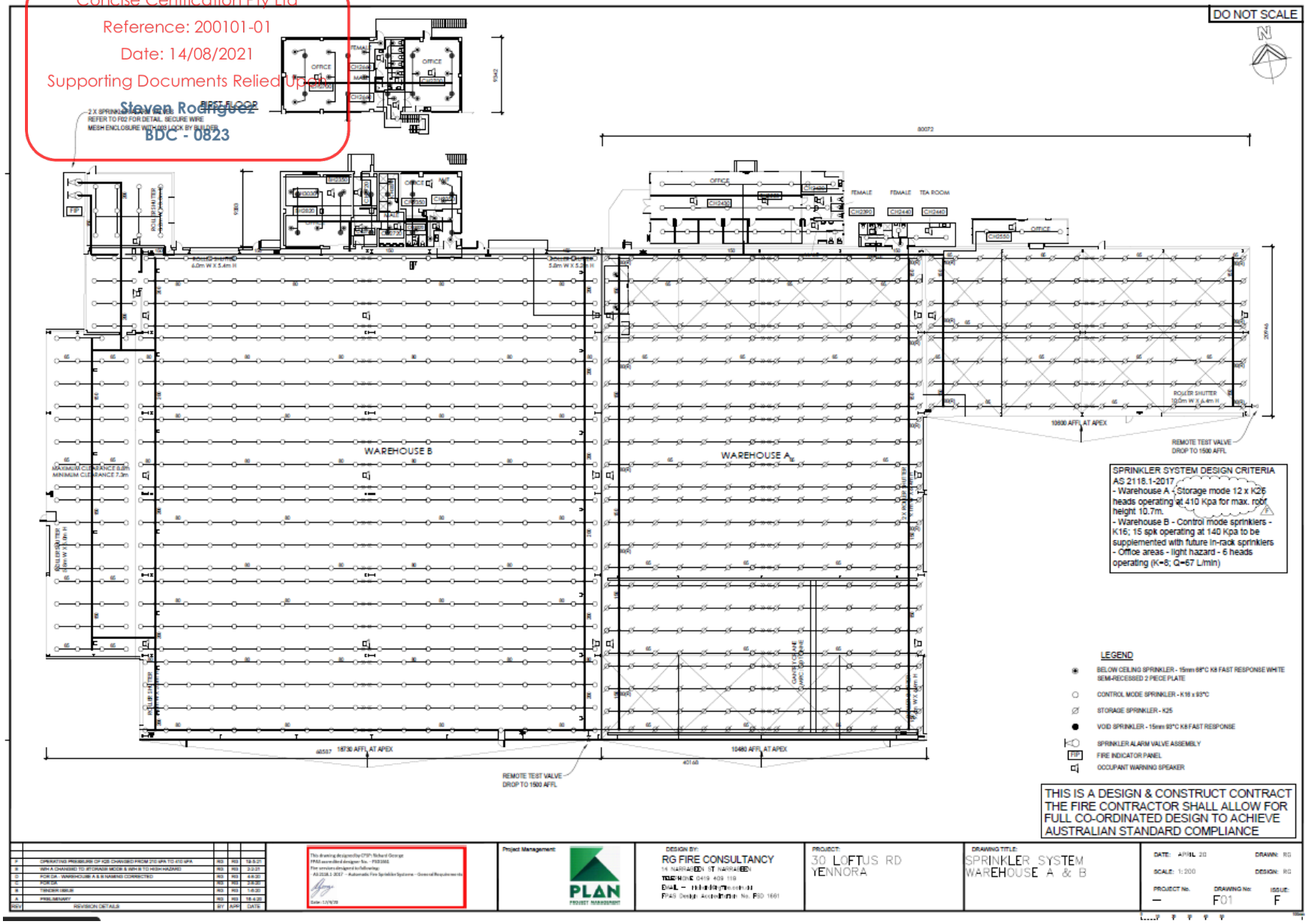
Steven Rodriguez

BDC - 0823

APPENDIX H FIRE SERVICES DRAWINGS



Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823



Steven Rodriguez

From: Fire Safety <FireSafety@fire.nsw.gov.au>
Sent: Friday, 4 June 2021 2:54 PM
To: lydia@planpm.com.au
Cc: Steven Rodriguez
Subject: IFSR WILL NOT BE PROVIDED : 30 Loftus Road Yennora - Clause 144 Application

Good Afternoon Lydia,

Fire & Rescue NSW (FRNSW) acknowledge receipt of your application and supporting documents for an Initial Fire Safety Report on the 27.5.21

In this instance, FRNSW advises that an Initial Fire Safety Report **will not** be provided.

For any future correspondence regarding this matter, we request that you quote your job / reference number:

Project Reference:	FRN20/3009
Job Number:	BFS21/1764
SRID Number:	8000015751

Should you have any further queries regarding this matter, please contact the Fire Safety Branch on 02 9742 7434.

Regards

Administration Officer
FIRE SAFETY ADMINISTRATION UNIT
COMMUNITY SAFETY DIRECTORATE

T: 02 9742 7434
E: firesafety@fire.nsw.gov.au
1 Amarina Ave, Greenacre, NSW 2190
Locked Mail Bag 12, Greenacre, NSW 2190
www.fire.nsw.gov.au

From: Fire Safety
Sent: Friday, 28 May 2021 12:31 PM
To: lydia@planpm.com.au

Cc: Steven Rodriguez <Steven@concisecert.com.au>
Subject: RE: CM: 30 Loftus Road Yennora - Clause 144 Application

Good Afternoon **Toni**,

Fire & Rescue NSW (FRNSW) acknowledge receipt of the Initial Fire Safety Report application on **27/5/21** submitted by your Building Certifier **Concise Certification** on your behalf.

As the nominated applicant for the project **30 Loftus Road Yenorra** FRNSW requires acknowledgement that your company **West Infill Sub TC Pty Ltd** agree to pay FRNSW the charges set out in the *Fire Brigades Regulation 2014* for the provision of services performed in connection with statutory fire safety.

Confirmation of your accounts department generic email address and contact number is also required along with the details of the project manager email and contact number.

Your acknowledgement serves as confirmation for the abovementioned payment, irrespective of whether you are acting on the behalf of another person or party. Once the acknowledgment has been received and the report is provided invoices **will not be reissued** to change remittance enitites.

Please reply to this email with your acknowledgement of your payment.

For any future correspondence regarding this matter, we request that you quote your job / reference number:

Project Reference:	FRN20/3009
Job Number:	BFS21/1764
SRID Number:	8000015751

Your application is currently being reviewed and notification will be forwarded in due course as to whether an Initial Fire Safety Report will or will not be provided.

Should you have any further queries regarding this matter, please contact the Fire Safety Branch on 02 9742 7434.

Regards,
Brendan Perry

Administration Officer
Community Safety Administration & Project Services
Community Safety Directorate | Fire and Rescue NSW
T: (02) 9742 7434
1 Amarina Ave, Greenacre, NSW 2190 | Locked Bag 12, Greenacre, NSW 2190

From: Steven Rodriguez <Steven@concisecert.com.au>
Sent: Thursday, 27 May 2021 2:20 PM
To: Fire Safety <FireSafety@fire.nsw.gov.au>
Subject: CM: 30 Loftus Road Yennora - Clause 144 Application

Dear Sir / Madam,

Reference is made to the above project.

Project Address: 30 Loftus Road Yennora)
FRNSW Reference: (TBC – No FEBQ Submitted)

Please be advised that this project consists of an existing warehouse building where the owner/applicant is undertaking a voluntary Fire and Life Safety Upgrade.

The building currently has oversized fire compartments with no internal fire compartmentation and the design team have opted to upgrade the existing building to a Large Isolated building which includes sprinkler, hydrant and perimeter access upgrades.

There is no physical change to the building envelope, height or number of storeys and the works are limited to the following:

1. New Fire Sprinkler tank, pump room ,booster assembly and hardstand area.
2. New Fire Hydrant booster assembly and ring main.
3. Creation of continuous perimeter access by removing fencing between tenancies and the continued use of the existing Right of Way as a perimeter access road.

The DTS departures are limited to the two (2) items:

1. BCA Clause C2.4 – Vehicular Perimeter access via an existing registered Right of Way.
2. BCA Clause E1.5 – New Sprinkler booster is not within sight of both tenancy entrances for purposes of ensuring that the hardstand is wholly within the site and not obstructing traffic on Loftus road.

The applicant has formally requested that in the capacity of the PCA for the project that we bi-pass the FEBQ process **in this instance only** given their current time constraints and need to deliver the project for an incoming tenant within 8 weeks. The design team has informed the applicant and our office that the two (2) departures pose little or no risk and are in line with previous fire brigade expectations. Notwithstanding the above, they have also committed to adopting any of the recommendations that arise from the formal Clause 144 review and we will ensure that this is adopted accordingly.

Having regard to the above and for the purpose of your informed assessment, please find attached copies of the following:

1. Clause 144 Initial Fire Safety Report Application Form.
2. Construction Certificate Application Form.
3. Final Fire Safety Engineering Report
4. Fire Services Drawings – sprinklers
5. Fire Services Drawings – Fire Hydrant & Hose Reels including Sweep Diagrams
6. Architectural Drawings
7. Existing AFSS

Trusting the above is of assistance with regards to your consideration of the Clause 144 Initial Fire Safety Report and if you need any further documentation or would like to discuss any matters in further detail, please feel free to contact either Darko Kardum or myself on the details below.

Kind regards,

Steven Rodriguez - Director
Building Regulations Consultant
Registered Certifier / Principal Certifier (A1 Unrestricted)

CONCISE CERTIFICATION

M 0423 424 161
E steven@concisecert.com.au
A PO Box 603, Engadine NSW 2233

Unit 19 | 18 Wurrook Circuit
Caringbah NSW 2229
PO Box 284
Gymea NSW 2227
02 9526 1923
paul@inlinehs.com.au
www.inlinehydraulicservices.com

Our Ref: 2019-0408

16 June 2021

Jacob McGaulley
Concept Plumbing Solutions

Dear Jacob

30 Loftus Road, Yennora (Project)
Certificate of Compliance for Hydraulic Services

I, Paul McDonald, on behalf of Inline Hydraulic Services Pty Ltd, Professional and Qualified Hydraulic Engineers, certify in accordance with *clause A5.2* of the *Building Code of Australia 2019 - Vol. 1* (BCA) amendment 1, that the design for the above Project is compliant with the requirements of the BCA.

This certification is given in relation to the design drawings listed in the table in section 3 below and is subject to the following:

1. Scope of Works – Hydraulic Services

The services included under this Certificate are as follows:

a) Fire Hydrant Service
b) Fire Hose Reels

2. Relevant Design Standards

In preparing the design for the Project, we have relied on the following standards:

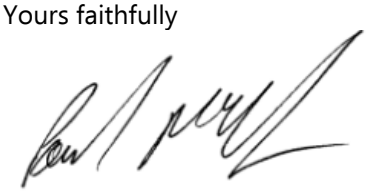
Standard No	Description
AS 2419.1-2005	Fire Hydrant Systems
AS 2441-2005	Fire Hose Reel Systems
BCA E1.3 - 2019	Fire Hydrants
BCA E1.4 - 2019	Fire Hose Reels
FER	Core Engineering Group – Report No: F201323 - Rev 02 – Dated 27.05.21

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

3. Design Drawings

Drawing No.	Description	Revision	Dated
H01	Cover Sheet & Legend	A	16.06.21
H02	Site Plan	A	16.06.21
H03	Floor Plan Fire Hose Reel Coverage	A	16.06.21
H04	Floor Plan Fire Hydrant Coverage	A	16.06.21

Yours faithfully



Paul McDonald
Director
Inline Hydraulic Services Pty Ltd
HCAA Full Member
Dip. Hydraulic Engineering #90967NSW
Accredited Certifier C3 C4 C14 C15 C16 - BPB3461

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

30 LOFTUS ROAD, YENNORA

INLINE HYDRAULIC SERVICES

HYDRAULIC SERVICES

DRAWING SCHEDULE

LEGEND

- SW — STORMWATER
- SUBSOIL
- SD — SEWER DRAINAGE
- VENT PIPE
- COLD WATER
- RWR — RAINWATER REUSE
- HOT WATER
- GAS
- FIRE HYDRANT
- FIRE HOSE REEL
- HL — HIGH LEVEL SERVICE
- e — EXISTING SERVICE

- ST / 100 — FLOW TO ABOVE, SERVICE TYPE, SERVICE SIZE, FLOW TO BELOW
- SWP — STORMWATER GRATED PIT
- GTD — GRATED TRENCH DRAIN
- STOP VALVE
- BALANCING VALVE
- STOP VALVE IN PATHBOX
- TMV — THERMOSTATIC MIXING VALVE
- HT — HOSE TAP
- WATER METER
- TD — TUNDISH PENETRATING SLAB
- FW — FLOOR WASTE
- BTFW — BASKET TRAP FLOORWASTE
- BOUNDARY TRAP
- OVERFLOW GULLY
- CO — CLEAR OUT
- DFH — DOUBLE FIRE HYDRANT
- FHR — STREET HYDRANT
- FIRE HOSE REEL
- RPZD — DOUBLE CHECK VALVE
- REDUCED PRESSURE ZONE DEVICE
- GAS METER
- BOUNDARY REGULATOR
- GAS SAFETY SHUT OFF BUTTON
- GAS SAFETY SHUT OFF SOLENOID VALVE
- BOOSTER — GAS SAFETY SHUT OFF RESET BUTTON
- BOOSTER VALVE

B	BASIN
BT	BOUNDARY TRAP
BTFW	BASKET TRAP FLOORWASTE
CO	CLEAROUT
CW	COLD WATER
DFH	DOUBLE FIRE HYDRANT
DP	DOWNPIPE
DWG NO.	DRAWING NUMBER
EX or e	EXISTING
FHR	FIRE HOSE REEL
FW	FLOOR WASTE
GAS	GAS
GTD	GRATED TRENCH DRAIN
HL	HIGH LEVEL
HT	HOSE TAP
HW	HOT WATER
HWU	HOT WATER UNIT
IL	INVERT LEVEL
MR	MAIN ROOF
OFG	OVERFLOW GULLY
PA	PEDESTRIAN AWNING
RL	REDUCED LEVEL
RPZD	REDUCED PRESSURE ZONE DEVICE
SHR	SHOWER
SK	SINK
ST	STACK
SWP	STORMWATER PIT
TD	TUNDISH
TTD	TRAPPED TUNDISH
TMV	THERMOSTATIC MIXING VALVE
VP	VENT PIPE
WC	WATER CLOSET
WM	WATER METER

No.	Date	Details	No.	Date	Details
A	18.06.21	CONSTRUCTION CERTIFICATE			

Amendments | Amendments

North

Plumbing Contractor

CONCEPT Plumbing Solutions
Jacob McGaulley | Director
E. jacob@conceptplumbingsolutions.com
P. 0429 429 266
ABN. 27 169 869 587

Hydraulic Consultant
INLINE HYDRAULIC SERVICES
UNIT 19, 18 WURROOK CIRCUIT, CARINGBAH NSW 2229
PO BOX 284, GYMEA NSW 2227
PHONE No (02) 9526 1923
EMAIL : paul@inlinehs.com.au www.inlinehydraulicservices.com.au

Project
30 LOFTUS ROAD
YENNORA

Drawing
HYDRAULIC SERVICES
COVER SHEET & LEGEND

Issue
CONSTRUCTION CERTIFICATE

Date:	30.06.20
Scale:	NTS
Drawn:	POK
Design:	PM
No in set:	4

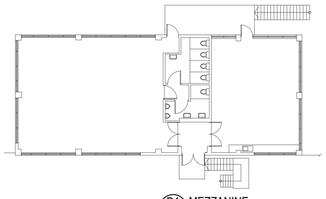
Project No. 2019-0408

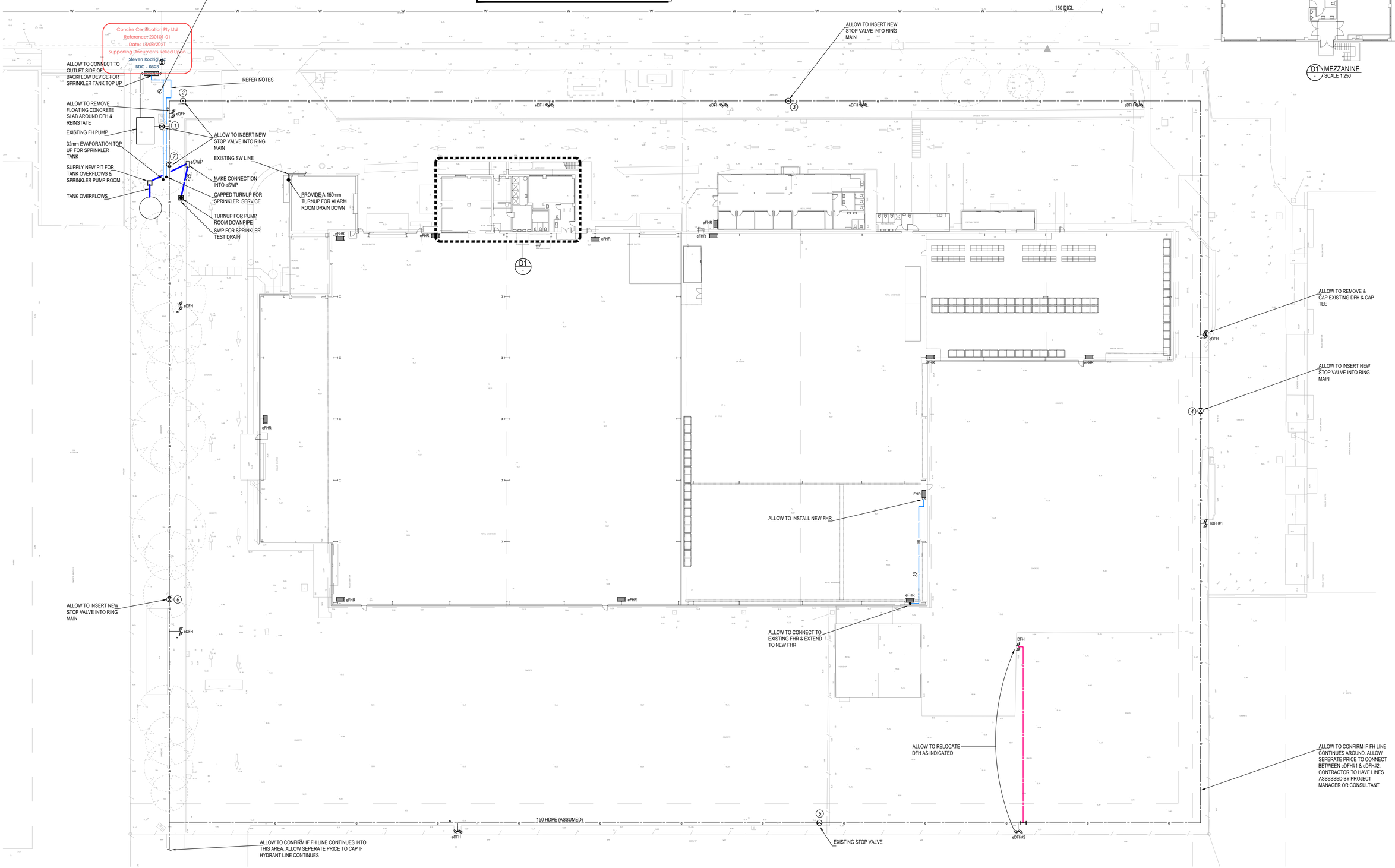
Drawing No. H01 / A

B1

NOTES

1. ALLOW TO PROVIDE NEW 100mm QUICK FILL LINE TO THE SPRINKLER TANK INCLUSIVE OF BACKFLOW DEVICE.
2. ALLOW TO PROVIDE AN ANNUBAR PAP ON THE 150mm MAIN AT LOW LEVEL TO ALLOW FOR THE TEST OF THE FLOW RATE OF THE INFILL LINE.





No.	Date	Details	No.	Date	Details
A	18.06.21	CONSTRUCTION CERTIFICATE			

Amendments | Amendments

North

Plumbing Contractor

CONCEPT Plumbing Solutions
Jacob McGaulley | Director
E. jacob@conceptplumbingsolutions.com
P. 0429 429 266
ABN. 27 169 869 587

Hydraulic Consultant

INLINE HYDRAULIC SERVICES
UNIT 19, 18 WURROOK CIRCUIT, CARINGBAH NSW 2229
PO BOX 284, GYMEA NSW 2227
PHONE No (02) 9526 1923
EMAIL : paul@inlinehs.com.au www.inlinehydraulicservices.com.au

Project
30 LOFTUS ROAD
YENNORA

Drawing
HYDRAULIC SERVICES
SITE PLAN

Issue
CONSTRUCTION CERTIFICATE

Date:	30.06.20
Scale:	1:250
Drawn:	POK
Design:	PM
No in set:	4

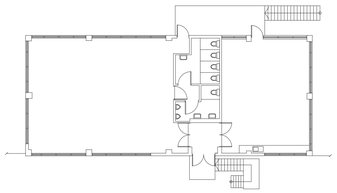
Project No.
2019-0408

Drawing No.
H02 / A

B1

B1

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823



A	18.06.21	CONSTRUCTION CERTIFICATE			
No.	Date	Details	No.	Date	Details
Amendments			Amendments		

North

Plumbing Contractor

CONCEPT Plumbing Solutions
Jacob McGaulley | Director
E. jacob@conceptplumbingsolutions.com
P. 0423 429 266
ABN. 27 169 869 587

Hydraulic Consultant

INLINE HYDRAULIC SERVICES
UNIT 19, 18 WURROOK CIRCUIT, CARINGBAH NSW 2229
PO BOX 284, GYMEA NSW 2227
PHONE No (02) 9526 1923
EMAIL : paul@inlinehs.com.au www.inlinehydraulicservices.com.au

Project
30 LOFTUS ROAD
YENNORA

Drawing
HYDRAULIC SERVICES
FLOOR PLAN
FIRE HOSE REEL COVERAGE

Issue
CONSTRUCTION CERTIFICATE

Date:	30.06.20
Scale:	1:200
Drawn:	POK
Design:	PM
No in set:	4

Project No.
2019-0408

Drawing No.
H03 / A

B1

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

A	18.06.21	CONSTRUCTION CERTIFICATE			
No.	Date	Details	No.	Date	Details
Amendments			Amendments		

North

Plumbing Contractor

CONCEPT Plumbing Solutions
Jacob McGaulley | Director
E. jacob@conceptplumbingsolutions.com
P. 0429 429 266
ABN. 27 169 869 587

Hydraulic Consultant

INLINE HYDRAULIC SERVICES
UNIT 19, 18 WURROOK CIRCUIT, CARINGBAH NSW 2229
PO BOX 284, GYMEA NSW 2227
PHONE No (02) 9526 1923
EMAIL : paul@inlinehs.com.au www.inlinehydraulicservices.com.au

Project
30 LOFTUS ROAD
YENNORA

Drawing
HYDRAULIC SERVICES
FLOOR PLAN
FIRE HYDRANT COVERAGE

Issue
CONSTRUCTION CERTIFICATE

Date:	30.06.20
Scale:	1:200
Drawn:	POK
Design:	PM
No in set:	4

Project No. 2019-0408

Drawing No. H04 / A

B1

Fire Protection Systems (Australia)

PO Box 493, Bankstown NSW 1885
Office Phone: 02 9790 0577
Office Fax: 02 9790 2166
www.fireprotectionsystems.com.au

Mainbrace Constructions
Attn: Tom Shaw

9th June 2021

Re: 30 Loftus Rd Yennora
Warehouse A & B Fire Services Installation.

CERTIFICATE OF DESIGN – Fire Sprinkler System and Occupant Warning System.

SUBJECT PREMISES: 30 Loftus Rd Yennora

Pursuant to the provisions of **Clause A5.2 of the Building Code of Australia,** I hereby certify that the above design is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, any relevant fire safety engineering report, the Environmental Planning and Assessment Regulation, relevant Australian Standards and relevant conditions of the Development Consent. In particular the design is in accordance with the following:
a) Automatic Fire Suppression/ Fire Sprinkler – BCA Specification E1.5, AS2118.1-2017 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
b) Occupant Warning System - AS1670.1 2018 Clause 3.22 and Fire Engineering Report F201323_FER_02 Revision 2 issued by Core Engineering Group dated 27/05/2021.
c) Fire Protection Systems Aust. P/L Drawings FS-01B and FS-02B.

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the drawings.
I possess Indemnity Insurance to the satisfaction of the building owner or my principal.

Full Name of Designer: Michael Davey
Qualifications: FPAS Accreditation F052678D.
Business Telephone No: 0414663989
Name of Employer: Fire Protection Systems Aust. and Strategic Fire Systems

Signature:

M. Davey

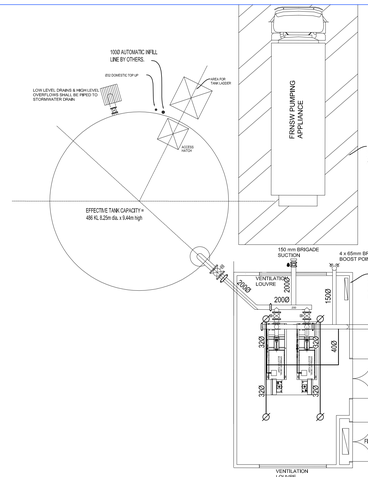
Michael Davey

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Documents Relied Upon
Steven Rodriguez
BDC - 0823

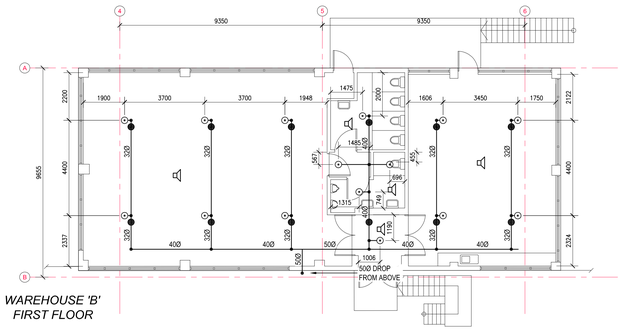
FIRE SPRINKLER LEGEND	
Sym	Description
⊙	15mm, CHROME SPRINKLER 68°c WITH WHITE 2 PIECE ESCUTCHEON PLATE
○	20mm, BRASS PENDANT SPRINKLER 93°c
⊘	15mm, BRASS UPRIGHT SPRINKLER 68°c
●	15mm, BRASS CONVENTIONAL CONCEALED SPRINKLER 68°c
⊱	15mm, BRASS HORIZONTAL SIDEWALL SPRINKLER 68°c
⊠	K25 STORAGE MODE SPRINKLER 93°c

FIRE SERVICES SYMBOL LEGEND	
Symbol	Description
———	FIRE SPRINKLER MAIN PIPEWORK
———	FIRE SPRINKLER RANGE PIPEWORK
—●—	MAIN PIPEWORK WITH RISE/DROP
—●—	RANGE PIPEWORK WITH RISE/DROP
—[	PLUGGED END FOR FUTURE USE
◉	FIRE SPRINKLER CONTROL VALVE
	OCCUPANT WARNING SYSTEM CEILING SPEAKER
	OCCUPANT WARNING SYSTEM HORN SPEAKER

Concise Certification Pty Ltd
Reference: 200101-01
Date: 14/08/2021
Supporting Document Relied Upon
Steven Rodriguez
BDC - 0823



PUMPROOM - VALVE ROOM AND TANK DETAILS



WAREHOUSE 'B' FIRST FLOOR

FIRE SPRINKLER CONTROL VALVE ENCLOSURE. MANIFOLD TO HAVE ROLL GROOVE CAPPED END FOR FUTURE IN-RACK SPRINKLERS

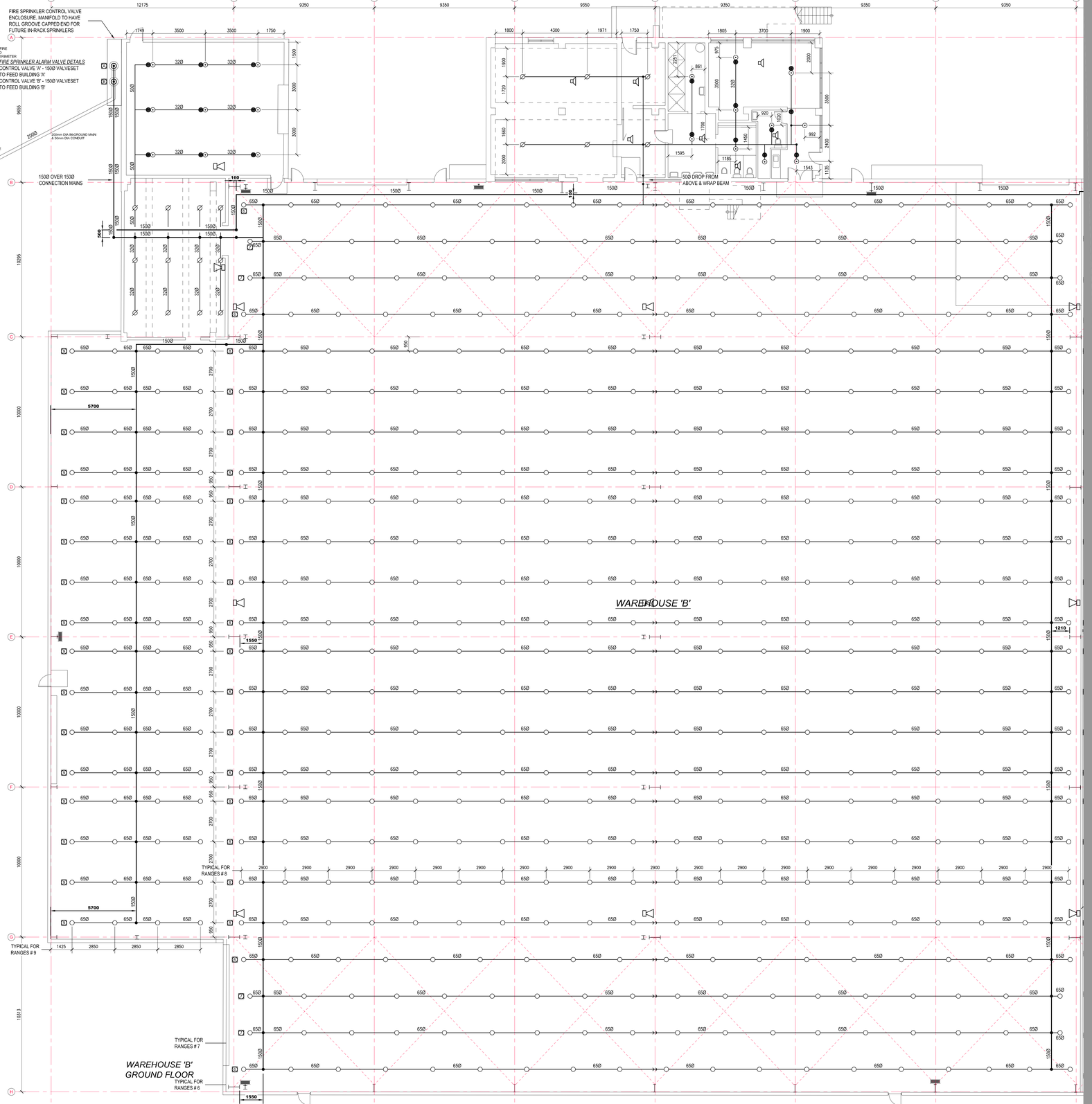
FIRE SPRINKLER ALARM VALVE DETAILS
CONTROL VALVE 'A' - 150Ø VALVESET TO FEED BUILDING 'A'
CONTROL VALVE 'B' - 150Ø VALVESET TO FEED BUILDING 'B'

200mm DIA IN-GROUND MAIN & 50mm DIA CONDUIT

150Ø OVER 150Ø CONNECTION MAINS

500 DROP FROM ABOVE & WRAP BEAM

500 DROP FROM ABOVE



NOTES :

WAREHOUSE 'B' - K16 CONTROL MODE FIRE SPRINKLERS.
- 15xK16 SPRINKLER HEADS OPERATING @ 140 kPa TO BE SUPPLEMENTED BY FUTURE IN-RACK SPRIBKLERS.

FLOW/PRESSURE REQUIREMENTS :
2899 L/min @ 419 kPa.
AS PER HYENA CALCULATIONS : RM1351 YEM WH B REM 6

REV	REVISION DESCRIPTION	DATE
C	FOR CONSTRUCTION	11.06.21
B	OWS SPEAKERS & NOTES ADDED	08.06.21
A	FOR APPROVAL	03.06.21

FPS Fire Protection Systems (Australia)
P.O.BOX 493
BANKSTOWN
N.S.W. 1885
Ph. 02 9790 0577
Fax 02 9790 2166

ARCH:

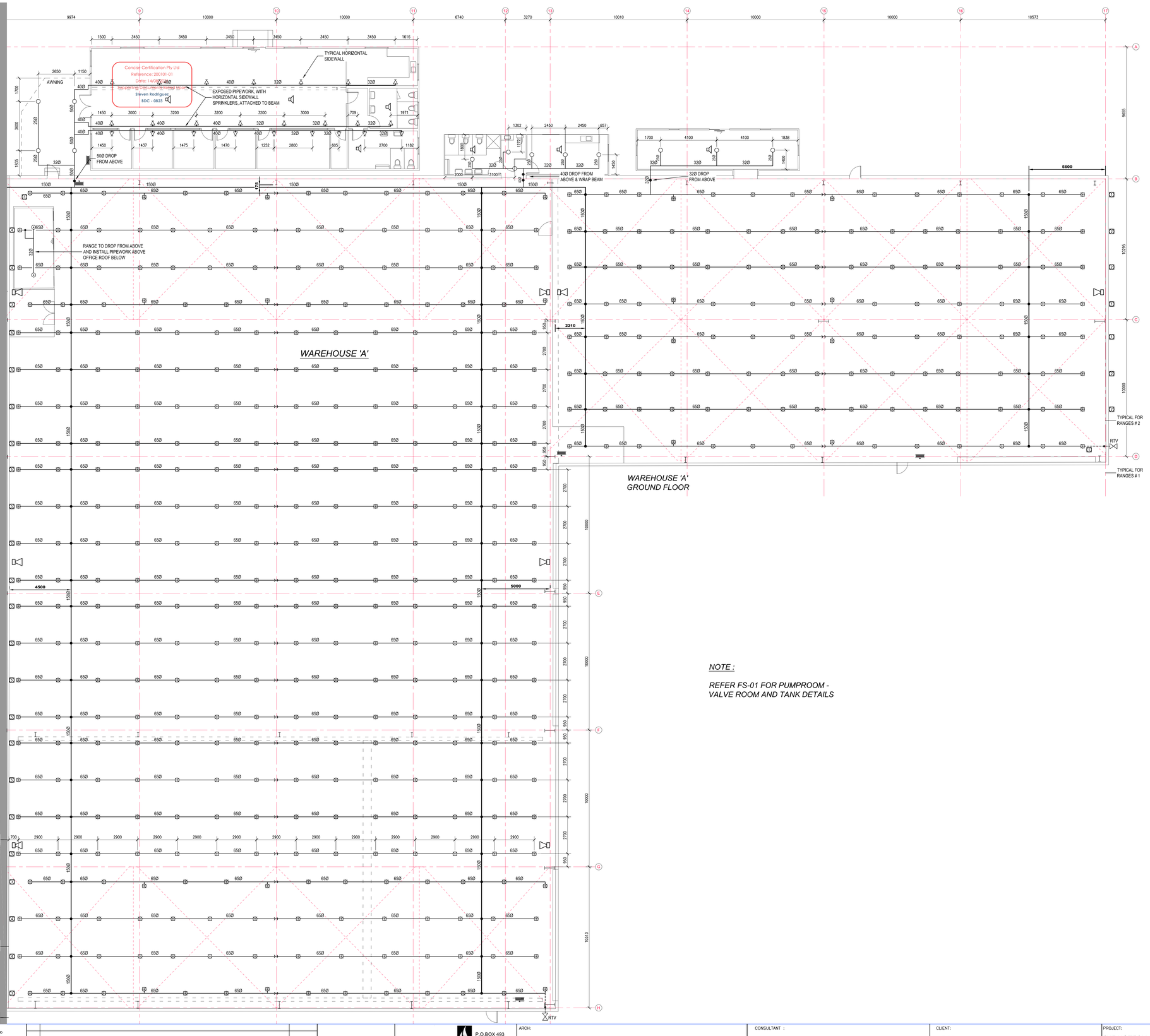
CONSULTANT :

CLIENT: MAINBRACE CONSTRUCTIONS

PROJECT:
INDUSTRIAL DEVELOPMENT
30 LOFTUS ROAD,
YENNORA, NSW 2161

TITLE: FIRE SERVICES
FIRE SPRINKLER LAYOUT WAREHOUSE 'B' - PUMPROOM VALVEROOM & WATER STORAGE TANK & OWS SPEAKER DETAILS

DRAWN	DAB	APPRD	M. Davey	DATE	01.12.20
DESIGN	MD	SCALE	1: 100 ON A0 (UNO)		
No IN SET	—	JOB No	---_---	DRAWING No	FS-01
REV	C				



FIRE SPRINKLER LEGEND	
Sym	Description
⊙	15mm, CHROME SPRINKLER 68°c WITH WHITE 2 PIECE ESCUTCHEON PLATE
○	20mm, BRASS PENDANT SPRINKLER 93°c
⊘	15mm, BRASS UPRIGHT SPRINKLER 68°c
●	15mm, BRASS CONVENTIONAL CONCEALED SPRINKLER 68°c
▷	15mm, BRASS HORIZONTAL SIDEWALL SPRINKLER 68°c
⊡	K25 STORAGE MODE SPRINKLER 93°c

FIRE SERVICES SYMBOL LEGEND	
Symbol	Description
	FIRE SPRINKLER MAIN PIPEWORK
	FIRE SPRINKLER RANGE PIPEWORK
	MAIN PIPEWORK WITH RISE/DROP
	RANGE PIPEWORK WITH RISE/DROP
	PLUGGED END FOR FUTURE USE
	FIRE SPRINKLER CONTROL VALVE
	OCCUPANT WARNING SYSTEM CEILING SPEAKER
	OCCUPANT WARNING SYSTEM HORN SPEAKER

NOTE :

REFER FS-01 FOR PUMPROOM - VALVE ROOM AND TANK DETAILS

NOTES :

WAREHOUSE 'A' - K25 ESFR PENDANT FIRE SPRINKLERS.
Storage Mode - 12xK25 SPRINKLER HEADS OPERATING @ 210 kPa FOR A MAXIMUM ROOF HEIGHT 0F 10.7 Mtr.
MAXIMUM SPACING @ 3.1 Mtr.
MINIMUM SPACING @ 2.4 Mtr.
FIRE SPRINKLERS TO BE min. 300mm. CLEAR OF BRACING STEELWORK.

FLOW/PRESSURE REQUIREMENTS :
6386 L/min @ 967 kPa.
AS PER HYENA CALCULATIONS : RM1351 YEM WH A REM 8

REV	REVISION DESCRIPTION	DATE
C	FOR CONSTRUCTION	11.06.21
B	OWS SPEAKERS & NOTES ADDED	08.06.21
A	FOR APPROVAL	02.06.21

FPS Fire Protection Systems (Australia)
P.O.BOX 493
BANKSTOWN
N.S.W. 1885
Ph. 02 9790 0577
Fax 02 9790 2166

ARCH:

CONSULTANT :

CLIENT: MAINBRACE CONSTRUCTIONS

PROJECT: INDUSTRIAL DEVELOPMENT
30 LOFTUS ROAD,
YENNORA, NSW 2161

TITLE: FIRE SERVICES
FIRE SPRINKLER & OWS SPEAKER LAYOUT
WAREHOUSE 'A'

DRAWN	DAB	APPRD	M. Davey	DATE	01.12.20
DESIGN	MD	SCALE	1: 100 ON A0 (UNO)		
No IN SET	JOB No	DRAWING No	REV
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