SHIRE OF MOORA
LOCAL PLANNING SCHEME NO.4

NOTICE OF PUBLIC ADVERTISEMENT OF PLANNING PROPOSAL

Planning and Development Act 2005
Shire of Moora

The local government has received an application to use and/or develop land for the following purpose and public comments are invited.

Land Details:

Lot 342 on Deposited Plan 171910 Moore Street, Moora.

Proposal:

1. Change of use from 'Motel' to 'Workforce Accommodation' including incidental office and staff training facility;
2. Demolition of existing motel rooms and associated motel infrastructure; and
3. Construction of the following new built form improvements:
   - 12 'single person quarters' to bring the site total to 24;
   - site amenities including kitchen, dining, laundry and common room area;
   - covered areas, verandas and outdoor seating areas, including all associated pedestrian accessways;
   - staff training room including office/storage space and associated amenities;
   - 25 new on-site car parking spaces to bring the site total to 36, including all associated vehicle accessways; and
   - new stormwater drainage infrastructure.

Details of the proposal are attached.

Comments on the proposal are now invited and can be emailed to shire@moora.wa.gov.au or posted to the Shire's Chief Executive Officer at PO Box 211 MOORA WA 6510 by no later than **Friday 1 March 2024**. All submissions must include the following information:

- Your name, address and contact telephone number;
- How your interests are affected; whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property;
- Address of property affected (if applicable); and
- Whether your submission is in support of, or objecting to the proposal and provide any arguments supporting your comments.

All submissions received may be made public at a Council meeting and included in a Council Agenda, which will be available on the Shire's website, unless a submission specifically requests otherwise.

Gavin Robins
Chief Executive Officer
Shire of Moora

31 January 2024

Co-operative Bulk Handling Ltd
ABN 29 256 604 947
Level 6, 240 St Georges Terrace
Perth WA 6000 Australia
GPO Box L886
Perth WA 6842 Australia
Telephone
+61 8 9237 9600
Grower Service Centre
1800 199 083
cbh.com.au

12 January 2024

Gavin Robins
Shire of Moora
Via email: ceo@moora.wa.gov.au

Dear Gavin,

CHANGE OF USE FROM MOTEL TO WORKFORCE ACCOMMODATION AT LOT 342 ON DEPOSITED PLAN 171910, MOORA.

CBH is seeking development approval from the Shire of Moora for a change of use from motel to workforce accommodation and associated works on Lot 342 on Deposited Plan 171910, Moora. The subject application has been prepared in accordance with Schedule 2 (Deemed Provisions) of the Planning and Development (Local Planning Schemes) Regulations 2015 and the Shire of Moora Town Planning Scheme No. 4.

Proposal

The proposed development incorporates the following elements:

- Change of use from 'motel' to 'workforce accommodation';
- Demolition of existing motel rooms and associated motel infrastructure;
- 12 new 'single person quarters' to bring the site total to 24;
- Site amenities including kitchen, dining, laundry, and common room area;
- Covered areas, verandas and outdoor seating areas;
- Training Room including office/storage space and associated amenities;
- 25 new car parking spaces to bring the site total to 36; and
- Associated access ways and stormwater improvements.

Site Details

The subject land is located within the Moora townsite. The site is zoned 'residential' under the Shire of Moora Town Planning Scheme No. 4 (TPS 4). The existing approved land use for this portion of the subject site is 'motel' which is the land use CBH is currently operating its accommodation under however it is accepted that a 'workforce accommodation' land use more appropriately aligns with how CBH intends to use the site post construction.

Town Planning Considerations

Workforce accommodation is defined under the Planning and Development (Local Planning Schemes) Regulations 2015 as a 'premises which may include modular or relocatable buildings, used primarily for the accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis and for an associated catering, sporting and recreation facilities for the occupants and authorised visitors'.

Workforce accommodation is a use not listed within Table 1 of TPS 4. Clause 3.2.4 of LPS 4 states that if the use of the land for a particular purpose is not specifically mentioned in the Zoning Table and cannot reasonable be determined as falling within the interpretation of one of the use categories the local government may:

(a) Determine that the use is consistent with the objectives and purposes of the particular zone and is therefore permitted; or

(b) Determine that the use may be consistent with the objectives and purposed of the zone and thereafter follow the 'A' advertising procedures of clause 64 of the deemed provisions in considering an application for development approval; or

(c) Determine that the use is not consistent with the objectives and purposes of the particular zone and is therefore not permitted.

The objective of the residential zone relevant to this development is:

(i) To allow for the establishment of non-residential uses which are compatible with the predominant residential use, and which will not adversely affect local amenities.

It is considered that the proposed land use is consistent with the above objective of the residential zone and may therefore be permitted on the subject site for the following reasons:

Workforce accommodation is a non-residential land use providing accommodation options for CBH workers within the locality. This accommodation related land use is therefore appropriate to the residential zone in which it is located as the amenity impacts of the proposed accommodation related land use will be similar to that of nearby residential land uses. It should also be noted that the subject lot is not surrounded by any other residential zoned lots meaning the residential zoning and associated land use is stand alone and is not able to compliment surrounding residential zone lots as required under this objective.

Access to the site it taken from Moore Street which intersects Roberts Street which is the main north/south corridor through the town. Moore Street is a short local road that culminates at the cul-de-sac end of Padbury Street. Land immediately to the west is reserved 'railway' and land immediately adjacent to the north and to the west is reserved 'recreation and open space'. Land immediately to the south across Moore Street is zoned 'town centre' which is a zoning that is expected to have a reduced level of amenity than the residential zoning of the subject site. Noting the location of the subject site away from other residential zoned lots, the zoning of adjacent lots and the existing approved 'motel' land use for the subject site it is considered that there is no additional impact to local amenity caused by this development application.

The proposed single person quarters and associated infrastructure are new unused structures. The colour of the external walls are proposed to be 'paperback' and the roof and flashing colour are proposed as 'deep ocean'. This is consistent with the rest of the CBH modular portfolio and is not considered to be out of context with the amenity of the residential zone in which it is proposed to be located. Photos of the units 'as constructed' including a material and colour palette have been provided as part of this application package. Photographs of the refurbished stage 1 existing units have also been included in support of this application. The new structures the subject of this application are intended to compliment these existing refurbished structures.

No existing trees are proposed to be removed. This vegetation retention ensures that the existing character and appearance of the residential zone is maintained. A landscaping plan has been provided in support of this application for development approval. Minimal onsite planting has been proposed as it is considered that the subject site has a significant number of mature trees already located on the lot. Notwithstanding a small area of landscaping has been proposed to screen the car parking spaces to the training room. This planting will also aid in ensuring that the proposed development is appropriate to its setting and that the character and appearance of the residential zone is maintained.

Shire of Moora Town Planning Scheme No. 4

The proposal is subject to the site and development requirements prescribed by TPS4. Clause 3.6.2 of TPS4 sets out the site requirements for various land uses within the residential zone which are to be 'in accordance with the residential design codes' (R-Codes). Table 1 of TPS4 offers a range of discretionary non-residential land uses within the residential zone where the R-Codes are the mechanism to define the scale, nature, design, general appearance, and impact of the land use. It is generally conceded that the proposed workforce accommodation land use may not be able to meet all the requirements of the residential development focused R-Codes and that the R-Codes may not be the appropriate mechanism or non-residential site requirements.

Clause 2.5 of the R-Codes allows the local government to exercise discretion to modify the development standards prescribed by the R-Codes in instances such as these. Further, Clause 67 (2c) of the *Planning and Development (Local Planning Schemes) Regulations 2015 – Deemed Provisions for Local Planning Scheme* allows the local government to only have 'due regard' to any approved State planning policy allowing them to apply discretion in their assessment of the workforce accommodation land use against the provisions of the R-Codes.

Part IV of TPS4 sets out development requirements which are the local government's specific requirements to ensure the scale, nature, design, general appearance, and impact of such uses is compatible with the objectives of the zone in which the development is proposed and the general purposes and aims of the Scheme. The proposed development provides generous setbacks and is of a size and scale that maintains and protect the existing amenity, character, and appearance of the residential zone. More specifically the proposed development mirrors the scale, nature, design, general appearance of the existing approved 'motel' development on the lot. This existing development is in a state of disrepair and is proposed to be demolished and replaced with new single person quarters and associated infrastructure. These new works seek to upgrade the existing amenity of the locality and the character of the immediate streetscape.

Front setback areas from Moore and Padbury Street are confined solely for use as a means of access, the daily parking of vehicles, the loading and unloading of vehicles as well as landscaping. Car parking spaces are to be specified by the local government and have been provided as one space per single persons quarter with an additional twelve spaces provided for the training room and for the use of laundry and maintenance workers as required.

It is considered that the setbacks, height, plot ratio and number of car parking spaces provided are appropriate to the residential zone in which the development is located.

DPLH Workforce Accommodation Position Statement

The Department of Planning, Lands and Heritage Position Statement on Workforce Accommodation is designed to assist decision makers in the planning system in understanding the land use planning considerations for workforce accommodation. The position statement identifies that where practical, workforce accommodation should be provided in established towns, in a location suitable to its context, to facilitate their ongoing sustainability. It is considered that the proposed location meets the objectives and purpose of this position statement in that it is proposed in a location within the Moora townsite ensuring easy access to essential services. The proposed location of the workforce accommodation should therefore be supported.

Standard considerations for a development application of this type are traffic generation, bushfire management and stormwater management. A Drainage Report and a Traffic Impact Statement have been included as attachments to this application in support of this application and are summarised below.

Traffic Management

A Traffic Impact Statement (TIS) has been prepared by Shawmac demonstrating that the site is well connected to the surrounding road network and that the proposed facility will not result in significant changes to traffic movements on the surrounding road network. The proposed development will accommodate CBH workers who will travel to the nearby CBH Moora facility in the morning between 5:30am and 6:00am and then return in the evening between 5:30pm and 6:00pm. Vehicular access is to be taken via two existing crossovers from Moore Street. One car parking space has been provided for each single person's quarters.

Car parking for the training room has been provided for 1 car parking space for every 2 people the training room is designed to accommodate. As the training room is intended to accommodate 24 people, 12 car parking spaces have been provided. This is because the training room is intended to be used by people staying at the accommodation. These 12 car parking spaces are intended to be used by local harvest casuals not staying at the accommodation, training staff as well as laundry and maintenance workers. There is also sufficient area around the site for overflow parking in the unlikely event that additional parking is required.

Assuming the accommodation is full and all workers drive individually, it is estimated that the development will generate approximately 24 vehicle movements during each peak hour, including 24 outbound vehicle movements during the morning peak hour and 24 inbound vehicle movements during the afternoon peak hour. This estimate is considered to be a worst-case scenario as some workers may travel together and some may potentially be transported by bus.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis. The estimated 24 vehicles per hour is around the middle of this range and so the development traffic is considered to have a low impact and can be accommodated within the existing capacity of the road network. It is also noted that this traffic generation does not increase from the approved 'motel' land use that the site currently operates under. Traffic generation by the training room is unlikely to coincide with peak hour movements.

The TIS also demonstrates that the site is provided with the appropriate level of parking, minimum car parking space dimensions, sightlines, manoeuvring areas and waste collection considerations. Further detail is provided as part of Shawmac's Transport Impact Statement attached in support of this application for development approval.

Stormwater Management

The stormwater management strategy is for all surface runoff on the site to be managed to prevent flooding or damage to critical infrastructure. The finished floor level of each structure is proposed above the DWER recommended level. Paved surfaces are graded to direct stormwater runoff to drainage conveyance system with infiltration pits sized to store inflow volume from roofed and paved surfaces for 20% AEP event. The remaining overland flow will flow to the council drainage system within the road reserve.

The stormwater drainage system has been designed in accordance with the requirements of CBH Design Specification TS10A – Civil Earthworks, Roads and Drainage and followed guidelines set out in the Australian Rainfall & Runoff. Further detail of the stormwater design and drainage catchment plan is provided as part of Stantec's Stormwater Management Plan attached in support of this application for development approval.

State Planning Policy (SPP) 3.7 – Planning in Bushfire Prone Areas

The subject site is located within a Bushfire Prone area. The determined Bushfire Attack Level identifies a BAL rating of BAL19 for the Training Room and BAL12.5 for the Accommodation Units. Clause 6.6.1 of State Planning Policy 3.7 requires development applications with a BAL rating above 12.5 to be supported by a Bushfire Management Plan. A Bushfire Management Plan has been included as an attachment to this application. Table 4 of the Bushfire Management plan outlines the recommended bushfire management strategies in response to the bushfire protection criteria listed under Appendix 4 of the Guidelines for Planning in Bushfire Prone Areas.

The proposal is not a vulnerable or high-risk land use as per the definitions under Clause 5.5.1 and 5.6 of the Guidelines for Planning in Bushfire Prone Areas meaning the application is therefore not subject to a Bushfire Emergency Evacuation Plan. A letter of opinion from our Bushfire consultants has been provided in support of the application outlining this. This development application does not warrant referral to DFES as per Clause 6.5 of the Guidelines for Planning in Bushfire Prone Areas as a Method 1 assessment was undertaken. Further the application meets all the acceptable solutions and does not propose a performance principle-based to the bushfire protection criteria contained in Appendix 4 of the guidelines.

Conclusion

The proposed land use and associated works are aligned with the planning framework for the area specifically the residential zone in which it is located, and it is not considered to result in any new amenity impacts to the surrounding area. CBH respectfully requests the Application for Development Approval is considered favourably by the Shire of Moora given the straightforward nature of the application and its general compliance with the Shire's planning framework.

Should you have any questions in relation to the application, please contact Timothy Roberts on 9216 6061 or timothy.roberts@cbh.com.au.

Yours Sincerely,

Timothy Roberts
Lead – Planning & Approvals

SHIRE OF MOORA LOCAL PLANNING SCHEME NO.4

FORM 1 - APPLICATION FOR DEVELOPMENT APPROVAL

Owner Details

Name/s:

Co-operative Bulk Handling Ltd

ABN (if applicable): 29 256 604 947

Postal Address: Level 6 No. 240 St George's Terrace Perth, WA, 6000

Postcode:

Work Phone: 08 9216 6061 Home Phone: Mobile Phone:	Fax:	E-mail: timothy.roberts@cbh.com.au

Contact Person for Correspondence: Timothy Roberts

Signature:	Date: 11/01/2024
Signature:	Date:

NOTES:

i) Use and attach a separate copy of this page where there are more than two (2) landowners.

ii) The signature/s of all registered owner(s) as listed on the land's Certificate of Title is required. This application cannot proceed without the required signature/s. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2). Land owned by an incorporated body (i.e. a company) must be signed by:

- *1 director of the company, accompanied by the company seal; or*
- *2 directors of the company; or*
- *1 director and 1 secretary of the company; or*
- *1 director if a sole proprietorship company.*

Print the full names and positions of company signatories underneath the signatures.

iii) A copy of the Certificate of Title for all land the subject of this application must be provided and can be purchased through Landgate directly if required.

iv) Development Applications relating to Unallocated Crown Land, Unmanaged Crown Reserves, land under management order to the Shire of Moora where the development is not consistent with the reserve's purpose, or is used for commercial purposes, or land which is subject to a lease issued under the Land Administration Act 1997 need to be referred to the Lands Division of the Department of Planning, Lands and Heritage for consideration and signing.

Applicant Details (if different from owner)

Name/s:

As above.

Address:

Postcode:

Work Phone: Home Phone: Mobile Phone:	Fax:	E-mail:
Contact Person for Correspondence:		
Signature:		Date:

NOTES:

i) Failure to provide a suitably completed development application form, a copy of the relevant Certificate/s of Title, sufficient plans and other supporting information and/or the correct application fee may result in the application being returned or placed on hold.

ii) The application fee payable will be confirmed by the local government following receipt of the application. Processing of the application will not commence until the fee is paid in full.

iii) As per Schedule 2 clause 64 of the Planning and Development (Local Planning Schemes) Regulations 2015 the information and plans provided with this application may be made available by the local government for public viewing in connection with the application.

iv) If public advertising of the application is required by the local government an additional fee in accordance with the local government's adopted schedule of fees and charges will be payable by the applicant. Further processing of the application following completion of public advertising will not proceed until the additional fee is paid in full.

v) The original of this application and supporting information and plans will be retained by the local government for its records and will not be returned to the applicant/landowner following final determination.

Property Details

NOTE: The details provided must match those shown on the relevant Certificate/s of Title.

Lot No: 342	House/Street No:	Location No:
Survey Diagram or Plan No: 171910	Certificate of Title Volume No: 2564	Certificate of Title Folio No: 948

Title encumbrances (e.g. easements, restrictive covenants):

Nil

Street name: Moore Street	Suburb: Moora

Nearest street intersection:

Roberts Street

Proposed Development:

Nature of development: ☐ Works (New construction works with no change of land use)
☐ Use (Change of use of land with no construction works)
☒ Works and Use

NOTE: If the proposal involves advertising signage the Additional Information for Development Approval for Advertisements form (i.e. a Form 2) must be completed and submitted with this application.

Is an exemption from development claimed for part of the development? Yes ☐ No ☒

If yes, is the exemption for: ☐ Works
☐ Use

Description of proposed works and/or land use: Demolition of 16 existing motel rooms and associated motel infrastructure. 12 single person quarters; shared site amenities including kitchen, dining, laundry & common area, covered areas & verandas; car parking bays for 25 people; training room and associated access way and stormwater upgrades.
Description of exemption claimed (if relevant): NA
Nature of any existing buildings and/or land use: Motel
Approximate cost of proposed development (excluding GST): $2,400,000
OFFICE USE ONLY Date application received: Received by: Application reference number: Application fee payable: $ Date of receipt of application fee from applicant: Receipt number for application fee:

Co-operative Bulk Handling Ltd
ABN 29 256 604 947

Level 6, 240 St Georges Terrace
Perth WA 6000 Australia

GPO Box L886
Perth WA 6842 Australia

Telephone
+61 8 9237 9600

Grower Service Centre
1800 199 083

cbh.com.au

CONSENT TO SIGN APPLICATIONS FOR DEVELOPMENT APPROVAL AND BUILDING PERMITS FOR LAND OWNED, LEASED OR LICENSED BY CO-OPERATIVE BULK HANDING LIMITED

This is to confirm that Co-operative Bulk Handling Limited (**CBH**) authorises each person who holds one of the following titles with CBH to sign and lodge on behalf of CBH all applications for development approval and building permits (and all documents associated with those applications) in connection with land owned, leased or licensed by CBH:

1. Chief External Relations Officer
2. Head of Government & Industry Relations
3. Manager – Government & Industry Relations
4. Principal – Planning & Approvals
5. Specialist - Regulatory Approvals

Should you require further information regarding any present or future applications for development approval or building permits, please do not hesitate to contact CBH Planning Approvals at PlanningApprovals@cbh.com.au.

This consent takes effect on the last date written below and from that date supersedes any and all previous consents to sign and lodge on behalf of CBH applications for development approval and / or building permits (and documents associated with those applications) in connection with land owned, leased or licensed by CBH.

Yours faithfully

Signed for and on behalf of Co-operative Bulk Handling Limited by or in the presence of:

Signature of Director	Signature of ~~Director or~~ Company Secretary
PAUL SADLEIR	RICHARD CODLING
Name of Director	Name of ~~Director or~~ Company Secretary
21/12/2022	21/12/2022
Date of signing	Date of signing

Co-operative Bulk Handling Ltd
ABN 29 256 604 947

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Perth WA 6000 Australia

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CONSENT TO SIGN APPLICATIONS FOR DEVELOPMENT APPROVAL AND BUILDING PERMITS FOR LAND OWNED, LEASED OR LICENSED BY CO-OPERATIVE BULK HANDING LIMITED

This is to confirm that Co-operative Bulk Handling Limited (**CBH**) authorises each of the following CBH personnel to sign and lodge on behalf of CBH all applications for development approval and building permits (and all documents associated with those applications) in connection with land owned, leased or licensed by CBH:

1. David Paton, acting Chief External Relations Officer (permanent position: Head of Government & Industry Relations).
2. Rob Dickie, acting Head of Government & Industry Relations (permanent position: Manager - Government & Industry Relations).
3. Kellie Todman, Manager – Government & Industry Relations.
4. Aaron Lohman, Principal – Planning & Approvals.
5. Timothy Roberts, Specialist - Regulatory Approvals.

Should you require further information regarding any present or future applications for development approval or building permits, please do not hesitate to contact CBH Planning Approvals at PlanningApprovals@cbh.com.au.

This consent takes effect on the last date written below and from that date supersedes any and all previous consents to sign and lodge on behalf of CBH applications for development approval and / or building permits (and documents associated with those applications) in connection with land owned, leased or licensed by CBH.

Yours faithfully

Signed for and on behalf of Co-operative Bulk Handling Limited by or in the presence of:

Signature of Director	Signature of ~~Director or~~ Company Secretary
PAUL SADLEIR	RICHARD CODLING
Name of Director	Name of ~~Director or~~ Company Secretary
21/12/2022	21/12/2022
Date of signing	Date of signing

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
2564	**948**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 342 ON DEPOSITED PLAN 171910

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

CO-OPERATIVE BULK HANDLING LIMITED OF LEVEL 6 240 ST GEORGES TERRACE PERTH WA 6000
(T P447803) REGISTERED 10/2/2023

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3023-867 (342/DP171910)
PREVIOUS TITLE:	LR3023-867
PROPERTY STREET ADDRESS:	LOT 342 MOORE ST, MOORA.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF MOORA

NOTES:
* THIS NOTE IS AN INTEGRAL PART OF THIS PLAN OR THE DATA AS TRANSMITTED. OMISSION OF THIS NOTE WHEN TRANSMITTING THIS PLAN OR ACCOMPANYING DATA OR ANY PART THEREOF TO ANY THIRD PARTY WILL RENDER THIS PLAN OR DATA INVALID.

DIGITAL DRAWING:
* DATA EXISTS ON LAYERS THAT HAVE BEEN DIGITALLY SWITCHED OFF. THE DATA IS NOT SHOWN ON THIS PAPER PLAN FOR CLARITY.
* DATA EXISTS IN THE MODEL SPACE OF THIS PLAN OUTSIDE THE EXTENTS OF PLOTTED SHEETS.
* DATA SUPPLIED IS CORRECT AT THE TIME OF SURVEY. ALTERATIONS TO SITE ARE POSSIBLE AFTER THIS DATE. REFER TO REVISION DATES.
* THIS PLAN HAS BEEN PREPARED FOR THE CLIENT AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE UNLESS AUTHORISED BY CROSSLAND & HARDY PTY LTD.

CADASTRE:
* BOUNDARIES HAVE NOT BEEN RESURVEYED.
* THE CADASTRAL BOUNDARIES AS SHOWN HEREON WERE NOT MARKED AT TIME OF SURVEY.
* BOUNDARIES SHOULD BE REDEFINED BEFORE CONSTRUCTION COMMENCES.
* BOUNDARY LINES SHOWN ARE FROM LANDGATE'S SPATIAL CADASTRAL DATABASE (SCDB), ACCESSED NOV 2022.
* FOR EASEMENTS AND ENCUMBRANCES REFER TO CERTIFICATES OF TITLE.

TOPOGRAPHIC:
* TOPOGRAPHIC SURVEY UNDERTAKEN USING TOTAL STATION, (ACCURACY +/-5mm, WHERE LEVELS ARE SHOWN).
* TOPOGRAPHIC SURVEY UNDERTAKEN USING RTK GPS (ACCURACY +/-30mm, WHERE LEVELS ARE SHOWN).
* CONTOUR ACCURACY VARIES IN AREAS OF SIGNIFICANT VEGETATION. INFORMATION PROVIDED SHOULD BE CONSIDERED FOR MAPPING PURPOSES ONLY.

AERIAL IMAGE:
* ORTHO PHOTO MOSAIC CAPTURED BY CROSSLAND AND HARDY (NOV 2023). POSITIONAL ACCURACY APPROX +/- 0.5m.

LOT 414
DP 210477

LOT 342
8852m²

PADBURY STREET
MOORE STREET
ROBERTS STREET

EMERGENCY ASSEMBLY POINT
REVERSE PARKING
DONGA - ROOM x 4
PATIO
SITE FACILITIES
BIKE RACK
SAND
BRICK BUILDING
COVERED AREA
VERANDAH
EDGE OF GUTTER
C/BOND SHED
BIRD HOUSE
ACCESS TRACK
GARDEN BED
ENTRY
SHOP SIGN
ROAD BARRIER
CHEVRON NO EXIT
9000
9001
9002
1.8m C/BOND
1.5m C/BOND
1.1m MESH
1.35m MESH
1.7m FIBRO
DIA P100

LEGEND

Symbol	Description
	AIR CON UNIT
	COMMS MARKER
	COMMS PIT
	DOWN PIPE
	DRAIN GRATE
	DRAIN OVERT
	ELEC LIGHT TOWER
	ELEC PIT
	ELEC POWER POLE
	ELEC STAY POLE
	ELEC SWITCH BOX
	FLOOR LEVEL
	GATE
	RL TOP OF FEATURE
	SEWER IS
	SIGN
	SURVEY DECK SPIKE
	SURVEY SSM
	TREE RAD SCALE
	UNCLASS HATCH
	UNCLASS PIT
	UNCLASS POLE
	WATER HYDRANT
	WATER METER
	WATER STOP VALVE
	WATER TAP
	WATER HEATER
	BITUMEN
	CONCRETE
	FENCELINE
	ELEC ANCHOR WIRE
	ELEC OHEAD POWER LINES
	VERANDAH
	BANK BOTTOM
	BANK TOP
	LINE OF LEVELS
	DRAIN PIPE
	TRACK

1:300 @ A1
5 0 5 10

**** HUG2020 - AHD **** SURVEY CONTROL LISTING
CONTRACTORS TO VERIFY ALL SURVEY CONTROL MARKS TO BE CORRECT (BY FIELD CHECKS) PRIOR TO UTILISATION FOR CONSTRUCTION PURPOSES

STN#	EAST	NORTH	HEIGHT	DESCRIPTION
MRA78	28292.495	709354.362	202.783	SSM
9000	28180.830	709101.362	203.237	DECK SPIKE IN BITUMEN
9001	28303.021	709122.119	203.215	DECK SPIKE IN BITUMEN
9002	28223.060	709166.724	203.295	DECK SPIKE IN BITUMEN

REV	INITIAL	DATE	C&H VERSION	REVISION DETAILS
0	VU	28-11-2023	VERS 01	INITIAL PLAN RELEASE

FEATURE SURVEY OF CBH MOORA ACCOMODATIONS SITE.
No. 2 MOORE STREET, MOORA

CROSSLAND & HARDY PTY LTD
CONSULTING LICENSED SURVEYORS
177 RAILWAY PARADE, MAYLANDS 6051
TEL 08 9272 2214 FAX 08 9370 3547
EMAIL info@chsurveys.com.au
A.B.N. 46 008 745 542

REF 9509
SURVEYOR VU
DWG SIZE A1

Prepared for: CBH

VER DATUM: AHD
ORIGIN: MRA78
CONTOUR INTERVAL: 0.2

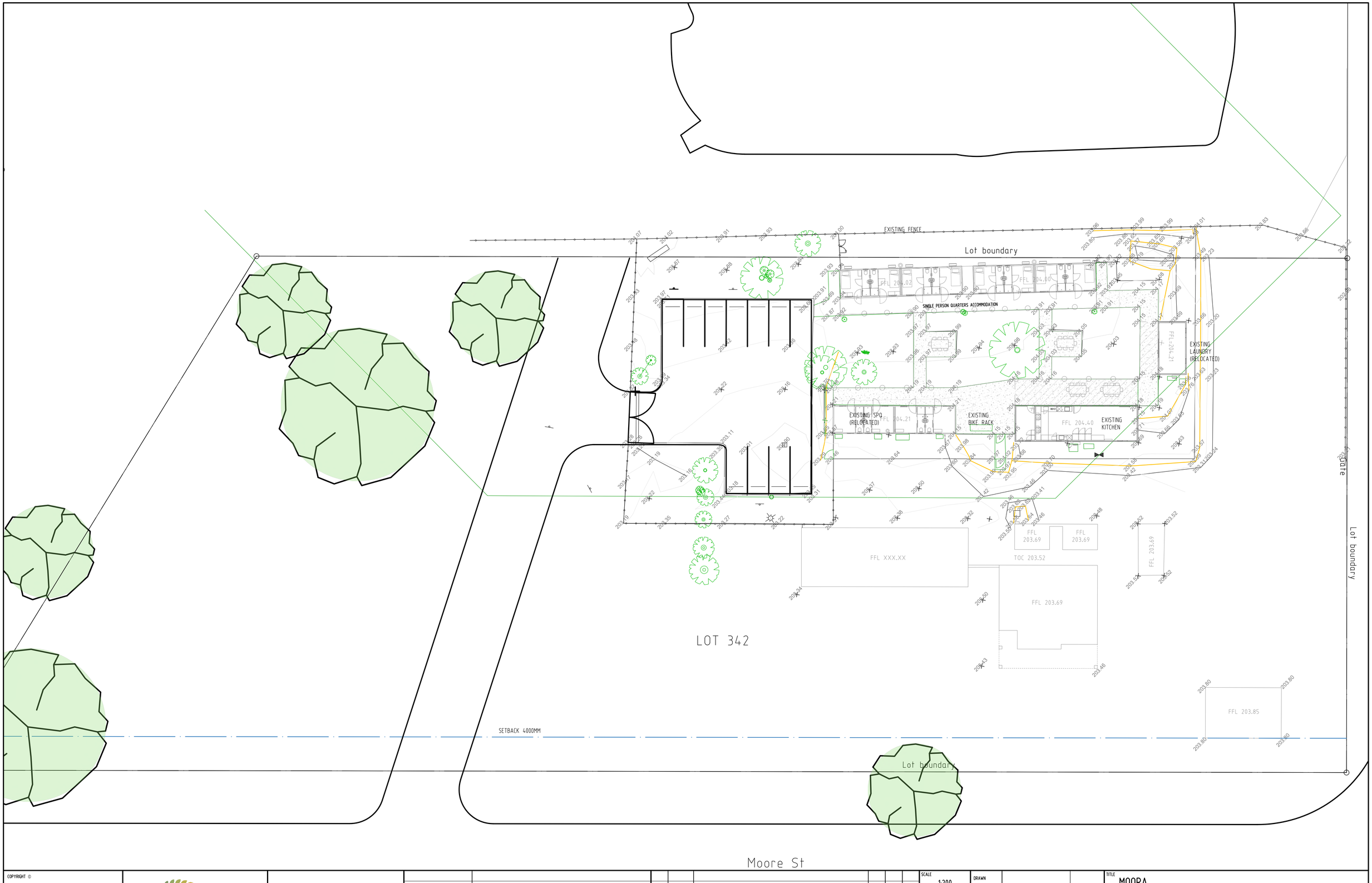
CO-ORD SYSTEM: HUG2020
ORIGIN: MRA78

CAD 9509-01 FEATURE SURVEY.DWG

DATE 28/11/2023

SCALE 1:300

PLAN 9509-01
REVISION 0



CBH GROUP
ABN 29 256 604 947

REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	28/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:200
SHEET A1
PROJECT
CONTRACT No

DRAWN		
CHECKED	B LIM	
DESIGNED		
DESIGN APPR		
PROJECT APPR		

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
FEATURE SURVEY

ORG No 340-ENG-AR-DGA-XXXX
SHEET 1 OF 1
REV. A

CBHGROUP
ABN 29 256 604 947

DEMOLITION

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SCALE 1:200
SHEET A1
PROJECT
CONTRACT No

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PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
DEMOLITION PLAN

DRG No 340-ENG-AR-DGA-XXXX
SHEET 1 OF 1
REV. A

EXISTING FENCE

STAGE 1 – CONSTRUCTED

EXISTING SPO

EXISTING SPO

EXISTING LAUNDRY

5500

6000

1000

850

2500

EXISTING CARPARK

PROPOSED CARPARK
(13 BAYS)

EXISTING SPO

EXISTING BIKE RACK

EXISTING KITCHEN

BOL

KDLU

SPO

STAGE 2

CR

AS RECOMMENDED BY SHIRE OF MOORA

2000

EXISTING SEWER

EXISTING SEWER

TRAINING ROOM

EXISTING UNSEALED

SPO

SPO

PROPOSED FENCE

13250

BOL

BOL

2000

5500

1000

2500

PROPOSED CARPARK
(12 BAY)

6000

PROPOSED CROSSOVER

6680

SETBACK 4000MM

4000

SMSB

6000

19966

EXISTING CROSSOVER

CBHGROUP
ABN 29 256 604 947

2 COAT PRIME & SEAL

CONCRETE - BROOM FINISH

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SCALE 1:200
SHEET A1
PROJECT
CONTRACT No

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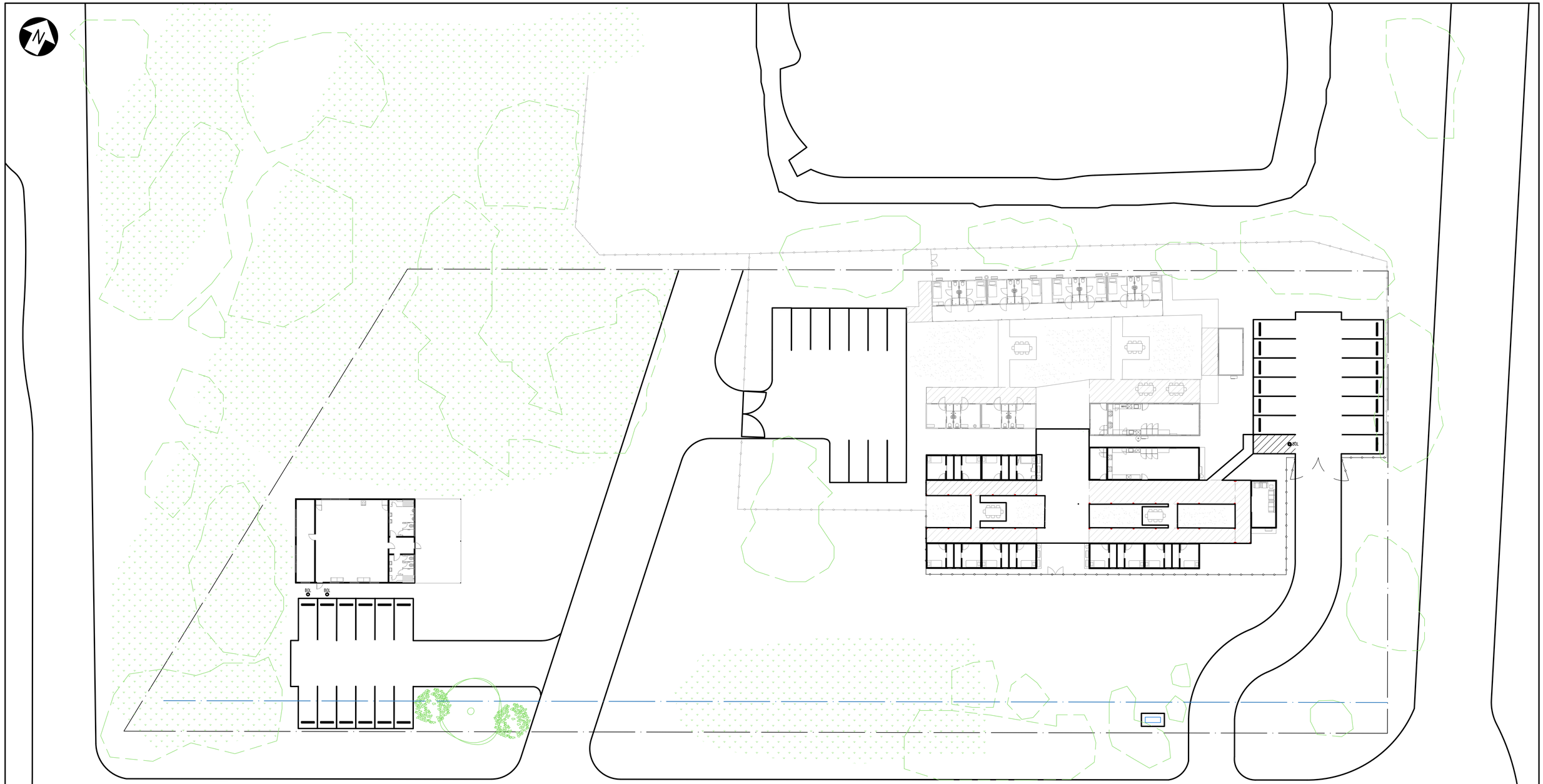
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
SITE PLAN

DRG No 340-ENG-AR-DGA-0001
SHEET 1 OF 1
REV. A



PLANT SCHEDULE		
TREES		
BOTANICAL NAME	COMMON NAME	INSTALLATION SIZE
EUCALYPTUS LOXOPHLEBO	YORK GUM	30Lt
SHRUBS		
BANKSIA ATTENUATA	CANDLESTICK BANKSIA	12Lt

EUCALYPTUS LOXOPHLEBO

BANKSIA ATTENUATA

MULCH

EXISTING TREES

EXISTING SHRUBS AND GRASS

BANKSIA ATTENUATA

EUCALYPTUS LEXOPHLEBO

DO NOT SCALE FROM THIS DRAWING

CBHGROUP
ABN 29 256 604 947

INDICATIVE MULCH AND WOODCHIPS

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SCALE 1:250
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
LANDSCAPING PLAN

DRG No 340-ENG-AR-DGA-xxxx
SHEET 1 OF 1
REV. A

PLANT SCHEDULE		
TREES		
BOTANICAL NAME	COMMON NAME	INSTALLATION SIZE
EUCALYPTUS LOXOPHLEBO	YORK GUM	30Lt
SHRUBS		
BANKSIA ATTENUATA	CANDLESTICK BANKSIA	12Lt

EUCALYPTUS LOXOPHLEBO

MULCH

EXISTING SHRUBS AND GRASS

BANKSIA ATTENUATA

EXISTING TREES

BANKSIA ATTENUATA

EUCALYPTUS LEXOPHLEBO

CBHGROUP

ABN 29 256 604 947

INDICATIVE MULCH AND WOODCHIPS

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SCALE 1:250

SHEET A1

PROJECT

CONTRACT No

DRAWN

CHECKED B LIM

DESIGNED

DESIGN APPR

PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
LANDSCAPING PLAN

DRG No 340-ENG-AR-DGA-xxxx

SHEET 1 OF 1

REV. A

EXISTING FENCE

STAGE 1 - CONSTRUCTED

EXISTING SPQ
RL 204.02

EXISTING SPQ
RL 204.02

MULCH

MULCH

MULCH

EXISTING LAUNDRY
RL 204.21

EXISTING CARPARK

EXISTING SPQ
RL 204.21

EXISTING BIKE RACK

EXISTING KITCHEN
RL 204.21

3400

6900

1500

RL 204.36

RL 204.18
STAGE 2

RL 204.21

2000

3400

MULCH

2400

MULCH

4200

1200

5800

MULCH

3100

MULCH

3100

6000

CR
RL 204.21

2000

2000

SPQ
RL 204.36

SPQ
RL 204.36

EXISTING SEWER

PROPOSED FENCE

5500

6000

1000

850

2500

PROPOSED CARPARK
(13 BAYS)

1300

750

BOL

6000

CBH GROUP
ABN 29 256 604 947

2 COAT PRIME & SEAL

CONCRETE - BROOM FINISH

STAGE 1 - CONSTRUCTED

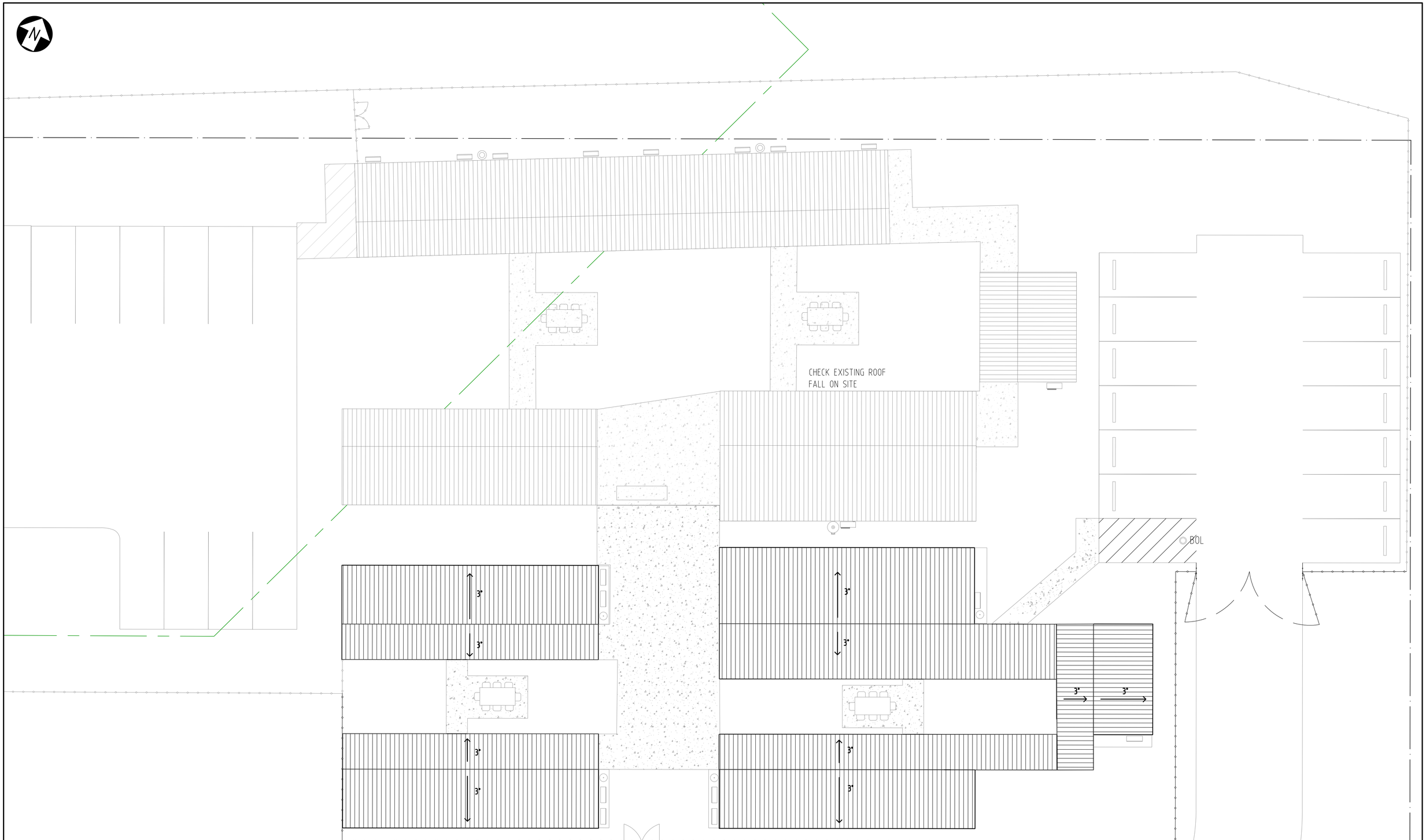
REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
FLOOR PLAN

DRG No 340-ENG-AR-DGA-0002
SHEET 1 OF 1
REV. A



CBHGROUP
ABN 29 256 604 947

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		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

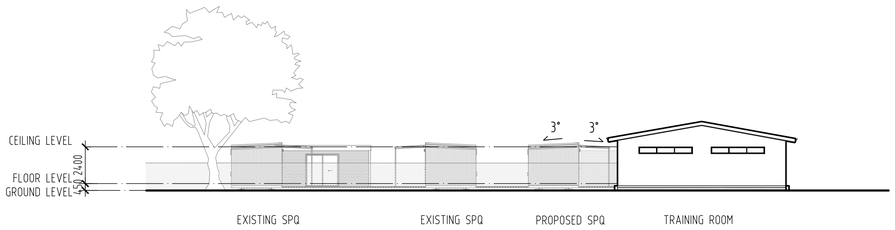
SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN	
CHECKED	B LIM
DESIGNED	
DESIGN APPR	
PROJECT APPR	

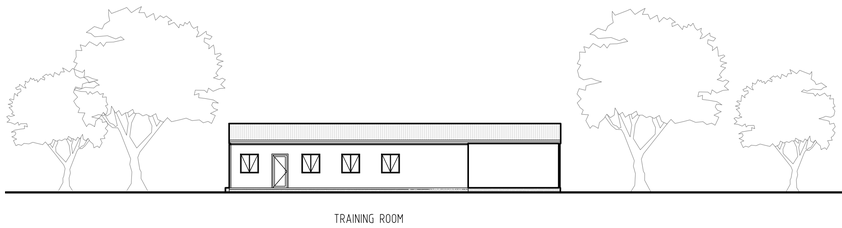
TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
ROOF PLAN

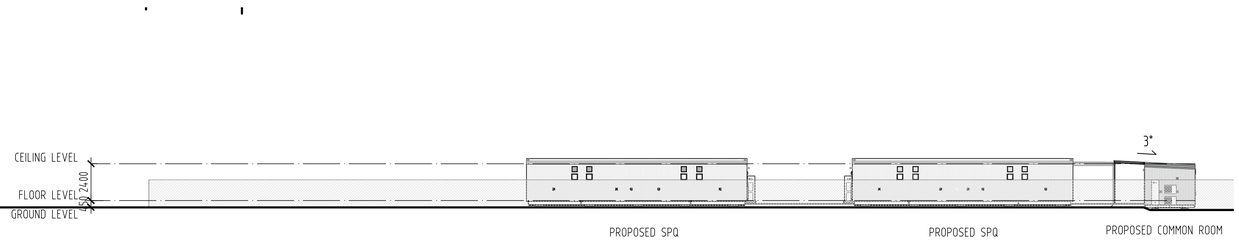
DRG No 340-ENG-AR-DGA-0003
SHEET 1 OF 1
REV. A

NORTH ELEVATION

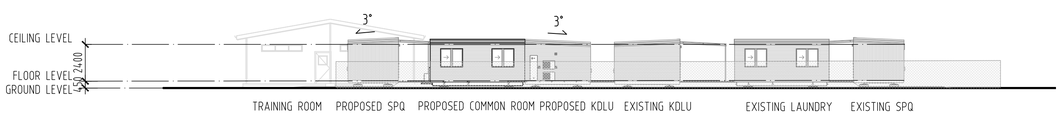


WEST ELEVATION





SOUTH ELEVATION



EAST ELEVATION

CBHGROUP
ABN 29 256 604 947

REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
ELEVATIONS

DRG No 340-DEL-AR-DGA-0001
SHEET 1 OF 1
REV. A

SHEET LIST_GENERAL

SHEET NUMBER	SHEET NAME
A00-CS02	CODE LEGEND
A02-FP01	FLOOR PLAN
A03-EL01	EXTERNAL ELEVATION
A03-EL02	EXTERNAL ELEVATION
A04-SC01	SECTIONS
A05-RP01	ROOF PLAN
A05-RP10	REFLECTED CEILING PLAN
A06-IE01	INTERNAL ELEVATIONS
A07-SD02	FLASHING DETAILS
A07-SD20	CONSTRUCTION DETAILS
A08-SH01	DOOR & WINDOW SCHEDULE
A10-ST01	FOOTING LAYOUT
A11-SR01	ELECTRICAL & DATA

4P SPQ

PROJECT NO.:
J004099

PROJECT CLIENT
CBH

PROJECT STATUS
ISSUED FOR REVIEW

PROJECT ADDRESS:
GINGIN

FLEETWOOD AUSTRALIA

1202 Abernethy Rd, Perth Airport WA 6105 | (08) 9281 7500

GENERAL NOTES
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SHEET
COVER PAGE

DRAWN	CHECKED	SCALE	SIZE
VL	KP		A3

DRAWING NO. **A00-CS01**

REVISION A

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EXTERNAL CLADDING & FINISHES LEGEND

WMC-01 **CORRIGATED IRON**
EXTERNAL WALL
COLOUR: PAPERBARK
THICKNESS: 16MM

WPP-01 **POLYPLY**
INTERNAL WALL
COLOUR: MIRAGE PEARL
THICKNESS: 3MM

RMS-01 **ROOF SHEETING**
SUPERDECK ROOF SHEETING
COLOUR: DEEP OCEAN
BMT: 0.42MM

RFL-01/0X **FLASHINGS (INCLUDING CORNER TRIMS)**
MATERIAL: COLORBOND
COLOUR: 'DEEP OCEAN'

RBF-01 **BARGE CAPPING**
MATERIAL: COLORBOND
COLOUR: 'DEEP OCEAN'

FLOORING LEGEND

FVI-01 **VINYL**
TYPE: 3.0mm COMMERCIAL GRADE VINYL.
COLOUR: NEUTRAL GREY
TO ALL BEDROOMS
TO INCLUDE WSK-01

FVI-02 **VINYL**
TYPE: NON-SLIP COMMERCIAL GRADE VINYL
COLOUR: NEUTRAL GREY
TO ALL WET AREAS
TO INCLUDE WSK-02

WSK-01 **SKIRTING**
PVC SKIRTING
40MM HIGH.
COLOUR: TO MATCH FVI-01
TO ALL WET AREAS

WSK-02 **SKIRTING**
COVED VINYL SKIRTING
100MM HIGH.
TYPE: TO MATCH FVI-02
COLOUR: TO MATCH FVI-02
TO ALL WET AREAS

INSULATION

CIN-01 **CEILING:**
R2.5 EARTHWOOL BATTS BETWEEN CEILING JOISTS

RIN-01 **ROOF:**
R1.3 ANTI-CONDENSATION BLANKET UNDER ROOF SHEETS

FIN-01 **FLOOR:**
R2.0 ANTI-CONDENSATION BLANKET.

INTERNAL WALL & CEILING FINISHES LEGEND

CPB-01 **POLY PLY CEILING**
COLOUR: MIRAGE PEARL
TO ALL AREAS
TO INCLUDE **CCC-01**

CCC-01 **ALUMINIUM CORNICE**
40MM x 40MM ALUMINIUM ANGLE
TO ALL AREAS

WSK-03 **WALL - SPLASH BACK**
MATERIAL: CERAMIC 200MM X 200MM. .
COLOUR: WHITE

JOINERY LEGEND

JCF-01 **HALF HEIGHT WARDROBE**
TO INCLUDE 2X SHELVES
OVER FRIDGE RECESS
SIZE: 575MM W X 540MM D X 900MM H

JCF-02 **FULL HEIGHT WARDROBE**
TO INCLUDE WARDROBE RAILS AND TOP SHELF
SIZE: 365MM W X 540MM D X 1800MM H

JBE-01 **FIXED LAMINATE BENCH**
STUDY
DEPTH: 450MM
WIDTH: 1000MM
THICKNESS: 25MM MELAMINE
WALL MOUNTED

NOTES:
- ALL JOINERY COLOUR: TBC

LOOSE FURNITURE LEGEND

LBD-01 **BED**
KING SINGLE BED WITH BED HEAD

LCH-01 **CHAIR WITH WHEELS**
COLOUR: WHITE

FIXTURES

TRE-01 **BAR FRIDGE**
115 LITRE BAR FRIDGE

TBN-01 **BASIN**
TYPE: WHITE CERAMIC
TO INCLUDE MIXER

TSB-01 **SHOWER**
900MMx900MM FIBREGLASS UNIT
c/w SHOWER ROSE AND MIXER

TWC-01 **WC**
CERAMIC TOILET
COLOUR: WHITE

XMI-01 **MIRROR**
400MM W x 535MM HIGH
c/w INBUILT SHELF

XSC-01 **SHOWER CURTAIN**

XTR-01 **TOWEL RAIL**
SINGLE TOWEL RAIL

XTR-01 **TOILET ROLL HOLDER**

XCH-01 **COAT HOOK**

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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1202 Abernethy Rd, Perth Airport WA 6105 | (08) 9281 7500

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PROJECT NO.:
J004099

PROJECT STATUS
ISSUED FOR REVIEW

PROJECT CLIENT
CBH

PROJECT:
4P SPQ

PROJECT ADDRESS
GINGIN

SHEET
CODE LEGEND

DRAWN	CHECKED	SCALE	SIZE
VL	KP	1 : 100	A3

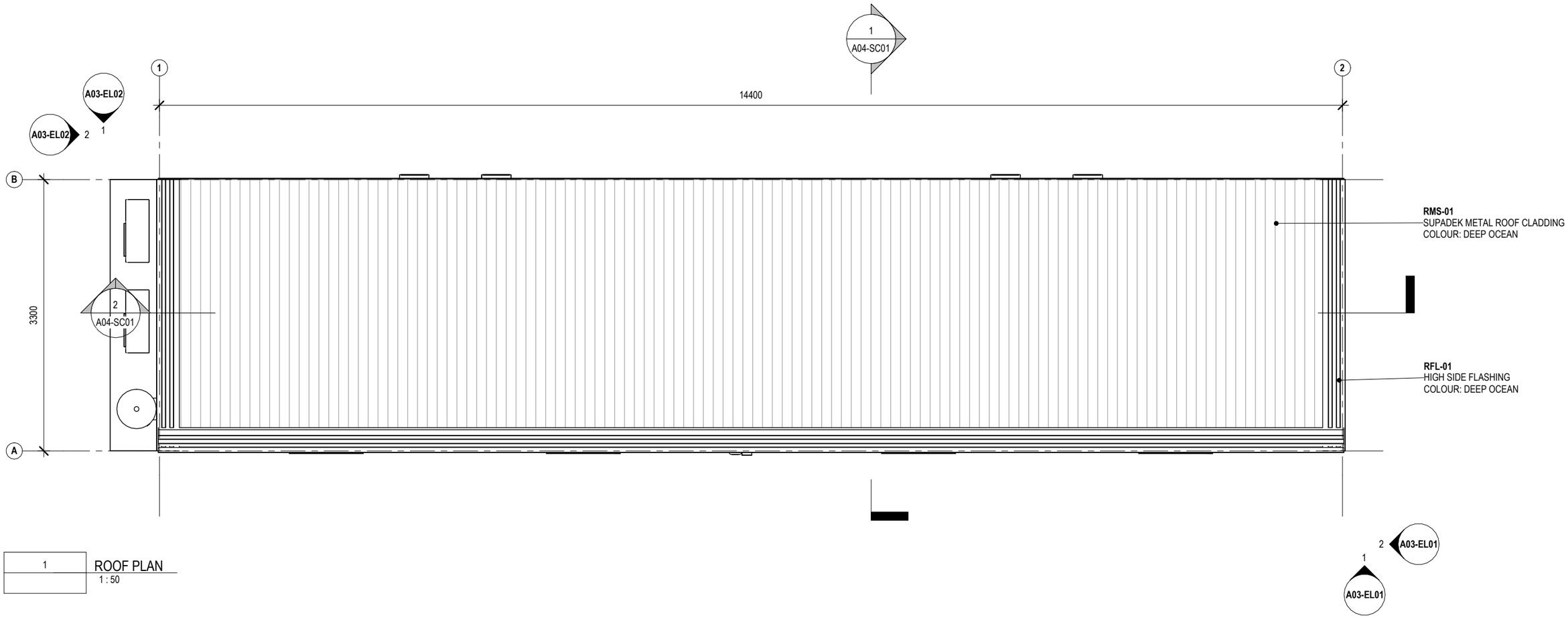
DRAWING NO.
A00-CS02

REVISION
A

DC SIGN OFF:

ROOF NOTES

METAL SHEET ROOFING TO BE IN ACCORDANCE WITH AS1562.1-1992.



1 ROOF PLAN
1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT NO.: **J004099**

PROJECT STATUS: **ISSUED FOR REVIEW**

PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **ROOF PLAN**

DRAWN: **VL** CHECKED: **KP** SCALE: **As indicated** SIZE: **A3**

DRAWING NO.: **A05-RP01** REVISION: **A**

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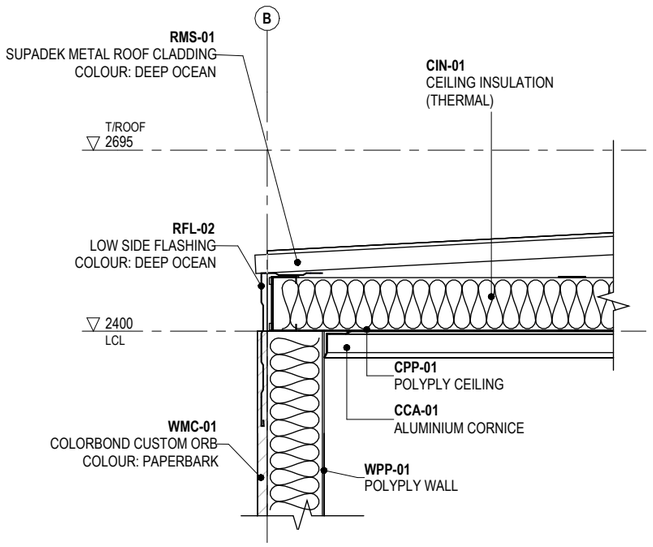
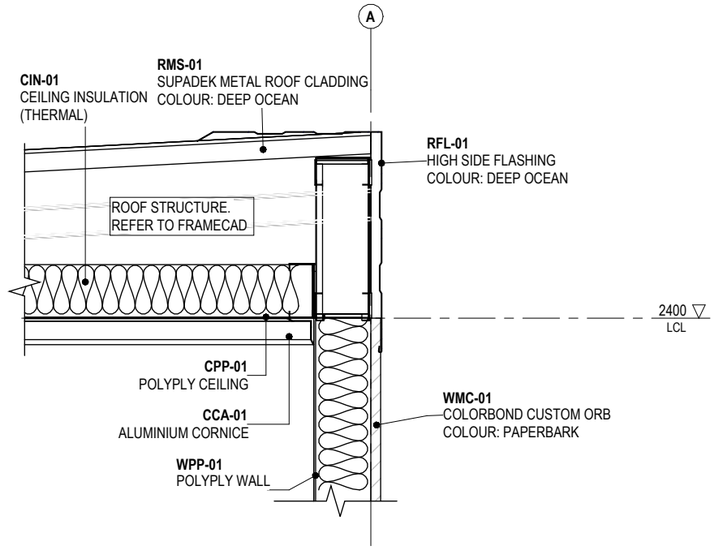
WALL FIXING SPECIFICATION

(TBC WITH ENGINEER)
WALLFRAME TO STEEL CHASSIS
1 x 14G TEKS @ 600 CRS (TYPICAL)

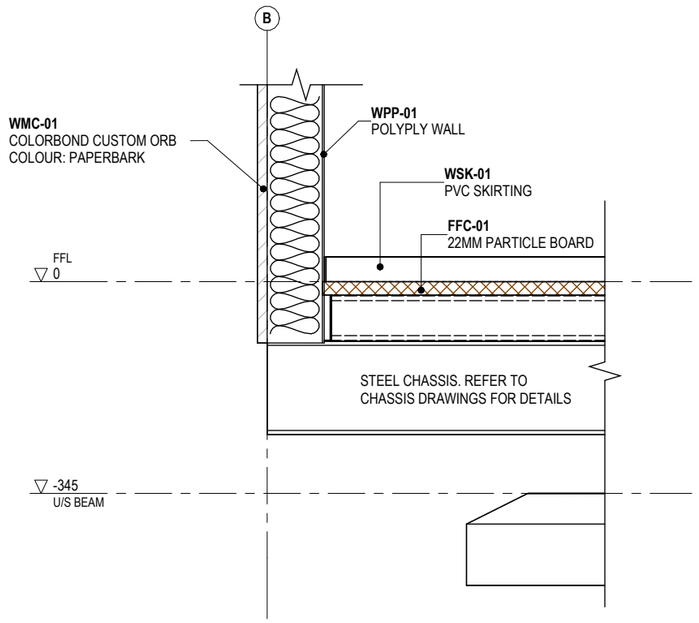
ROOF FRAME TO WALLFRAME
2 x 14G TEKS @ 600 CRS (TYPICAL)



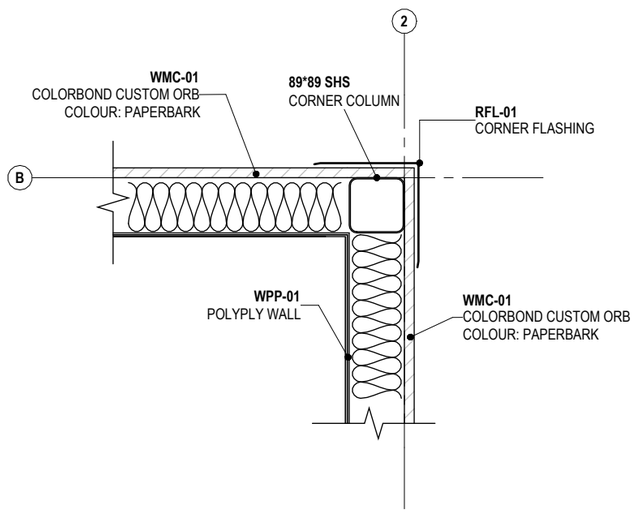
2 | A04-SC01 — HIGH BARGE DETAIL
1 : 10



3 | A04-SC01 — LOW BARGE DETAIL
1 : 10



1 | A04-SC01 — CHASSIS DETAIL
1 : 10



4 | A02-FP01 — CORNER WALL DETAIL
1 : 10

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A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT NO.: **J004099**
PROJECT STATUS: **ISSUED FOR REVIEW**
PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**
PROJECT ADDRESS: **GINGIN**

SHEET: **CONSTRUCTION DETAILS**

DRAWN: **VL** CHECKED: **KP** SCALE: **As indicated** SIZE: **A3**

DRAWING NO.: **A07-SD20** REVISION: **A**

DC SIGN OFF:

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ROOMS

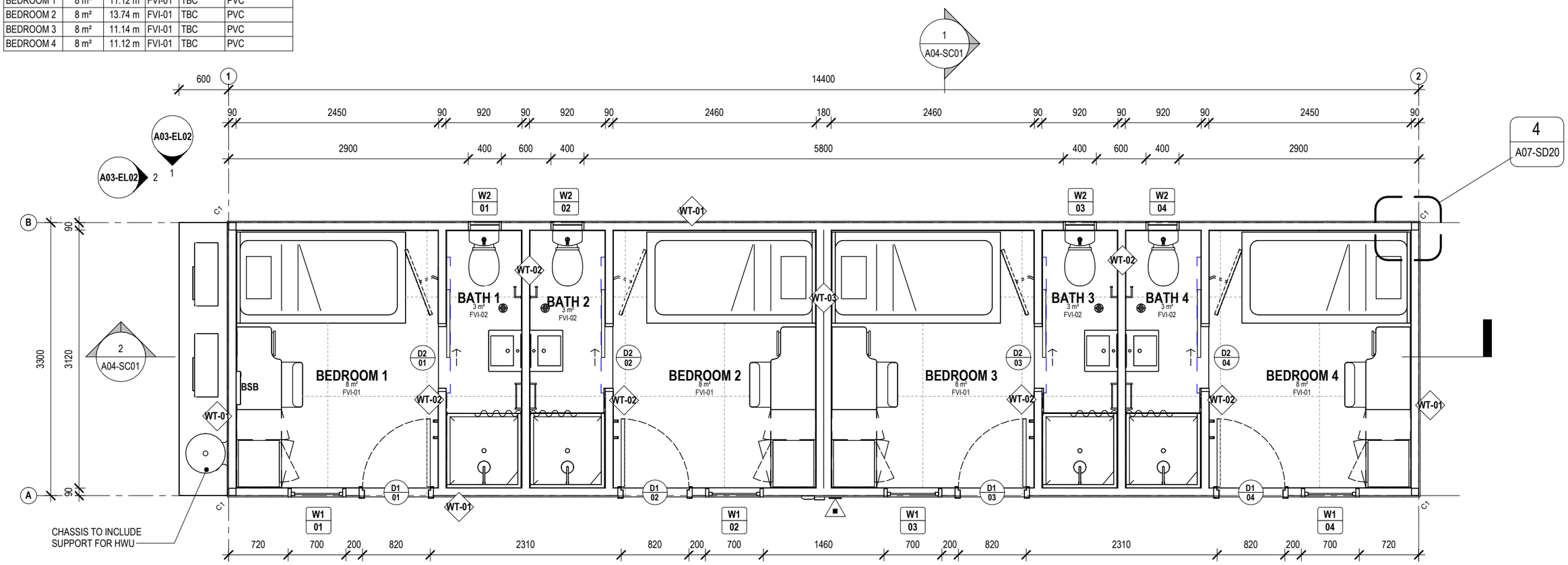
NAME	AREA	PERIM.	FLOOR LINING TYPE	FLOOR LINING COLOUR	SKIRTING
BATH 1	3 m²	8.06 m	FVI-02	TBC	PVC
BATH 2	3 m²	8.06 m	FVI-02	TBC	PVC
BATH 3	3 m²	8.06 m	FVI-02	TBC	PVC
BATH 4	3 m²	8.06 m	FVI-02	TBC	PVC
BEDROOM 1	8 m²	11.12 m	FVI-01	TBC	PVC
BEDROOM 2	8 m²	13.74 m	FVI-01	TBC	PVC
BEDROOM 3	8 m²	11.14 m	FVI-01	TBC	PVC
BEDROOM 4	8 m²	11.12 m	FVI-01	TBC	PVC

WALLS 1

TAG	STRUCTURE	EXTERNAL CLADDING TYPE	EXTERNAL CLADDING COLOUR	INTERNAL LINING TYPE	INTERNAL LINING COLOUR	INSULATION	m
WT-01	STEEL FRAME, 90MM, "LIPPED C" SECTION	CUSTOM ORB VERTICALLY LAID	PAPERBARK	POLY PLY 3mm	MIRAGE PEARL	90mm R2.5 EARTHWOOL	35.09 m
WT-02	STEEL FRAME, 90MM, "LIPPED C" SECTION	POLY PLY 3mm	MIRAGE PEARL	POLY PLY 3mm	MIRAGE PEARL	90mm R2.5 EARTHWOOL	56.89 m
WT-03	STEEL FRAME, 90MM, "LIPPED C" SECTION	POLY PLY 3mm	MIRAGE PEARL	POLY PLY 3mm	MIRAGE PEARL	90mm R2.5 EARTHWOOL	3.22 m

FLOOR

TAG	SUBSTRATE	m²
FVI-01	VINYL TARKETT PRIMO	30.69
FVI-02	VINYL TARKETT NON-SLIP	8.29



1 FLOOR PLAN
1 : 50

GENERAL NOTES:

BUILDING CLASSIFICATION: **NCC CLASS 1b**

BAL LEVEL: **BAL 29**

CLIMATE ZONE: **5**

CYCLONIC REGION CLASSFICIATION: **"A" REGION, TERRAIN CATEGORY = 2.0 Vu = V500 = 88m/s, Vser = 37m/s, Ms = 1.0, Mt = 1.0, Mz cat = 0.91**

WINDOWS DESIGN CRITERIA: **AS2047**

SERVICEABILITY PRESSURE: **GENERAL: 740pa - TABLE 2.1 AS2047 1110pa FOR WINDOWS WITHIN 600mm FROM CORNERS.**

ULTIMATE STRENGTH PRESSURE: **GENERAL: 1095pa - TABLE 2.5 AS2047 1640pa FOR WINDOWS WITHIN 600mm FROM CORNERS.**

WATER PENETRATION RESISTANCE PRESSURE **NON EXPOSED - 150Pa, EXPOSED - 200Pa**

WIND LOAD IN ACCORDANCE WITH: **AS.1170.2-2011**

FLOOR STRUCTURAL STEEL PROTECTION MINIMUM CATEGORY: **ATMOSPHERIC CORROSIVITY CATEGORY "C3"**

DESIGN CRITERIA IN ACCORDANCE WITH: **AS1170.1-2002: IMPOSED FLOOR ACTIONS (TABLE 3.1).**

ALLOWABLE FLOOR LOADS: **B-3.0kPa UNIFORMLY DISTRIBUTED. 4.5kN CONCENTRATED LOAD. (TBC BY ENGINEER)**

THE ENTIRE ROOF AND WALL ASSEMBLIES, THER CONNECTIONS & IMMEDIATE SUPPORTING MEMBERS HAVE BEEN DESIGNED SO AS TO BE CAPABLE OF REMAINING IN POSITION NOTWITHSTANDING ANY PERMANENT DISTORTION, FRACTURE OR DAMAGE THAT MIGHT OCCUR WITH NCC VOLUME 1, SPECIFICATIONS B1.2 OR VOLUME 2, PART 2.1.1 (b) AND 3.10.1 HIGH WIND AREAS (IF APPLICABLE).

ALL REFERENCED STANDARDS TO BE THE CURRENT VERSION AT THE TIME OF CONSTRUCTION.

GENERAL SPECIFICATIONS:

CHASSIS PAINT SPEC.: **425 ZINC PHOSPHATE PRIMER, 2 COATS ALKYD PRIMER ON WET - BLACK - FOR CORROSION INHIBITION.**

WALLS (WT-01): **90mm STEEL FRAMEWORK**

ROOF & CEILING FRAME: **90mm STEEL FRAMEWORK.**

2 A03-EL01
1 A03-EL01

NOTE: BUSHFIRE ATTACK LEVEL 29

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT NO.: **J004099**

PROJECT STATUS: **ISSUED FOR REVIEW**

PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

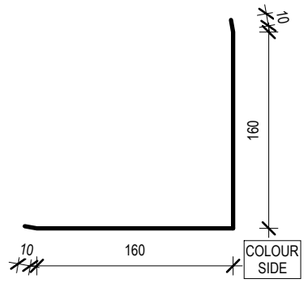
SHEET: **FLOOR PLAN**

DRAWN: **VL** CHECKED: **KP** SCALE: **1 : 50** SIZE: **A3**

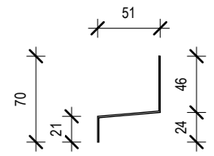
DRAWING NO.: **A02-FP01** REVISION: **A**

DC SIGN OFF:

Autodesk Docs://J004099 - CBH 4P SPQ/J004099_4P A SPQ.rvt

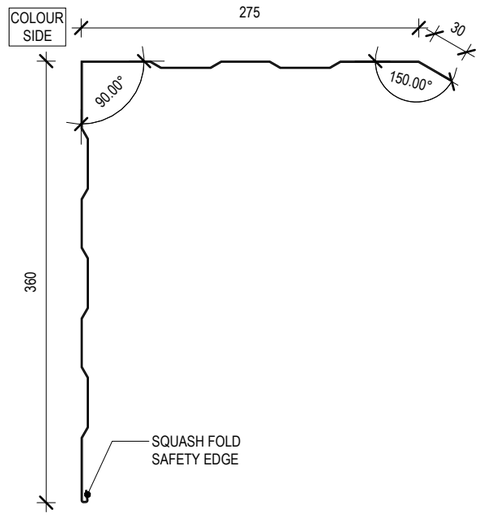


1 WFL-01. CORNER FLASHING
1 : 5



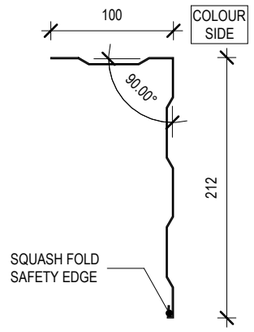
APRON WALL FLASHING
MIN 1.5MM THICKNESS G450

3 WFL-02. WALL CAPPING
1 : 5



FLASHING TO BE PROFILED

6 RFL-01. HIGH SIDE/BARGE FLASHING
1 : 5



FLASHING TO BE PROFILED

7 RFL-02. LOW SIDE FLASHING
1 : 5

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **FLASHING DETAILS**

DRAWN: **VL** CHECKED: **KP** SCALE: **1 : 5** SIZE: **A3**

DRAWING NO.: **A07-SD02** REVISION: **A**

DC SIGN OFF:

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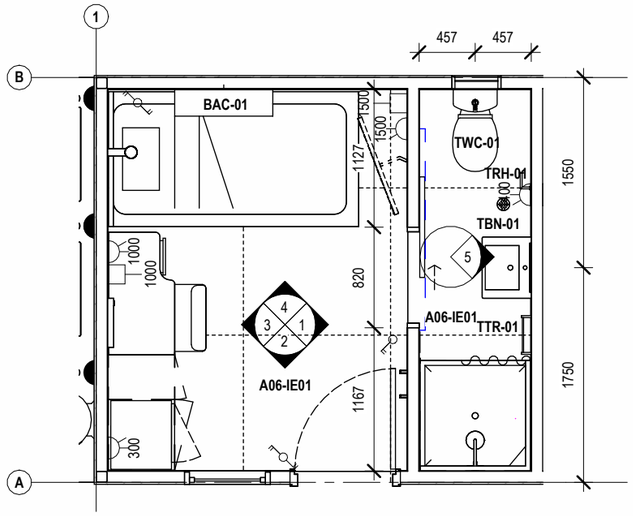
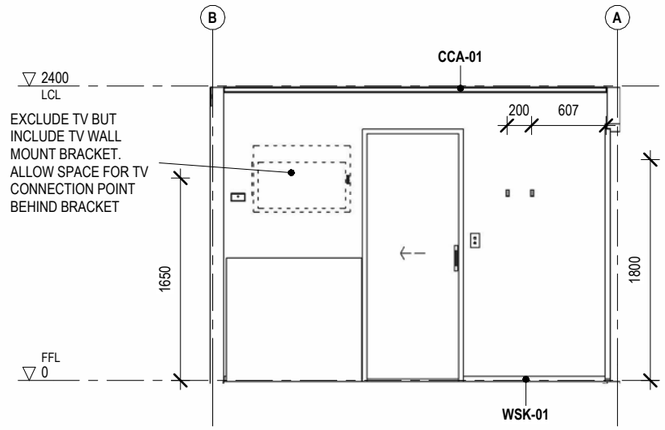


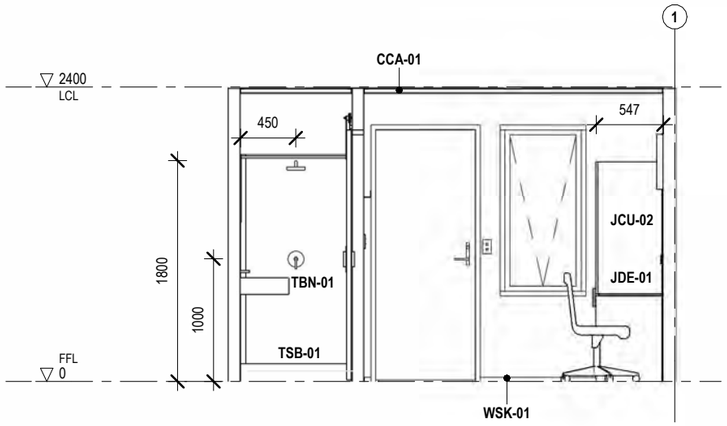
A

TYPICAL ROOM LAYOUT
1 : 50



1
A06-IE01

INTERNAL ELEVATION 1
1 : 50



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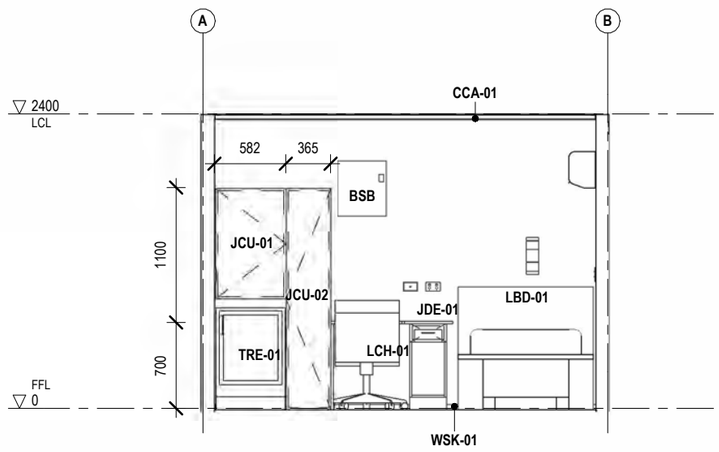
A06-IE01

INTERNAL ELEVATION 2
1 : 50



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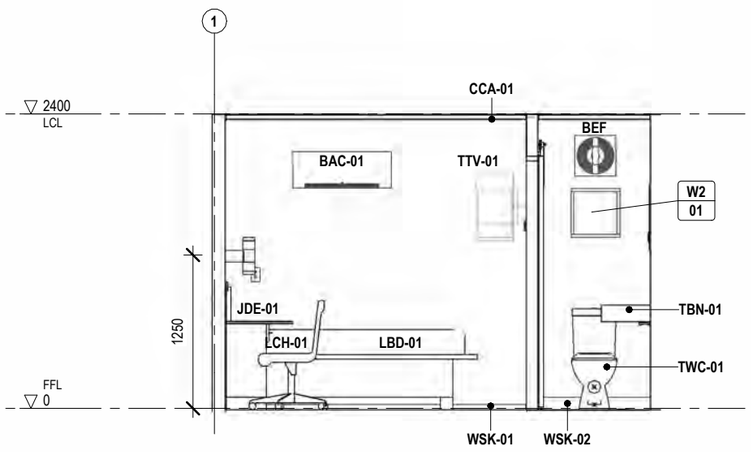
A06-IE01

INTERNAL ELEVATION 3
1 : 50



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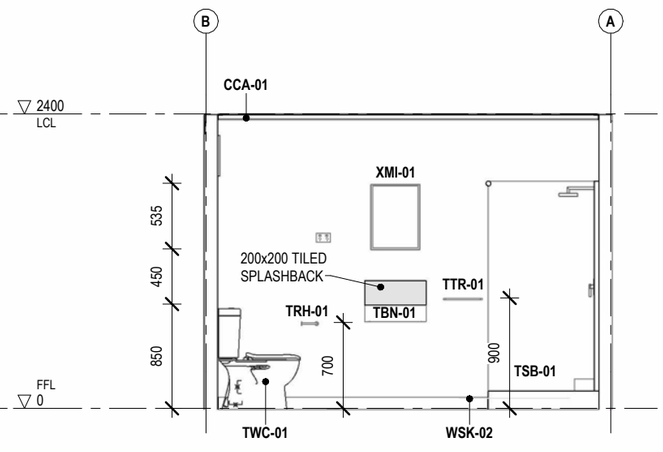
A06-IE01

INTERNAL ELEVATION 4
1 : 50



5
A06-IE01

INTERNAL ELEVATION 5
1 : 50

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A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **INTERNAL ELEVATIONS**

DRAWN	CHECKED	SCALE	SIZE
MV	SA	1 : 50	A3

DRAWING NO. **A06-IE01**

REVISION **A**

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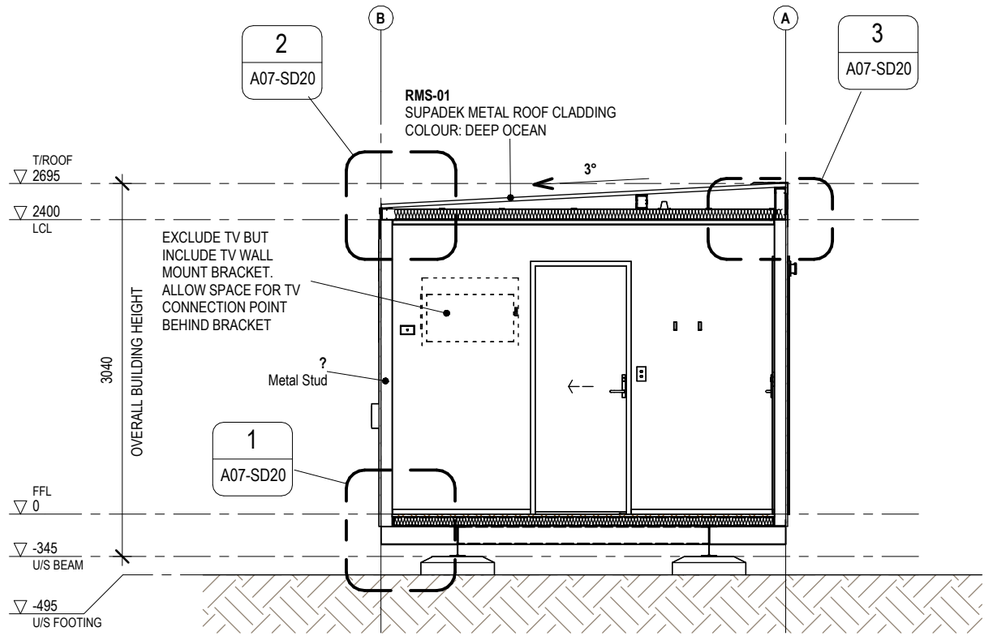
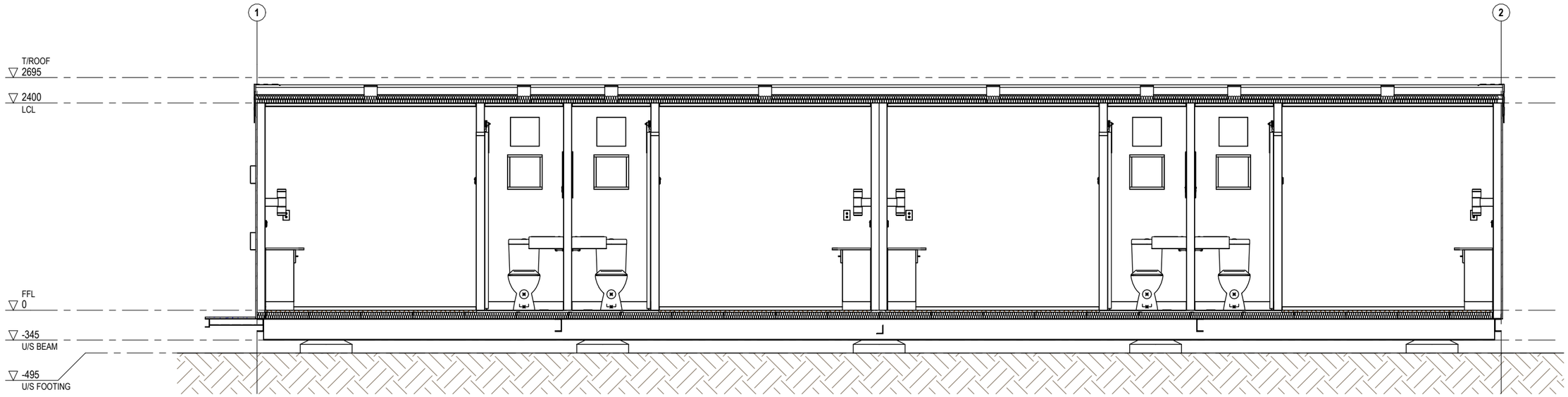


1 / A02-FP01 SECTION 1
1 : 50



2 / A02-FP01 SECTION 2
1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT STATUS: **ISSUED FOR REVIEW**
PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**
PROJECT ADDRESS: **GINGIN**

SHEET: **SECTIONS**
DRAWN: **VL** CHECKED: **KP** SCALE: **1 : 50** SIZE: **A3**
DRAWING NO.: **A04-SC01** REVISION: **A**
DC SIGN OFF:

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SERVICES FIXTURES

REFER TO SERVICES CONSULTANTS DRAWINGS FOR ALL SERVICES FIXTURES SPECIFICATIONS, REQUIREMENTS AND SCHEDULES.

WIRING SHALL BE IN ACCORDANCE WITH A.S 3000, A.S 3008 & THE RELEVANT LOCAL ELECTRICAL AUTHORITY.

CONTRACTORS SHALL BEFORE COMMENCEMENT OF CONSTRUCTION OF SERVICES, CHECK ALL SETOUTS AND DIMENSIONS.

THE ELECTRICAL INSTALLATION MUST COMPLY WITH REQUIREMENTS OF AS/NZS 3000 & 3008.1

ALL CEILINGS TO BE 2400MM HIGH UNLESS NOTED OTHERWISE

CEILING FIXTURES GENERALLY TO BE CENTRED WITHIN ROOMS UNLESS NOTED OTHERWISE

NOTE SET OUT IS MIRRORED WHERE NO ADDITIONAL DIMENSIONS ARE PROVIDED

CEILING FINISHES

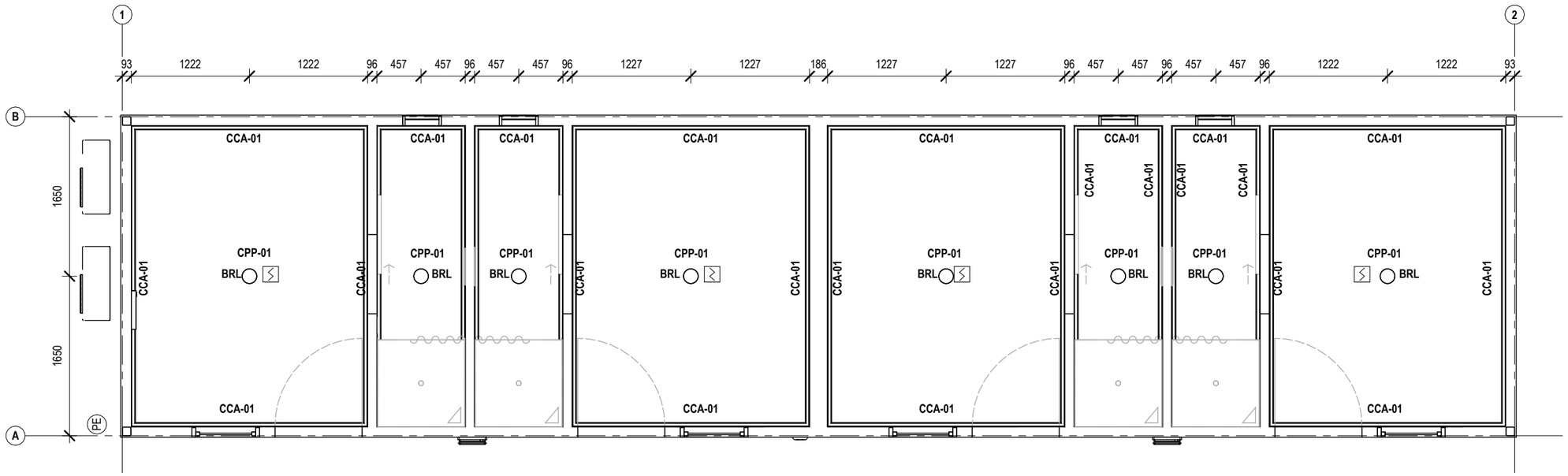
▭	**CPP-01**	POLYPLY CEILING
═	**CCA-01**	ALUMINIUM CORNICE

LIGHTING FIXTURES

○	**BRL**	LED LIGHT. TYPE: RECESSED.

FIRE DETECTION FIXTURES

⚡	**BSD**	SMOKE DETECTOR



1	REFLECTED CEILING PLAN
	1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **REFLECTED CEILING PLAN**

DRAWN	CHECKED	SCALE	SIZE
VL	KP	As indicated	A3

DRAWING NO.: **A05-RP10**

REVISION: A

DC SIGN OFF:

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SFO. CONCRETE DONUT FOOTING
600MM Ø X 150MM HEIGHT

TD1 TIE DOWN 1
600 DIA x 1200 DEEP MASS CONCRETE PAD FOOTING

NOTE
PLEASE INFORM FLEETWOOD IMMEDIATELY IF ANY NEW OR EXISTING BUILDINGS ON SITE ARE WITHIN 3M OF BUILDING OUTLINE

SOIL CLASSIFICATION: TBD

FOUNDATION NOTES:

FOUNDATION SOIL TO BE CLEAN, COMPACT, NATURAL GROUND, FREE OF EXCESSIVE MOISTURE.

THE OVERALL SITE SHOULD BE GRADED TO ENSURE STORM WATER CAN FREELY DRAIN AWAY FROM THE BUILDING FOUNDATIONS AND TO THE SURROUNDING DRAINAGE SYSTEM.

THE SURROUNDING GROUND IS TO BE BUILT UP TO WITHIN 125mm OF THE FLOOR LEVEL OF THE HOUSE WHICH WILL ENSURE THE SURFACE WATER IS DIVERTED WELL BACK FROM THE HOUSE.

STRIP THE SITE TO A MINIMUM OF 100MM OR AS TO REMOVE ALL TOPSOIL.

PREPARE SITE SUCH THAT SURFACE RUNOFF CANNOT DRAIN OVER OR UNDER FOUNDATIONS.

NOTE

TYPICAL FOOTING LAYOUT ONLY DESIGN AND INSTALLATION ON SITE BY OTHERS.

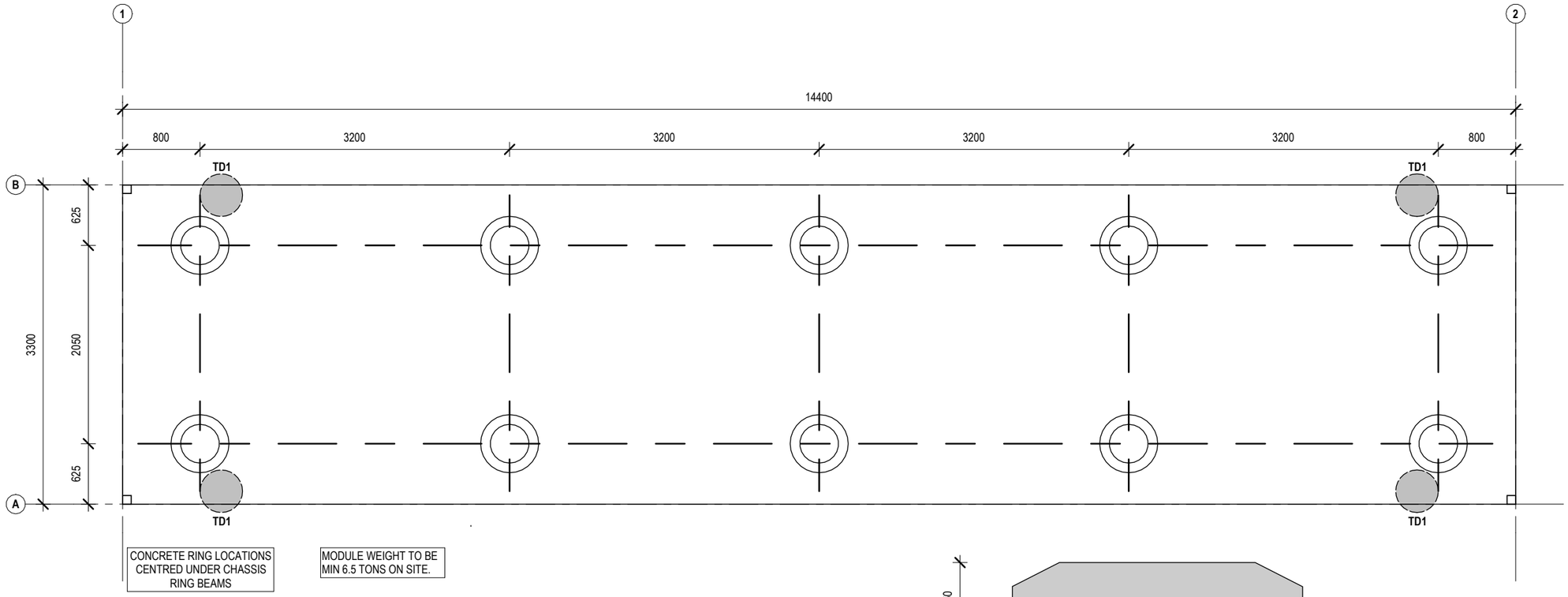
TIE DOWN REQUIREMENTS BY OTHERS.

GROUND SHALL BE COMPACTED TO ACHIEVE:

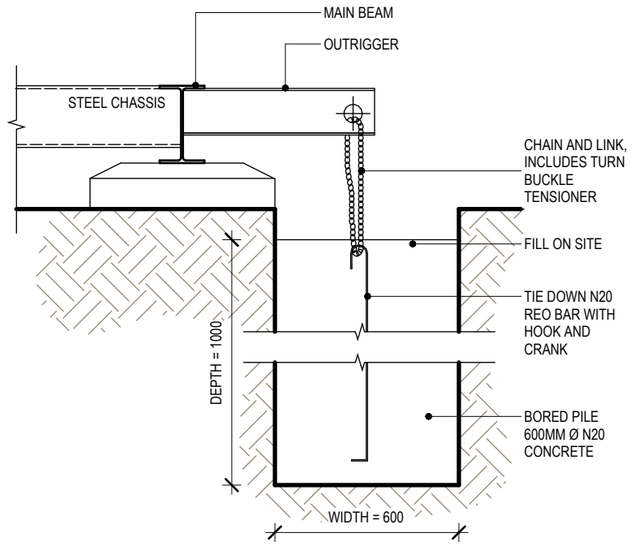
FOR SAND SITES - MINIMUM 6 BLOWS OVER 150-450mm, 7 BLOWS OVER 450-750mm AND 9 BLOWS OVER 750-1050mm WITH A PERTH SAND PENETROMETER (AS1289.6.3.3)
FOR COHESIVE/GRAVEL SITES - MINIMUM 6 BLOWS OVER 150mm USING A DYNAMIC CONE PENETROMETER (DCP) THROUGH ALL FILL OR TO 600mm IN NATURAL GROUND.

FOOTING HAS BEEN DESIGNED FOR CLASS 'A' AND 'S' SOIL TO AS2870

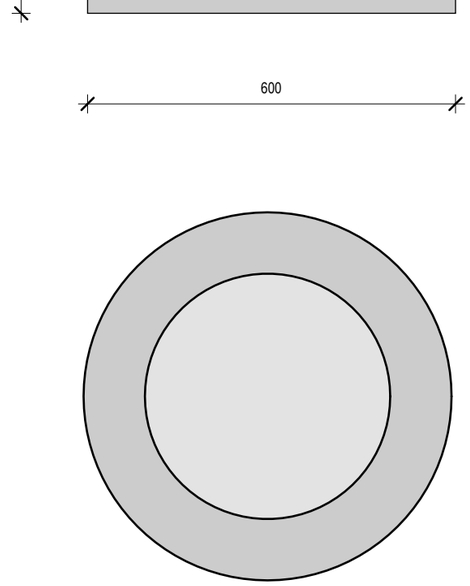
PRECAST CONCRETE SLAB BY TOHERS DESIGNED FOR 3kPA, 4.5kN IMPOSED FLOOR LOAD



1 FOOTING LAYOUT
1 : 50



3 TIE DOWN DETAIL
1 : 20



2 DONUT DETAIL
1 : 10

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **FOOTING LAYOUT**

DRAWN	CHECKED	SCALE	SIZE
VL	KP	As indicated	A3

DRAWING NO. **A10-ST01**

REVISION A

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ELECTRICAL & DATA FIXTURES

300	**BGP-01**	DOUBLE 10A GENERAL PURPOSE OUTLET WALL MOUNTED 300MM AFFL UNLESS NOTED OTHERWISE
300	**BDO-01**	SINGLE COMMUNICATIONS OUTLET RJ45 4 PAIR CAT. 6 UTP
TV 300	**BDO-02**	TV OUTLET
PE	**BPE**	PHOTOELECTRIC CELL
	BPI	800 AFL ISOLATOR WALL MOUNTED
	BSB	DISTRIBUTION BOARD WALL MOUNTED 1800MM AFFL UNLESS NOTED OTHERWISE
	BDL	RECESSED LED LIGHT.
	BWL-01	LED BUNKER LIGHT, SCREW FIXED LUMINARY. WALL MOUNTED.
	BWL-02	LED LAMP LIGHT. WALL MOUNTED.
	BSW-01	MULTI GANG SWITCH
	BSW-01	TWO-WAY SWITCH
1500		DENOTES MOUNTING HEIGHT
	TRE-01	60 LITRE BAR FRIDGE

FIRE DETECTION FIXTURES

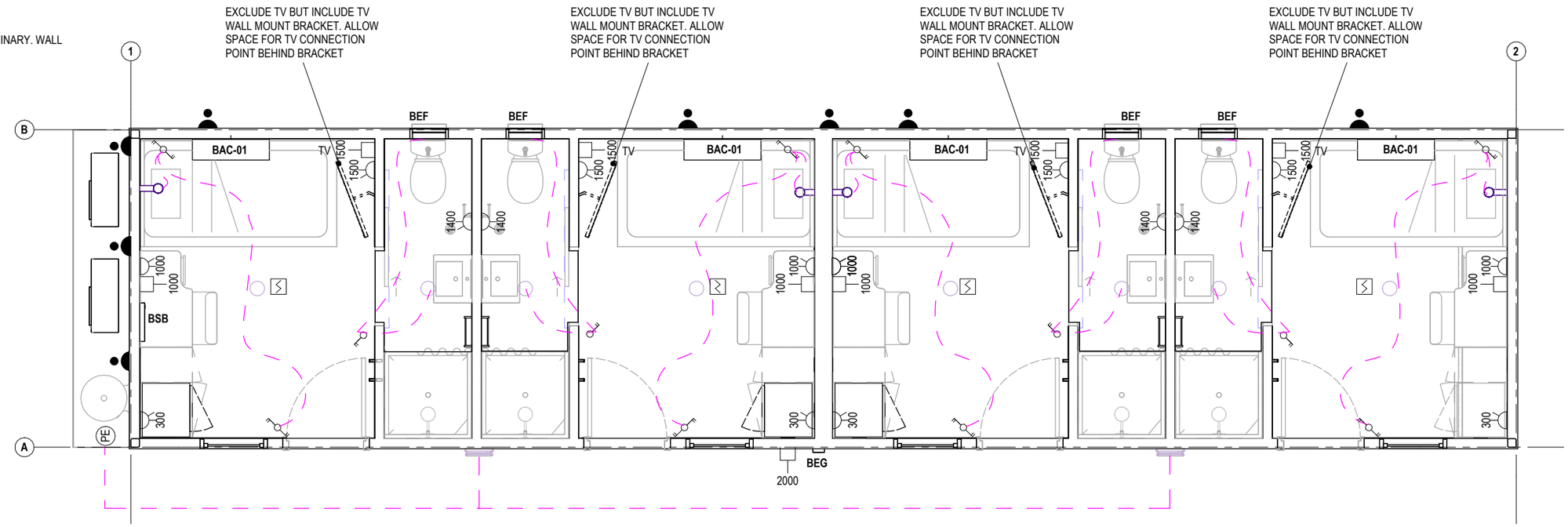
	BSD	SMOKE DETECTOR
	BFE	FIRE EXTINGUISHER
	BAB	FIRE ALARM BELL
	BEG	BREAK GLASS UNIT

MECHANICAL FIXTURES

	BAC-01	SPLIT AIR CONDITIONER UNIT 2.5KW
	BCU-01	AIR CONDITIONER UNIT 2.5KW
	BEF-01	EXHAUST FAN

PLUMBING FIXTURES

	BFW	FLOOR WASTE
	BHS	160L HOT WATER SYSTEM



DRAWING TO BE READ IN CONJUNCTION WITH REFLECTED CEILING PLAN

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1 ELECTRICAL & DATA LAYOUT
1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT STATUS: **ISSUED FOR REVIEW**

PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**

PROJECT ADDRESS: **GINGIN**

SHEET: **ELECTRICAL & DATA**

DRAWN: **VL** CHECKED: **KP** SCALE: **As indicated** SIZE: **A3**

DRAWING NO.: **A11-SR01** REVISION: **A**

DC SIGN OFF:

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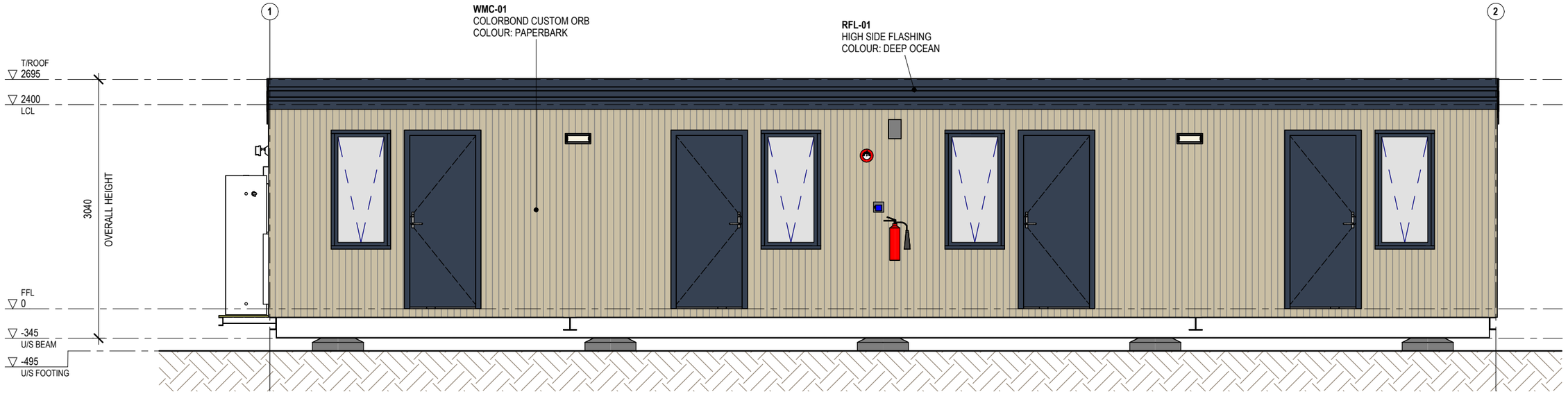
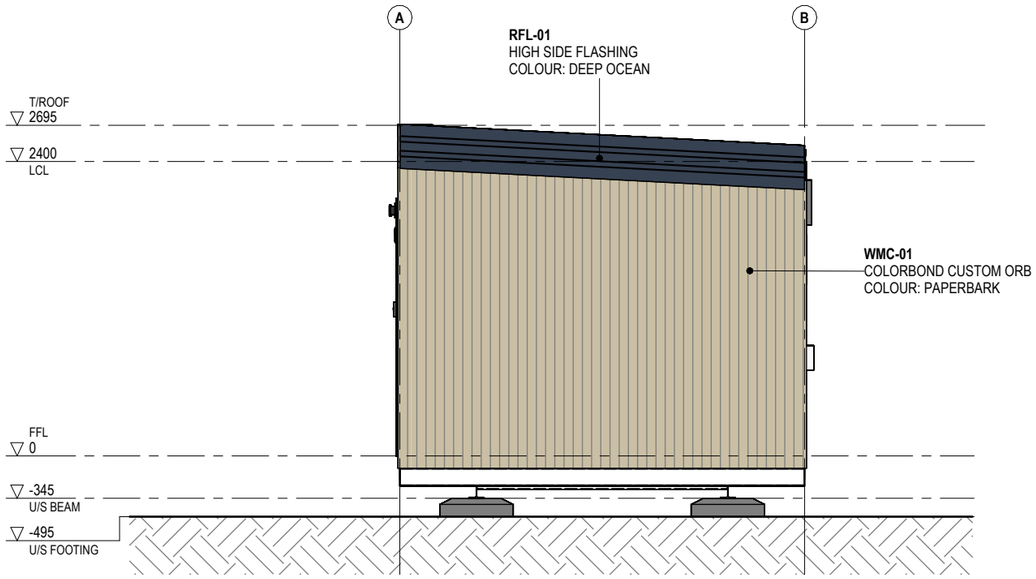


1 | A02-FP01 — FRONT ELEVATION
1 : 50



2 | A02-FP01 — SIDE 1 ELEVATION
1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**
PROJECT ADDRESS: **GINGIN**

SHEET: **EXTERNAL ELEVATION**

DRAWN	CHECKED	SCALE	SIZE
VL	KP	1 : 50	A3

DRAWING NO.: **A03-EL01**
REVISION: A
DC SIGN OFF:

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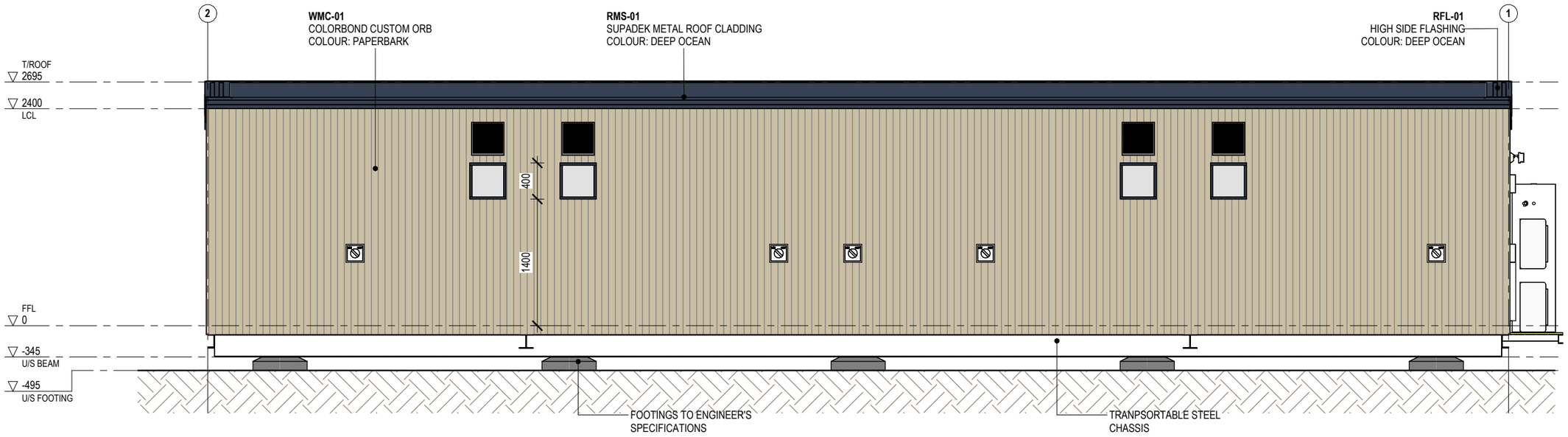
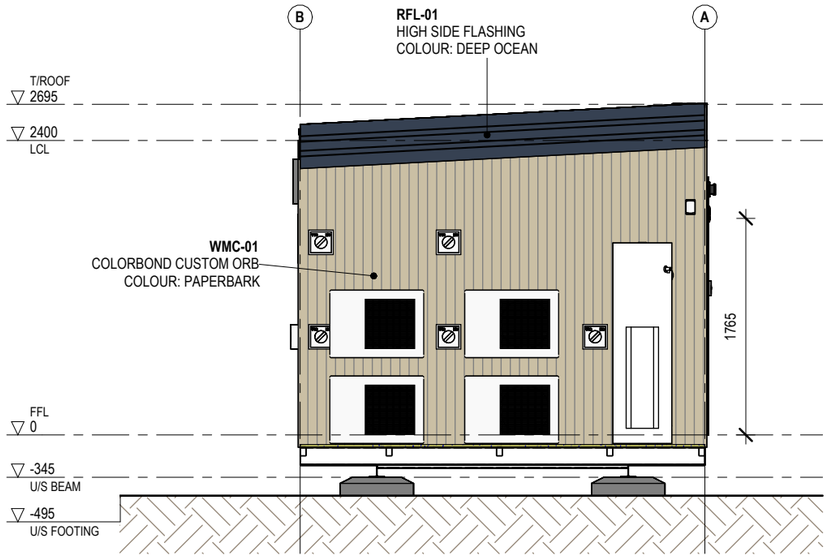


1 | A02-FP01 — REAR ELEVATION
1 : 50



2 | A02-FP01 — SIDE 2 ELEVATION
1 : 50

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

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PROJECT: **4P SPQ**
PROJECT ADDRESS: **GINGIN**

SHEET: **EXTERNAL ELEVATION**
DRAWN: **VL** CHECKED: **KP** SCALE: **1 : 50** SIZE: **A3**
DRAWING NO.: **A03-EL02** REVISION: **A**
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WINDOW NOTES

W#.# — WINDOW TYPE
— WINDOW NUMBER

MODULE NUMBER — M#.## — WINDOW NUMBER

REVEAL SIZE MUST BE 115MM (PLEASE ALLOW TO CUT DOWN).

WINDOWS TO BE 2200 PA / 300 Water.

WINDOWS SHALL BE ALUMINIUM FRAMED NATURAL ANODISED FINISHED.

ALL GLAZING TO COMPLY WITH AS 2047 & AS 1288 GLAZING CODES

WINDOWS REQUIRE TO BE KEY LOCKABLE AS SCHEDULED.

FLYSCREENS TO ALL OPERABLE WINDOWS.

TYPE W1
FRAME: POWDERCOAT ALUMINIUM DEEP OCEAN
OPERATION: AWNING
GLAZING: 5mm TOUGHEND

TYPE W2
FRAME: POWDERCOAT ALUMINIUM DEEP OCEAN
OPERATION: FIXED
GLAZING: 5mm TOUGHEND OBSCURE

WINDOW SCHEDULE - MARK NUMBERED

TYPE	MARK	LOCATION	WIDTH	HEIGHT	GLAZING	WINDOW TYPE	COMMENTS
W1	01	BEDROOM 1	700	1400	CLEAR	AWNING	SECURITY SCREEN & BLINDS
W1	02	BEDROOM 2	700	1400	CLEAR	AWNING	SECURITY SCREEN & BLINDS
W1	03	BEDROOM 3	700	1400	CLEAR	AWNING	SECURITY SCREEN & BLINDS
W1	04	BEDROOM 4	700	1400	CLEAR	AWNING	SECURITY SCREEN & BLINDS
W2	01	BATH 1	400	400	OBSCURED	FIXED	N/A
W2	02	BATH 2	400	400	OBSCURED	FIXED	N/A
W2	03	BATH 3	400	400	OBSCURED	FIXED	N/A
W2	04	BATH 4	400	400	OBSCURED	FIXED	N/A

WINDOW PROCUREMENT SCHEDULE

TYPE	COUNT
W1	4
W2	4

NOTE: BUSHFIRE ATTACK LEVEL 29

DOOR NOTES

D#.## — DOOR TYPE
MK — DOOR NUMBER

D#.## — DOOR TYPE

MODULE NUMBER — ##.## — DOOR NUMBER

DOORS TO BE NOMINAL HEIGHT OF 2040MM UNLESS SPECIFIED.

DOORS GLAZING TO CONFORM TO A.S 1288.

DOOR HARDWARE AS REFERRED TO IN SPECIFICATION.

DOORS TO BE KEYED AS PER SPECIFICATION. MASTER BUILDER KEYS UNLESS NOTED OTHERWISE IN SPECIFICATION.

ALL DOORS TO BE FITTED WITH APPROVED AIR SEALS AS PER SECTION 'J' OF THE BCA.

ALL EXIT DOORS AND DOORS LEADING TO EXITS TO BE PROVIDED WITH COMPLIANT HARDWARE - ie. READILY OPENABLE WITHOUT A KEY FROM THE SIDE THAT FACES EGRESS BY A SINGLE HAND DOWNWARD ACTION ON A SINGLE DEVICE BETWEEN 900MM AND 1.1M FROM THE FFL.

ALL DOORS WILL BE CONTRASTING TO FRAMES IN ACCORDANCE WITH AS1428.1 - 2009

MIN. 530MM LATCH CLEARANCE FROM THE EXTERNAL SIDE OF BOTH ENTRY DOORS.

NOTE: DIMENSIONS ARE TO OPENING IN FRAME. DOOR LEAF TO BE 100mm WIDER

TYPE D1
FRAME: GALV. PRESSED METAL POWDERCOATED DEEP OCEAN
LEAF: METAL CLAD, SOLID TIMBER PANEL.
FINSH COLORBOND EXT DEEP OCEAN, INT DEEP OCEAN.
TYPE: HINGED DOOR
HARDWARE: LEVER TYPE ENTRANCE SET

TYPE D2
FRAME: GALV. PRESSED METAL POWDERCOATED DEEP OCEAN
LEAF: HOLLOW CORE TIMBER DOOR
FINISH: PAINTED DEEP OCEAN
TYPE: INTERNAL SLIDING DOOR
HARDWARE: FACE SLIDER HANDLE

DOOR SCHEDULE - MARK NUMBERED

TYPE	MARK	LOCATION	WIDTH	HEIGHT	DOOR TYPE	LEAF	HARDWARE	COMMENTS
D1	01	BEDROOM 1	820	2040	SWING	SOLID CORE	ENTRANCE SET	FLYSCREEN
D1	02	BEDROOM 2	820	2040	SWING	SOLID CORE	ENTRANCE SET	FLYSCREEN
D1	03	BEDROOM 3	820	2040	SWING	SOLID CORE	ENTRANCE SET	FLYSCREEN
D1	04	BEDROOM 4	820	2040	SWING	SOLID CORE	ENTRANCE SET	FLYSCREEN
D2	01	BATH 1	820	2040	SLIDING	HOLLOW CORE	FACE SLIDER HANDLE	
D2	02	BATH 2	820	2040	SLIDING	HOLLOW CORE	FACE SLIDER HANDLE	
D2	03	BATH 3	820	2040	SLIDING	HOLLOW CORE	FACE SLIDER HANDLE	
D2	04	BATH 4	820	2040	SLIDING	HOLLOW CORE	FACE SLIDER HANDLE	

DOOR PROCUREMENT SCHEDULE

TYPE	TOTAL
D1	4
D2	4

NO.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR REVIEW	14.07.2023	MV	KP

FLEETWOOD AUSTRALIA

1202 Abernethy Rd, Perth Airport WA 6105 | (08) 9281 7500

GENERAL NOTES
1. ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
2. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE DRAWINGS.
3. READ IN CONJUNCTION WITH OTHER DRAWINGS, SPECIFICATIONS & CONSULTANTS DOCUMENTATION.
4. REFER ANY DISCREPANCIES IMMEDIATELY TO THE DESIGNER & AWAIT WRITTEN INSTRUCTION.

PROJECT NO.: **J004099**
PROJECT STATUS: **ISSUED FOR REVIEW**
PROJECT CLIENT: **CBH**

PROJECT: **4P SPQ**
PROJECT ADDRESS: **GINGIN**

SHEET: **DOOR & WINDOW SCHEDULE**

DRAWN	CHECKED	SCALE	SIZE
VL	KP	1 : 100	A3

DRAWING NO.: **A08-SH01**
REVISION: A
DC SIGN OFF:

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

A K Pollock FIEAust CPEng NER APEC engineer IntPE(Aust)

.....

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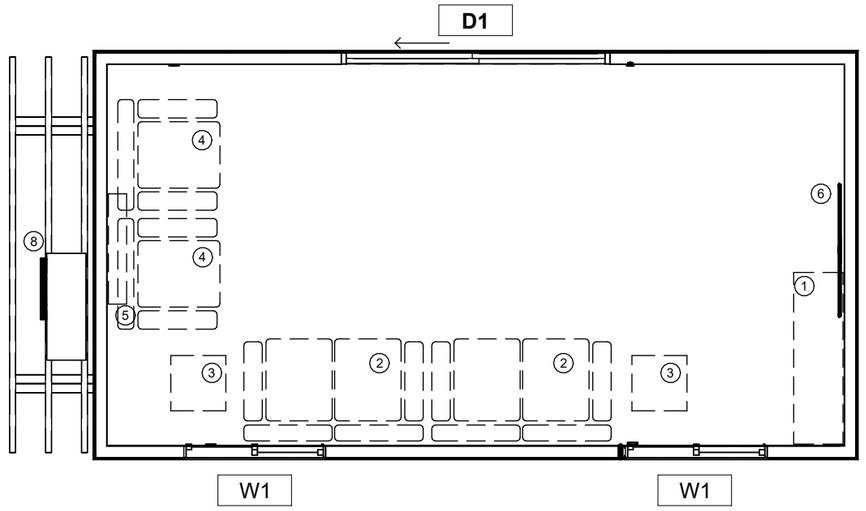

General Arrangement

1 : 50

EQUIPMENT LIST
1. Table (Supplied by CBH)
2. Chair (Supplied by CBH)
3. Side table (Supplied by CBH)
4. Arm chair (Supplied by CBH)
5. AC Wall mounted unit
6. TV screen (Supplied by CBH)
7. TV cabinet (Supplied by CBH)
8. AC condenser

BUILDING CONSTRUCTION - SHORT SPECIFICATION
- Chassis: fabricated structural steel beams; LC100 joists (400c)
- Chassis paint spec: Black zinc enamel (75microns)
- Floor substrate: 22mm durafloor
- Floor covering: Accolade Plus grade vinyl w. coved skirting
- External Walls: 92mm x 1.15bmt steel studwork (600c)
- Internal walls: 92mm x 1.15bmt steel studwork (600c)
- Wall insulation: R2.2 insulation; R0.2 thermal wrap between framing/cladding
- Ceiling insulation: R4.1 ceiling batts
- Floor insulation: R2.2 Rigid insulation board between floor joists
- Roof structure: 92mm x 1.15bmt steel framework (400c)
- External wall cladding: Custom Orb (horizontal)
- Roof cladding: Lysaght trimdek; matching barges, gutters & flashings
- Internal wall cladding: 3.6mm pre-finished Poly Ply
- Ceiling cladding: 3.6mm pre-finished Poly Ply
- Doors: face mounted steel clad door in steel split frames
- Windows: face mounted aluminium sliding windows with 6.52mm laminates glass

BUILDING DESIGN CRITERIA
NCC Class 6 Building
Wind Region A
Climate zone 4

COLOUR SCHEDULE	
Ext. Cladding:	Paperbark
Ext. Cladding (2):	Deep Ocean
Doors:	Deep Ocean
Door frames:	Deep Ocean
Internal Walls:	Embossed White
Ceiling:	Mirage Pearl
Windows:	Deep Ocean
Vinyl:	Blue Bells
Cabinetry:	White
Benches:	Stainless Steel
Blinds:	Charcoal
PVC Skirting:	Black
Cornice Angle:	White Gloss

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

GENERAL ARRANGEMENT PLAN

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A100
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

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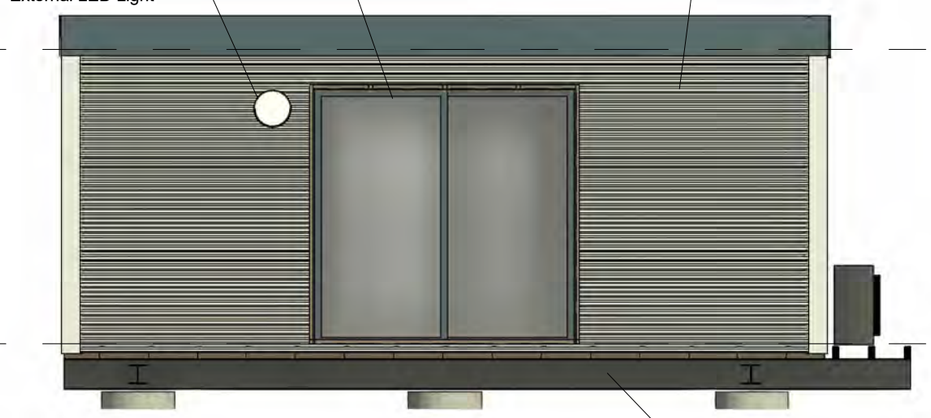
Ceiling Level
2400

Floor Level
0

North
1 : 50



Ceiling Level
2400

Floor Level
0

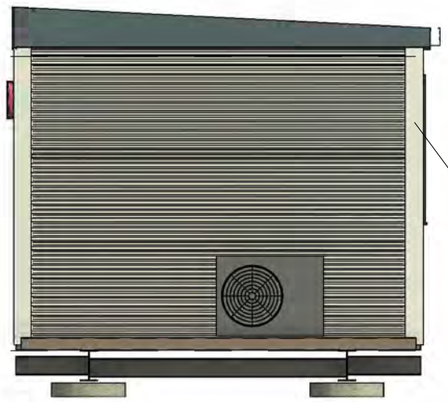
South
1 : 50

Ceiling Level
2400

Floor Level
0

East
1 : 50

West
1 : 50



Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

ELEVATIONS

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A101
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

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APPROVED FOR STRUCTURAL SUFFICIENCY

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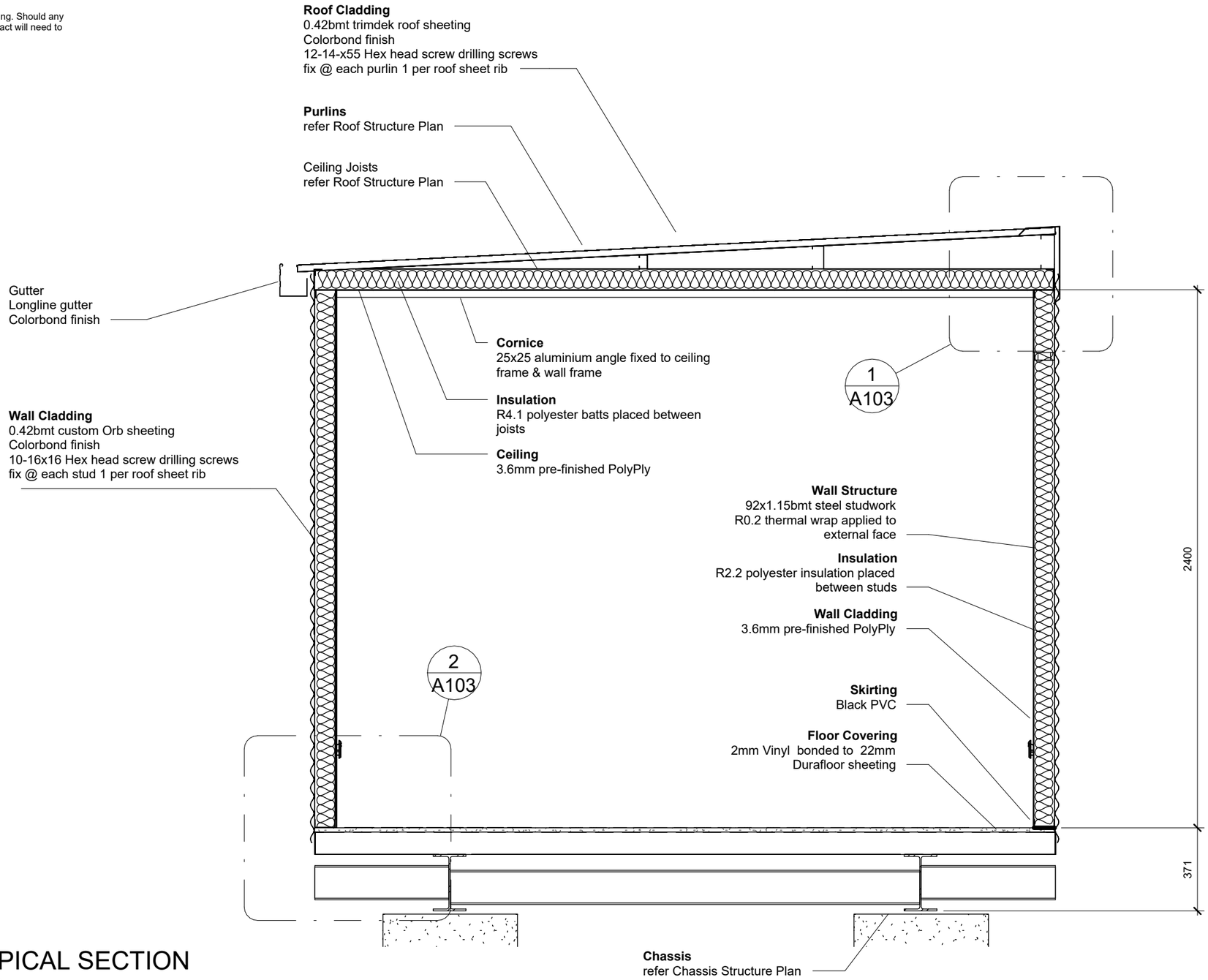


TYPICAL SECTION
1 : 20

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

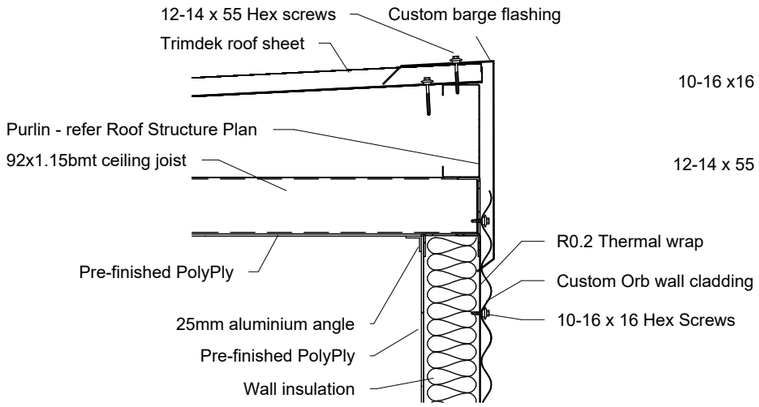
TYPICAL SECTION

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A102
Revision	2

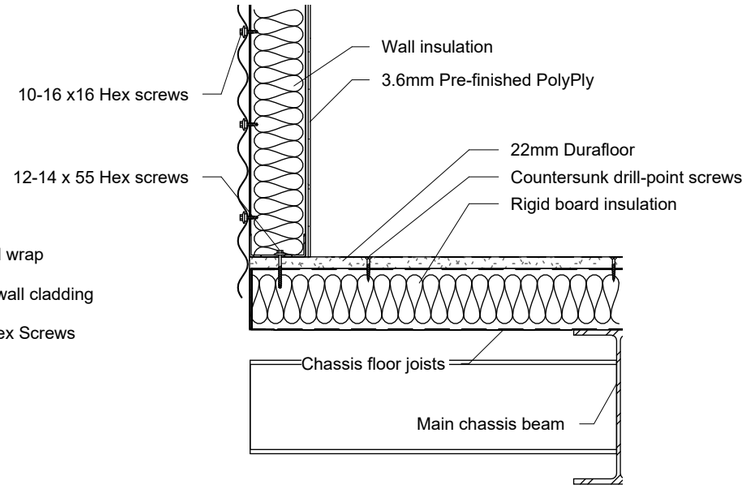
CLIENT APPROVAL

SIGNATURE DATE

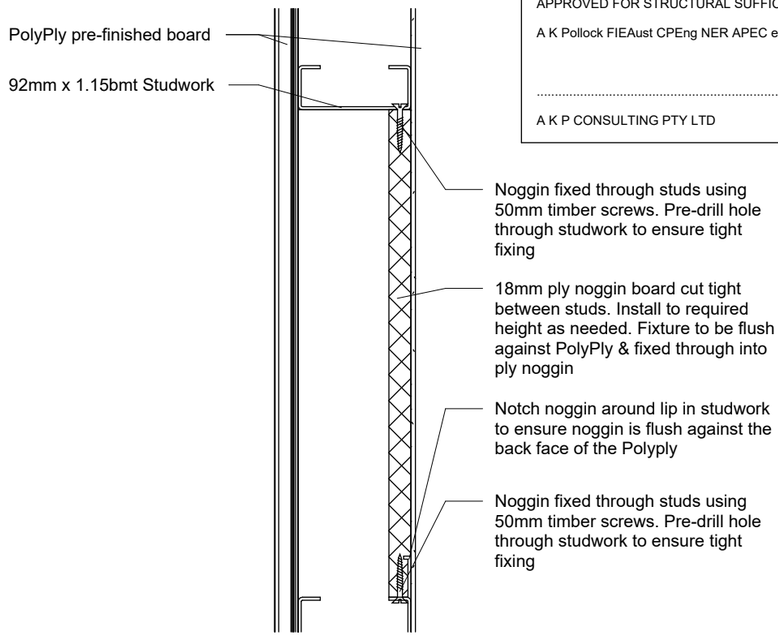
NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.



1 / A102 BARGE DETAIL
1 : 10



2 / A102 FLOOR/WALL DETAIL
1 : 10



TYPICAL NOGGIN DETAIL
1 : 5

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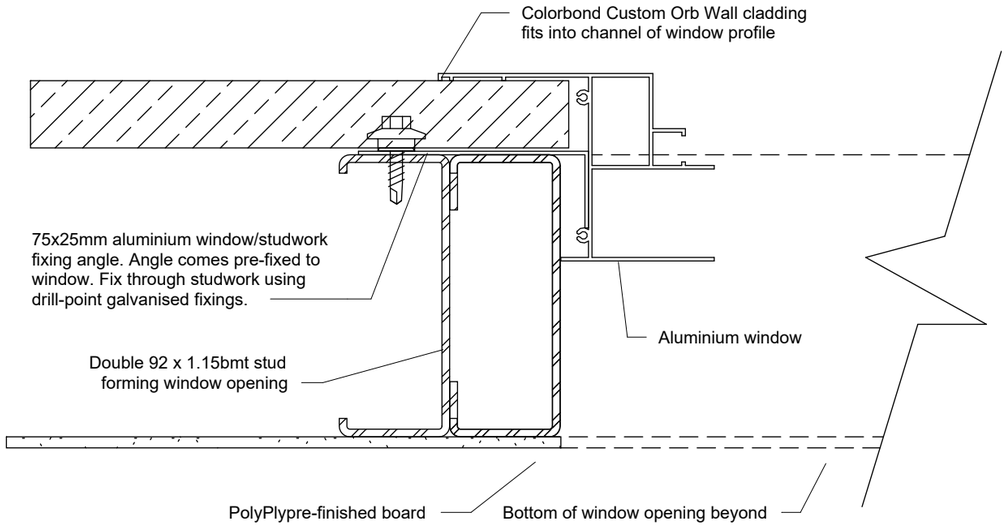


WINDOW SIDE FIXING DETAIL
1 : 2

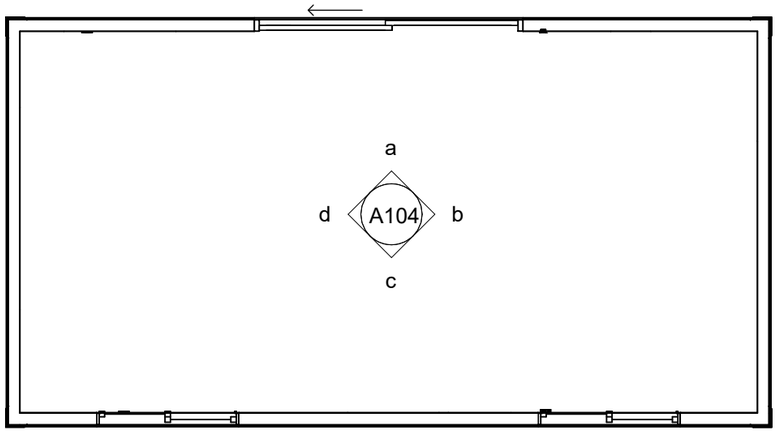
Trigon PROJECTS

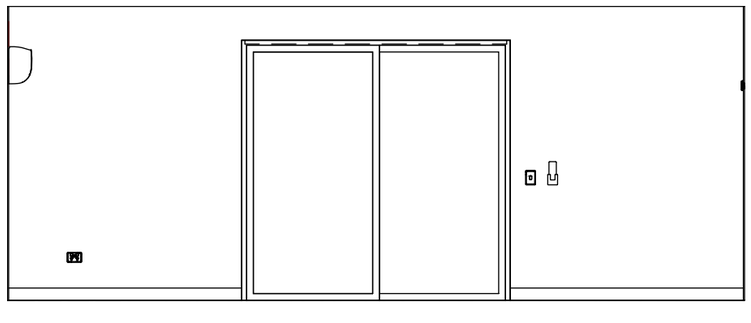
CBH 2024 Accomodation Project

COMMON ROOM

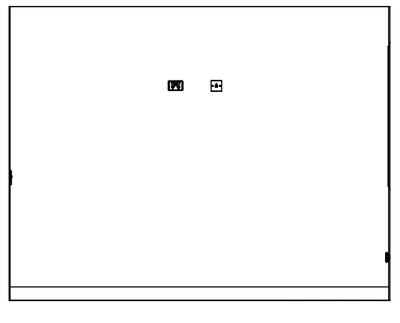
SECTION DETAILS

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A103
Revision	2

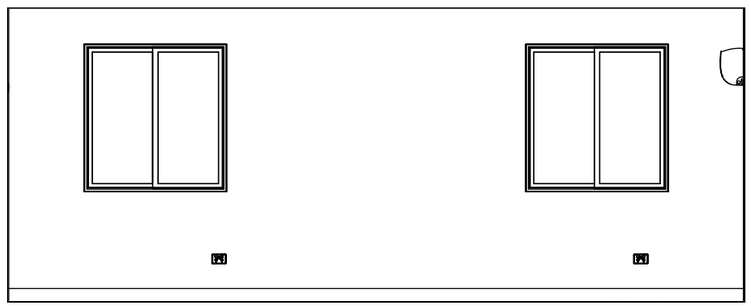




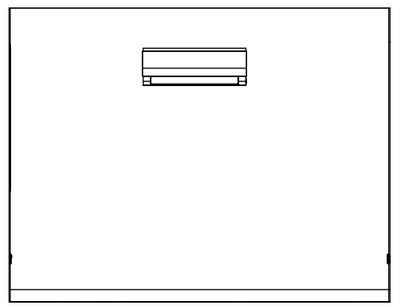
Elevation A
1 : 50



Elevation B
1 : 50



Elevation C
1 : 50



Elevation D
1 : 50

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

INTERNAL ELEVATIONS

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A104
Revision	2

Window Schedule

Mark	Height	Width	Operation	Details	Colour	Count
W1	1200	1156	Face-fit sliding	2 light; 5mm Clear Toughened; 610mm Aluminium mesh flywire	Deep Ocean	2

Door Schedule

Mark	Height	Width	Operation	Details	Colour	Count
D1	2080	2110	Face-fit sliding	2 light; 6mm clear Toughened; vision motif; Aluminium Mesh Flywire; door handle @1055mm; Screen Handle @1200	Deep Ocean	1

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

SCHEDULES

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A105
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

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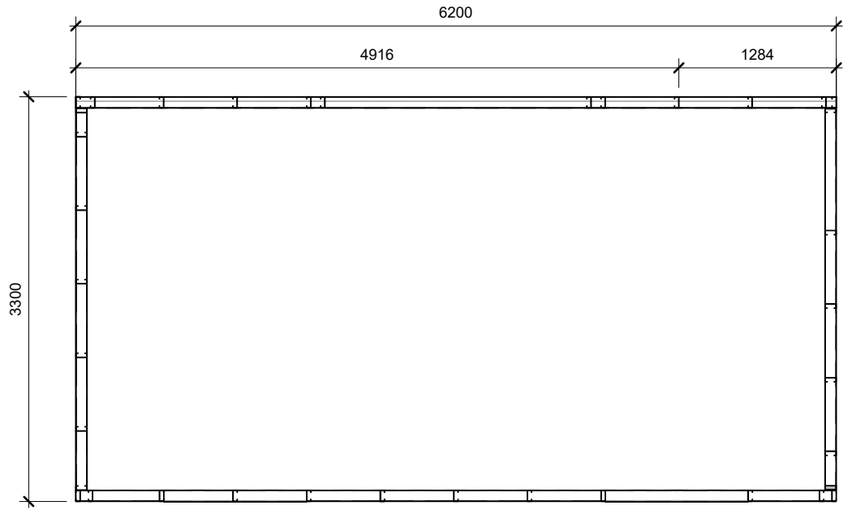
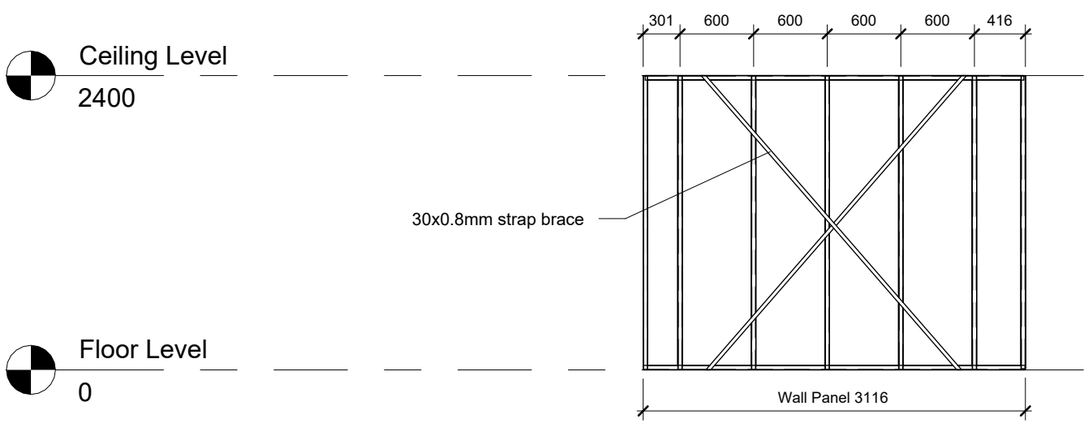


Wall Layout

1 : 50

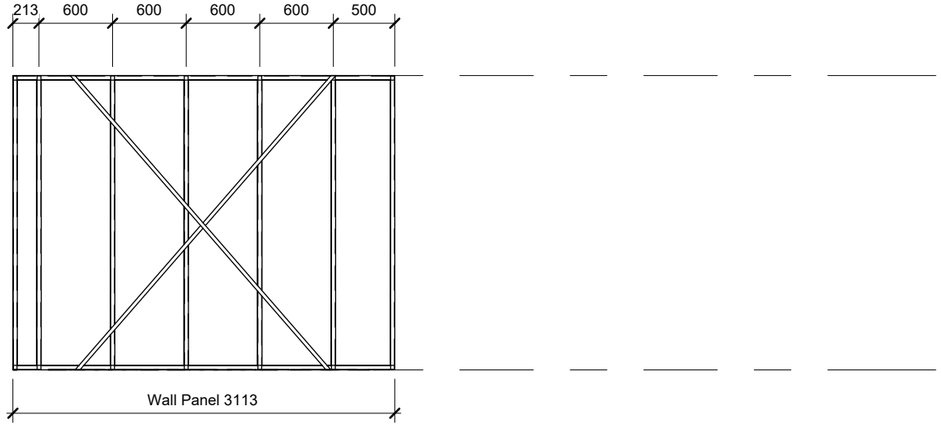
NOTES

- All stud/track framing components fixed together using drill point metal screws



East Wall Frame

1 : 50



West Wall Frame

1 : 50

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

WALL LAYOUT PLAN & ELEVATIONS

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A200
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

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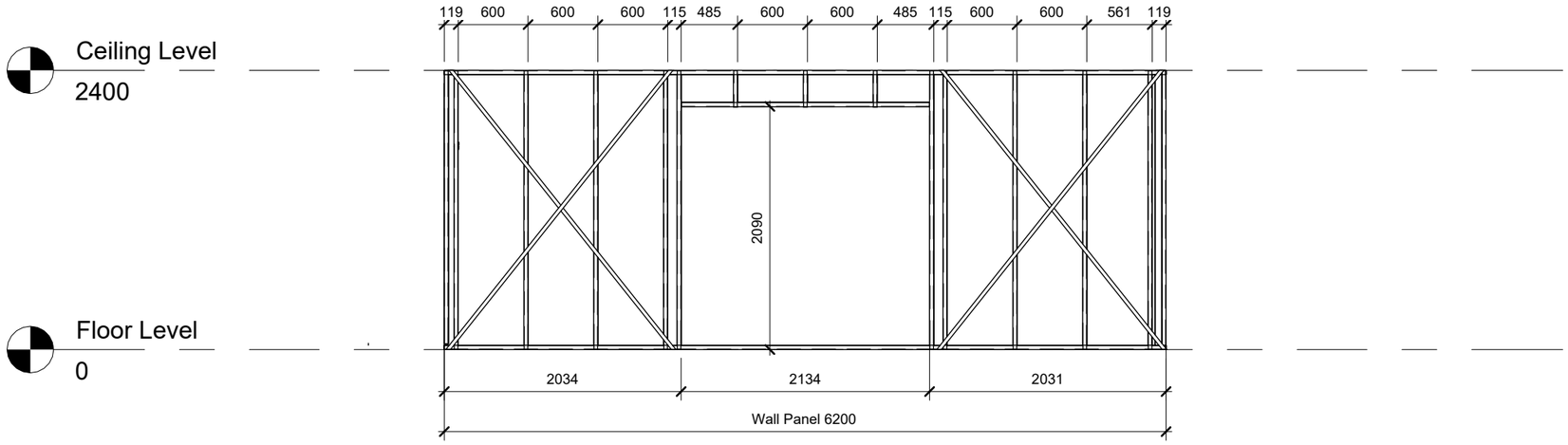
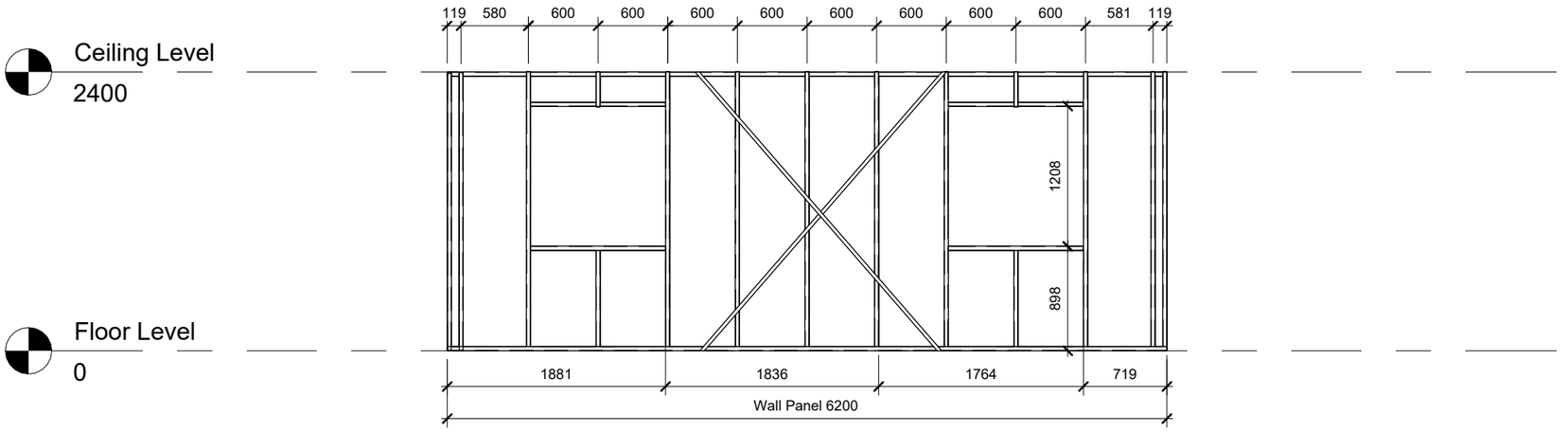




South Wall Frame

1 : 50

NOTES

- All stud/track framing components fixed together using drill point metal screws

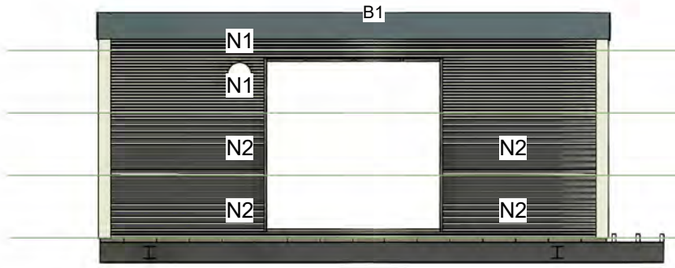
Trigon PROJECTS

CBH 2024 Accomodation Project

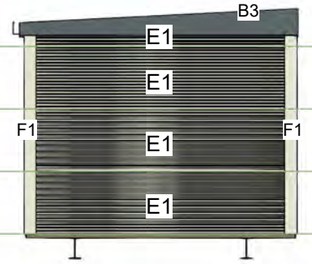
COMMON ROOM

WALL LAYOUT ELEVATIONS

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A201
Revision	2

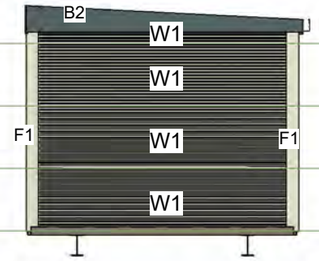


North Cladding Layout
1 : 75

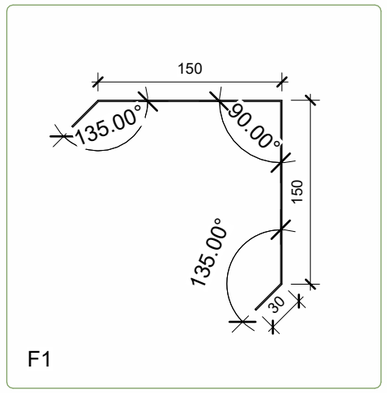


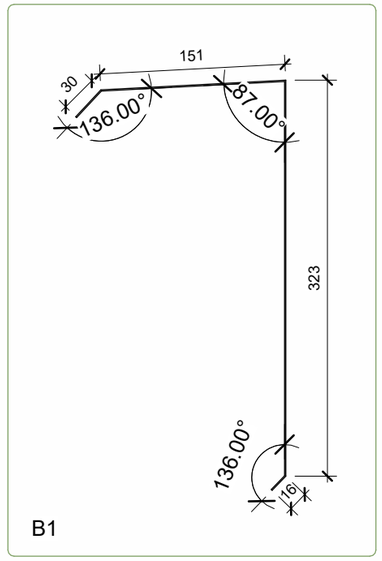
East Cladding Layout
1 : 75

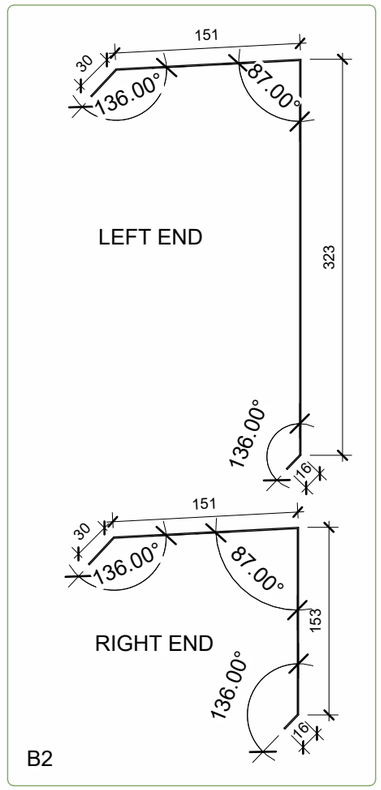
South Cladding Layout
1 : 75

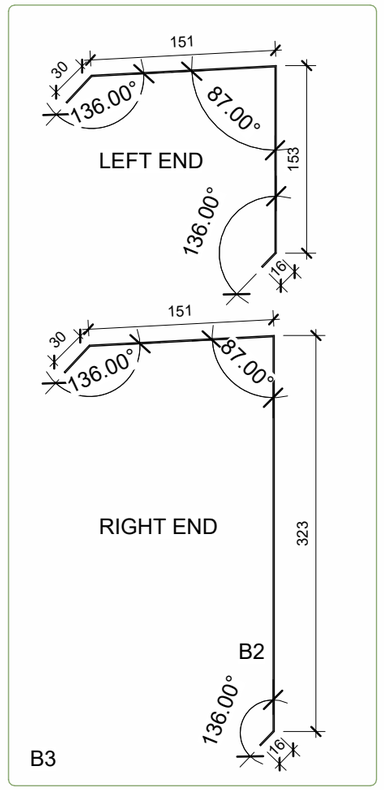


West Cladding Layout
1 : 75









TYPE	MARK	DIM (mm)	CNT
Custom Orb Paperbark	N1	6200	2
Custom Orb Paperbark	N2	2031	4
Custom Orb Paperbark	E1	3300	4
Custom Orb Paperbark	S1	6200	4
Custom Orb Paperbark	W1	3300	4
Barge Flashing (see detail)	B1	6600	1
Barge Flashing (see detail)	B2	3400	1
Barge Flashing (see detail)	B3	3400	1
Easiline Commercial Gutter Deep Ocean	G1	6200	1
D/Pipe 100x50 Paperbark	DP	2400	2
Monoclad Deep Ocean	R1	3380	9
Corner Flashing (see detail)	F1	2700	4
Astragal 100x50 Paperbark			6
Nozzle/Pop 100x50 Zincalume			2
Easiline gen Pur Bracket (gal)			7
Easiline Gutter Stop End (Left)			1
Easiline Gutter Stop End (Right)			1

Trigon PROJECTS

CBH 2024 Accomodation Project

COMMON ROOM

CLADDING LAYOUT PLAN

Project number	Project Number
Date	15/06/2023
Drawn by	TB
Drawing number	A300
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

A K Pollock FIEAust CPEng NER APEC engineer IntPE(Aust)

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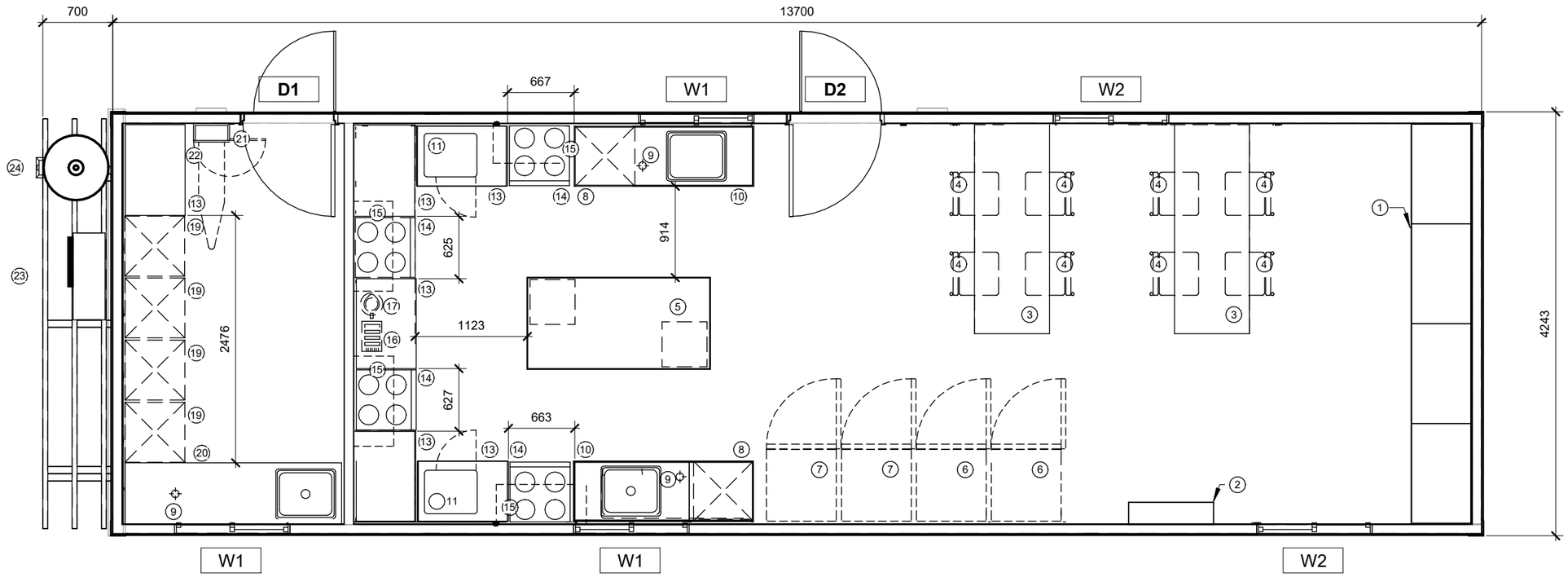
A K P CONSULTING PTY LTD



General Arrangement

1 : 50

EQUIPMENT LIST
1. 2200mm high white melamine cupboardsw 5 adjustable shelves
2. AC Wall Mounted Unit
3. Table (Supplied by CBH)
4. Chair (Supplied by CBH)
5. Stainless steel bench with 2 sets of 2 lockable drawers on opposing corners as per layout - 1829Lx914Wx900H
6. Nom 500L freezer (Supplied by CBH)
7. Nom 500L fridge (Supplied by CBH)
8. Dishwasher Supply - Cold water (dishwasher supplied by CBH)
9. Floor Waste
10. Stainless steel benchw intergrated sink & splashback-1800Lx610Wx900H
11. Microwave on wall mounted SS shelf (Microwave supplied by CBH)
13. Stainless steel bench - 914Lx610Wx900H
14. 4 Burner SS gas stove & oven (Supplied by CBH)
15. 900mm Cooker hood (supplied by CBH)
16. Toaster (supplied by CBH)
17. Kettle (Supplied by CBH)
19. Washing machine supply 600 wide (Washing machine supplied by CBH)
20. Stainless steel benchw integrated sink & splashback-2170Lx610Wx900H
21. Wall mounted Ironing board
22. 15L rubbish bin (Supplied by CBH)
23. AC condenser
24. 300L hot water unit

BUILDING CONSTRUCTION - SHORT SPECIFICATION
- Chassis: fabricated structural steel beams; LC100 joists (400c)
- Chassis paint spec: Black zinc enamel (75microns)
- Floor substrate: 22mm Durafloor
- Laundry/kitchen floor covering: Accolade Safe vinyl w. coved skirting
- Dining/Lounge floor covering: Accolade Plus vinyl w. coved skirting
- External Walls: 92mm x 1.15bmt steel studwork (600c)
- Internal walls: 92mm x 1.15bmt steel studwok (600c)
- Wall insulation: R2.2 insulation; R0.2 thermal wrap between framing/cladding
- Ceiling insulation: R4.1 ceiling batts
- Floor insulation: R2.2 Rigid insulation board between floor joists
- Roof structure: 92mm x 1.15bmt steel framework (400c)
- External wall cladding: Custom Orb (horizontal)
- Roof cladding: Lysaght trimdek; matching barges, gutters & flashings
- Internal wall cladding: 3.6mm pre-finished Poly Ply
- Ceiling cladding: 3.6mm pre-finished Poly Ply
- Doors: face mounted steel clad door in steel split frames
- Windows: face mounted aluminium sliding windows with 6.52mm laminates glass

BUILDING DESIGN CRITERIA
NCC Class 6 Building
Wind Region A
Climate zone 4

COLOUR SCHEDULE	
Ext. Cladding:	Paperbark
Ext. Cladding (2):	Deep Ocean
Doors:	Deep Ocean
Door frames:	Deep Ocean
Internal Walls:	Embossed White
Ceiling:	Mirage Pearl
Windows:	Deep Ocean
Vinyl:	Blue Bells
Cabinetry:	White
Benches:	Stainless Steel
Blinds:	Charcoal
PVC Skirting:	Black
Cornice Angle:	White Gloss

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

GENERAL ARRANGEMENT PLAN

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A100
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

A K Pollock FIEAust CPEng NER APEC engineer IntPE(Aust)

.....

A K P CONSULTING PTY LTD

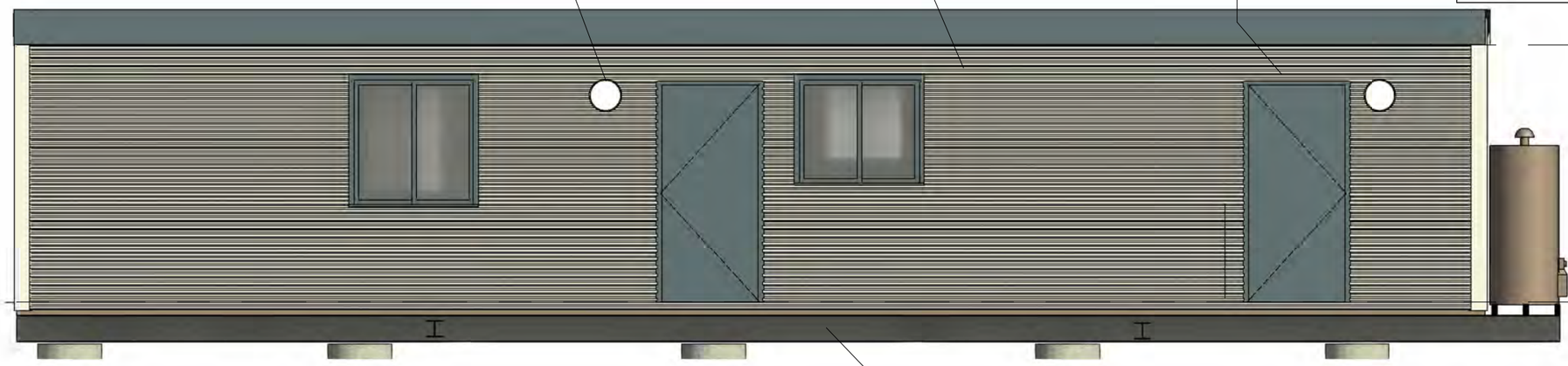
Ceiling Level
2400

Floor Level
0

External LED lights

Windows: Face fixed P/C in Colorbond Deep Ocean

External door: metal clad in colorbond Deep Ocean with fly-screen door



Structural Chassis below - see Chassis Structure plan for details

North
1 : 50

Roof cladding: Monoclad in Colorbond Deep Ocean

Ceiling Level
2400

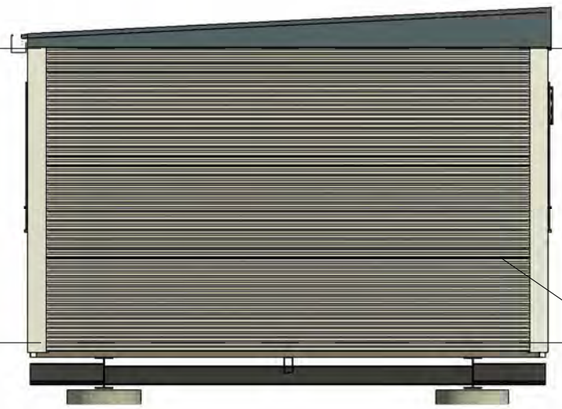
Hot Water System

Floor Level
0

A/C Condenser

South
1 : 50

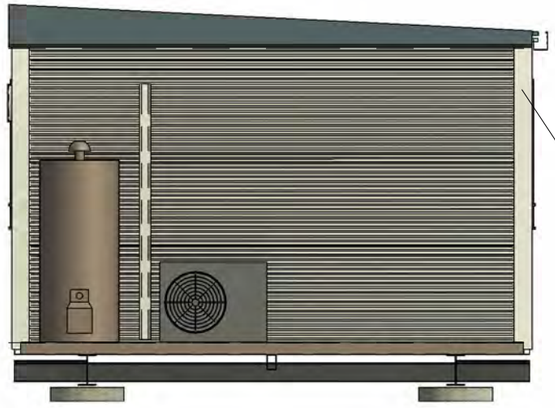
Ceiling Level
2400



Wall cladding Custom Orb Colorbond Paperbark

East
1 : 50

Floor Level
0



Flashings: Colorbond 0.55bmt. Colours as per schedule on A300

West
1 : 50

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

ELEVATIONS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A101
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

NOTE: These drawings have been approved for manufacturing. Should any changes need to be made after the approved date, the contract will need to be reviewed.

APPROVED FOR STRUCTURAL SUFFICIENCY

A K Pollock FIEAust CPEng NER APEC engineer IntPE(Aust)

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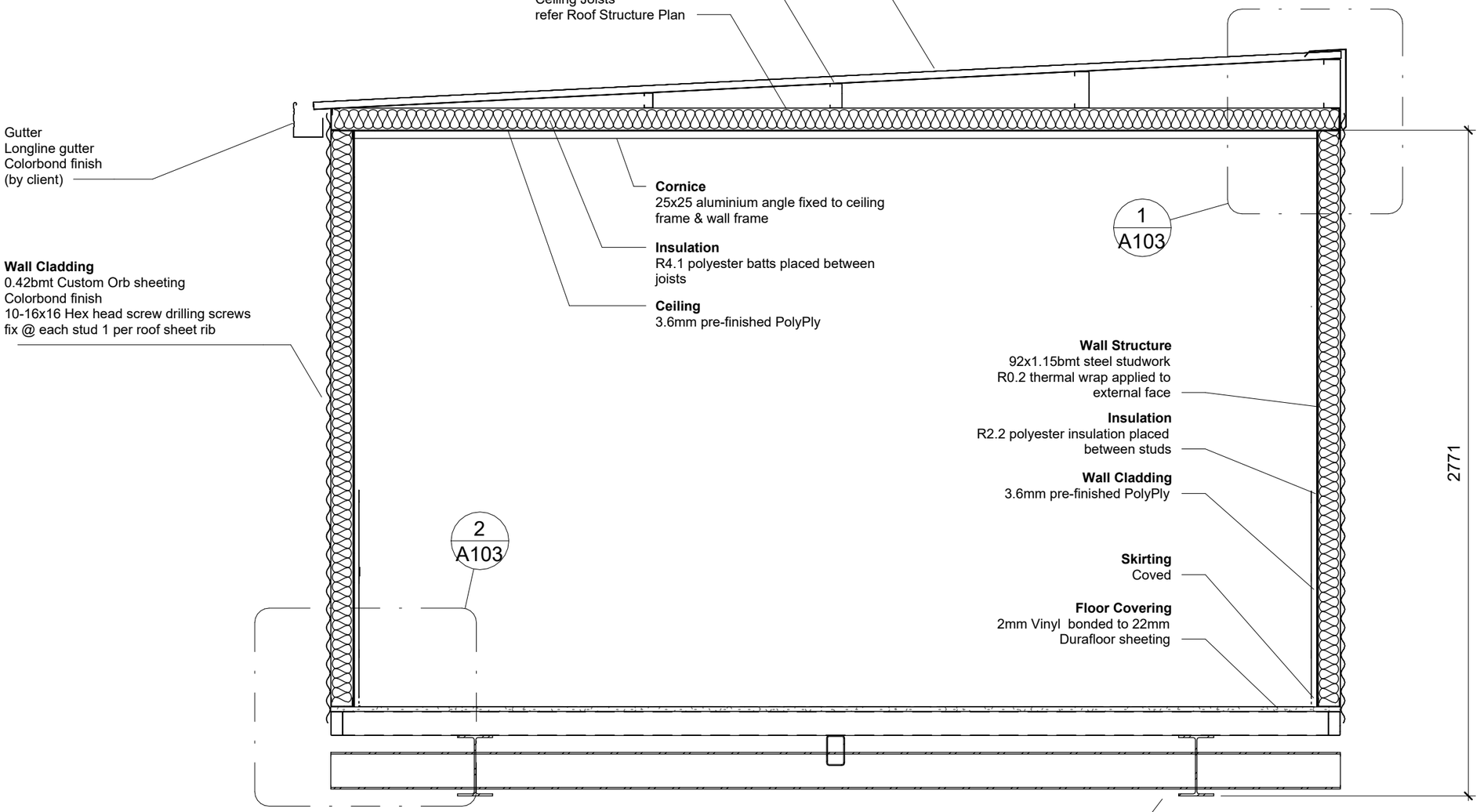

TYPICAL SECTION
1 : 20

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

TYPICAL SECTION

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A102
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

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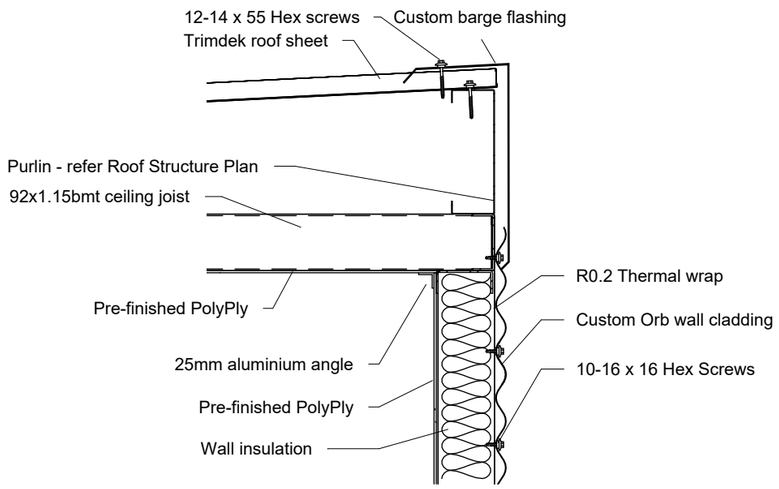
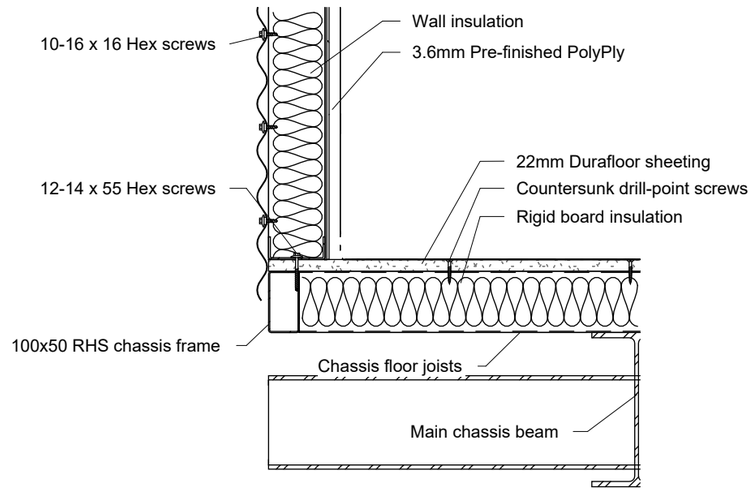
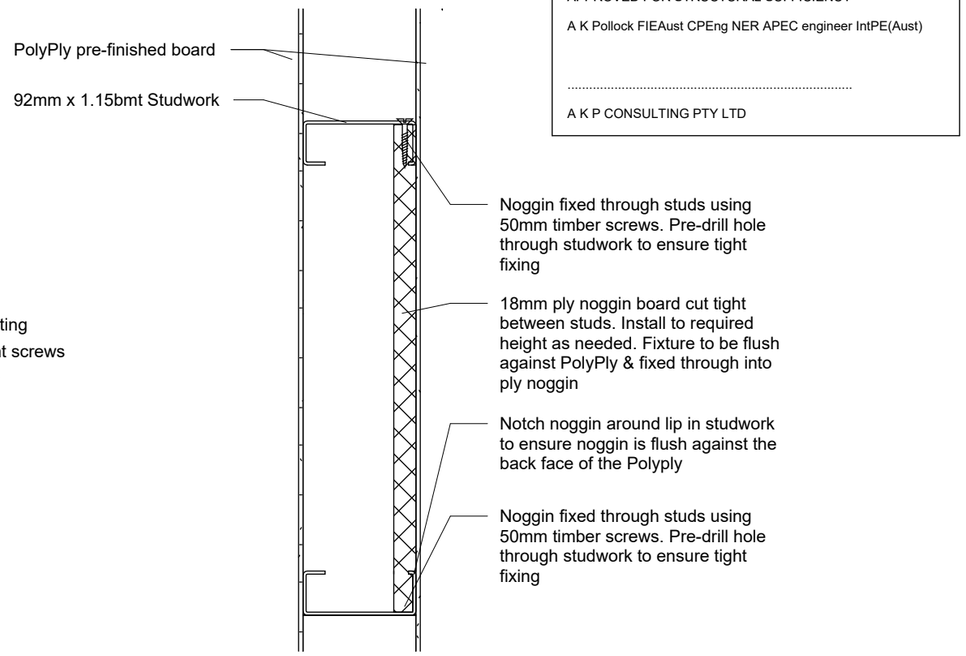


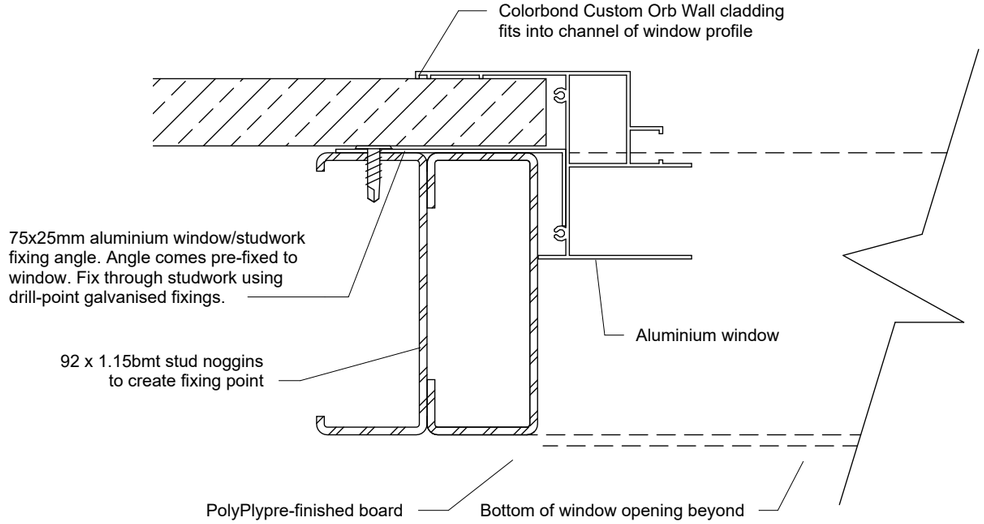
1 A102 BARGE DETAIL
1 : 10



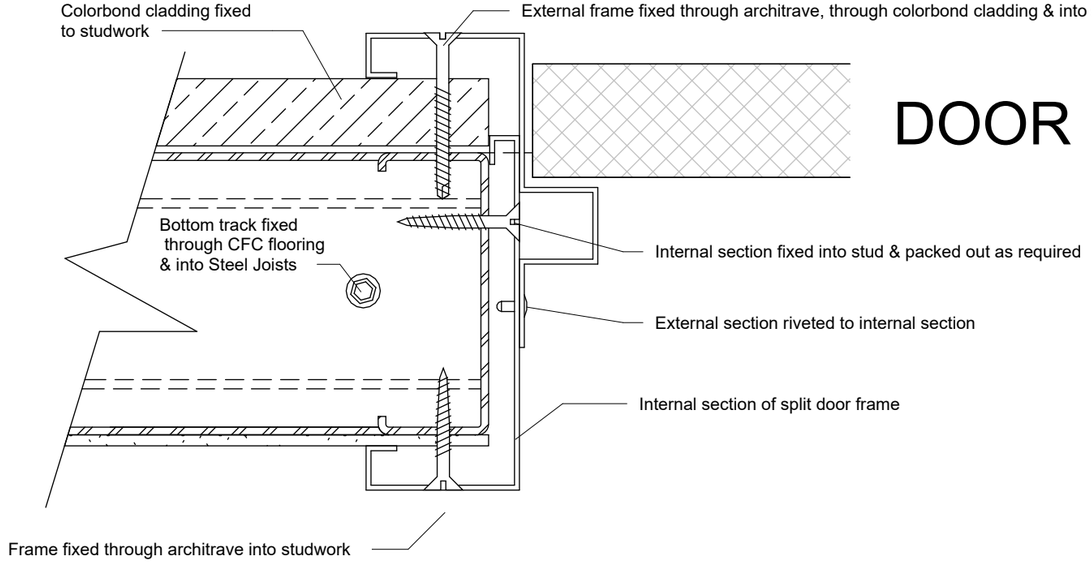
2 A102 FLOOR/WALL DETAIL
1 : 10



TYPICAL NOGGIN DETAIL
1 : 5



WINDOW SIDE FIXING DETAIL
1 : 2



SPLIT DOOR FRAME FIXING DETAIL

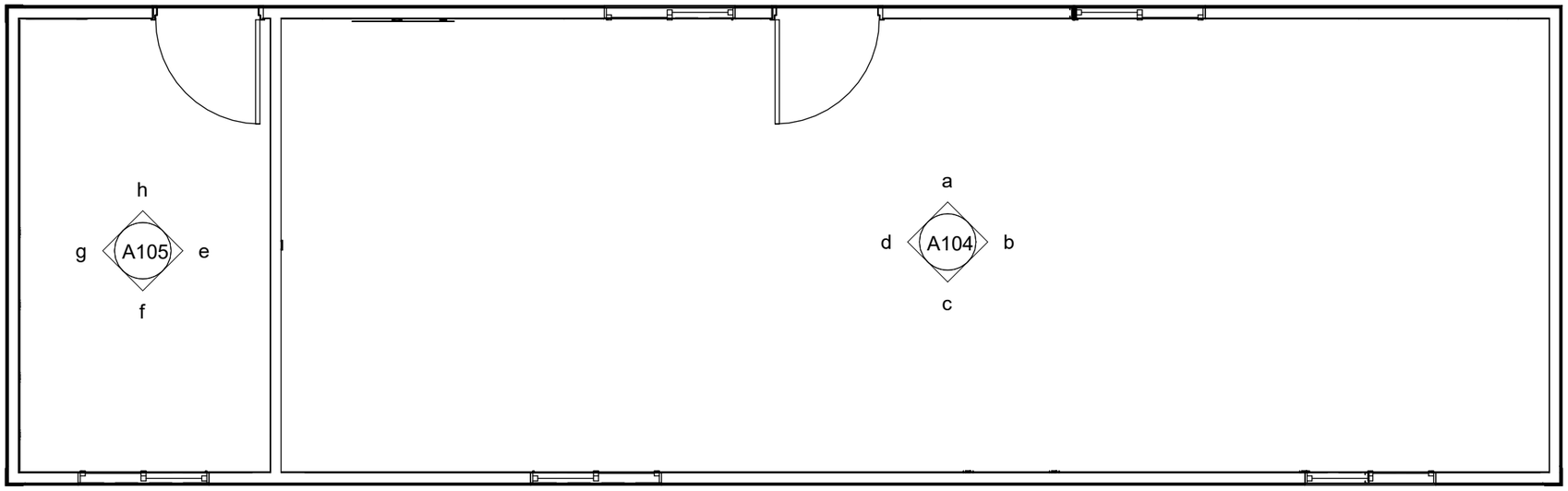
Trigon PROJECTS

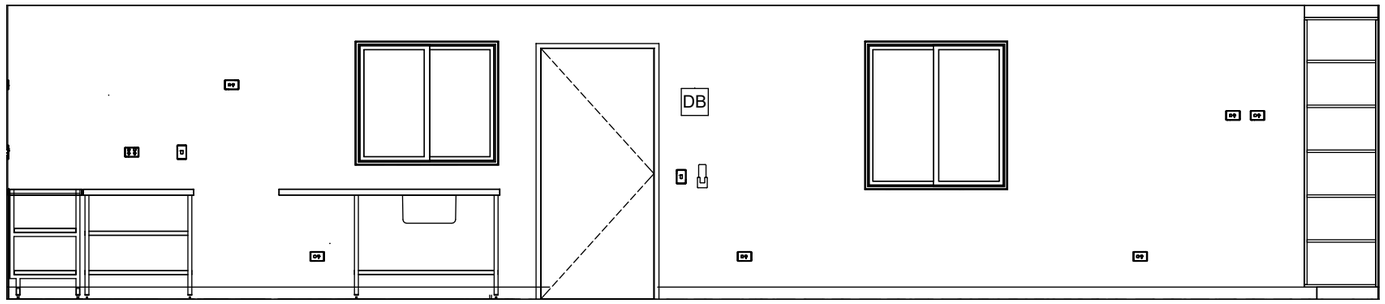
CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

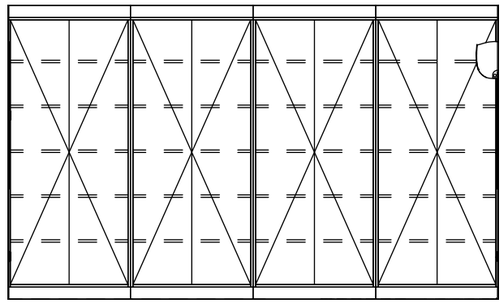
SECTION DETAILS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A103
Revision	2

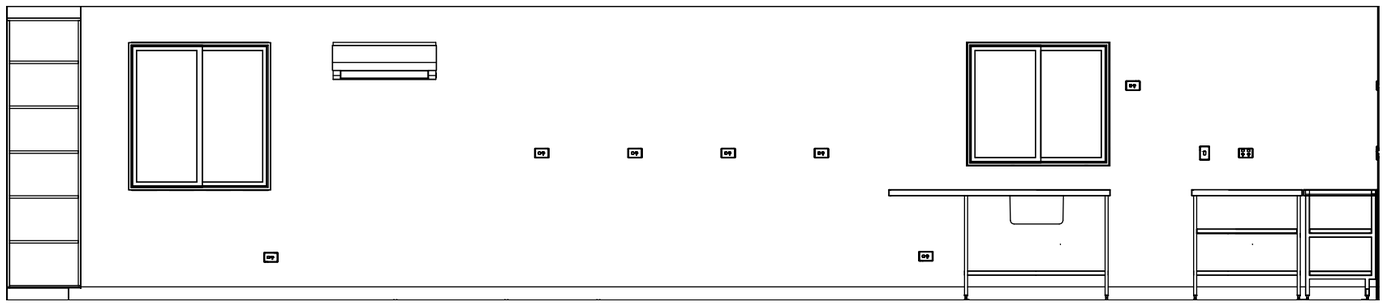




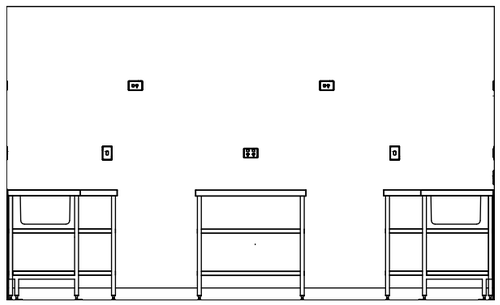
Elevation A
1 : 50



Elevation B
1 : 50



Elevation C
1 : 50



Elevation D
1 : 50

Trigon PROJECTS

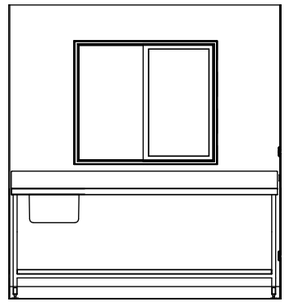
CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

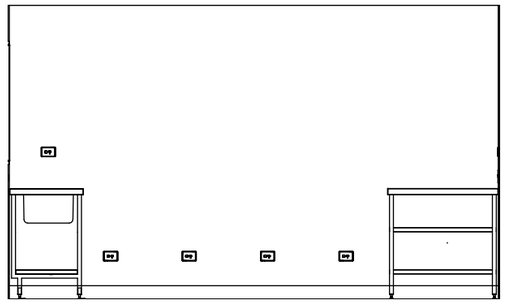
INTERNAL ELEVATIONS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A104
Revision	2

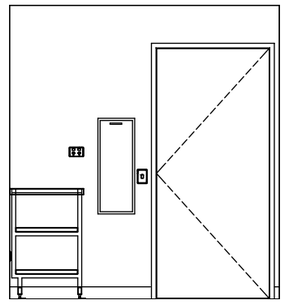
Elevation E
1 : 50



Elevation F
1 : 50



Elevation G
1 : 50



Elevation H
1 : 50

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

INTERNAL ELEVATIONS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A105
Revision	2

Window Schedule

Mark	Height	Width	Operation	Details	Colour	Count
W1	1000	1156	Face-fit sliding	2 light; 5mm Clear Toughened; 610mm Aluminium mesh flywire	Deep Ocean	3
W2	1200	1156	Face-fit sliding	2 light; 5mm Clear Toughened; 610mm Aluminium mesh flywire	Deep Ocean	2

Door Schedule

Mark	Height	Width	Operation	Details	Frame Type	Door Type	Door Colour	Frame/screen Colour	Count
D1	2040	920	Single Swing Right Hand	Carbine PS4000-6000 Series Entrance Set (knob/lever - Escape function); Kilaro fixed door bottom seal; Aluminium mesh fly screen	2 Piece portable building frame	37mm Medium Density Polystyrene Core	Deep Ocean	Deep Ocean	1
D2	2040	920	Single Swing Left Hand	Carbine PS4000-6000 Series Entrance Set (knob/lever - Escape function); Kilaro fixed door bottom seal; Aluminium mesh fly screen	2 Piece portable building frame	37mm Medium Density Polystyrene Core	Deep Ocean	Deep Ocean	1

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

SCHEDULES

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A106
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

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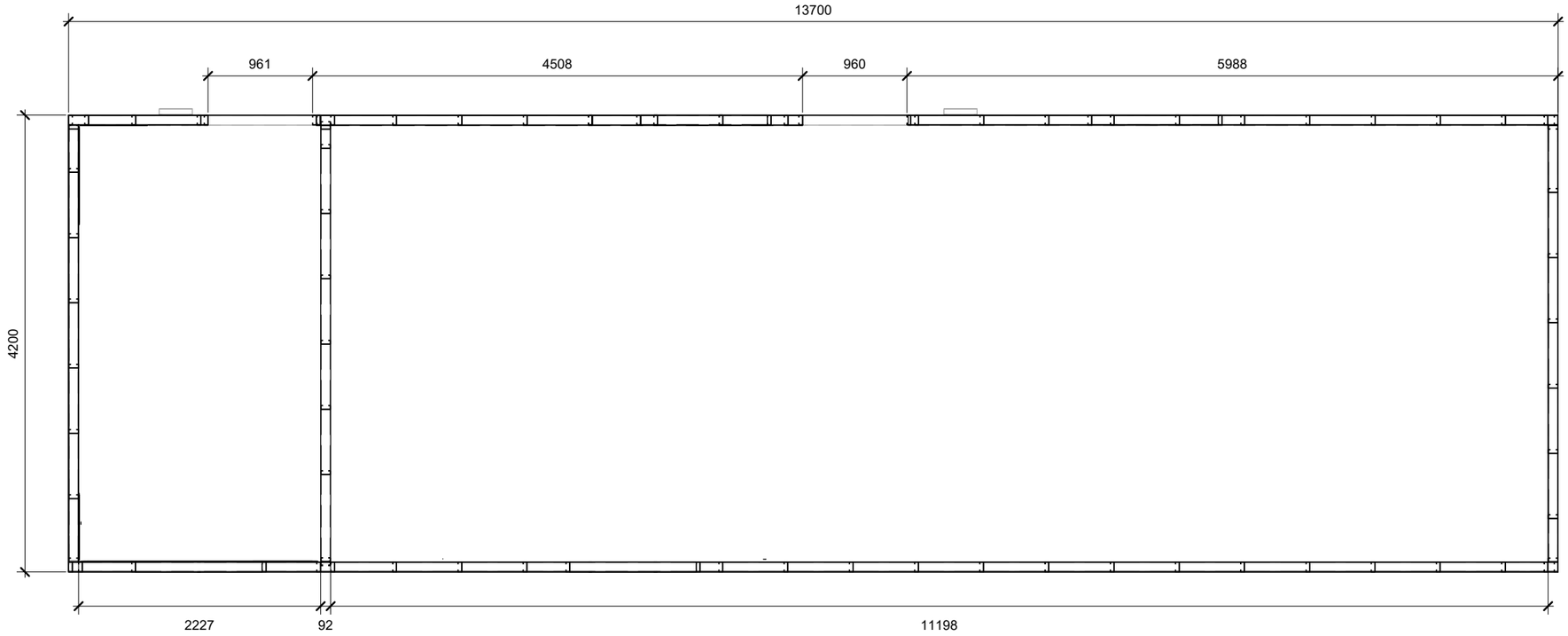
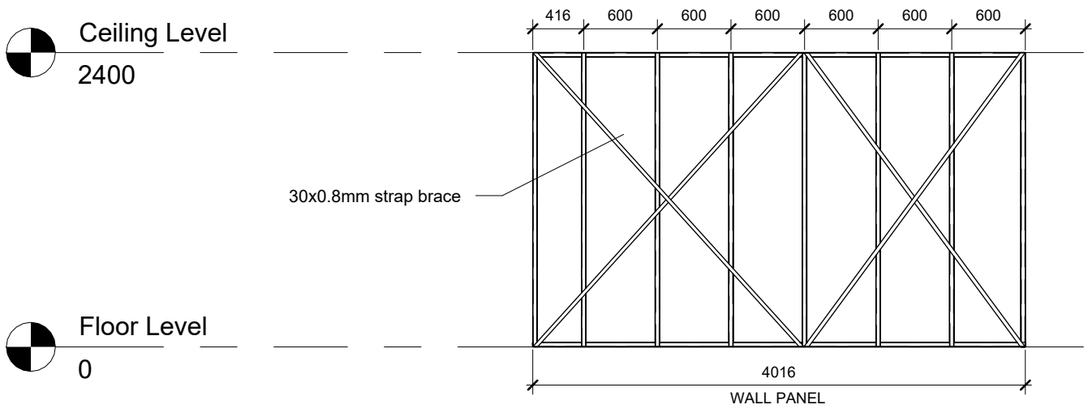


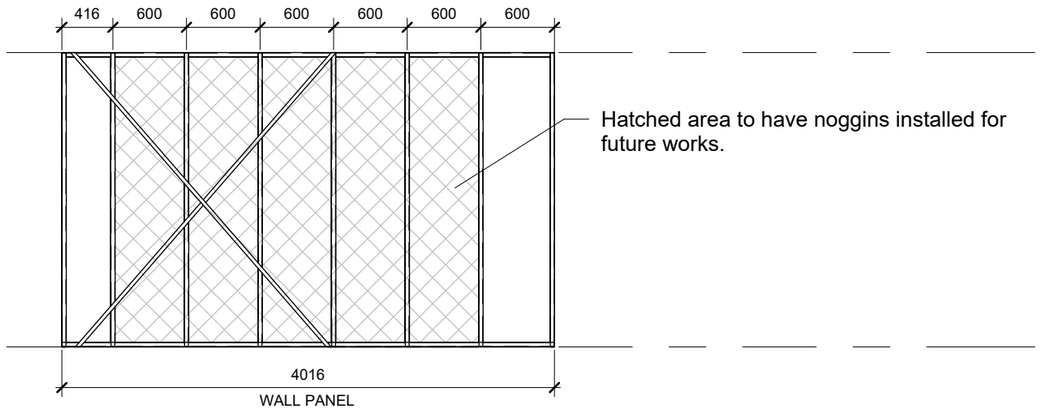
Wall Layout
1 : 50

NOTES

- All stud/track framing components fixed together using drill point metal screws



East Wall Frame
1 : 50



West Wall Frame
1 : 50

Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

WALL LAYOUT PLAN & ELEVATIONS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A200
Revision	2

CLIENT APPROVAL

SIGNATURE DATE

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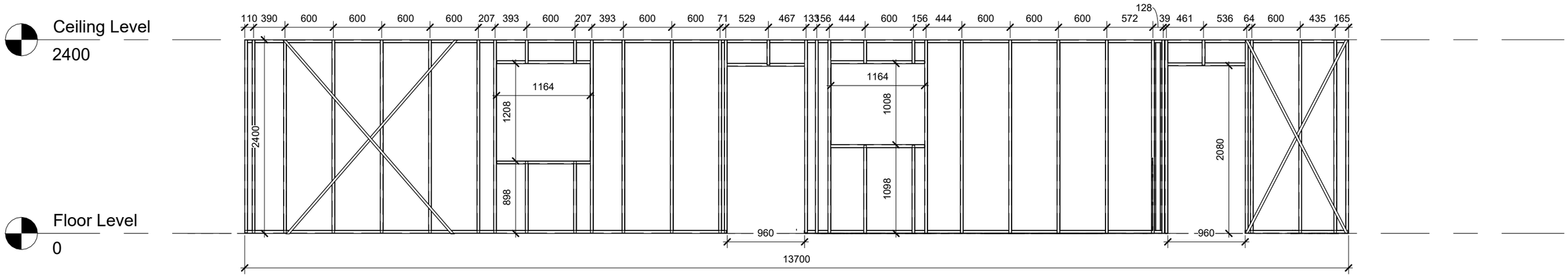
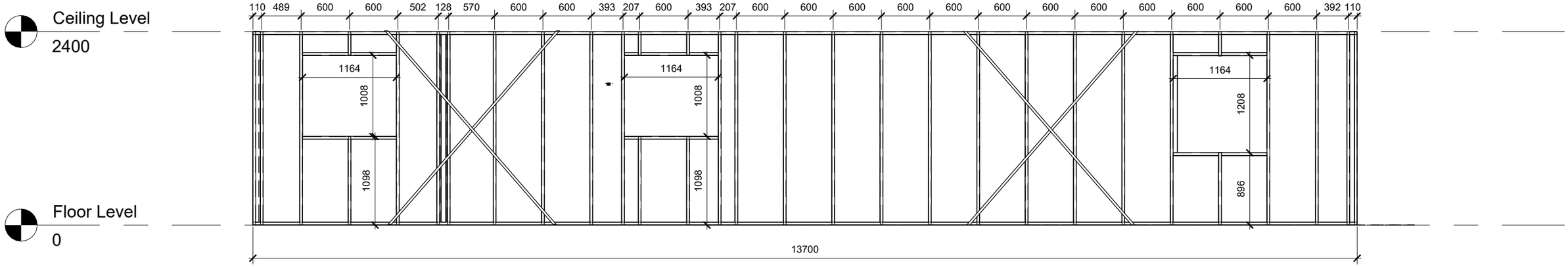


North Wall Frame

1 : 50

NOTES

- All stud/track framing components fixed together using drill point metal screws



South Wall Frame

1 : 50

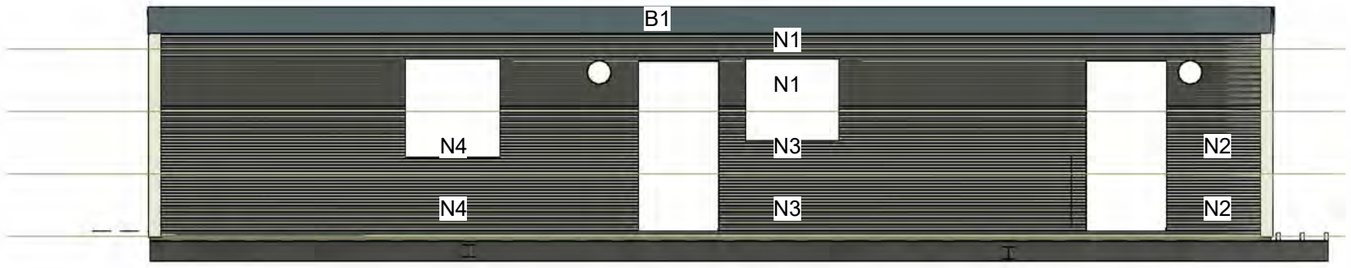
Trigon PROJECTS

CBH 2024 Accomodation Project

KITCHEN, DINING, LAUNDRY UNIT

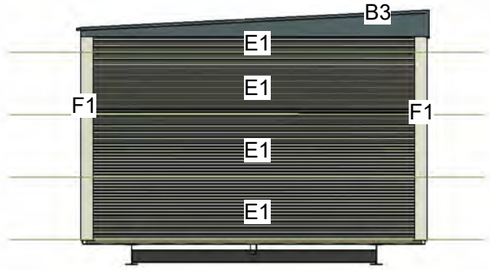
WALL LAYOUT ELEVATIONS

Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A201
Revision	2



North Sheet Layout

1 : 75

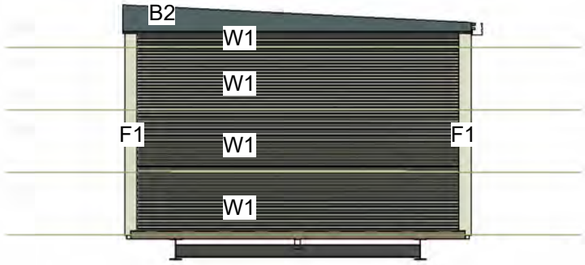


East Sheet Layout

1 : 75

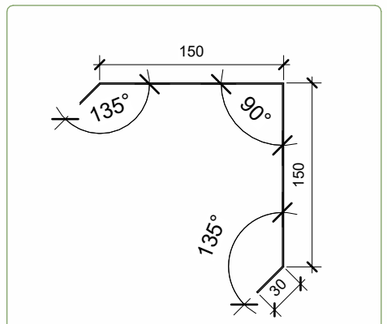
South Sheet Layout

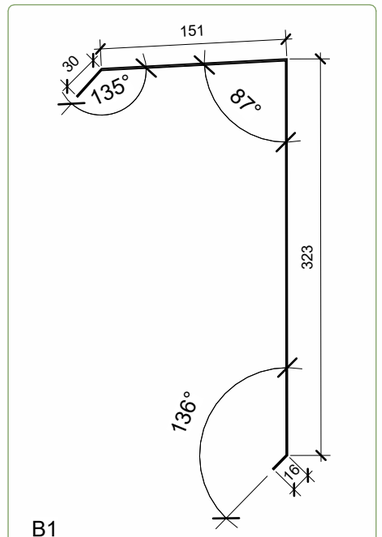
1 : 75

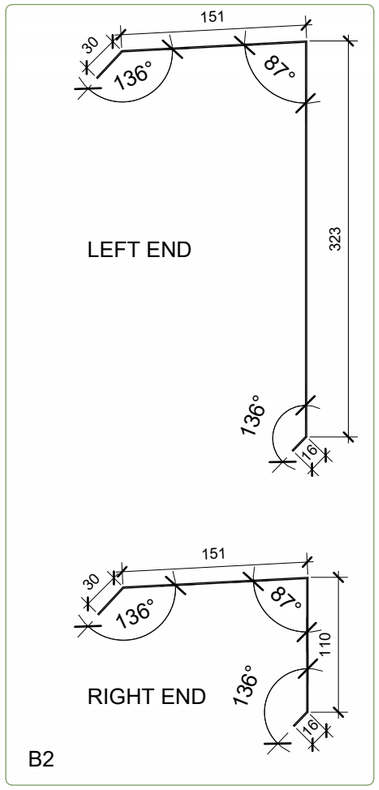


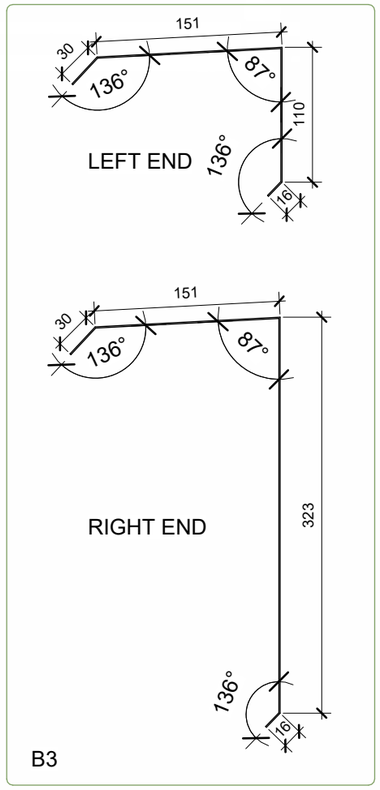
West Sheet Layout

1 : 75









TYPE	MARK	DIM (mm)	CNT
Custom Orb Paperbark	N1	13700	2
Custom Orb Paperbark	N2	1270	2
Custom Orb Paperbark	N3	4508	2
Custom Orb Paperbark	N4	5988	2
Custom Orb Paperbark	E1	4200	4
Custom Orb Paperbark	S1	13700	4
Custom Orb Paperbark	W1	4200	4
Barge Flashing (see detail)	B1	14100	1
Barge Flashing (see detail)	B2	4300	1
Barge Flashing (see detail)	B3	4300	1
Monoclad Deep Ocean	R1	4280	19
Corner Flashing (see detail)	F1	2700	4
Easiline Commercial gutter Deep Ocean	G1	14100	1
D/Pipe 100x50 Paperbark	DP	2400	3
Astragal 100x50 Paperbark			9
Nozzle/Pop 100x50 Zincalume			3
Easiline gen Pur Bracket (gal)			12
Easiline Gutter Stop End (Left)			1
Easiline Gutter Stop End (Left)			1

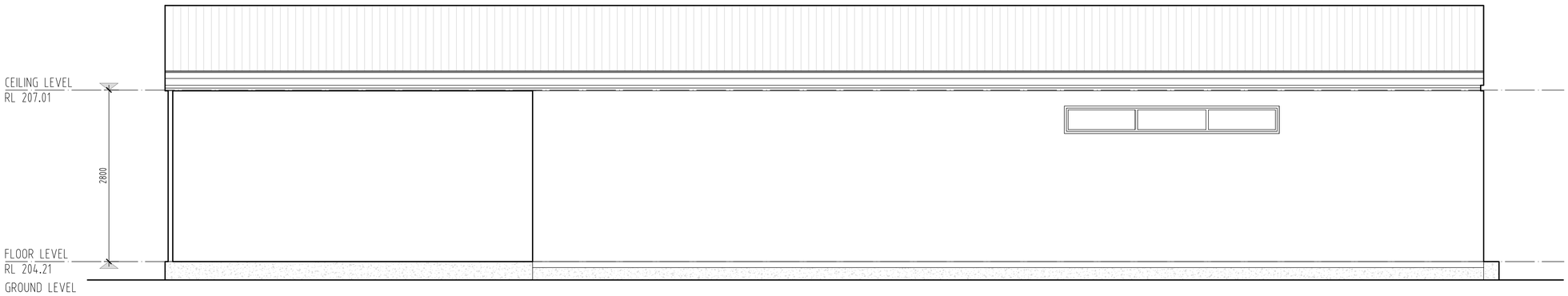
Trigon PROJECTS

CBH 2024 Accomodation Project

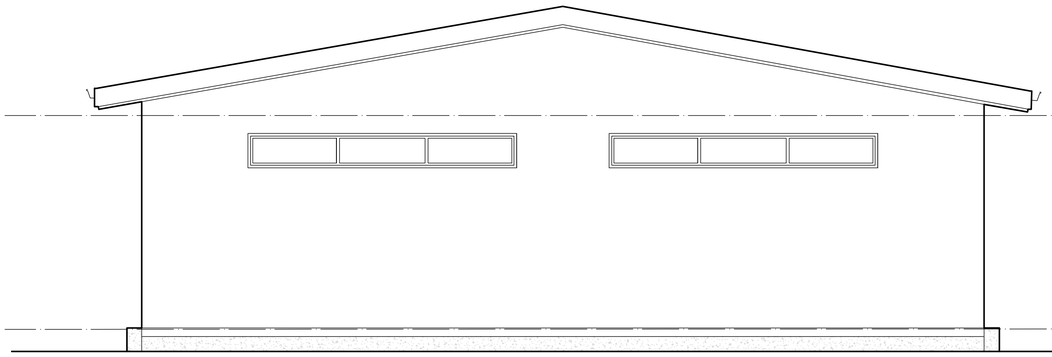
KITCHEN, DINING, LAUNDRY UNIT

CLADDING LAYOUT PLAN

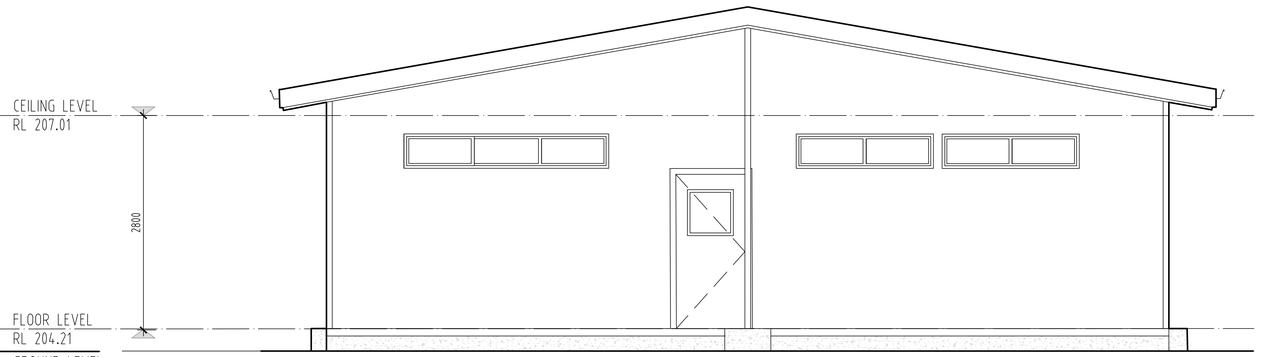
Project number	Project Number
Date	31/05/2023
Drawn by	TB
Drawing number	A300
Revision	2



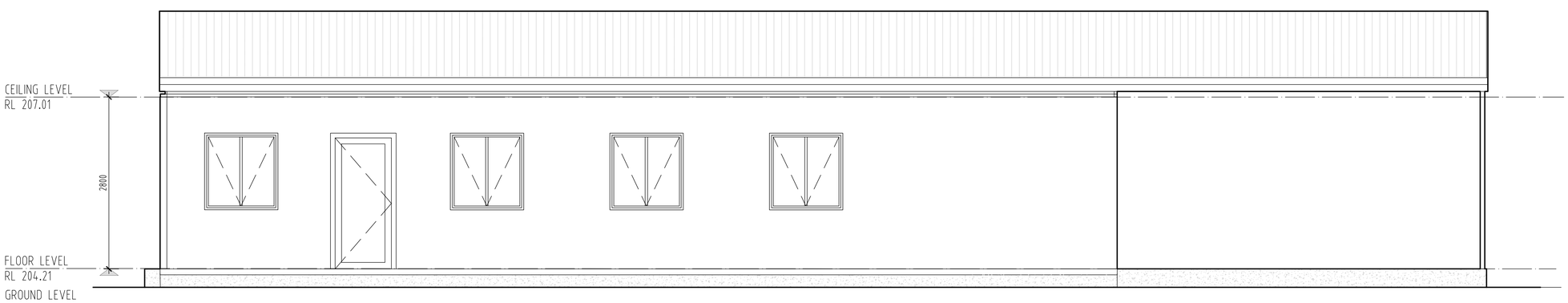
NORTH ELEVATION



WEST ELEVATION



EAST ELEVATION



SOUTH ELEVATION

CBH GROUP
ABN 29 256 604 947

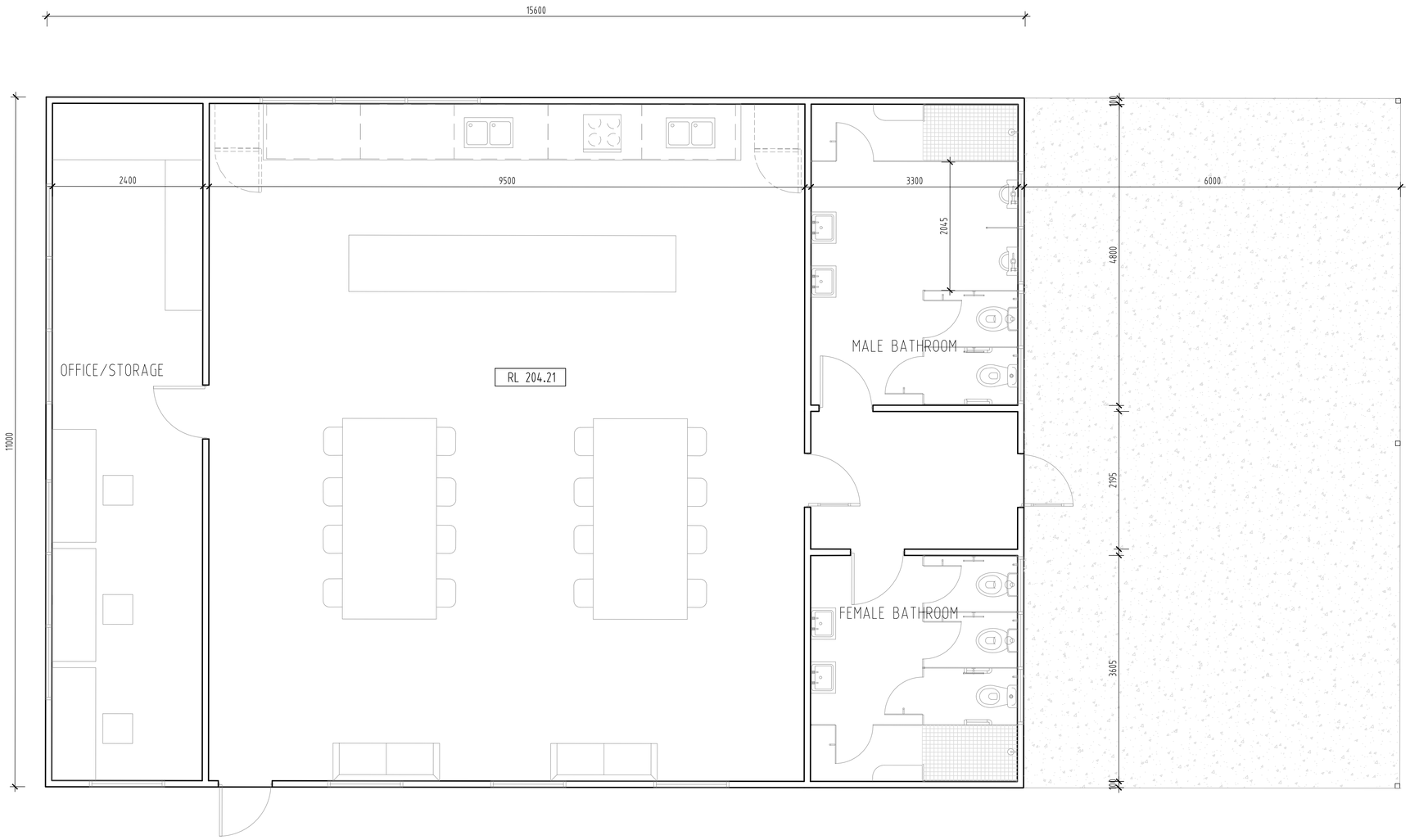
REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN		
CHECKED	B LIM	
DESIGNED		
DESIGN APPR		
PROJECT APPR		

TITLE
MOORA
INFRASTRUCTURE PLANNING
TRAINING ROOM
ELEVATIONS

ORG No 340-3209-AR-DGA-XXXX
SHEET 1 OF 1
REV. A



CBHGROUP
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SCALE 1:40
SHEET A1
PROJECT
CONTRACT No

DRAWN		
CHECKED	B LIM	
DESIGNED		
DESIGN APPR		
PROJECT APPR		

TITLE
MOORA
INFRASTRUCTURE PLANNING
TRAINING ROOM
FLOOR PLAN

DRG No 340-3209-AR-DGA-XXXX
SHEET 1 OF 1
REV. A

COLORBOND® CLASSIC COLOUR CHARTS


D


D


beko

Bushfire Management Plan

Report Details

Report / Job number

21623

Report version

1

Date submitted:

6 January 2024

Project:	Proposed extension and training room
Project Address:	2 Moore Street, Moora WA
Prepared by:	James Terenciuk, Bushfire Planning Practitioner.

Address: Suite 26, 443 Albany Highway, Victoria Park, WA 6100, **Phone:** (08) 6114 9356
Email: admin@greenstartconsulting.com.au, **Web:** www.greenstartconsulting.com.au

1. Background Information

This Bushfire Management Plan was prepared to provide guidance for the planning and management of potential bushfire threat. The standards and recommendations within this plan are based on the performance criteria as set out in Guidelines for Planning in Bushfire Prone Areas (Version 1.4, Dec-2021).

This Bushfire Management Plan meets the requirements of SPP 3.7 and the Guidelines for Planning in Bushfire Prone Areas.

James Terenciuk
Bushfire Planning Practitioner

1.1 Purpose of Plan

The purpose of this Plan is minimise the occurrence and impact of bushfires and their devastating effects to life, property and the environment, and to document fire prevention requirements at the Site. By providing acceptable solutions the BAL level can be managed to an acceptable level.

1.2 Objectives

The objectives of this Plan are to:

- Define areas where values are located
- Define and rank hazard areas
- Identify individuals and organizations responsible for fire management and associated works within the area of the plan
- Develop fire management strategies for all land with regard to life, property and the environment
- Nominate an assessment procedure that evaluates the effectiveness and impact of proposed and existing fire prevention work and strategies
- Identify performance criteria and acceptable solutions for all fire management works, including acceptable solutions for fire breaks, low fuel areas and building construction standards.

This Plan will achieve the objectives by:

- Assessing the bushfire attack level
- Determining bushfire management requirements
- Determining ongoing management responsibilities

1.3 Statement against Other Relevant Documents

This Bushfire Management Plan meets the intent of:

1. State Planning Policy 3.7,
2. Guidelines for Planning in Bushfire Prone Areas,
3. Local planning strategy references to bushfire risk management,
4. Local planning scheme provisions relating to bushfire risk management,
5. Applicable structure plans, special control area provisions, previous planning approvals or similar referencing bushfire risk management applicable to the subject site,
6. Standard fire break orders of the area; and
7. AS3959 Construction of Buildings in Bushfire-Prone Areas.

1.4 Proposal details

The Site is located approximately 167 km North of the Perth CBD. The lot area is about 8.85 ha. The proposal at 2 Moore Street, Moora seeks approval for a proposed extension and training room (refer to Figure 1: Site layout plan).

The proposed extension and training room will be used by able-bodied adult staff who are aware and not unfamiliar with their surroundings. If this changes please contact the author of this BMP.

It has been identified as being located within a bushfire prone area according to the most recent map published by the Department of Fire and Emergency Services (refer to Figure 2).

There are no relevant environmental considerations, including local reserves, State Forest, National park, wetlands, Bush Forever sites, etc. within the site or being affected by the development.

There are no known previous bushfire assessments that have been undertaken for the site.

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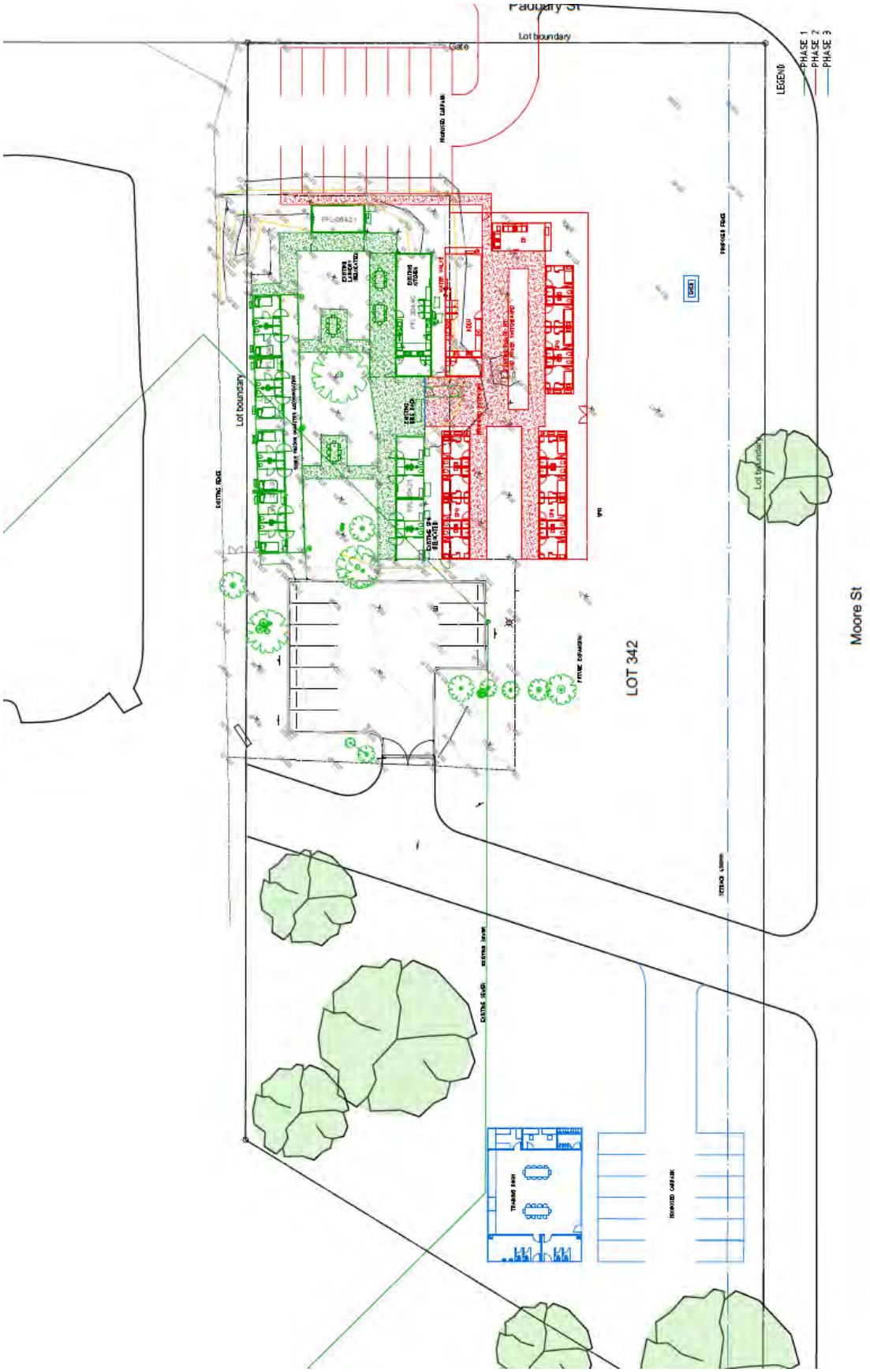
1.4.1 Figure 1: Site plan



GREEN START CONSULTING
fast building approvals

1.4.2 Figure 2: Map of Bushfire Prone Areas for the subject site

2. Environmental considerations

We rely on our client to provide us with detailed environmental information specific to their site including reports from other consultants. To the best of our knowledge there are no environmental, biodiversity or conservation values on the subject site (or adjoining).

2.1 Native vegetation – modification and clearing

The subject site does not contain those values mentioned above and is not identified in a local planning strategy or local biodiversity strategy therefore clearing requirements will be in accordance with the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004.*

3. Bushfire assessment Results

3.1 Assessment Inputs

The location and extent of the classifiable vegetation in relation to the proposed developments have been assessed and recorded in the attached BAL Assessment Report extract. The BAL Assessment Report is produced based on a methodology 1 assessment, with the vegetation being assessed "as is" in accordance with AS3959. The initial BAL rating is given in the table below.

Table 2A.1 (Training Room): Worst case BAL that applies to the site

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class B Woodland	Flatland	21.6m	BAL – 19
2	Excludable – Clause 2.2.3.2(a)	-	-	BAL – LOW
3	Excludable – Clause 2.2.3.2(f)	-	-	BAL – LOW
4	Class B Woodland	Flatland	62.7m	BAL – 12.5

Table 2B.1 (Training Room)

: Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level for the proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level			**BAL – 19**
Photo ID:	5	**Plot:**	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high 10-30% foliage with a prominent grassy understorey.			

Table 2A.2 (Donger Extension): Worst case BAL that applies to the site

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class B Woodland	Flat land	33.7m	BAL – 12.5
2	Class B Woodland	Flatland	87.3m	BAL – 12.5
3	Excludable – Clause 2.2.3.2(d)	-	-	BAL – LOW
4	Excludable – Clause 2.2.3.2(f)	-	-	BAL – LOW
5	Excludable – Clause 2.2.3.2(a)	-	-	BAL – LOW

Table 2B.1 (Donger Extension)

: Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level for the proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level				**BAL – 12.5**
Photo ID:	8	**Plot:**	1	
Vegetation Classification or Exclusion Clause				
Class B Woodland - Low woodland B-07				
Description / Justification for Classification				
Trees 10-30m high. 10-30% foliage cover with a prominent grassy understorey.				

3.1.1 Figure 3: Post-Development Vegetation Classification Map

LEGEND

- SUBJECT LAND
- PROPOSED
- 150m FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- VEGETATION PLOT BOUNDARY
- MODIFIED TO NON VEGETATED AND LOW THREAT AREA
- 3 → PHOTO LOCATION

VEGETATION CLASS

- CLASS B WOODLAND
- EXCLUDED AS PER 2.2.3.2 (f) (d)

3.2 Preliminary BAL Assessment

3.2.1a Site Assessment & Site Plans (Training Room)

The assessment of this site was undertaken by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).

Legend

= Photo location

= 100m and 150m wide buffers

= Vegetation plots

= Site

3.2.2a Vegetation Classification (Training Room)

All vegetation within 100m of the site development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID:	1	**Plot:**	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high 10-30% foliage with a prominent grassy understorey.			

Photo ID:	2	**Plot:**	4
Vegetation Classification or Exclusion Clause			
Class B Woodland - Woodland B-05			
Description / Justification for Classification			
Trees 10-30m high, 10-30% foliage.			

Photo ID:	3	Plot:	3
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes managed grassland.			

Photo ID:	4	Plot:	4
Vegetation Classification or Exclusion Clause			
Class B Woodland - Woodland B-05			
Description / Justification for Classification			
Trees 10-30m high, 10-30% foliage.			

Photo ID:	5	Plot:	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high 10-30% foliage with a prominent grassy understorey.			

Photo ID:	6	Plot:	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high 10-30% foliage with a prominent grassy understorey.			

Photo ID:	7	Plot:	3
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes managed grassland and maintained public areas.			

Photo ID:	8	Plot:	3
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes managed grassland and maintained public areas.			

Photo ID:	9	Plot:	3
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes managed grassland and maintained public areas.			

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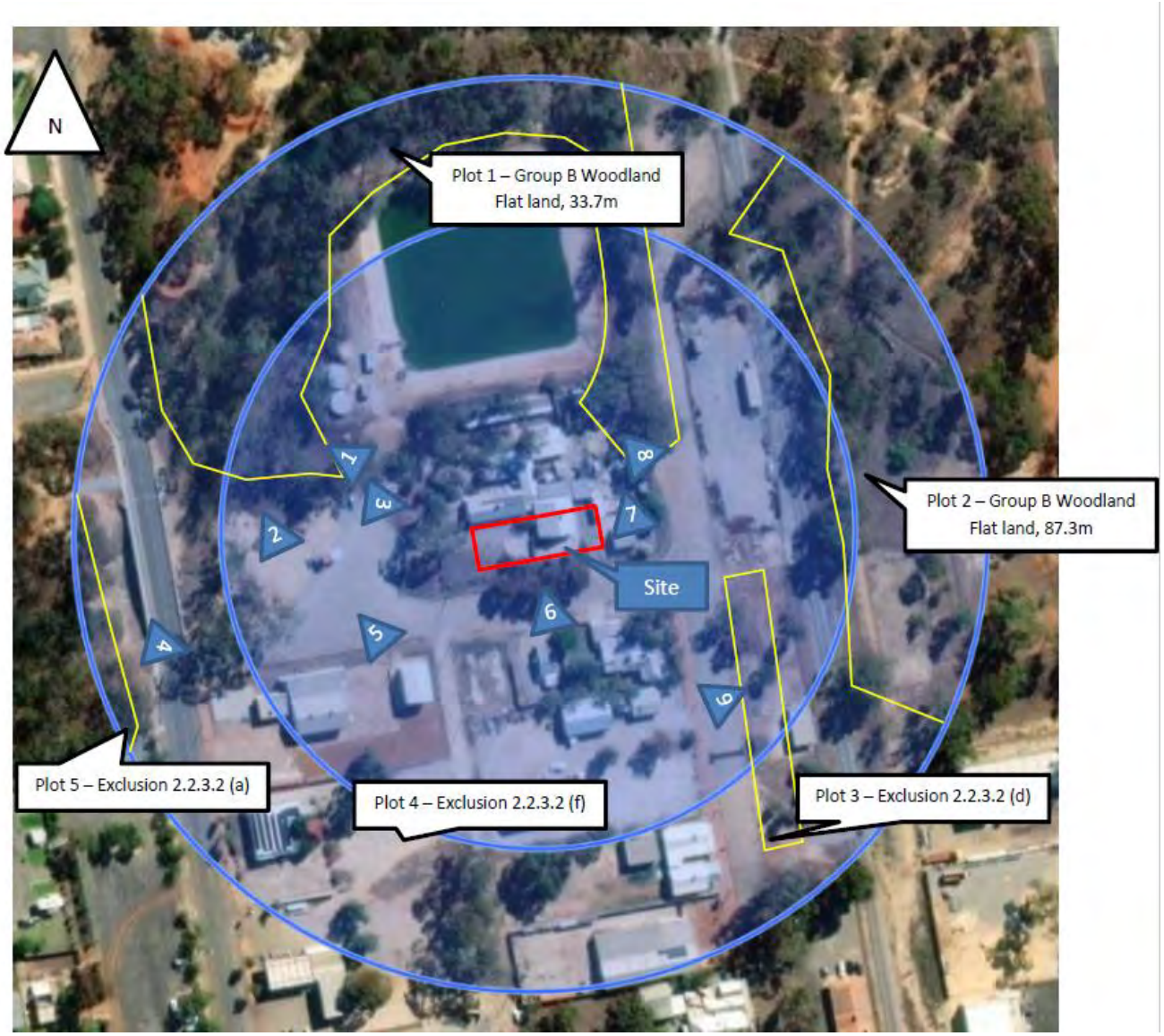
3.2.1b Site Assessment & Site Plans (Donger Extension)

The assessment of this site was undertaken by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).



Legend

1 = Photo location

= 100m and 150m wide buffers

= Vegetation plots

= Site

3.2.2b Vegetation Classification (Donger Extension)

All vegetation within 100m of the site development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID:	1	**Plot:**	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high. 10-30% foliage cover with a prominent grassy understorey.			

Photo ID:	2	**Plot:**	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high. 10-30% foliage cover with a prominent grassy understorey.			

Photo ID:	3	Plot:	4
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes maintained public areas.			

Photo ID:	4	Plot:	4
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes managed grassland.			

Photo ID:	5	Plot:	4
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes maintained public areas.			

Photo ID:	6	Plot:	4
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes maintained public areas.			

Photo ID:	7	Plot:	4
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Vegetation regarded as low threat, this includes maintained public areas.			

Photo ID:	8	Plot:	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Low woodland B-07			
Description / Justification for Classification			
Trees 10-30m high. 10-30% foliage cover with a prominent grassy understorey.			

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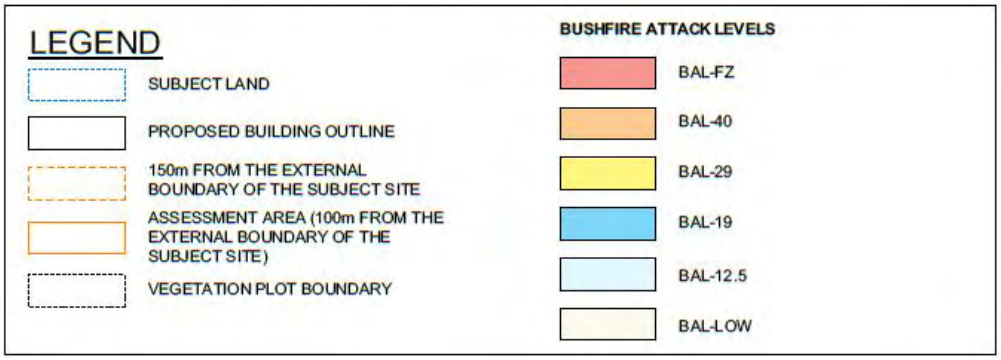
Photo ID:	9	Plot:	3
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(d) Strip <20m in width			
Description / Justification for Classification			
Strips of vegetation less than 20m in width and not within 20m of the site or other areas of vegetation. With the distance from the vegetation to plot 2 measuring 32 metres and to site measuring 47 meters.			

3.3 Assessment outputs (when Contour Map)

3.3.1 Figure 4: BAL Contour Map (to infrastructure following implementation of APZ)



3.3.2 Table A: Method 1 Table (to infrastructure following implementation of APZ)

The BAL contours are based on:

• the vegetation classifications and effective slope observed at the time of inspection

• the anticipated post-development vegetation based on proposed on-site clearing extent, and resultant vegetation exclusions and separation distances, achieved to implement the proposed development and Asset Protection Zone.

BAL Determination					
	Applied Vegetation Classification	**Effective Slope Under the Classified Vegetation (degrees)**	**Separation Distance to the Classified Vegetation (metres)**	**Highest BAL Rating**	**Asset Protection Zone around future construction (metres) to achieve BAL-29**
Training Room	Class B Woodland	Flat land	21.6m	BAL – 19	14m
Donger Extension	Class B Woodland	Flat land	33.7m	BAL – 12.5	14m

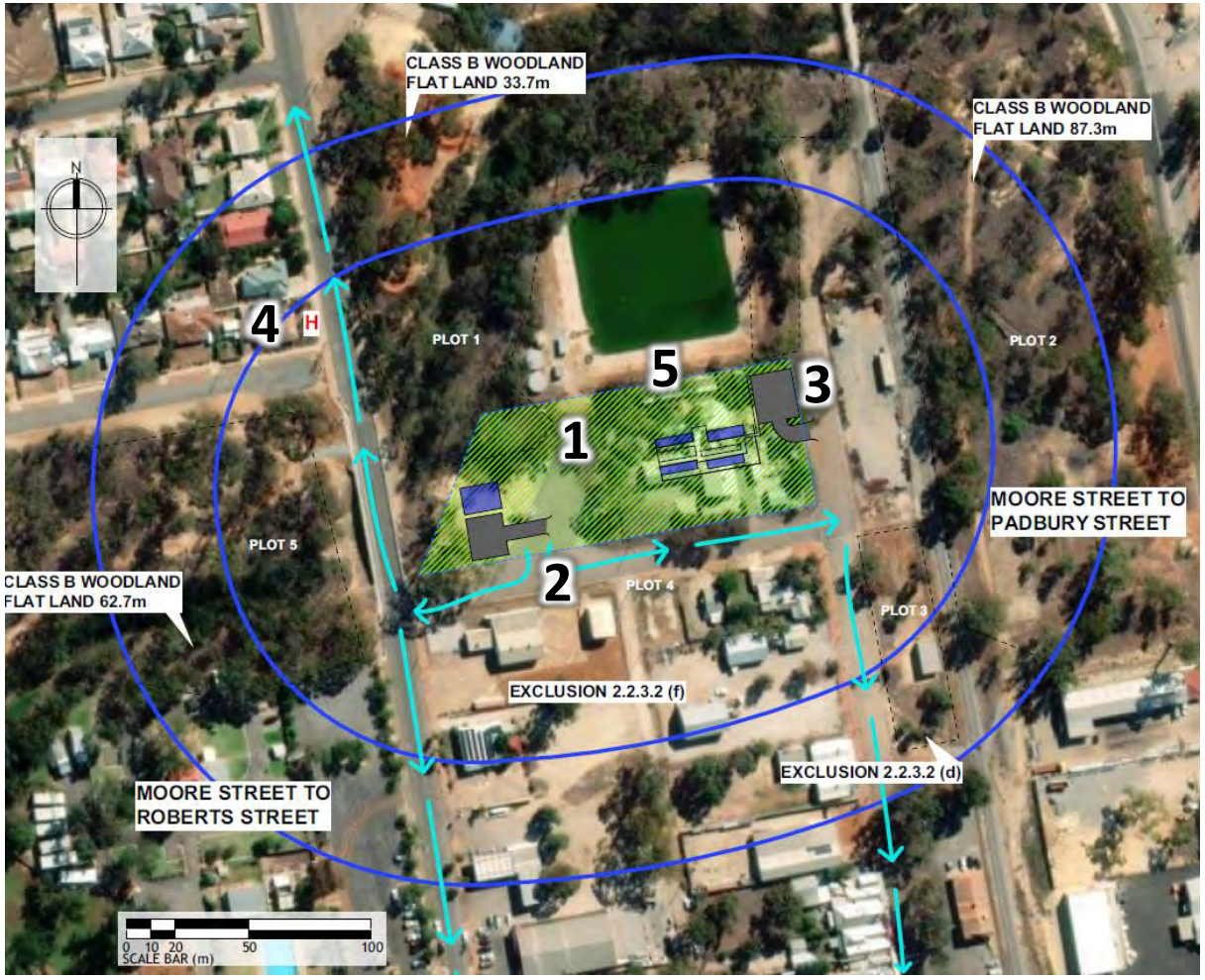
4. Assessment against the Bushfire Protection Criteria

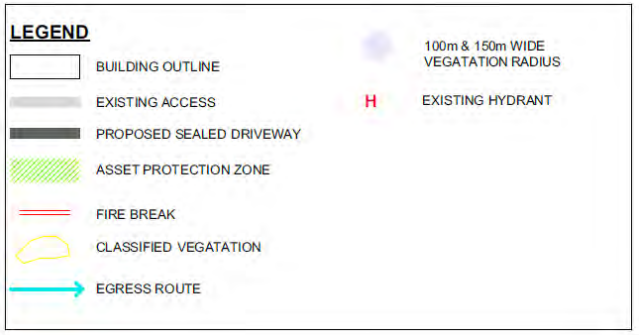
4.1 Compliance

Each of the elements listed within Appendix 4 of the Guidelines for Planning in Bushfire Prone Areas has been addressed in this bushfire management plan as per the following table.

Bushfire protection criteria	Method of Compliance/Acceptable Solutions	Proposed bushfire management strategies
Element 1: Location	A1.1 Development location	The proposed dwelling would ensure all future constructions are located in an area subject to BAL-29 or lower in order to comply with the *Guidelines for Planning in Bushfire Prone Areas.*
Element 2: Siting and design of development	A2.1 Asset Protection Zone	The Asset Protection Zone will be maintained within the boundary of the lot. All future construction is to be surrounded by an APZ of a sufficient width to ensure the potential radiant heat impact of a bushfire does not exceed BAL-29. Refer to Table A which indicates the minimum width of the APZ to be maintained for BAL-29. The standards for APZ from the Guidelines is attached in Appendix 1.
Element 3: Vehicular access	A3.1 Public road	N/A
	A3.2a Two access routes	N/A
	A3.2b Emergency access way	N/A
	A3.3 Cul-de-sac (including dead-end-road)	N/A
	A3.4a Perimeter roads	N/A
	A3.4b Fire services access routes	N/A
	A3.5 Battle-axe	N/A
	A3.6 Private driveway longer than 70m. A private driveway is to meet detailed requirements contained within the Guidelines.	N/A
Element 4: Water	A4.1 Identification of future water supply	The site is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services. Existing hydrant is located on Midlands Rd – refer to Figure 5 for the location.
	A4.2 Provision of water for firefighting purposes	N/A

4.1.1 Figure 5: Spatial representation of the bushfire management strategies





Notes

1) The APZ is to be contained solely within the lots. An APZ is required around the future dwellings to ensure the BAL rating is not higher than BAL-29. Refer to Appendix 1.
2) The existing network is minimum 6m and trafficable (bitume and hard gravel)
3) The proposed network is minimum 6m and trafficable (bitume and hard gravel)
4) The site is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.
Existing hydrant is located on Midlands Rd – refer to map for the location.
5) Firebreak as per Shire of Moora Fire-Break Notice.

Location Details: 2 Moore Street, Moora WA
Local Government Area: Shire of Moora
Assessment Date: 16.11.2023
Date of aerial photo: Unknown
Prepared by: James Tereciuk, Bushfire Planning Practitioner

5. Responsibilities for Implementation and Management of the Bushfire Measures

DEVELOPER/LANDOWNER – PRIOR TO SALE OR OCCUPANCY	
No.	**Implementation Action**
1	Install the private driveway to the standards stated in the BMP.
2	Establish the Asset Protection Zone to the dimensions and standards stated in the BMP.
3	Comply with the relevant local government annual firebreak notice issued under s33 of the Bush Fires Act 1954.
LANDOWNER/OCCUPIER – ONGOING MANAGEMENT	
No.	**Management Action**
1	Maintain the Asset Protection Zone to the dimensions and standard stated in the BMP.
2	Landowners/occupiers to thoroughly read this BMP. If there are any items which require clarification it is recommended that they contact the author of this report.
3	Maintain vehicular access routes within the lot to the required surface condition and clearances .
4	Comply with the relevant local government annual firebreak notice issued under s33 of the Bush Fires Act 1954.

To ensure that the above individuals/organisations are able to comply with the Bushfire Management Plan they are to be notified of their responsibilities by the developer and be given a copy of the endorsed Bushfire Management Plan.

This Bushfire Management Plan relates to a specific planning approval and should be referred to periodically as part of the owner's fire mitigation strategy. As time passes, any items found to require review due to changing circumstances are to be brought to the attention of the local government and the Bushfire Management Plan author.

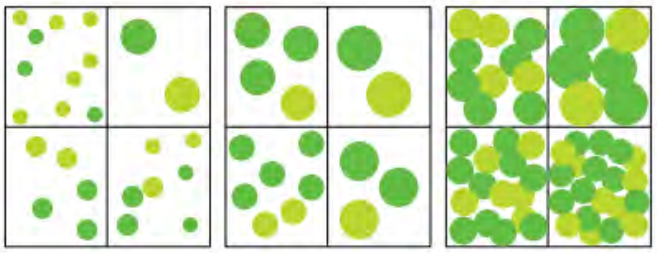
Certification by bushfire consultant

I James Terenciuk, certify that at the time of inspection, the BAL ratings contained within this BMP are correct; Clearance by local government is recommended.

James Terenciuk
Bushfire Planning Practitioner
Date: 6 January 2024

6. Appendix 1: Schedule 1: Standard for Asset Protection Zones (Appendix 4 of the Guidelines)

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. **Figure 19:** Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.

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SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	• Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes*

7. Appendix 2: Table 6 – Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public roads	2 Emergency access way[1]	3 Fire service access route[1]	4 Battle-axe and private driveways[2]
Minimum trafficable surface (metres)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (metres)	N/A	6	6	6
Minimum vertical clearance (metres)	4.5			
Minimum weight capacity (tonnes)	15			
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road[3]		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves (metres)		8.5		

Notes:

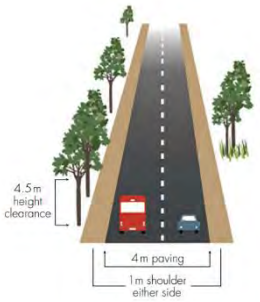
[1] To have crossfalls between 3 and 6%.

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

E3.1 Public road

Trafficable surface: Widths quoted for access routes refer to the width of the trafficable surface. A six metre trafficable surface does not necessarily mean paving width. It could, for example, include four metre wide having one metre wide constructed road shoulders. In special circumstances, where eight lots or less are being serviced, a public road with a minimum trafficable surface of four metres for a maximum distance of 90 metres may be provided subject to the approval of both the local government and Department of Fire and Emergency Services.



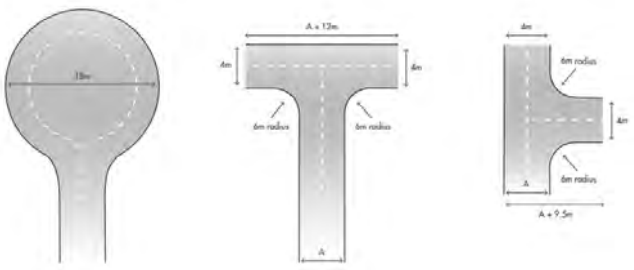
E3.2a Two access route

Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.

E3.6 Private Driveway longer than 70 metres

A private driveway is to meet all of the following requirements:

a) Requirements in Table 4, Column 3;
b) Required where a house site is more than 70 metres from a public road;
c) Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres);
d) Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 18metres) and within 30 metres of a house.



8. Appendix 3: LG's Firebreak Notice

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Notice under s. 33 of the *Bush Fires Act 1954*

FIRST AND FINAL WARNING

Notice is hereby given to all landowners/occupiers within the Shire of Moora that you are required on or before 1 November Annually to comply with the below directives to reduce the outbreak, spread and extension of a bushfire and maintain at that standard until 29 March Annually under s. 33 of the *Bush Fires Act 1954*.
Failure to comply with this notice may incur penalties up to $5000 and the required works carried out at the expense of the owner/occupier.

Requirements of land 4000-metre square and **under**	Requirements of land 4001-metre square and **over**
• **Slashing** Dead flammable matter including dead grass shrubs and plants shall be slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property. • **Asset Protection** Maintain all dead flammable material below 2 tonne per hectare across the entirety of the property. (See definitions for fuel load) • **Clean Gutters** Ensure roofs, gutters and walls of all buildings are free of flammable matter.	• **Slashing** Dead flammable matter including dead grass shrubs and plants shall be slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property. Unless used for pasture or crop. • **Asset Protection** Maintain all dead flammable material below 2 tonne per hectare extending 20 metres out from all buildings. (See definitions for fuel load) • **Clean Gutters** Ensure roofs, gutters and walls of all buildings are free of flammable matter. • **Fire Breaks** Install a minimum 3-metre-wide cleared fire break no further than 3 metres away from; - The entirety of the property boundary - All buildings, sheds and fuel storage - All stationary internal combustion engines - All electric motors or pumps

Harvesting:
A separate firefighting appliance is required to be present in any paddock being harvested, chaining, raking stubble, straw baling and associated allied activities during restricted and prohibited periods.
The firefighting unit must be in a state of readiness and have a minimum capacity of 400 litres of water, a powered pump and minimum 20m hose. The farm firefighting unit should be parked on bare ground in or near the harvesting or working area.

Plantations as of 1 January 2020:
Plantations 3 hectares or less
- Require a 6-metre-wide by 4-metre-height clearance fire break around the entirety.

Plantations over 3 hectares
- 15-metre-wide by 4-metre-height clearance fire break around the entirety
- 6-metre-wide by 4-metre-height clearance internal fire breaks a minimum of every 30 hectares
- Minimum of 25,000L water supply and hard stand for every 50 hectares no further than 20 minutes turnaround

Other works:
A Fire Control Officer may direct in writing other works to be carried out.

Bushfire Management Plans:
All properties that are subject to a Bushfire Management Plan as a result of a subdivision, development application or a Shire approved treatment plan must comply with the requirements of such plans in their entirety in addition to the requirements of this notice.

Definitions
Fire break Trafficable clearing for heavy 4WD vehicles. No less than 3 metres wide. Must be constructed in a continuous form with no obstructions or dead ends. Must not contain any flammable material. Must not be further than 3 metres off the property boundaries. **Fuel measurement – Asset Protection Zone** Fuel load refers to dead, flammable materials such as leaf litter, dry grass, woods under 6mm in diameter. 2.7 Tonne per hectare as per the Shire of Moora Fuel Load Measuring tool provided on the Shire website or upon request from the Shire administration. **Plantation:** Any area of planted trees, other than a wind break, that exceeds three hectares in a gazetted town site or elsewhere a stand of trees of 10 hectares or larger, that has been established by sowing or planting native or exotic tree species selected and managed intensively for their commercial and environmental value. A plantation includes roads, tracks, firebreaks ad small areas of native vegetation.
Variation Request
The shire of Moora understands that not all land owners/occupiers are able to complete the requirements set out by this notice. In these circumstances the owner/occupier must complete a Request for Variation form no later than 1 October. A Variation request must be completed in whole for consideration by the Shire and may be rejected for any reason the Shire feels fit. **NOTE: If the variation request is not approved then the applicant must comply with all requirements of this notice prior to 1 November.**
For an in-depth guide on how to comply with the Fire Hazard Reduction Notice, visit www.moora.wa.gov.au and download the Fire Safety Booklet. **Compliance inspection will be carried out by Fire Control Officers as of 1 November annually under the authority of the *Bush Fire Act 1954*.** **Alan Leeson** **Chief Executive Officer** shire of moora A: 34 Padbury Street, Moora 6510 WA P: (08) 9651 0000 F: (08) 9651 1722 E: shire@moora.wa.gov.au

9. Appendix 4: Schedule 2: Water Supply Dedicated for Bushfire Firefighting Purposes

2.1 Water supply requirements

Water dedicated for firefighting should be provided in accordance with Table 7 below, and be in addition to water required for drinking purposes.

Table 7: Water supply dedicated for bushfire firefighting purposes

PLANNING APPLICATION	NON-RETICULATED AREAS
Development application	10,000L per habitable building
Structure Plan / Subdivision: Creation of 1 additional lot	10,000L per lot
Structure Plan / Subdivision: Creation of 3 to 24 lots	10,000L tank per lot **or** 50,000L strategic water tank
Structure Plan / Subdivision: Creation of 25 lots or more	50,000L per 25 lots or part thereof Provided as a strategic water tank(s) or 10,000L tank per lot

2.2 Technical requirements

2.2.1 Construction and design

An above-ground tank and associated stand should be constructed of non-combustible material. The tank may need to comply with AS/NZS 3500.1:2018.

Below ground tanks should have a 200mm diameter access hole to allow tankers or emergency service vehicles to refill direct from the tank, with the outlet location clearly marked at the surface. The tank may need to comply with AS/NZS 3500.1:2018. An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018. If the tank is required under the BCA as part of fire hydrant installation, then the tank will also need to comply with AS 2419.

Where an outlet for an emergency service vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.

2.2.2 Pipes and fittings

All above-ground, exposed water supply pipes and fittings should be metal. Fittings should be located away from the source of bushfire attack and be in accordance with the applicable section below, unless otherwise specified by the local government.

2.2.2.1 Fittings for above-ground water tanks:

- Commercial land uses: 125mm Storz fitting; or
- Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or
- Standalone water tanks: 50mm male camlock coupling with full flow valve; or
- Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

2.2.2.2 Remote outlets

In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In such instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.

Letter of Opinion

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Bushfire Consultation Services

Phone: 08 6114 9356

Email: james@greenstartconsulting.com.au

Web: www.GreenStartConsulting.com.au

Date: 9/12/2023

Client: Caleb Pan on behalf of CBH

Project: CBH Moora Accommodation – Bushfire Emergency Evacuation Plan Exemption

Report Prepared by: James Terenciuk
Bushfire Planning Practitioner
Access Consultant
Cert. IV Access Consulting – Received March 2015
Livable Housing Assessor – Received April 2014
APEC Insider Best Building Surveyor 2019
Level 1 Building Surveyor Reg. No. 65 – 15 years' experience

Letter of Opinion Scope

This letter of opinion has been prepared to give advice on accommodation facilities at the CBH Moora facility. Caleb Pan (Project Delivery Lead – Accomodation, CBH) has prepared a written justification (Appendix 1) that this accommodation would solely be used by CBH employees.

Considerations

1. When should an Emergency Evacuation Plan be prepared?

Under policy measure 6.6.1 of State Planning Policy 3.7: Planning in Bushfire Prone Areas, an emergency Evacuation Plan should accompany development applications for vulnerable land uses.

2. What is a vulnerable land use?

Vulnerable land uses are those where people may be less able to respond in a bushfire emergency.

TYPES OF VULNERABLE LAND USE	EXAMPLES
Land uses designed to accommodate occupants with reduced physical or mental ability such as the elderly, children (under 18 years of age) and the sick or injured.	Aged or assisted care, nursing home, education centre, child care centre, hospital, medical centre and rehabilitation centre.
Facilities that, due to building or functional design, offer limited access or the number of people may present evacuation challenges.	Corrective institution (prison) and detention centre.
Land uses that involve short-stay accommodation or visitation for people who are unaware of their surroundings and who would require assistance or direction in the event of a bushfire.	Bed and breakfast, caravan park and camping ground, holiday accommodation, serviced apartment (short-stay), tourist development and worker's accommodation.

Source: Western Australian Planning Commission, A Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN.

The people on-site are adult, able-bodied people who are aware and not unfamiliar with their surroundings, who do not require assistance in the event of a bushfire. As outlined in Caleb Pan's detailed appendix this site does not accommodate any of the three groups listed in the table above.

Conclusion

In conclusion, I consider that the development of a Bushfire Emergency Evacuation Plan is not required. Accordingly, we submit and commend this practical solution as compliant with State Planning Policy 3.7: Planning in Bushfire Prone Areas. If in the future any changes are proposed to the employee roles it is recommended to consult the author of this report in regards to the continued suitability of this letter of opinion.

Yours Sincerely,

James Terenciuk
Bushfire Planning Practitioner
Access Consultant
Cert. IV Access Consulting – Received March 2015
Livable Housing Assessor – Received April 2014
APEC Insider Best Building Surveyor 2019
Level 1 Building Surveyor Reg. No. 65 – 15 years' experience

Appendix 1

CBH Grain Pty Ltd
ABN 39 089 394 883
Australian Financial Licence No. 269743
Level 6, 240 St Georges Terrace
Perth WA 6000 Australia
GPO Box L886
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6 December 2023

James Terenciuk
Green Start Consulting
Suite 26, Upper floor
443 Albany Highway
Victoria Park WA 6100

To James Terenciuk

CBH MOORA ACCOMMODATION – BUSHFIRE EMERGENCY EVACUATION PLAN EXEMPTION

We are writing to formally request confirmation that our new site, Moora Barracks Accommodation Extension and its planned use does not fall under vulnerable land use as defined in the *WA State Planning Policy 3.7 Planning in Bushfire Prone Areas*, and is thus exempt from Measure 6.6.1 of the same *Policy* for the requirement of implementing a Bushfire Emergency Evacuation Plan (BEEP). The site is an extension of the existing CBH Harvest Accommodation at 2 Moore Rd, Moora.

The rationale behind this request stems from the site's classification as a non-vulnerable land use, as per the provided definition in the context of vulnerable land uses for bushfire emergency planning. Our analysis confirms that our site does not fall under the criteria of vulnerable land use for the following reasons, aligned with the definition outlined:

- **Non-Inclusion in Vulnerable Land Use**: CBH's Moora Harvest Accommodation does not accommodate individuals classified under vulnerable land use definitions. The site does not cater specifically to individuals who are less physically or mentally able, such as the elderly, children under 18 years of age, the sick, or injured, in dedicated facilities like aged or assisted care, nursing homes, education centers, schools, or child care centers.

- **Non-Evacuation Challenges**: The building design and the nature of operations at CBH Moora Accommodation do not pose evacuation challenges as highlighted in the vulnerable land use definition. The site primarily engages trained staff and individuals familiar with the surroundings, reducing the likelihood of challenges during evacuations.

- **Non-Tourism or Recreational Land Use**: CBH Moora Accommodation does not fall under tourism or recreational land use categories mentioned in the definition. Visitors to the site are typically professionals or authorized personnel who are well-informed and not unfamiliar with the surroundings, minimizing potential evacuation challenges.

We have conducted a thorough assessment and analysis in accordance with the provided definition of vulnerable land uses and can confidently assert that our site does not meet the criteria outlined therein.

The attached report by Green Start Consulting, provides expert judgment supporting our request for exemption from the requirement of a Bushfire Emergency Evacuation Plan. This report outlines the specific compliance measures and safety protocols implemented to address emergency situations.

We trust that the provided information substantiates our request for exemption. Your understanding and prompt attention to this matter would be greatly appreciated.

Thank you for your attention to this request.

Yours sincerely
FOR: CO-OPERATIVE BULK HANDLING

Caleb Pan

Caleb Pan
Project Delivery Lead – Accommodation, CBH

Project Number & Title:	M-3555 2023 Moora Accommodation
Contractor:	Stantec

Document Information		
CBH Document Number	**Contractor Document Number**	**Document Title:**
340-3555-CI-RPT-0001		2023 Moora Accommodation Drainage Report

Revision History

CBH Rev No	Contractor Rev No.	Description	Date	Approved By (Contractor)	Approved By (CBH)
A	A	Issued for Review	20/12/2023	M. Johnston	C. Pan

Rev	Date	Description	Author	Independent Review	Approved
A	20/12/2023	Issued for Review	M. Johnston	H. Millen	H. Millen

The conclusions in the Report titled 2023 Moora Accommodation Drainage Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from CBH (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

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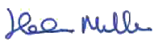
Prepared by: 

Signature

Matthew Johnston

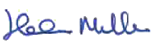
Printed Name

Reviewed by: 

Signature

Helen Millen

Printed Name

Approved by: 

Signature

Helen Millen

Printed Name

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1 Introduction

Stantec have been engaged by CBH Group (CBH) as Engineering Consultants for the 2023 accommodation expansion (M-3555) at the 340 Moore St Barracks Accommodation in Moora.

The proposed expansion is phase 2 and will expand the existing accommodation of the site to allow for up to 24 workers during peak harvest seasons. The existing Barracks and proposed development are separate from the CBH Moora site, being located off Morre St.

1.1 Objectives

This drainage design report provides details on the stormwater management strategy and drainage design for the site.

The objectives for this report are:

- Limit the outflow of the proposed expansion back to predevelopment flow rates.

1.2 Technical Guidance

The design has aimed to follow guidelines set out by CBH Design Specification TS10A – Civil Earthworks, Roads and Drainage; Stormwater management manual for Western Australia and Australian Rainfall & Runoff.

1.3 Data

The design has been carried out using geospatial data from online resources and information supplied by CBH. The geospatial data utilised is listed below in increasing order of accuracy and preference:

- 2m Landgate contours
- Feature Survey undertaken by Crossland & Hardy Surveyors in November 2023.

Other data utilised includes:

- Aerial photography from Landgate and Google Maps.

1.4 Climate Change

At the date this assessment has been undertaken, no allowance has been made for changes in rainfall intensity due to climate change.

1.5 Terminology

Annual Exceedance Probability (AEP) terminology has been adopted for consistency with the recommended probability terminology in Australian Rainfall & Rainfall 2019. The use of Average Recurrence Interval (ARI) is no longer recommended and has changed to Annual Exceedance Probability (AEP), which is the probability or likelihood of an event occurring or being exceeded within any given year for flood risk. This preferred terminology is presented in Table 1.

Table 1: AR&R Probability Terminology

Frequency Descriptor	AEP (%)	AEP (1 in X)	ARI
Very Frequent	98.17	1.02	.25
	95.02	4.05	.33
	86.47	1.16	.5
Frequent	63.21	1.58	1
	50	2	1.44
	39.35	2.54	2
	20	55	4.48
	18.13	5.52	5
Rare	10	10	9.49
	5	20	20
	2	50	50
Very Rare	1	100	100
	.5	200	200
	.2	500	500
	.1	1000	1000
Extreme	.05	2000	2000
	.02	5000	5000

2 Site Description and Proposed Development

The town of Moora is located approximately 150 km north-northeast of Perth, Western Australia (refer Figure 1). CBH's Moora receival site is located to the south of the town and the proposed development is located in the town at the corner of Moore St and Padbury St, refer to figure 2.

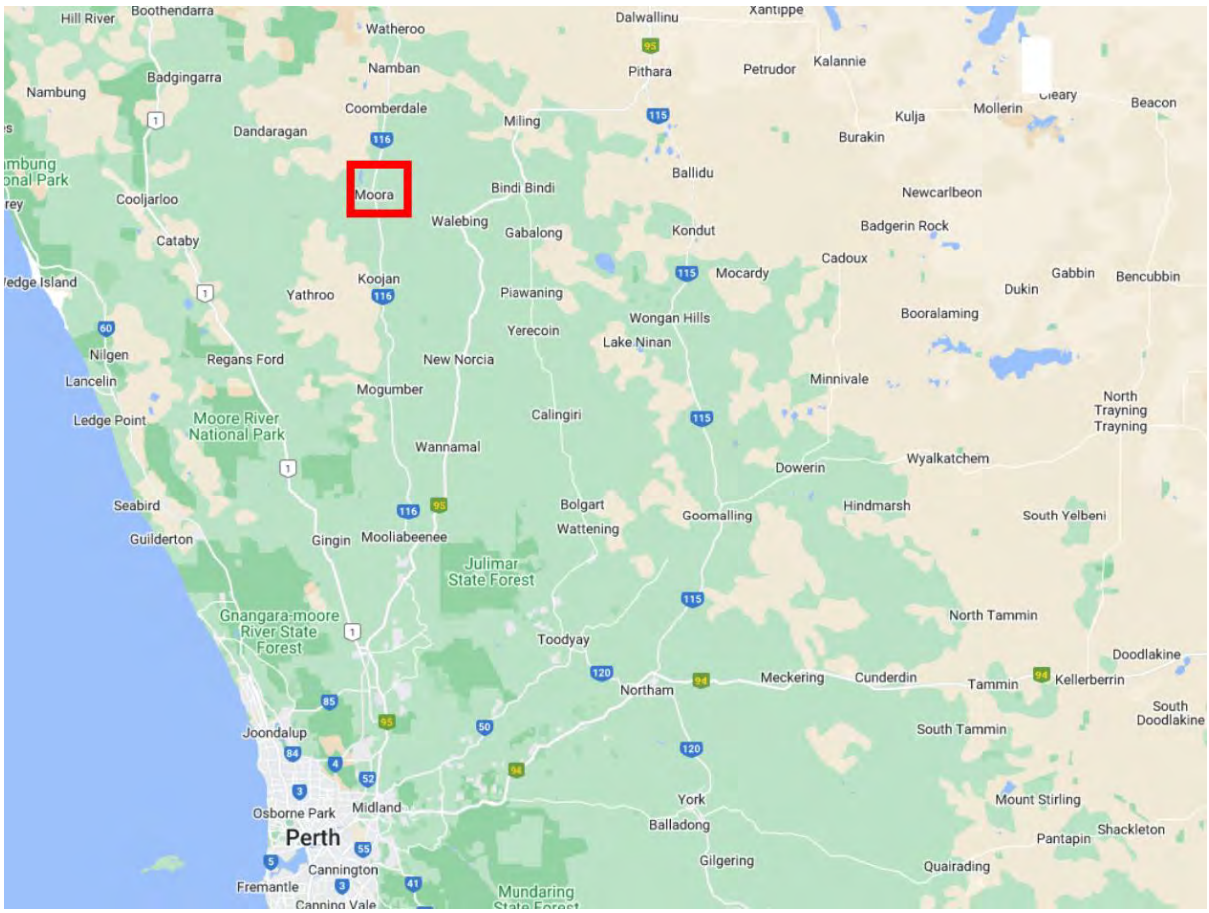


Figure 1: Project Site Location (Source: Google Maps)

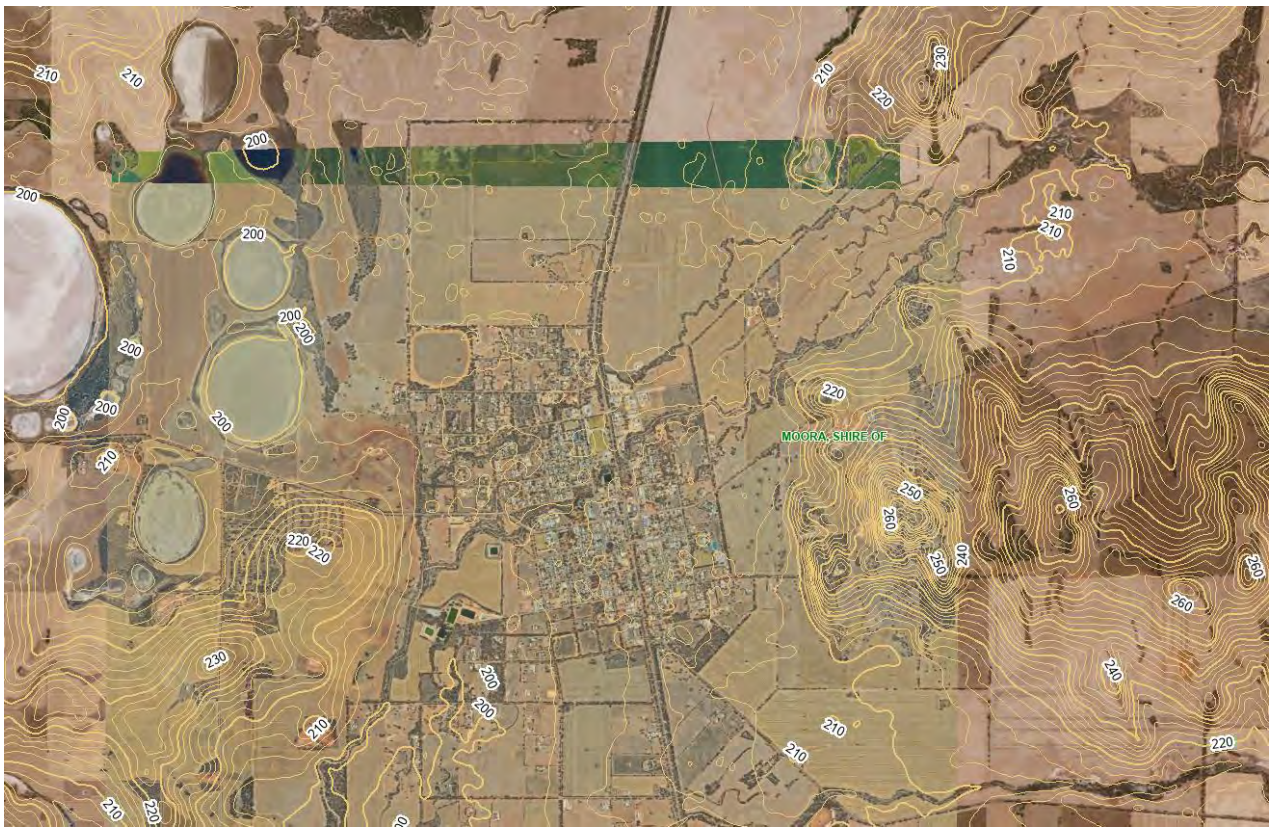


Figure 2: Town of Moora and Moore River North Branch with Contours (Source: Landgate Locate)

2.1 Geotechnical Conditions

The published Geological Series Map (1:250,000 Moora Sheet) indicates that the area is underlain by Alluvium (Clay, Silt and Sand), this soil typically described as sandy clay. Using the Engineers Australia "Australian Runoff Quality – A guide to Water Sensitive Urban Design" the typical saturated hydraulic conductivity of a sandy clay can be taken as 1 x 10^{-5} m/s.

Table 2: Hydraulic conductivity for various soil types (Engineers Australia)

Soil Type	Saturated Hydraulic Conductivity	
	mm/hr	m/s
Sandy	>180	> 5 x 10^{-5}
Sandy Clay	36 – 180	1 x 10^{-5} - 5 x 10^{-5}
Medium Clay	3.6 to 36	1 x 10^{-6} - 1 x 10^{-5}
Heavy Clay	0.036 to 3.6	1 x 10^{-8} - 1 x 10^{-6}

2.2 Existing Infrastructure

The Moora Barracks is located in the centre of the Moora Town, on the corner of Moore St and Padbury St. The Moora Barracks currently has accommodation for 12 personal, with kitchen and laundry facilities. The site also has a number of existing buildings that have been marked for demolition. Refer to Figure 3 for aerial and Figure 4 for existing site and demolition plan.

Figure 3: Aerial of Existing Infrastructure (Source: Landgate Locate)

Figure 4: Existing Moora Barracks and Demolation Plan

2.3 Proposed Development

The proposed development to the existing Moora Barracks will add an additional 12 accommodation units, another kitchen, a common area, training facility and parking. The proposed development will primarily take place to the south and west of the existing facilities, Refer to appendix A.

3 Stormwater Management

The stormwater management strategy for the site is for all surface runoff on the site to be managed to prevent flooding or damage to critical infrastructure, based on the following philosophy:

- Finished Floor Levels (FFL) are to be set at or above the DWER recommended level;
- Convey runoff from roof and paved surfaces drainage conveyance system;
- Infiltration pits sized to store inflow volume from roof and paved surfaces for 20% AEP event;
- Direct remaining overland flow to council system in road reserve.

3.1 Moora Flood Management

The proposed site sits inside of the Moora floodplain and as such is subjected to flooding in larger rainfall events refer figure 5.

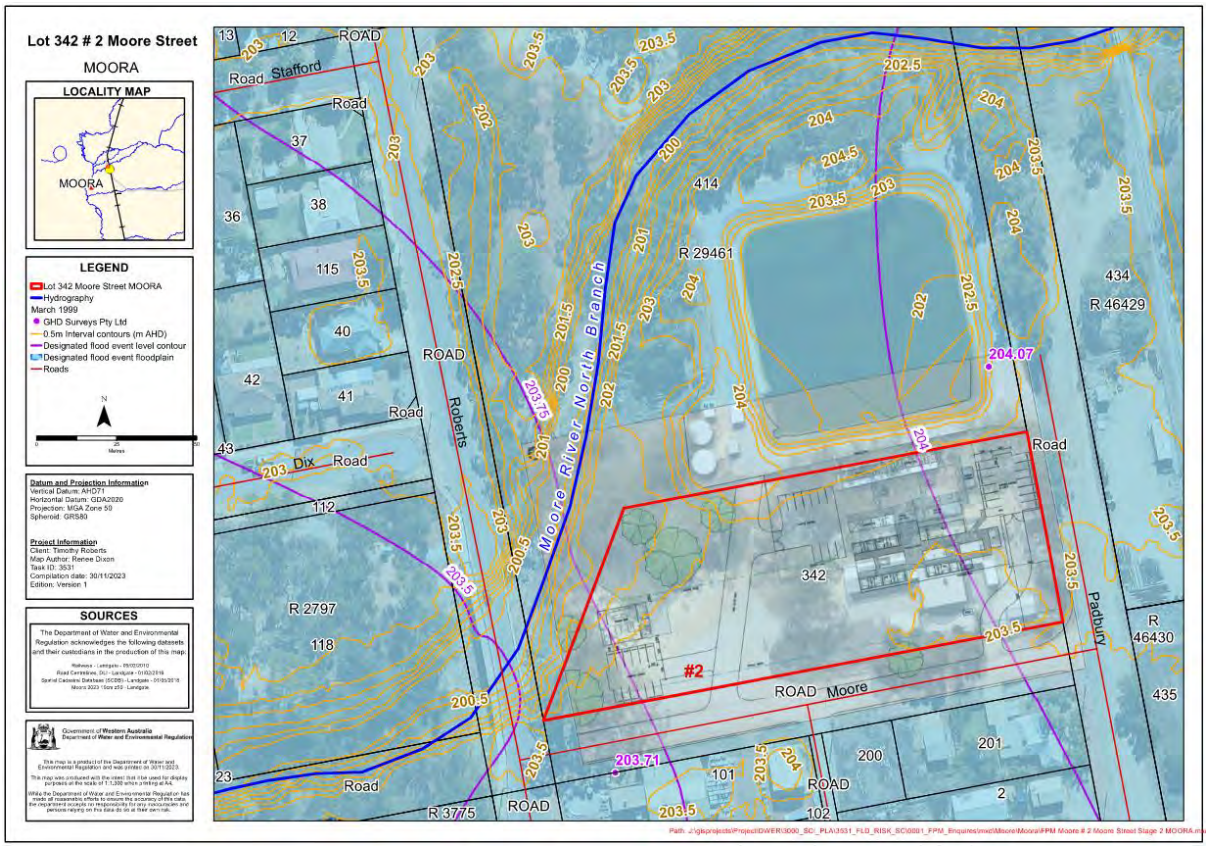


Figure 5: DWER Flood Plane Map

Site specific advice has been sought from Department of Water and Environmental Regulation (DWER) regarding the proposed development attached in Appendix D, a summary is provided below:

- The proposed development is not considered an additional obstruction to major flows since it is in the shadow of existing buildings.
- Should development be considered acceptable, minimum habitable floor levels of 204.2 m AHD will provide adequate flood protection against similar flooding to March 1999.
- The dwelling will be surrounded by floodwaters of up to 0.5 metre deep during major events.

The proposed FFL of the development ranges from 204.21 to 204.36, above the DWER recommended flood lever, refer appendix A.

3.2 Design Rainfall

Rainfall data for the Site has been obtained from the Bureau of Meteorology's Design Rainfall Data System (2016). A summary of the Intensity-Frequency-Duration data is shown in Table 2.

Table 3: Rainfall intensity (mm/h) for CBH Moora Site

Duration		Annual Exceedance Probability (AEP)						
Min	Hr	63.20%	50%	20%	10%	5%	2%	1%
5	0.083	47.5	53.5	73.7	88.8	105	127	146
10	0.167	35.6	40.4	56.1	67.8	79.8	96.6	110
20	0.333	24.6	27.9	38.7	46.5	54.9	66.6	75.9
30	0.5	19.3	21.8	30.2	36.2	42.8	51.8	59.4
60	**1**	12.5	14	19.1	23	27.1	33.1	38.2
120	**2**	8	8.9	12.1	14.6	17.2	21.2	24.5
180	**3**	6.17	6.87	9.33	11.2	13.3	16.4	19
360	**6**	3.95	4.42	6.02	7.28	8.67	10.7	12.5
720	**12**	2.51	2.81	3.87	4.69	5.6	6.95	8.11
1440	**24**	1.53	1.72	2.39	2.9	3.46	4.33	5.04
2880	**48**	0.9	1.01	1.39	1.68	1.99	2.5	2.92
4320	**72**	0.653	0.731	0.993	1.19	1.4	1.74	2.03

3.3 Design Criteria

The stormwater drainage system has been designed in accordance with the requirements of CBH Design Specification TS10A – Civil Earthworks, Roads and Drainage (CBH-ENG-CI-SST-0001_rev3) and followed guidelines set out in the Australian Rainfall & Runoff (ARR).

A summary of the stormwater design criteria adopted for the project is provided in Table 3.

Table 4: Stormwater Design Criteria

Parameter	Value
Design AEP for Conveyance	5%
Design AEP for On-site Detention	5%
Design AEP for Pre-Development Outflow	20%
Minimum Grade for Open Drains	0.3%
Freeboard to top of subgrade	300mm for basins and conveyance drainage
Maximum Outlet Velocity	2m/s (without scour protection)
Maximum Side Slopes	1V:3H
Minimum Drain Depth	400mm
Runoff Co-efficient	Vegetated Ground: 0.19 Paved Areas: 0.9

4 Stormwater Design

4.1 Soakwells

For the preservation of predevelopment catchment hydrologic conditions, soakwells have sized to store infiltrate runoff from impervious areas of the developed site.

With the Moora Barracks development sitting Sandy Clay soils it is recommended that during construction the pits are over excavated and backfilled with permeable sand. The permeable sand will improve infiltration of the soakwells and reduce emptying time.

To protect against cracking of walls and footings it is recommended to have separation from the infiltration system and buildings. For Moora Barracks based on a Sandy Clay a recommended offset for the soakwells is a minimum of 2.0m, refer table 5.

Table 5: Minimum setback distances

Soil Type	Minimum distance from building footings for infiltration system
Sand	1.0m
Sandy Clay	2.0m
Weathered or Fractured Rock eg sandstone	2.0m
Medium Clay	4.0m
Heavy Clay	5.0m

The Moora Barracks will be owned and operated by CBH, to prevent pits becoming blocked by sediment and litter, CBH are to employ are strict maintenance schedule with routine clearing out of soakwells.

The appointed detailed designer of the carparks, pavements and buildings will be responsible for the location and set-out of the capture pits.

4.2 Catchment 1

Catchment 1 consist of the runoff from the roof of the training building, refer to appendix B for catchment map.

A summary of the design parameters for catchment 01 is provided in table 6.

Table 6: Stormwater Detention for Catchment 01 Design Parameters

Parameter	Catchment 01
Area	237.6 m^2 @ C=0.90
Equivalent Impervious Area	213.8 m^2
Soakwell Dimensions	1.8m height x 1.8m diameter
Number of Soakwells	3 pits
Storage Volume Provided	13.74 m^3
Design AEP Event Detained	5% AEP event
Clearance Time	1.67 Days (2.5 days maximum for 5% AEP)

4.3 Catchment 2

Catchment 2 consist of the runoff from the carpark to the south of the training building, refer to appendix B for catchment map.

A summary of the design parameters for catchment 02 is provided in table 7.

Table 7: Stormwater Detention for Catchment 02 Design Parameters

Parameter	Catchment 02
Area	369.6 m^2 @ C=0.90
Equivalent Impervious Area	332.6 m^2
Soakwell Dimensions	1.8m height x 1.8m diameter
Number of Soakwells	4 pits

Storage Volume Provided	18.32 m^3
Design AEP Event Detained	5% AEP event
Clearance Time	1.67 Days (2.5 days maximum for 5% AEP)

4.4 Catchment 3

Catchment 3 consist of the runoff from the proposed accommodation rooms, kitchen and recreation room, refer to appendix B for catchment map.

A summary of the design parameters for catchment 03 is provided in table 8

Table 8: Stormwater Detention for Catchment 03 Design Parameters

Parameter	**Catchment 03**
Area	630.7 m^2 @ C=0.90
Equivalent Impervious Area	567.6 m^2
Soakwell Dimensions	1.8m height x 1.8m diameter
Number of Soakwells	6 pits
Storage Volume Provided	27.48 m^3
Design AEP Event Detained	5% AEP event
Clearance Time	1.67 Days (2.5 days maximum for 5% AEP)

4.5 Catchment 4

Catchment 4 consist of the runoff from the proposed crossover and 13 bay carpark to the east of the proposed development, refer to appendix B for catchment map.

A summary of the design parameters for catchment 04 is provided in table 9.

Table 9: Stormwater Detention for Catchment 04 Design Parameters

Parameter	Catchment 04
Area	567.4 m^2 @ C=0.90
Equivalent Impervious Area	510.7 m^2
Soakwell Dimensions	1.8m height x 1.8m diameter
Number of Soakwells	5 pits
Storage Volume Provided	22.90 m^3
Design AEP Event Detained	5% AEP event
Clearance Time	1.67 Days (2.5 days maximum for 5% AEP)

5 Conclusion

As per CBH specifications the onsite detention has been sized to store and infiltrate the 5% AEP rainfall event.

The Morra Barracks sits inside of a floodplain, due to its close proximity to the Moore River North Branch. Advice has been sought from DWER, regarding minimum finished floor levels with DWER recommendations being a minimum of 204.2m AHD.

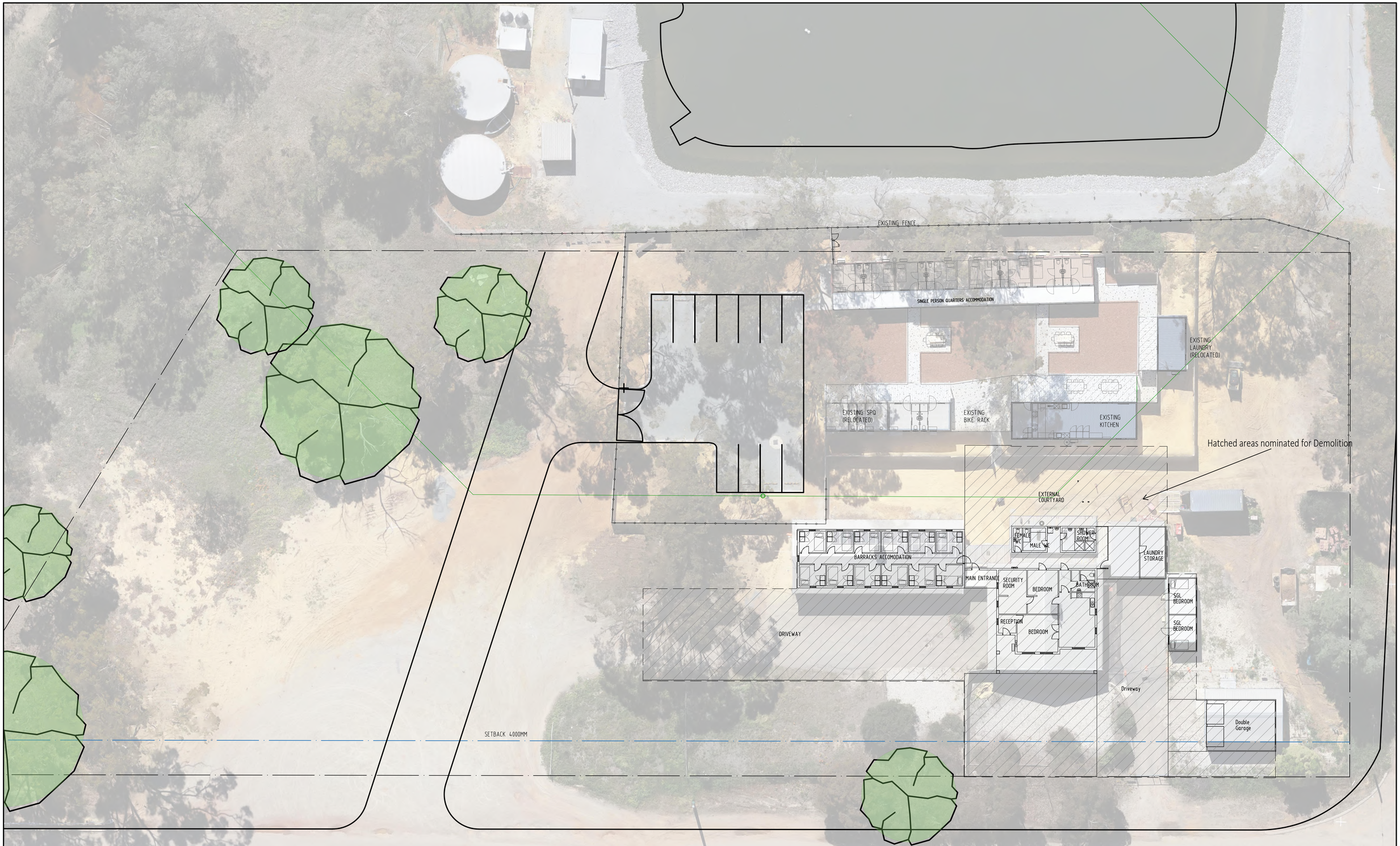
The proposed development has a total impervious area of 1805.3 m^2 spread across 4 separate catchments. The proposed development will require 18 additional soakwells to store and infiltrate the additional runoff.

Table 10: Catchment Summary

Catchment	Area m2	Number of Soakwells 1.8m dia x 1.8m deep
1	237.60	3
2	369.57	4
3	630.70	6
4	567.38	5

The location of the soakwells will be subject to the detailed design of the pavements, carparks and buildings.

Appendix A CBH Concept Plan



CBH GROUP
ABN 29 256 604 947

DEMOLITION

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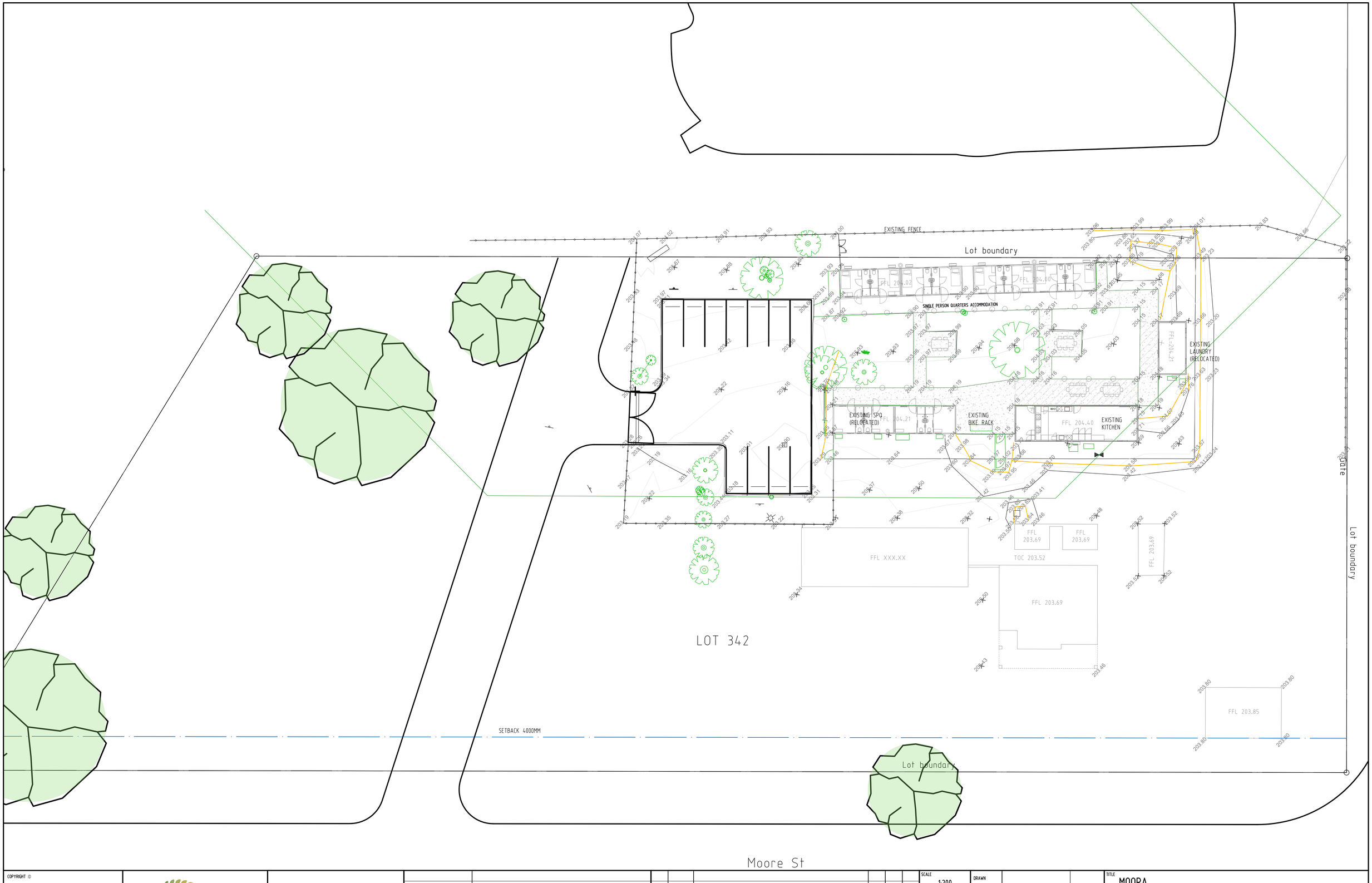
SCALE 1:200
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
DEMOLITION PLAN

DRG No 340-ENG-AR-DGA-XXXX
SHEET 1 OF 1
REV. A



CBH GROUP
ABN 29 256 604 947

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SHEET A1
PROJECT
CONTRACT No

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CHECKED	B LIM	
DESIGNED		
DESIGN APPR		
PROJECT APPR		

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
FEATURE SURVEY

ORG No 340-ENG-AR-DGA-XXXX
SHEET 1 OF 1
REV. A

EXISTING FENCE

STAGE 1 – CONSTRUCTED

EXISTING SPO

EXISTING SPO

EXISTING LAUNDRY

5500

6000

1000

850

2500

EXISTING CARPARK

PROPOSED CARPARK
(13 BAYS)

EXISTING SPO

EXISTING BIKE RACK

EXISTING KITCHEN

BOL

KDLU

SPO

STAGE 2

CR

AS RECOMMENDED BY SHIRE OF MOORA

2000

EXISTING SEWER

EXISTING SEWER

TRAINING ROOM

EXISTING UNSEALED

SPO

SPO

PROPOSED FENCE

13250

BOL

BOL

2000

5500

1000

2500

PROPOSED CARPARK
(12 BAY)

6000

PROPOSED CROSSOVER

6680

SETBACK 4000MM

4000

SMSB

6000

19966

EXISTING CROSSOVER

CBHGROUP
ABN 29 256 604 947

2 COAT PRIME & SEAL

CONCRETE - BROOM FINISH

REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:200
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
SITE PLAN

DRG No 340-ENG-AR-DGA-0001
SHEET 1 OF 1
REV. A

EXISTING FENCE

STAGE 1 - CONSTRUCTED

EXISTING SPQ
RL 204.02

EXISTING SPQ
RL 204.02

MULCH

MULCH

MULCH

EXISTING LAUNDRY
RL 204.21

EXISTING CARPARK

EXISTING SPQ
RL 204.21

EXISTING BIKE RACK

EXISTING KITCHEN
RL 204.21

3400

6900

1500

RL 204.36

RL 204.18
STAGE 2

RL 204.21

2000

3400

MULCH

2400

MULCH

4200

1200

5800

MULCH

3100

MULCH

3100

6000

CR
RL 204.21

2000

2000

SPQ
RL 204.36

SPQ
RL 204.36

EXISTING SEWER

PROPOSED FENCE

5500

6000

1000

850

2500

PROPOSED CARPARK
(13 BAYS)

1300

750

BOL

6000

CBH GROUP
ABN 29 256 604 947

2 COAT PRIME & SEAL

CONCRETE - BROOM FINISH

STAGE 1 - CONSTRUCTED

REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
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SCALE 1:100
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PROJECT
CONTRACT No

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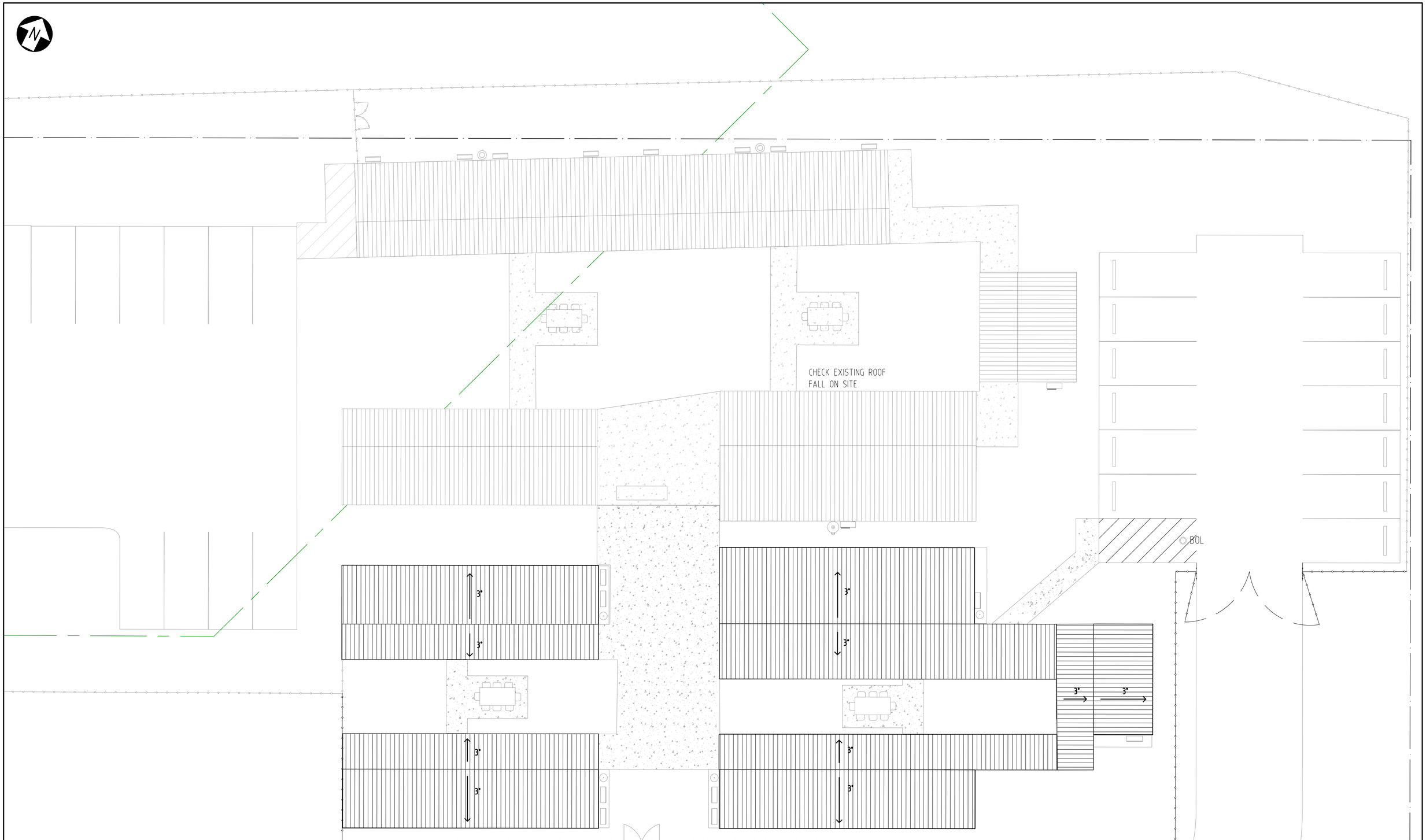
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
FLOOR PLAN

DRG No 340-ENG-AR-DGA-0002
SHEET 1 OF 1
REV. A



CBHGROUP
ABN 29 256 604 947

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SCALE 1:100
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PROJECT
CONTRACT No

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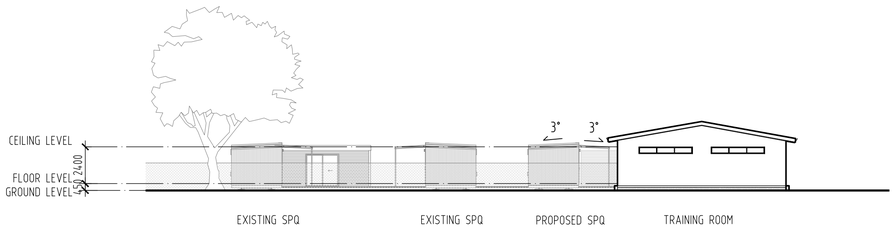
CHECKED	B LIM
DESIGNED	
DESIGN APPR	
PROJECT APPR	

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
ROOF PLAN

DRG No 340-ENG-AR-DGA-0003
SHEET 1 OF 1
REV. A

NORTH ELEVATION



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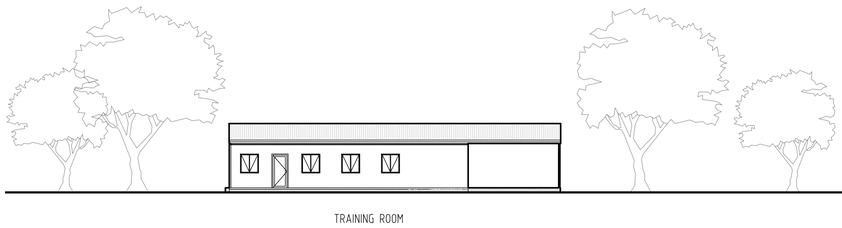
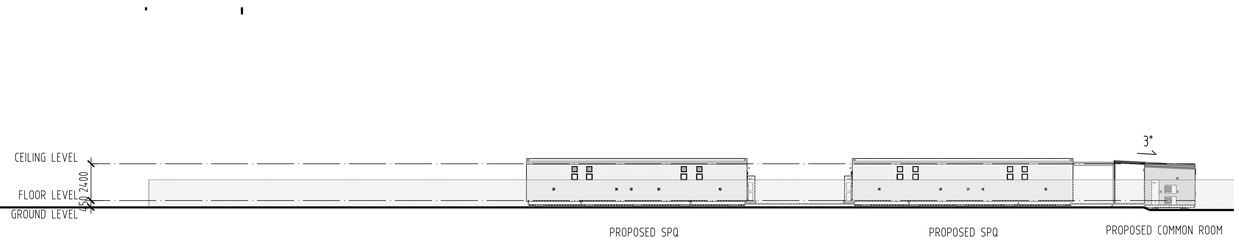
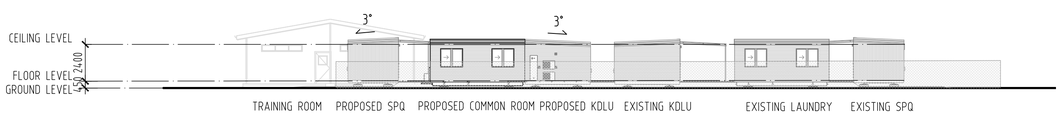




SOUTH ELEVATION



EAST ELEVATION

CBHGROUP
ABN 29 256 604 947

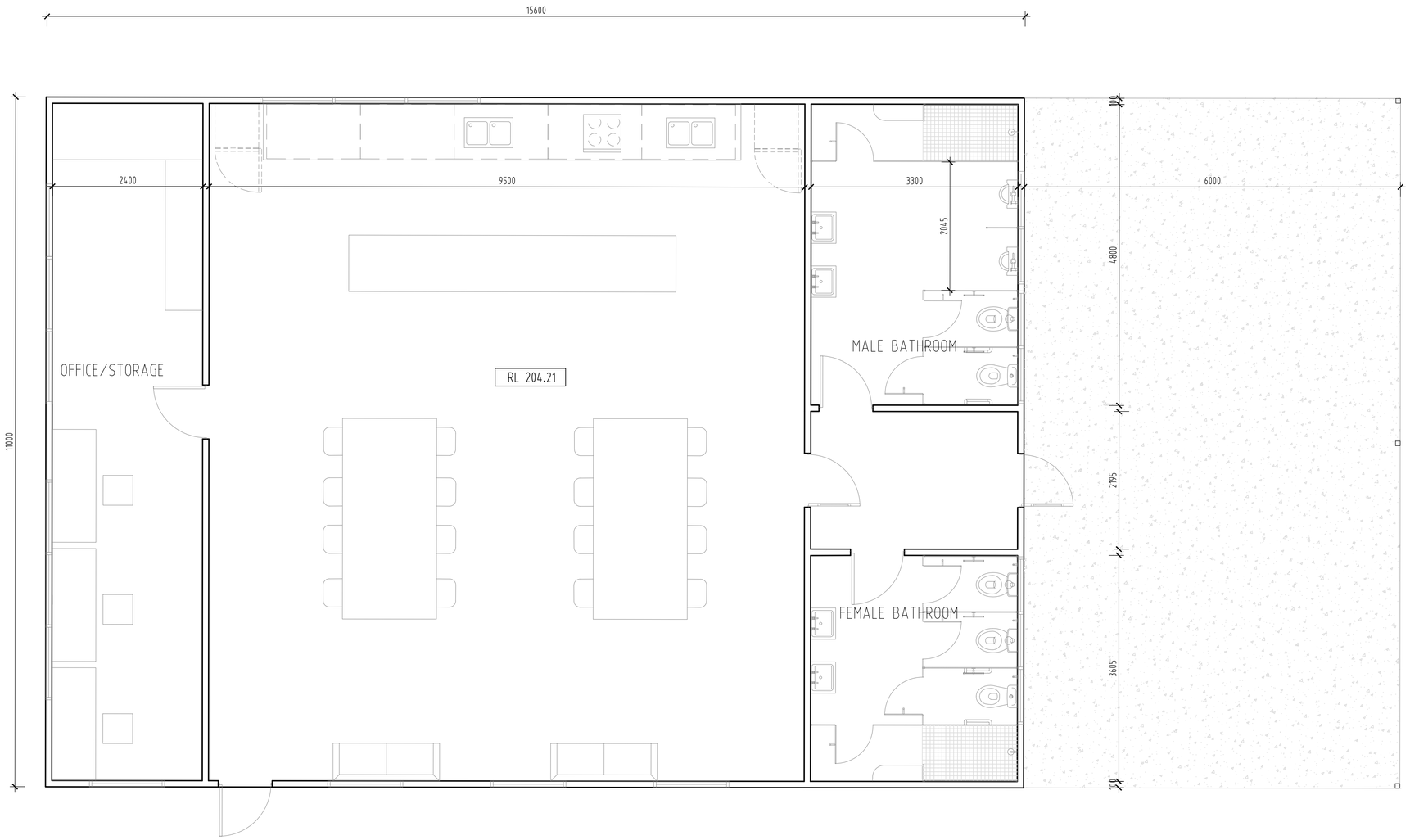
REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
ACCOMMODATION
ELEVATIONS

DRG No 340-DEL-AR-DGA-0001
SHEET 1 OF 1
REV. A



CBHGROUP
ABN 29 256 604 947

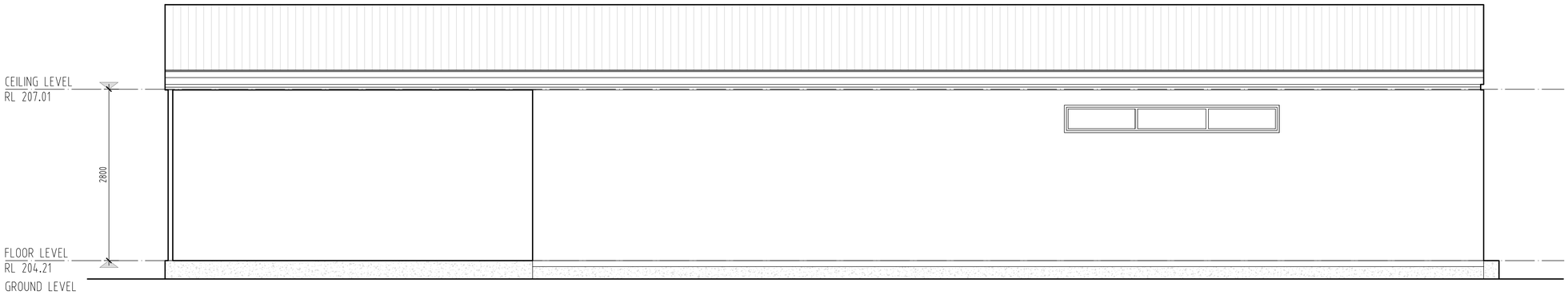
REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:40
SHEET A1
PROJECT
CONTRACT No

DRAWN		
CHECKED	B LIM	
DESIGNED		
DESIGN APPR		
PROJECT APPR		

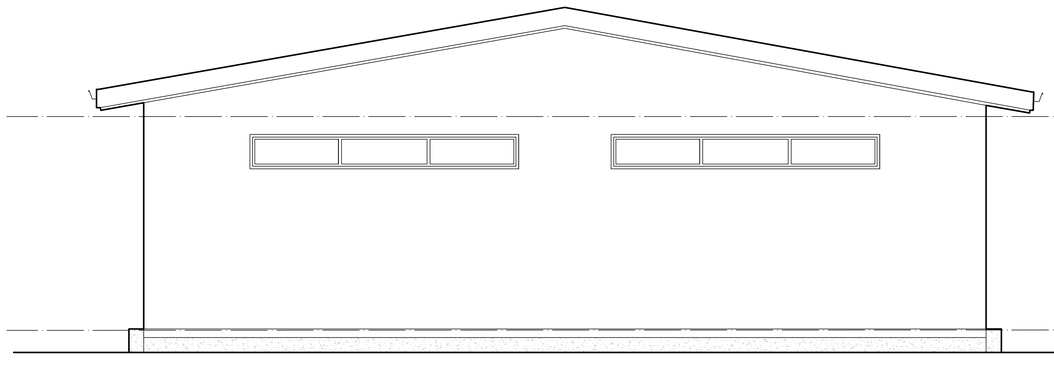
TITLE
MOORA
INFRASTRUCTURE PLANNING
TRAINING ROOM
FLOOR PLAN

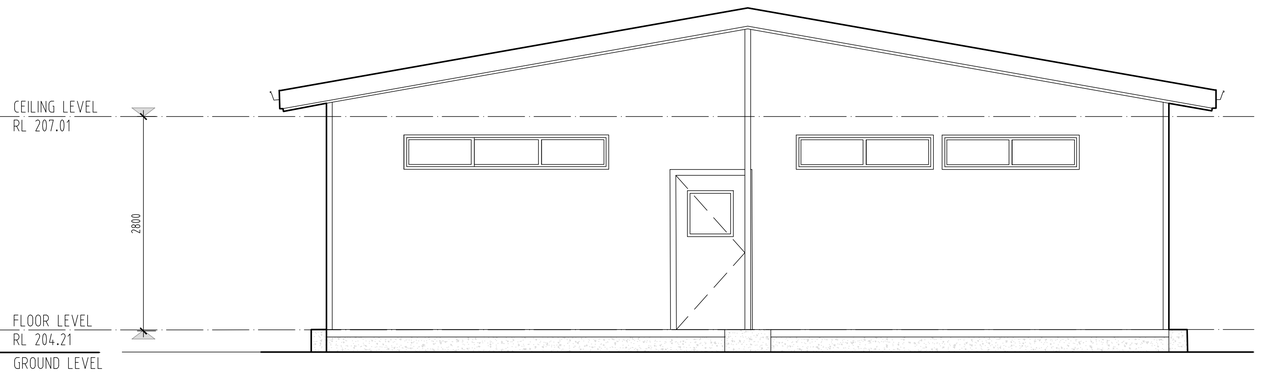
DRG No 340-3209-AR-DGA-XXXX
SHEET 1 OF 1
REV. A



Proposed Wall Material: Horizontal Colorbond Cladding
Proposed Roof Material : Colorbond

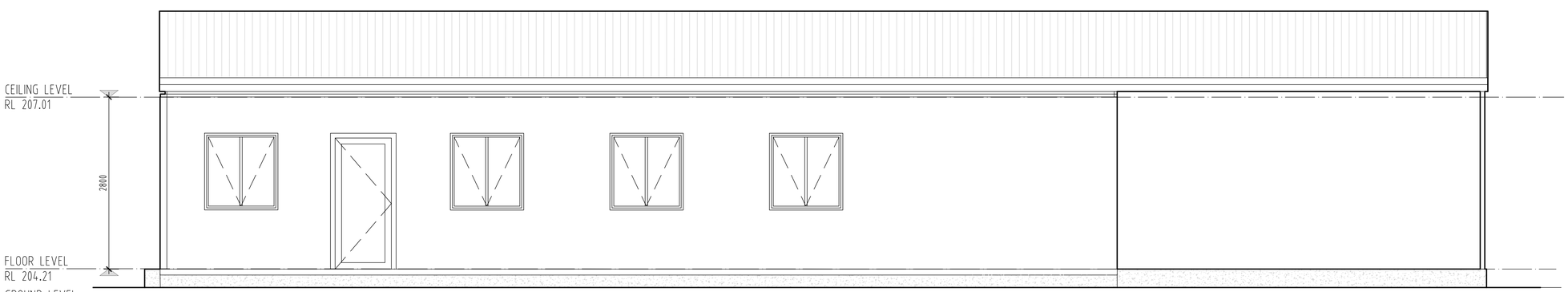
NORTH ELEVATION





WEST ELEVATION

EAST ELEVATION



SOUTH ELEVATION

CBH GROUP
ABN 29 256 604 947

REF DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D
		A	16/11/23	ISSUED FOR CLIENT REVIEW	LY	BL	MR

SCALE 1:100
SHEET A1
PROJECT
CONTRACT No

DRAWN
CHECKED B LIM
DESIGNED
DESIGN APPR
PROJECT APPR

TITLE
MOORA
INFRASTRUCTURE PLANNING
TRAINING ROOM
ELEVATIONS

ORG No 340-3209-AR-DGA-XXXX
SHEET 1 OF 1
REV. A

Appendix B Catchment Plan

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DRAWING IS IN HUG2020 LOCAL CO-ORDINATE GRID SYSTEM.
3. PROPOSED CATCHMENT AREA = 1448.7m²

LEGEND:

- CADASTRAL
- EXISTING CONTOUR
- O/H P — EXISTING OVERHEAD POWER
- AP BOUNDARY
- AP FENCE
- EXISTING TREES
- CATCHMENT BOUNDARY
- OVERLAND FLOW ARROW
- GRATE DRAIN
- CONCRETE – BROOM FINISH
- 2 COAT PRIME & SEAL

Catchments		
Catchment No	Area m²	No. Of Soakwells
1	237.600	3 x 1.8mØ x 1.8m Deep
2	369.574	4 x 1.8mØ x 1.8m Deep
3	630.700	6 x 1.8mØ x 1.8m Deep
4	567.383	5 x 1.8mØ x 1.8m Deep

EXISTING FENCE
STAGE 1 – CONSTRUCTED
EXISTING SPQ
EXISTING SPQ
EXISTING LAUNDRY
EXISTING CARPARK
EXISTING SPQ
EXISTING KITCHEN
PROPOSED CARPARK (13 BAYS)
SPQ
STAGE 2
KITCHEN
CR
SPQ
SPQ
EXISTING SEWER
EXISTING SEWER
O/H P
TRAINING ROOM
1
EXISTING UNSEALED DRIVEWAY
PADBURY STREET
PROPOSED FENCE
PROPOSED CROSSOVER
PROPOSED CARPARK (13 BAYS)
2
3
4
SETBACK 4000mm
SMSB
EXISTING CROSSOVER
O/H P
O/H P
O/H P
O/H P
O/H P
O/H P
O/H P
O/H P
O/H P
MOORE STREET

PRELIMINARY ISSUE
DO NOT USE FOR CONSTRUCTION
DATE 20/12/23

1:250 @ A1
1:500@ A3
0 4 8 12 16 20 24 m

DRG NO.	REF DRAWING TITLE	REV	DATE	DESCRIPTION	DRN	CHK	DES	ENG APP'D	PROJ APP'D	CLIENT APP'D
		A	20.12.23	ISSUED FOR REVIEW	AG	HM	MJ	HM	HM	

Stantec
E & R ENGINEERING GROUP FOR MINING AND MINERALS PROJECTS
STANTEC Perth
Grd Flr, 226 Adelaide Terrace
Perth, WA 6000, Australia
Tel: +61 8 6222 7000
Email: Enquiries.pth@stantec.com

DO NOT SCALE IF IN DOUBT–ASK

DRAWN BY	A.GAUGHAN	16.12.23
CHECKED BY	H.MILLEN	20.12.23
DESIGNED BY	M.JOHNSTON	20.12.23
ENGINEERING APPROVAL	H.MILLEN	20.12.23
PROJECT APPROVAL	H.MILLEN	20.12.23
CLIENT APPROVAL		

TITLE: MOORA 2023 ACCOMMODATION SITE DRAINAGE CATCHMENT PLAN

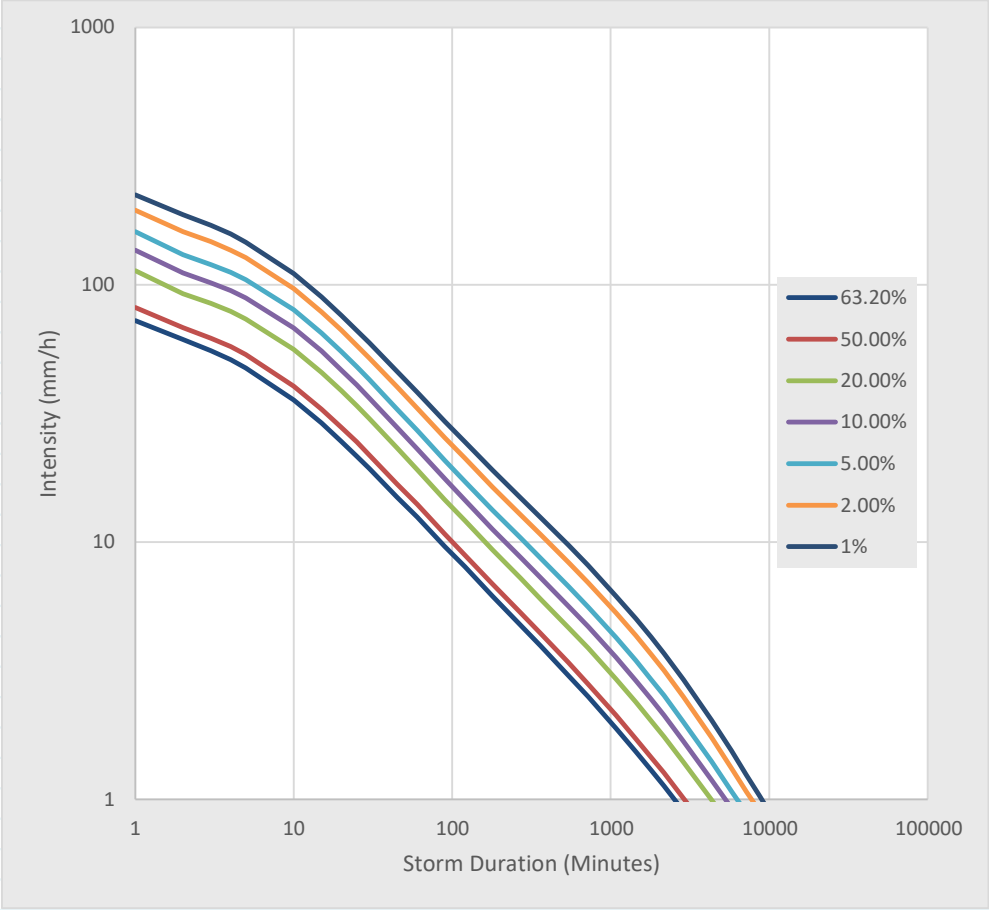
SHT SIZE	SCALE:	DRAWING No:	REV:
A1	1:250	SKT–0001	A

595
801

Appendix C Calculations

Coordinates: Latitude: -30.63681, Longitude: 116.00657
Nearest Grid: Latitude: 30.6375 (S), Longitude: 116.0125 (E)

Duration		Annual Exceedance Probability (AEP)						
Min	Hr	63.20%	50%	20%	10%	5%	2%	1%
5	0.083	47.5	53.5	73.7	88.8	105	127	146
10	0.167	35.6	40.4	56.1	67.8	79.8	96.6	110
20	0.333	24.6	27.9	38.7	46.5	54.9	66.6	75.9
30	0.5	19.3	21.8	30.2	36.2	42.8	51.8	59.4
60	**1**	12.5	14	19.1	23	27.1	33.1	38.2
120	**2**	8.00	8.90	12.1	14.6	17.2	21.2	24.5
180	**3**	6.17	6.87	9.33	11.2	13.3	16.4	19
360	**6**	3.95	4.42	6.02	7.28	8.67	10.7	12.5
720	**12**	2.51	2.81	3.87	4.69	5.6	6.95	8.11
1440	**24**	1.53	1.72	2.39	2.9	3.46	4.33	5.04
2880	**48**	0.9	1.01	1.39	1.68	1.99	2.5	2.92
4320	**72**	0.653	0.731	0.993	1.19	1.4	1.74	2.03



Parameters

Design AEP for On-site Detention	5%
Soil Type	Sandy Clay
Saturated Hydraulic Conductivity (k_h)	1.00E-05
Soil moderation factor (U)	1.0

Post-development Catchment

Area	m^2	C	C*A
Permeable		0.2	-
mpermeable	237.6	0.9	213.8
Total	**237.6**		**213.8**

Time of concentration (t_c) 6 min

Soakwells

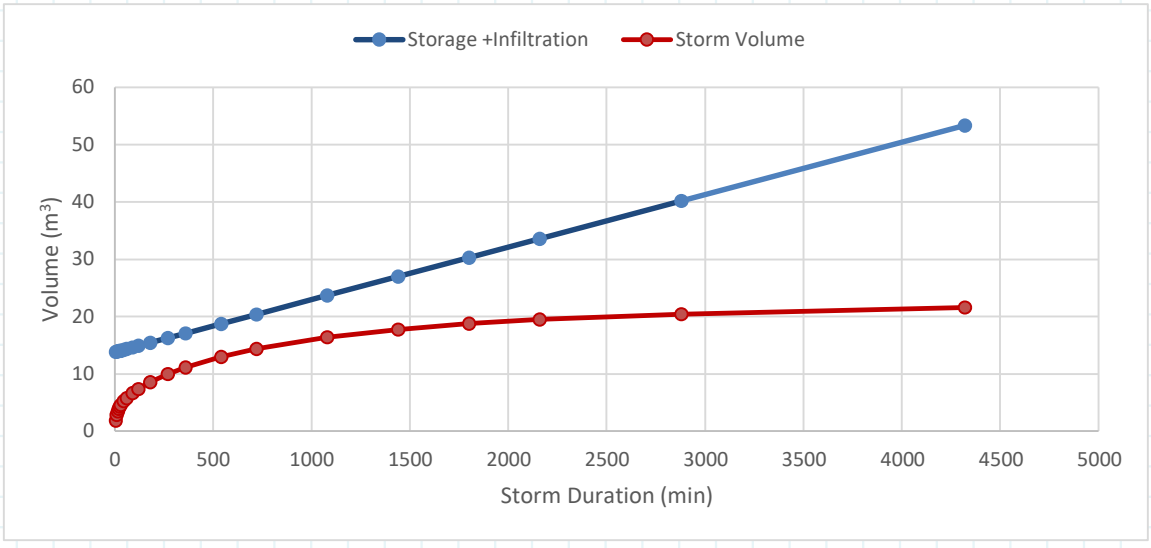
Pit Diameter	1.8	m
Pit Height	1.8	m
Number of Pits	3	

Clearance

Clearance time	1.67	days	
Maximum time	2.5	days	i.e clearance time is less then maximum required

Storm Discharge and Volumes

Duration (Min)	5	10	30	60	120	360	1440	4320
Duration (hr)	0.08333	0.16667	0.5	1	2	6	24	72
Intensity (mm/hr)	104.64	79.8	42.8	27.1	17.2	8.66667	3.4625	1.40278
Storm Volume (m^3)	1.86	2.84	4.58	5.80	7.36	11.12	17.77	21.60
Pit Storage (m^3)	13.74	13.74	13.74	13.74	13.74	13.74	13.74	13.74
Infiltration (m^3)	0.10	0.15	0.33	0.60	1.15	3.35	13.25	39.63
Additional Volume (m^3)	-11.98	-11.04	-9.49	-8.55	-7.54	-5.97	-9.22	-31.77



Parameters

Design AEP for On-site Detention	5%
Soil Type	Sandy Clay
Saturated Hydraulic Conductivity (k_h)	1.00E-05
Soil moderation factor (U)	1.0

Post-development Catchment

Area	m^2	C	C*A
Permeable		0.2	-
mpermeable	369.6	0.9	332.6
Total	**369.6**		**332.6**

Time of concentration (t_c) 6 min

Soakwells

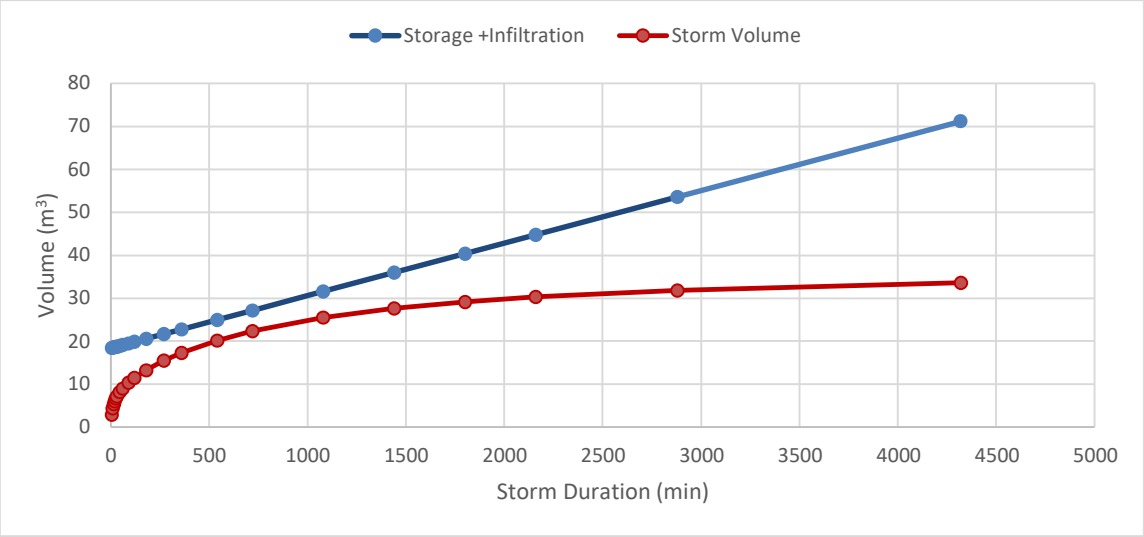
Pit Diameter	1.8	m
Pit Height	1.8	m
Number of Pits	4	

Clearance

Clearance time	1.67	days	
Maximum time	2.5	days	i.e clearance time is less then maximum required

Storm Discharge and Volumes

Duration (Min)	5	10	30	60	120	360	1440	4320
Duration (hr)	0.08333	0.16667	0.5	1	2	6	24	72
Intensity (mm/hr)	104.64	79.8	42.8	27.1	17.2	8.66667	3.4625	1.40278
Storm Volume (m^3)	2.90	4.42	7.12	9.01	11.44	17.30	27.64	33.60
Pit Storage (m^3)	18.32	18.32	18.32	18.32	18.32	18.32	18.32	18.32
Infiltration (m^3)	0.13	0.20	0.44	0.81	1.54	4.47	17.66	52.84
Additional Volume (m^3)	-15.56	-14.09	-11.64	-10.11	-8.42	-5.49	-8.34	-37.57



Parameters

Design AEP for On-site Detention	5%
Soil Type	Sandy Clay
Saturated Hydraulic Conductivity (k_h)	1.00E-05
Soil moderation factor (U)	1.0

Post-development Catchment

Area	m^2	C	C*A
Permeable		0.2	-
mpermeable	630.7	0.9	567.6
Total	**630.7**		**567.6**

Time of concentration (t_c) 6 min

Soakwells

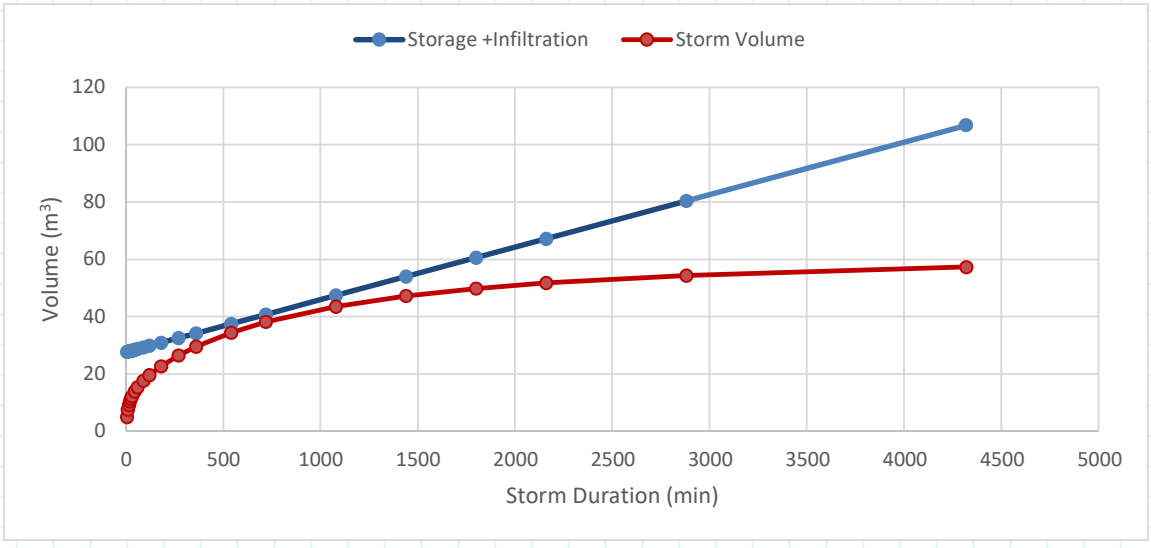
Pit Diameter	1.8	m
Pit Height	1.8	m
Number of Pits	6	

Clearance

Clearance time	1.67	days	
Maximum time	2.5	days	i.e clearance time is less then maximum required

Storm Discharge and Volumes

Duration (Min)	5	10	30	60	120	360	1440	4320
Duration (hr)	0.08333	0.16667	0.5	1	2	6	24	72
Intensity (mm/hr)	104.64	79.8	42.8	27.1	17.2	8.66667	3.4625	1.40278
Storm Volume (m^3)	4.95	7.55	12.15	15.38	19.53	29.52	47.17	57.33
Pit Storage (m^3)	27.48	27.48	27.48	27.48	27.48	27.48	27.48	27.48
Infiltration (m^3)	0.20	0.29	0.66	1.21	2.31	6.71	26.49	79.26
Additional Volume (m^3)	-22.73	-20.23	-15.99	-13.31	-10.26	-4.67	-6.81	-49.41



Parameters

Design AEP for On-site Detention	5%
Soil Type	Sandy Clay
Saturated Hydraulic Conductivity (k_h)	1.00E-05
Soil moderation factor (U)	1.0

Post-development Catchment

Area	m^2	C	C*A
Permeable		0.2	-
mpermeable	567.4	0.9	510.7
Total	**567.4**		**510.7**

Time of concentration (t_c) 6 min

Soakwells

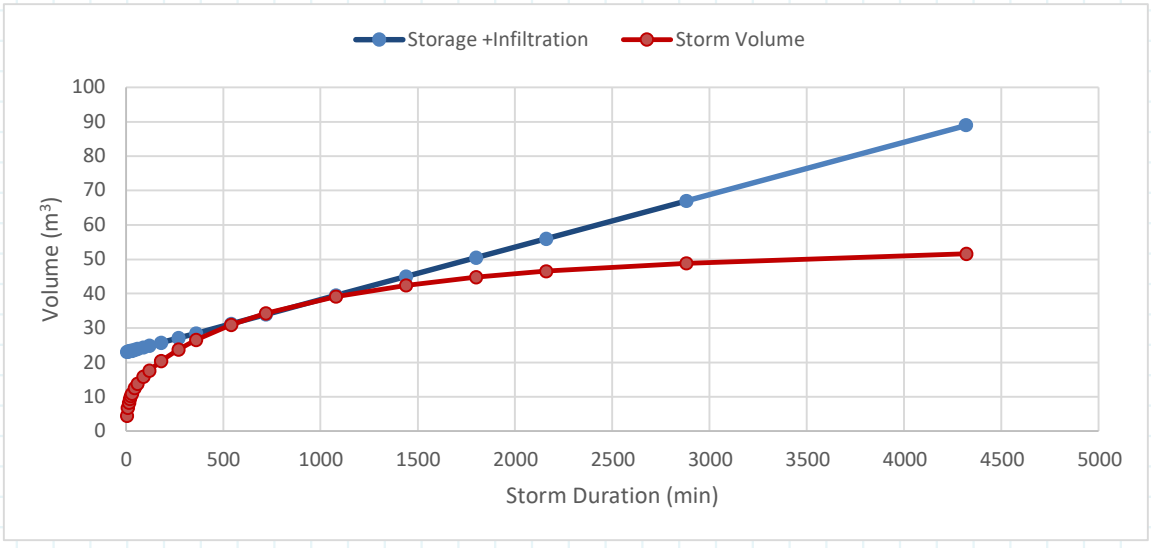
Pit Diameter	1.8	m
Pit Height	1.8	m
Number of Pits	5	

Clearance

Clearance time	1.67	days	
Maximum time	2.5	days	i.e clearance time is less then maximum required

Storm Discharge and Volumes

Duration (Min)	5	10	30	60	120	360	1440	4320
Duration (hr)	0.08333	0.16667	0.5	1	2	6	24	72
Intensity (mm/hr)	104.64	79.8	42.8	27.1	17.2	8.66667	3.4625	1.40278
Storm Volume (m^3)	4.45	6.79	10.93	13.84	17.57	26.55	42.44	51.58
Pit Storage (m^3)	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90
Infiltration (m^3)	0.17	0.24	0.55	1.01	1.92	5.59	22.08	66.05
Additional Volume (m^3)	-18.62	-16.35	-12.52	-10.07	-7.26	-1.94	-2.54	-37.38



Appendix D DWER Correspondence

Johnston, Matthew

From: Flood <flood@dwer.wa.gov.au>
Sent: 30 November 2023 10:59 AM
To: Roberts, Timothy
Cc: Mid West Gascoyne
Subject: RE: Request for FFL - Lot 342 (No. 2) Moore Street, Moora
Attachments: FPM Moore # 2 Moore Street Stage 2 MOORA.pdf; ARR2019 Flood Hazard Curve.JPG; 231116 CBH Moora DA Drawing Set.pdf

Hi Timothy,
The Department of Water and Environmental Regulation provides advice and recommends guidelines for development on floodplains with the object of minimising flood risk and damage.

The Moora Floodplain definition Study shows that the general area is significantly affected by flooding during major flows, with the flood level for an event similar in magnitude to the March 1999 event expected to vary as shown on the attached map.
An flood level of 204.07 m AHD was observed nearby on Padbury Street (see attached map).

When development is proposed within the floodplain our department assesses each proposal based on its merits and the factors examined include depth of flooding, velocity of flow, its obstructive effects on flow, possible structural and potential flood damage, difficulty in evacuation during major floods and its regional benefit.

With regard to the proposed development (Phase 2), the following comments are provided:

- the proposed development is not considered an additional obstruction to major flows since it is in the shadow of existing buildings
- should development be considered acceptable, minimum habitable floor levels of 204.2 m AHD will provide adequate flood protection against similar flooding to March 1999. The drawings show the buildings has a FFL of 204.21 RL and 204.36 RL. Are these levels referenced to Australian Height Datam? If they are, then they are acceptable with regards to major flooding.
- the dwelling will be surrounded by floodwaters of up to 0.5 metre deep during major events (see attached flood hazard curve).

Our Mid-West Gascoyne Region may have information if there are any other considerations for the site.

Please note that a failure to properly adhere to these recommendations will result in a greater exposure to risks of flood damage. It should be noted that this advice is related to major flooding only and other planning issues, such as environmental and ecological considerations, may also need to be addressed.

Regards
Renee

Renee Dixon
Senior Engineer
Flood Risk Science Section
Water Resource Science Branch

Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace, JOONDALUP WA 6027
Locked Bag 10, Joondalup DC, WA 6919
T: (08) 6364 7805 | F: (08) 6364 6516
E: flood@dwer.wa.gov.au | www.dwer.wa.gov.au

Twitter: @DWER_WA

From: Roberts, Timothy <Timothy.Roberts@cbh.com.au>
Sent: Friday, November 24, 2023 1:47 PM
To: Flood <flood@dwer.wa.gov.au>
Subject: Request for FFL - Lot 342 (No. 2) Moore Street, Moora

> You don't often get email from timothy.roberts@cbh.com.au. Learn why this is important

Dear DWER,

CBH would like to engage in early/preliminary discussion to seek advice related to a planned future development at 2 Moora Street, Moora WA.

The phase 1 development constructed on this site in 2023 DWER specified an FFL of 204.00.

CBH are seeking formal advice for the FFL relating to phase 2 and or any other considerations DWER may have relating to this site.

Attached preliminary plans for review.

If you need anything further from me to assist with this enquiry, please let me know.

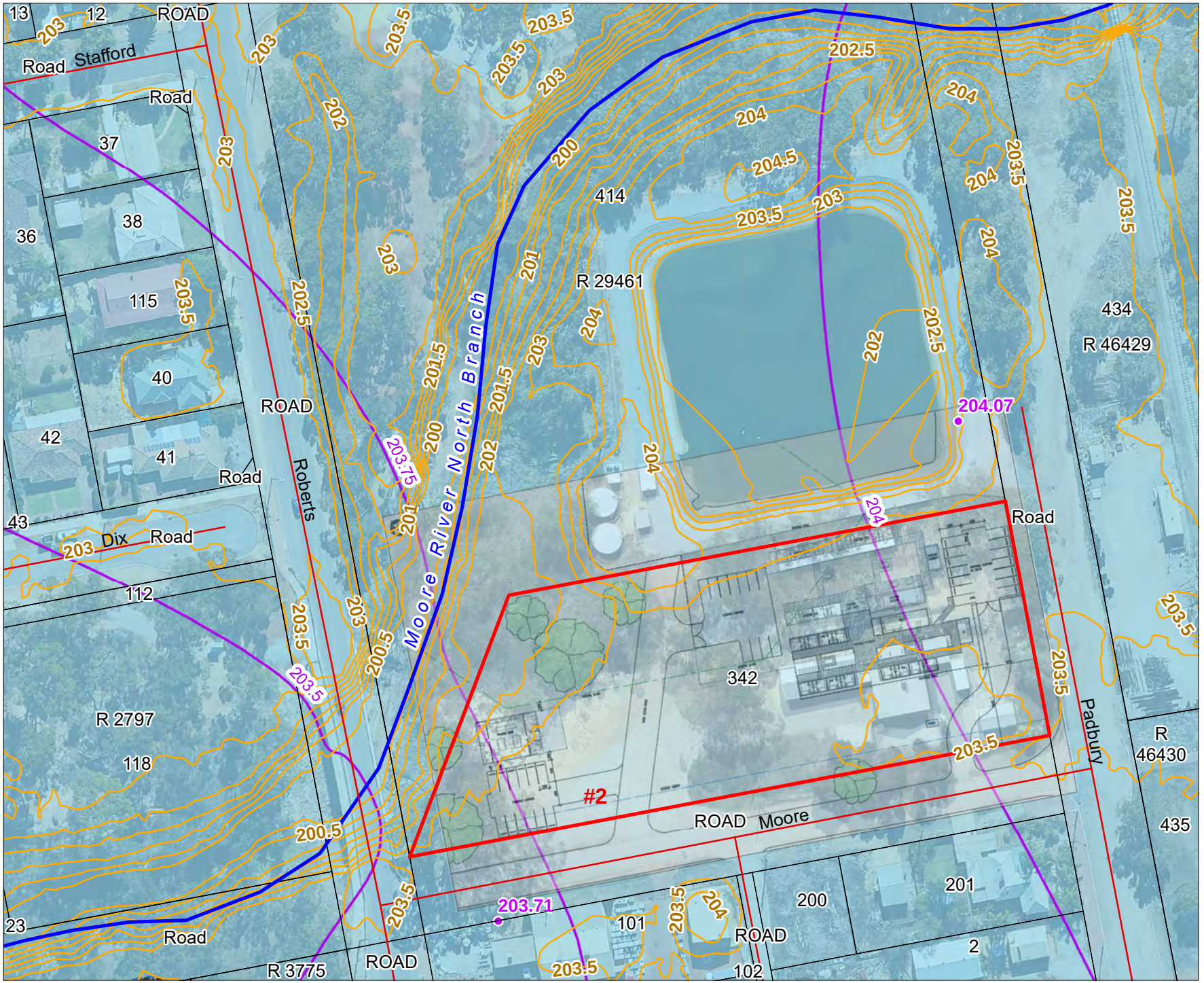
Timothy Roberts
Lead - Planning and Approvals

Timothy.Roberts@cbh.com.au
T (08) 9216 6061

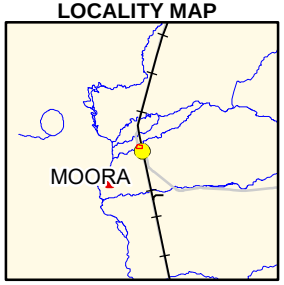
Level 6, 240 St Georges Terrace
Perth WA 6000 Australia

Lot 342 # 2 Moore Street

MOORA



LOCALITY MAP



LEGEND

- Lot 342 Moore Street MOORA
- Hydrography
  March 1999
- GHD Surveys Pty Ltd
- 0.5m Interval contours (m AHD)
- Designated flood event level contour
- Designated flood event floodplain
- Roads

N

0 25 50
Metres

Datum and Projection Information
Vertical Datum: AHD71
Horizontal Datum: GDA2020
Projection: MGA Zone 50
Spheroid: GRS80

Project Information
Client: Timothy Roberts
Map Author: Renee Dixon
Task ID: 3531
Compilation date: 30/11/2023
Edition: Version 1

SOURCES

The Department of Water and Environmental Regulation acknowledges the following datasets and their custodians in the production of this map:

Railways - Landgate - 09/02/2010
Road Centrelines, DLI - Landgate - 01/02/2016
Spatial Cadastral Database (SCDB) - Landgate - 01/05/2018
Moora 2023 10cm z50 - Landgate

Government of Western Australia
Department of Water and Environmental Regulation

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This map was produced with the intent that it be used for display purposes at the scale of 1:1,300 when printing at A4.

While the Department of Water and Environmental Regulation has made all reasonable efforts to ensure the accuracy of this data, the department accepts no responsibility for any inaccuracies and persons relying on this data do so at their own risk.

Path: J:\gisprojects\Project\DWER\3000_SCI_PLA\3531_FLD_RISK_SC\0001_FPM_Enquires\mxd\Moore\Moora\FPM Moore # 2 Moore Street Stage 2 MOORA.mxd

Transport Impact Statement

Project:	Proposed Accommodation and Training Development Moora Barracks – 2 Moore Street, Moora
Client:	CBH Group
Author:	Paul Nguyen
Date:	4th December 2023
Shawmac Document #:	2311006-TIS-001

CONSULTING CIVIL AND TRAFFIC ENGINEERS
1 ST. FLOOR, 908 ALBANY HIGHWAY, EAST VICTORIA PARK WA 6101.
PHONE|+61 8 9355 1300
EMAIL| admin@ shawmac.com.au

Document Status: Client Review

Version	Prepared By	Reviewed By	Approved By	Date
A	P. Nguyen	L. De Leon	P. Nguyen	04/12/2023

Disclaimer

File Reference: Y:\Jobs Active 2023\T&T - Traffic & Parking\CBH_Moora Barracks Accommodation_TIS_2311006\3. Documents\3.2 Reports\CBH_Moora Barracks Accommodation_TIS_Rev A.docx

Contents

Figures

Tables

1. Introduction

1.1. Proponent

Shawmac has been engaged by CBH Group to prepare a Transport Impact Statement (TIS) for a proposed expansion to an existing accommodation development in Moora.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*. The assessment considers the following key matters:

- Details of the proposed development.
- Vehicle access and parking.
- Provision for service vehicles.
- Daily traffic volumes and vehicle types.
- Traffic management on frontage streets.
- Public transport access.
- Pedestrian access.
- Cycle access
- Site specific and safety issues.

1.2. Site Location

The site address is 2 Moore Street in Moora. The local authority is the Shire of Moora.

The general site location is shown in Figure 1 and an aerial view of the site is shown in Figure 2.

Figure 1: Site Location

Figure 2: Aerial View

2. Proposed Development

There are 12 existing accommodation units on the site and other supporting facilities. The redevelopment will result in a total of 24 single bedroom accommodation units, supporting buildings (kitchen / laundry, common room), a training room and additional parking.

The training room will accommodate up to 24 people at any one time and will be used for pre-start meetings and ad-hoc training events for local staff. The hours of use will be from 6am to 6pm:

- 7 days per week during the peak harvest season from October to January
- 5 days per week during the remainder of the year.

The development will be occupied by CBH workers who will work at the nearby CBH Moora site towards the south.

The proposed site plan is shown in Figure 3.

Figure 3: Site Layout

3. Traffic Management on Frontage Streets

3.1. Road Network Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in Figure 4.

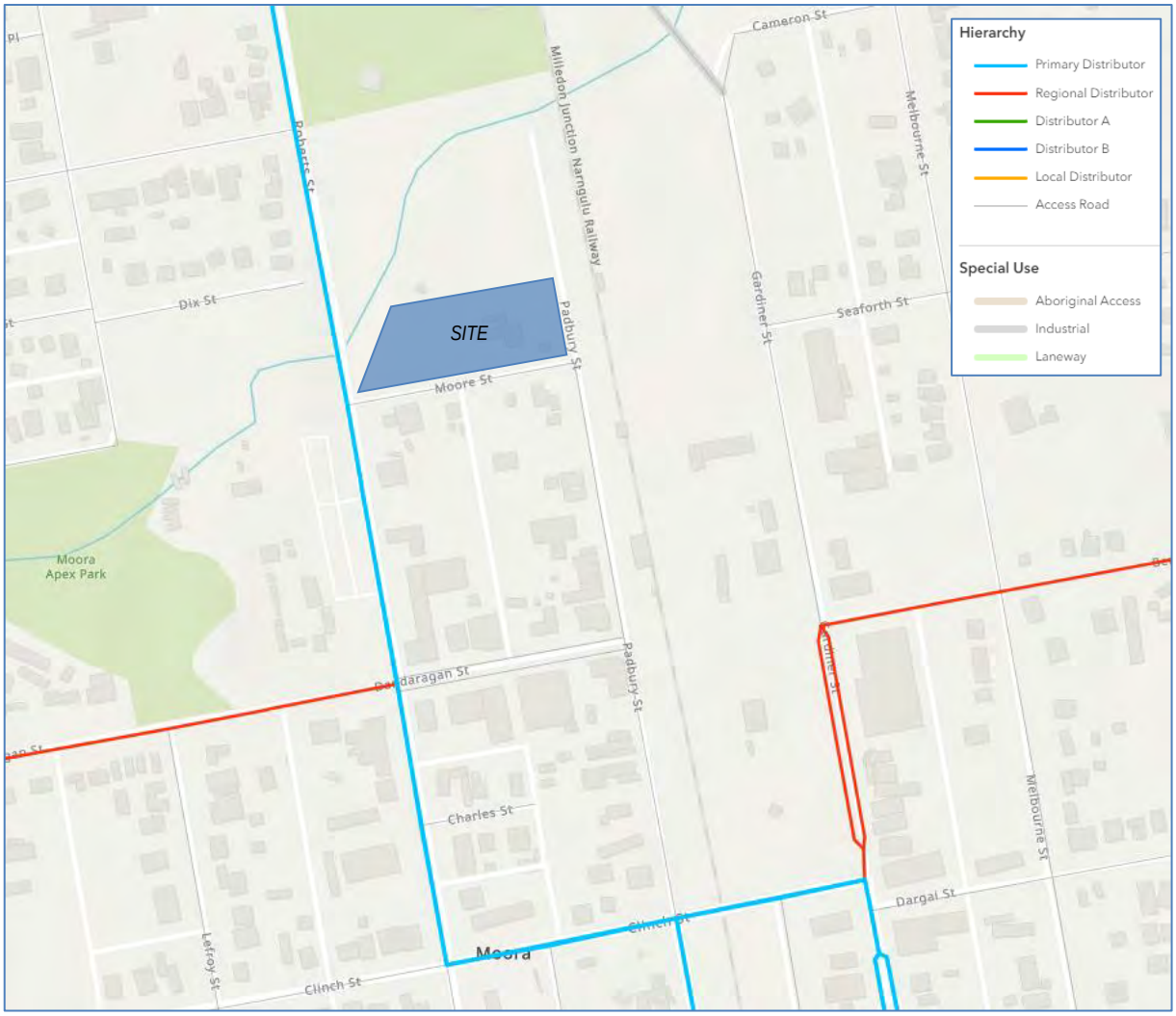

Figure 4: Existing Road Network Hierarchy

3.2. Speed Limits

The speed limits are shown in Figure 5.

Figure 5: Existing Speed Limits

4. Vehicle Access and Parking

4.1. Access

Vehicle access is proposed via Moore Street as shown in Figure 6.

Figure 6: Vehicle Access Arrangement

4.2. Sight Distance

Sight distance requirements from vehicle exit points are defined in Figure 3.2 of AS2890.1 which are based on the Austroads Stopping Sight Distance (SSD). Based on the 50km/h speed limit along Moore Street, the minimum SSD requirement is 55m.

The sight distance check is shown in Figure 7. As shown, the required SSD is achieved at both crossovers in both directions. At the eastern crossover, the sight distance is partially reduced by the vegetation within the lot on the south side of Moore Street. However, vehicles approaching from this direction will have just turned a corner and will therefore be travelling well below the speed limit. Based on the approximate 10m turning radius and standard 3% superelevation, the curve negotiating speed would be approximately 20km/h (based on the Main Road Supplement to Austroads Guide to Road Design Part 4B). The realistic required stopping sight distance based on a 20km/h approach speed is approximately 18m which is achieved in this direction.

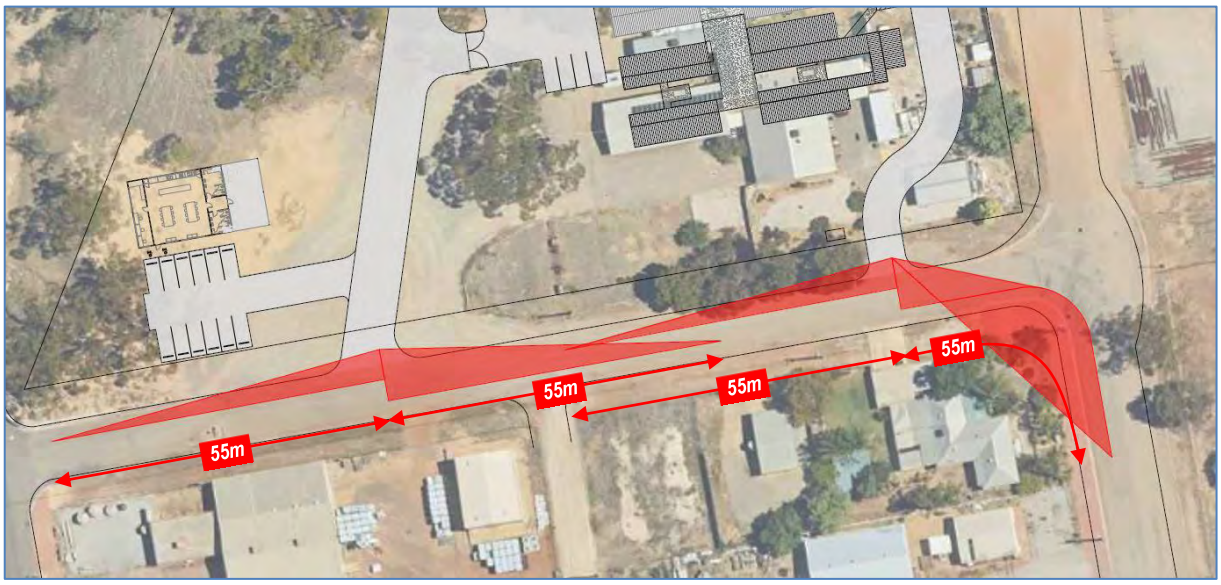

Figure 7: Sight Distance Check – Moore Street

4.3. Car Parking

It is proposed to provide a total of 36 car parking bays on the site.

4.3.1. Planning Scheme Requirements

The Shire's Local Planning Scheme and local planning policies do not appear to specify minimum parking requirements for developments. Standard practice in other local government areas is to require 1 bay per accommodation unit. For the training room, the parking demand could be estimated be based on the maximum number of people expected to be accommodated at any one time. It is noted that some training attendees will be local staff, some attendees would be living in the accommodation units or some attendees may drive in groups. On this basis, the provision of 1 bay per 2 attendees is considered to be appropriate.

Based on the proposed 24 rooms and a capacity of 24 people in the training room, the maximum parking demand is estimated to be 36 vehicles.

The proposed 36 bays is assessed as being sufficient. There is also sufficient clear area around the site for overflow parking in the unlikely event that additional parking is required.

4.3.2. Parking Design

Car parking areas are typically required to comply with the requirements of Australian Standard AS2890.1. The user class will depend on the purpose of the bay as detailed in Figure 8.

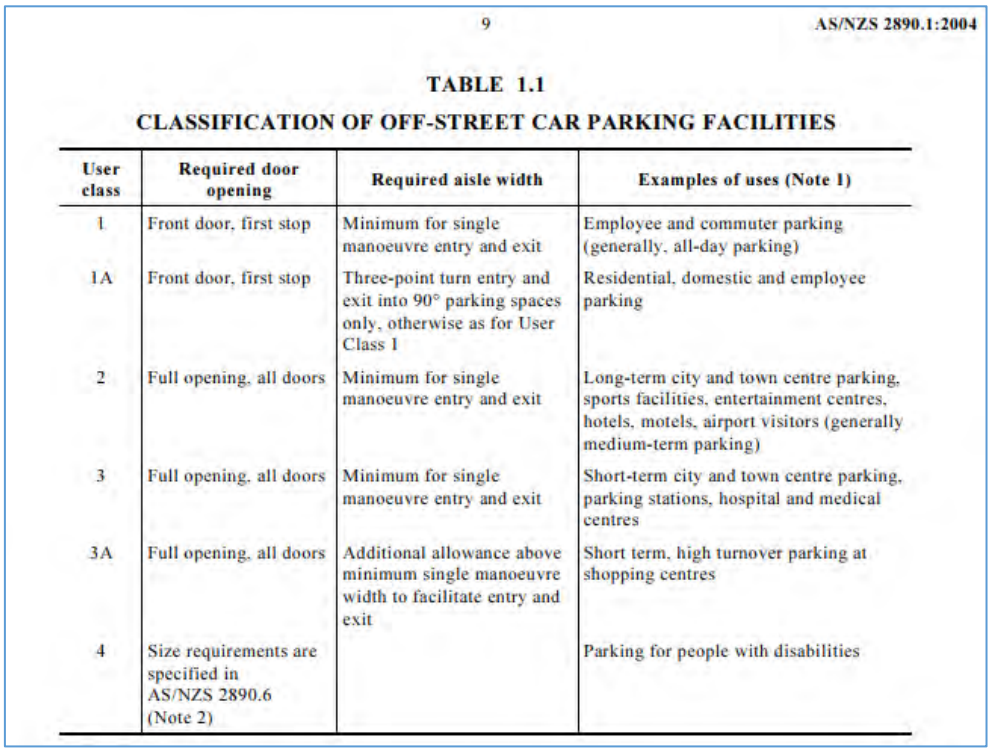

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TABLE 1.1

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

Figure 8: Classification of Parking Facilities

Resident parking (long-term parking) would be classified as User Class 1A and the training car park would be User Class 2 for medium-term parking. A summary of the AS2890.1 parking requirements is detailed in Table 1.

Table 1: AS2890.1 Car Parking Compliance

Dimension	Requirement	Provided
90 degree parking – Class 1 – Long Term Parking (Residents)		
Car Bay Width	2.4m	3.0m
Car Bay Length	5.4m	6.0m
Parking Aisle Width	5.8m	6.0m
90 degree parking – Class 2 – Medium Term Parking (Training)		
Car Bay Width	2.5m	3.0m
Car Bay Length	5.4m	6.0m
Parking Aisle Width	5.8m	6.0m

As shown, the key parking dimensions are compliant with AS2890.1.

4.4. Bicycle Parking

The proposed use is unlikely to generate any demand for cycling and so the provision of bicycle parking or end of trip facilities is not considered to be warranted.

4.5. Provision for Service Vehicles

Waste will be collected on-site during the peak season from October to January. During the remainder of the year, waste will be collected from the verge via council collection.

A vehicle swept path analysis has been undertaken in AutoTURN to check the manoeuvring of waste vehicles through the driveway and car park. The analysis has been undertaken using a vehicle template for a typical 10m long waste collection vehicle.

The results of the analysis are attached as Appendix A. The analysis demonstrates that the site provides adequate room for the waste vehicle to enter and exit the site in a forward direction.

5. Traffic Generation

The proposed development will accommodate CBH workers who will travel to the nearby CBH Moora facility in the morning between 5:30am and 6:00am and then return in the evening between 5:30pm and 6:00pm.

Assuming all workers drive individually, it is estimated that the development will generate approximately 24 vehicle movements during each peak hour, including 24 outbound vehicle movements during the morning peak hour and 24 inbound vehicle movements during the afternoon peak hour. This estimate is considered to be a worst-case scenario as some workers may travel together and some may potentially be transported by bus.

Traffic generated by the training room is likely to be lower and unlikely to coincide with the peak worker movements.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis. The estimated 24 vehicles per hour is around the middle of this range and so the development traffic is considered to have a low to moderate impact and can be accommodated within the existing capacity of the road network.

6. Pedestrian and Cyclist Access

There are no paths along Moore Street and the closest walkways and paths are along Roberts Street and Padbury Street. Based on the location of the site and the proposed use, the demand for walking and cycling to and from the site would be minimal and so the provision of new paths or cycle lanes is not warranted by the proposed development.

7. Public Transport Access

There are no existing public transport services within reasonable walking distance of the site. All residents are expected to travel via private vehicle and so there is no demand for public transport.

8. Site Specific Issues and Safety Issues

8.1. Crash History

The crash history of the adjacent road network was obtained from the MRWA Reporting Centre. The crashes recorded over the five-year period from January 2018 to December 2022 are summarised in Figure 9.

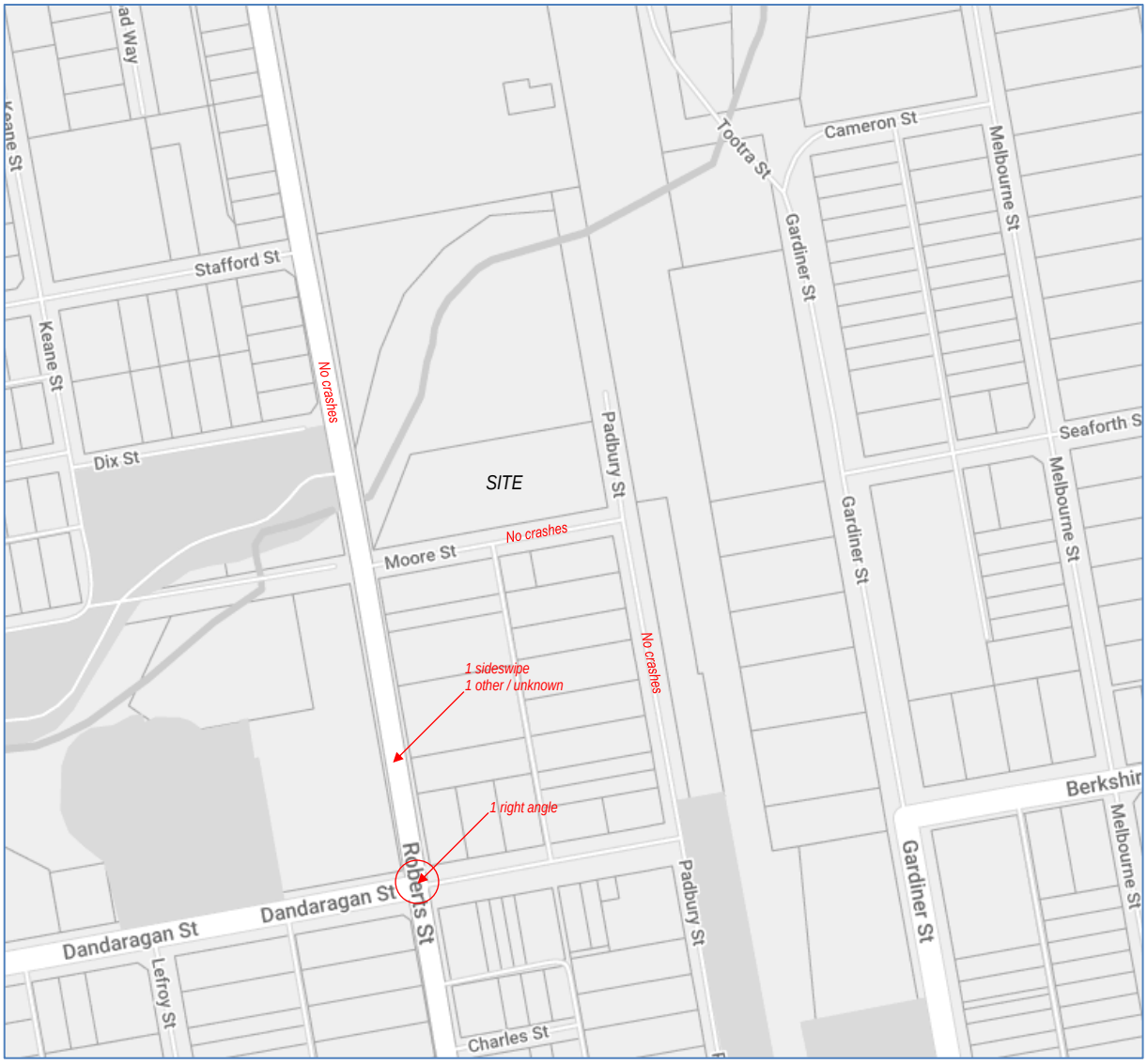

Figure 9: Crash History

The crash history is low and does not appear to indicate any major safety issues on the adjacent road network.

The proposed redevelopment itself will generate a low volume of additional traffic and there is no indication that the development would increase the risk of crashes unacceptably.

9. Conclusion

This Transport Impact Statement for the proposed accommodation development at 2 Moore Street in Moora concluded the following:

- It is estimated that the development will generate approximately 24 vehicle movements during each peak hour, including 24 outbound vehicle movements during the morning peak hour and 24 inbound vehicle movements during the afternoon peak hour. This estimate is considered to be a worst-case scenario as some workers may travel together and some may potentially be transported by bus. This volume of traffic is low and can be accommodated within the existing capacity of the road network with no major impact.
- The provision of 36 car bays is considered to be sufficient for the proposed development.
- The key parking dimensions are compliant with AS2890.1.
- A vehicle swept path analysis demonstrates that the site provides adequate room for the waste vehicle to enter and exit the site in a forward direction.
- The proposed use is unlikely to generate any demand for cycling and so the provision of bicycle parking or end of trip facilities is not considered to be warranted.
- It is expected that all residents and visitors will be accessing the site via a motor vehicle and so there is no demand for additional path infrastructure or public transport services.
- The crash history of the adjacent road network did not indicate any safety issue on the adjacent road network and there is no indication that the development would increase the risk of crashes unacceptably.

Appendix A – Waste Swept Path


10000
2000
5400
Waste Collection Truck
mm
Width : 2600
Track : 2600
Lock to Lock Time : 6.0
Steering Angle : 27.7
Waste Collection Truck
EDMONTON 2018 (CA)
Waste Collection Truck
EDMONTON 2018 (CA)
Waste Collection Truck
EDMONTON 2018 (CA)
Waste Collection Truck
EDMONTON 2018 (CA)