TENDER - LIBRARY EXTENSION
RFT 22/23 – 02

The Shire of Narrogin is seeking Tenders for the construction of an extension to the R.W. (Bob) Farr Memorial Library as described in the tender documentation.

Tender documentation can be downloaded via the Shire Website.
www.narrogin.wa.gov.au/documents/request-for-quotes-and-tenders

The Council's Regional Price Preference Policy Applies and canvassing of Elected Members will disqualify tenderers. No tender necessarily accepted, and tenders must be clearly marked with the above title and submitted electronically to rft@narrogin.wa.gov.au and close 4pm Friday 27 January 2023. For enquiries, please contact the Executive Manager Corporate & Community Services, Mark Furr on via email emccs@narrogin.wa.gov.au or on telephone 9890 0900.

Dale Stewart
Chief Executive Officer
Shire of Narrogin
PO Box 1145 Narrogin WA 6312
enquiries@narrogin.wa.gov.au
www.narrogin.wa.gov.au

SPECIFICATION

FOR THE CONSTRUCTION OF EXTENSION TO ROB FARR MEMORIAL LIBRARY

AT

LOT 46 # 49 FEDERAL STREET NARROGIN 6312

FOR

SHIRE OF NARROGIN

JUDITH McDOUGALL B.D.A.W.A
ACCREDITED BUILDING DESIGNER 15013
TEL 0447 550 275
judithmcdougall@gmail.com

SPECIFICATION of work to be carried out and materials to be used in the construction of ROB FARR MEMORIAL LIBRARY NARROGIN

LOT 46 #49 FEDERAL STREET
NARROGIN 6312

for

NARROGIN SHIRE

The work can be carried out in accordance with the accompanying drawings, this specification, the Conditions of Contract, such as further detail drawings and instruction as may be issued or given during the progress of the works.

JUDITH McDOUGALL B.D.A.W.A.
ACREDDITED BUILDING DESIGNER 15013
17 SPRINGISDE AVE
MT PLEASANT WA 6153

This is the specification referred to in the Contract signed by us this day of in the year two thousand and four.

PROPRIETOR

WITNESS

BUILDER

WITNESS

CONTENTS

PRELIMINARIES 1.0

GENERAL 1.01

SCOPE – PRELIMINARIES 1.01.01

OUTLINE DESCRIPTION: The works include, but are not necessarily limited to, the matters or things referred to in the outline description of the Works given in the SCHEDULES TO PRELIMINARIES.

DIRECTIONS TO CONTRACTOR – PRELIMINARIES 1.01.02

IMPERATIVES: Directions, instructions and the like given in this specification, whether or not they include the expression 'the Contractor shall' or equivalent, shall be deemed to be given to and accepted by the contractor, unless otherwise stated in the contract.

INTERPRETATIONS – PRELIMINARIES 1.01.03

WORDS AND EXPRESSIONS: In the contract, except where the context otherwise requires:

'approved', 'directed', 'required', 'rejected and similar expressions, shall mean approved, directed, required, rejected, and the like, by the Superintendent;

'give notice', 'submit', 'furnish' and similar expressions, shall mean give notice, submit, furnish and the like, to the Superintendent;

'Bill of Quantities' means a document named therein as a Bill of Quantities issued to tenders stating estimated quantities of work to be carried out'

'Constructional Plant' means appliances and things used in the execution of the work under the Contract, but not forming part of the Works or Temporary Works;

'the Contractor' has the same meaning as 'the Builder';

'Drawings' means the drawings referred to in the Contract and any modification of such drawings notified to the Contractor by the Superintendent and includes such other drawings as may from time to time be supplied to the Contractor by the Superintendent, or the use of which has been permitted by the Superintendent, for the purpose of the Contract;

'the Principal' has the same meaning as 'the Proprietor';

Project Manager' means the Proprietors authorised representative.

'Schedule of Rates' means any schedule included in the Contract which, in respect of any section or item of work to be carried out, shows the rate or respective rates of payments for the execution of that work and which may also include lump sums, provisional sums, contingency sums, quantities and prices;

'the Superintendent' has the same meaning as 'the Architect';

'Temporary Works' means works used for the execution of the work under Contract but not forming part of the Works';

'work under the Contract' means the work which the contractor is or may be required to execute under the contract, and includes variations, remedial work, Constructional Plant and Temporary Works.

PUBILICITY – PRELIMINARIES **1.01.04**

APPROVAL: Do not use any information, publication, document or article for publication concerning the project in any media without prior approval of the Principal. Refer to the Principal any enquiries concerning the project from any media.

STATUTORY REQUIREMENTS – PRELIMINARIES **1.01.05**

PRIOR APPLICATIONS: Prior to entering into this agreement the principal has, in respect of the lawful requirements of public and other authorities applicable to the Works, given the notices, paid the fees, and obtained the approvals stated in the SCHEDULES TO PRELIMINARIES, evidence of which shall be provided to the Contractor, who shall remain responsible for compliance with all relevant statutory requirements in accordance with the Contract conditions.

PROPRIETOR/CLIENT IDENTIFICATION **1.01.06**

THE Proprietor as named in the Contract is SHIRE OF NARROGIN 89 EARL STREET NARROGIN 6312 TEL 08 9890 0900

CONSULTANTS **1.01.07**

Consultants engaged by the Proprietor for this project are:

Designer: Judith McDougall
17 Springside Ave
Mt Pleasant 6153
Tel. 0447 550 275

Structural Engineers: Dan Turner
Felspar Street
Narrogin WA 312
Tel. 08 9414 7001
Fax. 08 9414 7007

Electrical Engineers Sage Consulting Engineers Pty. Ltd.
203 Railway Road
Subiaco
Tel.08 9388 9745
Fax. 08 9388 9256

Hydraulic Engineers Carrington & Associates
8/300 Albany Highway

Victoria Park
Tel. 08 9355 0055
Fax. 08 9355 0044

Energy Engineers: Modus Compliance Pty Ltd
Unit 13/127 Herdsman Pde
Wembley WA 6014
Tel 9444 5922

Certifier Modus Compliance Pty Ltd
Unit 13/127 Herdsman Pde
Wembley WA 6014
Tel 9444 5922

DOCUMENTS 1.02

DRAWINGS AND SPECIFICATION – PRELIMINARIES 1.02.01

REPRESENTATION: The drawings, if any, and the Specification represent generally the forms, dimensions and description of the Works.

INTERPRETATION OF DRAWINGS – PRELIMINARIES 1.02.02

DIAGRAMMATIC LAYOUTS: The layout of plant and equipment as shown on the Drawings is diagrammatic only. Obtain measurements and other information necessary to carry out the work specified.

EXISTING WORK: If the Works include alterations and/or additions to existing work, verify the dimensions of the existing work before proceeding, and notify discrepancies as required by the Contract.

LEVELS: Spot levels shall take precedence over contour lines and ground profile lines.

SHOP DRAWINGS – PRELIMINARIES 1.02.03

COPIES: The Contractor shall supply five copies or such other number as many may be specified in the Contract, of such documents, including shop drawings and other written information, as he is required by the contract to so supply, together with such further copies as the Contractor requires for his own use.

PERMISSION TO USE: If the Superintendent considers that such documents are suitable for use for the purposes of the Contract he shall give the Contractor permission so to use them and shall return the Contractor's copies to him. Such permission shall not relieve the Contractor from responsibility for the correctness of such documents except insofar as any error in or omission from such documents has been caused to be issued, to the contractor for the purposes of the Contract.

SUPPLY IN SUFFICIENT TIME: Documents to be supplied by the Contractor in accordance with the Contract, including shop drawings, shall be supplied in sufficient time for examination, and revision if necessary, to occur before such documents are required for use.

AVAILABLITY: Keep copies of shop drawings on site.

MEASUREMENT OR WORK – PRELIMINARIES **1.02.04**

BUILING WORK: Unless otherwise specified, measurement of work for the purpose of the Contract shall be in accordance with the principles of the edition last published prior to the closing date of tenders of the Australian Standard Method of Measurement of Building Works, as authorised by agreement between the Master Builders Federation of Australia Inc. and the Australian Institute of Quantity Surveyors, including amendments thereto.

CIVIL ENGINEERING WORK: Unless otherwise specified, measurements of work for the purpose of the Contract shall be in accordance with the last edition last published prior to the closing date for tenders of AS 1181 Method of Measurement of Civil Engineering Works and Associated Building Works.

CONTRACTING **1.03**

EVIDENCE OF CONTRACT – PRELIMINARIES **1.03.01**

CONTRACT IN ABSENCE OF FORMAL INSTRUMENT OF AGREEMENT: Unless and until a formal instrument of Agreement is executed y the parties, the agreement in writing between the parties for the execution of the work under the contract, including the documents or the parts of the documents to which reference may properly be made in order to ascertain the rights and obligations of the parties, shall evidence the Contract.

FORMAL INSTRUMENT OF AGREEMENT: If a formal instrument of agreement is stated to be required in the Conditions of Tendering, or is requested by either party at or before the time of acceptance of the tender, then as soon as practicable:

- The Principal shall prepare in duplicate a formal instrument of Agreement.
- Each party shall execute both copies.
- The Principal shall have both copies duly stamped and shall forward one copy to the Contractor.

SECURITY – PRELIMINARIES **1.03.02**

LODGEMENT: If the Contract permits that security may be provided in the form of a bank guarantee, cash, interest bearing deposit, government bonds or inscribed stock or the like, and if the Contractor

elects so to provide it and the form of security is approved by the Principal (whose approval shall not be unreasonably withheld), the Contractor shall lodge the security with the Principal within fourteen days after the date of acceptance of tender or within such further time as is approved in writing by the Principal. Failure to lodge the security within that time will constitute a breach going to the root of the Contract and the Principal, if he so elects, may give notice in writing of intention to determine the Contract.

CONTRACTOR TO INFORM HIMSELF – PRELIMINARIES 1.03.03

REQUIRED ACTIONS: The Contractor shall be deemed to have:

- Examined all the information made available to him by the Principal for the purpose of tendering including the drawings, specification, schedules, bill of quantities (if any), conditions of tendering, reports. maps, diagrams, Contract conditions, and the like ,and
- Examine all information relevant to the risks, contingencies and other circumstances which could affect his tender, and which is obtainable by the making of reasonable enquiries, and
- Examined the site and its surroundings, and
- Informed himself as far as practicable of all relevant physical conditions upon and below the surface of the site, and transport facilities for deliveries to the site: and
- Informed himself as far as practicable of the nature of the work and materials necessary for the execution of the work under Contract, the means of access to and facilities at the site, and transport facilities for deliveries to the site: and
- Informed himself as to the availability of labour and the accommodation required: and
  Satisfied himself as to the correctness and sufficiency of his tender for the work under the Contract, and that the rates and prices stated therein cover the cost of performing all his obligations under the Contract

LIABILITY: Failure by the Contractor to do all or any of the things he is deemed to have done under this clause will not relieve him of his liability to perform all his obligations under the Contract.

SALES TAX – PRELIMINARIES 1.03.04

GOODS AND SERVICES TAX

For the purposes of this clause:

1. "GST" means goods and services tax applicable to any taxable supplies as determined under the GST Act.
2. "GST Act" means A New Tax System (Goods and Services Tax) Act 1999 and (where the context permits) includes the Regulations and the Commissioner of Taxation's Goods and Services Tax Rulings and Determinations made thereunder and any other written law dealing with GST applying for the time being in the State of Western Australia.
3. "Supply" and "taxable supply" have the same meanings as in the GST Act.

Where the Requirement the subject of this Request or any part thereof is a taxable supply under the GST Act, the price, fee or rates tendered by the Tenderer shall be inclusive of all applicable GST at the rate in force for the time being.

In evaluating the Offers/Tenders, the Principal shall be entitled (though not obliged) to take into account the effect of the GST upon each Offer/Tender.

OTHER DEFINITIONS AND IMPACT OF GST REGISTRATION

TENDER SUM

Where the Tenderer declares in the Form of Tender that it **IS** registered for GST then its Tender Sum shall be deemed to be GST inclusive.
Where the Tenderer declares in the Form of Tender that it **IS NOT** registered for GST then its Tender Sum shall be deemed to be GST exclusive.
The Tender Sum will be value on which the tender is accepted.

VALUE OF WORK

Where the Tenderer declares in the Form of Tender that it **IS** registered for GST then the Value of Work shall be deemed to be ten elevenths of the Tender Sum.
Where the Tenderer declares in the Form of Tender that it **IS NOT** registered for GST then the Value of Work shall be deemed to be eleven elevenths of the Tender Sum.
Wherever the Value of Work is referred to in these Preliminaries it shall have the meaning as stated in the immediately preceding two paragraphs and as determined by the Tenderer's status in regard to registering for GST.
The Principal will use the Value of Work in its assessment of the lowest conforming Tender and the application of any preferences allowable in this Tender.

IMPORT COSTS – PRELIMINARIES 1.03.05

DEFINITION: Import costs shall mean the costs attributable to exchange rates, customs or import duty, primage and the like of the imported content of items purchased for incorporation into the Works.

VARIATION: After execution of the Agreement, if there is any variation in the rates applying to the import costs of such items as are listed as IMPORTED ITEMS in the SCHEDULES TO PRELIMINARIES, the amount of the difference in cost shall be added to or deducted from the contract sum.

REGIONAL TENDER PREFERENCE

GENERAL:

Tenders for building works in prescribed regions may be afforded materials and services preference and regional contractors preference.

Materials and services preference is offered to Tenderers from outside the prescribed region, who undertake to use the suppliers and/or subcontractors from inside the region in the execution of the works.

For materials and services preference to be considered, Tenderers must complete the Regional Tender Preference Calculation Form and submit the completed form on or before the date and time declared for closing tenders.

Regional contractors preference is offered to Tenders with a permanent, fixed establishment within the prescribed region and is automatically applied to their tender. There is no need to submit a claim.

APPLICATION OF PREFERENCES

Application of these preferences is made:

For materials and services: in respect to the value, of any materials and services originating from within the prescribed region.

Or

For regional Contractors: in respect to the value of the works.

IMPLEMENTATION OF PREFERENCES

Implementation of these preferences shall be as follows:

(A) MATERIALS & SERVICES:

Preference at the rate of 5% of the value of materials and services proposed for use in the works and which originate from within the prescribed regional zone, up to a maximum of $20,000.

The point of origin of the materials and services shall not be within the metropolitan area [zone 1] and shall be within a radius from the works not exceeding

200 kilometres in the southwest zone [zone 2] (approximately Jurien to Bremmer Bay)

400 kilometres elsewhere in the state [zone 3] (or the distance to the nearest town, whichever is the greater).

The zone boundaries follow those identified in the Regional Development Commissions Act 1993.

The materials and services, for which the Tender wishes to claim a preference, must indicate the proposed source in the regional Preference Schedule appended to the tender form.

(B) REGIONAL CONTRACTORS PREFERENCE:

A regional contractor is a Contractor having a permanent fixed establishment in the prescribed region as defined above under “Materials and Services”.

The whole of the tender sum shall be subject to a preference in favour of Regional Contractors, calculated at the rate 5% of the tender sum up to a maximum of $50,000.

Where it is not apparent for the tender submitted that a tender might qualify for a preference under this section, the tender must include a statement with its tender, containing details of the establishment within the regional zone.

INSURANCE – PRELIMINARIES **1.03.06**

The Builder shall effect insurance’s as set out in TENDERING.

CONTINGENCY SUM **1.03.07**

The Contractor is to allow for the payment of special site allowances. Over award rates or any other costs involved in awards or industrial agreements which may apply to site and become payable during the contract period.

SUBCONTRACTING 1.04

APPROVED SUB-CONTRACTORS – PRELIMINARIES 1.04.01

APPROVAL: The Contractor shall not without the written approval of the Principal, which approval shall not be unreasonably withheld sub-contractor any part of the work under the contract for which the contract requires that the sub-contractor be approved.

SUB-CONTRACTORS NAMED IN THE SPECIFICATION: Although the specification may name one or more approved sub-contractors for a part of the work (whether it be to supply and fix, or to supply or fix, materials or goods or to carry out work on the site) for which no provisional sum has been included, the Contractor is not authorized to sub-contract that part of the work until he has applied for and obtained the written approval of the Principal.

NOMINATED SUB-CONTRACTORS – PRELIMINARIES 1.04.02

EXCLUSIONS: Provisional sums for items to be supplied, or fixed, or supplied and fixed by nominated sub-contractors do not include for the contractors profit, nor for his co-ordination of, supervision of, and general attendance upon nominated sub-contractors, all of which are deemed to be included in the contract sum.

FACILITIES: Provide without cost to the nominated sub-contractor all normal facilities for the proper performance of the nominated sub-contract, including the following:

- access to the site
- storage areas
- storage of the tools
- water for use in the works
- statutory equipment's for drinking water, messing, changing, and sanitary conveniences
- first aid and safety measures
- scaffolding and hoisting facilities as provided for, and during the period of, the contractors own use, including operators, but not labour for loading or unloading
- adequate lighting, and facilities for making connections to a suitable power supply as specified in TEMPORARY POWER – PRELIMINARIES
- other services as specified in TEMPORARY SERVICES – PRELIMINARIES

ADMINISTRATION 1.05

PROGRAM OF WORK – PRELIMINARIES 1.05.01

CONSTRUCTION PROGRAM: The contractor shall supply a construction program in accordance with the general conditions of contract. The supply of a construction program shall not receive the Contractor from any of his obligations and responsibilities under the Contract.

CONTRACTORS PROGRAM: The contractor shall, before the first progress certificate is issued, supply a construction program showing the dates by which or the times with in which the various stage or parts of the work, under the contract are to be executed, and shall adhere to that program unless deviation there from is approved or directed.

Deviations: If the superintendent approves or directs deviation from the program the Contractor shall within the responsible time stated in any such direction, supply a further construction program.

Revisions: Each month the Contractor shall revise the construction program in the light of the progress of the work under the contract and shall submit the revision for approval at the time of submitting his monthly progress claim. If approved, the revision shall become a further construction program. Each further construction program shall be the construction program for the time being.

EXTRA COSTS: The contractor shall not be entitled to any extra costs resulting from:

- a deviation from a construction program directed by the superintendent, or

- a revision of the program required by this cause unless the need for the deviation or revision was the result of an act, default, or omission for the Superintendent or the Principal.

EXTENSION OF TIME: Delaying activities which are not critical to the construction program shall not justify extension of the time for practical completion of the works.

PROVISIONAL DELAY PERIOD – PRELIMINARIES 1.05.02

INCLEMENT WEATHER: The contractor shall allow the provisional period specified in the SCHEDULES for delays in the execution of the works caused inclement weather.

REDUCTION OF PROVISIONAL PERIOD: Instead of granting an extension of time for any such delay the Superintendent shall issue to the contractor a notice at the end of each calendar month reducing the provisional period by the amount of the extension time which would otherwise have been granted, provided that if and when the provisional period is thereby reduced to nil, any further such delay shall be caused for extension of the time for practical completion of the works, and provided further that if the provisional period is not there by reduced to nil by the time the works have reached practical completion the date for a practical completion shall not be altered in consequence there of.

Extensions under this formula shall not apply after work has been enclosed or otherwise protected in accordance with the contract, nor if work is behind schedule, including approved extensions, and would otherwise have been protected.

Extensions due to hot weather will only be allowed when concrete pours have been suspended by direction of the engineer and for the duration of such suspension or when work on critical activities is suspended because of a temperature above that which the labour force is endure, and only for such duration.

PROGRAM CHART – PRELIMIARIES 1.05.03

REQUIREMENT: Mount and display in the Contractor's site office a Gantt bar chart or network diagram based on the construction program and kept up to date.

PROGRESS CLAMS SCHEDULE – PRELIMINARIES 1.05.04

REQUIREMENT: At the commencement of the Contract, supply a schedule of the anticipated monthly progress claims, which will be made throughout the Contract. Supply a revised schedule with each month's progress claim.

SITE MEETINGS – PRELIMINARIES **1.05.05**

REQUIRED MEETINGS: Through out the duration of the Contract, arrange meetings (as required by the Superintendent) with appropriate Sub-contractors and the Superintendent and, unless otherwise directed by the Superintendent, keep minutes of such meetings and have two copies thereof forwarded to the Superintendent within three working days after each meeting.

A report of the following information shall be recorded at each site meeting.

- Status of Variation Orders and Contract Variations
- Site Meeting No.
- Date of Meeting
- Names of persons present
- Previous Business – Action
- New Business – Action
- Progress in relation to the construction schedule
- Delays and causes thereof

CONTACTS: at the first site meeting submit to the Superintendent the names and telephone numbers of all responsible persons who may be contacted after hours during the course of the Contract.

INSPECTION – PRELIMINARIES **1.05.06**

COVERING UP: If the specification requires notice of inspection to be given in respect of any part of the work under the Contract, that part of the work shall not have further placed thereon or be covered up or put out of view without the prior approval of the Superintendent.

INSUFFICIENT NOTICE: No claim for delay shall arise from the giving of insufficient or unreasonably short notice.

SITE **1.06**

SITE IDENTIFICATION – PRELIMINARIES **1.06.01**

DEFINITION: The site shall be the area within the boundaries shown on the Drawings.

CONTRACTOR'S SITE AREAS – PRELIMINARIES **1.06.02**

RESTRICTIONS: The Contractor's access on to and around the site, and use of the site for Temporary Works and Constructional Plant, including working and storage areas, location of offices, workshops, sheds, roads, parking and the like, shall be restricted to those areas shown on the Drawings or approved

by the Superintendent, and subject to such conditions as are stated in the Contract or may be imposed by the Superintendent.

PROTECTION OF PERSONS AND PROPERTY – PRELIMINARIES 1.06.03

TEMPORARY WORKS: The Contractor shall provide, erect and maintain all barricades, guards, fencing, temporary roadways, footpaths, signs and lighting and provide and maintain all watching and traffic flagging lawfully required by any public or other authority or necessary for the protection of the Works or of other property or for the safety and convenience of the public and others, and shall remove the same when no longer required.

DAMAGE TO SERVICES AND THE LIKE: The Contractor shall avoid obstruction or damage to roadways and footpaths, drains and watercourses and public utility and other services on or adjacent to the site which are visible, or the location of which can be ascertained by the Contractor from the appropriate authority or from the Contract. The Contractor shall remove any obstruction immediately and make good any damage at his own cost, in default of which the Principal may employ and pay others to execute the work and recover the cost as a debt due to the Principal from the Contractor under the Contract. Pay particular attention to existing sewerage and storm water services located on the site.

DAMAGE TO PROPERTY: The Contractor shall avoid interference with or damage to property on or adjacent to the site, and shall provide temporary protection and shall repair and reinstate all damage caused thereto by him either directly or indirectly.

NUISANCE: Prevent nuisance to the owners, tenants or occupiers of properties adjacent to the site, and to the public generally.

CARE OF THE WORKS – PRELIMINARIES 1.06.04

LIABILITY: The Contractor shall be solely liable for the care of the Works and existing services, the Temporary Works, Constructional Plant and all materials and other things brought on to the site for the purpose of the carrying out of the work under the Contract by or on behalf of the Contractor or any of his sub-contractors.

MAKING GOOD: The Contractor shall at his own cost make good any loss or damage to the Works and existing services, the Temporary Works, Constructional Plant and the aforesaid materials and other things resulting from any cause (other than the Excepted Risks defined below) when such making good is necessary for the satisfactory completion of the Works.

EXCEPTED RISKS:

- Any negligent act or omission of the Principal, his agents or employees
- War, invasion, hostilities, revolution, insurrection- Any risk specifically excepted in Specification.

SITE SECURITY – PRELIMINARIES 1.06.05

CONTRACTOR'S RESPONSIBILITY: Nothing in this clause shall relieve the Contractor from his responsibility for the care of the Works.

EXISTING SERVICES – PRELIMINARIES **1.06.06**

GENERALLY: Existing services (such as drains, watercourses, public utility and other services) if encountered, obstructed, or damaged in the course of performing the work under the Contract, shall be dealt with as follows:

- If the service is to be continued: Repair, divert, relocate as required.
- If the service is to be abandoned: Cut and seal or disconnect, and make safe.

In either case to satisfy the authorities concerned.

COST: The cost of dealing as above with 'live' services not visible or the location of which could not be ascertained by the Contractor from the appropriate authority or from the Contract will be valued as a variation to the work under the Contract provided that the Contractor has taken all reasonable precautions to determine the location of existing services and safeguard them before trenching, relevelling, road making, demolition, or similar operations are commenced. The cost of dealing as above with 'live' serviced shown on the drawings on the location of which could have been ascertained by the Contractor from the appropriate authority will not be valued as a variation.

NOTIFICATION: Notify the Superintendent immediately upon the discovery of services or obstructions not shown on the Drawings.

POISONS AND OTHER INJURIOUS SUBSTANCES – PRELIMINARIES **1.06.07**

PRECAUTIONS: Take proper precautions to keep poisons and other injurious substances in places secured against access by unauthorized persons.

ENVIRONMENTAL PROTECTION 1.07

ENVIRONMENTAL CONTROL – PRELIMINARIES **1.07.01**

GENERALLY: Comply, and make sure that sub-contractors comply, with the provisions of this Clause and any other environmental protection provisions in the Contract and with the requirements of any statute, by-law, standard and the like related to environmental protection.

PROPOSALS: Submit proposals for traffic movement, temporary structures, (including lamps), cleaning up (including burning-off), erosion control, demolition and the like. Observe the agreed proposals.

OBTAIN APPROVAL: Do not form new tracks, after existing tracks, erect camps, remove trees or shrubs, cut fences, water, sewerage or power lines or any other such things without approval.

FIRE PROTECTION – PRELIMINARIES **1.07.02**

RESTRICTIONS: Light no fires during gazetted fire restriction periods, or where damage to the environment could result, or if the permission has not first been obtained from the Superintendent, or the relevant authority, or both.

STORAGE ON SITE – PRELIMINARIES 1.07.03

GENERALLY: Store materials and equipment on site so as to prevent damage to the site and minimize hazards to persons, materials and equipment. Keep storage areas neat and tidy.

STORAGE ON THE WORKS: Do not use roads, driveways, paths, hard standings and the like as forming part of the Works for access or storage unless prior written approval has been given.

NOISE CONTROL – PRELIMINARIES 1.07.04

MINIMIZE NOISE: Take all practicable precautions to minimize noise resulting from work under the Contract. Fit all construction equipment with noise suppressors and use so that noise is minimized. Do not use loud hailers.

JACKHAMMER SILENCING: Fit jackhammers and other noisy hand-held tools used in the performance of the work with effective silencers of a type recommended by the jackhammer manufacturer. Keep tools and silencers in first class condition, Supervise operators of jackhammers to ensure that the silencers are always in place while the tools are being used.

COMPRESSOR SILENCING: Fit compressor sets used in the performance of the work with effective acoustic canopies and special engine exhaust silencers of a type recommended by the compressor manufacturer. Alternatively use compressor sets specially designed for quiet operation. Keep compressor sets and canopies in first class condition. Keep any access panels in acoustic canopies closed while sets are running.

DISPOSAL OF CONTAMINANTS – PRELIMINARIES 1.07.05

GENERALLY: Properly dispose of solid, liquid and gaseous contaminants in accordance with all statutory and contractual requirements.

GASEOUS CONTAMINANTS: Discharge in such a manner that they will be diluted with fresh air sufficiently to reduce toxicity to an acceptable level.

LIQUID CONTAMINANTS: Subject to statutory and local requirements, liquid contaminants may be diluted with water to a level of quality acceptable in the sewer system. If this is not permitted, store in approved vessels for disposal at approved locations.
SOLID CONTAMINANTS: Dispose by removal from the site to approved locations or as otherwise directed by the Superintendent.

DISPOSAL OF REFUSE **1.07.06**

REQUIREMENT: Remove from the site refuse (including food scraps and the like) resulting from work under the Contract. Handle refuse in a manner so as to confine the material completely and prevent dust emission.

DUST CONTROL – PRELIMINARIES **1.07.07**

REQUIREMENT: Restrict dust caused by the works to a minimum.

TRUCKING – PRELIMINARIES **1.07.08**

REQUIREMENT: Convey soils, earth, sand, loose debris, and the like loose materials to or from the site in a manner that will prevent dropping of materials on streets. Ensure that the wheels, tracks and body surfaces of all vehicles and plant leaving the site are free of mud and that mud is not carried on to adjacent paved streets or other areas.

INSTALLED EQUPIMENT – PRELIMINARIES **1.07.09**

PROTECTION: Protect installed equipment against damage by dust, dirt, shock or other cause.

SOIL CONSERVATION – PRELIMINARIES **1.07.10**

EROSION CONTROL: Prevent erosion of soil form any lands used or occupied in the execution of the work under the Contract.

EXISTING FLORA – PRELIMINARIES **1.07.11**

PROTECTION: Adequately protect from the damage all trees and other plants which need not be removed or destroyed for construction operations, or which are shown on the Drawings and/or specified to be retained, or which are not beyond the limits allowed to the Contractor as shown or specified.

PLANT **1.08**

TEMPORARY WORKS – PRELIMINARIES **1.08.01**

MAINTENANCE: After, adapt and maintain temporary works as necessary, and remove them progressively as the work proceeds, unless otherwise specified or instructed.

INCLUSION IN WORKS: Obtain the written consent of the Superintendent for the inclusion in the Works of any temporary works in which it is proposed to leave in position at the completion of the Contract.

SITE OFFICE – PRELIMINARIES **1.08.02**

GENERAL REQUIREMENTS: Provide an office or offices as specified in the SCHEDULES TO PRELIMINARIES for the use of the Principal and his nominees. Service and maintain the office for

the duration of the Works, keep clean and remove on completion. Position of offices shall be agreed upon with the Superintendent. If during the progress of the Works it becomes necessary to move the office, do so without charge and with the minimum of inconvenience. Secure access to office at all times. Make the office ready for occupation before any major site operations are started. The office shall remain the property of the Contractor and shall be removed form the site on completion of the Works. Obtain the Superintendent's permission before demolition or removal.

TEMPORARY SERVICES – PRELIMINARIES 1.08.03

EXTENT: Provide and maintain temporary services necessary for the execution of the work under the Contract. Install such services in accordance with the requirements of the relevant authorities. Pay charges in connection with the installation and use of such services. Make such services available to sub-contractors. On completion, disconnect temporary services and clear away all traces.

TEMPORARY WATER SUPPLY – PRELIMINARIES 1.08.04

REQUIREMENT: Provide temporary water supply with not less than one 25mm outlet for water on each floor.

SITE AMENITIES – PRELIMINARIES 1.08.05

REQUIREMENT: Provide statutory and necessary amenities and sanity facilities for workers and other persons lawfully upon the site and remove them on completion of the Works.

PROTECTIVE CLOTHING – PRELIMINARIES 1.08.06

HELMETS FOR VISITORS: Provide safety helmets for the temporary use whilst on the site of visitors whose presence on the site is authorized, permitted or necessary under the provisions of the Contract.

TEMPORARY TELEPHONES & FACSIMILE – PRELIMINARIES 1.08.07

REQUIREMENT: Provide temporary telephones and facsimile as specified in the SCHEDULES TO PRELIMINARIES. Pay charges for installation, rental, calls except for calls made from the office of the Clerk of Works and Superintendent. Pay charges for removal on completion.

SIGNBOARD – PRELIMINARIES 1.08.08

REQUIREMENT: Provide a signboard to the details shown on the Drawings or specified in the SCHEDULES TO PRELIMINARIES. Paint and sign write to detail, using approved letter sizes and styles. No other signs shall be allowed on or around the site.
INSTALLATION: Erect the signboard at or near ground level on the site where directed by the Superintendent. Maintain in good condition until Practical Completion, then dismantle and remove.

OWNERSHIP: The signboard shall remain the property of the Contractor.

COMPLETION 1.09

PRACTICAL COMPLETION – PRELIMINARIES 1.09.01

GENERAL REQUIREMENTS: Without prejudice to meanings which may be stated or implied elsewhere in the Contract, ‘ Practical Completion’ shall mean that stage in the execution of the work under the Contract when such documents and other information required under the Contract which, in the opinion of the Superintendent, are essential for the use, operation and maintenance of the Works have been supplied, and the Works are substantially complete except for minor items.

PARTICULAR REQUIREMENTS: Without limiting the generality of the foregoing, the following particular requirements shall have been met:

- The testing of mechanical and electrical systems has been satisfactorily completed
- The Contractor’s hoist, crane, scaffolding and other major items of the Constructional Plant have been removed from the Works
- Keys have been labeled appropriately and handed over.
- The requirements of the statutory authorities have been satisfied.

CLEANING UP – PRELIMINARIES 1.09.02

PROGRESSIVE CLEANING: Keep the work under the Contract clean and tidy as it proceeds and regularly remove from the site rubbish and surplus material arising from the execution of the work including any work performed during the Defects Liability Period or any operational maintenance period specified. On completion of the Works clean the inside of the building and both sides of glazing.

REMOVAL OR PAINT: Within fourteen days of the date of Practical Completion, remove Temporary Works Constructional Plant, buildings, workshops and equipment not forming part of the Works, except such as are required for work during the Defects Liability Period or any operation maintenance period specified and which shall be removed on completion of that work.

FAILURE TO COMPLY: If the Contractor fails to comply with any obligation imposed on him by this clause the Principal may, after giving notice in writing to the Contractor, have the work of cleaning or tidying up carried out by other persons and the cost incurred shall be recovered by the Principal as a debt due to the Principal by the Contractor.

MATERIALS AND WORKMANSHIP 1.10

MATERIALS, LABOUR AND PLANT – PRELIMINARIES 1.10.01

REMOVAL OF MATERIALS OR CONSTRUCTIONAL PLANT: No Constructional Plant that is stipulated in the Contract and no materials shall be removed from the site without the prior written approval of the Superintendent, which approval shall not be unreasonably withheld.

MANUFACTURE AND SUPPLY OF MATERIALS: The Contractor shall give the Superintendent upon request full particulars of the mode, place and programme of manufacture and source considers

necessary of any materials required for use in the work under the Contract. The Contractor shall, before he arranges manufacture off site of any works or fabricated item to be used in the work under the Contract, give the Superintendent reasonable written notice of his intention to do so.

MANUFACTURERS' RECOMMENDATIONS: Unless otherwise specified, use manufactured items in the work under the Contract in accordance with current published recommendations of the manufacturer relevant to such use.

PROTECTION OF MATERIALS: The Contractor shall at his own cost provide adequate storage and protection for materials so as to preserve their quality and fitness for the Works.

STANDARDS – PRELIMINARIES **1.10.02**

AUSTRALIAN STARNDARDS: Unless otherwise specified in the Contract, and where applicable, materials and workmanship shall be in accordance with the relevant standard of the Standards Association of Australia.

CURRENT EDITION: A standard applicable to the Works shall be the edition last published prior to the closing date for tenders unless otherwise specified.

OTHER STANDARDS: Overseas standards and other standard documents named in the Specification shall be applicable in the same manner as Australian Standards to relevant materials and workmanship.

SITE COPIES: Copies of any standards quoted or referred to in the Specification shall be kept on the site if so specified or directed.

SAMPLES – PRELIMINARIES **1.10.03**

APPROVED SAMPLES: Items in respect of which samples are specified shall be on accordance with an approved sample, or within a range defined by approved samples, as determined by the Superintendent, otherwise such items shall be liable to rejection. Keep approved samples in good condition on the site until Practical Completion.

DELAY: Where the Specification requires samples to be submitted by the Contractor, the Contractor shall be solely responsible for the consequences of delay resulting from failure to allow adequate time for the assessment and approval of samples, or from the rejection of samples which do not comply with the Specification, or the like.

TESTING – PRELIMINARIES **1.10.04**

INDEPENDENT TESTING AUTHORITY: Unless otherwise specified, any testing required by the Contract to be by an independent authority shall be carried out by an approved member of the National Association of Testing Authorities Australia (NATA).

GUARANTEES – PRELIMINARIES 1.10.05

GENERALLY: The Contractor shall obtain, and shall ensure that the Principal will have to the benefit of, warranties or guarantees as specified in the Contract, including warranties or guarantees that are obtained by the sub-contractors of the Contractor.

NAME THE PRINCIPAL: Unless otherwise specified or agreed, warranties or guarantees specified in the Contract shall name the Principal as warrantee and shall be furnished by the warrantor direct to the Principal.

PROPRIETARY ITEMS – PRELIMINARIES 1.10.06

DEFINITION: A proprietary item shall be any item identified by graphic representation on the Drawings, or by naming one or more of the following: manufacturer, supplier, installer, trade name, brand name, catalogue or reference number, and the like.

IMPLICATION: The identification of a proprietary item shall not necessarily imply exclusive preference for the item so identified, but shall be deemed to indicate the required properties of the item, such as type, quality, appearance, finish, method of construction, performance and the like.

ALTERNATIVES: A similar alternative item having the required properties may be offered by the Contractor. The Superintendent may in his absolute discretion adopt or reject the alternative.

CLAIMS: No claim shall arise from any rejection, nor, unless otherwise agreed, shall adoption of an alternative be ground for any claim for variation to cost or time.

INFORMATION: When offering an alternative for approval, provide all available technical information, and any other relevant information requested by the Superintendent. If so requested, obtain and submit reports on relevant tests by an independent testing authority.

ALTERATIONS: State whether the use of the alternative will require alteration to any other part of the Works. If the alternative is adopted, carry out any such alteration without extra charge.

SEALED CONTAINERS – PRELIMINARIES 1.10.07

REQUIREMENT: Materials and products supplied by the manufacturer in closed or sealed containers or packages shall be brought to the point of use in the Works in the original unbroken container or package, otherwise they shall be liable to rejection.

SALVAGED ITEMS – PRELIMINARIES 1.10.08

CONTRACTOR'S PROPERTY: Unless otherwise specified, and subject to the provisions of the General Conditions of Contract, materials, plant, equipment or other things salvaged from the Works shall become the property of the Contractor and shall be removed by him from the Site.

SCHEDULES TO PRELIMINARIES 1.11

GENERAL SCHEDULE – PRELIMINARIES 1.11.01

OUTLINE DESCRIPTION OF THE WORKS:

Location:	Rob Farr Memorial Library Lot 46 # 49 Fortune Street NARROGIN
Function:	Library
Basic structure:	Double brick, steel & iron
External cladding:	Rendered double brick with Sycon
Building services:	Structural,Electrical,Mechanical,Hydraulic and Brick retaining wall construction
External works:	Retaining,handrails, , sub-soil drains and paving.

PRIOR APPLICATIONS:

Applications Made	Fees Paid	Approvals received
Narrogin Shire	Nil	Nil
Water Authority	Nil	Nil
FEESA	Nil	Nil

DOCUMENTS SCHEDULE – PRELIMINARIES 1.11.02

DRAWINGS: The following Drawings form part of the Contract:

Architectural:	Job No 2321 1 to 17
Structural:	Job No 2321 13 to 17
Electrical:	Job No 2321
Mechanical:	
Hydraulic	H1.01B, H2.02B, H2.02B

SCHEDULE OF PROVISIONAL SUMS – PRELIMINARIES 1.11.03

INCLUDED SUMS: The following provisional sums are deemed to be included in the contract sum for the purposes stated in the relevant sections of the Specification.

Contingency sum: If a contingency sum is included, any charge made against it shall be ordered and valued as a variation.

Item	Section	Provisional sum ($)
Landscaping & Reticulation		By Shire
- External Works		By Builder
Carpet & Vinyl – Carpets & Resilient Finishes		As spec
Window Treatments		As Spec

CONTINGENCY SUM

TEMPORARY WORKS SCHEDULE – PRELIMINARIES 1.11.05

SIGNBOARD:
Size: 3m x 2m

SIGNAGE: The signboard shall show the following:

Painted board bearing the names of the Proprietor, Architect, Builder and Consultants as detailed by Architect.

ROB FARR MEMORIAL LIBRARY
THIS IS A PROJECT BY THE SHIRE OF NARROGIN SUPPORTED BY
……..

BUILDER:

DESIGNER : JUDITH McDOUGALL DESIGNS

STRUCTURAL: DAN TURNER

HYDRAULIC: CARRINGTON & ASSOCIATES

MECHANICAL: FORD & DOONAN

ELECTRICAL: SAGE CONSULTING

WATER AUTHORITY OF W.A. HEADWORKS FEES – PRELIMINARIES 1.11.06

Water Authority Headworks charges for sewerage and water supply will be paid by the Proprietor. Advise the Superintendent of the value of these charges after lodging documents for approval with the Water Authority after which the Proprietor will pay the Water Authority direct. Pay all other fees not forming part of the Headworks charges.

DEMOLITION 2.0

GENERAL 2.01

DEMOLITION GENERALLY – DEMOLITION 2.01.01

STANDARD: Perform the demolitions necessary to carry out the work under the Contract, to AS 2601 except for clause 2.3 which is deleted. The responsibilities of the parties are as defined in the contract.

PROTECTION: Protect property, which is to remain on or adjacent to the site from interference or damage. Use appropriate means including shoring, protective screens, sheeting and the like.

REINSTATEMENT: Make good any such damage to match existing.

EXISTING SERVICES: If included in, or encountered during the course of, the demolition deal with as specified in EXISTING SERVICES – PRELIMINARIES.

DEMOLISHED MATERIALS: Remove from the site unless otherwise specified.

INSPECTION – DEMOLITION 2.01.02

NOTICE STAGES: Give notice that inspection may be made after the following stages of work:
- before disconnection or diversion of services.

DEMOLITION SCHEDULES 2.02

DEMOLITION SCHEDULE – DEMOLITION 2.02.01

ITEMS TO BE DEMOLISHED

Remove all items as indicated on drawings. Ensure that site is clean at all times.

GROUNDWORKS 3.0

GENERAL 3.01

STANDARDS – GROUNDWORKS

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1141	Methods of sampling and testing aggregates
AS 1141.3 (1986)	Sampling of aggregate rock
AS 1289	Methods of testing soil for engineering purposes
S 1289.E1.1 (1977)	Part E – Soil compaction and density tests – Determination of the dry density / moisture Content relation of a soil using Standard compaction – Standard method
AS 2057 (1986)	Protection of buildings from subterranean termites – Chemical treatment of soil for buildings under construction.

DEFINITIONS – GROUNDWORKS 3.01.02

STANDARD: To AS 1348.1

ROCK: Any monolithic material with a volume greater than 0.5 m3 which cannot be removed until broken up either by explosives or by mechanical means such as rippers or percussion drills.

OTHER THAN ROCK: (Also referred to as ‘earth’): All other material encountered in the excavations, other than rock.

LINE OF INFLUENCE: A line extending downward and outward from the bottom edge of a footing, slab or pavement and defining the extent of foundation material having influence on the stability or support of the footing, slab or pavement.

SERVICES: Pipes, cables, ducts, associated structures or similar objects, including electrical, communication and control cables, drains, sewers, water pipes, gas pipes, and the like.

DISCREPANCIES – GROUNDWORKS 3.01.03

DEFINITION: ‘Discrepancy’ for the purposes of this Section means a difference between Contract information about the site and the conditions encountered on the site, including but not limited to discrepancies concerning:

- the nature or quantity of the material to be excavated or placed,
- existing site levels,
- services or other obstructions beneath the site surface.

NOTIFICATION: If a discrepancy is discovered, give notice as required by the Contract.

RECORDS OF MEASUREMENT – GROUNDWORKS **3.1.04**

REQUIREMENT: If a schedule of rates applies to the work, or provisional quantities are specified, or there have been variations to the Contract levels or dimensions of excavations, do not commence backfilling or place any permanent work in excavations until the agreement has been reached and recorded on the following:

- depths of the excavations related to the datum,
- final plan dimensions on excavations,
- quantities of excavations in rock,
- quantities of fill and / or topsoil, imports being recorded separately.

CERTIFIED RECORDS: Provide a copy of the agreed records of measurement certified by the Contractor and the Superintendent.

TOLERANCES – GROUNDWORKS **3.01.05**

SURFACES: Finish groundwork's to reasonably smooth and uniform surfaces conforming to the required tolerances.

SUBGRADES: The following tolerances apply to finished subgrade levels unless overridden by the specific requirements (including tolerances) for finished surfaces, levels and thickness of covering materials.

ITEM:	TOLERANCE (MAXIMUM): Absolute:	Relative:
Cut subgrade in earth and fill subgrade	+0	- Unspecified 20mm
Cut subgrade in rock	+0	- Unspecified

Absolute level tolerance: Maximum deviation from the design level.

Relative level tolerance: Maximum deviation from a 3 m straight edge laid anywhere on each plane surface.

<u>SITE MANAGEMENT</u> **3.02**

INSPECTION – GROUNDWORKS **3.02.01**

NOTICE: Give sufficient notice so that inspection may be made of the following:

- items to be measured as listing in RECORDS OF MEASUREMENT – SITE MANAGEMENT SCHEDULE – GROUNDWORKS.

- base completed to Contract levels.

SPOIL – GROUNDWORKS **3.02.02**

SURPLUS EXCAVATED MATERIAL: Remove the following from the site:

- excavated material not re-usable as topsoil, filling, mulch or the like; and

- debris resulting from site clearing.

BURIAL: Boulders, concrete fragments and the like materials may be disposed of by burial outside building or paved areas only if prior approval has been given, and then only subject to conditions, including but not necessarily limited to.

ADJUSTMENT: For each class or rock encountered, the contract sum shall be adjusted by applying the appropriate schedule rate for rock excavation to:

- the actual quantity of rock excavation, or

- where a provisional quantity of rock excavation is shown on the Drawings or stated in EXCAVATION SCHEDULE – GROUNDWORKS, the difference between the actual quantity and the provisional quantity.

EXPLOSIVES – GROUNDWORKS **3.02.03**

REQUIREMENT: Do not use explosives in groundworks unless approved. No claim shall arise should approval be refused.

APPLICATION FOR APPROVAL: If it is considered that explosives could be used without endangering persons or damaging other properties and that their use would benefit the requirements of the Contract, an application may be submitted for consideration. The application shall include the following information:

- the name of the specialist subcontractor and/or shotfirer proposed to be engaged;
- the types of explosives proposed to be used;
- the protective and safety methods to be used;
- the proposed design patterns and sequences of blasting;
- the proposed sizes of charges;
- the times proposed for each series of blasting;
- the estimated effect of each series of blasting (including possible effects of ground shock and flying debris);
- the estimated peak particle velocity and noise level at adjacent structures.

APPROVAL CONDITIONS: Approval, if given, shall be subject to compliance with AS 2187 Parts 1 and 2 and AS 2188, and to such conditions as the Superintendent may impose, which may include changes to the Contractor’s proposals.

RECORDS: Provide copies of blasting records.

EXISTING SERVICES – GROUNDWORKS **3.02.04**

APPROVAL: Do not excavate by machine within 1 m of existing underground services without prior approval.

BAD GROUND – GROUNDWORKS **3.02.05**

DEFINITION: Ground unsuitable for the purposes of the Works, including filling liable to subsidence, ground containing cavities, faults, fissures or deleterious inclusions, ground contaminated by harmful substances including oil, cement, chemicals and the like, or ground which is or becomes soft, wet and unstable, and the like.

NOTIFICATION: If bad ground is encountered, give notice immediately and obtain instructions before carrying out any further work in the affected area.

BEARING SURFACES – GROUNDWORKS **3.02.06**

LOADING ELEMENTS: Provide even plane bearing surfaces for load bearing elements including footings and the like. Step as necessary, or as shown on the Drawings, to accommodate level changes. Make the steps to the appropriate courses if supporting masonry.

DETERIORATION: If the bearing surface deteriorates after approval because of water or other cause, excavate further to a sound surface before placing the load bearing element.

SERVICE TRENCHES **3.03**

SERVICE TRENCHES – GROUNDWORKS **3.03.01**

EXCAVATION: Excavate to the lines, levels and grades as required for underground services specified in the relevant services sections, including drainage, hydraulic, electrical, and the like. Unless otherwise specified make the trenches straight between manholes, inspection pits, junctions and the like, with vertical side uniform grades.

PLACING AND COMPACTION **3.04**

COMPACTION – GROUNDWORKS **3.04.01**

DENSITY: Compact each layer of filling to the required depth and density.

PROTECTION: Protect the Works from damage due to compaction operations. Where necessary, limit the size of compaction equipment or compact by hand. Commence compacting each layer at the structure and proceed away from it.

PENETROMETER: Compaction shall be checked using a 16mm diameter falling weight penetrometer which has been calibrated for Swan River yellow sand. Compact areas to be built on to yield no less than 7 blows per 30mm penetration resistance readings to a depth of 900mm below natural ground level.

BARRIERS AND MEMBRANES 3.05

TERMITE BARRIER – GROUNDWORKS 3.05.01

EXTENT: Form a complete and continuous barrier of chemically treated soil under the whole of the building and extending 300mm beyond the perimeter to slabs on ground: to AS 2057.

APPROVED SUBCONTRACTOR: an approved specialist subcontractor shall perform the work.

CERTIFICATION: To AS 2057. Provide a certificate from the subcontractor.

RECTIFICATION: Provide additional treatment at the following stages:
- around the building perimeter immediately prior to laying paving against the building;

- around the building or paving perimeter on completion of landscaping;

- wherever subsequent groundworks such as service trenches or the like disturb previous treatments.

GROUNDWORKS SCHEDULES 3.06

SITE MANAGEMENT SCHEDULE – GROUNDWORKS 3.06.01

RECORDS OF MANAGEMENT:
Record locations and levels of excavation in rock. Keep records on site and present two copies to the Superintendent at the completion of each stage.
Fill site with clean sand fill to levels as indicated on drawings. Compact soil as specified to standard penetrometer tests. Builder to provide the owner with certification of compaction tests and termite treatment.

CONCRETE 4.0

GENERAL 4.1

SCOPE – CONCRETE 4.01.01

OUTLINE DESCRIPTION: This specification is intended to cover the forming, placing and finishing of all concrete work necessary for the completion of the project. It is to be read in conjunction with the structural and architectural drawings, the 'Preliminaries' section which forms an integral part of this section, and any other instructions that may be issued.

All work shown on the drawings but not referred to in the specification, or referred to in the specification but not shown on the drawings, shall be included.

STANDARDS – CONCRETE 4.01.02

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

CONCRETE GENERALLY:

AS 3600-1988	Concrete Structures
AS 1379	Ready Mixed Concrete
AS 2758	Aggregates and rock for engineering purposes Part 1 – Concrete aggregates
AS MP20	Part 1 – Information on permeability – reducing admixtures for concrete. Reference specification for concrete work (Cement and Concrete Association of Australia, 1980)

SAMPLING AND TESTING:

AS 1012	Methods of testing concrete
AS 1141	Methods for sampling and testing aggregates.

CURING AND PROTECTION:

ASTM C 309	Liquid membrane-forming compounds for curing concrete.

FORMWORK:

AS 1082	Glossary of formwork terms.
AS 1509	SAA Formwork Code – Metric.
AS 1510	Code of practice for control of concrete surfaces. Part 1 – Framework

REINFORCEMENT:

AS 1302	Steel reinforcing bars of concrete.
AS 1303	Hard-drawn steel reinforcing wire for concrete (metric units).
AS 1304	Hard-drawn steel wire reinforcing fabric for concrete (metric units).
AS 1554	SAA Structural Steel Welding Code Part 3 – Welding of reinforcing steel.
AS 1627	Code of practice for preparation and pretreatment of metal surfaces prior to Protective coating.
AS 1650	Galvanized coatings.

MEMBRANES & UNDERLAYS:

ASTIM C309	Membrane Curing Compounds

SITE COPY: Keep on the site a copy of AS3600 – 2018

TESTING 4.02

TESTING – CONCRETE 4.02.01

AUTHORITY AND PERSONNEL: The testing authority, and personnel engaged in sampling, preparing, and handling test specimens, shall be subject to the approval of the Superintendent.

PERFORMANCE TESTS: Test for the properties shown on the Drawings

Records: Record the result of each specimen test. Include the information listed under the heading Records in the relevant part of AS 1012, and provide similar information for test not covered by AS 1012. Make the records available on request.

SAMPLING – CONCRETE 4.02.02

STANDARD: To AS 1012 Part 1 and AS 3600 section 20, unless otherwise specified.

FREQUENCY OF SAMPLING:

- Concrete in ground slab, and footings: one sample per batch.

RECORDS: Record the information listed in AS 1012 Part 1 clause 7 items (a) to (k) inclusive, and (if available) the additional information in items (i) to (vii) inclusive. Make the records available on request.

TEST SPECIMINS – CONCRETE 4.02.03

STANDARD: Prepare test specimens to the relevant Part of AS 1012 unless otherwise specified.

CYLANDERS AND CUBES: To AS 1012 Part 8.

Curing: To AS 1012 Part 8 clause 1.7 or 2.7 as applicable, under conditions appropriate to the relevant Standard Temperature Zone. Initial curing: to AS 1012 Part 8, clause 1.7.2.2 paragraph (a).

Demoulding: To AS 1012, Part 8, clause 1.8.2

Transport to Laboratory: To AS 1012, Part 8 clause 1.9

RECORDS: Record the information listed in AS 1012, Part 8, clause 1.10. Make the records available on request.

TEST METHODS AND CRITERIA – CONCRETE **4.02.04**

COMPLIANCE: Concrete shall be deemed to comply with the performance requirements if the required properties, tested by the methods specified below, meet the corresponding acceptance criteria.

SLUMP: To AS 1012 Part 3. One test for each sample.
Acceptance criteria: To AS 3600

CHARACTERISTIC STRENGTH:

COMPRESSIVE STRENGTH: To AS 1012 Part 9.

Number of test specimens per sample:
- For 28 day testing: 2
- For 7 day testing: 1

Acceptance criteria: To AS 3600

ABSORPTION: To the Reverence specification for concrete work, clause 12.3.8.

REJECTION – CONCRETE **4.02.05**

CRITERIA: To AS 3600

REMOVAL: Remove rejected concrete to the extent determined by the Superintendent.

RETENTION: The Superintendent may permit the retention of concrete liable to be rejected on the basis of:

- An appraisal of the statistical information related to the concrete strength;
- A structural investigation;
- Additional tests, e.g. to AS 3600;
- Approved remedial work.

FORMWORK 4.03

FORMWORK DEFINITIONS – CONCRETE **4.03.01**

STANDARD: To AS 1082.

FORMWORK GENERALLY – CONCRETE **4.03.02**

STANDARD: To AS 1509 except for clause 4.4 Tolerance. Design and construct formwork so that concrete, when cast in the forms, will have the dimensions, shape, location and surface finish as required by the Contract.

RESPONSIBILITY: The Contractor shall be responsible for the sufficiency of the formwork, except to the extent, if any, that formwork design is shown on the Drawings or specified.

DEFECTIVE FORMWORK: If formwork fails to meet the requirements of the Contract, the Superintendent may reject it and any concrete which has been cast in it. In that case, remove the rejected concrete, form construction joints, reconstruct the formwork and recast the concrete.

DIMENSIONAL TOLERANCES – CONCRETE

STANDARD: Construct formwork so that the finished concrete is within the tolerances stated in the following table, as applicable:

1 FORMWORK CLASS TO AS1510	2 DEVIATION CORRECT Maximum	3 FROM POSITION Relative	4 MAXIMUM Between pours	5 MISALIGNMENT Across form Joints	6 MAXIMUM Fin	7 SIZE Resources
3	20mm	2.5mm 0.005 or 3.5mm	3mm	2mm	2mm	3mm
4	25mm	0.0067 or 4.5mm	4mm	4mm	4mm	4mm

FORMED SURFACES – CONCRETE **4.03.04**

STANDARD: Generally to AS 1510, Part 1, including the recommendations relevant to the construction and use of formwork, and to impermissible blemishes and irregularities.

INTEGRAL FINISHES: Unless otherwise specified in the FORMED SURFACES SCHEDULE, or shown on the Drawings, the minimum standard of finishes to formed concrete surfaces shall be as follows (based on AS 1510 classes and types):

CONCRETE ELEMENT OR SURFACE	FORMWORK CLASS	COLOUR CONTROL TYPE
Surfaces to be rendered or Hidden by other finishes	4	Not Applicable

Surfaces permanently concealed (e.g. footings, rear faces of retaining walls)	5	Not Applicable

FORMWORK REMOVAL – CONCRETE **4.03.05**

STANDARD: To AS 1509, clause 4.7

MINIMUM STRIPPING TIMES:

Concrete made with Type GP: To AS 1509, Clause 4.7.3 and Table 4.2

REDUCTION: The minimum stripping times stated above may be reduced subject to the furnishing of satisfactory evidence of concrete strength as required by AS 1509 clauses 4.7.4 and 4.7.5.

UNDERLAYS, MEMBRANES **4.04**

SLABS ON GROUND – CONCRETE **4.04.01**

REQUIREMENT: Provide suitable bases, working bases, and waterproofing underlays or membranes to concrete slabs laid on ground, of the types shown on the Drawings and specified here.

FILM UNDERLAY – CONCRETE **4.04.02**

MATERIAL: High-impact resistant polyethylene film, to AS 1326.

Thickness: Use ICI 200 um 'FORETECON' PVC.

CONCRETE SUPPLY **4.05**

MATERIALS – CONCRETE **4.05.01**

CONCRETE MATERIALS GENERALLY: To AS 3600.
CEMENT:

Portland cement: To AS 3982, Type GP, unless otherwise specified.

AGGREGATE:

Dense aggregate (fine and coarse): To AS 2758.1.

STORING MATERIALS – CONCRETE **4.05.02**

STANDARD: To AS 3600.

CEMENT: Date stamp bags on receipt and stack to facilitate inspection and identification.
Use in chronological order.

MIX PROPORTIONS – CONCRETE **4.05.03**

RESPONSIBILITY: In addition to specified performance requirements, comply with the requirements specified on the drawings for the materials to be used in the mix and their proportions. Except for these requirements the selection of mix materials and proportions shall be the responsibility of the Contractor.

READY-MIXED SUPPLY – CONCRETE **4.05.04**

STANDARD: To AS 1379, from an approved supplier. Deliver in agitating trucks.

ELAPSED DELIVERY TIME: Concrete is liable to be rejected if the elapsed time between the wetting of the mix and the discharge of the mix at the site exceeds the following:

CONCRETE TEMPERATURE At time of discharge	MAXIMUM ELAPSED TIME (hours)
10°C - 24°C	2.0
24°C - 27°C	1.5
27°C – 30°C	1.0
30°C - 32°C	0.75

DELIVERY DOCKET: Obtain a docket with each batch, containing the information required by AS 1379 clause 7.5, and stating in addition:

- The concrete element or part of the works for which the concrete was ordered;

Keep the dockets and make them available on request.

SITE ADDITIONS: Do not add water or any other material to the concrete at the site without approval.

REINFORCEMENT **4.06**

REINFORCEMENT SUPPLY – CONCRETE **4.06.01**

GENERALLY: Supply and fix reinforcement, including the necessary tie wires, support chairs, spacers and the like: To AS 3600.

REINFORCEMENT TYPES: As shown on the Drawings.

IDENTIFICATION: Reinforcement shall be readily identifiable as to grade and origin.

SURFACE CONDITION: To AS 3600.

REINFORCEMENT FABRICATION TOLERANCES – CONCRETE **4.06.02**

REQUIREMENT: Unless otherwise specified, fabricate reinforcement to the dimensional tolerances in TABLE 1 at the end of this section.

BENDING REINFORCEMENT – CONCRETE **4.06.03**

STANDARD: To AS 3600

SPLICING REINFORCEMENT – CONCRETE **4.06.04**

STANDARD: To AS 3600. Submit for approval details of proposed splicing not shown on the Drawings.

WELDING REINFORCEMENT – CONCRETE **4.06.05**

STANDARD: To ASS 3600 and AS 1554, Part 3. Reinforcement which is not to AS 1302, AS 1303, or AS 1304, if permitted to be used, shall not be welded.

FIXING REINFORCEMENT – CONCRETE **4.06.06**

STANDARD: To AS 3600 and table 2 at the end of this Section.

REINFORCEMENT SPACING: To AS 3600 and as shown on the Drawings.

CONCRETE COVER: To AS 3600.

SUPPORT TYPES: Use purpose-made concrete or plastic supports.

SUPPORTS OVER MEMBRANES: prevent damage to waterproofing membranes or vapor barriers. Place a metal or plastic plate under each support to prevent puncturing. Slab mesh to be fully supported at time of ground floor slabs.

PLACING **4.07**

TEMPERATE CONDITIONS – CONCRETE **4.07.01**

HOT WEATHER WORKING: To AS 1480.

PLACING – CONCRETE **4.07.02**
STANDARD: To AS 3600.

PLACING: Clean all implements prior to concreting. Check that all blockouts, items to be built in, electrical work and plumbing are in position before concreting. Do not commence concreting until all previous work satisfied the Engineer/Architect. Arrange for suitable methods of transporting concrete over the formwork – methods which will not aggravate segregation, move reinforcement or damage formwork.

Each section between approved construction joints must be poured monolithically. To this end, place fresh concrete continuously against unset concrete. Delay no longer than 20 minutes between additions to the working face. Deposit concrete as neatly as is practicable in its final position.

Provide adequate labour to ensure proper compaction and placing of concrete. Organise deliveries to the site in such quantities as can be efficiently handled by the labour available.

HORIZONTAL MOVEMENT: Do not attempt to move a mass of concrete along the forms to its final position. Movement may be by means of suitable clean chutes, troughs or pipes. Do not use water to facilitate the movement.

RAIN: Concrete exposed to rain before it has set, including during mixing, transport or placing, shall be liable to rejection.

SEQUENCE OF POURS – CONCRETE **4.07.03**

SEQUENCE: Minimize shrinkage effects by pouring the sections of the work between approved construction joints in a sequence such that there will be suitable time delays between adjacent pours.

MINIMUM TIME DELAYS: if the required sequence and minimum time delays are not shown on the Drawings or specified in the SEQUENCE OF POURS SCHEDULE, submit a proposed sequence and times for approval.

COMPACTION – CONCRETE **4.07.04**

Standard: To AS 3600

METHODS: Use vibrators and hand methods as appropriate to remove air bubbles and compact the mix. Do not allow vibrators to come in contact with partially hardened concrete, or reinforcement embedded in it. Do not use vibrators to move concrete along the forms.

CURING AND PROTECTION 4.08

CURING – CONCRETE **4.08.01**

STANDARD : To AS 3600.

GENERALLY: Protect fresh concrete from premature drying and excessively hot or cold temperatures. Maintain the concrete at a reasonably constant temperature with minimum moisture loss for the curing period.

CURING PERIOD (from time of placing): Unless otherwise specified, cure continuously until the cumulative number of days or fractions thereof, not necessarily consecutive, during which the air temperature in contact with the concrete is above 10°C, totals not less than the following:

- Concrete made with normal Portland cement: 7 days

CURING METHODS: May include the following unless otherwise specified:

- ponding or continuous sprinkling with water – an impermeable membrane
- an absorptive cover kept continuously wet
- an approved curing compound.

CURING COMPOUNDS: To ASTM C309, Submit certified test results for:

- curing efficiency
- discolouration of concrete surfaces
- adverse effect on adhesion of applied finishes.

PROTECTION – CONCRETE **4.08.02**

LOADING: Protect the concrete from damage due to load overstresses, heavy shocks and excessive vibrations, particularly during the curing period. Do not place construction loads on self-supporting structures which will overstress them.

SURFACE PROTECTION: Protect finished concrete surfaces from damage from any cause, including mortar splashes and stains, timber stains, rust, stains, chemical attack, additives, curing compounds, protective coatings, rain, running water, and the like.

Rectification: Concrete is liable to be rejected if visually important surfaces are damaged. Rectification may be attempted only if prior approval is given. The Superintendent may refuse approval, or, if approval is given, may reject the concrete if the attempt fails.

EMBEDMENTS CORES AND FIXINGS 4.09

EMBEDDED ITEMS – CONCRETE **4.09.01**

STANDARD: Pipes, conduits, fittings, core holes, and the like: To AS 3600. Other embedded items, including fixings, anchor bolts and the like, shall also comply with the size, spacing and cover requirements of that clause unless otherwise shown on the Drawings or specified.

SHOP DRAWINGS: If the locations of embedded items are not shown on the Drawings, or are shown diagrammatically, or if it is proposed to vary the locations shown, submit shop drawings showing the proposed locations, clearances, cover, and the like.

STRUCTURAL INTEGRITY: In locating embedded items, do not cut or displace reinforcement, or cut hardened concrete, unless prior approval has been obtained.

TOLERANCE ON PLACEMENT: Unless otherwise shown on the Drawings or specified, permitted deviations from the correct positions shall be:

- Embedded items generally: plus or minus 10mm.
- Fixings, anchor bolts and the like: plus or minus 3mm.

PROTECTION OF FIXINGS – CONCRETE **4.09.02**

REQUIREMENT: Embedded and inserted fixings, including anchor bolts and the like: galvanize as to AS 1650 unless otherwise specified.

Grease threads. Protect from damage during concreting and the like operations.

INSERTED FIXINGS – CONCRETE **4.09.03**

LIMITATION: Use fixings inserted by drilling (including masonry anchors and the like), or by explosive tools, only is specified or approved.

APPLIED FINISHES 4.10

APPLIED FINISHES – CONCRETE **4.10.01**

DEFINITION: Applied finishes include finishes as laid, wrought finishes on formed surfaces, separate applied finishes placed monolithically on green concrete surfaces, and separate applied finished keyed or adhered to hardened or partially hardened surfaces.

LOCATIONS: Shown on the Drawings or specified in the APPLIED FINISHES SCHEDULE

APPLIED FINISHES TOLERANCES – CONCRETE **4.10.02**

CLASSES: Tolerance classes noted on the Drawings or specified in the APPLIED FINISHES SCHEDULE shall be as follows, determined by a straight edge placed anywhere on the surface in any direction.

CLASS A: Maximum deviation from a 3 m straight edge: 3 mm.
CLASS B: Maximum deviation from a 3 m straight edge: 6 mm.
CLASS C: Maximum deviation from a 600 mm straight edge: 6 mm.

FINISHES AS LAID – CONCRETE **4.10.03**

SCREEDING: Level slabs and floors with vibrating bridge screeds, roller pipe screeds or other approved means. Align the concrete surface to the contours of screed strips by the use of approved compacting type screeds. Where the formwork is cambered, set the screed to a like camber to maintain the proper concrete thickness. Do not manipulate the surfaces prior to the finishing operations.

MACHINE FLOATED FINISH: Begin floating when the water sheen has disappeared, and/or when the mix has stiffened sufficiently to permit the proper operation of a power-driven float. Use wood or cork faced hand floats in locations inaccessible to the machine float. Cut down high spots and fill low spots to produce a plane under the straight edge to the required tolerance class. Refloat the slab to a uniform smooth texture.

STEEL TROWELLED FINISH: After screeding and floating, produce the final finish with steel hand trowels, free of trowel marks and uniform in the texture and appearance. If the hardened surface fails to comply with the tolerance class, correct by grinding.

WOOD FLOAT FINISH: After screeding and floating, produce the final finish with wood float, using circular movements.

SCORED FINISH: After screeding and floating, give the surface a coarse scored texture in the direction shown on the Drawings, by drawing an approved scoring tool (broom, hessian belt, stiff brush, rake or the like) across the surface.

NON-SLIP FINISH: Blend silicone carbide granules or aluminum oxide (size range 595 micrometers to 1410 micrometers) with Portland cement in the proportions recommended by the supplier. After screeding, apply the blend at the rate of 1kg/m2 in two operations. Firstly apply approximately two-thirds of the granule-cement blend to the surface by a method that ensures even coverage without segregation. Begin machine floating immediately after application of the first 'dry-shake'. When the granules have been embedded by floating, broadcast the remainder of the blend at right angles to the previous application. Machine float immediately.

SEPARATE APPLIED FINISHES – CONCRETE **4.10.04**

GRANOLITHIC TOPPING: Topping mix: 1 part cement, 1 part fine aggregate, one and a half parts coarse aggregate maximum size 5 mm. Water: cement ratio 0.50 maximum. Zero slump.

Topping thickness: Not less than 25 mm.

LOCATION: Tiled areas where shown on the Drawings.

CONCRETE PATHS 4.11

Construct unreinforced concrete paths in locations shown on the drawings and as specified.

THICKNESS: 75 mm on 0.2 m polythene film.

CONTROL JOINTS: Fill joints with an approved tar impregnated compressible material, at 7200 mm maximum centers.

FINISH: Exposed aggregate finish generally steel trowelled finish 100 m wide to edges, with trowelled joints at 1200 m centers, and where control joints occur.

COLOUR: Holcim Black River or similar approved .

EXTRUDED KERBING 4.12

Specification reference – EXTERNAL WORKS – Bitumen paving.

MASONRY 5.0

GENERAL 5.01

SCOPE – MASONRY 5.01.02

SPECIFIED IN THIS SECTION: Masonry construction using masonry units (bricks or blocks) of clay, shale, calcium silicate, concrete, glass or other materials, including accessories such as wall tiles, lintels, plates, scraps, termite shields, damp-proof courses, flashings, trays, vents, and the like, and the necessary operations of laying, jointing, building-in, cleaning and the like

GENERAL REQUIREMENTS – MASONRY 5.01.03

STANDARD: Construct the masonry work in a safe manner using materials and methods complying with the relevant requirements of AS 3700.

QUALITY CONTROL 5.02

SAMPLES – MASONRY 5.02.01

REQUIREMENT: Submit samples of the following:

Masonry Units: Not less than six units of each face type, representing the total range of variation or colour, texture, surface irregularities (including defective arises), and regularity of shape.

SAMPLE PANELS – MASONRY 5.02.02

FACEWORK: Prepare in a suitable position, or where directed, a sample panel of each type of facework specified.

INCORPORATION INTO THE WORKS: An approved panel, if suitably located, may be permitted to be incorporated into the Works. Otherwise remove all traces on completion.

MATERIALS 5.03

MATERIALS GENERALLY – MASONRY 5.03.01

GENERAL REQUIREMENTS: To AS 3700 Section 2.

MORTAR – MASONRY 5.03.02

MORTAR MATERIALS To AS 3700 clause 2.2, and as follows:

White cement: To AS 1315, Type A, with iron salts content not exceeding 1%

Sand: Fine aggregate with a low clay content and free from efflorescing salts.

Additives: Do not use additives unless specified or unless prior approval has been obtained.
MORTAR MIX: To AS 3700, clause 8.4

FACE OR POINTING MORTAR: Colour and texture to match approved sample.

MORTAR FOR REFRACTORY BRICKWORK: Use an approved refractory mortar, mixed as recommended by the manufacturer.

MASONRY UNITS 5.04

BRICKS AND BLOCKS – MASONRY 5.04.01

DEFINITIONS: To AS 3700, clause 1.5, and as follows:

Bricks: Masonry units of fired clay, calcium silicate or concrete, of generally rectangular prismatic shape and not exceeding 4.0 x 10c mm3 in gross volume.

Brickwork: Masonry constructed with bricks.

Refractory bricks: Bricks complying with AS 2525

Blocks: Masonry units of fired clay, calcium silicate, concrete or other materials (excluding glass), hollow or solid, exceeding 4.0 x 106 mm3 in gross volume.

Blockwork: Masonry constructed with blocks.

Glass Block: A hollow unit made from two half units of glass fused together so that a partial vacuum is created within the unit. The terms ‘glass block’ and ‘glass brick’ are synonymous.)

Glass blockwork: Masonry, not subject to the provisions of as 3700, constructed with glass blocks.

Face units: Masonry units used in facework, including purpose-made units such as squints, sills and the like. The term ‘face units’ includes ‘face bricks’ and ‘face blocks’.

- Criteria for face units: General good appearance free from defects outside the range of approved samples. Use solid masonry units in facework where perforations would otherwise be visible.

Facework: Masonry required to be visible in the completed Works.

Commons: (Includes the terms ‘seconds’ and ‘reject face’): Masonry units used in work other than facework.

Fire rated units: Masonry units suitable for use in masonry required to have a specific fire resistance.

WORKMANSHIP 5.05

WORKMANSHIP GENERALLY – MASONRY 5.05.01

STANDARD: General requirements to As 3700, section 8.
'GRASSING' OF BRICKS: Do not lay clay bricks until they have been out of the kiln for at least 14 days.

CHASES: Do not chase masonry without prior approval.

BUILDING IN: When building in steel door frames, fill the backs of jambs and heads solid with mortar as the work proceeds.

CLEANING: Clean masonry progressively as the work proceeds. Clean facework to remove mortar smears, stains, discolouration, and the like.

SETTING OUT – MASONRY 5.05.02

ROD AND BOND: Set out masonry so as to maintain the specified rod and bond with bed joints and vertical joints of uniform width and with the minimum cutting of masonry units.

TRIAL SET-OUT: Make a trial set-out of two courses for each panel of facework and obtain approval before laying.

BONDING – MASONRY 5.05.03

BONDING PATTERN: Make a trial set-out of two courses for each panel of facework and obtain approval before laying.

MONOLITHIC STRUCTURAL ACTION:
Standard: To AS 3700, clause 3.9

Requirement: Provide monolithic structural action across vertical joints in masonry in the typical situations listed in the Note to AS 3700, clause 3.9.1, by either:

- Masonry bonding: To AS 3700, clause 3.9.2, by means of header units; or
- Tie bonding: To AS 3700, clause 3.9.3, where the specified bonding pattern does not permit headers to appear in the facework.

JOINTING – MASONRY 5.05.04

STANDARD: To AS 3700, clauses 3.6.2 and 8.7.2

POINTING: Point up joints around flashings as necessary to fill voids.

CONCEALED WORK: Cut the joints flush but leave them unstruck in masonry not visible in the completed Works.

FACEWORK JOINTS: Work with a jointing tool to a dense smooth surface of the profile shown or specified.

FACEWORK – MASONRY **5.05.05**

COMMENCEMENT: Commence facework not less than one full course, or 175 mm, whichever is the greater, below adjacent finished ground level.

PERPENDS: Keep perpends in alternate courses vertically aligned.

COLOUR MIXING: Distribute the approved colour range of face units evenly throughout the facework, so as to prevent colour concentrations and 'banding' from occurring.

DOUBLE FACE WALLS: Select masonry units for uniform width and double-face qualities in single leaf masonry with facework both sides. Before commencement, obtain a ruling as to which is the preferred face, and favor that face should a compromise be unavoidable.

STRUCTURAL ELEMENTS 5.06

CORROSION PROTECTION – MASONRY **5.06.01**

REQUIREMENT: Provide corrosion protection for metal items built into or in contact with masonry.

WALL TIES – MASONRY **5.06.02**

CATEGORY: Cavity tiles or masonry veneer tiles as appropriate to the service conditions.

EMBEDMENT: Minimum embedment of a tie in cavity walls where the cavity width exceeds 80 mm: 75 mm.

CAVITY AND MASONRY VENEER CONSTRUCTION: Installation to AS 3700, clause 3.8

REINFORCED MASONRY: Locate the ties in the unreinforced courses.

ANCHORAGE: Fixing of masonry veneer tiles at abutments: To AS 2699, clause 8.5, and as follows:

To timber frames: Galvanized clouts or integral spikes.

To concrete: Non-corrosive masonry anchors

PLATE FIXING – MASONRY **5.06.03**

METHOD: Fix timber wall plated to masonry as required by As 1684, clause 5.2.1.4, by bolts.

Bolts: 10 mm diameter galvanized steel, embedded into the wall structure of solid masonry external walling.

BED JOINT REINFORCEMENT – MASONRY **5.06.04**

PLACEMENT: 2L6 rods in the first two bed joints above and first bed joint below openings, or above and below head and still flashings to openings, and continuous throughout all brickwork (to both cavities).
Maintain 15mm mortar cover.

In brickwork: Extend 750mm beyond each side of openings.

PLACEMENT: 2L6 rods in the first bed joint below top brick course, and continuous throughout all brickwork (to both cavities). Maintain 15mm mortar cover.

Masonry Construction

1. Cross walls must be tied to the internal leaf of cavity walls by fully bonding or by metal ties at every second course

2. Mortar to be 1:1:6 cement:lime:sand and bricks must be laid on a full bed of mortar with cross joints properly filled.

3. Both leaves of all external masonry walls must be reinforced with two L6 bars (Grade 230) in the course immediately under window sills and over door and window heads.

4. Reinforcement shall extend a minimum of 300 mm beyond the supporting cross walls or columns and reinforcement to the external leaf shall be galvanized.

5. Continuous reinforced brick bond beams, comprising two L6 bars (Grade 230), in each of the top bed joints, shall be constructed.

    a. in every case on both leaves of all external walls and on all crosswalls.

6. Cross wall reinforcement must be turned and lapped 300 mm into the external walls.

7. Splices in reinforcement must not be less than 300 mm.

8. The top two courses of all internal walls shall be constructed of solid bricks.

STEEL LINTELS – MASONRY **5.06.05**

MATERIAL: Mild steel flat or angle lintels galvanized to AS 1650 , coating mass 600 g/m2, complying with the following table:

Maximum Span (mm):	Lintel dimensions (mm):	Bearing each end (mm):
950	50 x 10	150
1060	75 x 10	150
1200	75 x 75 x 8	150

1350	90 x 90 x 8	150
1500	90 x 90 x 8	150
1650	100 x 75 x 8	150
1800	100 x 75 x 8	150
2100	125 x 75 x 10	230
2400	125 x 75 x 10	230
3000	150 x 90 x 12	230

INSTALLATION: Provide one lintel to each wall leaf. Keep lintels 6 mm clear of heads and frames.

ENVELOPE ELEMENTS 5.07

CAVITY WALLS – MASONRY 5.07.01

CONSTRUCTION: To AS 3700, clauses 3.2.2 and 8.10.

MINIMUM CAVITY WIDTH:

Masonry walls: 50mm.
Masonry veneer walls: (between the masonry leaf and the leadbearing frame): 25 mm.

OPENINGS: DO not close the cavity at the jambs of external openings unless shown on the Drawings.

CAVITY FILL: Fill the cavity to one course above finished ground level with damp-proof mortar weathered towards the outer leaf.

CAVITY WALLS – MASONRY 5.07.02

FIRE RESISTANCE: Masonry elements shown on the Drawing to have a specific fire resistance should be designed to AS 3700, Section 7.

VENTS 5.08

WEEPHOLES – MASONRY 5.08.01

LOCATION: Provide weep holes to AS 3700, clause 3.2.3, in the form of open perpends to external leaves of cavity walls in the course above damp-proof courses, flashings, and cavity fill, and at the bottoms of unfilled cavities.

SPACING: Not exceeding 1200 mm.

JOINT INSERTIONS 5.09

DAMP-PROOF COURSE – MASONRY 5.09.01

MATERIAL: To AS 2904.

INSTALLATION: To AS 3700, clauses 3.2.4 and 8.12

LOCATION: Build damp-proof courses into the following locations where applicable:

- Walls adjoining infill floor slabs on membranes: in the course above the underside of the slab in internal walls and inner leaves of cavity walls. Project 40 mm dress down over the membrane turned up against the wall.

- Internal walls built off slabs on the ground: At Floor level.

WORKMANSHIP: Lay in long lengths. Step as necessary, but not exceeding 2 courses per step. Preserve continuity of damp-proofing at junctions of damp proof courses and waterproof membranes.

FLASHINGS AND WEATHERINGS – MASONRY **5.09.02**

MATERIAL: To AS 3700, clauses 3.2.4 and 8.12

into the following locations where applicable:

- Under sills: 50 mm into the first joint below the sill, extending up across the cavity and under the sill.

- Over roofs: Full width of external masonry, stepped to roof slope. Turn down not less than 50mm over base flashing. Turn up within cavity, sloping inward across the cavity and fixed to or built into the inner leaf at least 75mm above.

- In locations shown on the Drawings.

- At abutments with structural frames or supports: Vertical flashing in the cavity from 150mm wide material, wedged and grouted into a groove in the frame opposite the cavity.

- At sites where cavities are closed: Full height flashing extending 75mm beyond the closure into the cavity, interleaved with the sill and head flashing at each end. Fix to frame stiles.

TRIM **5.10**

SILLS AND THRESHOLDS – MASONRY **5.10.01**

WORKMANSHIP: Solidly bed masonry sills and thresholds and lay them so that the top surfaces drain away from the building. Sort and mix the units to give an even colour blend, and set them out so that no unit is cut less than ¾ of full width.

MASONRY SCHEDULES **5.11**

GENERAL **5.11.01**

APPLICATION OF THE SCHEDULES – MASONRY **5.11.01.01**

PROJECT SPECIFICATIONS: Schedules forming part of a project specification shall be deemed to refer to a Reference specification, as defined below:

Reference specification: Bound with the Schedule

PRECEDENCE OF SCHEDULES: A provision of the Schedules shall override any conflicting provision in the Reference specification.

AMENDMENTS: The text of clauses in the Reference specification whose clause headings correspond to identical clause headings in the Schedules shall be deemed to be incorporated in the project specification, subject only to such amendments (alterations, additions, deletions) as may be made to the tent by the Schedules. Additions may be in the form of complete additional clauses.

SCOPE – MASONRY **5.11.01.02**

SPECIFIED IN OTHER SECTIONS:

Woodwork: Timber wall plates.

External Works & Paving: Paving on floor surfaces of masoning units similar to those specified in this section.

Painting: Protective coatings for water resistance.

QUALITY CONTROL **5.11.02**

SAMPLE PANELS – MASONRY **5.11.02.01**

FACEWORK TYPE:

MINIMUM SIZE: (face of panel): Approximately 2m x 2m

MATERIALS **5.11.03**

MORTAR – MASONRY **5.11.03.01**

CEMENT TYPE: Type A to AS1315.

CEMENT TYPE: Type A to AS1315.

CEMENT COLOUR FOR FACE WORK: cream mortar

SAND FOR FACEWORK:
Required colour: Yellow

APPROVED ADDITIVES: The following may be used: None.

MASONRY UNITS **5.11.04**

BRICKS AND BLOCKS – MASONRY **5.11.04.01**

CLAY BRICKS: To AS1225.

Source:

Nominated Supplier:
Proprietary Item

Location: Facework

Manufacturing Dimensions: 230 x 110 x 76

Form: Cored

CLAY BRICKS: To AS1255.

Location: Concealed work.

Manufacturing Dimensions: 230 x 110 x 76mm

Form: Cored Commons

WORKMANSHIP **5.11.05**

SETTING OUT – MASONRY **5.11.05.01**

ROD:
Brick Rod: 7 courses to 600.

Block Rod:

BONDING – MASONRY **5.11.05.02**

FACEWORK BOND: Stretcher with 2c Header at 8c with 10mm protrusion

JOINTING – MASONRY **5.11.05.03**

JOINT PROFILE: flush

FACEWORK – MASONRY **5.11.05.04**

LOCATION: External leaves of cavity walls and as shown on Drawing.

STRUCTURAL ELEMENTS **5.11.06**

CORROSION PROTECTION – MASONRY

CORROSION RESISTANCE RATING: Steel products, including reinforcement, used in masonry shall have a corrosion resistance rating to AS3700 Table 2.2 of not less than:

WALL TIES – MASONRY **5.11.06.01**

MATERIAL: Zinc Coated Steel

WALL TIE DUTY CLASSIFICATION: To AS2699

Classification: Applicable construction type:

Light duty	Masonry veneer
Medium duty	Normal cavity construction
Heavy duty	Wide cavities (over 80mm)
Heavy duty	Tie bonding at abutments

SPACING: AS 3700, clause 3.8

MASONRY TIES:
Method of anchorage to structural supports: As shown on the drawings.

PLATE FIXING – MASONRY **5.11.06.02**

TYPE OF FIXING: 25 X 1.2 G.S.S straps x 20c long at each side of openings and corners. Build a minimum 75mm into bed joint and fix to top plate with 3 No 10 Teks or equivalent.

MAXIMUM SPACING: 1200 centres

BED JOINT REINFORCEMENT – MASONRY **5.11.06.03**

MATERIAL: 6mm steel reinforcing rods, galvanised to AS 1650, coating mass 290g/m²

LOCATION: Place two rods in each reinforced joint so that minimum mortar cover is 15mm. Reinforce on openings in external walls as shown on the drawings.

JOINT INSERTIONS **5.11.07**

DAMP-PROOF COURSE – MASONRY **5.11.07.01**

MATERIAL: Embossed Black polyethylene to AS 2904

FLASHING AND WEATHERINGS – MASONRY
CONCEALED MATERIAL: Bitumen coated aluminium 0.45 thick to AS 2904.
EXPOSED MATERIAL: 0.6mm galvanised steel sheet and 20kg/m² sheet lead.

SILLS AND THRESHOLDS – MASONRY **5.11.08**

SILLS AND THRESHOLDS – MASONRY **5.11.08.01**

SILL UNITS: Solid brick 1 course deep setback 10mm from facework.

THRESHOLD UNIT: Paving brick to sliding aluminium doors

APPENDIX 'Á'

REFERENCED DOCUMENTS:

Site copy: Keep on site a copy of: AS 3700

GLAZING 7.0

GENERAL 7.01

STANDARDS – GLAZING 7.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1170	SAA Loading Code Part 2 – Wind forces
AS 1288	SAA Glass Installation Code Part 1 – Selection of glass Part 2 – Glazing techniques Part 3 – Unframed toughened glass assemblies
AS 2047	Aluminium windows for buildings
AS 2048	Code of practice for the installation and maintenance of aluminium windows in buildings
AS 2208	Safety glazing materials for use in buildings (human impact considerations)

DESIGN 7.02

GLASS THICKNESS DESIGN – GLAZING 7.02.01

DETERMINATION OF THICKNESS: Determine the glass thickness in accordance with AS 1288 and the design wind pressure.

GUST DYNAMIC WIND PRESSURE:
Windows: 0.57 Kpa

Wind design pressure coefficients shall be in accordance with AS 1170 – 1989 SAA Loading Code.

Submit evidence that the installation complies with the code.

MATERIALS 7.03

GLASS – GLAZING 7.03.01

STANDARD: To BS 952, Part 1, of approved manufacture, and of kinds and grades specified or shown on the Drawings.

QUALITY: Free from defects, which detract from appearance or interfere with performance under normal conditions of use.

TRANSPARENT GLASS – GLAZING 7.03.02

CLEAR GLASS:. All Glass shall be Veridian SP Natural Panoramic unless otherwise specified.

SAFETY GLASS – GLAZING **7.03.03**

STANDARD: To AS 2208. Safety glass includes wired, toughened and laminated glass.

TOUGHENED SAFETY GLASS: Glass subjected to prestressing process: to AS 2208, Section 3.
Glass type: Clear Float and Pilkington "sparkle" or equivalent.

Impact Resistance: to AS 2208, Grade A.

MIRRORS – GLAZING **7.03.04**

REFLECTIVE SURFACE: A layer of chrome silver or equivalent metal.

PROTECTIVE COATINGS: One layer of copper, one layer of protective mirror-backing paint, one coat moisture sealer. Apply moisture sealer to glass edges.

MIRROR GLASS: Glass of silvering quality backed with a reflective surface layer and protective coatings.

Glass type: Clear float of silvering quality.
Glass thickness: 6mm
Edge finish: Frameless bevel edge.

GLAZING MATERIALS – GLAZING **7.03.05**

STANDARD: To AS 1288, Part 2, (including putty, glazing compounds, sealants, gaskets, glazing tapes, spacing strips, spacing tapes, spacers, setting blocks, compression wedges, and the like) appropriate for the conditions of application and the required performance, and complying with the recommendations of the manufacturer of the glass or glazing system, and as necessary to complete the installation.

PREFORMED GASKETS (rubber or rubber-like materials):
Non-cellular gaskets generally: To BS 4255, Part 1.
Cellular gaskets generally: To BS 4255, Part 2.

WORKMANSHIP 7.04

WORKMANSHIP – GLAZING **7.04.01**

GENERALLY: To AS 1288, Part 2, and the recommended practice of the Federal Glass Merchants Association of Australia.

OPERATIONS: Perform necessary operations including cutting, processing, setting, fixing, cleaning and the like.

BUILDING MOVEMENTS: Use methods such that building movements resulting from wind and thermal effects are not transferred to the glass.

MARKING – GLAZING 7.04.02

TEMPORARY MARKING (if necessary): Use a soluble marking compound and remove all traces on completion. Do not use lime or advertising stickers.

PERMANENT MARKING of safety glasses:
Toughened safety glass: Do not cut, work or permanently mark after manufacture.

CLEANING AND REPLACEMENT – GLAZING 7.04.03

REPLACEMENT: On completion replace damaged glass.

CLEANING GENERALLY: Use non-damaging methods. Leave the whole of the work clean, polished and in good condition.

GLASS INSTALLATION METHODS – GLAZING 7.04.04

STANDARD: To AS 1288, Part 2.
Glazing methods: Follow the recommendations of the manufacturers of these glasses in addition to the requirements of AS 1288.

Toughened glass: To AS 2208, Appendix M.

Sealing of timber surfaces: To AS 1288, Part 2, clause 2.4(e).

ALUMINIUM, BRONZE AND STAINLESS STEEL FRAMES:
Small panes: Lights not exceeding 1m² in buildings not exceeding 10m in height: To AS 1288, Part 2, Section 4.

Medium sized panes: Lights not exceeding 1.5m² irrespective of building height: To AS 1288, Part 2, Section 5.

All panes: Lights of all sizes, at all heights:
Using gun consistency elastomeric sealants: To AS 1288, Part 2, Section 6.
Using preformed non-resilient glazing tapes: To AS 1288, Part 2, Section 7.
Using preformed resilient glazing tapes: To AS 1288, Part 2, Section 8.

FRAMELESS, GLASS ASSEMBLIES: To AS 1288, Part 3.

FIXING MIRRORS – GLAZING 7.04.05

FRAME FIXING: Powder coated aluminium frame all round mirror, corners mitred. Bed glass edges in continuous resilient gasket. Screw fix beads to background.

GLAZING SCHEDULES 7.05

CLEAR GLASS 7.05.01

All Glass shall be Veridian SP Natural Panoramic glass in openings in external walls unless otherwise noted.

OBSCURE GLASS 7.05.02

Glass Type: Pilkingtons Cathedral White.

FROSTED GLASS 7.05.03

NOMINATED SUPPLIER: Pilkington or similar approved
TYPE: Sparkle white
LOCATION:

METALWORK 8.0

GENERAL 8.01

STANDARDS – METALWORK 8.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1074	Steel tubes and tubulars threaded or suitable for threading with pipe threads of Whitworth form
AS 1214	Hot dip galvanised coatings on threaded fasteners
AS 1231	Anodic oxidation coatings on aluminium for architectural applications
AS 1554	SAA Structural Steel Welding Code
AS 1650	Galvanised coatings
BS 2569	Sprayed metal coatings Part 1 – Protection of iron and steel by aluminium and zinc against atmospheric corrosion.

MATERIALS AND WORKMANSHIP 8.02

MATERIALS – METALWORK 8.02.01

METALS: Use metals suited to their required function, finish and method of fabrication, in sections of adequate strength and stiffness for their purpose.

WORKMANSHIP – METALWORK 8.02.02

PREFABRICATION: Fabricate and pre-assemble items in the workshop wherever practicable.

EDGES AND SURFACES: Keep clean, neat and free from burrs and indentations. Remove sharp edges without excessive radiusing.

JOINTS: Fit accurately to a fine hairline.

TUBE BENDS: Form bends in tube without unduly deforming the true cross section.

COLOURS: Match colours of sheets, extrusions and heads of fastenings in colour finished work.

METAL SEPARATION: Separate incompatible metals by suitable means, including but not necessarily limited to separation layers, sleeves, or gaskets of plastic film, bituminous felt, mastic, paint coatings, and the like. Separation materials shall not be visible on exposed surfaces.

THERMAL MOVEMENT: Provide for thermal movement in joints and fastenings, and in the installation of assemblies such as frames. Make the provision sufficient to prevent harmful effects from stress and fatigue, such as opening of joints, tearing and buckling of sheet metals and thin sections, and the like.

WELDING, BRAZING, SOLDERING – METALWORK **8.02.03**

VISIBLE JOINTS: Finish visible joints made by welding, brazing or soldering by grinding, buffing or the like methods appropriate to the class of work before painting, galvanising, or the like further treatment. Aluminium after jointing shall be without visible surface colour variations.

STRUCTURAL STEEL WELDING: Specified in STRUCTURAL STEEL.

STRUCTURAL MEMBERS 8.03

FASTENINGS – METALWORK **8.03.01**

GENERALLY: Fastenings, including anchors, lugs, screws, rivets and the like, shall be of approved type, appropriate to the work, capable of transmitting the loads and stresses imposed, and sufficient to ensure the rigidity of the assembly.

FASTENINGS TO ALUMINIUM: (including aluminium alloys): Aluminium alloy or non-magnetic stainless steel unless otherwise specified. Use cadmium-plated steel fastenings only in protected situations subject to approval.

Self-tapping screws: Stainless steel 316 grade stainless steel.
Nails: Aluminium or stainless steel.
Rivets: Blind rivets.

SCREWS – METALWORK **8.03.02**

TAPPING AND DRIVE SCREWS: To AS B194.
MACHINE SCREWS: To AS 1427.
SOCKET HEAD CAP SCREWS: To AS 1420.
SOCKET HEAD SETSCREWS: To AS 1421.

EXPOSED SCREW HEADS: Countersunk Philip's or socket head unless otherwise specified, finishing flush in countersinkings.

MASONRY ANCHORS – METALWORK **8.03.03**

EXPANSION: Patent expansion type of approved manufacture unless otherwise specified.

DOORS, OPENINGS 8.04

STEEL DOOR FRAMES **8.04.01**

Pursuant to SAMPLES: PRELIMINARIES, supply sample frame.

FRAME MATERIAL: Zinc annealed steel Thickness of sheet 1.2mm.

PROFILE: JDS Deluxe Metal Door Frames

.

STILES AND HEADS: Double rebated C section with return flanges at back, of overall width equal to wall thickness inclusive of finishes and overall depth 50mm with 12mm deep rebates for fire rated assemblies. Slot out for fittings and furniture.

FABRICATION: Weld frames together, mitre and fully weld corners and provide bottom spreader. Form mortar guard for lock strike from 1mm steel sheet and weld into position. Provide strike plates to suite furniture and two buffers of white rubber or plastic per door leaf.

Cut frames to take hinges and weld 150 x 44 x 10mm screwing plate to back of stile where hinges occur, drilled and tapped for metal screws. Provide mortar guards behind hinge plates of frames to be mortar filled. Modify frames to take door closers where scheduled and fix the closers.

Hardware is specified in the HARDWARE section.

Provide cavity side flashings to external frames.

INSTALLATION: Attach fixing lugs to stiles at 100mm maximum from head and foot and at 400mm maximum centres, suitable for building in or attaching to structure as applicable.

Build frames into place and grout up solid in cement mortar as specified in BUILDING IN: MASONRY.

FINISH: Cut back scratches, dents and imperfections to bare metal. Repair dents with auto body filler and feather out.

FIRE DOORS AND FRAMES – METALWORK **8.04.02**

Fire door assembly shall consist of a door and frame complete with necessary hardware and operating devices. (A doorset as defined in AS 1905.1). The assembly shall be of a type and manufacture listed and approved by the appropriate regulatory authorities and by the Fire and Accident Underwriters Association of Australia.

Furnish the following:

- A certificate from the manufacturer stating that the assembly type has been tested in accordance with the requirements of AS 1530 and has attained a fire resistance grading of 0.5, 1, 1.5 or 2 hours.
- A certificate stating that the assembly has been constructed and installed to comply with AS 1905.1.
- A certificate from the manufacturer stating that adhesives used in the assembly have been tested in accordance with the requirements of AS 1530 Part 111 and have zero indices for ignitability, spread of frame, heat evolved and smoke developed.
- Copies of relevant reports from the Testing Authorities.

FINISHES 8.05

PROTECTION – METALWORK 8.05.01

GENERALLY: Protect metalwork during the work under the Contract as necessary to prevent damage or defacement.

IRON AND STEEL (ungalvanised): Prime as specified for the relevant coating system specified in PAINTING.

METAL BUILDING SHEETS: Surface discolouration or other damage resulting from neglect of protective measures shall be cause for rejection.

TEMPORARY COATINGS: Provide finished surfaces of aluminium and its alloys, stainless steel, chromium plating and the like decorative surfaces with a temporary coating before installation, and remove all traces upon completion of the Works.

HOT DIP COATINGS – METALWORK 8.05.02

FABRICATION: Complete welding, cutting, drilling and other fabrication before coating.

COATINGS: Unless otherwise specified, zinc coatings shall be by the hot dip method as follows:

Ferrous articles generally: To AS 1650.
Ferrous wire: To AS 1650, Section 4, Type A.
Steel sheet: To AS 1397, coating class as specified for the particular item.
Threaded fasteners: To AS 1214.

METAL SPRAY – METALWORK 8.05.03

PREPARATION: Prior to application, degrease and abrasive blast to AS 1627.4, Class 3, using only metal grit, to achieve an average profile height of typically 1/3 the total metal spray thickness.

APPLICATION: To BS 2569 Part 1, except that the coating thickness shall be in the range 0.125 to 0.175mm.

ELECTROPLATED COATINGS – METALWORK 8.05.04

STAINLESS STEEL SHALL BE 316 GRADE THROUGHOUT BUILDING

CHROMIUM PLATING: To AS 1192. Extend the plating around exposed edges and on to concealed surfaces.

ZINC PLATING: To AS 1789.

SERVICE CONDITION NUMBER AND FINISH: As specified for the particular item.

POWDER COATING – METALWORK **8.05.05**

PREPARATION:
Unprotected steel: Remove rust by abrasive blast to AS 1627.4. Class 3, clean by immersing in trichloroethylene or an alkaline solution and apply a coat of iron phosphate.
Galvanised steel: Clean by immersing in a suitable alkaline or acidic solution, apply a chromate or zinc phosphate chemical conversion coating, rinse and degas.

Aluminium: Clean by immersing in a suitable alkaline or acidic solution, caustic etch and apply a chromate chemical conversion coating.

APPLICATION: Apply powder using an electrostatic spray gun or fluidised bed such that no dust particles or other impurities blemish the final product.

BAKING: After application, bake the film in an oven accurately controlled to the temperature recommended by the coating manufacturer.

ANODIZING – METALWORK **8.05.06**

ANODIZED COATINGS ON ALUMINIUM: To AS 1231.

FIXTURES AND FITTINGS 8.06

GRAB RAILS – METALWORK **8.06.01**
Supply and fix Con Serv Stainless Steel 850 fold down dual grabrails to fully assist bathroom. Grabrail configurations and locations shall be in accordance with AS1428.1 – 1988, Part 1 and as shown on the drawings.
TYPE: SS 850D and SS850DTR
TYPE: SS PWD-35, PWD-OO 600 LONG & 900 LONG,

SIGNS – METALWORK **8.06.02**

PRELIMINARIES: Builder to allow for the supply and fixing of signs to walls and doors.

NOMINATED SUPPLIER: Metlam Signage or similar approved

CLOTHES LINE **8.06.03**

POST -DECORATIVE **8.06.04**

MATERIAL: Aluminium

NOMINATED SUPPLIER: Sculptform

NOMINATED ITEM: Sliding click on battens 50 X 50 battens with end caps

LOCATION: Porch entry screening

HANDRAIL BRACKETS - METALWORK **8.06.05**

REQUIREMENT: Fix handrail as per drawings to ramps

FINISH: Galv pipe work

LOCATION: External ramp

HANDRAIL 8.07

Fabricate steel pipe handrail to detail shown on the drawings. Weld steel plate cap to ends and grind all welds smooth. Galvanise to AS1650 after fabrication.

SIZES: Handrail: 42OD
Posts: - 32 OD at 900 centres bolted in concrete footings.

LOCATION: Ramp

FENCE 8.08

PROPRIETARY ITEM:

COLOUR:

TYPE:

LOCATION: n/a

WOODWORK 9.0

GENERAL 9.01

STANDARDS – WOODWORK 9.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

GENERAL

AS 01	Glossary of terms used in Timber Standards.
AS 02	Nomenclature of Australian Timbers.
AS 1080	Methods of test for Timber Part 1 – Moisture Content.
AS 1148	Nomenclature of commercial Timbers imported into Australia.
AS 1684	SAA Timber Framing Code
AS 1720	SAA Timber Engineering Code Part 1 1988
AS 1728	Types of Timber surfaces.

TIMBERS

AS 1490	Visually stress graded Radiata Pine for structural purposes (metric units).
AS 2082	Visually stress-graded hardwood for structural purposes.

PRESERVATIVE TREATMENT

AS 1604	Preservative treatment for sawn timber, veneer and plywood.

PANEL AND SHEET PRODUCTS

AS 1859	Flat pressed particleboard.
AS 2269	Structural plywood
AS 2270	Plywood and blockboard for interior use.
AS 2271	Plywood and blockboard for exterior use.
AS 2272	Marine plywood.
AS KS130	Decorative thermosetting laminated sheet.

FOIL, FILM AND INSULATION

AS 1366	Rigid cellular plastics sheets for thermal insulation Part 3 – Rigid cellular polystyrene
AS 1903	Reflective foil laminate.
AS 1904	Code of Practice for installation of reflective foil laminate in buildings.
AS 2461	Mineral wool thermal insulation – Loose fill

ADHESIVES AND FASTENINGS

AS 2131	Adhesives for bonding decorative thermoset laminates (contact adhesives).

MATERIALS 9.02

TIMBER QUALITY – WOODWORK 9.02.01

REQUIREMENT: Use timbers suited to their intended purposes, which have been graded to the relevant Australian standard unless otherwise specified.

SEASONING WOODWORK 9.02.02

REQUIREMENT: Make milled or dressed products from timbers conditioned to within 3% of the equilibrium moisture content (EMC) appropriate to the timber and its intended conditions of use and unless otherwise specified not greater than 15% nor less than 10%, with no more than 3% difference between any two pieces in any one group. Submit evidence of moisture content if requested: to AS 1080 Part 1.

STRUCTURAL TIMBERS: Stud grade and lintel grade where appropriate. Appearance grade if exposed to view in the finished work.

Visual stress grades: To AS 1490, AS 1648, AS 2082, AS 2099 or AS 2440, as appropriate.

Mechanical stress grades: To AS 1748 and AS 1749.

DRESSED TIMBERS: Where the relevant Australian standard specifies more than one grade, the grade shall be as follows, unless otherwise specified.

Timbers for transparent finishes: The highest grade in the standard.

Timbers for opaque finishes: Select grade to AS 2796. Standard grade to AS 1494, AS 1495, AS 1783 and AS 1786.

DRESSED SURFACE FINISH: Classes to AS 1728, corresponding to grades as in AS 2796 clause 1.10 and Table A1.

TIMBER SPECIES GROUPS – WOODWORK 9.02.04

HARDWOODS:
Structural, visually stress graded: To AS 2082.
Milled products: To AS 2796.

SOFTWOODS:
Radiata Pine Structural visually stress graded: To AS 1490.

Douglas Fir (Oregon) and Western Hemlock (Canada Pine)
Sawn products: For construction and dressing purposes: To AS 2440.

VISIBLE WORK – WOODWORK 9.02.05

REQUIREMENT: Where timber, including sawn timber, is required for visible work having clear or stained finishes, the visible faces, edges and corners shall be clean and free of visible blemishes such as

branding marks, crayon marks, chalk marks, marks caused by machining, conveying and handling, and the like.

DIMENSIONS – WOODWORK **9.02.06**

TOLERANCES: Unless otherwise specified, the actual cross-sectional dimensions of timbers may vary from the dimensions stated herein or on the Drawings by the tolerances (if any) permitted in the relevant Australian standards.

FRAMING TIMBERS: AS 1684 tolerances govern.

'GAUGED' HARDWOOD: Tolerance +2mm –0.

SEASONED SIZES: The actual sizes of timbers specified to be seasoned shall be not less than the stated sizes, except for tolerances permitted in relevant Australian standards.

FINISHED SIZES: The actual dimensions of dressed or milled timbers shall be not less than the stated dimensions, except for stated.

Dimensions qualified by a term such as 'nominal' or 'out of' or equivalent, to which a machining tolerance of –3mm maximum per dressed face (-5mm maximum for North American softwoods) shall apply.

PANEL AND SHEET PRODUCTS 9.03

PARTICLEBOARD – WOODWORK **9.03.01**

STANDARD: To AS 1859. Interior type for interior use in dry locations only. HMR (highly moisture resistant) type for all other uses except flooring. Use flooring grade for flooring generally, wet-area flooring grade for flooring over damp subfloors.

MELAMINE SURFACE PARTICLEBOARD: Particleboard finished with a melamine surface bonded to both faces.

LAMINATED PLASTIC SHEET – WOODWORK **9.03.02**

STANDARD: To AS K130.

TYPE: General purpose or post-forming as applicable.

THICKNESS: Unless otherwise specified:
For horizontal surfaces fixed to a continuous background: 1.2mm.
For vertical surfaces fixed to a continuous background: 0.8mm.
For vertical surfaces fixed intermittently (eg to studs): 3.0mm.

FIXING: Fix to continuous backgrounds with spray applied contact cement containing a heat resistance additive to AS 2131, in accordance with the manufacturer's recommendations. For small areas (eg edges) hand applied adhesives as above may be used.

APPLICATION: To the following table:

Location:	Finish:	Texture:	Colour:
Bench Tops		Refer to Attached Schedule	
Drawers and cupboard faces	Smooth	Velvet	Refer to Attached Schedule

WORKMANSHIP 9.04

WORKMANSHIP GENERALLY – WOODWORK 9.04.01

EXTENT: Perform necessary operations including framing, trimming, assembling, joining, fixing, finishing and the like.
JOINTS: Use timber in single lengths whenever possible. If joints are necessary make them over supports unless otherwise shown or specified.

EDGES: Arris edges of work to receive paint or similar coatings. Arris or round off visible edges to approval.

PLOUGHING: Back plough boards liable to warping (eg. if exposed externally on one face). Make the width, depth, number and distribution of ploughs appropriate to the dimensions of the board and degree of exposure.

ACCESSORIES: Provide necessary templates, linings, blocks, stops, ironwork, hardware and the like.

FRAMING: Trim where necessary for openings, including those required by other trades.

JOINERY – WOODWORK 9.04.02

GENERALLY: Make joinery to details shown on the Drawings and as follows:

Finishes: Where joinery is specified to have clear or tinted finishes, match adjacent pieces to approval.

Fastenings: Conceal fastenings where possible, otherwise punch or sink the heads below the surface and fill flush by an approved means to match the finished surface.

Plugging: If fastenings are specified to be plugged, sink them below the surface and cover with flush matching wood plugs showing face grain (not end grain).

Joints: Scribe internal and mitre external joints.

TIMBER SURFACES – WOODWORK 9.04.03

TERMINOLOGY: To AS 1728, except that ‘sanded’ shall have the same meaning as ‘abraded’.

SURFACE TYPES: As follows unless otherwise specified:

- Timber surfaces generally: The types most nearly corresponding to the ‘suggested applications’ in the Table to the Commentary of AS 1728;

- Visible sawn timbers: No. 4 Sawn Surface (fine);
- Visible dressed timbers: Not less than No. 4 Dressed Surface (fine), or sanded as specified below;
- Joinery and dressed timbers, including veneers, visible internally: Sanded to not less than No. 2 Abraded Surface (smooth) for gloss paint finish; sanded to not less than No. 3 Abraded Surface (very smooth) for polished, clear, tinted or the like finishes.

EDGE STRIPS – WOODWORK **9.04.04**

MATERIAL: To match the face veneers or HW timber as shown on the drawings. Width such that the strip finishes flush with the outside surfaces of the panel facings. Solid timber strips generally, veneer strips on drawer fronts.
Corners: Mitre or square butt solid edge strips meeting at corners.
Fixing: PVC adhesive to AS 2370, or equivalent.

SHOP PRIMING – WOODWORK **9.04.05**

HIDDEN SURFACES: Prime before assembling, as specified in TIMBER SURFACES – PAINTING.

EASE AND ADJUST – WOODWORK **9.04.06**

REQUIREMENT: Ease and adjust moving parts, lubricate hardware and the like as necessary, and leave the whole of the woodwork in sound, clean working condition.

STRUCTURE **9.05**

FASTENINGS – WOODWORK **9.05.01**

GENERALLY: Provide necessary fixings, fastenings, anchors, lugs, nails, screws, bolts, straps and the like of approved types, sufficient to transmit the loads and stresses imposed and ensure the rigidity of the assembly. Drill timbers for fastenings where appropriate and where necessary to prevent splitting.

STEEL FASTENINGS: If exposed to weather, or used in external timbers such as weatherboards and decking, or in contact with chemically treated timbers, hot dip galvanise to AS 1650, to 300g/m² coating mass.

FASTENINGS FOR TIMBER ENGINEERING PURPOSES: Including bolts, coach screws, split ring connectors, shear plate connectors, tooth plate connectors, and nail plate connectors: To AS 1720, of galvanised steel unless otherwise specified.
EXPLOSIVE DRIVEN FASTENINGS: Use only where specified or approved.

NAILS: Use types appropriate for the purpose, or as recommended by the manufacturer for the fixing of building boards or other manufactured sheets.

Steel nails: To AS 2334.

Nail length for fixing cladding, lining and the like: Not less than 2½ times the thickness of the member or members the n ail is being used to secure. Not less than four times if the member is plywood or building board.

Nailing in frames: To AS 1684, Section 6.

WOOD SCREWS: To AS 1476.
COACH SCREWS: To AS 1393.

BOLTS: To AS 1111.
MASONRY ANCHORS: Approved patent expansion type.

HOOP IRON STRAPS: 25 x 1.6mm, galvanised unless otherwise specified.

PLUGS in masonry: Dry winding softwood, or plastic plugs of an approved type.

ADHESIVES – WOODWORK **9.05.02**

TYPES: Use adhesives of approved types, sufficient to transmit the loads and stresses imposed and ensure the rigidity of the assembly. Prevent adhesives from staining surfaces specified to have clear or transparent finishes.

BOLTING – WOODWORK **9.05.03**

TIGHTENING: Ensure that bolts and similar fixings are tight at Practical Completion.

NAILING STRIPS – WOODWORK **9.05.04**

TOP BEARING: Where timber joists, rafters or purlins bear on steel principals, bolt 100 x 50mm and size and shown on the Drawings nailing strips to the top of the principal with 6mm diameter bolts at 900mm centres, through holes provided in the top flange. To open-web joists, use hook-bolts passing between chord pairs.

BOTTOM BEARING: Where timber joists, rafters, or purlins bear on bottom flanges of rolled steel members bolt 50 x 50mm nailing strips to each flange with 6mm diameter bolts at 900mm centres through holes provided in the flanges.

GLUE LAMINATED MEMBERS – WOODWORK **9.05.05**

DESIGN: To AS 1720.

LOCATION: As shown on the Drawing.

TIMBER SPECIES: Oregon.

STRESS GRADE: F16.

Stress grade reduction: At neutral axis of beams, and up to 30% of the beam depth above and below the neutral axis, the stress grade may be reduced to:
FINISH: Economy.

MANUFACTURE: To AS 1328 and as follows:

CAMBER: A member shall not be cambered unless a camber is shown. Install cambered members with the camber up.

LAMINATIONS: Unless otherwise specified or shown, shall be approximately parallel with each other.

SHEETING AND LINING APPLICATIONS 9.06

FIBRE CEMENT LINING APPLICATIONS – WOODWORK 9.06.01

PRODUCT: Autoclaved fibre cement flat sheet, smooth sanded, fixed as recommended by the manufacturer.

ACCESSORIES: Fastener type, length, gauge and set out, bedding and topping compounds, and the like accessories shall be as recommended by the sheet manufacturer.

REQUIREMENT: Line eaves and verandahs over rafters and in locations shown on the drawings with 6mm Hardiflex.

INSTALLATION: Nail to rafters. Lay out sheets so that joints occur over rafters. Do not use PVC jointing strips. Flush joints when under rafters.

PRODUCT: Hardies Scyon as nominated on drawings.

ACCESSORIES: Hardies Edge Trim around windows & doors and base trim. Supplied and installed as per manufacturer's instructions.

REQUIREMENT: Wall external cladding. Sycon Matrix shall have 10mm negative joint. Sycon Linea 150mmwide weatherboard T & G

INSTALLATION: As per manufacturer's instruction.

PRODUCT: Austral Marine Ply 9.5mm thick F17 grade Blackbutt finish with 10mm thick black negative joint installed with exposed ss screws with ss cup washers as per manufacturer's instruction, to Entry soffit and Entry Air lock soffit.

WALL INSULATION 9.06.02

PRODUCT: Insulbreak 65 as per Energy Report as required

ROOFS, CEILINGS 9.07

PITCHED ROOF FRAMING – WOODWORK 9.07.01

Engineered timber CCA treated shall be used on this project. Prior to installation certified engineer's drawings shall be presented to the proprietors for approval.

STANDARD: To AS 1684 Section 5.

TIMBER SPECIES OR GROUP: Jarrah.

STRESS GRADE: F8.

LOCATION: Roof Framing.

TIMBER SPECIES OR GROUP: Karri.

STRESS GRADE: F11.

LOCATION:

The following species are alternatives for the locations specified.

TIMBER SPECIES OR GROUP: Pinus Radiata.

STRESS GRADE: F5.

LOCATION: Roof joists.

TIMBER SPECIES OR GROUP: Oregon.

STRESS GRADE: F7

LOCATION:

SPACING:
Rafters: 900mm.
Underpurlins (maximum): As shown on the Drawing.
Ceiling joists: 450mm

MINIMUM SIZES:

Wall plates on Masonry Walls: 125 x 45mm
Ceiling Joists: 90 x 45mm.

Hanging Beams: As shown on the drawing and in accordance with the Code.

Common Rafters: 125 x 50mm.

Ridge Boards:
Depth: Rafter depth plus 50mm.
Width: 38mm.

Valley Rafters: 200 x 38
Valley Boards: 19mm thick width to suit valley gutter.

Underpurlins: 100 x 75mm and as shown on the Drawings.

Struts: 75 x 75mm

Roof Battens: Specified in ROOFING.

CEILING INSULATION – WOODWORK **9.07.02**

Proprietary item: 75mm thick fibreglass insulation batts – R4 rating.

Location: To all flat ceilings in extension

SARKING – WOODWORK **9.07.03**

Specified in ROOFING.

ROOF TRIM – WOODWORK **9.07.04**

MATERIAL: Jarrah or approved alternative.
Finished Size:

Fascia: 75 x 38mm fascia checked into end of rafters to match existing.
Barge: 175 x 30mm grooved. Groove for eaves lining. Mitre corners. Chamfer lap joints.
Nail to rafters: Use long lengths.

Birdboard: 38 thick height as required to suit rafters.

Scribing Fillet: 80 x 12.

EAVES LINING – WOODWORK **9.07.05**

LINING MATERIAL: Also Specified in Sheeting and Lining Applications.
Timber battens to match with ply wood cladding en verandah

TRIM **9.8**

TIMBER TRIM – WOODWORK **9.8.01**

EXTENT: Provide timber trim in the locations and of the species, sizes and profiles shown on the Drawings or specified in the WOODWORK SCHEDULE and as follows:

SKIRTINGS: Fix to wall plugs in brickwork, to bottom plates of stud walls, at junctions of walls with timber floors. Mitre external and scribe internal angles.

ARCHITRAVES: Fix to window openings and jamb linings. Mitre corners.

WINDOW BOARD: (NOSING) Plug and nail to brickwork and timber frames. Punch nails. Pack up to suit window angle. Mitre at corners.

TIMBER HANDRAIL: Fix to wall brackets specified in HANDRAIL BRACKETS – METALWORK.

FIXTURES AND FURNITURE 9.9

FIXTURES GENERALLY – WOODWORK 9.9.01

EXTENT: Provide fixtures and furniture as shown on the Drawings, made up from components specified in the following clauses.

FINISHES: Specified in PAINTING.

PRIMING HIDDEN SURFACES: Specified in PRIMING DRESSED TIMBER – PAINTING.

TRIM TO FIXTURES: Scribe fixtures wherever possible to fit against abutting finished surfaces.

BASES OF FIXTURES: As shown on the Drawing.

BENCH TOPS:.

CUPBOARD DOORFRAMES: Where doors are in wall openings, provide frames as specified in DOORFRAMES – METALWORK.

SHELVES, ENDS, DIVISIONS – WOODWORK 9.9.02

EXPOSED EDGES ONLY: ABS Edge strip with colour/timber of the same species as the face veneers of fixtures.

EXPOSED ENDS OR SIDES OF FIXTURES: Edge strip as specified above. House ends and divisions to tops and bottoms with grooves stopped short of exposed edges; or use proprietary hardware fittings.

CUPBOARD DOORS – WOODWORK 9.9.03

HINGES, HANDLES AND CATCHES:
Hinges: Plum with cruciform mounting plate.

Handles: SS 316 grade Cabinet/drawer top mount handles at top of each door. On edge for full length of framed doors.

Doors: Manufacture doors using 16mm presurfaced with laminate selected colour particleboard or as selected laminate.

DRAWERS – WOODWORK 9.9.04

REQUIREMENT: Make up drawers to full depth of cupboard, with roller guides.

FRONTS, SIDES, and BACKS: White melamine, grooved to accept bottom. Screw fixed to laminated front.

BOTTOM: 4mm pre-painted hardboard slotted into front sides and fixed to back.

HANDLES: Top mounted pull handles, SS for full length of drawer.

CUTLERY DRAWER – WOODWORK **9.9.05**

REQUIREMENT: Provide approved full depth vacuum formed cutler insert.

LOCATION:

HANGING RODS – WOODWORK **9.9.06**

LOCATION: n/a
MATERIAL: 19mm Dia CP tube.
FIXING: Drill holes in divisions and insert ends or support on CP brackets at not more than 900cts.

TIMBER HANDRAIL **9.10**

LOCATION:

MATERIAL:

SIZE:.

TREATED PINE LATTICE – WOODWORK **9.11**

MATERIAL:

FINISH:

SIZES:
.

PATTERN:

FIXING:

SHELVING – WOODWORK **9.12**

LOCATIONS: As shown on the drawings.

MATERIAL: Shelves: White melamine complete with ABS edge strip to match.

REQUIREMENT: Plug and nail timber grounds to all perimeter walls to support shelving.

WOODWORK SCHEDULES **9.13**
TIMBER TRIM SCHEDULE – WOODWORK

ITEM:	LOCATION:	TIMBER:	SIZE:	PROFILE:

Ceiling	Porch	Glosswood	90 x 9	T & G
Scotia	cornice	Glosswood	26 x 26	Square trim

ROOFING 10.0

GENERAL 10.01

INSPECTION – ROOFING 10.01.01

NOTICE: Give sufficient notice so that prior inspection may be made of those parts of the roofing, sarking, vapour barrier, insulation and roof plumbing installation which will be covered up or concealed.

MATERIALS AND WORKMANSHIP 10.02

PROTECTION – ROOFING 10.02.01

REQUIREMENT: Keep the roofing and rainwater system free of debris and loose material during construction and leave them clean and unobstructed on completion. Repair damage to the roofing and rainwater system to the manufacturer's recommendations.

Touch up: If it is necessary to touch up minor damage to prepainted metal roofing, use a method which prevents over spray on to undamaged surfaces.

METAL SEPARATION – ROOFING 10.02.02

REQUIREMENT: Prevent direct contact between incompatible metals and between chemically treated timber and aluminium or coated steel.

FASTENINGS – ROOFING 10.02.03

FASTENINGS GENERALLY: Self drilling screws to AS 3566.

Fastenings to timber battens: Use fastenings just long enough to penetrate the thickness of the batten without piercing the underside.

FINISH: Prefinish exposed fasteners with an oven baked polymer coating to match the roofing material, or provide matching purpose made plastic caps.

INSULATION, SARKING AND VAPOUR BARRIER 10.03

SARKING – ROOFING 10.03.01

REQUIREMENT: Provide sarking to
- tile roofs as specified in AS 2050
- tiles roofs in AS 1170.2 terrain categories 1 and 2;
- fibre cement shingle roofs; and
- other roofs where recommended by the roofing product manufacturer.

MATERIAL:
Reflective material: Reflective foil laminate to AS 1903, grammage not less than 350g/m² flammability index 5 or less.
Non-reflective material: Reinforced polyethylene to AS 1736 with flammability index not exceeding 5.

INSTALLATION: To AS 2050 clause3.1

FIXING:
To timber: Clouts or staples at not more than 300mm centres.
To steel or aluminium: Double sided pressure sensitive tape.
To plywood membrane support: Water based contact adhesive.

THERMAL INSULATION – ROOFING – refer to ENERGY REPORT **10.03.02**

EXTENT: Provide thermal insulation (bulk, reflective or both) to the whole of the roof area except for eaves, overhangs, roof lights, vents, openings and the like and roofs to outbuildings, garages and semi-enclosed spaces such as verandahs, porches, carports and the like.

TERMINOLOGY: To AS 2352.

MESH SUPPORT – ROOFING **10.03.03**

REQUIREMENT: Provide mesh support to:

- sarking, vapour barrier or reflective thermal insulation membranes laid over roof framing members spaced at more than 900mm centres; and

- Anticon 60 blanket type thermal insulation laid over roof framing members as sound insulation to metal roofing.

MATERIAL: 45mm mesh x 1m diameter galvanised wire netting to AS 2423.

INSTALLATION: Lay over the roof framing providing sufficient slack or sag between members to suit the application.

FIXING: Staple to timber frame, wire to steel frame.

TILES, SHINGLES **10.04**

TILES – ROOFING N/ **10.04.01**

TERRA-COTTA TILES: To AS 2049

ACCESSORIES: Provide the accessories, compatible with tiles, necessary to complete the tile roofing

FIXING: To AS 2050

Setting out: Set out the roof to give an even tile gauge an each course, with full starter or finish verge tiles.

Bedding and pointing: Bed and point accessories including ridges, hips, verges, and the like, in mortar coloured to match the tiles and/or accessories.

Tile Verge: Finish the verge with verge tiles, or full tiles, timber barge and scribing batten.

Spare Tiles: Provide one spare matching tiles for every fifty tiles on the roof, and spare accessories in the same proportion. Stack spare tiles within the roof space in batches evenly distributed around the roof, and located where possible on or adjacent to, lines of supporting walls.

PRECAUTIONS AGAINST WIND EFFECTS: Adopt the precautions given in AS 2050 Appendix A.,

ROOF PLUMBING 10.05

RAINWATER GOODS – ROOFING 10.05.01

GENERALLY: Provide the flashings, cappings, gutters, outlets, downpipes and the like necessary to complete the roof system.

Metal rainwater goods: To AS 2179 and AS 2180.

Plastic rainwater goods: Proprietary system including gutters, downpipes, sumps, connections, fixings and accessories.

SUPPORTS: Provide the necessary supports and fixings for gutters, downpipes and the like.

JOINTING SHEET METAL – ROOFING 10.05.02

BUTT JOINTS: Make butt joints over a backing strip of the same material.

SEALING: Seal fasteners and mechanically fastened joints. Fill the holes of blind rivets with silicone sealant.

FLASHINGS, CAPPINGS – ROOFING 10.05.03

GENERALLY: Flash roof junctions, upstands, abutments and projections through the roof. Preform to the required shape where possible. Notch, scribe, flute or dress down as necessary to follow the profile of adjacent surfaces. Mitre angles and lap joints 150mm in running lengths. Provide matching expansion joints in metal flashings at 6m maximum intervals.

FLASHINGS: To AS 2904.

UPSTANDS: Flash projections above or through the roof with two part flashings, consisting of a base flashing and a cover flashing, with not less than 100mm vertical overlap. Provide for independent movement between the roof and the projection.

Fixing to masonry or concrete: Turn 25mm into joints or grooves, wedge at 200mm centres with compatible material and point up. Step in courses to the roof slope. Interleave with damp proof course, if any.

Fixing to pipes and the like: Solder, or seal with neutral cured silicone rubber and secure with a clamping ring, or use a proprietary flexible clamping shoe with attached metal surround flashing.

GUTTERS – ROOFING **10.05.04**

GENERALLY: Prefabricate gutters to the required shape where possible. Form stop-ends, bends and returns. Turn down into outlets. Provide overflows to prevent back flooding. Provide expansion joints in gutters longer than 30m.

VALLEY GUTTERS: Profile to suit the valley boarding. Turn back both edges 180º x 6mm radius. Nail or screw to the valley boarding at the top end to prevent the gutter creeping downwards.

GRATINGS AND GUARDS: Provide removable gratings over rainwater heads and sumps and leaf guards to gutters and gutter outlets.

MATCHING FASCIA/BARGE: Where the selected eaves gutter is a proprietary high front pattern forming part of a combined system of gutter, fascia and barge, provide the matching proprietary fascias and barge cappings to roof verges and edges.

DOWNPIPES – ROOFING **10.05.05**

GENERALLY: Prefabricate downpipes to the required section and shape where possible. Connect heads to gutter and roof outlets. Where applicable, connect feet to rainwater drains and provide removable access covers.

ROOFING SCHEDULES 10.06

GENERAL **10.06.01**

APPLICATION OF SCHEDULES – ROOFING

PROJECT SPECIFICATIONS: Schedules forming part of a project specification shall be deemed to refer to a Reference specification, as defined below:

PRECEDENCE OF SCHEDULES: A provision of the Schedules shall override any conflicting provision in the Reference specification.

AMENDMENTS: The text of clauses in the Reference specification whose clause headings correspond to identical clause headings in the Schedules shall be deemed to be incorporated into the project specification, subject only to such amendments (alterations, additions, deletions) as may be made to the text by the Schedules. Additions may in the form of complete additional clauses.

QUALITY CONTROL **10.06.02**

DATA SUBMISSIONS – ROOFING

WARRANITY: Provide a warranty in the following terms:
The roof and roof plumbing are to be guaranteed for five years against leaks and other defects due to workmanship and materials not in accordance with the requirements of the contract. The Guarantors shall be the builder and the subcontractor. If more than one sub-contractor is employed in the work to be guaranteed, supply a separate guarantee for each sub-contract.
THERMAL INSULATION – ROOFIING

TYPE: ACI Permastop blanket 75mm thick

EXTENT: Over ceilings lined on flat and where required on existing raking ceilings

LOCATION: Over the rafters

SARKING –ROOFING

MATERIAL: ACI Anticon 110HP installed beneath Pool Roof, Anticon 60

LOCATION: To all areas without Permastop blanket. Lay over rafters.

TILES, SHINGLES **10.06.03**

TILES ROOFING

TYPE:

PATTERN:

FINISH:

COLOUR:

VERGE:

SHEET ROOFING **10.06.04**

METAL ROOFING – ROOFING

PROPRIETARY ITEM: Lysaght

MATERIAL:. Trimdek Hi Ten

THICKNESS AND GRADE: 0.48mm BMT

PROFILE:

FINISH:

COLOUR: Manor Red

FIXINGS: Self drilling fasteners to manufacturer's instruction

PROPRIETORY ITEM:

MATERIAL:

THICKNESS & GRADE:

PROFILE:

FINISH:

GLAZED ROOFLIGHT – ROOFING **10.07**

Allow to supply and install Velux 665 X 655 Fixed Skylight in positions as indicated on the drawings. Metal top structure colour to compliment roof material.

Builder to install in accordance with the manufacturer's instructions and to flash securely onto the roof and roof space.

SIZE: 665 X 665 with flush plasterboard shafts

DIFFUSER: prismatic

ROOF PLUMBING **10.08**

RAINWATER GOODS – ROOFING

ROOF PLUMBING COMPONENT SCHEDULE:

COMPONENT AND FINISH:	MATERIAL AND GRADE:	THICKNESS AND SIZE:	PROFILE METHOD:	JOINTING
Flashings:	colorbond	0.6	130 x105	-
Cappings:	colorbond	0.6mm	rolled	Mechanical
Eaves Gutters: Fascia	Colorbond	0.7mm	150 half round	Mechanical & Sealant
Valley Gutters	Zincalume	0.4	.376	-
Box gutters:	colorbond	1.2mm 1.2mm		
Rainwater Heads and Sumps:	colorbond			
Downpipes:	Colorbond	0.6mm	100 diam	Mechanical
Overflows:				
Overflow Spouts:	colorbond			

EXHAUST FAN COWLS **10.09**

REQUIREMENT: Supply and install water proof cowls, with dampers, to all bathroom exhaust fans and connect to the exhaust fan via galvanised casings. Provide lead flashings at roof level.

APPENDIX 'A'

REFERENCED DOCUMENTS: The following standards are referred to in this Section (dates in brackets are the editions current when this NATSPEC Section was prepared):

AS 1170		SAA Loading Code
AS 1170.2	(1989)	Part 2 – Wind loads
*AS 1530		Methods for fire test on building materials, components and structures
*AS 1530.3	(1989)	Part 3 – Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS 1562	(1980)	Design and installation of metal roofing
AS 1903	(1976)	Reflective foil laminate
AS 1904	(1976)	Code of practice for installation of reflective foil laminate in buildings
AS 2179	(1986)	Metal rainwater goods – Specification
AS 2180	(1986)	Metal rainwater goods – Selection and installation
AS 2352	(1980)	Glossary of terms for thermal insulation of buildings
AS 2423	(1991)	Galvanised wire fencing products
AS 3566	(1988)	Screws – self-drilling – For the building and construction industries
AS 3742	(1990)	Mineral wool thermal insulation – Bat and blanket

(Standards marked * are referred to only in the Schedules. Standards referred to only in guide notes or commentaries are not listed.)

WINDOWS 11.0

GENERAL 11.01

STANDARDS – WINDOWS 11.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1288	SAA Glass Installation Code
AS 1526	One-part polysulphide-based sealing compounds for the building industry
AS 1527	Two-part polysulphide-based sealing compounds for the building industry
AS 1650	Galvanised coatings
AS 2047	Aluminium windows for buildings
AS 2048	Code of practice for installation and maintenance of aluminium windows in buildings
AS 1170.2	Loading Code Part 2 – Wind Loads

SHOP DRAWINGS – WINDOWS 11.01.02

REQUIREMENT: Supply shop-drawings showing the following information where applicable to the window installation:

- layout (sectional plan and elevation) of the window assembly
- full size sections of members
- methods of assembly
- methods of installation, including fixings, caulking, flashing
- junctions and trim to adjoining surfaces
- hardware, fittings and accessories
- glazing details including method, tolerances, rebate depths, edge restraint

NUMBER OF COPIES: 1

TESTS – WINDOWS 11.02

WINDOW RATING 11.02.01

TYPE TESTS: Provide satisfactory evidence in the form of a report from an independent testing authority that windows of each type specified:

- Have passed the tests applicable to that type specified in AS 2047, Section 5, AS 1288, AS 1170.2.
- Comply with the requirements of the specified window rating.
- Are finished with specified coatings of not less than the specified thickness.

MATERIALS AND WORKMANSHIP 11.03

FABRICATION – WINDOWS 11.03.01

JOINTS: Make junctions so that no fixings, such as pins, screws, pressure indentations and the like, shall be visible on exposed faces.

OPERATION: Moving parts shall operate freely and smoothly without binding or sticking, at correct tensions or operating forces.
PROTECTION: Protect surfaces during the work under the Contract as necessary to prevent damage or defacement.
TEMPORARY COATING: Provide a temporary coating to finished metal or plastic surfaces and remove all traces on completion of the Works.

INSTALLATION – WINDOWS 11.03.02

METAL WINDOWS:
Building in to masonry: By means of anchor brackets and attachments to AS 2047 Rule 2.3 and AS 2048 Rules 8, 9, 10 and 11.

Fixing to prepared openings: Pack with durable full-width packing behind the fixing points. Fix at spacings not exceeding 600mm with screws not less than 2.5mm diameter into masonry anchors in masonry structures and into the frame members of timber or metal framed structures.

ANCHOR BRACKETS: Fabricate from 40 x 6mm mild steel, bent to shape, galvanised to AS 1650, bitumen coated where in contact with aluminium.

GLAZING – WINDOWS 11.03.03

PREGLAZING: Supply the window installations preglazed unless otherwise specified.

GLASS TYPES, THICKNESSES AND GLAZING METHOD: Specified in the GLAZING SCHEDULE; refer to the GLASS INSTALLATION TABLE.

FINISHES – WINDOWS 11.03.04

SPECIFICATION REFERENCES:
Metal finishes: Finish internal and external frames with powdered coating.

Sample: Submit sample. Refer to SAMPLES – PRELIMINARIES.

HARDWARE 11.04

HARDWARE GENERALLY – WINDOWS 11.04.01

HARDWARE FOR METAL WINDOWS: To AS 2047 Rules 2.5 and 3.6.

STANDARD HARDWARE: Unless otherwise specified, provide the windows with standard hardware purpose-made by the window manufacturer for the window system, or recommended by the window manufacturer for the purpose.

WINDOW ASSEMBLIES 11.05

WINDOW RATING – WINDOWS 11.05.01

The window rating shall be designed for the following 'Permissible Stress Method' pressures as defined by AS 1170, Part 2, 1989. Pressures are 'Gust Dynamic Wind Pressure'.

Windows

0m to 3m above ground = 0.57 kpa

Provide a sliding barrier screen door to the external face of sliding glass doors.

Barrier screen doors shall have an extruded aluminium frame fabricated with corner joints reinforced by aluminium stakes.

Each barrier screen door shall have:

Approved (7mm) powdercoat aluminium security grille Welded or riveted to the frame.

Aluminium insect screen mesh fixed to the frame.

Each hinged barrier screen door shall have: **11.05.02**
Two hinges with anti-tamper or steel fixed pin hinges.

Hinges welded to the frame or hinges concealed when the Door is closed.

Latch set with lever handles.

A double cylinder deadbolt mortice fitting lock with two keys.
Locks are to be keyed alike when multiple doors are fitted.

Pneumatic door closer.

Swing restrainer, 3mm nylon cord or light chain held with Aluminium fittings.

Long leg build outs with closing seal, mitred with plastic corner supports are to be used when the barrier screen door does not close due to the existing frame or locks (to match the colour of the door).

Each sliding barrier door shall have: **11.05.03**

Catch assembly with inside snib locking and double cylinder locking which makes the snib inoperative.

A pull-handle each side of the door adjacent to the catch Assembly.

At least two roller wheels supporting the door.
Locks are to be keyed alike when multiple doors are fitted.

Provide aluminium channels enclosing the lock edge of sliding door as required.

Provide aluminium track when required for the sliding door.

Provide two aluminium angles (one fixed to the sliding glass door mullion, one to the sliding barrier screen door, which interlock when the sliding barrier door is in a closed position. Interlocking angles shall extend for a minimum of 80% of the door height.

A weather seal is to be fitted to the closing mullion, where interlock sections are not required.

Security fixed channels, tracks and angles with fixings that cannot be removed when the barrier screen door is closed.

Sliding barrier screen doors shall be removable in open position only.

FIXED BARRIER SCREENS: 11.05.04

Provide fixed barrier screens covering external face of sliding window sashes (other than sliding glass doors) in dwelling.

Fixed barrier screens shall have an extruded aluminium frame fabricated with corner joints reinforced by extruded aluminium stakes.

OPENINGS – WINDOWS 11.05.05

CLASSIFICATION: The following terms are used to refer to window opening types (sash, louvres):

Double hung (vertical slide)
Double hung tilt (vertical slide plus inward tilt)
Horizontal slide (including sliding glazed aluminium framed doors)

Projecting:
- Casement (side hung by hinge or stay)
- Awning (top hung by hinge or stay)
- Hopper (bottom hung)

Pivot (sash or adjustable louvres):
- Horizontal pivot
- Vertical pivot

LOCATION OF OPENINGS AND FIXED PANELS: Locate opening sash and fixed panels in windows as shown on the Drawings.

ALUMINIUM ASSEMBLIES – WINDOWS **11.05.06**

ALUMINIUM WINDOWS: To AS 2047 and AS 2048.

SCREENS AND GRILLES 11.06

INSECT SCREENS – WINDOWS **11.06.01**

FRAME: Aluminium extruded or folded box section with mesh fixing channel mitred staked and screwed at corners. Provide an extended frame section where necessary to adapt to window operating gear (eg chain sash windows).

FRAME FINISH: To match windows unless otherwise specified.

MESH: SS black supreme security mesh

FIXED SCREENS: Attach to the window frames by an approved clipping device to permit removal for cleaning.

FIXED BARRIER SCREENS: Refer G3.07.

JUNCTIONS 11.07

JUNCTIONS WITH BUILDING – WINDOWS **11.07.01**

WATER SHEDDING: Install flashings, drips, storm moulds, caulking, pointing or the like so that water is prevented from penetrating the building between the window frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

FLASHINGS AND WEATHERINGS – WINDOWS **11.07.02**

GENERALLY: Flashings and weather bars shall be compatible with the other materials in the installation and coated with a non-staining compound where necessary. Include the non-staining property in any guarantee required of the assembly.

JOINTING MATERIALS – WINDOWS **11.07.03**

TYPES: If the window frames are to be caulked or pointed to the building structure, use jointing and pointing materials, including sealants, mastics, primers, gaskets, compressible fillers and the like, of the types shown on the Drawings or specified in the WINDOW SCHEDULES, as recommended by the material manufacturers for the location and function, compatible when used together and non-staining to finished surfaces. Do not use bituminous materials on absorbent surfaces.

ELASTOMERIC SEALANTS: To AS 1288, Part 2, Clause 6.5.1.

PRIMING: Unless priming is not recommended by the jointing-material manufacturer, apply the appropriate primer to the surfaces in contact with jointing materials.

FOAMED MATERIALS: (In compressible fillers, backing rods and the like): Closed-cell or impregnated types which do not absorb water.

BOND BREAKING: Back-up materials for sealants, including backing rods and the like, shall not adhere to the sealant or shall be faced with a non-adhering material.

SEALANT PROPORTIONS: The depth of elastomeric sealant shall not be greater than the joint width, nor less than two-thirds the joint width.

WEATHER SEALS – WINDOWS **11.07.04**

PILE WEATHER SEALS: Polypropylene pile bonded into polypropylene backing, low friction silicone treated and ultra-violet stabilised.

Pile finned weather seal: A pile weather seal with a central polypropylene fin bonded into the centre of the backing and raised above the level of the pile.

EXTRUDED WEATHER SEALS: Elastopressive seals of neoprene, ethylene propylene diene monomer (EPDM) or flexible polyvinyl chloride (PVC).

FLEXIBLE PVC: 100% solids with high consistency, ultra-violet stabilised.

WINDOW SCHEDULES **11.08**

WINDOWS: Ikes federation style 50 X 150 aluminium frame or similar approved

LOCATION: Shown on the Drawings.

INSTALLATION:Fixing Method: Built-in

OPENING TYPE: Shown on the Drawings

GLASS TYPE AND THICKNESS: Specified in the GLAZING SCHEDULE

FINISH: powder coated

Colour: Anodic Natural Matt

INSECT SCREEN:

Type: Security screen to all opening windows.

Location: On inside of awning only, outside elsewhere

Frame Finish: To match window frames.

Mesh type: ss security mesh – black micromesh.

SLIDING GLASS DOORS:
LOCATION: As shown on the Drawings.

INSTALLATION:

Fixing Method: Built-in

OPENING TYPE: Shown on the Drawing, located on the inside.

GLASS TYPE AND THICKNESS: Specified in the GLAZING SCHEDULE.

FINISH powder coated.

Colour: Anodic Natural Matt
TYPE: Keogh or similar approved

HARDWARE: Whitco Sturt double-cylinder lock.

INSECT SCREEN:
Type: Sliding, with security grille. Amplimesh 7mm grille design 103 manufactured to AS 2803 security doors.

Location: On outside.

Frame Finish: To match doors.

Mesh type: Fibreglass colour – black.

Lockable: Yes.

SLIDING ROBE DOORS

FINISH: Powder coated to match colour of door

COLOUR: As per Schedule

TYPE: Space saver suite

GLASS ROOFING

NOMINATED SUPPLIER & INSTALLER: N/A

DOORS AND HARDWARE 12.0

GENERAL 12.01

STANDARDS – DOORS AND HARDWARE 12.01.02

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1288	SAA Glass Installation Code
AS 1397	Steel sheet and strip – Hot-dipped zinc-coated or aluminium/zinc coated
AS 1530	Methods for fire tests on building materials components and structures
	Part 3, Test for early fire hazard properties of materials
	Part 4, Fire resistance tests of elements of building construction
AS 1650	Galvanised coatings
AS 1905	SAA Fire Door Code
	Part 1, Fire resistant doorsets

MATERIALS AND WORKMANSHIP 12.02

PROTECTION – DOORS 12.02.01

SURFACES: Protect surfaces during the work under the Contract as necessary to prevent damage or defacement.

TEMPORARY COATING: Provide a temporary coating to finished metal or plastic surfaces, and remove all traces on completion of the Works.

GLAZING – DOORS 12.02.02

PREGLAZING: Supply glazed doors preglazed unless otherwise specified.

GLASS TYPES, THICKNESSES AND GLAZING METHOD: Specified in the GLAZING SCHEDULES; refer to the GLASS INSTALLATION TABLE.

DOOR FRAMES 12.03

DOOR FRAMES – DOORS 12.03.01

SPECIFICATION REFERENCES:

STEEL DOOR FRAMES –
GLAZED ALUMINIUM DOORS – WINDOWS

WINDOW FRAME INSTALLATIONS – DOORS 12.03.02

WINDOW AND DOOR ASSEMBLIES: Where doors are shown or specified to be installed in window frames as part of a combined window and door assembly, the door frame shall be as specified in WINDOWS for the relevant window type, plus appropriate modifications and accessories necessary for the door installation, including door seat rebates, strike plates, buffers and the like and provision for fixing specified hardware such as hinges, door closers, pivots and the like.

ALUMINIUM DOORS: Specified in WINDOWS.

SHOP DRAWINGS: Show the proposed modifications, accessories provided and provision for hardware on the drawings specified to be provided in SHOP DRAWINGS – WINDOWS.

DOORSET ASSEMBLIES 12.04

TIMBER DOORSETS – DOORS 12.04.01

STANDARDS:
Doors: To AS 2688.

DOOR LEAF SIZES: If sizes are specified in the DOORSET SCHEDULE to be door leaf dimensions, make frames to fit doors. Sizes not given in the Schedule shall be derived from the Drawings unless otherwise specified.

PRIMING: Prime timber doors as specified in PRIMING DRESSED TIMBER – PAINTING on all surfaces, including top and bottom edges, before hanging.

ENTRY DOORS – DOORS 12.04.02

FRAMED AND GLAZED DOORS: To AS 2688 Section 9.

FLUSH DOORS – DOORS 12.04.03

CONSTRUCTION: To the appropriate section of AS 2688. Increase the width of stiles and rails above the standard as necessary for sliding door grooves, door closers and the like. Provide additional frame members where necessary to take fastenings of hardware such as push and kick plates, or to frame openings for panels. Form rebates if required on edges of doors in solid matching edge strips.

Door thickness: 35mm generally, 40mm for external doors and where door width exceeds 900mm.

FLUSH DOOR TYPES:
Solid core: Blockboard core to AS 2688 Section 5, or Particleboard core to As 2688 Section 6.

Facings: Redicote Hardboard.

Cell core: To AS 2688 Section 3, with core of cellular paper or wood curls and facings of hardboard. Provide a sub-frame around openings (eg. for louvres or glazing) of 30mm thick (finished) timber.

JUNCTIONS 12.05

JUNCTIONS WITH BUILDING – DOORS 12.05.01

WATER SHEDDING: Install flashings, drips, storm moulds, caulking, pointing or the like so that water is prevented from penetrating the building between the door frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

FLASHINGS AND WEATHERINGS – DOORS 12.05.02

GENERALLY: Flashings and weather bars shall be compatible with the other materials in the installation and coated with a non-staining compound where necessary. Include the non-staining property in any guarantee required of the assembly.

JOINTING MATERIALS – DOORS 12.05.03

TYPES: If the door-frames are to be caulked or pointed to the building structure, use jointing and pointing materials, including sealants, mastics, primers, gaskets, compressible fillers and the like, of the types shown on the Drawings or specified in the DOOR SCHEDULES, as recommended by the material manufacturers for the location and function, compatible when used together and non-staining to finished surfaces. Do not use bituminous materials on absorbent surfaces.

ELASTOMERIC SEALANTS: To AS 1288, Part 2, Clause 6.5.1.

PRIMING: Unless priming is not recommended by the jointing-material manufacturer, apply the appropriate primer to the surfaces in contact with jointing materials.

FOAMED MATERIALS: (In compressible fillers, backing rods and the like): Closed-cell or impregnated types which do not absorb water.

BOND BREAKING: Back-up materials for sealants, including backing rods and the like, shall not adhere to the sealant or shall be faced with a non-adhering material.

SEALANT PROPORTIONS: The depth of elastomeric sealant shall not be greater than the joint width, nor less than two-thirds the joint width.

WEATHER SEALS – DOORS 11.07.04

PILE WEATHER SEALS: Polypropylene pile bonded into polypropylene backing, low friction silicone treated and ultra-violet stabilised.

Pile finned weather seal: A pile weather seal with a central polypropylene fin bonded into the centre of the backing and raised above the level of the pile.

EXTRUDED WEATHER SEALS: Elastopressive seals of neoprene, ethylene propylene diene monomer (EPDM) or flexible polyvinyl chloride (PVC).

REQUIREMENT: Fix doorseals specified on the DOOR HARDWARE FIXING SCHEDULE.

FLEXIBLE PVC: 100% solids with high consistency, ultra-violet stabilised.

DOOR SCHEDULES 12.06

REQUIREMENT: Provide doors to sizes and details shown on the drawings.

HARDWARE 12.07

GENERAL – DOORS AND HARDWARE 12.07.01

WINDOWS: Window hardware supplied as an integral part of a proprietary window installation.

DEFINITIONS – DOORS AND HARDWARE 12.07.02

Direction of Closing and Faces of Doors: To AS 1909 Figs 1 and 2.

Hinge Side: The side from which the knuckles of butt hinges are visible when the door is closed.

Closing Side: The side closing against the stop bead or rebate.

Outside of a Room Door including a Stairwell Door: The corridor or hall side.

Outside of a Cupboard Door: The room, corridor or hall side.

Outside of a Single Communicating Door between two Rooms (when neither room is a corridor, communication passage or hall): The side from which the knuckles of butt hinges are invisible when the door is closed.

'Right Hand': When the closing edge of the door is to the right when viewed from the outside: vice versa for 'left hand'.

PROVISIONAL SUM – DOORS AND HARDWARE 12.07.03

The Builder shall allow for the supply and installation of door hardware and keying by Lockwood Security as nominated by the Architect. Allow for fixing the hardware specified in the FIXING SCHEDULE -–DOORS AND HARDWARE.

MATERIALS AND WORKMANSHIP 12.08

INSTALLATION – DOORS AND HARDWARE 12.08.01

GENERALLY: Install hardware to manufacturer's recommendations. On completion leave hardware clean, undamaged, in working order, and lubricated where appropriate with the correct lubrication.

FIXINGS: Install hardware with fixings appropriate to the item and of adequate gauge and length to provide firm fixing. Match exposed fixings to the material fixed.

PROTECTION: During the work under the Contract protect hardware as necessary to prevent damage including staining, corrosion, scratching or other defacement.

MAINTENANCE: Obtain and furnish to the Principal the manufacturers printed recommendations for the maintenance of the hardware items installed.

HINGES, PIVOTS 12.09

HINGES PER LEAF – DOORS AND HARDWARE 12.09.01

REQUIREMENT: Unless otherwise specified, the number of hinges per door leaf on hinged doors shall be as follows.

SUPPLY: The supply of hinges is covered in PROVISIONAL SUM – HARDWARE.

TWO HINGES PER LEAF:

- Doors less than 25mm thick not exceeding 1500mm high or 820mm wide (eg. solid core cupboard doors).
- Internal doors and screen doors over 25mm thick not exceeding any of the following:
- Height 100mm, width 820mm, weight 35kg
- Fire doors to AS 1905, Part 1.

THREE HINGES PER LEAF:

- External doors
- Internal doors (and screen doors other than those described above), ie.
- Doors under 25mm thick exceeding 1500mm high or 820mm wide
- Doors over 25mm thick exceeding any of the following: height 2040mm, width 820mm, weight 35kg.

FOUR HINGES PER LEAF:

- Doors over 2700mm high. Other special cases as specified.

DOOR FURNITURE 12.10

DOOR STOPS – DOORS AND HARDWARE 12.10.01

REQUIREMENT: Provide Bump Buffer colour white, door stops or skirting mounted Cushion bumpers where necessary to all doors.

LOCATION: Fix the stop specified on the wall or on the skirting, as appropriate or as directed, to prevent the door furniture striking the wall or other surface.

DOOR SEALS – DOORS AND HARDWARE 12.10.02

SPECIFICATION REFERENCE: WEATHER SEALS – DOORS & HARDWARE.
SPECIFICATION REFERENCE: WEATHER SEALS – WINDOWS.

FIXTURES 12.12

FIXTURES – DOORS AND HARDWARE 12.12.01

GENERALLY: Supply and install the hardware fixtures, including curtain rails, towel rails, soapholders, paper holders, towel, paper and soap dispensers, hooks, pegs and the like, specified in the FIXTURES SCHEDULE and as referenced elsewhere in the Specification.

SLIDING WARDROBE DOORS – DOORS & HARDWARE 12.13

NOMINATED SUPPLIERS: Stegbar Wardrobe System – Sliding door.
NOMINATED ITEM: Series 4,000 panel with paint quality infill.

FINISH: Selected colour powder coat finish frame. Paint finish as specified in PAINTING to infill panels.

HARDWARE SCHEDULES 12.14

DOORS & HARDWARE 12.14.01

REFER ATTACHED SCHEDULE

FIXTURES SCHEDULE 12.14.02

TOWEL RAIL: 600 long stainless steel PWD-00-4
SHOWER RAIL: 900 long stainless steel PWD -00

GRAB RAILS: Con Serv Stainless Steel 850 fold down grabrails
TYPE: SS 850D and SS 850 DTR

SOAP HOLDER: refer schedule

TOILET PAPER HOLDERS: refer schedule

SHOWER CURTAIN RAIL: n/a

CORNER GUARDS:.
TYPE:
LOCATION:

SOAP DISPENSERS: refer schedule

COLOUR: refer schedule

TOWEL DISPENSER: refer schedule

COLOUR: refer schedule

TOILET PAPER DISPENSER: refer schedule

COLOUR refer schedule

PLASTERING & CEILINGS 13.0

GENERAL 13.01

SCOPE – PLASTERING 13.01.01

SPECIFIED IN THIS SECTION: The application of mortar-like materials based on cement, lime or gypsum to both internal and external surfaces; gypsum based sheet linings including fibrous plaster, plasterboard and glass fibre reinforced plasterboard.

EXTENT:
Hidden surfaces: Insides of cupboards are included, where applicable, in the plaster finish shown or specified to any area.

Incidental work: Return plastering into reveals, heads, sills, recesses, niches and the like. Plaster faces, ends and soffits of projections in the background, such as stringcourses, sills pilaster, corbels and the like. Run throating on soffits of external projections. Trim around openings.

DEFINITIONS – PLASTERING 13.01.02

PLASTERING: The terms ‘plaster’, ‘plastering’ and the like shall include the terms ‘render’, ‘rendering’ and the like except where the context otherwise requires.

BACKGROUND: The building element to which the material is to be applied. Includes ‘substrate’.

LINING: The application and finishing of sheet lining products.

DATA SUBMISSIONS – PLASTERING 13.02

REQUIREMENT: Before plastering commences, obtain and submit the following data:

Acceptance of substrate: The applicator’s written statement certifying that the building structure is satisfactory for receiving the plaster finish.

MATERIALS 13.03

MATERIALS GENERALLY – PLASTERING 13.03.01

SAND: To AS CA27, graded to the appropriate table of the Appendix to that code.

CEMENT: To AS 1315, Type A – normal cement.

LIME: To AS 1672.

LIME PUTTY: Prepare to one of the two methods in AS CA27.

WATER: To AS CA27.

WHITE CEMENT: To AS 1315, Type A, with iron salts content not exceeding 1%.

PIGMENTS: To BS 1014 manufacturer either synthetically or from naturally occurring mineral ores, resistant to lime bloom or efflorescence.

Pigment proportions: Not exceeding 5% by weight of cement in any mix.

GYPSYM PLASTER: To AS 2592.

ADMIXTURES: Obtain prior approval before using admixtures to retard or accelerate setting, improve workability, reduce water content, or improve waterproofing properties or the like.

METAL LATH: Sheet steel expanded to a mesh by slitting and stretching, galvanised to AS 1397, coating class Z200.

Self-furring type: Metal lath with staggered indentations, which hold the body of the sheet 10mm clear of the background.

ADHESIVES: Mastic adhesives for fixing lining sheets: To AS 2573.

WORKMANSHIP 13.04

PROPORTIONING AND MIXING – PLASTERING 13.04.01

PROPORTIONING: Generally each successive coat shall not be stronger (richer in cement) than the background or undercoat to which it is applied.

LIME PUTTY MIXES: Make a course mix of lime putty and sand 24 hours before use. Prevent the mix from drying out.

GAUGED MIXES: Mixes specified to contain cement and sand only may be gauged by the addition of lime up to 25% of the cement content (ie. Not as a substitute for the cement) if necessary to improve workability.

APPLICATION – PLASTERING 13.04.02

JOINING UP: If unavoidable in a large area of work, make junctions so that they are invisible in the finished work.

KEYING: Press plaster through the apertures of metal lath, wings of casing beads and the like.

Keying undercoats: In multi coat work, scratch comb each undercoat in two directions when it has stiffened.
CEMENT BASED UNDERCOATS: Before applying the next coat allow it to dry out, dust down and if necessary, dampen to give correct suction.

SURFACES: Finish plane surfaces within a tolerance of 1:300 or 3mm, which is the lesser, between points of contact under a 2m straight edge placed anywhere in any direction. Finish corners, angles, edges and curved surfaces within equivalent tolerances.

SURFACE FINISHES – PLASTERING **13.04.03**

WOOD FLOAT: Provide an even texture by wood floating the finishing coat.

FINE SAND TEXTURED FINISH: Provide an even surface by wood float and finish with a plastic foam float to a fine-sand textured finish.

CARBORUNDUM STONE FINISH: Provide a fine sand textured finish. When the wall is set, rub down with a fine-carborundum stone to a smooth finish free from sand.

STEEL TROWEL: Provide a smooth dense surface free from texture and free from shrinkage cracks, but not glass-like.

CURING – PLASTERING **13.04.04**

CEMENT-BASED WORK: Cure by preventing rapid or uneven drying out.

GYPSUM-BASED WORK: Keep dry after work has set.

BACKGROUND PREPARATION 13.05

BACKGROUND DEFECTS – PLASTERING **13.05.01**

CORRECTION: Before plastering make good any defects in the background. Hack off excessive projections. Fill voids, hollows and honeycombs with a mix not stronger than the background nor weaker than the first coat.

UNTRUE BACKGROUNDS: Where one coat application is specified, but the background is not sufficiently true to comply with the thickness limits for one coat, or has excessively uneven suction resulting from variations in the composition of the background materials, carry out the work in two coats.

PREPARING BACKGROUNDS – PLASTERING **13.05.02**

CLEANING: Remove deleterious and loose material and leave the surface clean and dust free.

EMBEDDED ITEMS: Ensure that water pipes and the like are sheathed to permit thermal movement. Where ungalvanised steel items are to be embedded in gypsum plaster, provide rust protection treatment not inferior to prime painting with zinc rich primer.

CHASES: If chases or recesses are more than 50mm wide, cover with expanded metal lath extending not less than 75mm beyond each side of the recess.

SUCTION: Control suction by dampening if necessary. Avoid over-wetting.

DENSE CONCRETE BACKGROUNDS: If not sufficiently rough to provide a mechanical key, roughen by scabbing or the like to remove 3mm of the surface and expose the aggregate; then dash

coat. If scabbing and dash coating does not provide a good key for external render, cover with a non-corrosive expanded metal lath.

BRICKWOOD BACKGROUNDS: If not rough-jointed, rake out joints 5mm deep. If raking out is impracticable, hack at close intervals to roughen the surface, or cover with expanded metal lath.

CONCRETE BLOCKWORK BACKGROUNDS: Dash coat.

CALCIUM SILICATE BRICKWORK: Either –

- apply an approved bonding agent (PVA or the like) and dash coat; or
- use a proprietary water-retentive additive in lieu of time in the plaster mix.

PREVIOUSLY PAINTED SURFACES: Remove paint, hack at close intervals or cover with expanded metal lath.

DASH COAT – PLASTERING **13.05.03**

PROPORTIONS: To AS CA27

APPLICATION: Mix to the consistency of a thick slurry and forcibly dash on to the background to give a rough cast coating 3-5mm thick.

CURING: Allow the dash coat to harden in damp conditions and protect it from drying out before applying the next coat.

FIXING METAL LATH – PLASTERING **13.05.04**

GENERALLY: Provide the necessary accessories. Run the long way of the mesh across supports. In vertical applications slope the strands inwards and downwards away from the background face. Lap ends with not less than 20mm and sides not less than 10mm. Tie laps with 1.25mm galvanised wire every 150mm. Do not finish edges of sheets at corners, but bend around. Fix lath to the background at edges, and at supports, with fixings of appropriate type spaces at 150mm maximum centres. Place fixings in the mesh corners so that the heads cover two strands.

FIXING TO MASONRY: Use non-corrosive masonry anchors, or masonry or concrete nails. Do not use explosive powered fastenings unless prior approval has been obtained.

FIXING TO TIMBER STUDS: Use galvanised flat head nails or galvanised staples.

FIXING TO METAL STUDS OR FURRING: Use non-corrosive self-tapping screws, or galvanised wire.

JUNCTIONS 13.06

VEE JOINTS – PLASTERING **13.06.01**

REQUIREMENT: Provide vee joints, cut right through the plaster to the background, in plaster in the following locations:

- at junctions between different background materials;
- at abutments with other finishes;
- at abutments with metal doorframes.

TRIM PLASTERING **13.06.02**

SALIENT ANGLES: Finish plasterboard angles up to a 1.6mm radius corner bead.

EDGE TRIM: Provide the necessary corner beads, casing beads, stop beads and the like, consisting of purpose-made zinc coated steel sections to AS 1397.
Fixing: Nail to structure at 300mm centres. Wire to metal lath.

CEMENT RENDERED SKIRTINGS: Where cement rendered skirtings are required, use the mix proportions specified for one coat cement render and bring the surface to a true uniform finish with a steel trowel. Form a V-joint at junctions with other finishes.

MOULDED CORNICES: Purpose-made fibre-reinforced gypsum plaster mouldings.

VENTILATING CORNICE: Purpose-made cornices located so as to leave a ventilating space between it and the wall finish.

FINISH WITHOUT CORNICE: Produce a square re-entrant corner between ceiling and wall finishes by an appropriate method such as AS 2186, Clause 3.6.1.

MOULDINGS: To AS 2185, Clause 3.3

PLASTERING **13.07**

APPLIED COATINGS – PLASTERING **13.07.01**

THICKNESS LIMITS:

One coat work:	12 - 15mm
Multi-coat work:	
- first coat	9 - 15mm
- floating coat (if any)	6 – 9mm
- finishing coat (except setting coats)	6 – 9mm
- setting coats	2 – 3mm

INTERNAL PLASTERING AND RENDERING: To AS CA27.
TWO OR THREE COAT SET PLASTER: Undercoats: 1:1:6 cement:lime putty: sand.

Setting coat: 1:3 lime putty:gypsum plaster.

HARD-WALL GYPSUM PLASTER:
Undercoat: 2:5 gypsum plaster:sand.

Setting coat: 3:1 gypsum plaster:lime. Leave the first coat off the rule. Finish the setting coat 4mm maximum thickness.

WHITE-SET PLASTER: 3:1 gypsum plaster:lime putty, 4mm maximum thickness, applied as a skim-coat directly to the background.

VERMICULITE PLASTER: Gypsum plaster and expanded vermiculite aggregate. Apply using power spray equipment.

EXTERNAL RENDERING: Generally to AS CA27.

ONE COAT CEMENT RENDER: Select mix proportions from the following table:

Background:	Cement	Lime	Sand
Clay brick, concrete	4	1	16
Concrete block	1		6
Calcium silicate brick	3	2	16

WATERPROOF RENDER: Cement based render with proprietary waterproofing admixture.

Protection: Avoid puncturing or plugging waterproof render. Where it is necessary to drill through waterproof render for installation of services or fixings, restore the barrier by sealing around the penetrations.

TYROLEAN RENDER: A two-coat textured finish applied by a machine designed for the purpose.

Plasticiser: Add a plasticiser or air-entraining agent to both undercoat and finishing coat.

Finishing coat: Cement, sand and graded crushed rock screenings as necessary to achieve the required texture. Apply the finishing coat whilst the first coat is still green.

PEBBLE DASH:
Undercoat: 1:3 cement:clean sharp well graded pit sand. Add an approved mortar plasticiser or air entraining agent to manufacturer's recommendations.

Finishing coat: Washed and drained river pebbles maximum size 5mm.

Application: Float the undercoat with a wood float. Whilst it is still plastic throw on the pebbles to cover it evenly. Lightly tap into the mortar and straighten with a rule. Wash down well after setting to remove cement stains.

SELF-COLOURED RENDER: Colour the finishing coat to match the approved sample panel. Use white cement, white sand and pigments. Mix the pigments with the white cement before adding sand and water. Steel trowel finish.

TWO COAT RENDER:

Undercoat: 4:1:16 Cement:Lime:Sand
Finishing Coat: 1:1:6 White cement:Mortar mix plus:Sand.

Application: Float the undercoat with a wood float to an irregular finish. Apply the finishing coat when the undercoat has gone off and finish with a wood float.

SHEET LININGS – PLASTERING **13.07.02**

GYPSUM PLASTERBOARD: (including insulating gypsum plasterboard): To AS 2588, installed to AS 2589.

Water-resistant: To ASTM C630.

GLASS FIGURE REINFORCED GYPSUM PLASTERBOARD: To AS 2590, installed to AS 2591.

Fire resistant: Formulated for additional resistance to fire exposure.

FIBROUS PLASTER SHEET LININGS: To AS 2185, installed to AS 2186.

BATTENS: Where battens are required for installation, fix them at each crossing with structural framing members, or direct to solid walls or ceilings. Use wall plugs in solid backgrounds. Do not use explosive powered fastenings unless prior approval has been obtained.

CEILING MANHOLES **13.07.03**

LOCATION: Staff toilet
SIZE: 550x 600

TRIM: Aluminium angle painted

PLASTERING SCHEDULES **13.08**

GENERAL **13.08.01**

APPLICATION OF THE SCHEDULES – PLASTERING

PROJECT SPECIFICATIONS: Schedules forming part of a project specification shall be deemed to refer to a Reference specification, as defined below:

Reference specification: Bound with the schedules.

PRECEDENCE OF SCHEDULES: A provision of the Schedules shall override any conflicting provision in the Reference specification.

AMENDMENTS: The text of clauses in the Reference specification whose clause headings correspond to identical clause headings in the Schedules shall be deemed to be incorporated into the project specification, subject only to such amendments (alterations, additions, deletions) as may be made to the text by the Schedules. Additions may be in the form of complete additional clauses.

SCOPE – P LASTERING

SPECIFIED IN THIS SECTION: Plasterboard ceiling.

SPECIFIED IN OTHER SECTIONS: Fibre cement lining applications: specified in WOODWORK.

QUALITY CONTROL 13.08.02

SAMPLE PANELS – PLASTERING

PLASTER FINISH	PANEL SIZE	NO. OF PANELS	LOCATION
Hard wall	4m²	2	Incorporate into the works panel to include window reveal.

JUNCTIONS 13.08.03

MOVEMENT JOINTS – PLASTERING
Location(s): To coincide with movement joints in the background, and/or where shown on the drawings.

PROPRIETARY ITEM: Rondo R45 control joint or similar approved.

TRIM – PLASTERING

RE-ENTRANT CORNERS:
Finish: Square.

EDGE TRIM:
Location(s): External angles other than openings.
Type: Rondo External corner bead R04.

Material: Zinc coated steel.

MOULDED CORNICES:
Location(s): As shown on the drawings and specified in the Finishes Schedule.

Material: Plaster reinforced with fibreglass.

Profile: Cove the Plaster Masters Catalogue No. 505.

Fixing Method: Fix to wall and ceiling.

PLASTERING 13.08.04

APPLIED COATINGS – PLASTERING

APPLIED COATINGS SCHEDULE:
Location: As shown in the Drawings and specified in the Finishes Schedule.

Coating Type: Two coat set plaster (cement render float and Hardwall plaster set).

SHEET LININGS SCHEDULE: Refer to ceiling layout. All ceilings to be installed in accordance with manufacturers instructions.

Location: Wet areas, ceilings.

Lining type: Boral plasterboard WR or similar approved.

Sheet thickness: 10mm.

Edge Type: Recessed edge.

Joint finish: Flush jointed.

Fixing: Glue and nail directly to ceiling joists.

INSULATION – PLASTERING **13.08.05**

REQUIREMENTS: Provide ceiling insulation as specified and shown on the drawings.

Extent: All flat ceilings.

Location: Between ceiling joists.

Material: Fibreglass tuff skin batts.

Thickness: 110mm.

Thermal Resistance: R4.0

PLASTERING SCHEDULES **13.09**

GENERALLY

CEILINGS: 13mm flush plasterboard ceilings throughout

BULKHEADS 1 layer 13mm flush plasterboard

COFFER INIL:

CORNICE: GENERALLY 115 standard cornice.

APPENDIX 'A'

REFERENCED DOCUMENTS: The following standards are referred to in this section.

AS 1315	(1982) Portland cement
AS1397	(1984) Steel sheet and strip – Hot-dipped zinc-coated or aluminium/zinc coated
AS 1672	(1974) Building limes
AS 2185	(1978) Fibrous plaster products
AS 2588	(1983) Gypsum plasterboard
AS 2589	(1983) The application and finishing of gypsum plasterboard in framed dwelling construction.
AS 2592	(1983) Gypsum plaster for building purposes
AS 2753	(1985) Adhesive – Mastic – for bonding gypsum plaster lining to wood and metal framing members.
AS CA27	(1959) Code of recommended practice for internal plastering on solid backgrounds.
BS 1014	(1975) Specification for pigments for Portland cement and Portland cement products.
ASTM C630	(1982) Specifications for water resistant gypsum backing board.

TILING 14.0

GENERAL 14.01

SCOPE – TILING 14.01.01

SPECIFIED IN THIS SECTION: Wall and floor tiling, accessories, fittings, substrate preparation, underbeds, joints, junctions.

QUALITY CONTROL 14.02

DATA SUBMISSIONS – TILING 14.02.01

REQUIREMENT: Before installation commences, obtain and submit the following data:

Acceptance of substrate: The installing firm's written statement certifying that the building structure is satisfactory for receiving the installation.

SAMPLE PANELS – TILING 14.02.02

REQUIREMENT: Prepare in suitable positions, or where directed, sample panels of sufficient area (not less than 2m²) of each type of finish specified. Include samples of specified junction details and trim. Preserve each panel when approved until all work of its type is complete.

INCORPORATION INTO THE WORKS: An approved panel, if suitably located, may be permitted to be incorporated into the Works. Otherwise remove all traces on completion of the Works.

MATERIALS 14.03

MATERIALS GENERALLY – TILING 14.03.01

SAND: To AS CA27, graded to Table 1 of the Appendix to that Code.

CEMENT: To AS 1315, Type A, with iron salts content not exceeding 1%.

LIME: To AS 1672.

WATER: To AS CA27.

ADHESIVES – TILING 14.03.02

STANDARD: To AS 2358.

GENERALLY: Use adhesives compatible with the materials and surfaces to be adhered and in accordance with the adhesive manufacturer's recommendations for the conditions of use.

PROHIBITED USES: Do not use the following combinations:

- Cement-based adhesives on wood, metal, painted or glazed surfaces, gypsum-based plaster;
- Organic solvent-based adhesives on painted surfaces;
- Organic PVC-based adhesives and organic natural rubber latex adhesives in damp or wet conditions.

BEDDING MORTAR – TILING **14.03.03**

MIXING: To AS CA27, from cement and sand with minimum water.

PROPORTIONING: Select proportions from the range 1:3 to 1:4 cement:sand to obtain satisfactory adhesion.

GROUT – TILING **14.03.04**

CEMENT BASED PROPRIETARY GROUT: Mix with water. Fine sand may be added as filler in wider joints.

EPOXY BASED PROPRIETARY GROUT: A proprietary product mixed and used to manufacturer's recommendations.

PORTLAND CEMENT BASED GROUT: Mix with find sane. Use minimum water consistent with workability.

Proportioning:

- For narrow joints; (up to 3mm) 1:2 cement:sand.
- For wide joints; (over 3mm) 1:3 cement:sand.

PIGMENTS FOR COLOURED GROUT: Colourfast fillers compatible with the grout material. For cement-based grouts, lime-proof natural or synthetic metallic oxides compatible with cement.

Pigment proportions: In accordance with manufacturer's recommendations.

SEALANT – TILING **14.03.05**

REQUIREMENT: Use a proprietary non-hardening, mould resistant, one-part silicone or polyurethane sealant.

TILES 14.04

TILES GENERALLY – TILING **14.04.01**

CRITERIA: Tile types, sizes, colours, surfaces and general appearance shall conform to approved samples.

Ceramic tiles: To BS 6431 for tolerance limits on dimensions, surface quality, physical and chemical properties relevant to the product type.

EXPOSED EDGES: Glazed tiles for use in positions where the edge is exposed shall be purpose-made border tiles with exposed edge (whether round, square or cushion) glazed to match the tile face.

SPARE TILES – TILING **14.04.02**

REQUIREMENT: Provide spare matching tiles of each type, in quantity not less than 2% of the quantity installed, including accessories in proportion, for future replacement purposes. Store spare tiles in the Works where directed.

ACCESSORIES – TILING **14.04.03**

GENERALLY: Provide tile accessories such as round edge tiles, cove tiles, step treads, nosings, skirtings, sills, copings, tile vents and the like, matching the surrounding tiles as to composition, colour and finish.

COVES, NOSINGS, SKIRTINGS AND THE LIKE: Where necessary include matching stop ends, internal and external angle tiles and the like, moulded for that purpose.

FITTINGS: Glazed ceramic fittings such as towel rail brackets, towel hooks, grab rails, paper holders, soap holders, toothbrush holders, shelves, footrests and the like shall comply with approved samples.

WORKMANSHIP **14.05**

WORKMANSHIP GENERALLY – TILING **14.05.01**

CUTTING AND LAYING: Cut tiles neatly to fit around fixtures and fittings and at margins where necessary. Drill holes without damaging tile faces. Rub edges smooth without chipping, return tiles into sills, reveals and openings. Butt up to returns, frames, fittings and other finishes. Strike and point up beds where exposed. Cut recesses where necessary for soapholders and the like.

VARIATIONS: If necessary, distribute variations in hue, colour, or pattern uniformly, by mixing tiles or tile batches before laying.

FALLS AND LEVELS – TILING **14.05.02**

GRADING: Grade floor tiling to even and correct falls to floor wastes and elsewhere as required. Make level junctions with walls. Where falls are not required lay level.

DEVIATION: Maximum deviation of the finished floor level between points of contact under a 2m straight edge laid in any direction on an area of uniform grade: 1:300 to 3mm, whichever is the lesser.

CHANGE OF FINISH: Maintain finished floor level across changes of floor finish including carpet.

SUBSTRATA – TILING **14.05.03**

DEFINITIONS:
Substrate: The building element to which the tiles are to be bedded. Includes ‘base’ and ‘background’.

Underlay: An intermediate layer (eg. render, screed or sheeting) applied to the substrate to provide a suitable surface for the bedding.

Separation layer: A membrane laid on the substrate beneath the bedded finish to prevent the two elements from adhering to each other.

DRYING AND SHRINKAGE: Before tiling, allow not less than the following times to elapse for initial drying out and shrinkage to take place in these SUBSTRATA:

Concrete slabs: 42 days.

Concrete blockwork: 28 days.

Toppings on slabs and rendering on blockwork: A further 21 days.

PREPARATION: Suitably prepare SUBSTRATA to receive the bedded finish, including but not necessarily limited to the following:

- Remove deleterious and loose material and leave the surface dust free and clean;
- For mortar bedding wet the background as necessary to achieve suitable suction. Alternatively apply a bonding agent to the background to improve adhesion.

WATERPROOFING – TILING **14.05.04**

Requirement: Apply waterproofing to backgrounds where specified prior to fixing tiles.

Extent: To all shower enclosure walls.

Proprietary Item: AGA Superflex 1 applied in strict accordance with the manufacturer's instructions.

SETTING OUT – TILING **14.05.05**

BOND: Set out tiling with joints accurately aligned in both directions. Level and plumb wall tiling joints.

MARGINS: Use whole or purpose made tiles at margins where practicable, otherwise set out to give equal margins of cut tiles. If margins less than half tile width are unavoidable, locate the cut tiles where they are least conspicuous. If it appears that minor variations in joint widths or overall dimensions will avoid cut tiles, submit a proposal for approval. Do not vary unless approved.

FIXTURES: Before tiling ensure that fixtures interrupting the tile surfaces are accurately positioned in their designed or optimum locations relative to the tile layout. Where possible position tiles so that holes for fixtures and the like occur at the intersection of horizontal and vertical joints or on the centre lines of tiles. Continue tiling fully behind fixtures, such as WC pedestals and cisterns, basins, urinals and the like which are not built in to the tiling surface.

TRIAL SETOUT: On horizontal surfaces make a trial setout for each area and obtain approval before fixing.

PREPARATION OF TILES – TILING **14.05.06**

ADHESIVE BEDDING: Fix tiles dry; do not soak.

MORTAR BEDDING: Soak porous tiles in water for half an hour and then drain until the surface water has disappeared.

BEDDING – TILING **14.05.07**

REQUIREMENT: Bedding methods and materials shall be appropriate to the tile, the background, the conditions of service and such as to leave the tile firmly and solidly bedded in the bedding material and adhered to the background.

THIN BED: Minimum thickness 1.5mm, maximum 3mm. May be used when the background deviation does not exceed 3mm when tested with a 2m straight edge. The entire tile back shall be covered with adhesive when the tile is bedded.

THICK BED: Minimum thickness 3mm, maximum 12mm, except that mortar beds for floor tiles may be up to 20mm thick. Use on backgrounds with deviation up to 6mm when tested with a 2m straight edge, and with tiles having deep keys or frogs.

Mortar beds for floor tiles: Where floor tiles are to be bedded in cement mortar, lightly dust the screeded bed surface when dry cement and trowel level until the cement is damp. Alternatively, spread a thick slurry of neat cement, or cement-based thin bed adhesive, on to the tile back.

- Reinforced beds: Where the mortar bed is required to be reinforced, place it in two layers and incorporate the mesh reinforcement in the first layer.

Solid beds for wall tiles: Where wall tiles are to be bedded in cement mortar by the solid bed method, apply the bed to the background as a floated coat, bring up to a true surface with a wood float and allow to stiffen for up to two hours. Then apply a back-up skim coat (1 to 2mm thick) of 1:2 mortar to the bed, or butter the tile with 1:2 mortar or cement based thin bed adhesive, before applying the tile to the bed.

MECHANICAL FIXING: Where tiles are specified to be mechanically fixed, provide a proprietary system of support and fixing appropriate to the type of tile specified and the substrate conditions.

TILE JOINTS – TILING **14.05.08**

JOINT WIDTHS: Set out tiles to give uniform joint widths within the following limits:

Internal ceramic tiling: Minimum 1.6mm – maximum 3.0mm.

External ceramic tiling: Minimum 4.0mm – maximum 9.0mm.

Mosaic tiling: Nominal 2mm or as dictated by pattern.

Quarry tiling: Minimum 6.0mm – maximum 12.0mm.

Chemical resistance epoxy-jointed floor tiles: Minimum 5.0mm – maximum 6.0mm.

Vitrified floor tiles: Minimum 3.0mm – maximum 5.0mm.

GROUT TILING **14.05.09**

GENERALLY: Before grouting, obtain approval for the proposed grouting methods and materials. Commence grouting as soon as practicable after bedding has set. Clean out joints as necessary before grouting.

EPOXY GROUTED JOINTS: Ensure that the tile edge surfaces are free of extraneous matter such as cement films, wax or the like before grouting.

FACE GROUTING: Fill the joints solid and tool flush. Clean off surplus grout. Wash down when the grout has set.

Edges of tiles: Grout exposed edge joints as specified for the face joints.

GROUTING MOSAICS: When paper faced mosaics are to be bedded in cement mortar, pre-grout the sheeted mosaics from the pack prior to fixing. After fixing, rub grout into the surface of the joints to fill any voids left from pre-grouting. Clean off surplus grout. When grout has set, wash down. Use a proprietary cement remover if necessary.

CLEANING AND PROTECTION – TILING **14.05.10**

GENERALLY: Keep the work clean as it proceeds and protect finished work from damage. Keep traffic off floors until the bedding has set and attained its working strength.

ON COMPLETION: Clean the tiled surface with an appropriate tile cleaning agent and polish.

JUNCTIONS 14.06

CAULKED JOINTS – TILING **14.06.01**

PROVISION: Provide caulked joints as follows:

- where tiling is specified to be cut around sanitary fixtures;
- around fixtures interrupting the tile surface, for example pipes, brackets, bolts, nibs and the like;
- at junctions with window and doorframes, built-in cupboards and the like.

SIZE:
Width: 5mm.
Depth: Equal to the tile thickness.

SEALANT: Fill the joint with sealant and finish flush with the tile surface.

FLOOR FINISH DIVIDERS – TILING **14.06.02**

REQUIREMENT: Finish tiled floors at junctions with differing floor finishes with a non-corrosive metal dividing strip suitably fixed to the substrate, with top edge flush with the finished floor. Where changes of floor finish occur at doorways, make the junction directly below the closed door.

TILING SCHEDULES 14.07

GENERAL **14.07.01**

APPLICATION OF THE SCHEDULES – TILING

PROJECT SPECIFICATIONS: Schedules forming part of a project specification shall be deemed to refer to a Reference specification, as defined below:

Reference specification: Bound with the schedules.

PRECEDENCE OF SCHEDULES: A provision of the Schedules shall override any conflicting provision in the Reference specification.

AMENDMENTS: The text of clauses in the Reference specification whose clause headings correspond to identical clause headings in the Schedules shall be deemed to be incorporated into the project specification, subject only to such amendments (alterations, additions, deletions) as may be made to the text by the Schedules. Additions may be in the form of complete additional clauses.

TILES **14.07.02**

TILES GENERALLY – TILING

PROVISIONAL SUM:
PRELIMINARIES is for: Supply only of wall and floor tiles unless specified otherwise.
SCHEDULE: Refer to attached Finishes Schedule

APPENDIX 'A'

REFERENCED DOCUMENTS: The following standards are referred to in this section:

AS 1315 (1982)	Portland cement.
AS 1672 (1974)	Building limes.
AS 2358 (1990)	Adhesives – for fixing ceramic tiles.
AS CA27 (1959)	Code of recommended practice for internal plastering on solid backgrounds.
BS 6431	Ceramic floor and wall tiles (23 Parts, various dates).

PAINTING 15.0

GENERAL 15.01

STANDARDS – PAINTING 15.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1263	Oil-based putty
AS 1318	SAA Industrial Safety Colour Code
AS 1345	Identification of the contents of piping, conduits and ducts
AS 1530	Methods for fire tests on building materials, components and structures Part 3 – Test for early fire hazard properties of materials
AS 1580	Methods of test for paints and related materials
AS 1627	Code of practice for preparation and pretreatment of metal surfaces prior to protective coating Part 1 – Degreasing of metal surfaces using solvent or alkaline solutions Part 2 – Power tool cleaning of steel surfaces Part 4 – Abrasive blast cleaning of steel surfaces Part 7 – Hand cleaning of steel surfaces Part 9 – Pictorial surface preparation standards for painting steel surfaces
AS 2310	Glossary of paint and painting terms
AS 2311	The painting of buildings
AS 2312	Guide to the protection of iron and steel against exterior atmospheric corrosion
AS 2700	Colours for general purposes
AS TR1	Paints for buildings
AGPS	Working Environment Series No 8 – Colour at work
ASTM G62	Holiday detection in pipeline coatings

Uniform Paint Standard issued by the National Health and Medical Research Council.

DEFINITIONS – PAINTING 15.01.02

STANDARD: To AS 2310 unless otherwise specified.

TESTS – PAINTING 15.01.03

STANDARD: To AS 1580 and ASTM G62, as applicable.

REJECTION: Materials which fail to meet the specification are liable to rejection and if already applied may be required to be removed in such manner as may be directed and replaced.

MATERIALS 15.02

MATERIALS GENERALLY – PAINTING 15.02.01

PAINT MATERIALS: Use only premium quality lines from approved manufacturers. The containers of materials specified by GPC numbers shall be labelled as such by the manufacturer.

PROPRIETARY MATERIALS: Notify the proposed brand of paint and paint line prior to placing orders. Change neither the brand nor the paint line without approval.
COMBINATIONS: Do not combine paints from different manufacturers in a paint system.

DELIVERY: Deliver paints to the site in the manufacturer's labelled and unopened containers.

FREEDOM FROM TOXIC INGREDIENTS: Paint shall not be a Schedule 1 paint within the meaning of, and in specified human contact areas prohibited by, the Uniform Paint Standard issued by the National Health and Medical Research Council.

THINNERS: Use only the type and quantity recommended by the paint manufacturer.

TINTING BY MANUFACTURER: Colour tinting shall be by the manufacturer unless otherwise approved.

TINTING BY CONTRACTOR: Add tinters or stainers only if approved and only if in accordance with the manufacturer's recommendations as to type, quality and tinting formula and provided the tinting produces the required colour without detriment to the durability of aesthetic performance of the product.

PUTTY: To AS 1263, Type 1 or 2 or an equivalent polymeric based putty. Putty may be stained to match the colour of the substrate.

COLOUR SELECTION – PAINTING **15.02.02**

FROM MANUFACTURER'S CHART: The colours stated in the PAINTING SCHEDULES have been selected from a manufacturer's standard colour chart. If an alternative manufacturer is being used, obtain approval of that manufacturer's equivalent colours before ordering.

FROM AS 2700: The colours stated in the PAINTING SCHEDULES have been selected from the Australian standard colour range as specified in AS 2700.

DEFERRED SELECTION: Provide the paint manufacturer's name and paint lines intended for use so that the Superintendent can make colour selections.

Time of submission: Three weeks before first coats applied.

GLOSS LEVEL – PAINTING **15.02.03**

DEFINITIONS: 'Flat', 'low-gloss' 'semi-gloss' 'gloss' and 'full-gloss': To AS 2310, and AS 2311, clause 4.1.

PRIMERS, SEALERS, UNDERCOATS – PAINTING **15.02.04**

REQUIREMENT: Ensure that primers, sealers and undercoats are suitable for the substrate and compatible with the finish coat and each other. Except for stains and other clear or translucent finishes each coating shall be of a noticeably different tint from the preceding coat.

WORKMANSHIP 15.03

WORKMANSHIP GENERALLY – PAINTING 15.03.01

ORDER OF WORK: Unless otherwise specified, before commencing to paint, complete the work of all other trades as far as is practicable within the area to be painted, except for installation of fittings, floor sanding and laying flooring materials.

PAINTING CONDITIONS: Do not paint in dusty conditions or otherwise unsuitable weather. Do not paint when the relative humidity exceeds 85% or when the surface temperature of the substrate is less than 10°C or more than 50°C, unless the paint is suitable and recommended for such conditions.

PROTECTION: Before painting in any section of the Works, clean the area out and protect it against dust entry. Use drop sheets and masking wherever necessary to protect finished work or other surfaces liable to damage during painting. Repair or replace any accessories or surfaces that are damaged directly or indirectly as a result of painting.

MOVABLE FITTINGS: Remove door furniture, switch plates, light fittings and the like and replace on completion of painting.

LIGHT LEVELS: During preparation of surfaces, painting and inspection, maintain light levels such that the luminance (photometric brightness) of the surface is at least equal to that produced under daylight and/or maximum permanent artificial illumination conditions.

VENTILATION: Adequately ventilate the areas in which painting is being carried out.

PAINT STORAGE AND WASTE DISPOSAL: Store and prepare paint and related materials in the area assigned by the Superintendent. Take necessary precautions to prevent fire and accumulation of solvent fumes. Remove paint-soiled rags, waste and the like at the end of each day's work or store in airtight metal containers under water. Remove empty cans and other debris arising out of the painting work from the site upon completion of work.

PAINT PREPARATION: Mix and apply paint in accordance with the manufacturer's recommendations. Do not mix paint in areas or on surfaces liable to damage from spillage.

TOUCH UP: Clean off marks, paint spots and stains throughout, restoring damaged surfaces to their original condition. Where necessary for aesthetic reasons, touch up damaged paintwork or misses only with the paint batch used in the original application.

EQUIPMENT – PAINTING 15.03.02

STANDARDS: To AS 2311 Section 6 and AS 2312 Section 8 as applicable.

SPRAY EQUIPMENT: Use appropriate and properly maintained conventional or airless spray equipment of such capacity as to satisfactorily atomise the paint being applied when fitted with the correct nozzle/tip assembly, without having to thin beyond the maximum amount recommended by the manufacturer. The air supply shall be free from oil, water and other contaminants.

DROP SHEETS: Use dropsheets of adequate size and thickness to prevent marking of areas requiring protection.

'WET PAINT' WARNING: Place notices conspicuously and do not remove until paint is dry, unless approval is given and precautions are taken to deny access to all but painting staff.

APPLICATION – PAINTING **15.03.03**

STANDARDS: To AS 2311 Section 6 and AS 2312 Section 8 as applicable.

PROCEDURE: Apply paint and related materials in accordance with the manufacturer's recommendations. Cut in between different finishing coats neatly in straight lines unless otherwise specified. Allow each coat to harden for the drying time (or time between coats) recommended by the manufacturer.

SANDING: Where recommended by the manufacturer, sand between coats from top to bottom and dust down before re-coating.

NUMBER OF COATS: The application of thinned prime or seal coats, consistent with the paint manufacturer's recommendations, and which may be necessary on porous surfaces, or of any additional finishing coats necessary to achieve the required colour, opacity, texture or film thickness and/or use of tinted undercoats shall be at the Contractor's expense.

FINISH: Ensure each coat of paint is uniform in colour, gloss, thickness and texture and free of runs, sags, blisters, or other discontinuities. The standard of workmanship with regard to final colour, gloss and texture shall match the sample area specified in SAMPLES – PAINTING.

SUBSTRATES 15.04

SUBSTRATE PREPARATION – PAINTING **15.04.01**

STANDARDS: To AS 2311 Sections 2 and 3 and AS 2312 Section 5, as applicable.

GENERALLY: Prepare substrates to receive the systems specified. Procedures shall include, but not necessarily be limited to, the following:

Cleaning: Clean down and remove oil, grease and loose foreign matter, including laitance, efflorescence, moss, lichen, mould, mildew, dirt and corrosion products, in a manner which causes neither undue damage to the substrate nor damage to, or contamination of, the surroundings.

Glossy surfaces: Adequately scuff and/or solvent or chemically etch as appropriate to provide satisfactory adhesion for subsequent paint coats.

Filling: Fill cracks and holes with fillers, sealants or grouting cements as appropriate for the finishing system and substrate, and sand smooth.

Drying: Unless otherwise specified, ensure that surfaces are cured and dry before painting commences.

Recontamination: Apply the first coat of paint immediately after cleaning and before contamination of the substrate can occur. Where contamination of intermediate coats occurs, clean in accordance with the coating manufacturer's recommendations and to the Superintendent's approval immediately prior to over-coating.

METAL SURFACES GENERALLY – PAINTING 15.04.02

METHODS: To AS 1627, as appropriate to the requirements of this Specification.

IRON AND STEEL SURFACES – PAINTING 15.04.03

GENERALLY: Remove weld spatter, slag, burrs, or any other objectionable surface irregularities.

DEGREASING: To AS 1627 Part 1, by solvent or alkaline cleaning.

HAND OR POWER TOOL CLEANING: To AS 1627 Part 2 or Part 7. Provide a final surface at least equal to preparation grade 'St2' of AS 1627 Part 9.

BLAST CLEANING: To AS 1627 Part 4, to the class specified in the specified protective treatment. Provide a surface roughness appropriate for the specified treatment.

MASONRY, PLASTER AND CEMENTITIOUS SURFACES – PAINTING 15.04.04

CONCRETE AND MASONRY: Before application to very smooth concrete, brick or masonry, acid etch, grind, or abrasive blast the surface as appropriate to provide a suitable key for the subsequently applied coating and to remove laitance. Remove loose friable matter before filling surface discontinuities.

SET PLASTER AND FIBROUS PLASTER SURFACES: Do not apply solvent-borne paint or other impervious coatings if the moisture content at the surface, tested with a moisture meter, exceeds 12%.

TIMBER SURFACES – PAINTING 15.04.05

DEFECTS: Cut out large resinous knots and decayed areas, and replace with sound timber. Remove any defective putty and punch nails. Spot prime small knots, cracks, open joints, holes and bare timber with specified wood primer.

FILLING: Fill as necessary with polymeric fillers or oil based putty to AS 1263 Type 1, which in the case of clear or lightly pigmented finishes shall match the substrate. Use appropriate inert filler if the finish is a two-pack epoxy or polyurethane.

SANDING: Lightly sand dressed surfaces in the direction of the wood grain with appropriate grade 'Free cut paper' and remove powdery deposits.

MOISTURE CONTENT OF SUBSTRATE: To AS 2311 clause 3.2.5 at time of priming. Test the substrate with a moisture meter if required.

PRIMING BEFORE FIXING: Apply one coat of wood primer to the back of external fascia boards, timber door and window frames, bottoms of external doors, associated trims and glazing beads before fixing in position.

PAINTING SCHEDULE 15.05

INTERNAL FINISHES – PAINTING 15.05.01

Apply internal coats in accordance with the following schedule.

FINISH & BACKGROUND – COATINGS:
Gloss alkyd enamel on dressed timber, plywood and medium density fibreboard.

Two primer/undercoats
One coat high opacity enamel

Gloss alkyd enamel on untreated ferrous surfaces.

One coat red oxide zinc chromate alkyd based primer
One undercoat
Two coats high opacity enamel

Gloss alkyd enamel on zinc coated steel:

One undercoat suitable for use on zinc coatings 2 coats high opacity enamel

Gloss alkyd enamel on galvanised surfaces and non-ferrous metals.

One thin wet coat 2-pack etch primer
One undercoat
One coat high opacity enamel

Low-gloss vinyl matt paint on plasterboard: Applies to linings.

One coat of Wattyl primer sealer undercoat
Two coats Wattyl ID advanced ceiling flat

Polyurethane clear satin plastic on timber and veneers

One coat polyurethane satin plastic diluted with 25% turpentine
Two coats polyurethane satin plastic undiluted

Low sheen vinyl on hardwall plaster

One coat Wattyl primer sealer undercoat
Two coats Wattyl maxi wash low sheen

Satin vinyl on hardwall plaster (wet areas)

One coat Wattyl primer sealer undercoat
Two coats Taubmans Living Proof Satin
Flat vinyl on plasterboard

One coat Wattyl primer sealer undercoat
One coat flat vinyl

EXTERNAL FINISHES – PAINTING **15.05.02**

Apply external coats in accordance with the following schedule.

FINISH AND BACKGROUND – COATINGS:
Gloss alkyd enamel on timber, plywood: Applies to doors, fascias and exposed timber trim.

One coat timber primer
One undercoat
One coat gloss enamel designed for external surfaces

Gloss alkyd enamel on galvanised surfaces and non-ferrous metals: Applies to door frames, lintels, etc.

Two coats Wattyl enamel gloss

Matt vinyl on fibrous cement eaves lining.

Two coats Vinyl Matt

Low Sheen Acrylic on treated pine lattice. Obtain written confirmation that the substrate is suitable for painting.

Two coats of Taubmans Timbertop acrylic.

Water proofing of brick retaining walls.

Apply two coats of Crommelin Chemicals trowel water proofing in accordance with manufacturer's instructions.

Water proofing of staff toilet walls. Apply 2 coats of Crommelin Chemical shower waterproofing membrane

Carparking Line Marking.
n/a

FINISHES SCHEDULE: Refer to attached Schedule

CARPETS & RESILIENT FINISHES 16.0

GENERAL 16.01

STANDARDS – CARPETS & RESILIENT FINISHES 16.01.01

AS 1385	Textile floor coverings – Metric units and commercial tolerances for measurement.
AS 2454	Textile floor coverings – Terminology, definitions and structure classification.
AS 2455	Textile floor coverings – Laying practice.
AS 1884	Floor coverings, resilient sheet and tile laying, and maintenance practices.

PROVISIONAL SUM – CARPETS 16.01.02

Allow the Provisional Sum to supply and lay carpet and vinyl to the areas shown on the Drawings.

MATERIALS 16.02

FIBRES – CARPETS & RESILIENT FINISHES 16.02.01

NEW MATERIAL: Unless otherwise specified, use only new fibres in the manufacture of carpet and underfelt.

TOLERANCES – CARPETS & RESILIENT FINISHES 16.02.02

STANDARD: To AS 1385.

UNIFORMITY – CARPETS & RESILIENT FINISHES 16.02.03

BATCHING: Carpet laid in a single area and of a single specified type, quality, colour and design, shall come from one manufacturing batch and dye lot.

ADHESIVES – CARPETS & RESILIENT FINISHES 16.02.04

STANDARD: To AS 2455 clauses 1.4.3 and 2.2.3, as recommended by the carpet and accessory manufacturers, compatible with the floor covering material, and suitable for bonding it to the subfloor.

USING ADHESIVES: Provide adequate ventilation and take necessary fire precautions.

TAPES – CARPETS & RESILIENT FINISHES 16.02.05

HEAT-BONDING TAPES: First quality glass fibre and cotton thermoplastic adhesive coated tape not less than 100mm wide on a metal foil base and backed with silicon coated release paper.

APPLICATION: Apply heat-bonded tapes in accordance with the manufacturer’s recommendations.

EDGE STRIP – CARPETS & RESILIENT FINISHES **16.02.06**

PRODUCT: An approved heavy-duty edge strip appropriate to the floor covering type (tackless or adhesive fixed) capable where necessary of accommodating to the levels of two adjacent floor finishes, and consisting of a metal moulding or extrusion with vinyl inserts. Colour as selected.

LOCATION: At exposed edges of the carpet and at junctions with dissimilar floor finishes or finishes of a different thickness. Where edge strips occur in doorways, locate them so as to be out of sight under the closed door if possible.

WORKMANSHIP 16.03

LAYING PRACTICE – CARPETS & RESILIENT FINISHES **16.03.01**

STANDARD: To AS 2455.

Conditioning of carpet and sub floor: To AS 2455, clause 2.1.

SUBFLOOR PREPARATION: Suitably prepare the subfloor to receive the carpet installation, including but not necessarily limited to:

Stripping and cleaning: Remove foreign and deleterious materials, including existing floor coverings and any surface treatment which could adversely affect adhesion, and leave the surface dust-free and clean;

Repairs: Make good to the surface finish as necessary. Fill depressions and construction joints with suitable filler, and remove high spots and projections.

Fixtures and fittings: Remove floor quadrants, doorstops and the like items and refix in position and undamaged on completion of the installation.

CONCRETE SUBFLOORS: Shall be sufficiently dry at the time of laying the floor covering.

Test for dryness: To AS 2455, Appendix B, paragraph B3.

LAYING PROCEDURE – CARPETS **16.03.02**

LAYOUT: To AS 2455 clause 2.3.1. Lay the carpet in continuous lengths without cross joins in the body of the area. Make unavoidable cross-joins at doorways under the closed door.

SEAMING: To AS 2455 clause 2.3.2.

SEAMING METHODS: To AS 2455 clause 2.3.3.
Woven carpet: Machine or hand sew. Do not use glued taped seams.
Tufted carpet: Use heat-bonded tapes.

STRETCHING: To AS 2455 clause 2.3.4.

FIXING:

Tackless system: Using preformed gripper strip and tackless edge strip: To AS 2455 clause 2.3.5.1. Space fixings at 150mm maximum centres.

CLEANING AND PROTECTION – CARPETS **16.03.03**

FINAL CLEANING: When the installation is complete, clean the carpet as necessary to remove extraneous matter, marks, soiling and the like and to lift the pile where appropriate.

PROTECTION: To AS 2455 clause 2.3.8. Leave the finished work undamaged on completion.

REINSTATEMENT: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

RESILIENT FINISHES 16.04

GENERAL **16.04.01**

SCOPE – RESILIENT FINISHES

SPECIFIED IN THIS SECTION: Resilient materials in sheet or tile form, flexible or semi rigid, including PVC, vinyl, rubber, cork, linoleum, flexible terrazzo and in situ coatings such as latex, epoxy, polyester, polyurethane and the like; and synthetic sporting surfaces of the bituminous or polymeric (textiles, rubber or plastics) types as described in AS 3541.1.

DEFINITIONS – RESILIENT FINISHES

STANDARDS:
Generally: To AS 1884, clause 1.3.

Synthetic sporting surfaces: To AS 3541.1, clause 3.

Substrate: The building element to which the finish is to be applied. Includes ‘subfloor’ as defined in AS 1884, clause 1.3.1.

APPROVED SUBCONTRACTORS – RESILIENT FINISHES

REQUIREMENT: Obtain specified materials from approved suppliers and have them installed by specialist subcontractors recommended by the materials manufacturers.

INSPECTION – RESILIENT FINISHES
NOTICE: Give sufficient notice so that the following may be inspected:

- background immediately prior to fixing sheets or tiles;
- application of each coat (multi-coat work);
- completed installation.

MATERIALS **16.04.02**

MATERIALS GENERALLY – RESILIENT FINISHES

IDENTIFICATION: Deliver materials to the site in the manufacturer's original closed or sealed containers or packages, legibly marked with the following information where applicable:

- manufacturer's identification, product brand name, product type and product reference code and batch number;
- date of manufacture;
- material composition and characteristics such as volatility, flash point, light fastness, colour, pattern and the like;
- dimensions and quantity;
- handling and installation instructions.

EDGES OF SHEETS AND TILES: Firm, unchipped, machine-cut accurately to size and square to the face. Tile edges shall be square to each other.

UNDERLAYS:
Generally: To AS 1884.
Synthetic sporting surfaces: To AS 3541.1.

ADHESIVE – RESILIENT FINISHES

STANDARDS: To AS 1884, clause 1.4.2 and AS 3553.

SHEET AND TILE – RESILIENT FINISHES

LINOLEUM: To BS 6826.

CORK: To BS 6826.

RUBBER: To BS 1711.

POLYVINYL CHLORIDE (PVC):
Unbacked flexible sheet: To AS 2055.1.
Semi-rigid floor tiles: To AS 1889.1.
Flexible floor tiles: To AS 1889.2.

FLEXIBLE TERRAZZO TILES: Marble or granite chips bedded in a flexible thermo-set resin matrix, precision ground and polished.

CONDUCTIVE SHEET VINYL: PVC homogeneous vinyl sheet with graphite elements permanently heat and pressure fused throughout the thickness of the material: To AS 1889.2, AS 2055.1 and AS 2834.

ANTISTATIC SHEET VINYL: Unbacked flexible PVC to AS 2055.1, with antistatic properties to AS 1169, clause 2.2.
CUSHION BACKED SHEET VINYL: Flexible PVC sheet with an open-cell PVC foam and PVC stabilising backing.
INLAID VINYL SHEET: A layer of vinyl chips inlaid in a translucent vinyl matrix, bonded to a moisture resistant backing.
VINYL BENCH TOPPING: Fully flexible homogeneous sheet finished with a laminated surfaced film.

WORKMANSHIP **16.04.03**

WORKMANSHIP GENERALLY – RESILIENT FINISHES

STANDARD: To AS 1884.

SETTING OUT:
Sheets: Set out to give the minimum number of joints. Run sheet joints parallel with the long sides of floor areas.

Tiles: Set out tiles from the centre of the area.

JOINTS: Unless welding is specified, butt edges together to form tight neat joints showing no visible open seam.

SUBSTRATE PREPARATION – RESILIENT FINISHES
CONCRETE SUBSTRATES:

Etching: Acid etch concrete surfaces to receive epoxy base coats with a solution of hydrochloric acid and water in equal parts, applied at 0.5 L/m². After reaction, wash concrete and allow to dry.

Levelling compound: Where substrate surface levels exceed maximum permissible tolerances, apply a proprietary levelling compound compatible with the specified adhesive.

TIMBER, PLYWOOD AND PARTICLEBOARD SUBSTRATES:
Dryness: Allow the substrate material to achieve equilibrium moisture content before commencing the installation.

FIXING CONDITIONS – RESILIENT FINISHES

SEAMLESS FLOORING: Do not install seamless flooring when the temperature in the laying area is outside the range recommended by the manufacturer.

AIRCONDITIONING OR HEATING: The cost of running these services as part of the laying procedure, as specified in AS 1884, shall be borne by the Contractor.

CLEANING – RESILIENT FINISHES

GENERALLY: Keep the surface clean as the work proceeds. Clean the finished surface by appropriate methods, as recommended by the resilient finish manufacturer. Prior to hand over carry out the required buffing and polishing or mopping and leave the finished surface clean on completion.

ANTISTATIC AND CONDUCTIVE FLOORING: Do not use sealers, wax or floor polish. Clean with mild neutral detergent and lukewarm water. A clean floor may be dry buffed with a normal scrubbing machine and a white nylon pad.

PROTECTION – RESILIENT FINISHES

GENERALLY: Keep traffic off finished work until bonding has set or for 24 hours (60 hours in the case of seamless finishes) after laying. Whichever period is the longer. Do not allow water in contact with the finish for seven days. Leave the finish undamaged on completion.

REINSTATEMENT: Repair or replace any faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

INSTALLATION **16.04.04**

SHEET AND TILE INSTALLATION – RESILIENT FINISHES
JOINTS: Unless welding is specified, butt edges together to form tight neat joints showing no visual open seam.

JUNCTIONS: Scribe neatly up to returns, edges, fixtures, fittings and the like. Finish flush with adjoining surfaces.

SHEETS: Set out sheets to give the minimum number of joints. Run sheet joints parallel with the long sides of floor areas, vertically on walls.

TILES: Set out tiles from the centre of the area. Wherever possible cut tiles at margins only, to give a cut dimension of not less than 100mm x full tile width. Match edges and align patterns. Arrange the material so that variation in appearance is minimised.

TRIAL SETOUT: Obtain approval of a trial setout before fixing.

ROLLING: Where rolling is specified or recommended, roll the finish in two directions before the adhesive sets, with a 70kg multi-wheeled roller.

CORK TILES:
Laying: Use a water-based latex adhesive. Do not use pins.

Finishing: Sand after laying. Apply three coats of clear liquid polyurethane, gloss finish.

RUBBER: Keep tiles flat during storage. Before laying remove the tiles from their packages, allow them to relax and decompress and ensure that the backs are free of loose material.

Adhesive: Solvent-free epoxy on horizontal surfaces, mechanically mixed and used only within the limit of pot life. Neoprene contact adhesive on stair skirtings, stop ends, external mouldings and vertical surfaces, applied to both the tile and accessory and the substrate surface. Fix when both surfaces are touch dry.

Laying: Lay tiles in stretcher bond. Match edges and align joints and studs. Ensure that the whole surface of the tile or accessory is in contact with the substrate.

Finishing: Sweep, vacuum and wash with clean water and household soap only, to remove any foreign matter, including protective wax coating. Buff when dry. Use a suitable polish in conjunction with buffing if recommended by the flooring manufacturer.

CONDUCTIVE SHEET VINYL: Install conductive vinyl sheet on a copper grid comprising copper tape 0.08mm thick x 10mm wide adhered to the floor with conductive adhesive. Lay copper tape along each length of sheet vinyl and connect it at right angles to a 1 M/ohm resistor. Connect to each with copper tape at 20-30m² intervals in accordance with AS 2834.

WELDED JOINTS – RESILIENT FINISHES

REQUIREMENTS: If welded joints are specified to vinyl sheeting, use one of the following methods:

Heat welding: After fixing, groove the seams with a grooving tool and weld the joints with matching filler rod and hot air welding gun. When the weld rod has cooled, trim off flush.

Cold welding: Apply seaming compound 100mm wide to the background centrally under the seam. Roll the seam until the compound is forced up into the joint. Clean of flush with a damp cloth.

Epoxy jointing: Join seams with epoxy adhesive to the manufacturer's recommendations.

JUNCTION DETAILS **16.04.05**

JUNCTIONS – RESILIENT FINISHES

GENERALLY: Finish junctions flush with adjoining surfaces. Where changes of floor finish occur in doorways, make the junction directly beneath the closed door.

SEAMLESS FINISHES: Make the junction or exposed edge by one of the following methods:

V-Joint: Form the V-Joint in the concrete base and carry the finish into the joint.

Overlap: Carry the finish 100mm past the junction line to be overlapped by the adjoining finish.

COVER STRIPS: Provide edge cover strips at junctions with different floor finishes and as protection strips to exposed edges.

- Metal cover strip: Extruded tapered strip 25mm wide, of the same thickness as the sheet or tile. Fix with matching screws to timber bases or masonry anchors in concrete bases, at not more than 200mm centres.

- PVC cover strip: Feather-edge strip matching the floor finish, fixed with contact adhesive.

ACCESSORIES: Where available use purpose-made matching moulded accessories for nosings, coves, skirtings, edge cover strips and the like finishes at junctions, margins and angles.

Formed accessories: Where purpose-made accessories are not available form the items from the sheet material. Provide solid backing for radiused coves and nosings.

SCHEDULE **16.05**

As per attached colour schedule

EXTERNAL WORKS 17.0

GENERAL 17.01

Included in this Section, Landscaping, road paving and pedestrian paving.

STANDARDS – EXTERNAL WORKS 17.01.01

REFERENCED DOCUMENTS: The following standards are referred to in this Section:

AS 1141	Methods for sampling and testing aggregates. Section 11 – Particle size distribution by dry sieving.
AS 2733	Concrete masonry units.
AS 2758	Aggregates and rock for engineering purposes. Part 1 – Concrete aggregates.
MA 20	Specification for concrete segmental paving units.

PROVISIONAL SUM – EXTERNAL WORKS 17.01.02

Allow the Provisional Sum scheduled in the Preliminaries scheduled in the Preliminaries for the supply and installation of plants and grass and reticulation of the areas shown on the Drawing to be landscaped.

MATERIALS 17.02

BEDDING SAND – EXTERNAL WORKS 17.02.01

MATERIAL: Fine aggregate to S 2758 Part 1, suitable for concrete manufacture, free from deleterious material including soluble salts or other contaminants liable to cause efflorescence or reduce skid resistance, and excessive or non-uniform moisture content.

GRADING: To the following Table when determined to AS 1141 Section 11.

Sieve Aperture	Percent Passing (Brick Paving)	Percent Passing (Block Paving)
4.75mm	90-100	95-100
2.36mm	85-100	80-100
1.18mm	80-95	50-85
600 micrometres	45-65	25-60
300 micrometres	10-30	10-30
150 micrometres	0-5	5-15
75 micrometres	0-3	0-10

MORTAR MATERIALS – EXTERNAL WORKS **17.02.02**

SPECIFICATION REFERENCE: MORTAR MATERIALS – BRICKWORK.

WORKMANSHIP 17.03

FALLS AND LEVELS – EXTERNAL WORKS **17.03.01**

GRADING: Grade paving to even and correct falls where shown on the Drawings, or where necessary to drain the surface without ponding to outlets shown on the drawings. Where falls are not required, lay level.

FINISHED LEVELS: Unless otherwise specified, maintain finished floor levels without step or break at changes of floor finish, including carpet.

DEVIATIONS: Surfaces Generally: Deviation of the finished paving surface from its true form (plane, warped plane, camber and the like): maximum 1:300.

Units: Deviation between the surfaces of adjacent paving units (bricks, blocks, flags): maximum 2mm.

CLEANING – EXTERNAL WORKS **17.03.02**

GENERALLY: Leave paving finish clean on completion.

UNIT PAVING 17.04

UNIT PAVING GENERALLY – EXTERNAL WORKS **17.04.01**

DEFINITION: The term ‘unit paving’ refers to paving surfaces of bricks, blocks, flags, sets and the like.

CUTTING UNITS: Cut paving units so as to maintain sharp arrises and accurate joints and margins.

UNIT PAVING TYPES – EXTERNAL WORKS **17.04.02**

CLAY PAVING BRICKS: To AS 1225.

BEDDING COURSE – EXTERNAL WORKS **17.04.03**

SAND BEDDING COURSE: Over the sub-grade or base course (as case may be) lay the units on sand as specified in BEDDING SAND -–EXTERNAL WORKS, screeded to a uniform thickness not exceeding 50mm, and to the required levels and falls. Do not disturb the screeded surface before the units are laid.

Admixtures: Treat the sand bedding course with an approved residual weedicide and ant pesticide.

LAYING UNITS – EXTERNAL WORKS 17.04.04

SUB-GRADE TO UNITS: Unless otherwise specified or shown, lay units over sub-grade prepared as specified in GROUNDWORKS. Regrade if necessary to maintain the specified thickness of succeeding courses.

TAMPING: After laying complete sections of paving tamp the units into the bedding course with a mechanical tamper, making final adjustments to falls and levels.

UNIT PAVING PATTERN – EXTERNAL WORKS 17.04.05

TRIAL SETOUT: Obtain approval of trial setout for each area before proceeding. If it appears that minor variations to joint widths will obviate cutting, refer for approval. Do not vary unless approved.

PATTERN: 45° herringbone.

UNIT PAVING JOINTS – EXTERNAL WORKS 17.04.06

DRY JOINTS: Fill the joints flush on completion by sweeping in coarse sand.

MORTARED JOINTS: Fill the joints flush with 1:3 cement:sand mortar and trowel smooth. Clean as specified in CLEANING – BRICKWORK or CLEANING – BLOCKWORK.

CONTROL JOINTS: Specified in CONTROL JOINTS – EXTERNAL WORKS.

BITUMEN PAVING 17.05

PREPARATION FOR PAVED AREAS 17.05.01

Grade the sub-grade to follow finished levels so that the specified minimum compacted thickness of imported base course is maintained.

Preparation for paved areas is specified in ‘Site Preparation’.

SUB-BASECOURSE 17.05.02

APPROVAL: Before any material is placed the sub-grade and the boxing out shall be approved by the Superintendent, in accordance with the specified requirements and good road making practises.

MATERIALS: Material shall be freshly quarried limestone rubble complying with the following:

(a) The limestone shall be obtained from an approved source, and shall be free from sand, roots and other deleterious material; it shall not contain either overside spalls or an excessive proportion of fine-grained material.
(b) The calcium carbonate content of the limestone shall not be less than sixty percent (60%) by weight.
(c) The maximum dimension of spalls shall not exceed 150mm and the percentage passing the 3mm AS Sieve shall not exceed 40.

Any material which does not meet the foregoing requirements of which, in the opinion of the Superintendent, is composed of material which would break down with ageing or weathering to such an extent that it would then fall outside the limits of this Specification, shall be rejected and removed from the site.

Placing: Limestone shall not be placed in one thickness so that the sub-grade is not disturbed nor broken up to ensure that even thickness as specified is obtained after compaction. The surface of the sub-base after trimming and compaction shall be even and true to the required shape and grade.

BASECOURSE **17.05.03**

APPROVAL: Before any material is placed the sub base course shall be approved by the specified requirements and good road making practices.

QUALITY AND SOURCES: Material shall consist of graded crushed rock, quarried from an approved source and shall consist of durable rock, free from clay lumps and excess organic or other deleterious materials. The Contractor shall submit to the Superintendent the following information prior to placing of the material:

(a) Name and address of supplier
(b) Gradation test results

(c) Material analysis results

The material shall be graded as follows:

Nominal Size (AS 1152)	Percentage Passing
19.00m	100
9.50mm	70-80
5.75mm	45-65
2.36mm	30-50
425um	12-30
75um	2-12

PLACING: The approved material shall be placed so that the sub basecourse is not disturbed nor broken up and to ensure that an even thickness as specified is obtained after compaction.

GRADING AND ROLLING: The basecourse shall be constructed to such depth, so that when compacted it will conform to the grades, camber, crossfall, dimensions and depths shown on the drawings. The final surface shall be finished by blading and rolling with a steel drum or multi-tyred rolle or combination of both, until the surface is smooth and free from irregularities. No subsequent work on the basecourse may proceed until it has been inspected and approved by the Architect.

COMPACTION **17.05.04**

GENERALLY

Materials specified to be compacted shall be aerated or watered as the case may be to attain the correst moisture content for the specified degree of compaction. The material shall be uniform over the whole area.

METHOD: It shall be the Contractor's responsibility to assess the requirements and provide all of the necessary types of plan and equipment to attain the specified densities.

COMPACTION STANDARDS: The densities which shall be attained in the various sections of the work are set down in the following table:

Section of Work	(Density) Percentage Compaction
(a) Fill in formation to sub grade level	95%
(b) In cut sub grade compaction measured over a depth of 300	95%
(c) Sub basecourse	95%
(d) Basecourse	98%

The "Percentage Compaction" shall be the modified maximum dry density when tested in accordance with Test No. E2 1 OF AS 1289.

PRIMING **17.05.05**

WEATHER CONDITIONS: Priming shall be carried out under favourable weather conditions and the prepared rock base shall be sufficiently dry, or as determined by the Architect. Priming shall not commence without the Architect's permission.

SURFACE PREPERATION: Before priming, the pavement shall be broomed free of all loose material and dust, and any defects shall be made good. Should conditions require it, the surface shall be lightly watered immediately before spraying.

PRIMER APPLICATION: The primer shall be applied by approved spraying equipment that is capable of being accurately adjusted for rates of application.

The primer shall be uniformly sprayed onto the basecourse at the rate and spraying temperature range to suite the primer and cover aggregate used, subject to prior approval of the Superintendent.

COVER AGGREGATE: The cut back bitumen shall, immediately after spraying, be covered with approved 5mm diorite or granite chippings. The rate of application shall be 153sqm per cubic metal controlled so that only sufficient is applied to give a uniform dense mat one stone thick.

The surface shall then be back rolled and broomed using a rubbed tyred compactor. This rolling shall continue until proper interlocking of the chippings and adhesion of the binder to the stone takes place.

At completion of rolling, any surplus aggregate shall be swept off. Sweeping shall not take place until seven days after rolling has been completed. Surplus chipping shall be carried away.

TWO COAT BITUMEN & METAL AGGRAGATE FINISH 17.05.06

FIRST COAT: Apply bitumen emulsion as for priming, apply 5mm diorite or granite chippings at the rate specified in priming and back roll.

SECOND COAT: Apply bitumen emulsion at the rate specified in priming and apply 5mm diorite or granite chippings at rate specified. Roll to a hard even surface.

REQUIREMENT: At the end of the Contract Defects period 20// the whole area and remove surplus metal.

EXTRUDED KERBING 17.05.07

CONCRETE

All concrete shall comply with AS 1379 and shall have a compressive strength when cylinder tested at 28 days of 20Mpa.

Concrete kerbs shall be placed by means of an extrusion machine approved by the Superintendent. Any kerbing that cannot be placed using an extrusion machine may be case insitu to the same cross section as that of the extruded kerb with the approval of the Architect.

SHAPE, DIMENSIONS AND TOLERANCES: The final shape and dimensions of the extruded kerb shall be as approved by the Superintendent.

PLACEMENT: The primer road surface shall be kept clean from all rubbish and loose sand and the kerbing shall be placed on a clean, prime and blinded road pavement.

JOINTS: Contraction joints shall be constructed at 2.5m by cutting through 66% of the kerb section with a 5mm wide cut immediately after extrusion.

Not less than 24 hours after placing of the kerb, expansion joints shall be constructed at every second contraction joints, i.e. 4.0m apart, at all horizontal curve tangent points and on both sides of drainage side entry pits. The expansion joints shall be formed by the sawing of a 10mm wide gap (at 20° C) that completely severs the adjoining section of the kerb. The gap shall be filled with an approved butyl mastic joint filter after the Superintendent has inspected and approved the cut joints.

CURING: All exposed faces of the completed kerb shall be curing a period of not less than 96 hours after placing, by covering with hessian, canvas or other suitable material which shall be kept moist or by spraying with an approved curing compound.

BACKFILLING TO KERBING: Backfilling to kerbing shall be placed as shown in the drawings after curing and acceptance of extruded kerbing. All backfilling shall be compacted to 90% as specified.

KERB RAMPS 17.06

In locations shown on the drawing lower level of kerbing and pedestrian paving the finish flush with the level of bitumen paving.

PAVING SCHEDULES 17.07

UNIT PAVING SCHEDULE – EXTERNAL WORKS 17.07.01

LOCATION: Verandah, ramp & Paths as shown on the drawing.

UNIT PAVING TYPE:
Concrete

Manufacturing Dimensions: min 86 thick

Colour: grey

Bedding Course: cement

UNIT PAVING PATTERN:

EDGE RESISTSANT: Brick footing mortared to finished course or concrete footing 250 x 100.

SCOPE OF WORKS

Prior to commencement of any work a dilapidation on surrounding and adjoining buildings report shall be carried out by an independent single expert practitioner. This practitioner shall be engaged by the builder on behalf of the Narrogin Council.

This single expert practitioner shall review and prepare a report at the completion of the project on the same buildings.

Should any buildings have suffered deleterious damage during the build f the Library extension, the successful tenderer shall make good to all damaged items.

The successful tenderer shall provide all the on-site safety requirements, first aide, lunch rooms and on-site toilet as required.

Work will not commence before 7am and cease by 7pm weather and light permitting.

On site contractors shall realise that office work will be carried out in surrounding buildings.

Where necessary weekend work may be considered.

The successful tenderer shall comply with all the relevant AS codes pertaining to this project.

The library will remain operational during the build. A shutdown of the library shall only be over the weekend and Monday to Wednesday inclusive.

The successful tenderer is to have all services that are to be altered shut down by qualified contractors specific to that service. 7 Days notification before the shutdown, inform the Library Manager of shutdown proposal and duration of shutdown.

Provisional power shall be provided to keep the computers operational during any necessary power shut downs.

All services shutdown for the duration of the build are to be reinstated at the completion of the project by qualified contractors specific to the service.

The successful tenderer shall provide all necessary items to protect the existing library free from dust and weather situations.

Demolition work.

The successful tenderer shall only remove the existing roof tiles once the new roof cladding has been delivered to site. All care shall be taken to prevent weather events damaging the internal building and all of its assets.

Make good/replace to any damaged roof substrate and ensure that any loose joints are secured properly.

Provide all necessary items to complete the reroof in a proper manner and in accordance with manufacturer's instructions.

Site works

The site shall be prepared in readiness for the proposed extension and new retaining walls.

The new retaining walls shall be built of the same face brick as existing with a solid brick header course. Refer to engineering documentation.

New floor level shall be at the same level as the existing

The successful tenderer shall provide all items necessary to keep the site free from water during the build.

The extension site shall be prepared and properly compacted to take the new slab.

A record of penetrometer tests shall be kept on site and must be sighted by the engineer prior to any concrete pour.

Existing A/C condensers shall be relocated onto the new roof. The contractor shall provide all items necessary to complete the project properly and in good working order.

The builder shall make good to any surfaces damaged during the relocation to line and match with existing.

All steel, steelwork, welding and construction shall be in accordance with the relevant Australian Standards AS4100, AS/NZS1163, AS/NZS 1252.2, AS/NZS1397, AS/NZS 1554, AS/NZS3678, AS/NZS3679.1AS/NZS3679.2 etc

Build new brickwork in accordance with AS3700 as detailed on the drawings, extend framework and install new roof cladding to entire existing and proposed roof area as detailed.

The cutting in of new steelwork into existing building shall be done when the weather is fine. Protection shall be provided during this time to prevent any water penetration into the building.

The existing HWU is to remain. The council should at this point have the HWU serviced. The existing HUW is to be housed in a new laminate cupboard. All new hot water pipes are to be lagged to prevent heat loss.

Setout new plumbing fittings and fixtures, providing all items necessary to complete the project correctly, including all inlet and waste piping as require to attach to existing supply and waste lines. Make good and ensure that all pipes are in full working order prior to completion. Ensure that all waste pipes are working correctly.

The sewer line under the new concrete slab shall be encased in concrete. I.O.'s shall be positioned as indicated on the hydraulic documents

Install new concrete floor including all items necessary to complete the project to all relevant AS codes. Ensure the floor grade properly towards the waste grates, prior to leaving the site.

Build new brickwork in accordance with AS3700 as detailed on the drawings, extend framework and install new roof cladding to entire existing and proposed roof area as detailed.

New walls to be installed with in the existing building shall be constructed from treated stud framework. The frame shall be filled with R2.5 insulation and clad both sides with acoustic flush plasterboard. Use 10mm negative joints where new work abuts to existing. All plasterboard edges are to have metal plasterboard trims.

Make good to the existing surfaces which are altered.

The existing external wall which is to be now an internal wall shall be battened and flush plasterboard cladding applied, including all window and door reveals.

Painting

The existing ceilings are to be repaired, prepared, sealed and painted with 2 coats of top coat ceiling white.

The existing and new Conference Room walls and ceiling are to be repaired, prepared, sealed and painted with 2 tops coats.

All external walls to the existing building are to be repaired, prepared and painted to match with the new acrylic render.

The concrete floor shall be prepared and levelled and moisture tested. The welded vinyl shall not be laid until the moisture levels are such that they reach the levels as set out by the manufacturers laying instructions.

Install all fittings and fixtures as described on the documents in accordance with manufacturer's instructions.

Make good to all items that are disturbed during the refurbishment. Ensure that the site is left clean of any debris. The successful tenderer shall allow for any/all rubbish fees and transport.

ADDENDA

SANITARY BINS BY COUNCIL

NAPPY BINS BY COUNCIL

FIRE EXTINGUISHERS BY COUNCIL FIRE PROVIDER – SIGNAGE BY OWNER

TOILETS

CAROMA CARE 400 CONNECTOR SUITE WITH BACKREST PRODUCT CODE 987900BAG

BASINS

CAROMA OPAL 720 WALL BASIN WITH RIGHT HAND SHELF & ONE TAP HOLE.

TROUGH

EVERHARD NUGLEAM 45L DRAWER SYSTEM LAUNDRY UNIT

TAPS

CAROMA SKANDIC 150MM CARE BASIN MIXER (HOT /COLD) TO STAFF TOILET

CAROMA CIRRUS SINK MIXER (HOTCOLD) TO LAUNDRY

FLOOR TILES

WALL TILES GLOSS WHITE RECTIFIED EDGE WITH 1mm GROUT TO MATCH TILE. TILES AND GROUT TO BE SEALED.

FW BURMUDA 100mm SQUARE FLOOR WASTE

ACCESSORIES

TOILET TOLL HOLDERS – METLAM ML835

SOAP DISPENSERS - RBA COMMERCIAL BTX -05-021

SOAP HOLDER METLAM – ML3359B_XH BRIGHT CHROME

DOOR SIGNAGE – METLAM

MIRRORS – METLAM SS FRAMED MIRROR 450W x 1000H ML771_S

MIXING VALVE CAROMA TMV20 STANDARD BOTTOM INLET WITH BYPASS – REMOVABLE HINGED DOOR

SS GRAB RAILS

GRAB RAILS CAROMA SUPPORT GRAB RAILS, 90 ANGLED 110x 103x600 SS

SS GRAB RAIL

EXTERNAL HANDRAIL SHALL BE GALVANIZED STEEL FABRICATED AS DISPLAYED ON THE DRAWINGS AND INACCORDANCE WITH AS 1428

EXISTING HUB PV CONVERTER ETC & HWU CUPBOARD

LAMINEX CHARCOAL MELAMINE WHITE INTERNALLY – LOCKABLE BI-FOLD DOORS

BRICKWORK

MAIN BRICKWORK – COMMONS TO BE RENDERED

FEATURE – MIDLAND TREASURY RED WITH WHITE MORTAR

RETAINING WALL – MIDLAND SMOOTH RED

ACRYLIC RENDER

GRANOMARBLE TO BE APPLIED TO ALL EXTERNAL BRICKWALLS. BRICKWORK IS TO BE PREPARED AND RENDER APPLIED AS PER THE GRANOSITE SPECIFICATION. BASE TO BE APPLIED TO FULLY PREPARED, REPAIRED AND CLEANED EXISTING BRICKWORK.

GRANOMARBLE TO BE APPLIED AS PER GRANOSITE SPECFICATIONS

FINISH – ACRYLIC TEXTURE COAT

COLOUR- DULUX TERRACE WHITE

EXISTING RENDERED WALLS TO BE PAINTED TO MATCH DULUX TERRACE WHITE

ROOF

BLUESCOPE COLORBOND ROOF THERMATECH

0.35-0.4 COLORBOND STEEL TRIMDEK ROOF

COLOUR – SHALE GREY

GUTTER

150MM HALF ROUND COLORBOND WINDSPRAY

RWP

100 DIAM ROUND WITH 2 GUTTER STRAPS.

DRAINS

RELN UNIPIT VORTEX SERIES 300 UNDER EACH RWP. GALVANISED HEALL GUARD CLASS A GRATE

RELN DRAIN STORM DRAIN WITH GALVAISED STEEL GRATE

WINDOWS

WHITE POWDERCOATED ALUMINIUM FRAME, DOWELL OR JASON COMMERCIAL OR SIMILAR APPROVED WITH BLACK SS SECURITY MESH FLYSCREENS

GLAZING AS PER ENERGY ASSESSMENT

ROOF LIGHT

VELUX 665 x 665 FIXED LIGHT COLOUR TO MATCH ROOFING

ROOF LIGHT SHAFTS SHALL BE FLUSH PLASTERBOARD WITH OPAQUE CEILING DIFFUSER SET IN WHITE COLORBOND METAL ANGLE CEILING TRIM, NEATLY MITRED AT ALL CORNERS

DOORS

FRAMES – JDS METAL DOOR DELUX FRAMES

EXTERNAL DOOR SOLID CORE WEATHER PROOF DOOR 40mm KEYED ALIKE WITH EXISTING BUILDING. WITH WEATHER SEALS ALL AROUND.

INTERNAL ACOUSTIC DOORS 35mm

UNIFOLD SOUNDGUARD DOOR, TOP HUNG, LAMINATED VINYL, COLOUR TBA

DOOR FURNITURE

LOCKWOOD SERIES 3772 ANTI VANAL ESCAPE LOCK SS WITH DIGITAL DX LOCKSET AND LOCKWOOD 2616 HOLD OPEN DEVICE.

LOCKWOOOD SERIES 3774 PASSAGE LATCH SS

LOCKWOOD SELCTOR PRIVACY LOCKS SS. ANTI-LOCKOUT ESCAPE PRIVACY LOCK WITH SELF CLOSER 2615 CAM ACTION DOOR CLOSER WITH SLIDE ARM

ACCESSORIES CHROME PLATE

HANDLES – LOCKWOOD COMMERCIAL ESCAPE LEVERSET 949SC

LOCKWOORD COMMERCIAL PASSAGE LEVERSET 951SC

LOCKWOOD PRIVACY SQUARE SERIES 1420

DOOR STOPS LOCKWOD MOUNTED MAGNETIC FLOOR DOOR STOP

EXTERNAL BATTENS

SCULPTFORM ALUMINIUM SLIDING CLICK ON BATTENS 50mm x 50mm WITH END CAPS AND ALL ITEMS TO FINISH PROJECT PROPERLY FIXED IN ACCORDANCE WITH MANFACTURERS INSTRUCTIONS

CHOCOLATE OAK FINISH

STANDARD TRACK

SUNSHADES

VERGOLA FIXED LOUVRES SUNSHADE

COLOUR COLORBOND CHOCOLATE OAK FINISH

DUCTED SKIRTING

NAUTUAL ANODIZED 125 x 40 ECD ELITE SERIES SKIRTING DUCT OR SIMILAR APPROVED

WELDED FLOORING

ARMSTRONG OR SMIALR APPROVED 2MM HOMOGENOUS SHEET FLOORING, SIMILAR IN COLOUR TO EXISTING FLOORING TBA, WITH 150 HIGH COVED SKIRTING

CONCRETE FLOOR SHALL BE REPARIED, PREPARED TO TAKE FLOORING INACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

TACTILE INDICATORS

BLACK VINIYL TACTILE INDICATORS

REVERSE SPLIT SYSTEMS

DAIKEN INVERTER SPLIT SYSTEM TO SUIT ROOM SIZES. CONDENSERS ROOF MOUNTED.

CEILINGS

FLUSH PLASTERBOARD – NO CORNICE TO RAKING CEILINGS.

SHADOWLINE METAL CORNICE TO FLAT CEILINGS

SOFFIT & WALL LINING

HARDIFLEX SOFFIT WITH PLASTIC STRIPS

WALL LINING SCYON PRIMELINE WEATHERBOARD NEWPORT PROFILE

FLUSH BLUE BOARD TO ENTRY PORCH WALLS

ENTRY PORCH SOFFIT GLOSSWOOD LINING BOARD 90mm BOARD TASMANIAN OAK

PAINTING

WATTYL OR SIMILAR APPROVED PAINT SHALL BE USED.

ALL SURFACES SHALL BE REPAIRED, PREPARED AND SEALED FOLLOWED BY TWO TOP COATS OF WASHABLE PAINT.

CEILINGS SHALL BE CEILING WHITE

WALLS TBA

EXTERNAL CLADDING

PORCH

THE DAN TURNER FAMILY TRUST trading as

Dan Turner
Civil, Structural and Project Management

18th September 2022

The CEO
Shire of Narrogin
PO Box 1145
Narrogin WA 6312
Ph. 9890 0900
Email enquiries@narrogin.wa.gov.au

Attention: Benjamin Kittow (Building Maintenance Officer/ Building Surveyor)

Re: Site Classification: Extension to Bob Farr Memorial Library Lot 46 No 49 Fortune St. Narrogin.

Dear Sir

I confirm that I carried out an investigation of the site for the proposed extension to the Bob Farr Memorial Library, No 49 (Lot 46) Fortune St. Narrogin on Monday 9th September 2022.

The site consists of ground which has been deeply excavated at the southern end to enable the construction of the original library. This bank has been faced with stone for protection. At the northern end the library has been built on the original ground. (Lateritic gravel)

One hole was dug into the northern bank. This material consists of lateritic clay. This confirms that the site will be variable when excavations are carried out for the proposed extension with material varying from clay to lateritic gravel with clay to lateritic gravel. The original building is showing no significant distress from ground movement.

The soil classification for this site is M.

The ground must be examined by an engineer experienced in site investigation and foundation design after the excavation has been completed for the foundations to confirm the relevance of the proposed foundations. It is likely that a perforated pipe cut off drain will be required when the extent of the clay base has been determined.

Yours sincerely

Dan Turner B E Civil, RPEQ MIEAust NER
Civil, Structural and Project Management

CIVIL, STRUCTURAL AND PROJECT MANAGEMENT

97 Felspar St Narrogin WA 6312

Ph 9881 3218 Fax 9881 5007 Mob 0409 867048 e-mail dant34175@bigpond.com

Figure 1; Aerial Photo of the Site.

Figure 2; Photo of minor cracking in western wall of existing building.

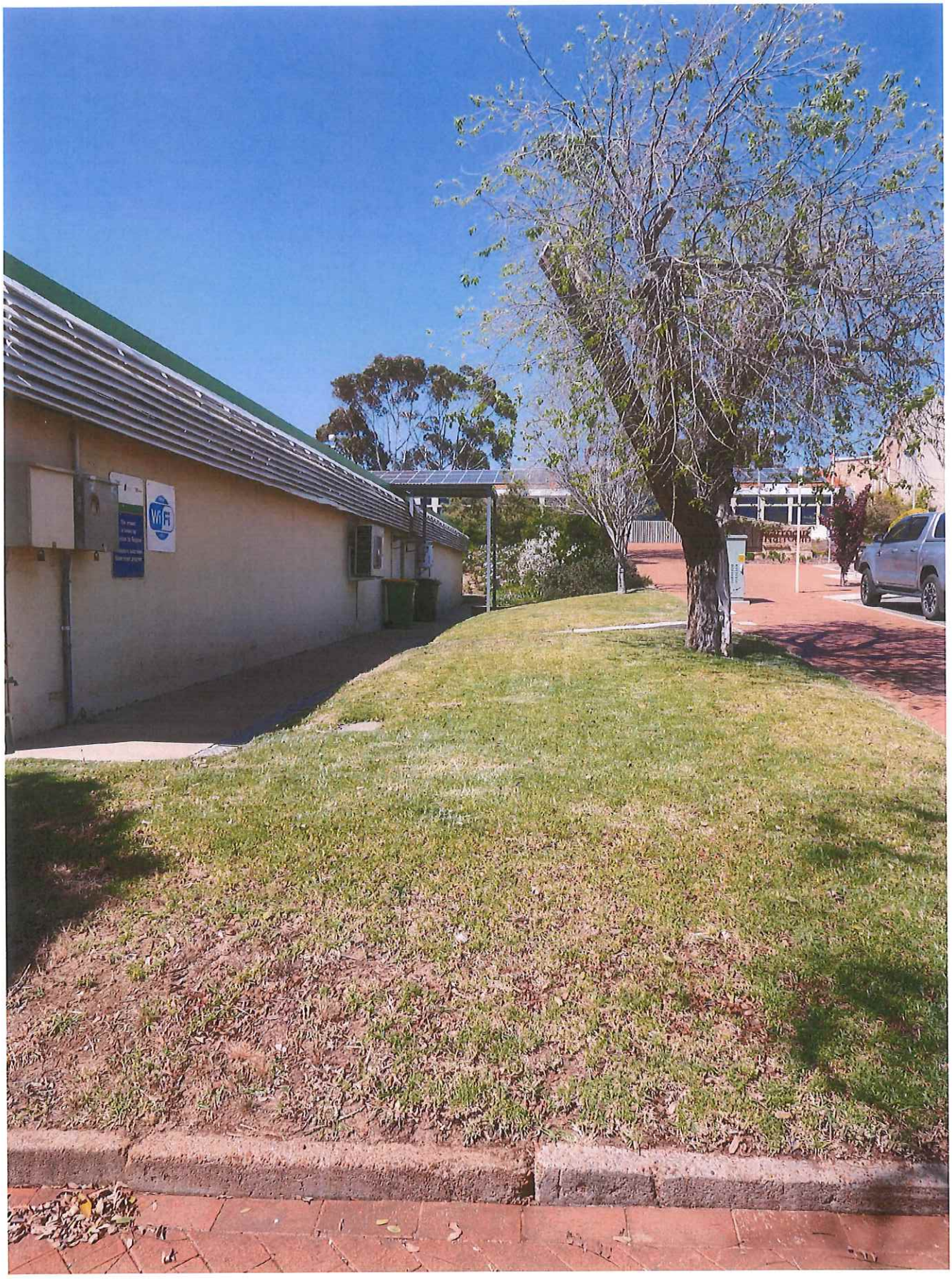


Figure 3: Photo of building site.

Figure 4: Photo of southern bank.

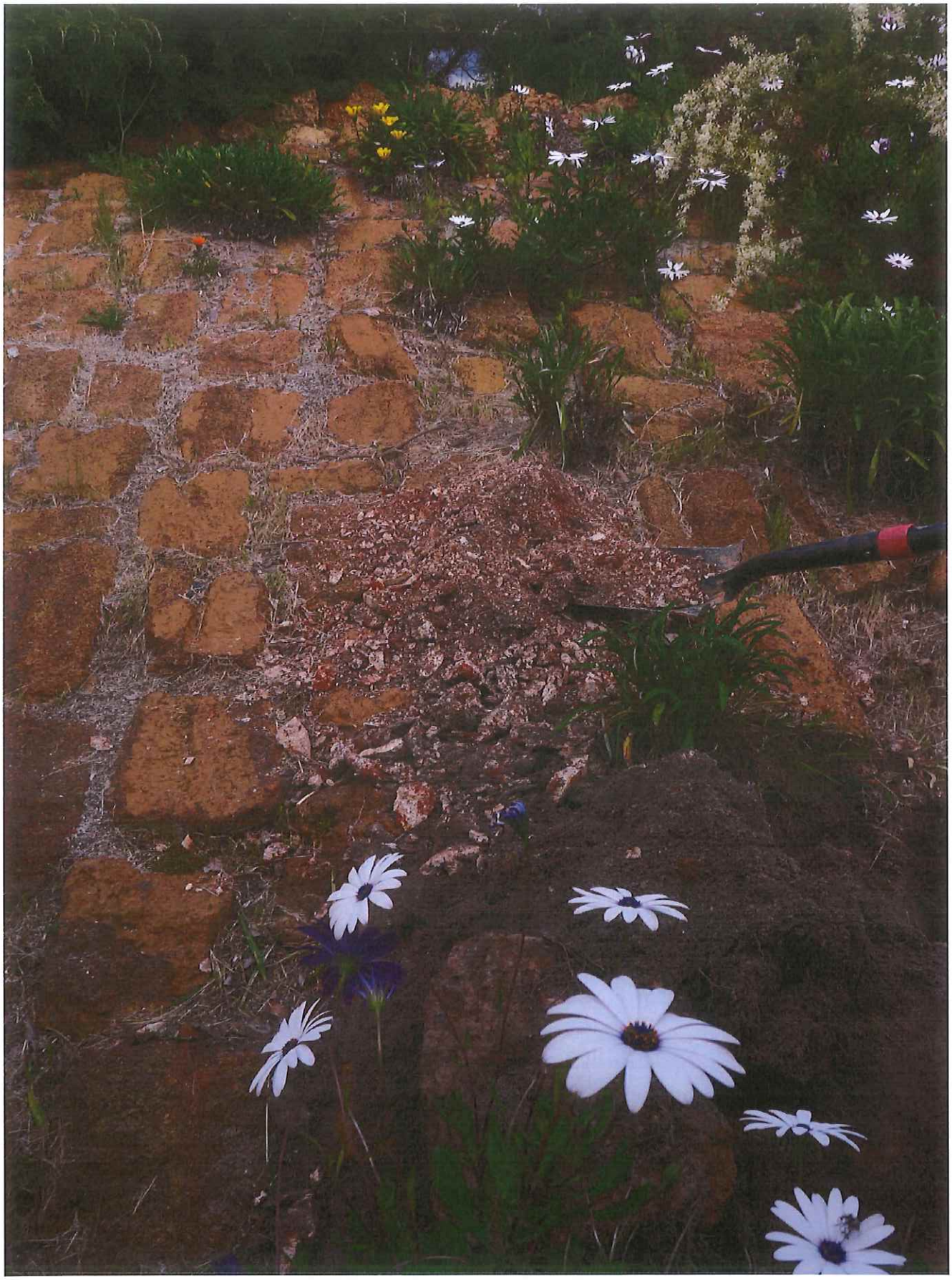
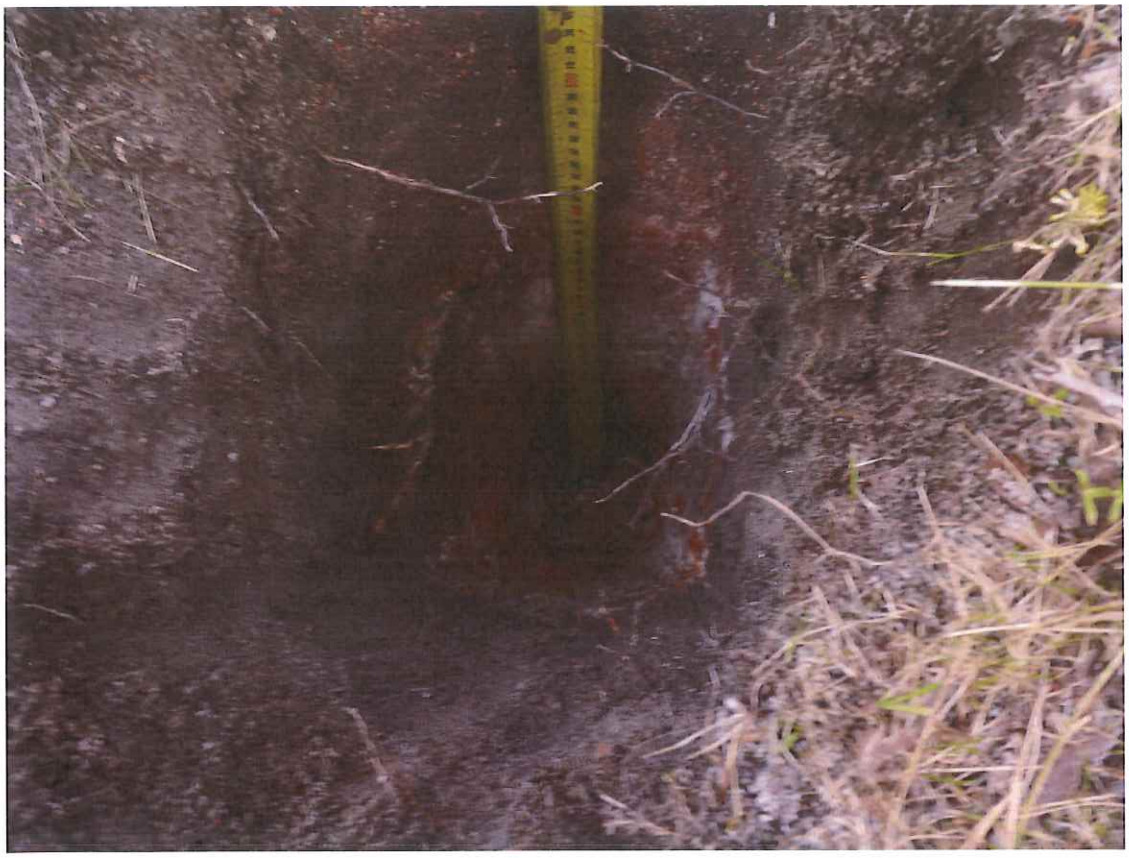
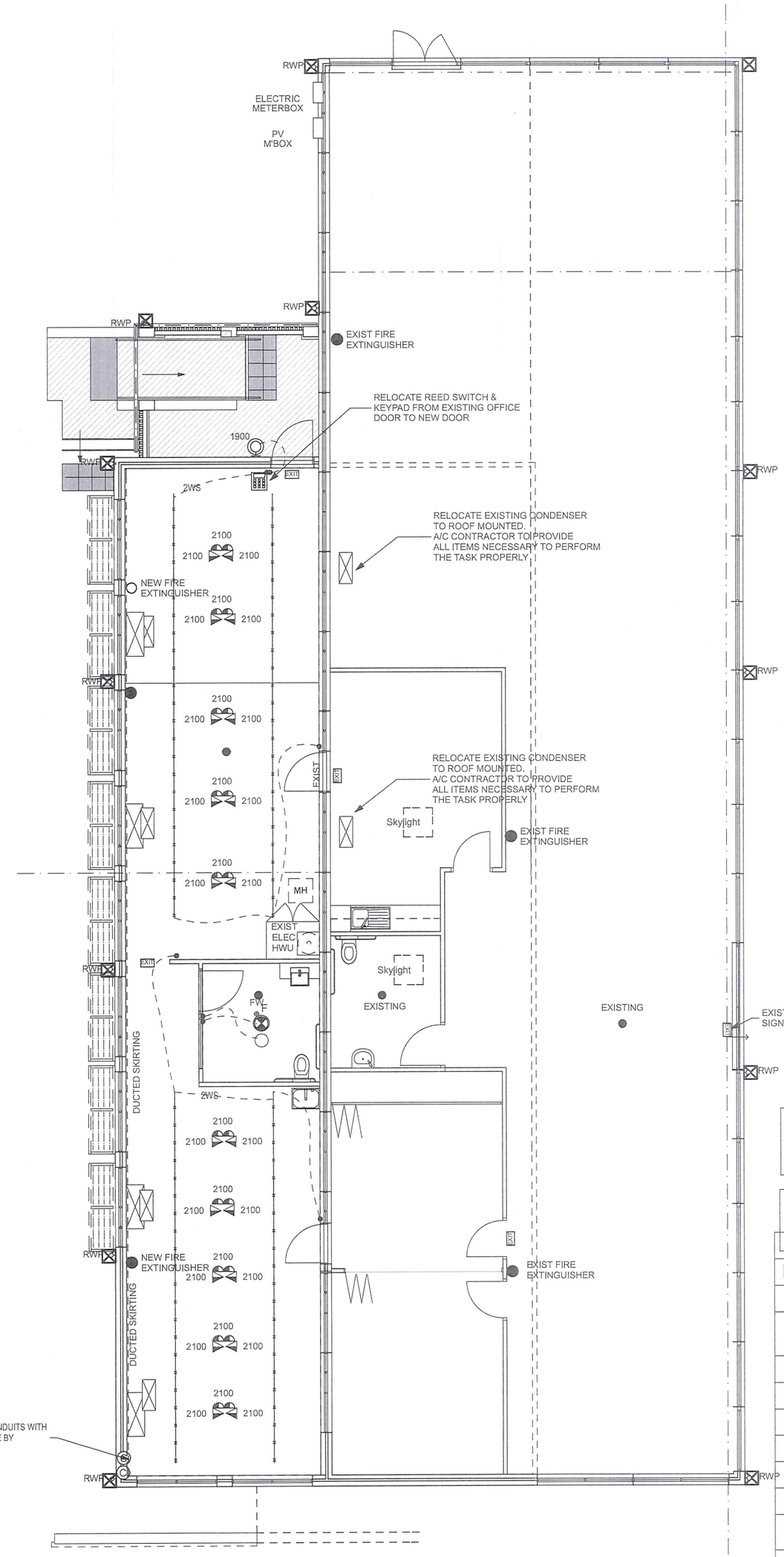


Figure 5; Photo of excavated material.

Figure 6A & 4B: Photo of excavated hole.





LIGHTING SPECIFICATION

EXIT SIGN - PIERLITE STINGRAY 2 LED EXIT LIGHT

EMERGENCY LIGHTING - PIERLITE FIREFLY 2 LED EMERGENCY LIGHT

STRIP LIGHTING - KLIKLED KALLI 060BEAM D1

WALL LIGHT - VANDAL RESISTANT OUTDOOR WALL LIGHT 1IK10 12w 500LM 4200K IP EYELID BLACK

NOTE: ALL EXTERNAL WALL LIGHTS TO BE POSITIONED AT 1900 AFL UNLESS NOTED OTHERWISE

NOTE: ALL LIGHT SWITCHES TO BE POSITIONED AT 1350 AFL UNLESS NOTED OTHERWISE

ELECTRICAL LEGEND

No.	SYMBOL	TYPE
2	2WS	2 Way Switch
6		A/C CONDENSER
4		Aircon Split Wall Unit
1		ALARM PANEL
1		CEILING LIGHT
2		CONDUIT
20		DATA POINT
10		DOUBLE GPO @ NOTED HT
4		EMERGENCY LIGHT
1		EXHAUST FAN FLUMED
1		EXTERNAL WALL LIGHT @ 1900 AFL
		SUSPENDED STRIP LIGHTING WITH DIFFUSERS

JUDITH McDOUGALL DESIGNS
Accredited Member ACCRED 15013
BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA INC.
TEL 0447 550 275
ABN 79 425 984 191
Email: judithmcdougall@gmail.com
Design Matters National
The peak body for the building design profession
Member

CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY
ADDRESS:
LOT 46 #49
FORTUNE STREET
NARROGIN 6312

COUNCIL: NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title: ELECTRICAL-GROUND FLOOR
Scale: 1:100
Date: JULY 2022
Status: WORKING DRAWINGS
JOB NO: 2321
Drawing No: 13 of 17

C:\Users\judit\OneDrive\Documents\DRAWINGS\NARROGIN LIBRARY\22.09.08 NARROGIN LIBRARY SITE PLAN.pln

GENERAL NOTES

1. ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS. ANY DISCREPANCIES SHALL BE REPORTED PRIOR TO FABRICATION AND CONSTRUCTION.
2. CHECK ALL DIMENSIONS ON SITE. REPORT ALL DISCREPANCIES.
3. DIMENSIONS SHALL NOT BE SCALED FROM DRAWINGS.
4. ALL STANDARDS REFERRED TO SHALL BE CURRENT PUBLICATIONS INCLUDING THEIR LATEST REVISIONS.
5. DIMENSIONS ON THE STRUCTURAL DRAWINGS ARE EXCLUSIVE OF FINISHES.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION METHOD AND MAINTENANCE OF SAFETY DURING THE CONSTRUCTION. SHOULD ANY ELEMENT PRESENT ITSELF TO BE DIFFICULT WITH RESPECT TO CONSTRUCTIBILITY OR SAFETY, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO ALLOW FOR DIRECTION TO BE GIVEN PRIOR TO PROCEEDING WITH WORKS.
7. ALL WORKS TO CONFORM TO THE NATIONAL CONSTRUCTION CODE "NCC".
8. THE STRUCTURE HAS BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE RELEVANT CODE/STANDARD PROVISIONS FOR THE STRUCTURE IN ITS SERVICE CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE & ADJACENT STRUCTURES DURING THE CONSTRUCTION PROCESS AND IS RESPONSIBLE TO ENSURE THAT NO STRUCTURAL ELEMENT IS IN ANY WAY OVERSTRESSED DURING THE CONSTRUCTION PROCESS. ANY TEMPORARY BRACING/SUPPORT WHICH IS REQUIRED IS TO BE DESIGNED AND INSTALLED BY APPROPRIATE SUB-CONTRACTORS.
9. CONTRACTOR SHALL ENSURE THAT THE STRUCTURE AND ADJACENT STRUCTURES ARE NOT UNDERMINED OR SURCHARGED.
10. ALL CONSTRUCTION SHALL BE UNDERTAKEN BY COMPETENT AND SUITABLY QUALIFIED PERSONS.

FOOTINGS

1. COMPACT ALL GRADES BELOW FOOTINGS AND SLAB ON GROUND TO ACHIEVE A MINIMUM PERTH SAND PENETROMETER (PSP) READING OF:
   - SINGLE STOREY: 8 BLOWS PER 300mm
   - MULTI STOREY:10 BLOWS PER 300mm
2. ALL EARTHWORKS SHALL BE IN ACCORDANCE WITH AS3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND SHALL INCLUDE BUT NOT BE LIMITED TO:
   - STRIP BUILDING AREA AND PERIMETER APRON OF ORGANIC MATERIAL AND RUBBISH
   - GRUB OUT ANY TREES/STUMPS AND BACKFILL WITH CLEAN COMPACTED SAND FREE OF ANY VOIDS
   - REMOVE ANY DELETERIOUS MATERIAL SUCH AS ROCK OR CLAY FROM THE BUILDING AREA OR APRON.
   - NOTIFY ENGINEER IF ANY ANOMALIES OR UNUSUAL FEATURES ARE ENCOUNTERED DURING THE WORKS.
   - CUT AND/OR FILL SITE TO FORM UP PAD WITH CLEAN COMPACTED SAND TO THE REQUIRED LEVEL.
   - REFER TO STRUCTURAL DRAWINGS FOR COMPACTION REQUIREMENTS.
   - CONSTRUCT FOOTINGS AND SLAB AS PER THE STRUCTURAL FOOTING DETAILS.
3. THE FOOTING DETAIL RECOMMENDED REQUIRES ONGOING MAINTENANCE OF THE SITE TO ENSURE ITS STRUCTURAL PERFORMANCE. REFER TO CSIRO PUBLICATION 10-91 "GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE" FOR DETAILS. THESE RECOMMENDATIONS AND FOOTING DETAILS PROVIDED ARE BASED ON PERFORMANCE AS DEFINED IN AS2870. MINOR FOUNDATION MOVEMENT IS TO BE EXPECTED WHICH CAN RESULT IN CRACKING RELATING TO DAMAGE CATEGORY '2'. THIS IS DEEMED TO BE NON-STRUCTURAL CRACKING.
4. ALL SAND SHALL BE CLEAN WELL GRADED SAND AND SHALL BE COMPACTED IN 300mm LAYERS.
5. POUR LOWER LEVEL FOOTINGS FIRST. DIFFERENCE IN FOUNDING LEVEL OF ADJACENT FOOTINGS SHALL NOT EXCEED HALF OF THE CLEAR DISTANCE BETWEEN THEM.
6. PRIOR TO POURING CONCRETE FOOTINGS AND SLABS ON GROUND, OBTAIN ENGINEERS APPROVAL OF ALL EXCAVATIONS.
7. STEP FOOTINGS 514 (MAX) TO SUIT SITE LEVELS U.N.O.
8. ALL FOOTINGS AND GROUND SLABS ARE TO BE BUILT IN ACCORDANCE WITH
   - AS2870 - RESIDENTIAL SLABS AND FOOTINGS
   - AS3798 - GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.

MASONRY

1. BRICKWORK SHALL COMPLY WITH AS3700 & AS4773.
2. LOADBEARING BRICKWORK SUPPORTING SUSPENDED FLOORS TO HAVE A MINIMUM UNCONFINED CHARACTERISTIC STRENGTH f'uc: 12MPa.
3. MORTAR TO BE M3. USE M4 WHEN LOCATED WITHIN 1km OF THE OCEAN OR WHEN IN DPC (DAMP PROOF COURSE).
4. MASONRY ABUTTING STEEL OR CONCRETE SHALL BE RESTRAINED USING 32 x 1.2mm STEEL STRAPS 300 LONG POWER FIXED AT THE LESSER OF EVERY 4TH COURSE OR 600mm VERTICALLY. ALTERNATIVELY, PROVIDE R6 RODS CRIMPED AND WELDED AT 300 CRS TO BOTH SIDES OF STEELWORK. PROVIDE BRICK TIES AS PER NOTE 5.
5. APPROVED WALL TIES ARE TO COMPLY WITH AS3700, AS/NZS2699.1 & AS4773.1
6. LOAD BEARING BRICKWORK SHALL NOT BE HORIZONTALLY OR DIAGONALLY CHASED OR CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER.

FORMWORK

1. ALL FORMWORK SHALL COMPLY WITH AS3610
2. FORMWORK STRIPPING TIMES (MINIMUM DAYS)
   - WALLS AND COLUMNS - 3 DAYS
   - BEAMS, SLABS & STAIRS - 10 DAYS
3. IMMEDIATELY AFTER STRIPPING, PROGRESSIVELY BACK PROP SLAB AND BEAMS. PLACE PROPS AT 1/4 POINTS OF BEAM SPANS, AND AT 2.4m CRS FOR SLAB.
4. DEPROP WHEN SLAB IS 28DAYS OLD. THIS CAN BE REDUCED TO 21 DAYS PROVIDED f'c IS REACHED (TESTED IN ACCORDANCE WITH AS1012.9) PRELOAD DEPROPPED SLAB WITH BRICKS PRIOR TO COMMENCING BRICKWORK CONSTRUCTION.
5. ALL FORMWORK TO COMPLY WITH AS3610. THE DESIGN CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FORMWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT STANDARDS.

CONCRETE

1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH AS3600
2. CONCRETE QUALITY; REFER TO TABLE

ELEMENT	GRADE OF CONCRETE f'c (MPa)	MAX. AGGREGATE. SIZE (mm)	SLUMP (mm)
FOOTINGS	N20	20	80
SLAB ON GROUND - INTERNAL	N20	20	80
SLAB ON GROUND - EXTERNAL	N20	20	80
SUSPENDED SLAB - INTERNAL	N32	20	80
SUSPENDED SLAB - EXTERNAL	N40	20	80
COLUMNS	N40	14	80

   - INTERNAL - PROTECTED FROM WEATHER, CONTAINED WITHIN THE MAIN BUILDING BY WALLS & ROOF ETC.
   - EXTERNAL - EXPOSED/OPEN TO WEATHER EG: UNDERSIDE OF EXTERNAL CANTILEVER, BALCONY SLABS, SLAB OVER ALFRESCO AREAS ETC.
3. ALL CEMENT SHALL CONFORM TO AS 3972, ALL CEMENT TO BE USED GENERAL PURPOSE CEMENT "TYPE GP". BLENDED CEMENTS "TYPE GB" SHALL NOT BE USED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
4. BUILD ALL FORMWORK FROM ARCHITECTURAL DRAWINGS. CONFIRM ANY CAST-IN ITEMS SUCH AS BOLTS, ANGLES, TIES, FLASHING, PLUMBING AND ELECTRICAL FITTINGS ETC.
5. ALL CONCRETE SHALL BE VIBRATED BY AN APPROVED IMMERSION TYPE VIBRATOR. THE FINISHED CONCRETE SHALL COMPLETELY FILL THE FORMWORK, ENCASE ALL REINFORCEMENT AND ENSURE SEGREGATION OF THE CONCRETE DOES NOT OCCUR.
6. POUR BEAMS AND SLABS MONOLITHICALLY.
7. CONSTRUCTION JOINT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
8. CAST-IN CONDUITS SHALL HAVE A MINIMUM 25mm CONCRETE COVER AND SHALL BE PLACED BETWEEN, NOT OUTSIDE, THE LAYERS OF REINFORCEMENT.
9. WHERE CONCRETE BEARS ON BRICKWORK, PROVIDE TWO LAYERS OF APPROVED BOND BREAKER BETWEEN WALLS AND SUSPENDED SLAB (ALSO APPLICABLE TO WALLS OVER SUSPENDED SLAB) U.N.O.
10. ALL CONCRETE SHALL BE MOIST CURED FOR 7 DAYS BY EITHER:
    - CONTINUOUS WATER PONDING
    - WET HESSIAN
    - APPROVED CURING MEMBRANE

    CURING COMPOUNDS ARE PERMITTED, PROVIDED THAT THEY COMPLY WITH AS3799 AND DO NOT EFFECT THE FLOOR FINISHES. THE USE OF PVA BASED COMPOUNDS IS NOT RECOMMENDED.
11. ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE POURING CONCRETE.
12. ADMIXTURES SHALL NOT BE USED WITHOUT WRITTEN APPROVAL FROM THE DESIGN ENGINEER.
13. UNLESS STATED ON THE ATTACHED PLANS, IT IS ASSUMED THAT POLISHED, HONED OR EXPOSED FINISHES WILL NOT BE USED TO CONCRETE SURFACES. REFER TO THIS OFFICE FOR FURTHER ADVICE IF USING ANY OF THE FINISHES STATED ABOVE.

STRUCTURAL STEEL

1. STEELWORK SHALL COMPLY WITH AS4100.
2. U.O.N. USE 2-M16 8.8/S BOLTS AND 10mm THICK PLATE FOR EACH CONNECTION.
3. ALL HOLLOW SECTIONS SHALL BE FULLY SEALED USING 3mm SEAL PLATES.
4. DRY PACK BENEATH ALL BASE PLATES USING 2:1 SAND/CEMENT STIFF MORTAR.
5. WELDING SHALL COMPLY WITH AS/NZS1554 AND SHALL HAVE A MINIMUM WELD CATEGORY OF GENERAL PURPOSE (GP). USE E48XX OR W50X WELDING CONSUMABLES U.N.O.
6. U.N.O USE 6mm CONTINUOUS FILLET WELD AT ALL WELDED JOINTS. FULL STRENGTH BUTT WELD (F.S.B.W) TO BE GP WELDED CATEGORY U.N.O.
7. ALL SITE WELDING TO BE PERFORMED BY QUALIFIED PERSONS.
8. TOUCH UP ALL SITE WELDS WITH 2 COATS OF 'COLD GALV' ZINC RICH PAINT.
9. ALL SURFACE TREATMENT OF STRUCTURAL STEEL SHALL COMPLY WITH AS/NZS2312 AND THE NATIONAL CONSTRUCTION CODE - "PROTECTIVE COATINGS". ALL STEEL BUILT INTO MASONRY SHALL ALSO COMPLY WITH AS/NZS2699.
10. ALL STEELWORK IN CONTACT WITH GROUND TO BE SUITABLY TREATED IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION CODE & CORROSION SPECIALISTS RECOMMENDATIONS. CONTACT THIS OFFICE FOR FURTHER ADVICE.
11. MINIMUM GRADE OF STEEL SHALL BE:
    - STRUCTURAL STEEL - GRADE 300 IN ACCORDANCE WITH AS/NZS3679
    - HOLLOW SECTIONS - CHS TO COMPLY WITH AS/NZS 1163-C250L0/C350L0
      RHS/SHS TO COMPLY WITH AS/NZS1163-C450L0
    - PLATE - GRADE 300 IN ACCORDANCE WITH AS/NZS3678
    - FLAT BAR - GRADE 250 IN ACCORDANCE WITH AS/NZS3679
12. PROVIDE MINIMUM 200 CFW (CONTINUOUS FILLET WELD), TO BOTH SIDES OF WEB OF TBAR AT BOTH ENDS.
13. UNLESS SPECIFIED OTHERWISE, LINTELS & SHELF LINTELS TO COMPLY WITH AS4100, AS3700, AS4773, AS/NZS2699.3 AND THE NATIONAL CONSTRUCTION CODE.
14. UNLESS NOTED OTHERWISE LINTELS BELOW SUSPENDED FLOORS SHALL BE SCHEDULED AS NOMINATED BELOW.

MEMBER	MAX SPAN (mm)	MIN. END BEARING (mm)
100 x 75 x 8.0 EA	1500	150
125 x 75 x 8.0 EA	2000	150
150 x 90 x 8.0 UA	2500	230
150 x 100 x 10 UA	3000	230

TIMBER

1. TIMBER SHALL BE IN ACCORDANCE WITH:
   - AS1684 & AS1720
   - NATIONAL CONSTRUCTION CODE
2. ALL STRUTTING BEAMS ARE TO BE LATERALLY RESTRAINED AT POINT OF LOADING AND AT ENDS TO AS1684.
3. U.N.O ALL LVL BEAMS ARE ASSUMED TO BE HYSPAN.
4. U.N.O ALL TIMBER TO CONFORM TO THE FOLLOWING HAZARD CLASS:
   - H1 - INSIDE ABOVE GROUND - FULLY PROTECTED, WELL VENTILATED.
   - H2 - INSIDE ABOVE GROUND - PROTECTED FROM WETTING AND LEACHING.
   - H3 - OUTSIDE ABOVE GROUND - MODERATE WETTING AND LEACHING.
   - H4 - OUTSIDE IN GROUND - SEVERE WETTING AND LEACHING.
5. MINIMUM STRESS GRADES ON TIMBER U.N.O:

TIMBER	GRADE	JOINT GRADE
SOFTWOOD	MGP10	JD5
HARDWOOD	F14	J3

6. THE BUILDER/OWNER IS RESPONSIBLE FOR ENSURING ALL EXTERNAL TIMBER IS REGULARLY INSPECTED AND APPROPRIATELY MAINTAINED OVER ITS LIFE BY SUITABLY QUALIFIED PERSONS.
7. TERMITE TREATMENT IN ACCORDANCE WITH AS3660.
8. UNLESS OTHERWISE NOTED PGI STRAP SHALL BE 30 x 0.8mm AND HAVE A MINIMUM OF 2/30 x 2.8mm NAILS AT EACH END AND A METAL FRAMING ANCHOR WITH 4/30 x 2.8mm NAILS TO EACH LEG/TAB.
9. TIMBER TO TIMBER ROOF BEAM CONNECTION TO BE MIN 5PL ANGLE CLEAT, 2-M10 BOLTS EACH BEAM OR APPROVED PROPRIETARY ANGLE.

REINFORCEMENT

1. SYMBOLS DENOTED IN DRAWINGS FOR GRADE AND STRENGTH OF REINFORCEMENT
   - SL & RL - GRADE 500 WELDED WIRE REINFORCING MESH TO AS/NZS4671.
   - L - GRADE 500 STEEL REINFORCING WIRE TO AS/NZS4671.
   - N - GRADE 500 HOT ROLLED DEFORMED REINFORCING BAR TO AS/NZS4671
   - R - GRADE 250 R PLAIN BAR TO AS/NZS4671.
   - W - GRADE 500 L COLD DRAWN ROUND WIRE TO AS/NZS4671.
2. SPLICE REINFORCEMENT IN ACCORDANCE WITH AS3600.
   - MESH SHALL BE LAPPED SO THAT THE TWO OUTERMOST MAIN WIRES OF ONE SHEET OVERLAP THE TWO MOST OUTERMOST MAIN WIRES OF THE OTHER SHEET.

   - THE SPLICE LENGTH OF BARS SHALL BE AS GIVEN IN THE FOLLOWING TABLE, EXCEPT WHERE OTHER DIMENSIONS ARE STATED ON THE ACTUAL DETAILS.
   - BASIC TENSILE LAP LENGTH FOR GRADE 500N DEFORMED BARS (mm).

f'c (Mpa)	EXP CLASS	BAR TYPE					
		N12	N16	N20	N24	N28	N32
≥ 32	≥ A1	500	750	1000	1250	1500	1750

3. PROVIDE STANDARD HOOKS OR COGS TO BAR ENDS IN ACCORDANCE WITH AS3600.
4. ALL REINFORCEMENT SHALL BE ADEQUATELY AND ACCURATELY TIED AND SUPPORTED ON PLASTIC, OR PLASTIC TIPPED CHAIRS. FULL PLASTIC CHAIRS ARE TO BE USED FOR EXTERNAL CONCRETE WHEN LOCATED WITHIN 1km OF THE COAST.
5. THE FIRST CONCRETE BEAM LIGATURE SHALL BE POSITIONED NO MORE THEN 50mm FROM ANY ADJACENT SUPPORT FACE.
6. THE FIRST CONCRETE COLUMN TIE SHALL BE PLACED NO MORE THAN 50mm FOR ANY ADJACENT SUPPORT FACE
7. ALL REINFORCEMENT TO SLAB ON GROUND SHALL BE SUPPORTED BY PLASTIC BAR CHAIRS AT 600 CRS MAX. TO MAINTAIN TOP COVER.
8. STEEL NOTATION
   - UT - UPPER TOP
   - UB - UPPER BOTTOM
   - LT - LOWER TOP
   - LB - LOWER BOTTOM
9. REINFORCING SHALL NOT BE BENT OR HEATED ON SITE WITHOUT APPROVAL FROM THE DESIGN ENGINEER. INCLUDED LUGS TO CAST IN ELEMENTS.
10. U.N.O CLEAR COVER TO REINFORCEMENT SHALL BE:

ELEMENT	REQUIRED COVER (mm)	
	INTERNAL	EXTERNAL
FOOTINGS	65	65
GROUND SLAB (TOP COVER)	25	40
SUSPENDED SLAB	REFER TO SUSPENDED SLAB PLAN FOR COVER REQUIREMENTS	
CONCRETE BEAM	REFER TO SUSPENDED SLAB PLAN FOR COVER REQUIREMENTS	
COLUMN (CONCRETE & FRC)	40 TO FITMENTS	
FULL PLASTIC CHAIRS ARE TO BE USED FOR EXTERNAL CONCRETE WHEN LOCATED WITHIN 1km OF THE COAST.		

   - U.N.O REQUIRED COVER INCLUDES TOP, BOTTOM AND SIDE COVER.

ANCHORS

1. ALL MECHANICAL AND CHEMICAL ACNHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. THE FOLLOWING TABLE PROVIDES MINIMUM ANCHOR CAPACITY REQUIREMENTS FOR UNCRACKED SUBSTRATES

MINIMUM WORKING LOAD ANCHOR CAPACITY		
BRICKWORK SUBSTRATE	SHEAR (kN)	TENSION (kN)
MEDIUM DUTY	2.5	2.5
CONCRETE SUBSTRATE	SHEAR (kN)	TENSION (kN)
MEDIUM DUTY	9	7
HEAVY DUTY	18	17

DESIGN CRITERIA

SITE CLASSIFICATION — M

IN ACCORDANCE WITH AS2870. REFER TO SITE REPORT 18-1429 PREPARED BY THIS OFFICE.
ASSUMED ALLOWABLE BEARING PRESSURE: 150kPa

WIND CLASSIFICATION — N2

IN ACCORDANCE WITH AS4055

WIND REGION	A1
TERRAIN CATEGORY	3
SHIELDING	PS
TOPOGRAPHY	TO

DURABILITY CLASSIFICATION — R1

FOR COMPONENTS BUILT INTO MASONRY IN ACCORDANCE WITH AS3700 AND AS2699

ENVIRONMENTAL CLASSIFICATION — MODERATE

FOR PROTECTION OF STEELWORK IN ACCORDANCE WITH SECTION 3.4.4.4 OF THE NATIONAL CONSTRUCTION CODE. FOR STRUCTURES OTHER THAN CLASS 1 AND 10 REFER TO AS2312.

IMPOSED ACTIONS

IN ACCORDANCE WITH AS1170.1

GENERAL AREAS	3.0Pa
BALCONIES	2.0kPa
ROOF (NON TRAFFICABLE)	0.25kPa

EARTHQUAKE DESIGN CATEGORY — N/A

IN ACCORDANCE WITH AS1170.4

HAZARD FACTOR	Z = 0.09
STRUCTURE	COMMERCIAL BUILDING < 8.5m HEIGHT

FRAMING TO COMPLY WITH NASH HANDBOOK
- RESIDENTIAL & LOW RISE STEEL FRAMING (2009)

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STRUCTURAL NOTES
1:1

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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
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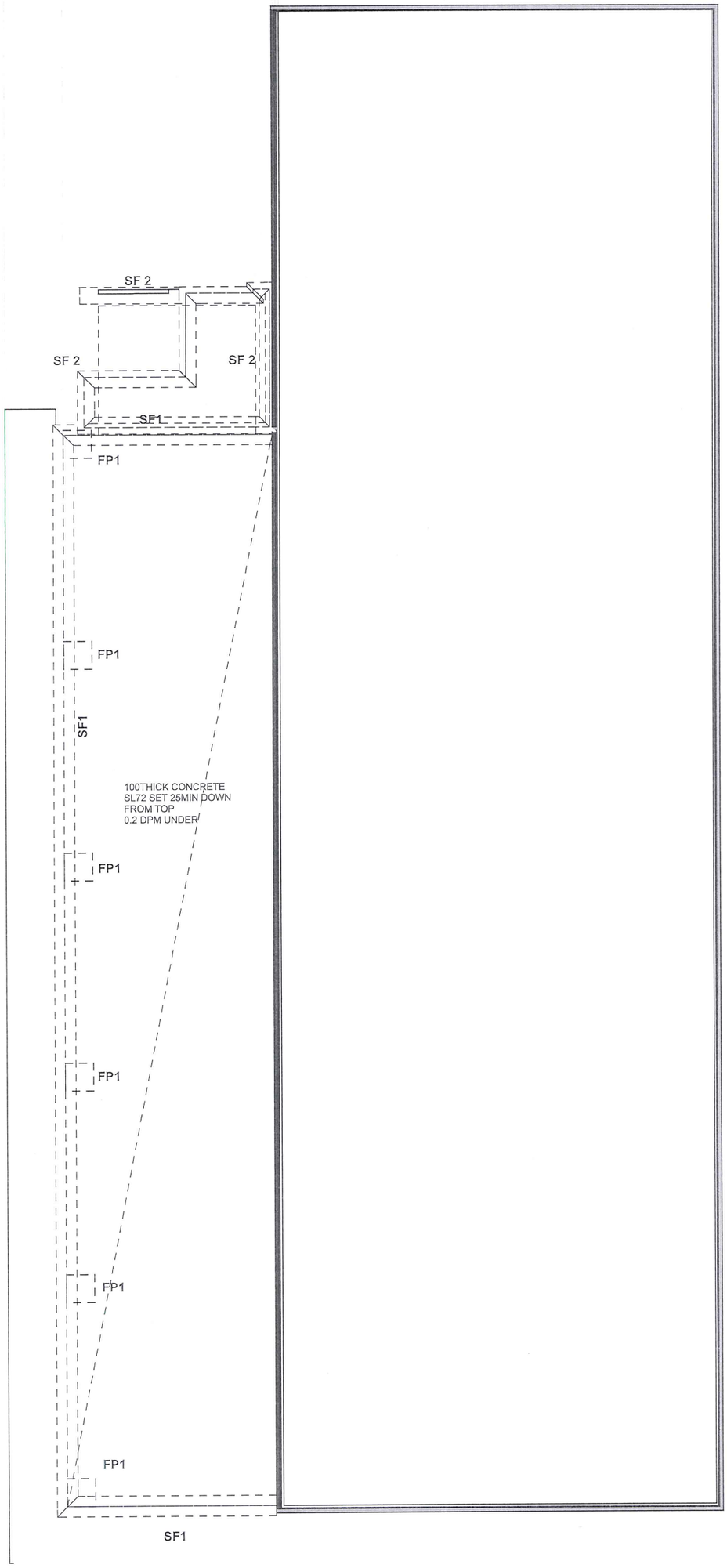
Drawing Title: STRUCTURAL NOTES
Scale: 1:1
Date: JULY 2022
Status: WORKING DRAWINGS
JOB NO: 2321
Drawing No: 14 of 17



CONCRETE LAYOUT
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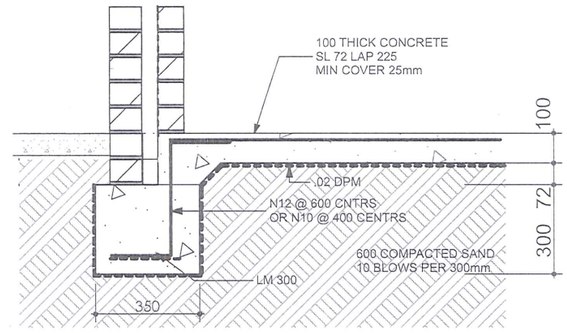

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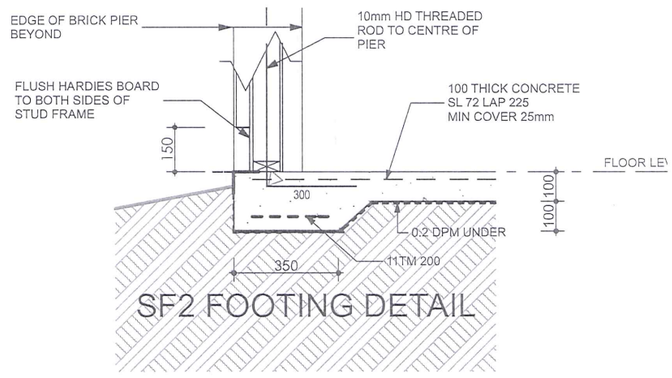

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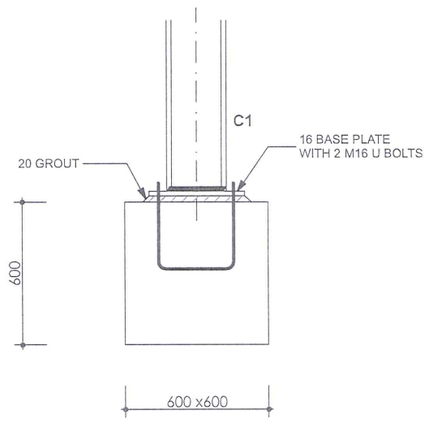

FP1
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22.10.22

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REV	DETAILS	DWN	DATE	CHK
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Drawing Title:
CONCRETE LAYOUT

Scale: 1:100, 1:20, 1:25 | Date: JULY 2022

Status: WORKING DRAWINGS

JOB NO: 2321

Drawing No: 15 of 17

Last accessed: judit on 20/10/2022

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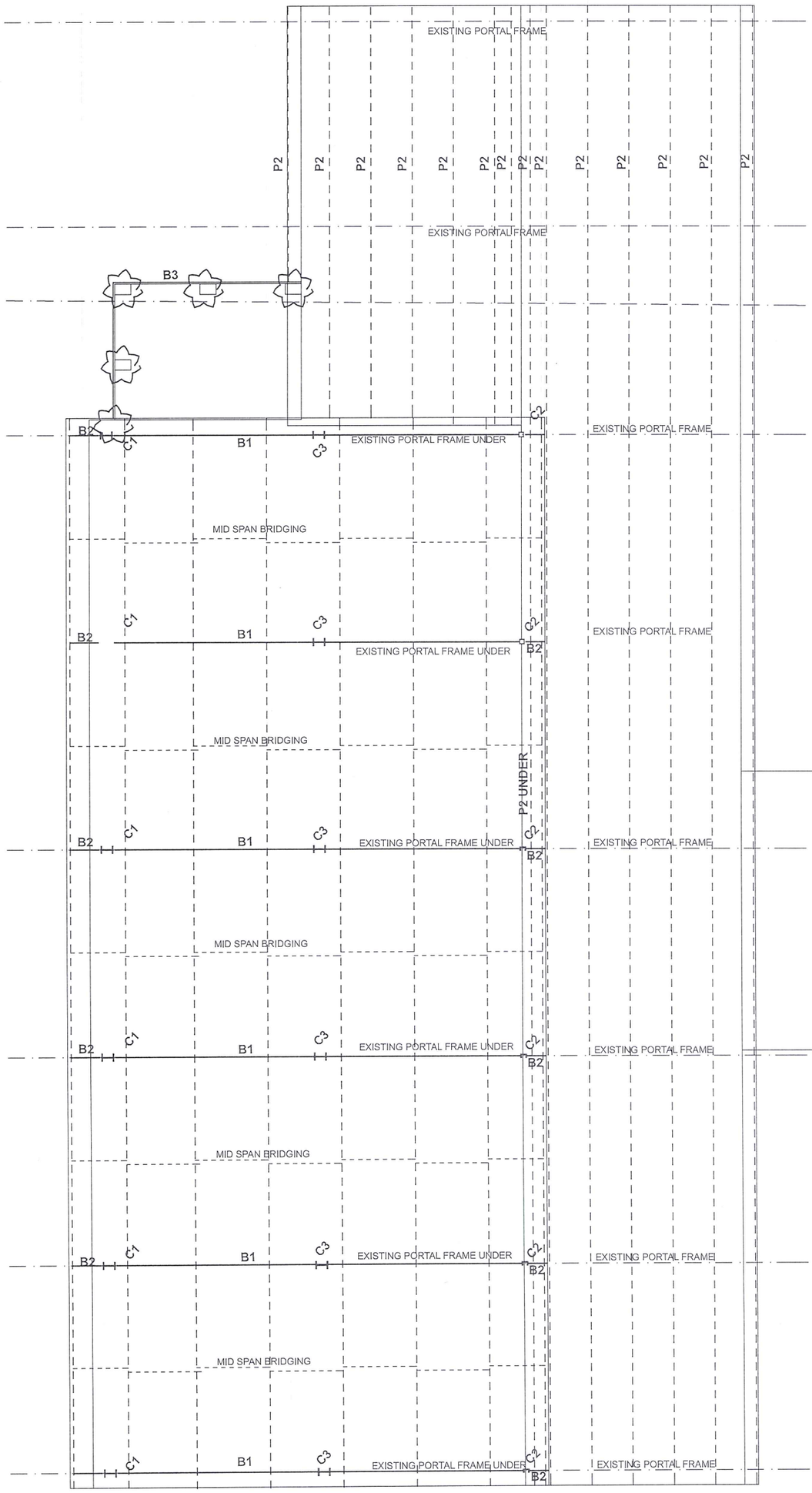

B1 250 UB31

B2 90x90x8 ANGLE

B3 200x75 PFC

C1 250UB 31

C2 100x100x3 SHS

C3 250 UB31

PURLINS Z150.15 AT CENTRES TO SUIT TRIMDEK WITH MID SPAN BRACING

HD 10DIAM THREADED ROD TO CENTRE OF EACH PIER

P2 PURLINS 125x75 FIXED TO EXISTING PFC WITH 2 M10 BOLTS

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22 10 22

ROOF LAYOUT
1:100

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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title: ROOF LAYOUT

Scale: 1:100 Date: JULY 2022

Status: WORKING DRAWINGS

JOB NO: 2321

Drawing No: 16 of 17

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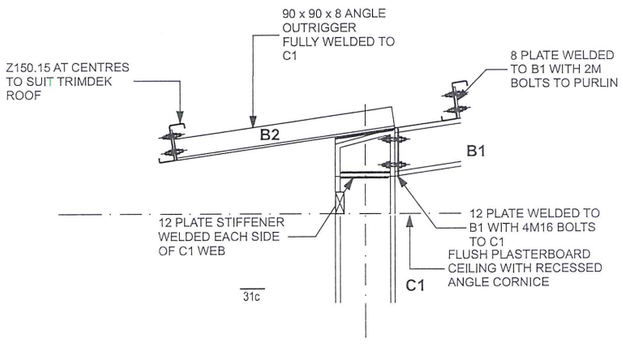

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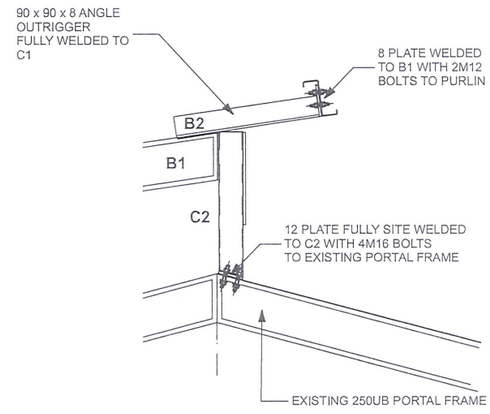

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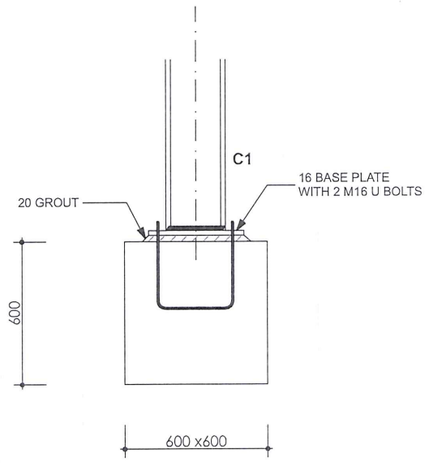

PORTAL PAD FOOTING
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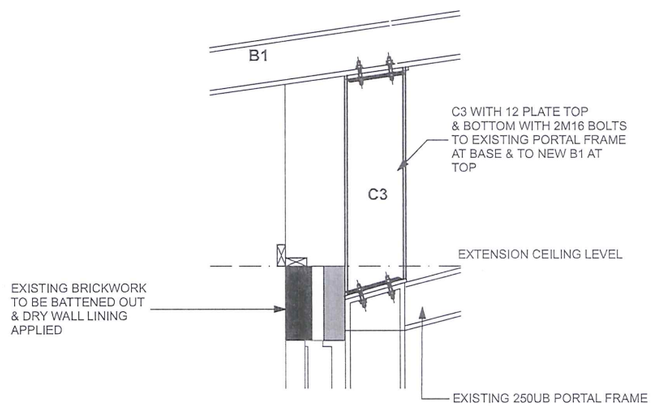
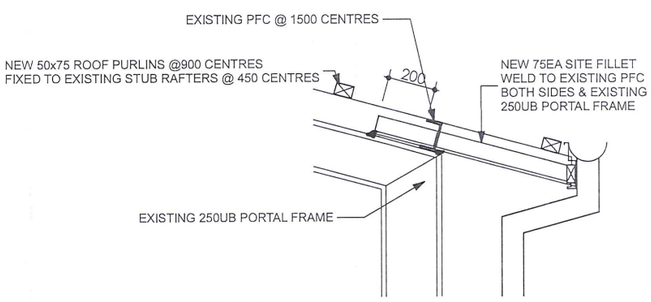


STUB CONNECTION DETAIL
1:25



N13 DETAIL
1:25

Dan Turner (BE Civil) RPEQ 05707
MIEAust ID 8159788 NER
Civil, Structural & Project Management
ABN 37 730 733 802
97 Felspar St. Narrogin WA 6312
Ph: (08) 9881 5007 Mob: 0409 867 048
Email: dant34175@bigpond.com

22 10 22

JUDITH McDOUGALL DESIGNS
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BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA INC.
TEL 0447 550 275
ABN 79 425 984 191
Email: judithmcdougall@gmail.com
Design Matters National
The peak body for the building design profession
Member

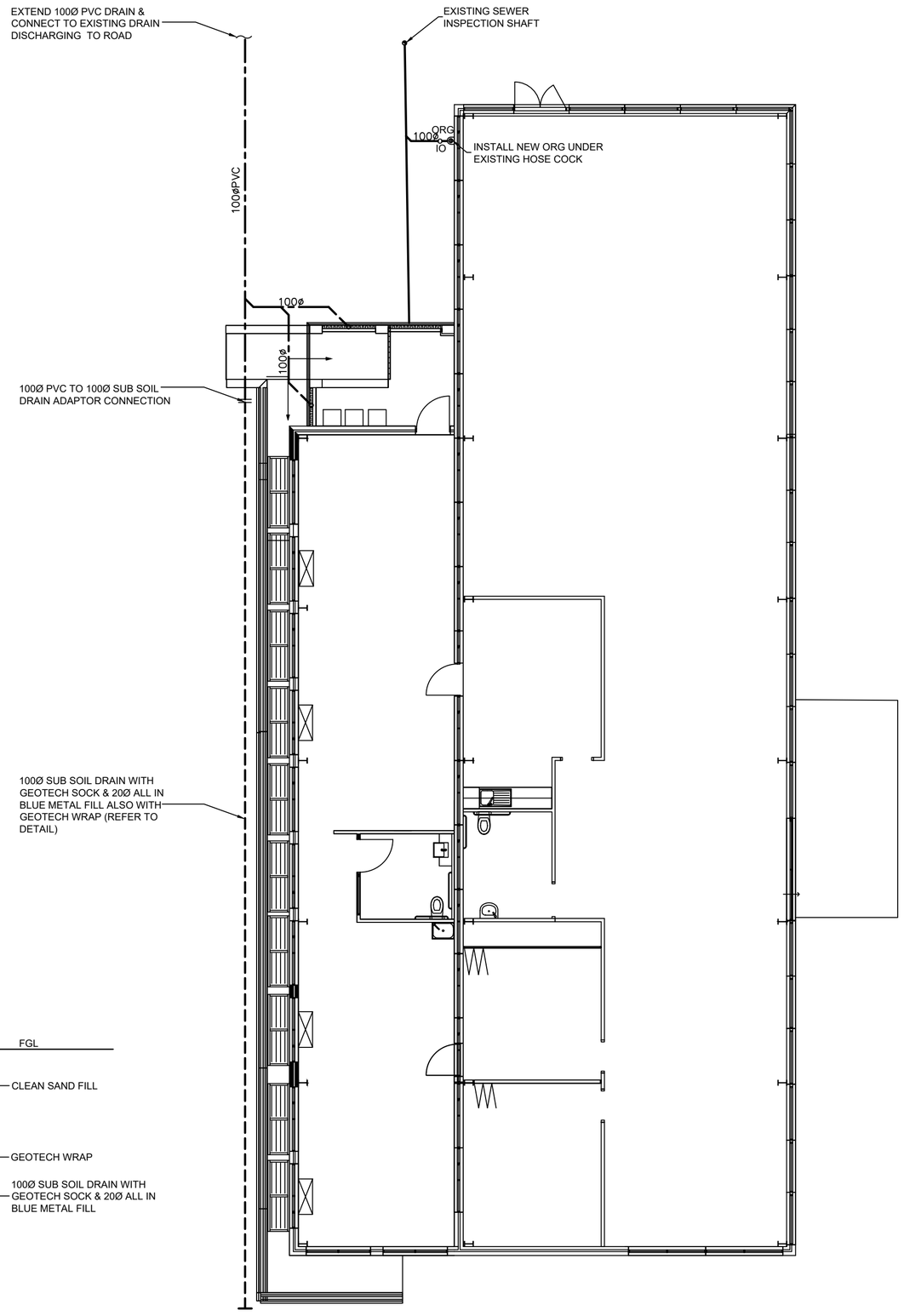
CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY
ADDRESS:
LOT 46 #49
FORTUNE STREET
NARROGIN 6312

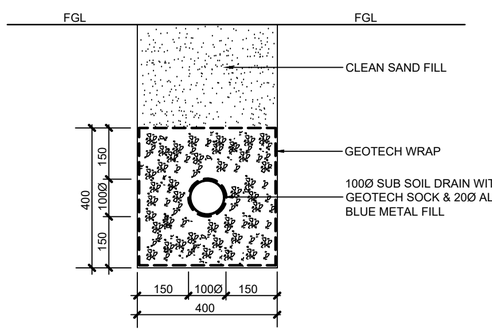
COUNCIL: NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title: STRUCTURAL DETAILS
Scale: 1:25 Date: JULY 2022
Status: WORKING DRAWINGS
JOB NO: 2321
Drawing No: 17 of 17

C:\Users\judit\OneDrive\Documents\DRAWINGS\NARROGIN LIBRARY\22.09.08 NARROGIN LIBRARY SITE PLAN.pln





SUB SOIL DRAIN
NTS

ISSUED FOR TENDER & CDC

DATE	REV	ITEM	APR
11.10.22	B	BASE PLAN UPDATED, SERVICES ADJUSTED	PC
05.08.22	A	ISSUED FOR TENDER & CDC	PC

CARRINGTON ASSOCIATES
HYDRAULIC SERVICES CONSULTANTS

300 ALBANY HIGHWAY VICTORIA PARK WA 6151 PH: 6142 2184
P.O. BOX 605 VICTORIA PARK WA 6979 MOB: 0417966953
Email: carrass@iinet.net.au

AHSCA
THE ASSOCIATION OF HYDRAULIC SERVICES CONSULTANTS AUSTRALIA INCORPORATED

PROJECT
NARROGIN LIBRARY EXTENSION
Lot 46 (#49) Fortune Street, Narrogin WA 6312

DRAWING TITLE
Floor Plan - Sanitary Drainage Arrangement

DRAWN	DATE	CHECKED	PROJECT No	DATE OF ISSUE	DRG No	ISSUE No
PDC/MC	JULY 2022	PDC	035-21	14.07.2022	H1.01	B

SCALES 1:200@A1

EXTEND 100Ø PVC DRAIN &
CONNECT TO EXISTING DRAIN
DISCHARGING TO ROAD

100ØPVC

100Ø

100Ø

100Ø PVC TO 100Ø SUB SOIL
DRAIN ADAPTOR CONNECTION

100Ø SUB SOIL DRAIN WITH
GEOTECH SOCK & 20Ø ALL IN
BLUE METAL FILL ALSO WITH
GEOTECH WRAP (REFER TO
DETAIL)

EXISTING SEWER
INSPECTION
SHAFT

ORG
100Ø
IO

INSTALL NEW ORG UNDER
EXISTING HOSE COCK

EXISTING LIBRARY

100Ø PVC : 60

EXISTING SEWER TO BE
REMOVED & REPLACED WITH
NEW 100Ø PVC DRAIN LINE

RECEIVAL AREA

50ØWASTE IN WALL
FROM HWU SAFE TRAY

TEA PREP

KS

65Ø

100Ø

SHR

AWC

VB 40ØTRAP
40ØWP

FWG 80Ø×65Ø
65ØWP

50Ø

40Ø

65Ø

FWG

AWC

STAFF WC

COP

HB

65ØVENT RISER
IN STUD WALL

WT 50ØTRAP
50ØWP
100ØU/SLAB

WORK ROOM

N

W

E

S

ISSUED FOR TENDER & CDC

DATE	REV	ITEM	APR
11.10.22	B	BASE PLAN UPDATED, SERVICES ADJUSTED	PC
05.08.22	A	ISSUED FOR TENDER & CDC	PC

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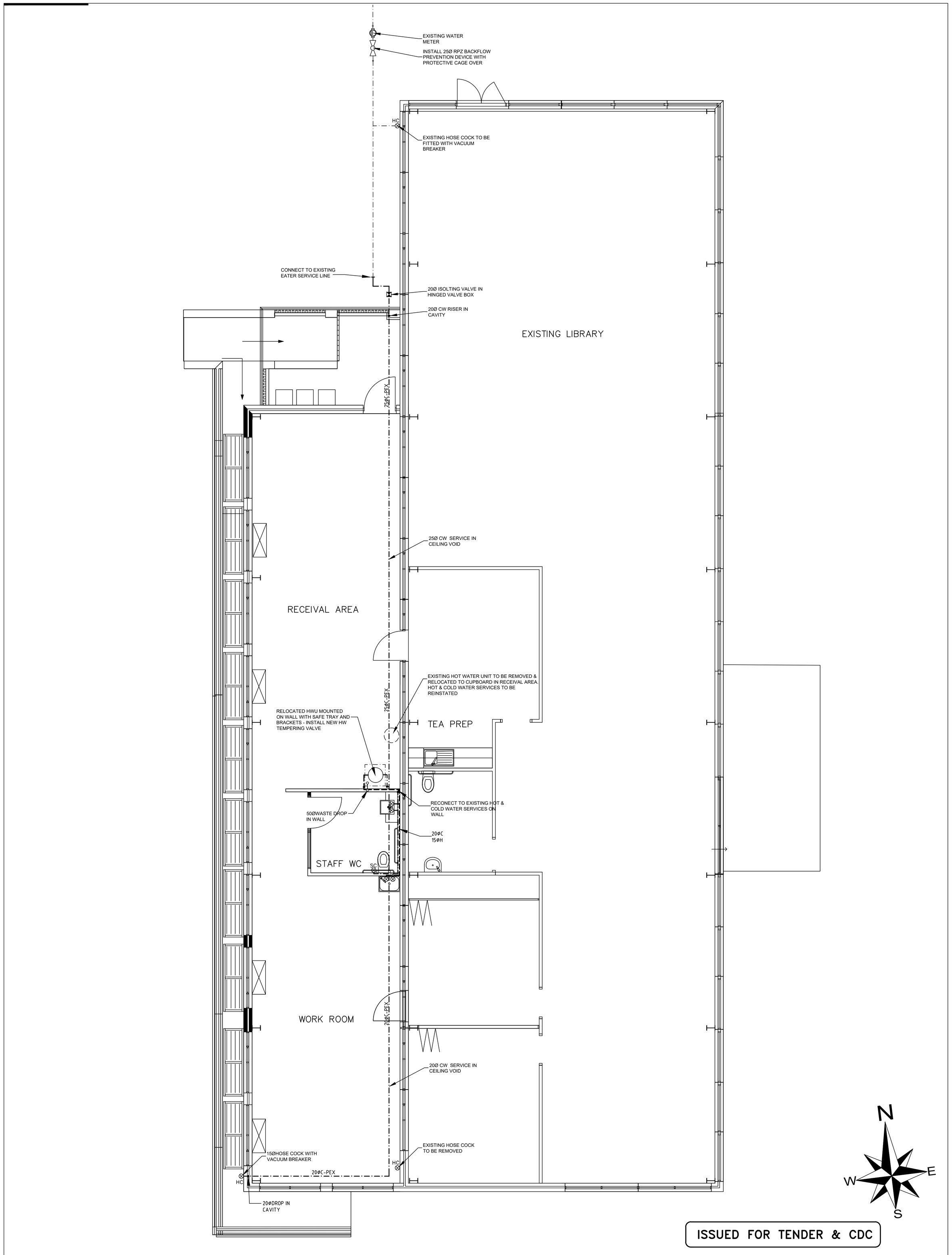
PROJECT
NARROGIN LIBRARY EXTENSION
Lot 46 (#49) Fortune Street, Narrogin WA 6312

DRAWING TITLE
Floor Plan - Sanitary Drainage Arrangement

DRAWN	DATE	CHECKED	PROJECT No	DATE OF ISSUE	DRG No	ISSUE No
PDC/MC	JULY 2022	PDC	035–21	14.07.2022	H2.01	B

SCALES 1:100@A1



ISSUED FOR TENDER & CDC

DATE	REV	ITEM	APR
11.10.22	B	BASE PLAN UPDATED, SERVICES ADJUSTED	PC
05.08.22	A	ISSUED FOR TENDER & CDC	PC

CARRINGTON ASSOCIATES
HYDRAULIC SERVICES CONSULTANTS

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Email: carrass@iinet.net.au

AHSCA
THE ASSOCIATION OF HYDRAULIC SERVICES CONSULTANTS AUSTRALIA INCORPORATED

PROJECT
NARROGIN LIBRARY EXTENSION
Lot 46 (#49) Fortune Street, Narrogin WA 6312

DRAWING TITLE
Floor Plan - Water Services Arrangement

DRAWN	DATE	CHECKED	PROJECT No	DATE OF ISSUE	DRG No	ISSUE No
PDC/MC	JULY 2022	PDC	035-21	14.07.2022	H2.02	B

SCALES 1:100@A1

SAGE CONSULTING ENGINEERS Pty Ltd

Unit 1/17 Foley Street
BALCATTA WA 6021
Tel 08 9388 9745
Email msage@iinet.net.au
ACN 644 065 529
ABN 67 644 065 529

S:\3001 Narrogin Library\3001 CDC AS and NCC J6.doc

7-11-2022

JUDITH McDOUGALL DESIGNS

Attention: Judith McDougall
Narrogin Library: ELECTRICAL ENGINEERING

We refer to the following design drawings:
2321 13

Based on this design document we advise as follows:

The lighting power densities comply with the BCA 2019 Part J6.2 and the control complies with Part J6.3. Lighting design as per lux level Recommendations in Interior and Workplace Lighting Part 2.3 for libraries.

We certify that the electrical services for this project have been designed to comply with the following standards:

- The National Construction Code 2019
- AS/NZS 2293 Emergency escape lighting and exit signs for buildings
- AS/NZS 1680 Interior and workplace lighting

Regards
Iraj Ahmadyar – AMIEAust - 4318489

Part J Energy Efficiency Report

Site Details

Prepared for:	Shire of Narrogin
Address:	Lot 46, 49 Fortune Street, Narrogin
Local Government Area:	Shire of Narrogin
Description of Building Works:	Class 9B Extension

Report Details

Modus Ref:	C22-0730
Report Revision:	1
Report Date:	26/07/2022

Assessment Details

Climate Zone:	4
BCA Edition:	2019 Amdt 1

The assessment is for the building fabric only and does not include the services covered by Part J5 Air Conditioning and Ventilation Systems & Part J6 Artificial Lighting and Power of BCA Volume One

Certification required from the mechanical and electrical consultants for Part J5 & Part J6

Unit 13
127 Herdsman Parade
Wembley
WA 6014
PO Box 222
Como WA 6952
t 08 9444 5922
w www.modcom.net.au
e info@modcom.net.au

Certified By

Matthew Sobelik
Building Surveyor

Modus Compliance Pty Ltd
ABN 86 144 967 920
ACN 144 967 920

Class 9B Energy Specification

BCA 2019 Amdt 1 Volume One Part J - Class 9B Building, complying with

J1.2	Thermal Construction - General
J3.3	Roof Lights
J3.4(a)	Windows and Doors
J3.4(d)(i)	Windows and Doors - Entrance of a building opens into a conditioned space > 50m2
J3.5	Exhaust Fans
J3.6	Construction of Roofs, Walls and Floors
J5	Air-Conditioning and Ventilation Systems
J6	Artificial Lighting and Power
J7.2	Heated Water Supply
C1.9	External/common wall insulation in type A/B construction must be non-combustible

Roof	*Added Insulation*	*System Value*	*Detail*
Metal sheeting	None	n/a	Light roof colour SAF < 0.45, new works only

Ceiling	*Added Insulation*	*System Value*	*Detail*
Plasterboard	R3.5	n/a	New works only

Skylights	*Glass*	*U-Value*	*SHGC*	*Detail*
n/a				

External Wall	*Added Insulation*	*System Value*	*Detail*
Cavity brick	R1.1	R1.4 (required)	New works only

External Floor	*Added Insulation*	*System Value*	*Detail*
Concrete slab on ground	None	R2.0	Throughout

Window System	*Glass*	*U-Value*	*SHGC*	*Detail*

Generic aluminium	Single clear	7.40	0.77	New works only

DTS Energy Efficiency Verification

Climatic Zone 4

BCA 2019 Amdt 1 Volume One Part J - Class 3-9 Buildings, complying with

J0	Energy efficiency
J1	Building fabric
J3	Building sealing
J5	Air-conditioning and ventilation systems
J6	Artificial lighting and power
J7	Heater water supply and swimming pool and spa pool plant
J8	Facilities for energy monitoring

Part J0 Energy Efficiency

J0.4 Roof thermal breaks

This building has a metal roof fixed to metal purlins, rafters or battens and either does not have a ceiling lining or a ceiling lining attached to the same metal purlins, rafters or battens and will have a thermal break of not less than R0.2 installed	n/a

J0.5 Wall thermal breaks

This building has lightweight external cladding such as weatherboards, FC sheeting or metal sheeting fixed to a metal frame that does not have a wall lining or has a wall lining attached to the same metal frame and will require a R0.2 thermal break	n/a

Part J1 Building Fabric

J1.2 Thermal construction - general

All insulation that is part of the envelope will be installed in accordance with clause J1.2, the manufacturer's specifications and AS/NZS 4859.1	✓

J1.3 Roof and ceiling construction

(a)	A roof or ceiling must achieve a total R-Value greater than or equal to -	**R3.7**	✓
(b)	The solar absoprtance of the upper surface of a roof must be not more than 0.45		✓

J1.4 Roof lights

(a)	A total area of not more than 5% of the floor area of the room or space served; and	n/a
(b)	Transparent and translucent elements, including any impeforate ceiling diffuser, with a combined performance of - (i) For total system SHGC, in accordance with table J1.4; and (ii) For total system U-Value, not more than U3.9	n/a

J1.5 Walls and glazing

(a)	The total system U-Value of wall-glazing construction must not be greater than -			
	(i)	For a class 2 common area, 5, 6, 7, 8, 9b building or class 9a buildng other than ward area	**U2.0**	✓
	(ii)	For a class 3 or 9c building or a class 9a ward area	**U1.1**	n/a

(b)	The total system U-Value of display glazing must not be greater than	**U5.8**	n/a
(c)	The total system U-Value of wall-glazing construction must be calculated in accordance with specification J1.5a *Refer to attached section J1.5 worksheet*		✓
(d)	Wall components of a wall-glazing construction must achieve a minimum total R-Value of -		
	(i) Where the wall is less than 80% of the area of the wall-glazing construction	**R1.0**	✓
	(ii) Where the wall is 80% or more of the area of the wall-glazing construction, the value specified in table J1.5a		
	For a class 2 common area, 5, 6, 7, 8, 9b building or class 9a buildng other than ward area	**R1.4**	✓
	For a class 3 or 9c building or a class 9a ward area	**R2.8**	n/a
	Refer to attached section J1.5 worksheet		
(e)	The solar admittance of externally facing wall-glazing construction must not be greater than -		
	(i) For a class 2 common area, a class 5, 6, 7 ,8 or 9b building or a class 9a building other than a ward area, the values specified in table J1.5b; and		✓
	(ii) For a class 3 or 9c building or a class 9a ward area, the values specified in table J1.5c		n/a
	Refer to attached section J1.5 worksheet		
(f)	The solar admittance of a wall-glazing construction must be calculated in accordance with specification J1.5a *Refer to attached section J1.5 worksheet*		✓
(g)	The total system SHGC of display glazing must not be greater than 0.81 divided by the applicable shading factor specified in clause 7 or specification J1.5a *Refer to attached section J1.5 worksheet*		n/a

J1.6 Floors

(a)	A floor must achieve the total R-Value specified in table J1.6		
	A floor without an in-slab heating or cooling system	**R2.0**	✓
	A floor with an in-slab heating or cooling system	**R3.25**	n/a
(b)	A floor must be insulated around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0 when the floor -		
	(i) Is a concrete slab-on-ground in climate zone 8; or		n/a
	(ii) Has an in-slab or in-screed heating or cooling system, except where used solely in a bathroom, amenity area or the like		

(c)	Insulation required by (b) for a concrete slab-on-ground must - (i) Be water resistant; and (ii) Be continuous from the adjacent finished ground level - (A) To a depth not less than 300mm; or (B) For the full depth of the vertical edge of the concrete slab-on-ground	n/a

Part J3 Building Sealing

J3.2 Chimneys and flues

The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue	n/a

J3.3 Roof lights

(a)	A roof light when serving a conditioned space or habitable room in climate zones 4, 5, 6, 7 or 8 must be sealed or capable of being sealed	✓

J3.4 Windows and doors

(a)		A door, openable window or the like in the envelope of a conditioned space in climate zones 4, 5, 6, 7 or 8 must have a seal to restrict air infiltration to each edge	✓
(d)	(i)	An entrance to the building opens into a conditioned space more than 50m^2 and will be provided with an airlock, self-closing door or the like in accordance with J3.4(d)(i)	✓
	(ii)	This building is classified as a class 6 and has an open shop front. A 3m unconditioned zone will be incorporated and all other entrances will be fitted with self-closing doors in accordance with J3.4(d)(ii)	n/a
(e)		A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like	n/a

J3.5 Exhaust fans

(a)	An exhaust fan, when serving a conditioned space or a habitable room in climate zones 4, 5, 6, 7 or 8 must be fitted with a sealing device such as a self-closing damper or the like	✓

J3.6 Construction of roofs, walls and floors

(a)	Ceilings, walls, floors and any opening such as a window, door or roof light frame or the like when forming the envelope or in climate zones 4, 5, 6, 7 and 8 must be constructed to minimise air leakage	✓

J3.7 Evaporative coolers

An evaporative cooler when serving a heated space or in climate zones 4, 5, 6, 7 and 8 must be fitted with a self-closing damper or the like	n/a

Part J5 Air-Conditioning and Ventilation Systems

All air-conditioning and ventilation systems and components will be designed in accordance with the DTS requirements of part J5 and a declaration check sheet or report will be submitted by the mechanical services designer verifying compliance	✓
This building will not be air-conditioned, therefore, does not require compliance with part J5	n/a

Part J6 Artificial Lighting and Power

Artificial lighting and power will be designed in accordance with the DTS requirements of part J6 and a compliance check sheet or report will be submitted by the electrical services designer verifying compliance	✓

Part J7 Heated Water Supply and Swimming Pool and Spa Pool Plant

J7.2 Heated water supply

The hot water supply system will be designed & installed in accordance with part B2 of NCC Volume Three. Specifications of the system will be submitted prior to installation	✓

J7.3 Swimming pool heating and pumping

The swimming pool heating and pumping to comply with part J7.3	n/a

J7.4 Spa pool heating and pumping

The spa pool heating and pumping to comply with part J7.4	n/a

Part J8 Facilities for Energy Monitoring

J8.3 Facilities for energy monitoring

(a)	The building has a floor area of more than 500m^2 and will comply with part J8.3(a)	n/a
(b)	The building has a floor area of more than 2,500m^2 and will comply with part J8.3(b) – not applicable to a class 2 building with total common areas less than 500m^2	n/a

Part J1 Building Fabric

J1.2 Thermal construction - general

(a) Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it -
  (i) Abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and
  (ii) Forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
  (iii) Does not affect the safe or effective operation of a service or fitting

(b) Where required, reflective insulation must be installed with -
  (i) The neccesary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
  (ii) The reflective insulation closely fitted against any penetration, door or window opening; and
  (iii) The reflective insulation adequately supported by framing members; and
  (iv) Each adjoining sheet of roll membrane being -
    (A) Overlapped not less than 50mm; or
    (B) Taped together

(c) Where required, bulk insulation must be installed so that -
  (i) It maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and
  (ii) In a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm

(d) Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2

(e) The required Total R-Value and Total System R-Value, including allowance for thermal bridging, must be -
  (i) Calculated in accordance with AS/NZS 4859.2 for a roof or floor; or
  (ii) Determined in accordance with Specification J1.5a for wall-glazing construction; or
  (iii) Determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces

Part J3 Building Sealing

J3.3 Roof lights

(a) A roof light must be sealed or capable of being sealed, when serving -
  (i) A conditioned space; or
  (ii) A habitable room in climate zones 4, 5, 6, 7 or 8

(b) A roof light required by (a) to be sealed, or capable of being sealed, must be constructed with -
  (i) An imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or
  (ii) A weatherproof seal; or
  (iii) A shutter system readily operated either manually, mechnically or electronically by the occupant

J3.4 Windows and doors

(a) A door, openable window or the like must be sealed -
  (i) When forming part of the envelope; or
  (ii) In climate zones 4, 5, 6, 7 or 8

(b) The requirements of (a) do not apply to -
  (i) A window complying with AS 2047; or
  (ii) A fire door or smoke door; or
  (iii) A roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours securiy

(c) A seal to restrict air infiltration -
  (i) For the bottom edge of a door, must be a draft protection device; and
  (ii) For the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like

(d) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than -
  (i) Where the conditioned space has a floor area of not more than $50m^2$; or

J3.5 Exhaust fans

(a) An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving -
  (i) A conditioned space; or
  (ii) A habitable room in climate zones 4, 5, 6, 7 or 8

J3.6 Construction of ceilings, walls and floors

(a) Ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of -
  (i) The envelope; or
  (ii) In climate zones 4, 5, 6, 7 or 8

(b) Construction required by (a) must be -
  (i) Enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
  (ii) Sealed at junctions and penetrations with -
    (A) Close fitting architrave, skirting or cornice; or
    (B) Expanding foam, rubber compression strip, caulking or the like

(c) The requirements of (a) do not apply to openings, grilles or the like required for smoke hazard management

Part J7 Heater Water Supply and Swimming Pool and Spa Pool Plant

J7.2 Heater water supply

A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three - Plumbing Code of Australia

J1.5 Walls and Glazing Worksheet

Space Library extension
Storey Ground

Climatic Zone 4
Application Class 9B

Wall Systems

Reference	Type	Configuration	Northern Aspect Façade Area (m^2)	Northern Aspect System R-Value	Eastern Aspect Façade Area (m^2)	Eastern Aspect System R-Value	Southern Aspect Façade Area (m^2)	Southern Aspect System R-Value	Western Aspect Façade Area (m^2)	Western Aspect System R-Value
Cavity brick	Wall	n/a	13.9	R1.4			13.9	R1.4	70.0	R1.4

METHOD 2

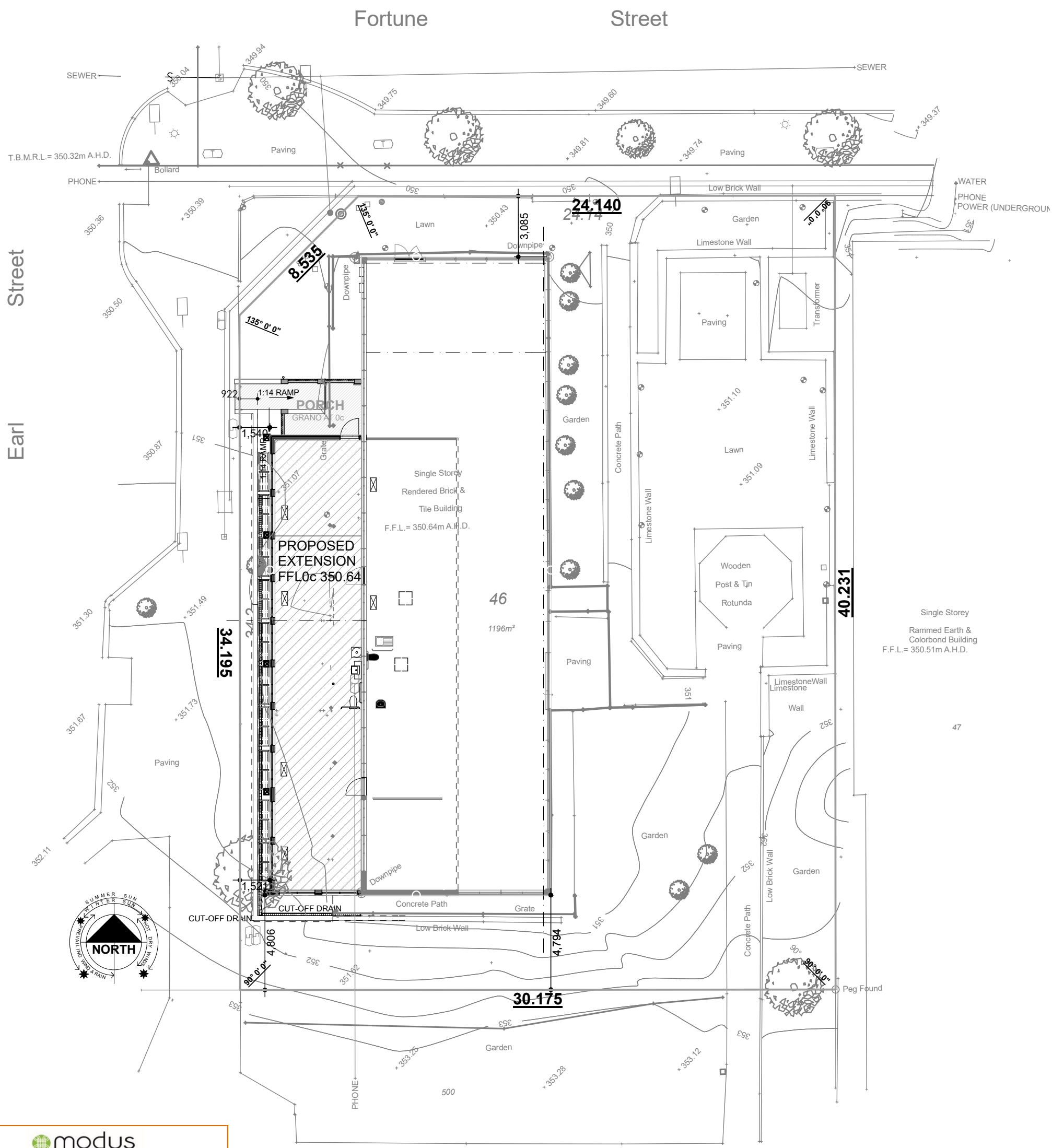
✓

Wall-Glazing U-Value (W/m^2K)	AC Energy Value
Proposed Design	Proposed Design
1.64	0.00
DTS Reference	DTS Reference
2.00	0.00

Number of Rows **13**

Library extension - Ground

	Description	Façade	Wall System	Height (m)	Width (m)	Area (m^2)	U-Value	SHGC	P (m)	H (m)
1	Receival area	**N**	Cavity brick	2.40	1.00		7.40	0.77		
2	Receival area	**W**	Cavity brick	0.51	1.81		7.40	0.77		
3	Receival area	**W**	Cavity brick	0.51	1.81		7.40	0.77		
4	Receival area	**W**	Cavity brick	0.51	1.81		7.40	0.77		
5	Receival area	**W**	Cavity brick	0.51	1.81		7.40	0.77		
6	Receival area	**W**	Cavity brick	0.51	1.81		7.40	0.77		
7	Passage	**W**	Cavity brick	0.51	1.81		7.40	0.77		
8	Work room	**W**	Cavity brick	0.51	1.81		7.40	0.77		
9	Work room	**W**	Cavity brick	0.51	1.81		7.40	0.77		
10	Work room	**W**	Cavity brick	0.51	1.81		7.40	0.77		
11	Work room	**W**	Cavity brick	0.51	1.81		7.40	0.77		
12	Work room	**S**	Cavity brick	0.51	1.81		7.40	0.77		
13	Work room	**S**	Cavity brick	0.51	1.81		7.40	0.77		



Building Surveying Contractor - BSC7

C22-0730 26/07/2022

Energy assessor - Matthew Sobelik
This plan has been assessed and approved in conjunction with the energy assessment

SITE PLAN 1:200 at A3

0 5 10 15

JUDITH McDOUGALL DESIGNS
Accredited Member ACCRED 15013
BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA INC.
TEL 0447 550 275
ABN 79 425 984 191
Email: judithmcdougall@gmail.com

CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY

ADDRESS:
LOT 46 #49 FORTUNE STREET NARROGIN 6312

THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS AND VERIFY ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWINGS. DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE ARCHITECT FOR CONSTRUCTION

	AREA	PERIM.
PROPOSED	108.11	139.89 m
EXISTING	310.82	
PORCH	11.51	
TOTAL AREA	**430.44 m²**	
G.FL ROOF AREA	243.54 m²	
UP.FL ROOF AREA		

COUNCIL: NARROGIN

REV	DETAILS	DWN	DATE	CHK
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Drawing Title: SITE PLAN
Scale: 1:200, 1:100
Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No: **02 of 14**

Last accessed: judit on 25/07/2022

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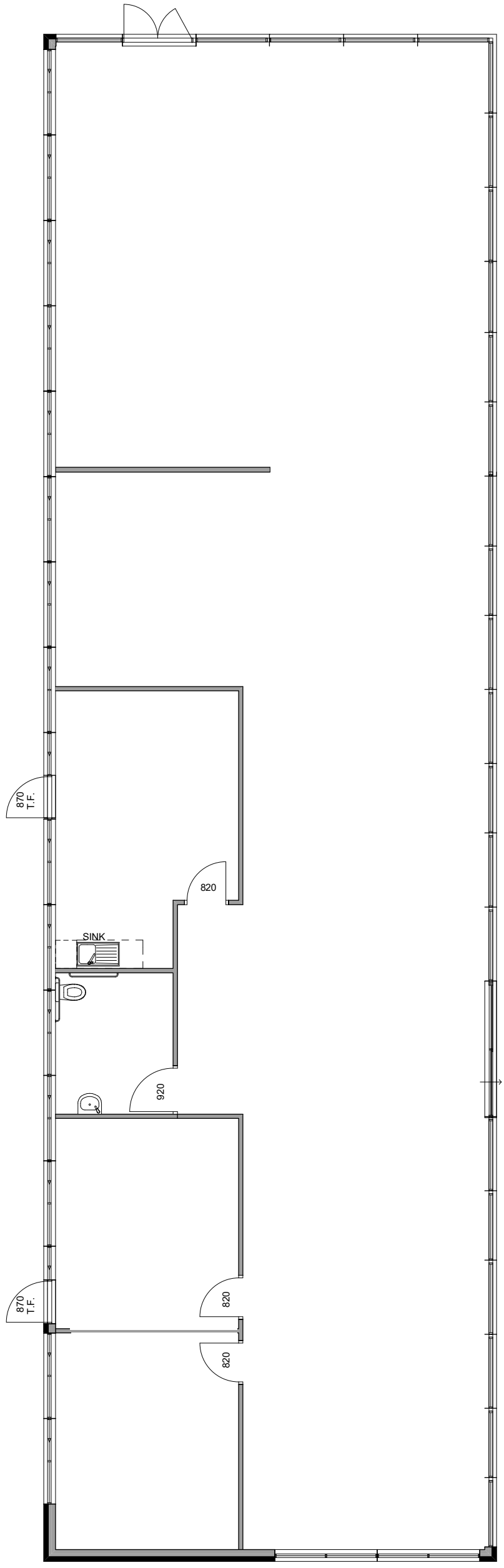

Building Surveying Contractor - BSC7

C22-0730 26/07/2022

Energy assessor - Matthew Sobelik
This plan has been assessed and approved in conjunction with the energy assessment

EXISTING FLOOR PLAN

1:100

JUDITH McDOUGALL DESIGNS
Accredited Member ACCRED 15013
BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA INC.

TEL 0447 550 275
ABN 79 425 984 191

Email: judithmcdougall@gmail.com

CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY

ADDRESS:
LOT 46 #49
FORTUNE STREET
NARROGIN 6312

THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS AND VERIFY ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWINGS. DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE ARCHITECT FOR CONSTRUCTION

COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
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Drawing Title:
EXISTING FLOOR PLAN

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **03 of 14**

Last accessed: judit on 25/07/2022

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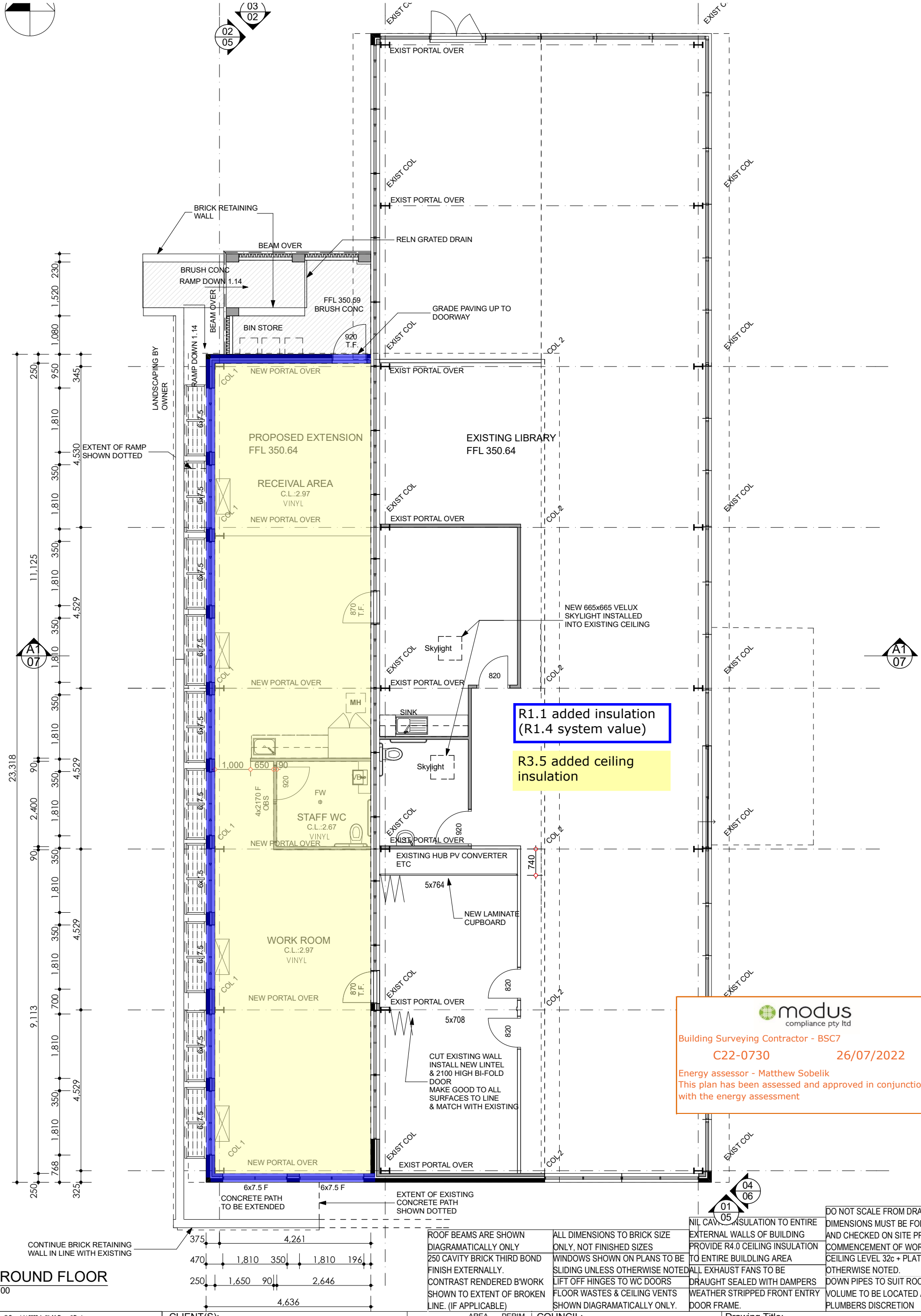

R1.1 added insulation (R1.4 system value)

R3.5 added ceiling insulation

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C22-0730 26/07/2022
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GROUND FLOOR
1:100

ROOF BEAMS ARE SHOWN DIAGRAMATICALLY ONLY	ALL DIMENSIONS TO BRICK SIZE ONLY, NOT FINISHED SIZES	NIL CAVITY INSULATION TO ENTIRE EXTERNAL WALLS OF BUILDING	DO NOT SCALE FROM DRAWINGS
250 CAVITY BRICK THIRD BOND FINISH EXTERNALLY.	WINDOWS SHOWN ON PLANS TO BE SLIDING UNLESS OTHERWISE NOTED	PROVIDE R4.0 CEILING INSULATION TO ENTIRE BUILDLING AREA	DIMENSIONS MUST BE FOLLOWED AND CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
CONTRAST RENDERED B'WORK SHOWN TO EXTENT OF BROKEN LINE. (IF APPLICABLE)	LIFT OFF HINGES TO WC DOORS	ALL EXHAUST FANS TO BE DRAUGHT SEALED WITH DAMPERS	CEILING LEVEL 32c + PLATE UNLESS OTHERWISE NOTED.
	FLOOR WASTES & CEILING VENTS SHOWN DIAGRAMATICALLY ONLY.	WEATHER STRIPPED FRONT ENTRY DOOR FRAME.	DOWN PIPES TO SUIT ROOF WATER VOLUME TO BE LOCATED AT PLUMBERS DISCRETION

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Email: judithmcdougall@gmail.com
Design Matters National

CLIENT(S):
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	AREA	PERIM.
PROPOSED	108.11	139.89 m
EXISTING	310.82	
PORCH	11.51	
TOTAL AREA	**430.44 m²**	
G.FL ROOF AREA	243.54 m²	
UP.FL ROOF AREA		

COUNCIL: NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
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Drawing Title: GROUND FLOOR PLAN
Scale: 1:100 Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No: **04 of 14**

Last accessed: judit on 25/07/2022

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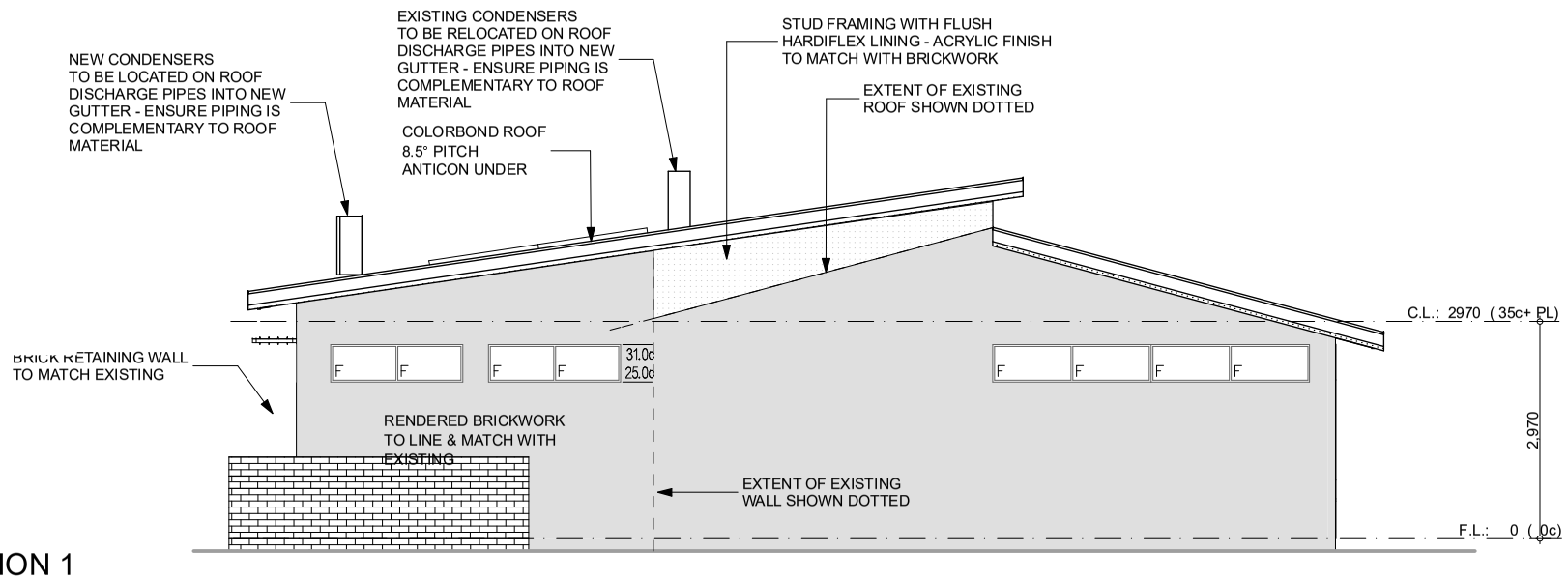
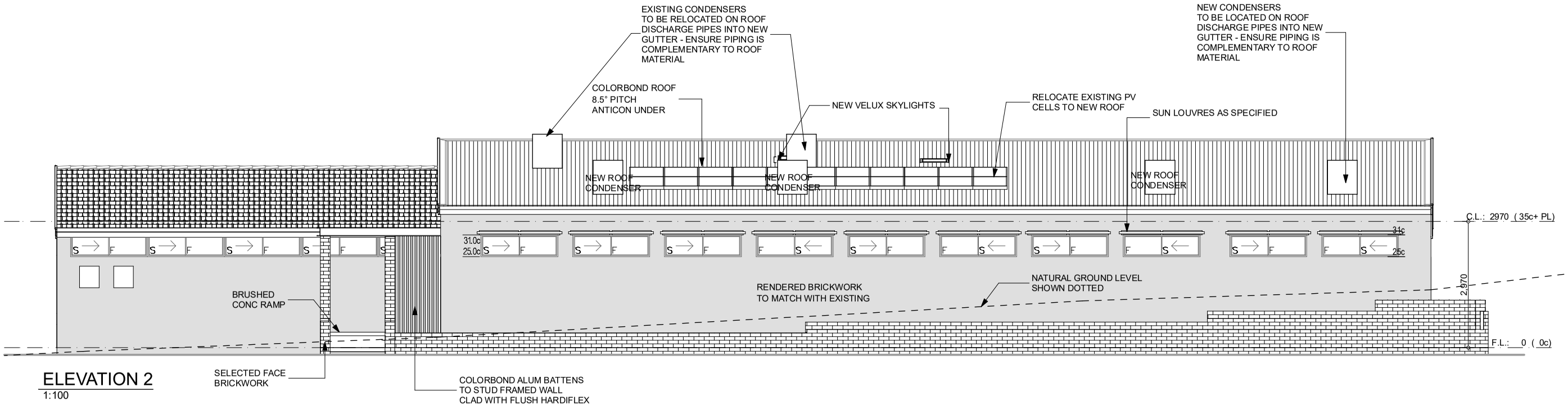
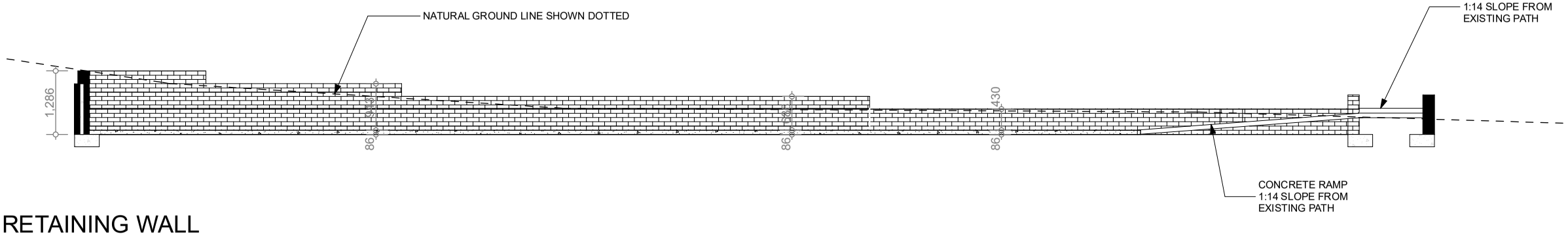


ELEVATION 1
1:100



ELEVATION 2
1:100

.)



BRICK RETAINING WALL
1:100

last accessed: judit on 25/07/2022

COUNCIL: NARROGIN

Drawing Title: ELEVATIONS

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
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Scale: 1:100 | Date: JULY 2022

Status: WORKING DRAWINGS

JOB NO: 2321

Drawing No: 05 of 14

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ADDRESS: LOT 46 #49 FORTUNE STREET NARROGIN 6312

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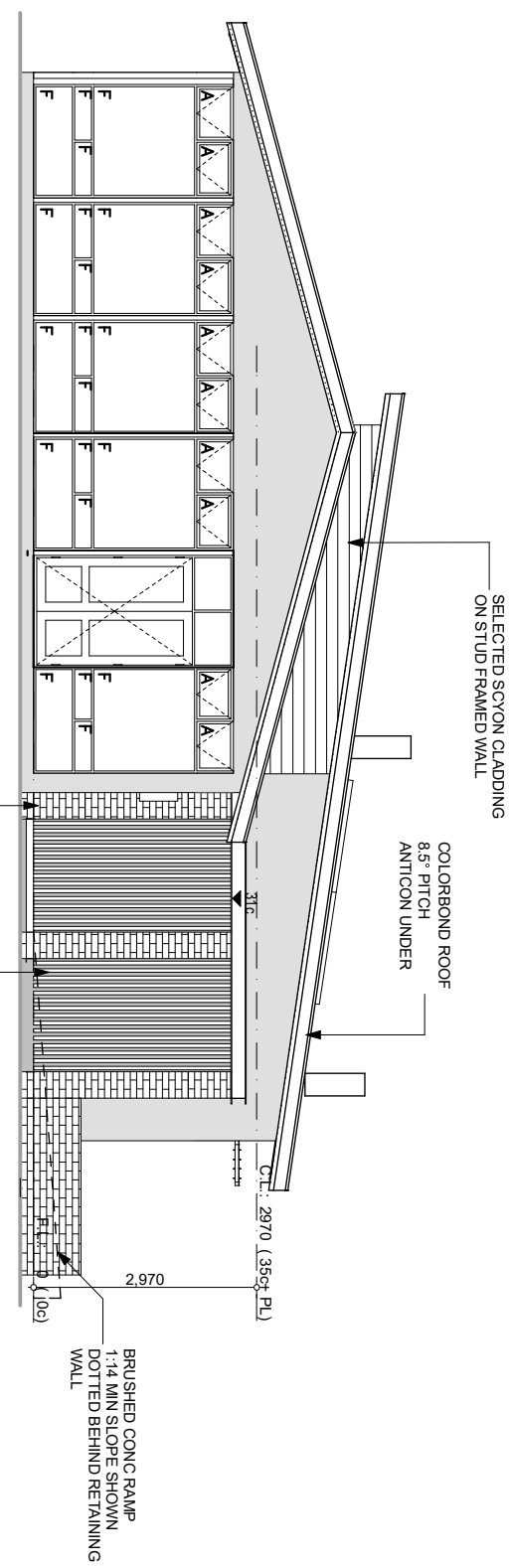
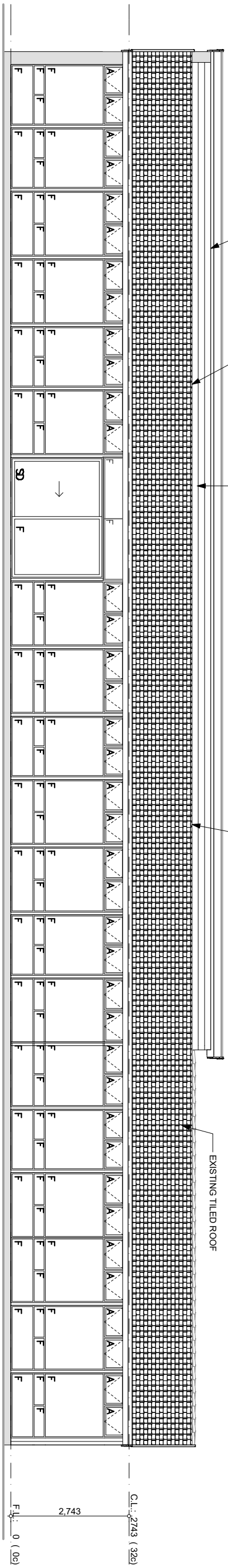
ELEVATION 3
1:100



ELEVATION 4
1:100



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Building Surveying Contractor - BSC7
C22-0730 26/07/2022
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Design Matters National
The peak body for the building design profession
Member

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COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
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Drawing Title:
ELEVATIONS 2

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No:
06 of 14

Last accessed: judit on 25/07/2022

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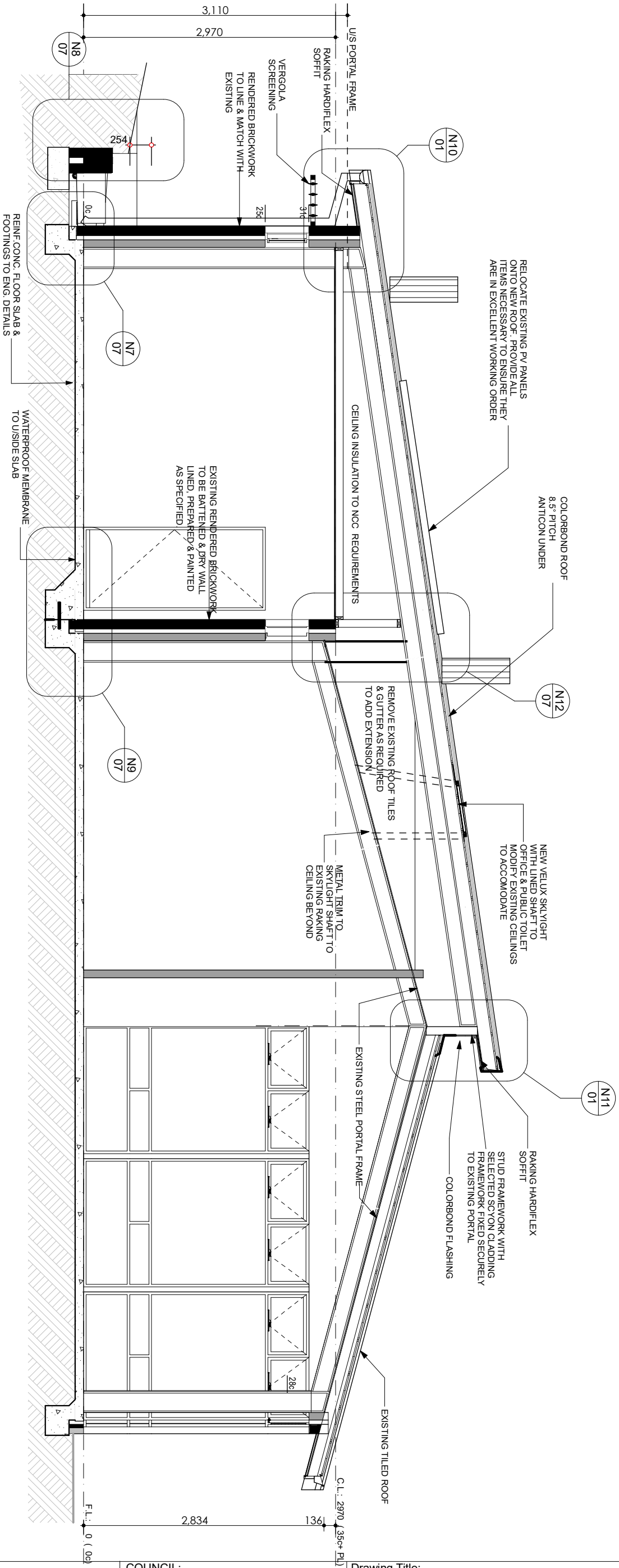
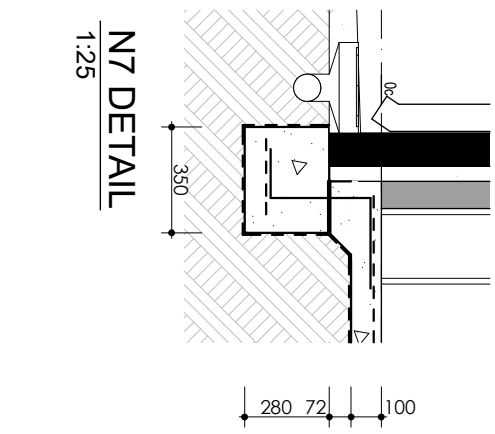
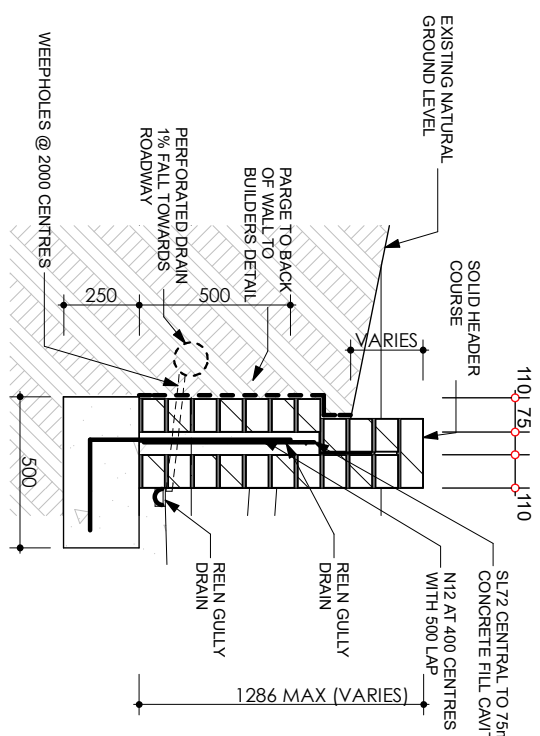
A1 SECTION
1:50



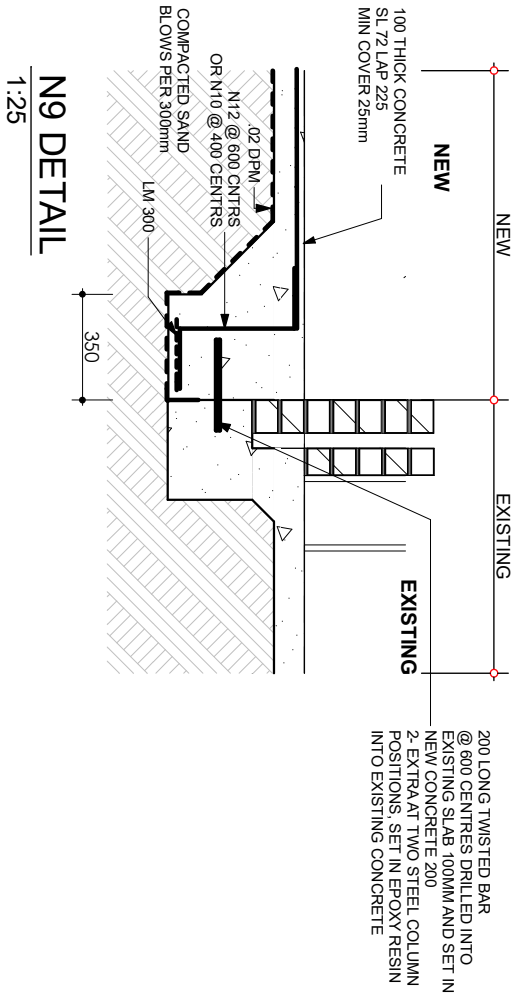
N7 DETAIL
1:25



N8 DETAIL
1:25



N9 DETAIL
1:25



modus compliance pty ltd

Building Surveying Contractor - BSC7

C22-0730 26/07/2022

Energy assessor - Matthew Sobelik

This plan has been assessed and approved in conjunction with the energy assessment

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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
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Drawing Title:
SECTION

Scale: 1:50, 1:100, 1:25 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No:
07 of 14

Last accessed: judit on 25/07/2022

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PERFORMANCE SOLUTION REPORT
WEATHERPROOFING OF EXTERNAL WALLS
PREPARED BY JUDITH McDOUGALL DESIGNS, 13 OCTOBER 2022

PROJECT:

Narrogin Library Extension

LOCATION:

Lot 46, 49 Fortune Street, Narrogin

STAKEHOLDERS:

Client/Owner:	Shire of Narrogin
Architect:	Judith McDougall Designs
Private Building Surveyor:	MODUS Compliance Pty Ltd

APPLICABLE BUILDING LEGISLATION:

Building Act 2011 (Western Australia)
Building Regulations 2012 (Western Australia)
Applicable building standard: Building Code of Australia (BCA) 2019 Amendment 1, which is identified as Volume 1 of the National Construction Code (NCC)

PERFORMANCE SOLUTION SUMMARY:

Provide a wall system that prevents the penetration of water to the interior parts of the proposed building.

RELEVANT DEEMED-TO-SATISFY CLAUSE:

As noted in BCA Clause F1.0(a), there are no Deemed-to-Satisfy provisions covering weatherproofing of external walls. This clause includes a text box as per below:

> There are no *Deemed-to-Satisfy Provisions* for this *Performance Requirement* in respect of *external walls*.

RELEVANT PERFORMANCE REQUIREMENTS:

FP1.4 Weatherproofing, A roof and *external wall*, (including openings around *windows* and doors) must prevent the penetration of water that could cause-
(a) unhealthy or dangerous conditions, or loss of amenity for occupants; and
(b) undue dampness or deterioration of building elements.

There is also a limitation to the application of this clause:

> (a) a Class 7 or 8 building where in the particular case there is no necessity for compliance; or
> (b) a garage, tool shed, *sanitary compartment*, or the like, forming part of a building used for other purposes; or
> (c) an *open spectator stand* or *open-deck carpark*.

It is noted that the proposed buildings do not fall into the type of buildings listed above therefore all external walls for this project must comply with the Performance Requirement. It is also important to note that this particular Performance Solution only addresses external walls, as the BCA includes Deemed-to-Satisfy provisions for weatherproofing of roof cladding systems under Clause F1.5 and windows and other glazed assemblies under Clause F1.13. The metal sheet roofing systems have been designed to comply with Clause F1.5 and the glazed assemblies located in the external walls have been specified to comply with Clause F1.13 (and AS 2047).

RELEVANT DEFINITION/S:

External wall means an outer wall of a building which is not a *common wall*.

ASSESSMENT METHODS:

In accordance with clause A2.2 of the BCA, the nominated Assessment Method for this Performance Solution is:

1. A2.2(2)(d) being Comparison with the Deemed-to-Satisfy Provisions

CONSULTANT DESIGN CERTIFICATION:

I hereby confirm that:

a) The proposed external wall system has been designed to prevent unhealthy or dangerous conditions or loss of amenity for occupants and undue dampness or deterioration of building elements,

b) I have had regard to the building height, wind region, eave width and overall envelope complexity,

c) Flashing details associated with windows, doors and other openings have been provided,

d) Flashing details associated with material interfaces have been provided,

e) The proposed design has been determined to comply with Performance Requirement FP1.4,

The following plans, specifications and test certificates have been used in making this determination:

SPECIFICATIONS AND TEST CERTIFICATES

Document	Clause	Produced by
Building Code of Australia 2019, Amendment 1, Volume Two	Part 3.3.4	ABCB
AS 3700-2018 Masonry Structures	Section 4.7	Standards Australia

DRAWINGS JOB No. 2321

Drawing No.	Drawing Title	Revision	Date	Drawn by
1/17	SURVEY PLAN	0	25 JAN 2022	THOMPSON SURVEYING
2/17	SITE PLAN	01	JULY 22	JMcD DESIGNS
3/17	EXISTING FLOOR PLAN			
4/17	PROPOSED FLOOR PLAN			
5/17	ELEVATIONS			
6/17	ELEVATIONS			
7/17	SECTION & DETAILS			
8/17	SECTIONS			
9/17	DETAILS			
10/17	RAMP DETAILS			
11/17	ROOM ELEVATIONS			
12/17	WINDOW & DOOR SCHEDULE			
13/17	ELECTRICAL LAYOUT			JMcD DESIGNS IN ASSOCIATION SAGE CONSULTING
14/17 -17/17	STRUCTURAL			JMcD DESIGNS IN ASSOCIATION DAN TURNER
H1.01, H2.02, H2.02	HYDRAULICS		B	CARRINGTON & ASSOC.

f) I am a properly qualified person and have a good working knowledge of the relevant codes and standards referenced above. (My qualifications and accreditations are listed below)

Relevant qualifications and accreditations: ACCREDITED BUILDING DESIGNER OF WESTERN AUSTRALIA & MEMBER OF DESIGN MATTERS AUSTRALIA

g) The information contained in this statement is true and accurate to the best of my knowledge.

Name: JUDITH McDOUGALL

Company: JUDITH McDOUGALL DESIGNS

Address:17 SPRINGSIDE AVE, MT PLEASANT WA 6153

Phone No. 0447 550 275

10.11.2022

Signature **Date**

Government of Western Australia
Department of Fire & Emergency Services

DFES
Department of Fire & Emergency Services

Our Ref: 500815\1\1
Your Ref: A15D9E

Phone Enquiries: 9482 1771 Séan Shannon
Email: bebadmin@dfes.wa.gov.au

Modus Compliance
Unit 13 - 127 Herdsman Parade,
WEMBLEY 6014
Sent via email: matt.sobelik@modcom.net.au

Dear Mr. Sobelik,

BUILDING REGULATIONS 2012 (18B) – FES COMMISSIONER'S ADVICE

Site Name:	Bob Farr Memorial Library
Project:	Extension
Address:	49 Fortune Street, NARROGIN
Documents Submitted:	Architectural (DFES Lodgement Ref: A15D9E)

With reference to the submission of the above documents to the Department of Fire and Emergency Services (DFES) of Western Australia as required by regulation 18B of the *Building Regulations 2012*.

This advice is provided in line with the current FES Commissioner's Operational Requirements and does not remove the requirement of the Building Surveyor to ensure the design complies with all applicable aspects of the National Construction Code within their responsibility in the issuance of a certificate of design compliance in accordance with regulation 18A of the *Building Regulations 2012*.

DFES Built Environment Branch has assessed the documents against the requirements of the National Construction Code Volume One (BCA 2019 Amendment 1) insofar as they apply to the FES Commissioner's Operational Requirements and based on the information provided, consider that these requirements are satisfied. This comment only remains valid if the building is constructed in accordance with the plans assessed by DFES.

Should you require any further assistance with this project, please contact the undersigned to discuss.

Yours faithfully,

Séan Shannon
Building Fire Safety Officer
Built Environment Branch

22 November 2022

SCOPE OF WORKS

Prior to commencement of any work a dilapidation on surrounding and adjoining buildings report shall be carried out by an independent single expert practitioner. This practitioner shall be engaged by the builder on behalf of the Narrogin Council.

This single expert practitioner shall review and prepare a report at the completion of the project on the same buildings.

Should any buildings have suffered deleterious damage during the build f the Library extension, the successful tenderer shall make good to all damaged items.

The successful tenderer shall provide all the on-site safety requirements, first aide, lunch rooms and on-site toilet as required.

Work will not commence before 7am and cease by 7pm weather and light permitting.

On site contractors shall realise that office work will be carried out in surrounding buildings.

Where necessary weekend work may be considered.

The successful tenderer shall comply with all the relevant AS codes pertaining to this project.

The library will remain operational during the build. A shutdown of the library shall only be over the weekend and Monday to Wednesday inclusive.

The successful tenderer is to have all services that are to be altered shut down by qualified contractors specific to that service. 7 Days notification before the shutdown, inform the Library Manager of shutdown proposal and duration of shutdown.

Provisional power shall be provided to keep the computers operational during any necessary power shut downs.

All services shutdown for the duration of the build are to be reinstated at the completion of the project by qualified contractors specific to the service.

The successful tenderer shall provide all necessary items to protect the existing library free from dust and weather situations.

Demolition work.

The successful tenderer shall only remove the existing roof tiles once the new roof cladding has been delivered to site. All care shall be taken to prevent weather events damaging the internal building and all of its assets.

Make good/replace to any damaged roof substrate and ensure that any loose joints are secured properly.

Provide all necessary items to complete the reroof in a proper manner and in accordance with manufacturer's instructions.

Site works

The site shall be prepared in readiness for the proposed extension and new retaining walls.

The new retaining walls shall be built of the same face brick as existing with a solid brick header course. Refer to engineering documentation.

New floor level shall be at the same level as the existing

The successful tenderer shall provide all items necessary to keep the site free from water during the build.

The extension site shall be prepared and properly compacted to take the new slab.

A record of penetrometer tests shall be kept on site and must be sighted by the engineer prior to any concrete pour.

Existing A/C condensers shall be relocated onto the new roof. The contractor shall provide all items necessary to complete the project properly and in good working order.

The builder shall make good to any surfaces damaged during the relocation to line and match with existing.

All steel, steelwork, welding and construction shall be in accordance with the relevant Australian Standards AS4100, AS/NZS1163, AS/NZS 1252.2, AS/NZS1397, AS/NZS 1554, AS/NZS3678, AS/NZS3679.1AS/NZS3679.2 etc

Build new brickwork in accordance with AS3700 as detailed on the drawings, extend framework and install new roof cladding to entire existing and proposed roof area as detailed.

The cutting in of new steelwork into existing building shall be done when the weather is fine. Protection shall be provided during this time to prevent any water penetration into the building.

The existing HWU is to remain. The council should at this point have the HWU serviced. The existing HUW is to be housed in a new laminate cupboard. All new hot water pipes are to be lagged to prevent heat loss.

Setout new plumbing fittings and fixtures, providing all items necessary to complete the project correctly, including all inlet and waste piping as require to attach to existing supply and waste lines. Make good and ensure that all pipes are in full working order prior to completion. Ensure that all waste pipes are working correctly.

The sewer line under the new concrete slab shall be encased in concrete. I.O.'s shall be positioned as indicated on the hydraulic documents

Install new concrete floor including all items necessary to complete the project to all relevant AS codes. Ensure the floor grade properly towards the waste grates, prior to leaving the site.

Build new brickwork in accordance with AS3700 as detailed on the drawings, extend framework and install new roof cladding to entire existing and proposed roof area as detailed.

New walls to be installed with in the existing building shall be constructed from treated stud framework. The frame shall be filled with R2.5 insulation and clad both sides with acoustic flush plasterboard. Use 10mm negative joints where new work abuts to existing. All plasterboard edges are to have metal plasterboard trims.

Make good to the existing surfaces which are altered.

The existing external wall which is to be now an internal wall shall be battened and flush plasterboard cladding applied, including all window and door reveals.

Painting

The existing ceilings are to be repaired, prepared, sealed and painted with 2 coats of top coat ceiling white.

The existing and new Conference Room walls and ceiling are to be repaired, prepared, sealed and painted with 2 tops coats.

All external walls to the existing building are to be repaired, prepared and painted to match with the new acrylic render.

The concrete floor shall be prepared and levelled and moisture tested. The welded vinyl shall not be laid until the moisture levels are such that they reach the levels as set out by the manufacturers laying instructions.

Install all fittings and fixtures as described on the documents in accordance with manufacturer's instructions.

Make good to all items that are disturbed during the refurbishment. Ensure that the site is left clean of any debris. The successful tenderer shall allow for any/all rubbish fees and transport.

ADDENDA

SANITARY BINS BY COUNCIL

NAPPY BINS BY COUNCIL

FIRE EXTINGUISHERS BY COUNCIL FIRE PROVIDER – SIGNAGE BY OWNER

TOILETS

CAROMA CARE 400 CONNECTOR SUITE WITH BACKREST PRODUCT CODE 987900BAG

BASINS

CAROMA OPAL 720 WALL BASIN WITH RIGHT HAND SHELF & ONE TAP HOLE.

TROUGH

EVERHARD NUGLEAM 45L DRAWER SYSTEM LAUNDRY UNIT

TAPS

CAROMA SKANDIC 150MM CARE BASIN MIXER (HOT /COLD) TO STAFF TOILET

CAROMA CIRRUS SINK MIXER (HOTCOLD) TO LAUNDRY

FLOOR TILES

WALL TILES GLOSS WHITE RECTIFIED EDGE WITH 1mm GROUT TO MATCH TILE. TILES AND GROUT TO BE SEALED.

FW BURMUDA 100mm SQUARE FLOOR WASTE

ACCESSORIES

TOILET TOLL HOLDERS – METLAM ML835

SOAP DISPENSERS - RBA COMMERCIAL BTX -05-021

SOAP HOLDER METLAM – ML3359B_XH BRIGHT CHROME

DOOR SIGNAGE – METLAM

MIRRORS – METLAM SS FRAMED MIRROR 450W x 1000H ML771_S

MIXING VALVE CAROMA TMV20 STANDARD BOTTOM INLET WITH BYPASS – REMOVABLE HINGED DOOR

SS GRAB RAILS

GRAB RAILS CAROMA SUPPORT GRAB RAILS, 90 ANGLED 110x 103x600 SS

SS GRAB RAIL

EXTERNAL HANDRAIL SHALL BE GALVANIZED STEEL FABRICATED AS DISPLAYED ON THE DRAWINGS AND INACCORDANCE WITH AS 1428

EXISTING HUB PV CONVERTER ETC & HWU CUPBOARD

LAMINEX CHARCOAL MELAMINE WHITE INTERNALLY – LOCKABLE BI-FOLD DOORS

BRICKWORK

MAIN BRICKWORK – COMMONS TO BE RENDERED

FEATURE – MIDLAND TREASURY RED WITH WHITE MORTAR

RETAINING WALL – MIDLAND SMOOTH RED

ACRYLIC RENDER

GRANOMARBLE TO BE APPLIED TO ALL EXTERNAL BRICKWALLS. BRICKWORK IS TO BE PREPARED AND RENDER APPLIED AS PER THE GRANOSITE SPECIFICATION. BASE TO BE APPLIED TO FULLY PREPARED, REPAIRED AND CLEANED EXISTING BRICKWORK.

GRANOMARBLE TO BE APPLIED AS PER GRANOSITE SPECFICATIONS

FINISH – ACRYLIC TEXTURE COAT

COLOUR- DULUX TERRACE WHITE

EXISTING RENDERED WALLS TO BE PAINTED TO MATCH DULUX TERRACE WHITE

ROOF

BLUESCOPE COLORBOND ROOF THERMATECH

0.35-0.4 COLORBOND STEEL TRIMDEK ROOF

COLOUR – SHALE GREY

GUTTER

150MM HALF ROUND COLORBOND WINDSPRAY

RWP

100 DIAM ROUND WITH 2 GUTTER STRAPS.

DRAINS

RELN UNIPIT VORTEX SERIES 300 UNDER EACH RWP. GALVANISED HEALL GUARD CLASS A GRATE

RELN DRAIN STORM DRAIN WITH GALVAISED STEEL GRATE

WINDOWS

WHITE POWDERCOATED ALUMINIUM FRAME, DOWELL OR JASON COMMERCIAL OR SIMILAR APPROVED WITH BLACK SS SECURITY MESH FLYSCREENS

GLAZING AS PER ENERGY ASSESSMENT

ROOF LIGHT

VELUX 665 x 665 FIXED LIGHT COLOUR TO MATCH ROOFING

ROOF LIGHT SHAFTS SHALL BE FLUSH PLASTERBOARD WITH OPAQUE CEILING DIFFUSER SET IN WHITE COLORBOND METAL ANGLE CEILING TRIM, NEATLY MITRED AT ALL CORNERS

DOORS

FRAMES – JDS METAL DOOR DELUX FRAMES

EXTERNAL DOOR SOLID CORE WEATHER PROOF DOOR 40mm KEYED ALIKE WITH EXISTING BUILDING. WITH WEATHER SEALS ALL AROUND.

INTERNAL ACOUSTIC DOORS 35mm

UNIFOLD SOUNDGUARD DOOR, TOP HUNG, LAMINATED VINYL, COLOUR TBA

DOOR FURNITURE

LOCKWOOD SERIES 3772 ANTI VANAL ESCAPE LOCK SS WITH DIGITAL DX LOCKSET AND LOCKWOOD 2616 HOLD OPEN DEVICE.

LOCKWOOOD SERIES 3774 PASSAGE LATCH SS

LOCKWOOD SELCTOR PRIVACY LOCKS SS. ANTI-LOCKOUT ESCAPE PRIVACY LOCK WITH SELF CLOSER 2615 CAM ACTION DOOR CLOSER WITH SLIDE ARM

ACCESSORIES CHROME PLATE

HANDLES – LOCKWOOD COMMERCIAL ESCAPE LEVERSET 949SC

LOCKWOORD COMMERCIAL PASSAGE LEVERSET 951SC

LOCKWOOD PRIVACY SQUARE SERIES 1420

DOOR STOPS LOCKWOD MOUNTED MAGNETIC FLOOR DOOR STOP

EXTERNAL BATTENS

SCULPTFORM ALUMINIUM SLIDING CLICK ON BATTENS 50mm x 50mm WITH END CAPS AND ALL ITEMS TO FINISH PROJECT PROPERLY FIXED IN ACCORDANCE WITH MANFACTURERS INSTRUCTIONS

CHOCOLATE OAK FINISH

STANDARD TRACK

SUNSHADES

VERGOLA FIXED LOUVRES SUNSHADE

COLOUR COLORBOND CHOCOLATE OAK FINISH

DUCTED SKIRTING

NAUTUAL ANODIZED 125 x 40 ECD ELITE SERIES SKIRTING DUCT OR SIMILAR APPROVED

WELDED FLOORING

ARMSTRONG OR SMIALR APPROVED 2MM HOMOGENOUS SHEET FLOORING, SIMILAR IN COLOUR TO EXISTING FLOORING TBA, WITH 150 HIGH COVED SKIRTING

CONCRETE FLOOR SHALL BE REPARIED, PREPARED TO TAKE FLOORING INACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

TACTILE INDICATORS

BLACK VINIYL TACTILE INDICATORS

REVERSE SPLIT SYSTEMS

DAIKEN INVERTER SPLIT SYSTEM TO SUIT ROOM SIZES. CONDENSERS ROOF MOUNTED.

CEILINGS

FLUSH PLASTERBOARD – NO CORNICE TO RAKING CEILINGS.

SHADOWLINE METAL CORNICE TO FLAT CEILINGS

SOFFIT & WALL LINING

HARDIFLEX SOFFIT WITH PLASTIC STRIPS

WALL LINING SCYON PRIMELINE WEATHERBOARD NEWPORT PROFILE

FLUSH BLUE BOARD TO ENTRY PORCH WALLS

ENTRY PORCH SOFFIT GLOSSWOOD LINING BOARD 90mm BOARD TASMANIAN OAK

PAINTING

WATTYL OR SIMILAR APPROVED PAINT SHALL BE USED.

ALL SURFACES SHALL BE REPAIRED, PREPARED AND SEALED FOLLOWED BY TWO TOP COATS OF WASHABLE PAINT.

CEILINGS SHALL BE CEILING WHITE

WALLS TBA

EXTERNAL CLADDING

PORCH

CERTIFICATE FORM BA3

Certificate of design compliance

Building Act 2011, section 19
Building Regulations 2012, regulation 4, 18A, 18B, 18C

PERMIT AUTHORITY USE ONLY	Reference number
BUILDING SURVEYING USE ONLY	Reference number C22-0730

1. Property this certificate relates to

Property street address (provide lot number where street number is not known)	Unit no	Street no 49	Level	Lot no 46
	Street name Fortune		Street type Street	Street suffix
	Suburb Narrogin		State WA	Postcode 6312
Local government area	Shire of Narrogin			
Main BCA class of the building	9B			
	Secondary BCA class (for multi-purpose) buildings		Third BCA class (for multi-purpose) buildings	
Use(s) of the building	Library		Each restriction on use (if applicable)	
Description of the building(s) and building work	Proposed Library Extension			

2. Applicable building standards

The edition of the Building Code applied in respect of this building or incidental structure

NCC 2019 - Amendment 1 - Volume One

Any declaration under section 39 of the *Building Act 2011* made in respect of this building or incidental structure

n/a

Bush fire prone areas (only required for the types of buildings or incidental structures stated below)

In respect of a Class 1, Class 2 or Class 3 building or an associated Class 10a building or deck that is located less than six (6) metres from the Class 1, Class 2 or Class 3 building:

Is the building or deck located in a bush fire prone area? ☐ Yes ☐ No

Under regulation 31BA of the Building Regulations 2012, does a bush fire performance requirement apply to the building or deck?

☐ Yes. The Bushfire Attack Level or other measure is
☐ No. Does not apply because of
(if No, nominate the relevant concession(s) provided under regulation(s) 31BA or 31D)

3. Plans, specifications and other documents

Plans and specifications specified in accordance with section 19(3) of the *Building Act 2011*

Drawing Numbers

Drawing No 1 to 18 - C22-0730 - Modus Stamped 30/11/22

Specifications

Specification - Sheet 1 to 141 - Dated 30/11/22

Technical Documents

Site Classification - Page 1 to 6 - Dated 18/09/22 - Dan Turner

Drawing No 14 to 17 - Date Signed 22/10/22 - Signed Dan Turner

DRG No H1.01, H2.01, H2.02 - Issue No B - Carrington Associates

Electrical Engineering - 1 Page - Dated 07/11/22 - Sage Consulting Engineers

Part J Energy Efficiency Report - 17 Pages - Ref C22-0730 - Report Date 26/07/22 - Modus Compliance

Performance Solution Report Weatherproofing - Page 1 to 4 - Date Signed 10/11/22 - Signed Judith McDougall

4. Other prescribed requirements

Details of any advice given by the FES Commissioner in respect of the plans and specifications (Class 2-9 buildings only)

FES Commissioner's Advice - 1 Page - Ref 500815\1\1 - Dated 22/11/22

Details of any notification given to the FES Commissioner under regulation 15A(1) of the Building Regulations 2012 (Class 2-9 buildings only)

n/a

Details of each performance solution and the assessment methods used as required under regulation 18A of the Building Regulations 2012 for:

- Class 2 to Class 9 buildings; or
- The bush fire performance requirements for Class 1 buildings in bush fire prone areas.

n/a

5. Inspections and tests

List the applicable inspections and tests prescribed under section 36(2)(a) of the *Building Act 2011* (i.e. as prescribed in regulations 27 and 28 and Schedule 3 of the Building Regulations 2012)

n/a

6. Declaration

1. This building or incidental structure, if completed in accordance with the plans, specifications and technical documents specified in part 3 of this certificate, will comply with each applicable building standard.
2. I have applied the edition of the Building Code specified in part 2 of this certificate in respect of the building or incidental structure.
3. A declaration under section 39 of the *Building Act 2011* that a building standard does not apply or is modified in a way as specified in part 2 of this certificate in respect to this building or incidental structure ☐ has been made or ☒ has not been made.
4. Each performance solution that is relied upon to establish compliance with a building standard is shown on the plans and specifications specified in part 3 of this certificate. Where required, I have made the necessary statements in part 4 of this certificate.
5. Where required by the Building Regulations 2012, plans and specifications provided in sufficient detail to allow assessment of compliance with the FES Commissioner's operational requirements were provided to the FES Commissioner at least 15 business days prior to the date of this certificate.
6. Details of any advice given by the FES Commissioner in respect of the plans and specifications are set out in part 4 of this certificate.
7. I have notified the FES Commissioner of the details of any part of the FES Commissioner's advice that is not incorporated in the plans and specifications specified in part 3 of this certificate and the reasons for not incorporating that advice and details of this notification are set out in part 4 of this certificate.
8. Where this certificate relates to a Class 1, Class 2 or Class 3 building or an associated Class 10a building or deck that is located less than six (6) metres from the Class 1, Class 2 or Class 3 building, I have made the required statements in part 2 of this certificate in respect to bush fire prone areas.
9. I am an independent building surveyor as defined in section 4 of the *Building Act 2011.*

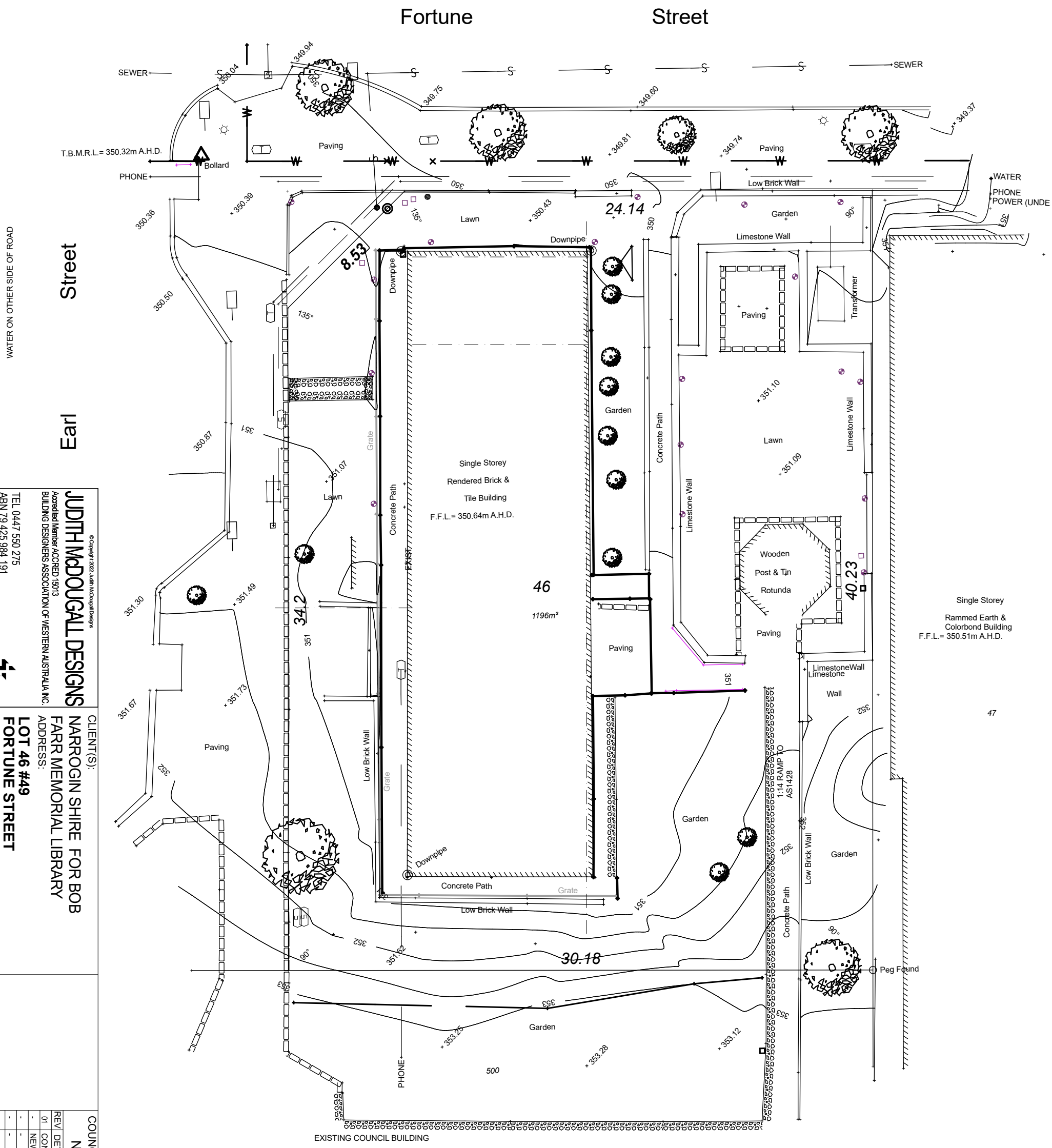
Building surveying practitioner's name	Matthew Sobelik			
Street address (provide lot number where street number is not known)	Unit no 13	Street no 127	Level	Lot no
	Street name Herdsman		Street type Parade	Street suffix
	Suburb Wembley	State WA	Postcode 6014	Country
OR				
PO Box address	PO Box no 222			
	Suburb Como	State WA	Postcode 6952	Country
Email address	info@modcom.net.au			

Phone/fax	Phone no (08) 9444 5922	Fax

Registration details	Registration number BSP2317	Level 2
Building surveying practitioner's signature		Date 30/11/2022

7. Certificate issued by

Building surveying contractor/public authority's name	Modus Compliance Pty Ltd			
Street address (provide lot number where street number is not known)	Unit no 13	Street no 127	Level	Lot no
	Street name Herdsman		Street type Parade	Street suffix
	Suburb Wembley	State WA	Postcode 6014	Country
OR PO Box address	PO Box no 222			
	Suburb Como	State WA	Postcode 6952	Country
Email address	info@modcom.net.au			
Phone/fax	Phone no (08) 9444 5922		Fax	
Registration details (contractors only)	Registration number BSC7			Level 1
Building surveying contractor/public authority office's signature	Name (print) Matthew Sobelik			
	Signature 			Date 30/11/2022



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TEL 0447 550 275
ABN 79 425 984 191
Email: judithmcdougall@gmail.com

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COUNCIL: NARROGIN

Drawing Title: SURVEY PLAN

Scale: 1:200

Date: JULY 2022

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **01 of 17**

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

LEGEND

Tree
Clothes ClothesLine Line
Gate
Sign

Sec Pit	ROAD EDGE
LTP	ROAD CENTRELINE
PP	TOP
Power Dome	TOE
Power Meter	FENCE
Power Box	DRAINAGE
Hydrant	GAS
Tap	PHONE
Water Conn.	POWER (OVERHEAD)
Water Meter	POWER (UNDERGROUND)
Water Valve	SEWER
Irrigation	WATER
Sprinkler	VEGETATION LINE
Sewer M/H	PAVING
H.C.	CONCRETE
NBN	KERB
Telstra Pit	WALL
Comm. Pit	BUILDING
Drainage M/H	BOUNDARY
Grated Pit	
S.E.P.	
Tank	
Survey Peg	
Temporary Bench Mark	
Spot Height (R.L.)	

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Building Surveying Contractor - BSC7

C22-0730 30/11/2022

Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
This plan has been assessed and approved in conjunction with the certificate of design compliance

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Building Surveying Contractor - BSC7

C22-0730 30/11/2022

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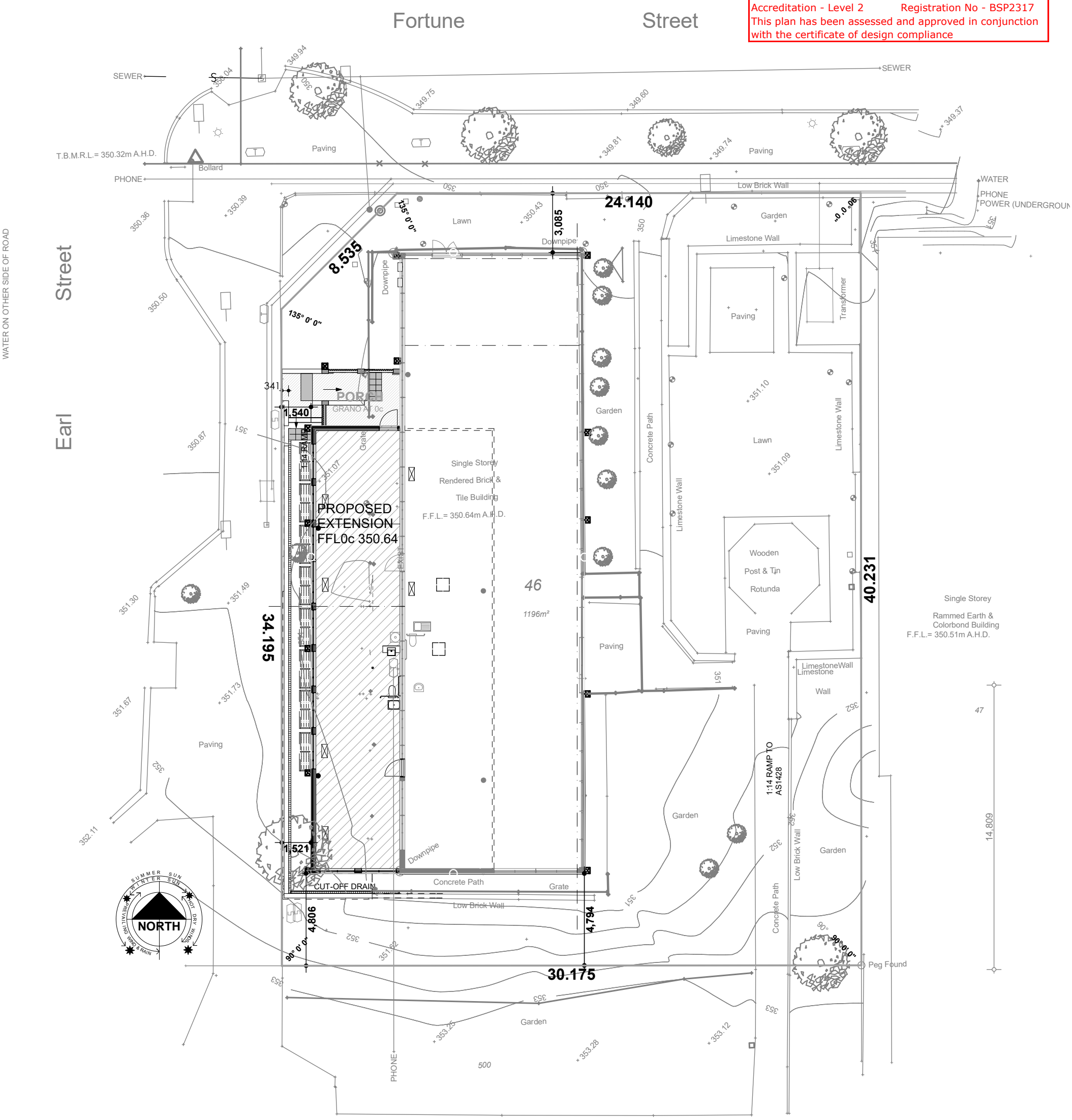

SITE PLAN 1:200 at A3

0 5 10 15

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	AREA	PERIM.
PROPOSED	108.11	139.89 m
EXISTING	310.82	
PORCH	11.51	
TOTAL AREA	**430.44 m²**	
G.FL ROOF AREA	243.54 m²	
UP.FL ROOF AREA		

COUNCIL: NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title: SITE PLAN

Scale: 1:200, 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **02 of 17**

Last accessed: judit on 7/11/2022

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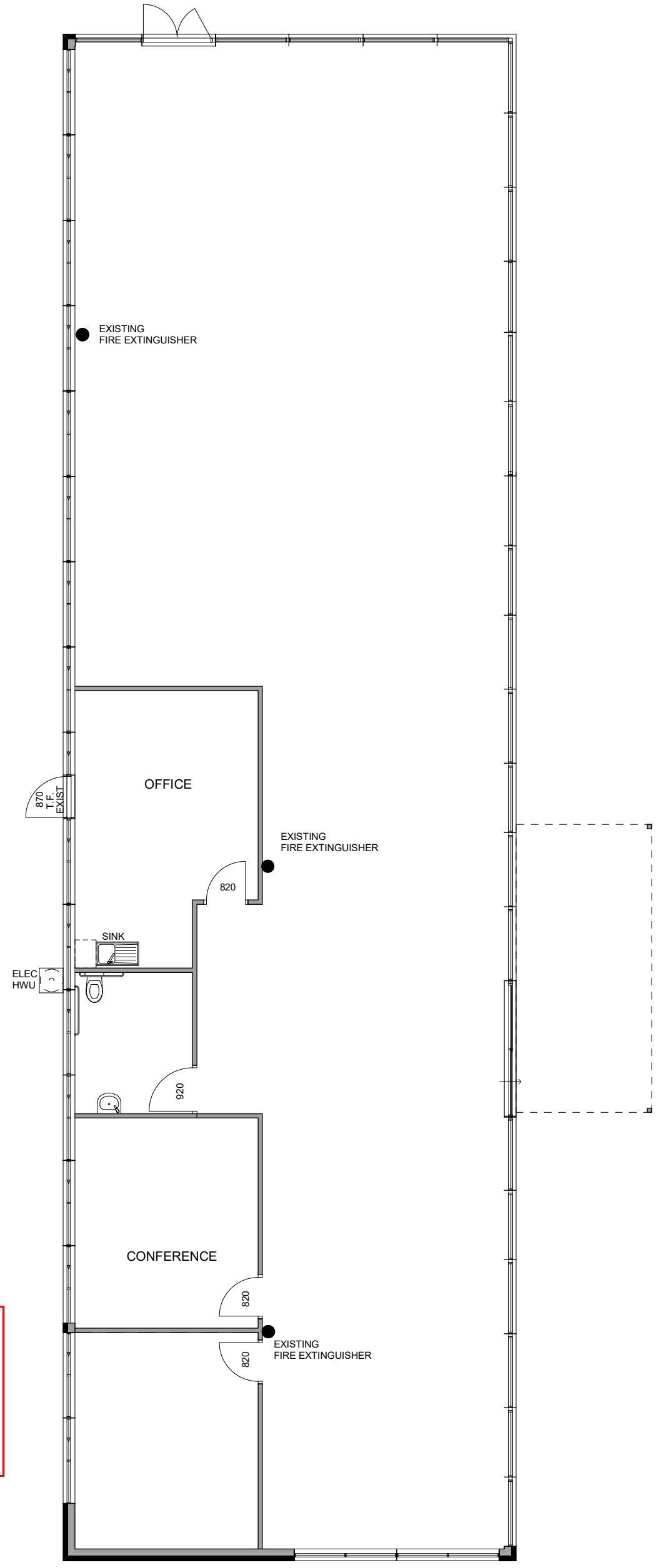

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C22-0730 30/11/2022

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EXISTING FLOOR PLAN

1:100

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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
EXISTING FLOOR PLAN

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **03 of 17**

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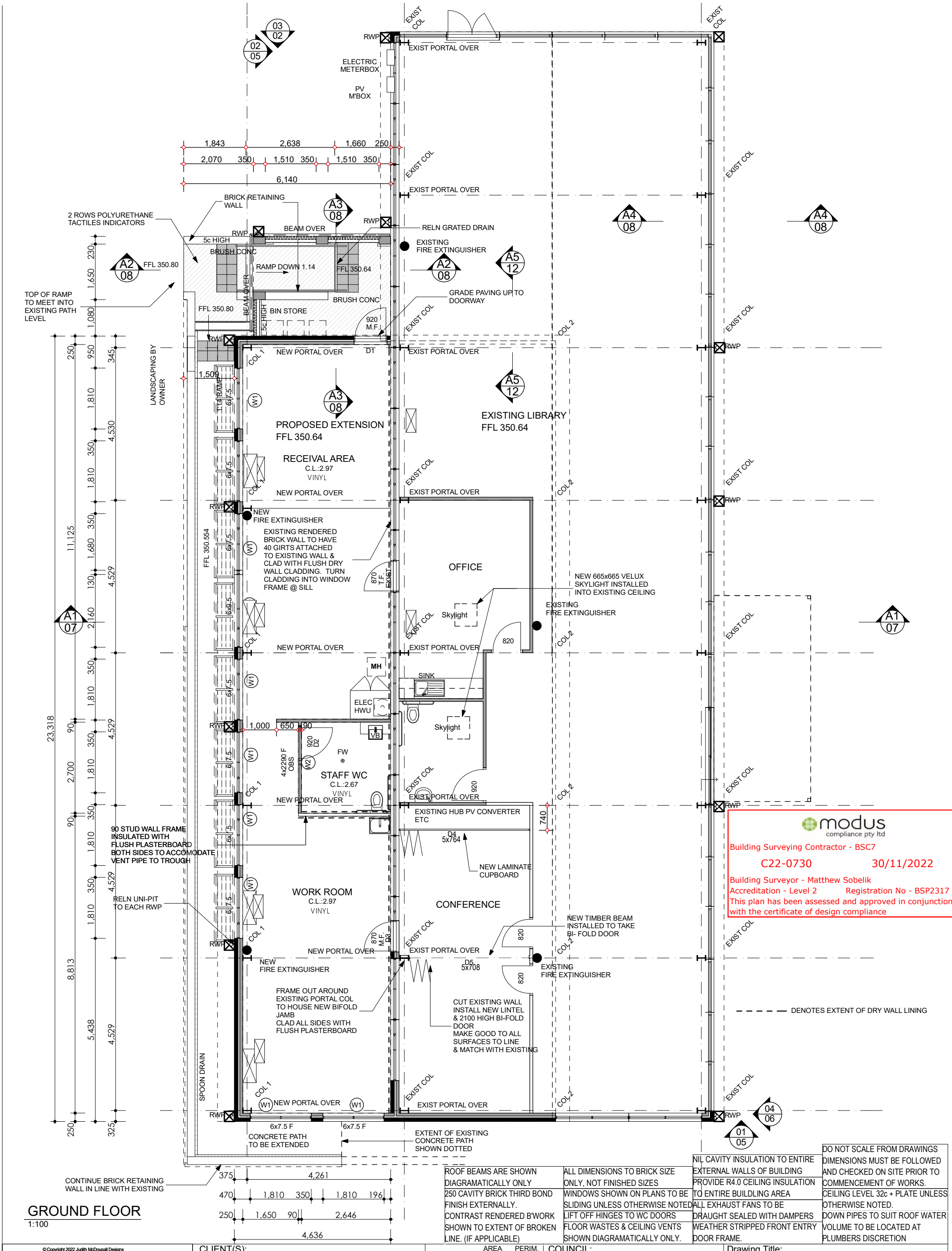

GROUND FLOOR
1:100

ROOF BEAMS ARE SHOWN DIAGRAMATICALLY ONLY	ALL DIMENSIONS TO BRICK SIZE ONLY, NOT FINISHED SIZES	NIL CAVITY INSULATION TO ENTIRE EXTERNAL WALLS OF BUILDING	DO NOT SCALE FROM DRAWINGS
250 CAVITY BRICK THIRD BOND FINISH EXTERNALLY.	WINDOWS SHOWN ON PLANS TO BE SLIDING UNLESS OTHERWISE NOTED	PROVIDE R4.0 CEILING INSULATION TO ENTIRE BUILDLING AREA	DIMENSIONS MUST BE FOLLOWED AND CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
CONTRAST RENDERED B'WORK SHOWN TO EXTENT OF BROKEN LINE. (IF APPLICABLE)	LIFT OFF HINGES TO WC DOORS	ALL EXHAUST FANS TO BE DRAUGHT SEALED WITH DAMPERS	CEILING LEVEL 32c + PLATE UNLESS OTHERWISE NOTED.
	FLOOR WASTES & CEILING VENTS SHOWN DIAGRAMATICALLY ONLY.	WEATHER STRIPPED FRONT ENTRY DOOR FRAME.	DOWN PIPES TO SUIT ROOF WATER VOLUME TO BE LOCATED AT PLUMBERS DISCRETION

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PORCH	11.51	
TOTAL AREA	**430.44 m²**	
G.FL ROOF AREA	243.54 m²	
UP.FL ROOF AREA		

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01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	

Drawing Title: GROUND FLOOR PLAN
Scale: 1:100 Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No: **04 of 17**

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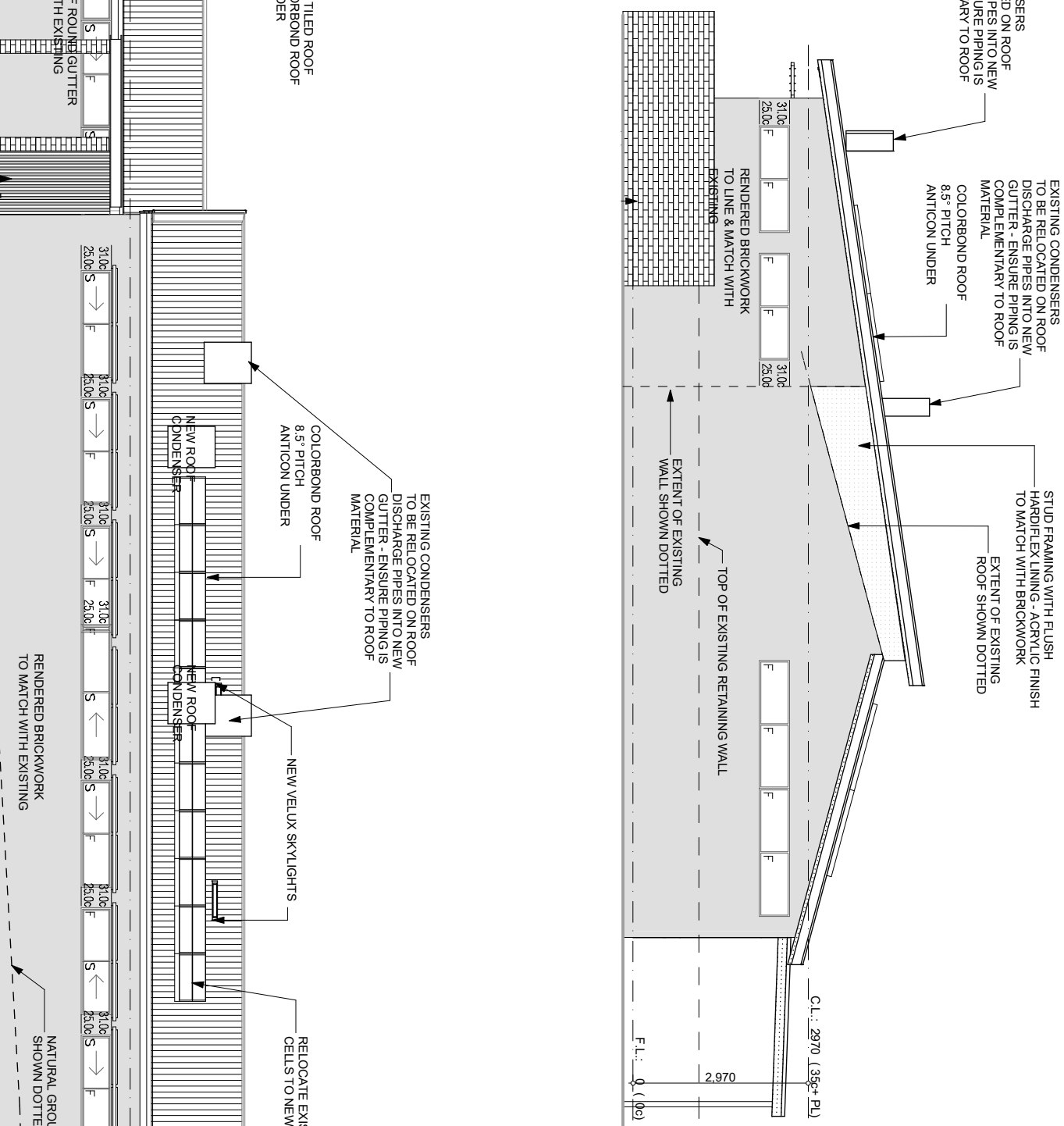
ELEVATION 1
1:100



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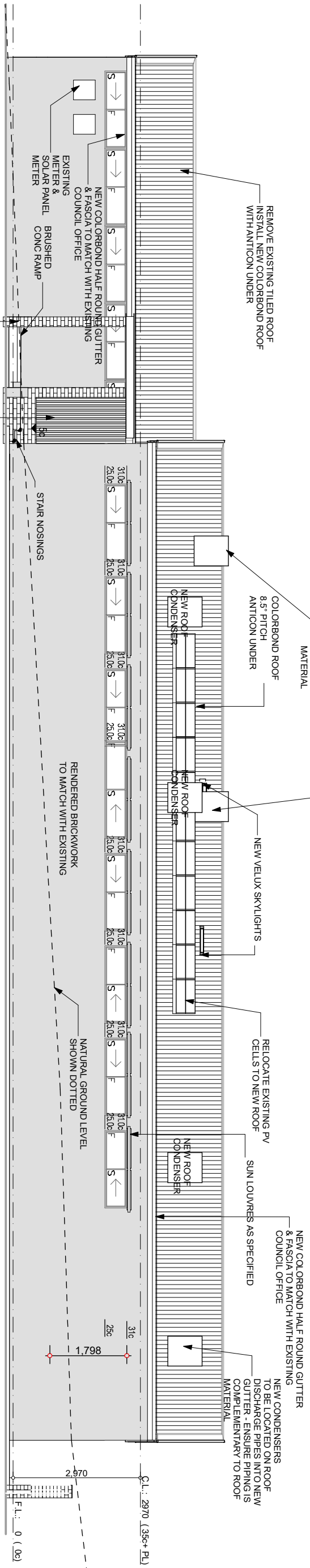
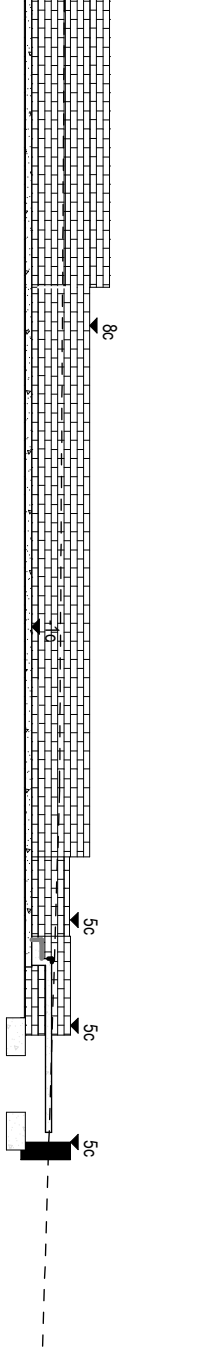
1:100



BRICK RETAINING WALL
1:100



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Building Surveying Contractor - BSC7
C22-0730 30/11/2022
Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
ELEVATIONS

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **05 of 17**

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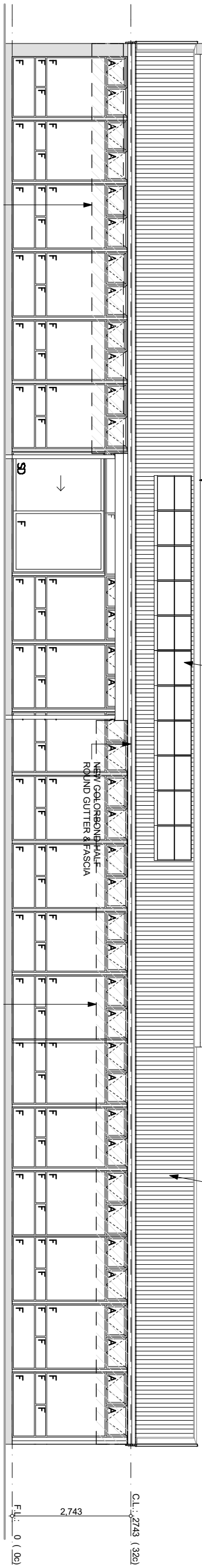

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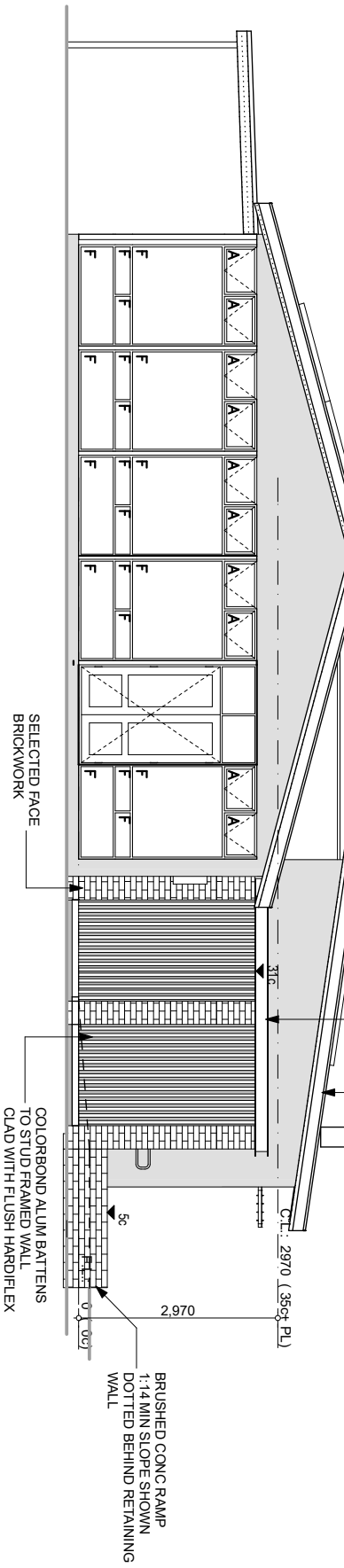

ELEVATION 3
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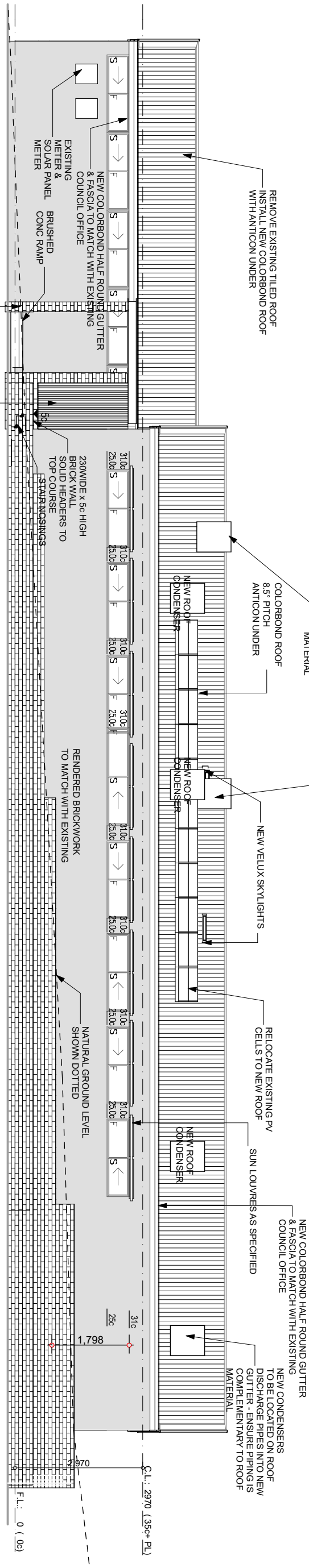

ELEVATION 2 WITH RETAINING
1:100

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Building Surveying Contractor - BSC7

C22-0730 30/11/2022

Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
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-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
ELEVATIONS 2

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **06 of 17**

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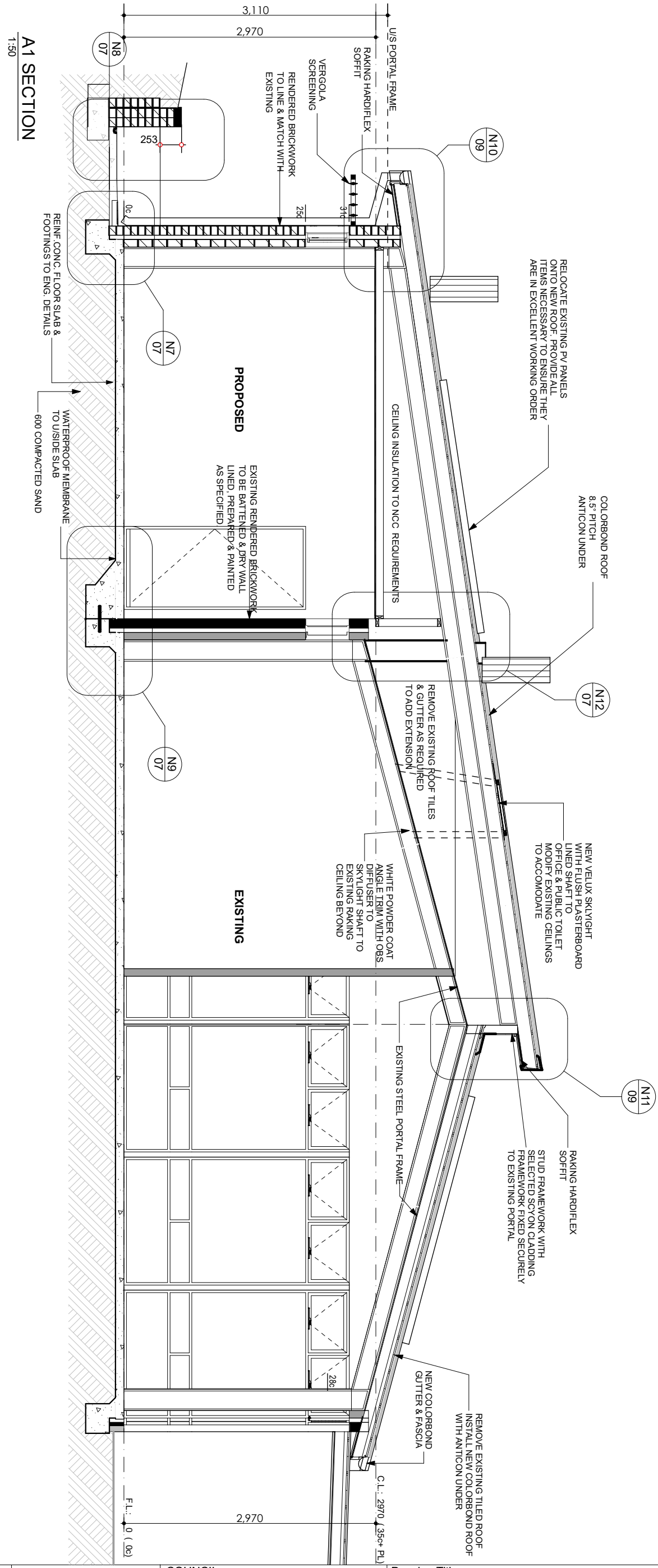
modus compliance pty ltd

Building Surveying Contractor - BSC7

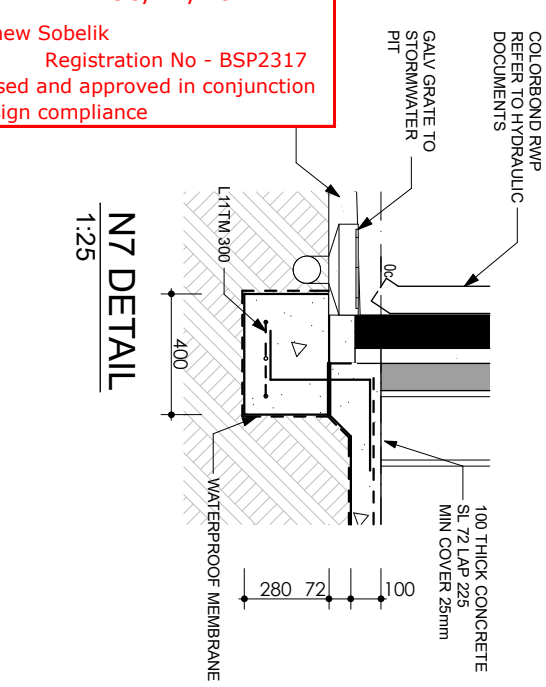
C22-0730 30/11/2022

Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
This plan has been assessed and approved in conjunction with the certificate of design compliance

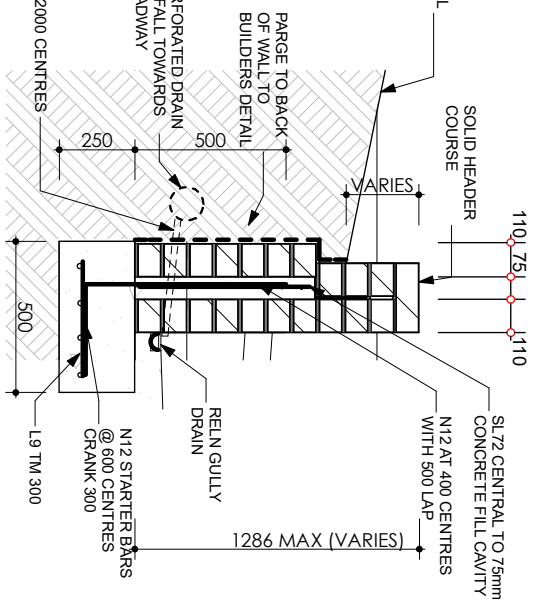
A1 SECTION
1:50



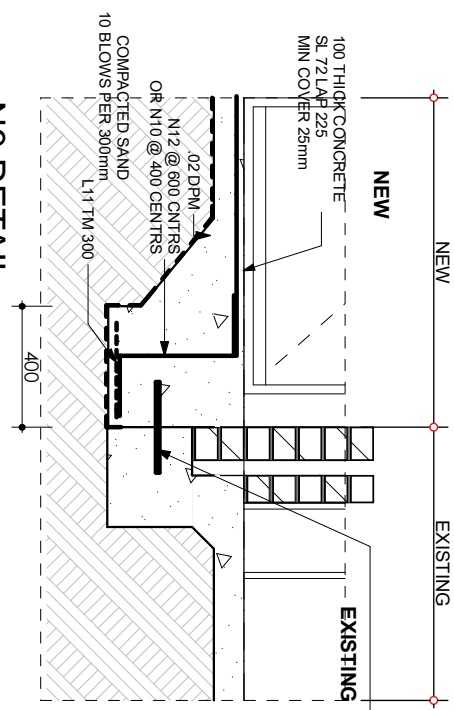
N7 DETAIL
1:25



N8 DETAIL
1:25



N9 DETAIL
1:25



JUDITH McDOUGALL DESIGNS
Accredited Member ACCRED 15013
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TEL 0447 550 275
ABN 79 425 984 191

Email: judithmcdougall@gmail.com

CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY
ADDRESS:
LOT 46 #49
FORTUNE STREET
NARROGIN 6312

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COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
SECTION

Scale: 1:50, 1:100, 1:25 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **07 of 17**

Last accessed: judit on 7/11/2022

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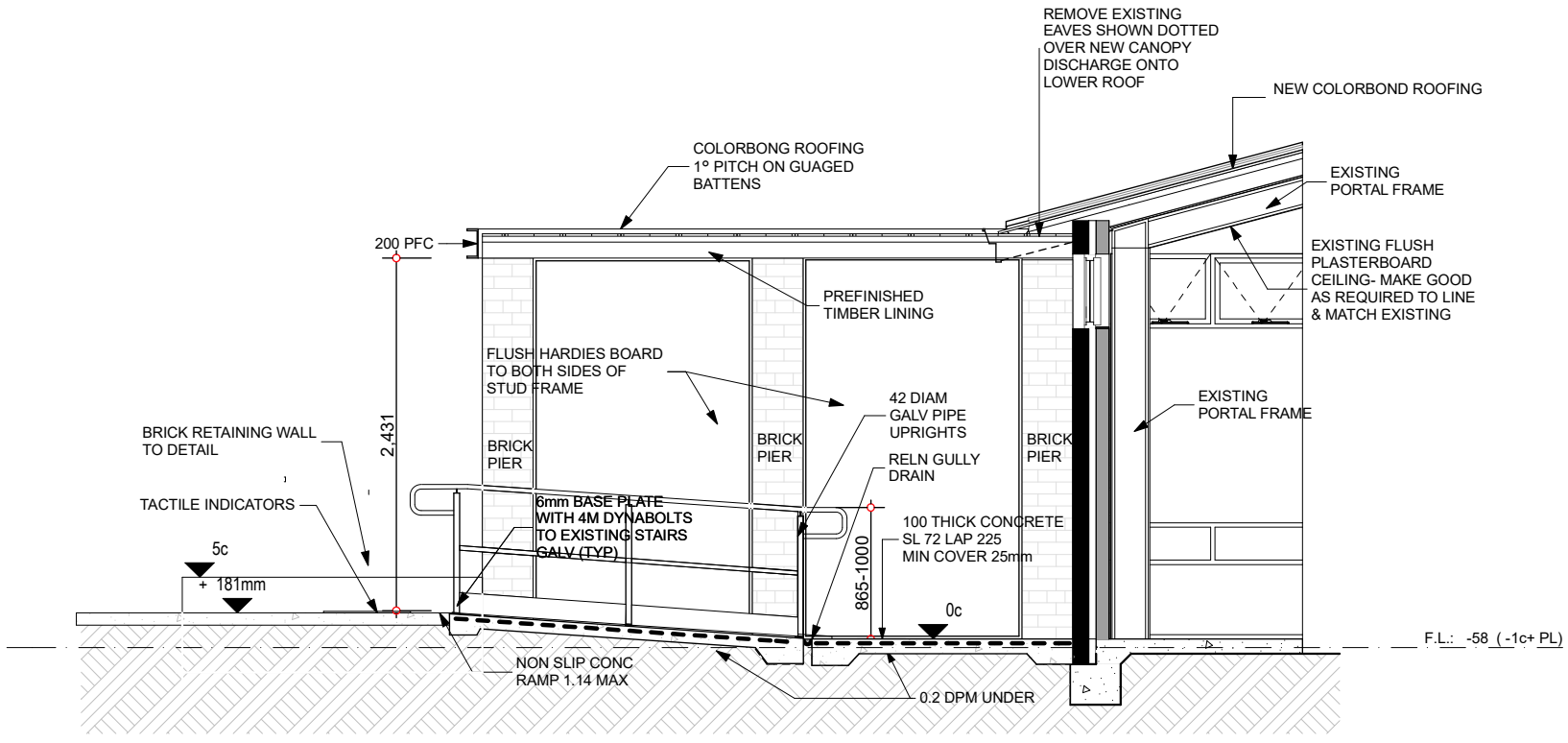

A2 SECTION
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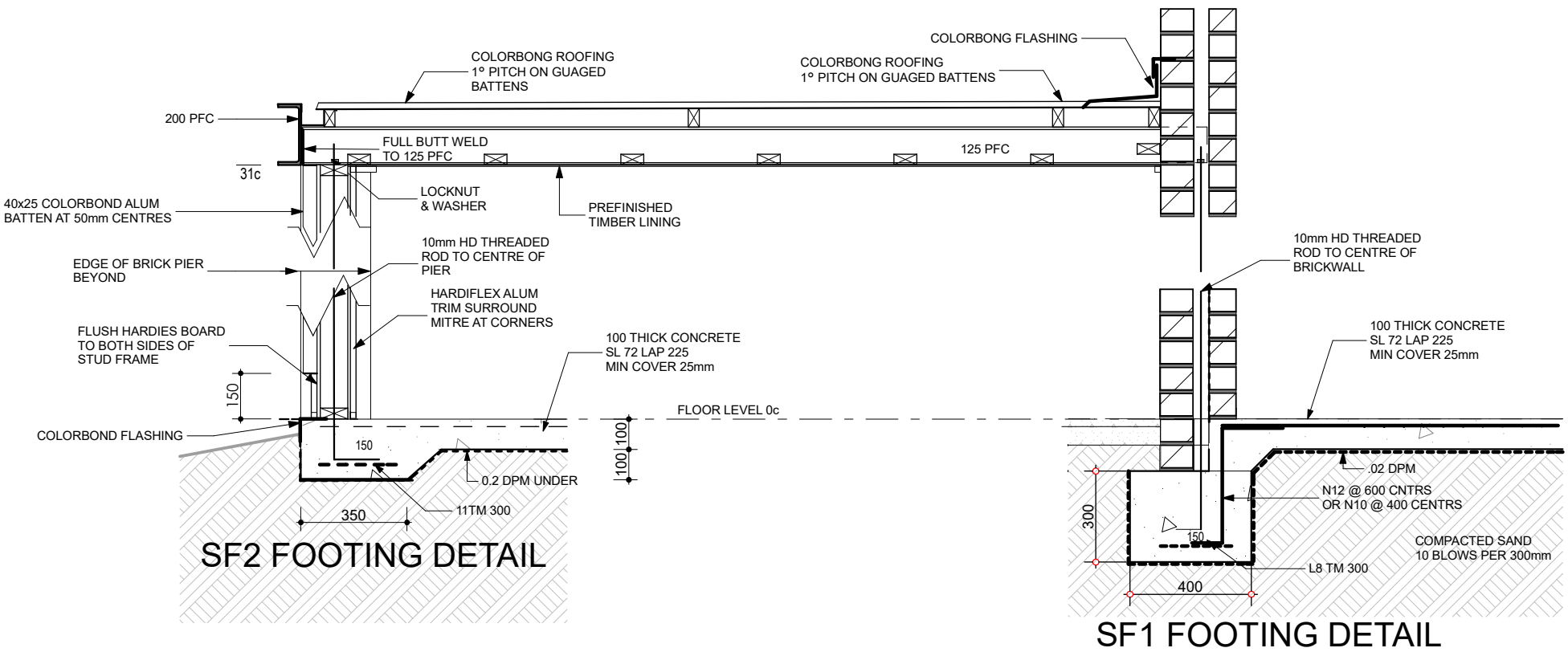
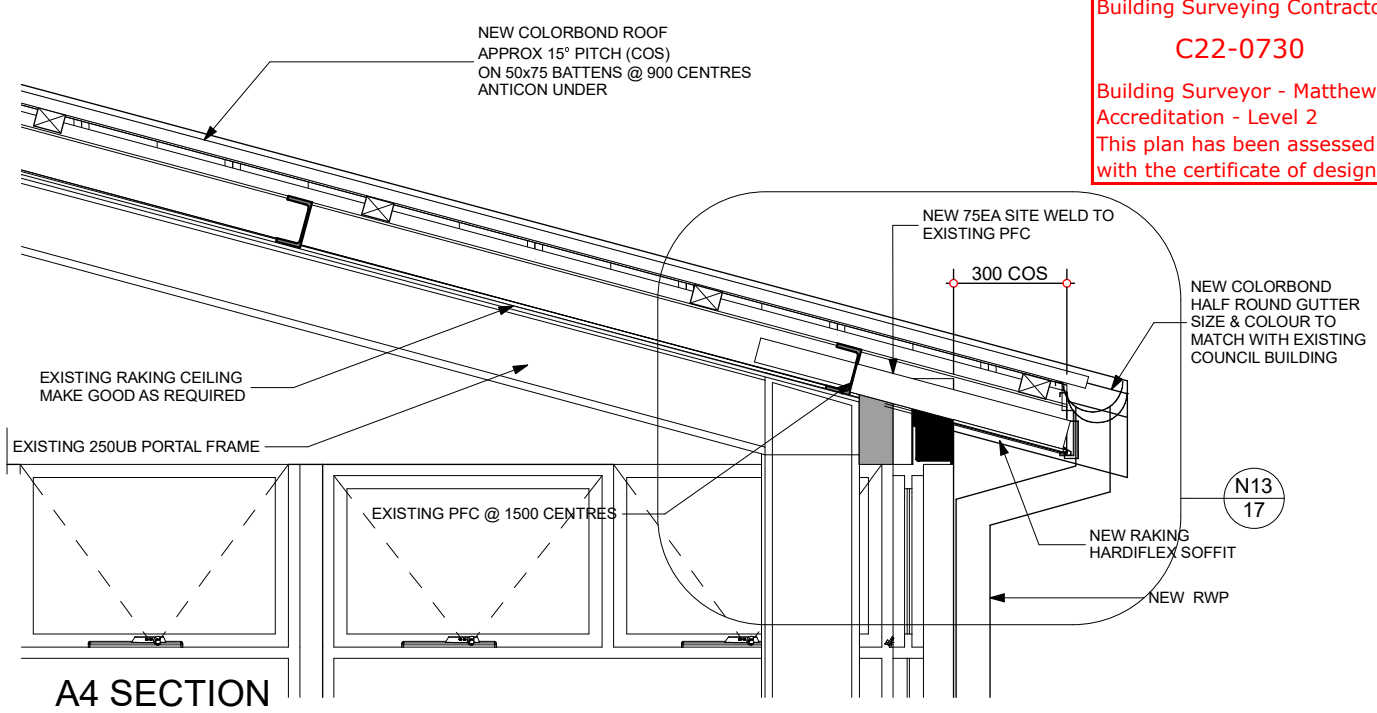


SF2 FOOTING DETAIL

SF1 FOOTING DETAIL

A3 SECTION
1:20



A4 SECTION
1:20

modus compliance pty ltd
Building Surveying Contractor - BSC7
C22-0730 30/11/2022
Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
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COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
SECTION
Scale: 1:20, 1:50
Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No:
08 of 17

Last accessed: judit on 7/11/2022

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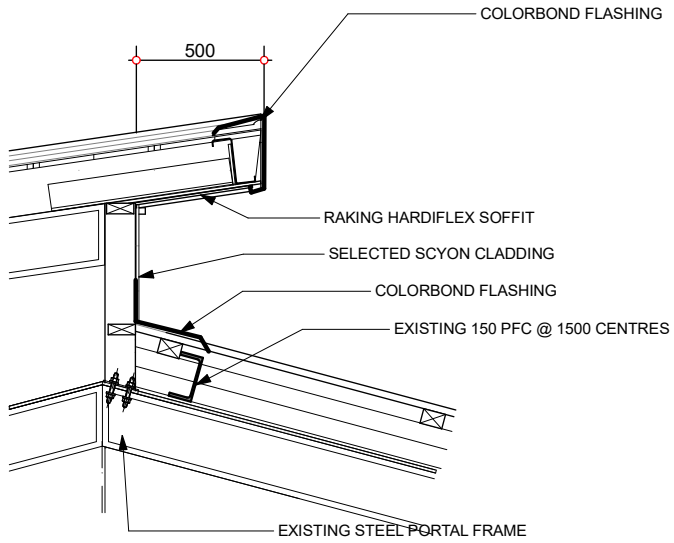
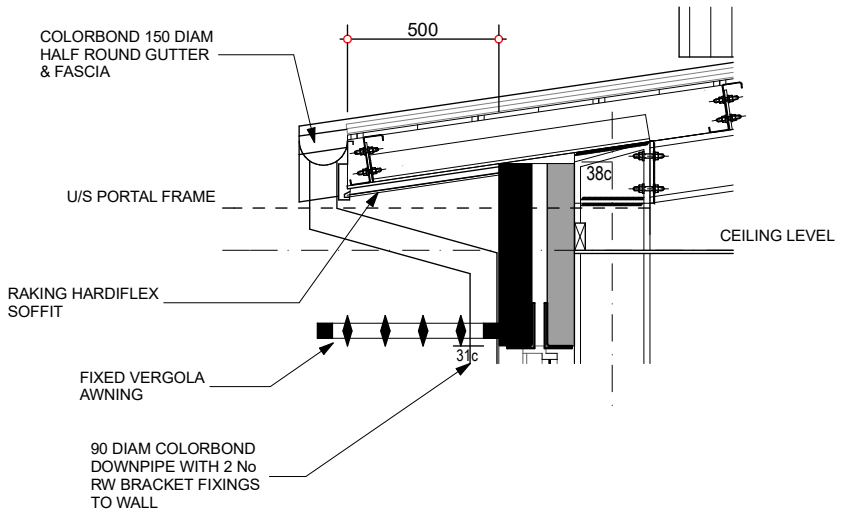


N11 DETAIL
1:25



N10 DETAIL
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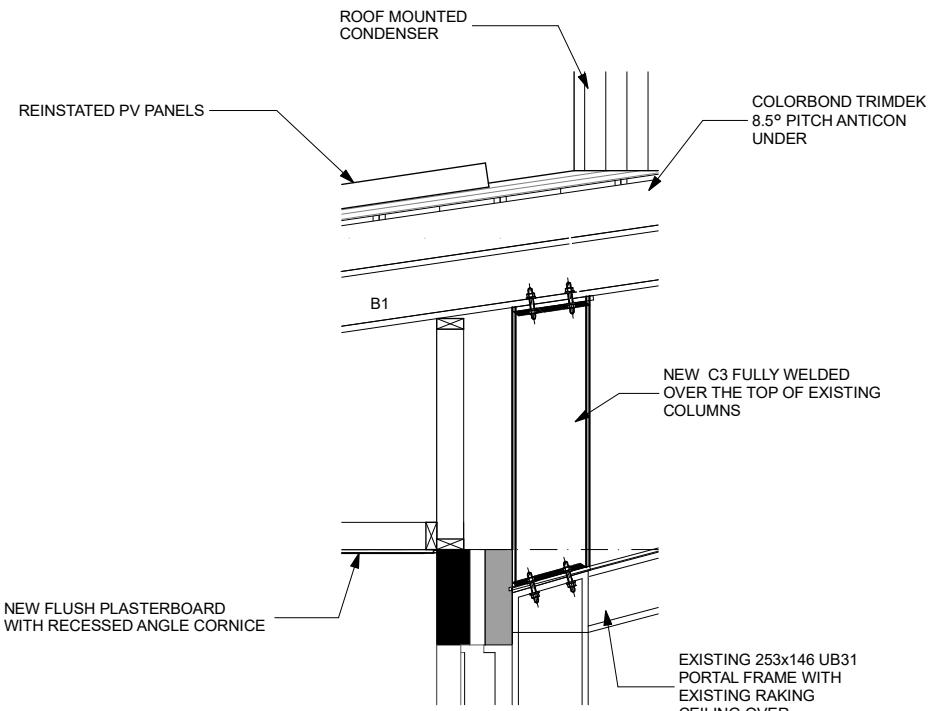

N12 DETAIL
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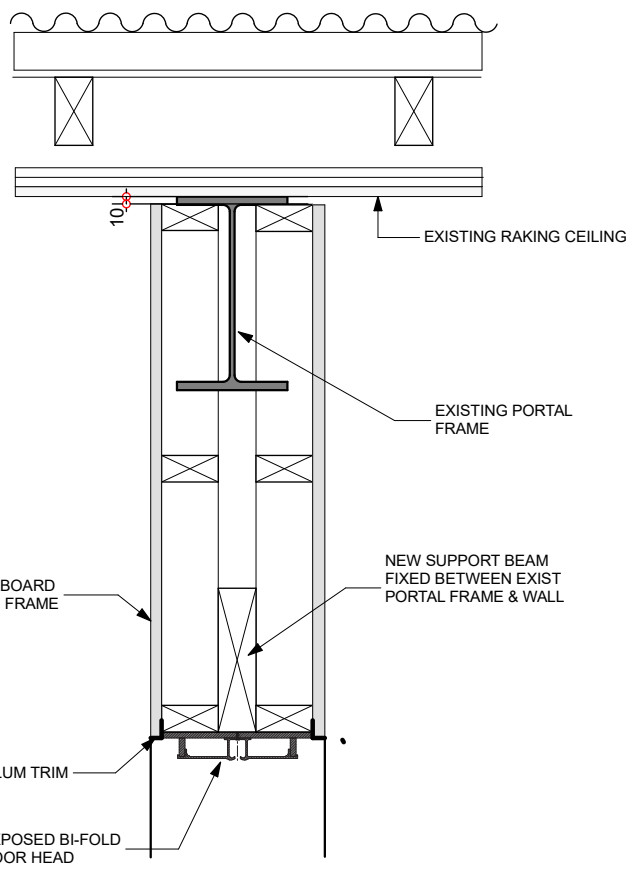
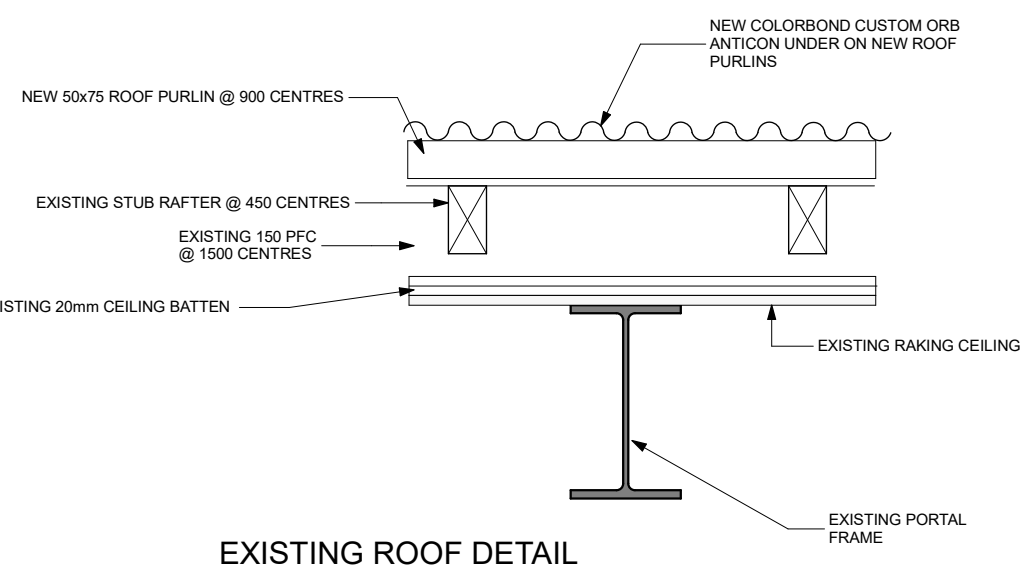


BI- FOLD HEAD DETAIL
1:10



EXISTING ROOF DETAIL
1:10

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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
DETAILS

Scale: 1:20, 1:10, 1:25 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **09 of 17**

Last accessed: judit on 7/11/2022

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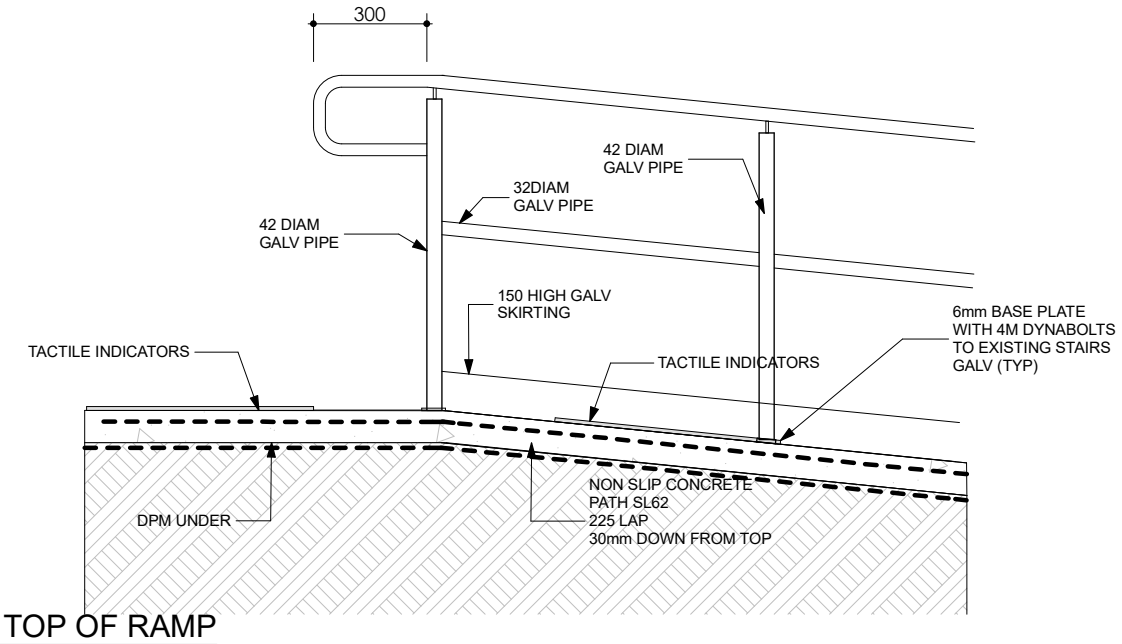
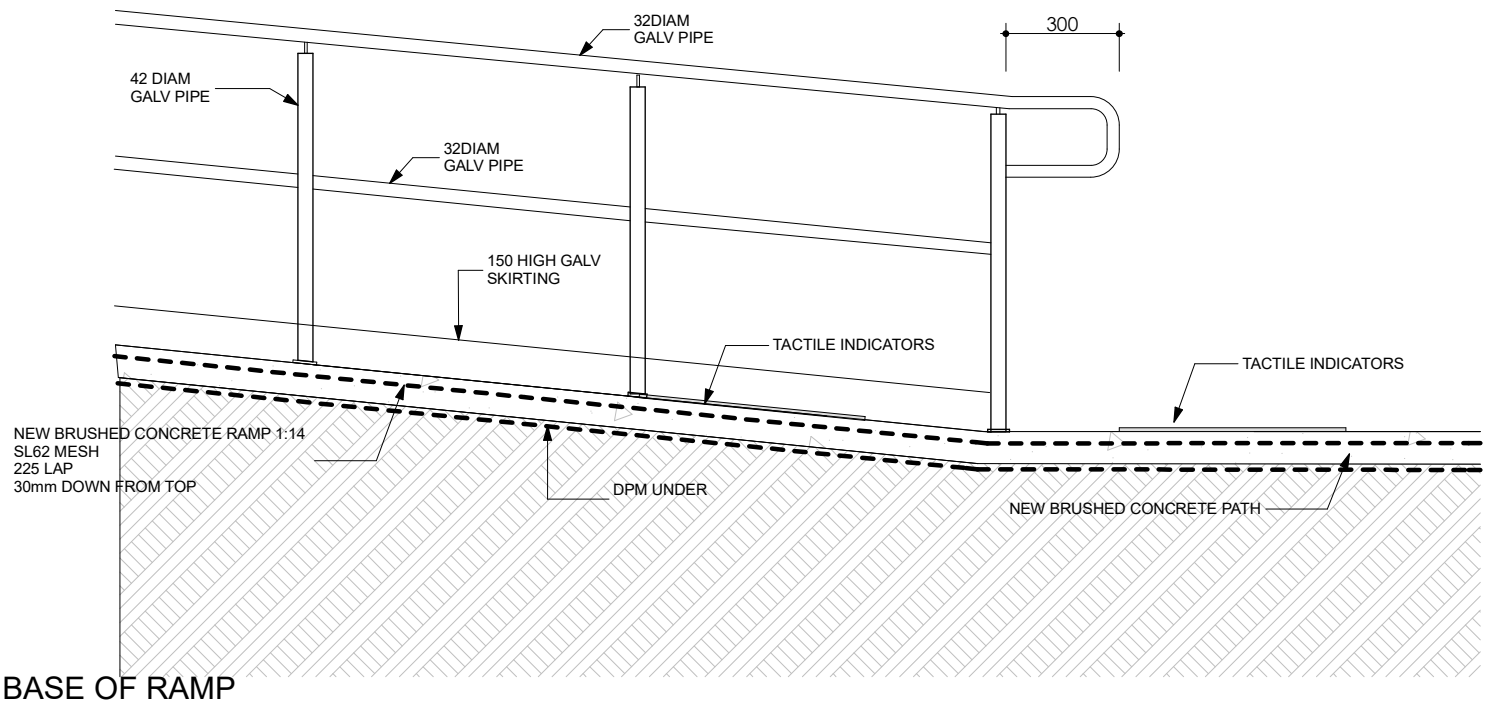


TOP OF RAMP
1:20



BASE OF RAMP
1:20

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COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
RAMP DETAILS

Scale: 1:20
Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No:
10 of 17

Last accessed: judit on 7/11/2022

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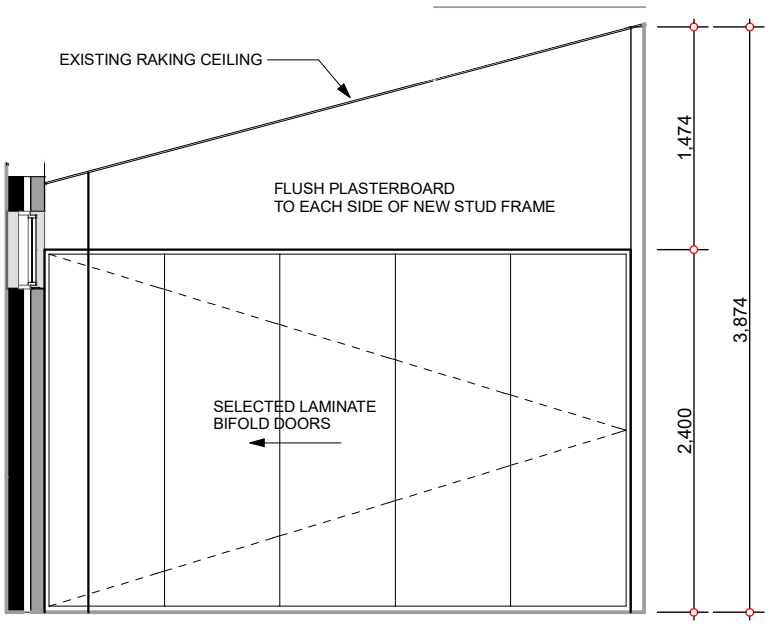
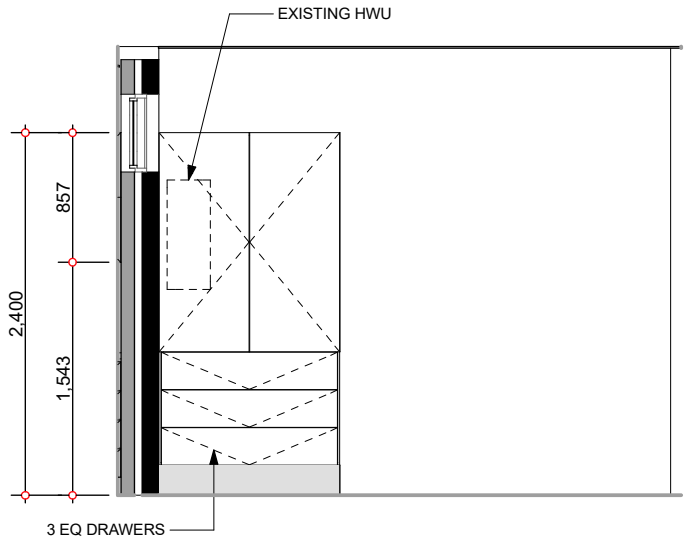
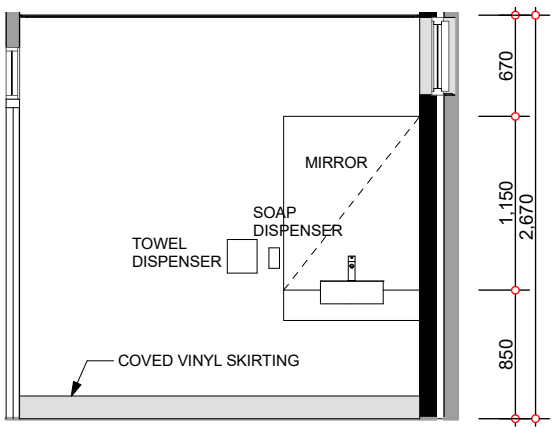


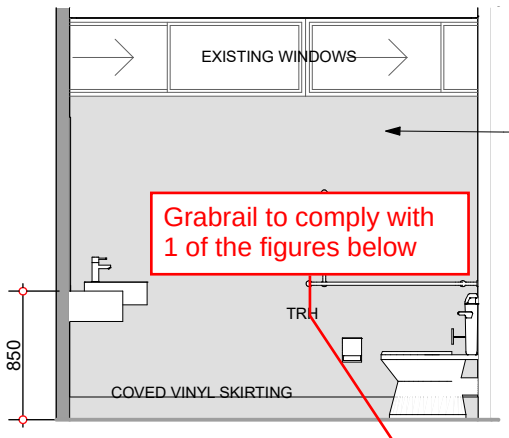


01 CONFERENCE
1:50

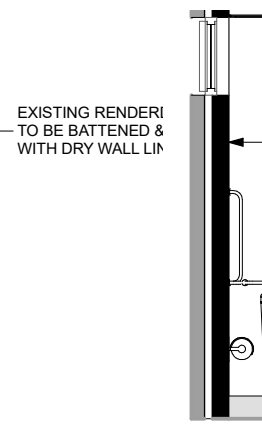
01 RECEIVAL
1:50

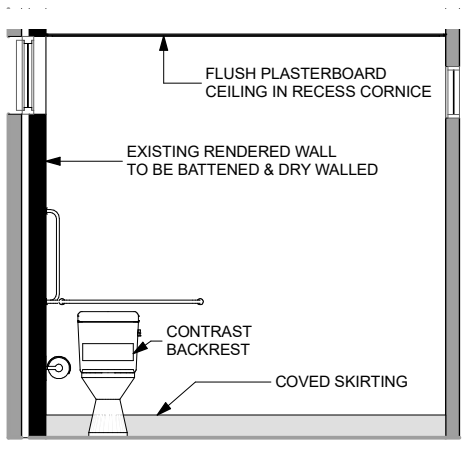


01 STAFF WC
1:50

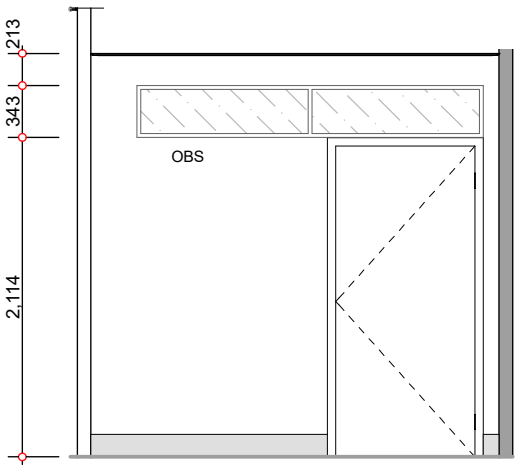


02 STAFF WC
1:50

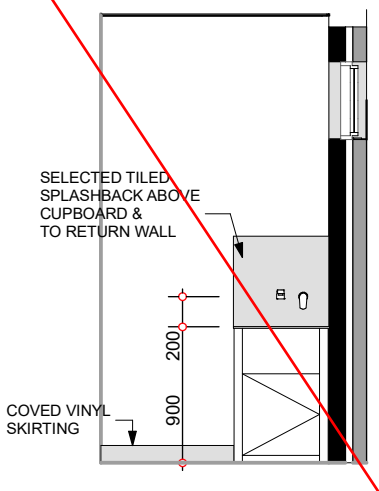




03 STAFF WC
1:50



04 STAFF WC
1:50



01 WORK ROOM
1:50

modus compliance pty ltd

Building Surveying Contractor - BSC7

C22-0730 30/11/2022

Building Surveyor - Matthew Sobelik

Accreditation - Level 2 Registration No - BSP2317

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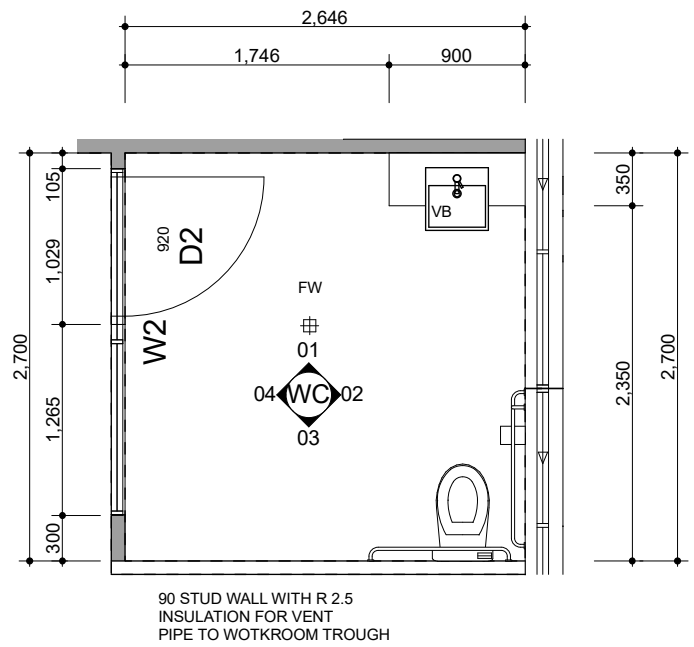
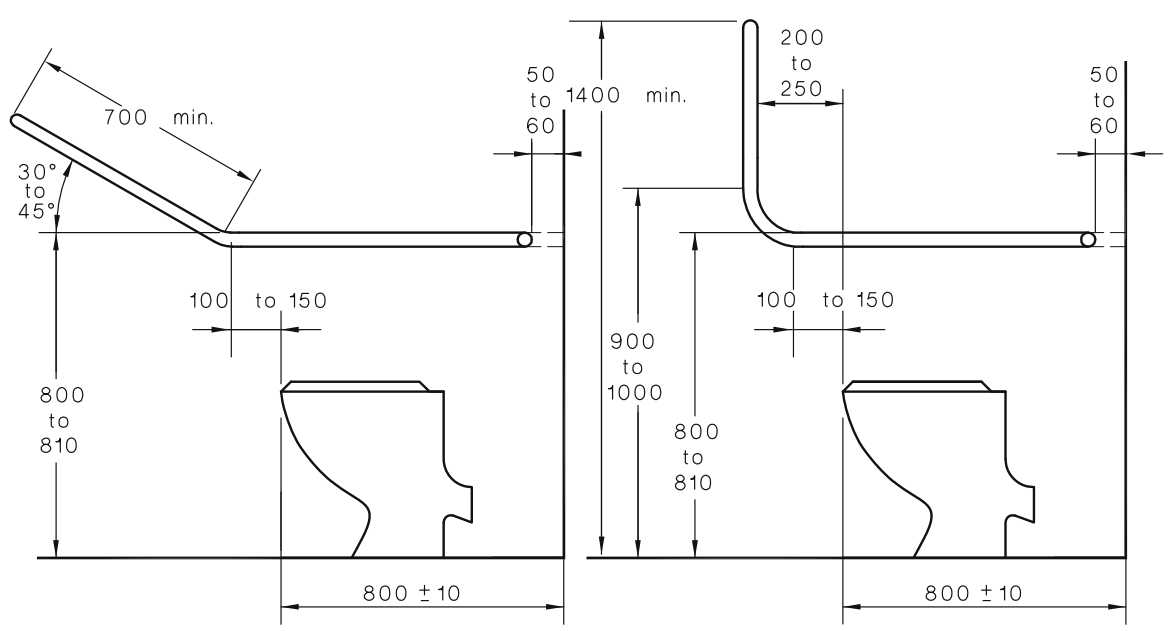


STAFF WC
1:50

Staff WC to comply with Clause 15 Sanitary Facilities of AS 1428.1, refer to Page 18 for toilet details



(a) Side view showing optional systems for grabrail at sides of pan

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NOTE:
DIMENSIONS INDICATED FOR MATERIAL THICKNESSES ARE NOMINAL ONLY AND MAY VARY IN ACTUAL CABINETWORK
REFER TO ADDENDUM FOR FASCIA FINISHES
REFER TO ADDENDUM FOR BENCHTOP & CUPBOARD FINISHES & ALL HANDLE POSITIONS
PLUMBING SETOUTS INDICATED ARE APPROX TO CENTRELINE OF WASTE PIPES ONLY, ACTUAL POSITION OF FITTINGS AND FIXTURES MAY DIFFER ON SITE

COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
RM. LAYOUTS 1

Scale: 1:50, 1:10 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **11 of 17**

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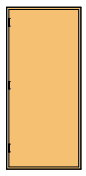
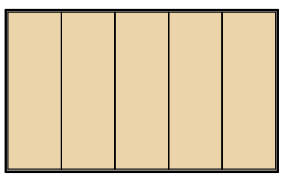
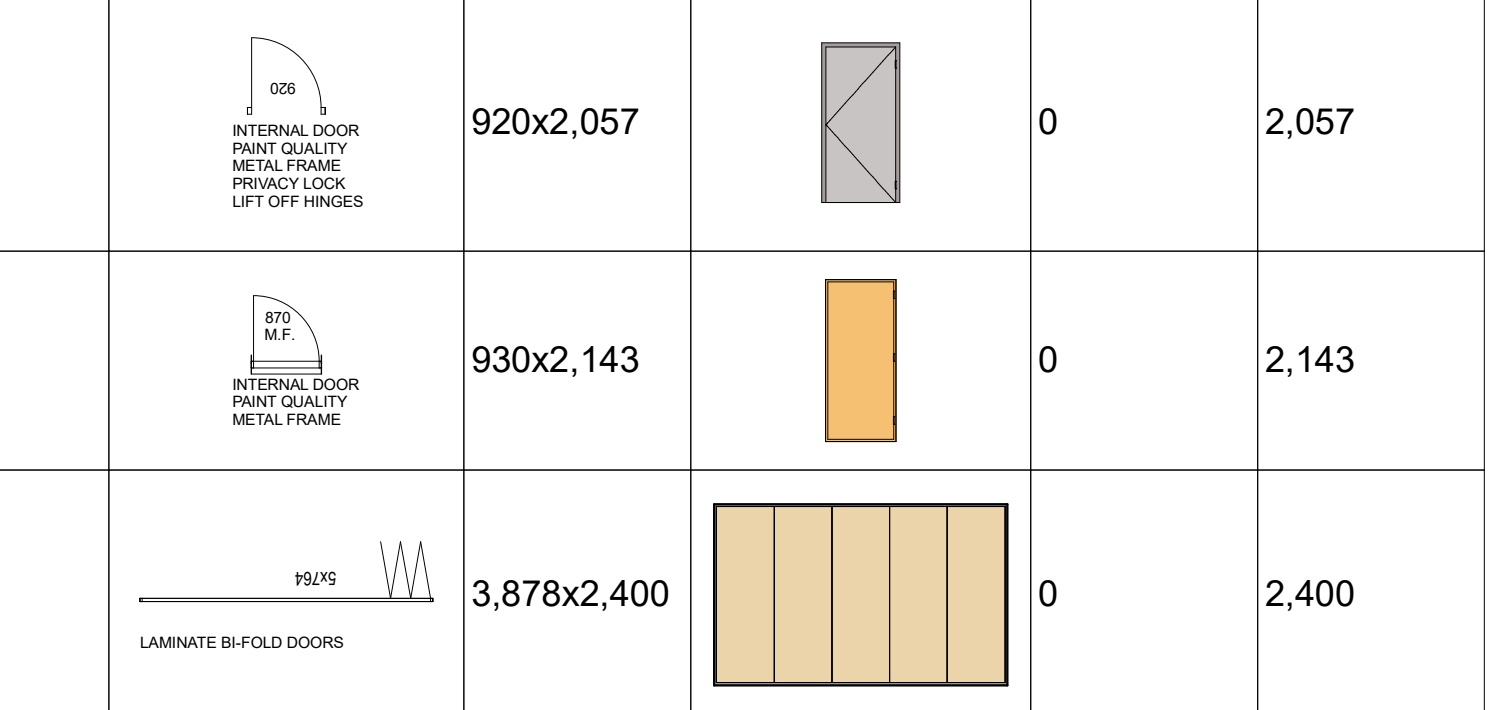
WINDOW SCHEDULE						
Full Element ID	Quantity	2D Symbol	Nominal W x H Size	View from Opening Side	W/D Nominal Sill Height	W/D Nominal Head Height
W1	1	6x9.5 6x7.5 WHITE ALUM FRAME LOCKABLE	2,290x514		2,140	2,654
W1	9		1,810x514		2,140	2,654
W2	1	4x2290 F OBS WHITE ALUM FRAME	2,290x343		2,114	2,457

NEW WINDOW SCHEDULE

NEW DOOR SCHEDULE						
Full Element ID	Quantity	2D Symbol	Nominal W x H Size	View from Opening Side	W/D Nominal Sill Height	W/D Nominal Head Height
D1	1	920 M.F. METAL FRAME SOLID CORE -PAINT WEATHER PROOF DEADLOCK KEY TO EXISTING BUILDING ENTRANCE CALL BELL	980x2,143		0	2,143
D2	1	920 INTERNAL DOOR PAINT QUALITY METAL FRAME PRIVACY LOCK LIFT OFF HINGES	920x2,057		0	2,057
D3	1	870 M.F. INTERNAL DOOR PAINT QUALITY METAL FRAME	930x2,143		0	2,143
D4	1	5x764 LAMINATE BI-FOLD DOORS	3,878x2,400		0	2,400
D5	1	5x708 UNIFOLD SOUNDGUARD DOOR STC 40 VINYL FINISH	3,598x2,143		0	2,143

NEW NEW DOOR SCHEDULE

1:1



A5 SECTION

1:20

modus compliance pty ltd

Building Surveying Contractor - BSC7

C22-0730 30/11/2022

Building Surveyor - Matthew Sobelik

Accreditation - Level 2 Registration No - BSP2317

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01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
WINDOW & DOOR SCHEDULE

Scale: 1:1, 1:20 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **12 of 17**

Last accessed: judit on 7/11/2022

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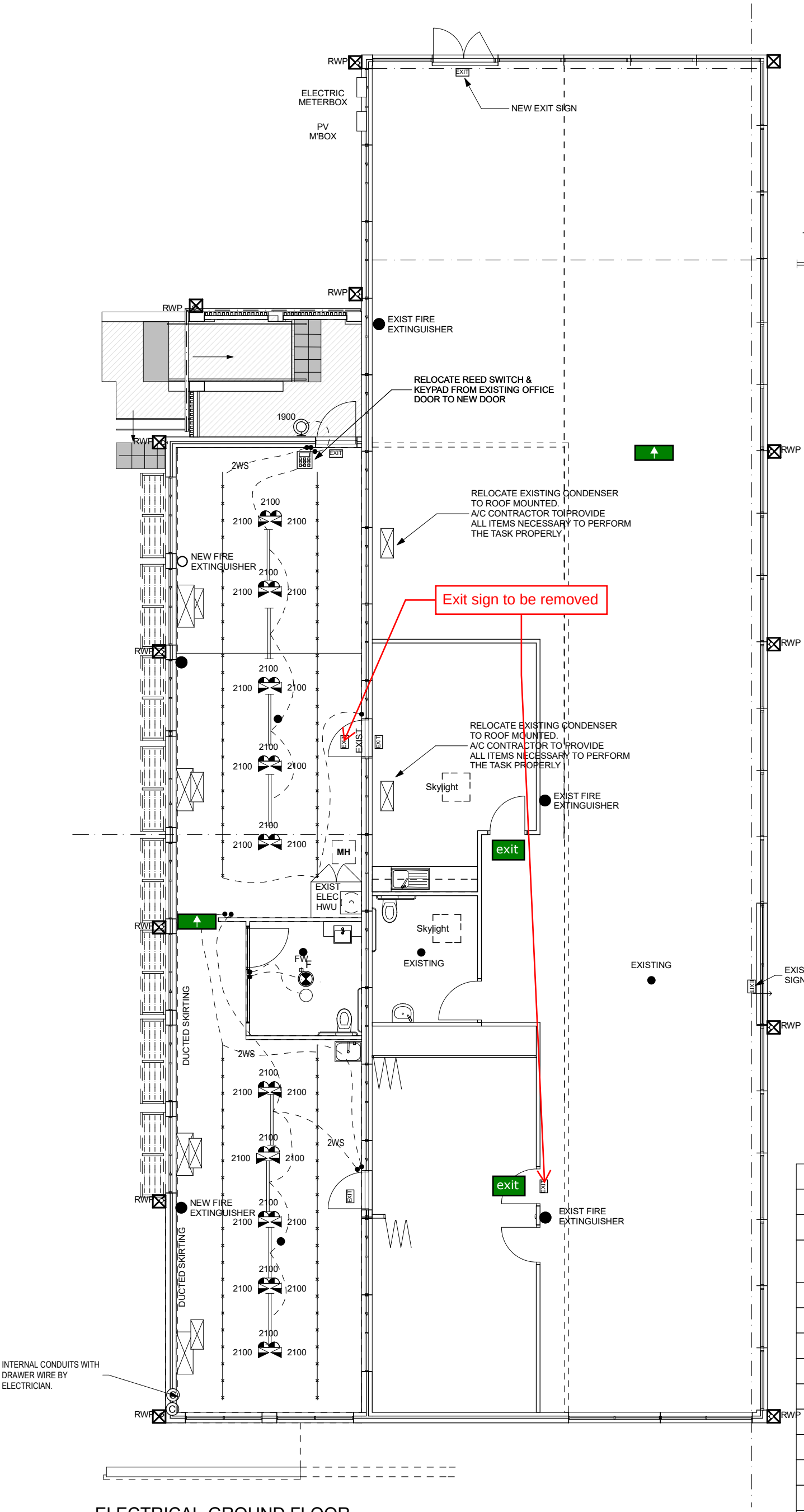

ELECTRICAL-GROUND FLOOR
1:100

LIGHTING SPECIFICATION

EXIT SIGN - PIERLITE STINGRAY 2 LED EXIT LIGHT

EMERGENCY LIGHTING - PIERLITE FIREFLY 2 LED FFRLED2 EMERGENCY LIGHT 2E, 174LM, 6550K, WHITE

STRIP LIGHTING - KLIKLED KALLI 060BEAM D1 3000K 4.1WATTS/m 410 LUMEN/m, WHITE, BEAM ANGLE 80

RECESSED LIGHTING -HARCROFT FALCON FAL1-NSAGAAA1738030BA, 1195x295,3000K, 1730 LUMENS

WALL LIGHT - VANDAL RESISTANT OUTDOOR WALL LIGHT 1IK10 12w, 500LM 4200K IP EYELID BLACK

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NOTE: ALL EXTERNAL WALL LIGHTS TO BE POSITIONED AT 1900 AFL UNLESS NOTED OTHERWISE

NOTE: ALL LIGHT SWITCHES TO BE POSITIONED AT 1350 AFL UNLESS NOTED OTHERWISE

ELECTRICAL LEGEND

No.	SYMBOL	TYPE
3	2WS	2 Way Switch
6		A/C CONDENSER
4		Aircon Split Wall Unit
1		ALARM PANEL
1		CEILING LIGHT
2		CONDUIT
20		DATA POINT
10		DOUBLE GPO @ NOTED HT
3		EMERGENCY LIGHT
1		EXHAUST FAN FLUMED
1		EXTERNAL WALL LIGHT @ 1900 AFL
8		RECESSED LIGHT WITH DIFFUSER
		SUSPENDED STRIP LIGHTING WITH DIFFUSERS

JUDITH McDOUGALL DESIGNS
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THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS AND VERIFY ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWINGS. DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE ARCHITECT FOR CONSTRUCTION

COUNCIL:
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REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title: ELECTRICAL-GROUND FLOOR
Scale: 1:100 Date: **JULY 2022**
Status: WORKING DRAWINGS
JOB NO: **2321**
Drawing No: **13 of 17**

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Last accessed: judit on 7/11/2022

GENERAL NOTES

1. ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS. ANY DISCREPANCIES SHALL BE REPORTED PRIOR TO FABRICATION AND CONSTRUCTION.
2. CHECK ALL DIMENSIONS ON SITE. REPORT ALL DISCREPANCIES.
3. DIMENSIONS SHALL NOT BE SCALED FROM DRAWINGS.
4. ALL STANDARDS REFERRED TO SHALL BE CURRENT PUBLICATIONS INCLUDING THEIR LATEST REVISIONS.
5. DIMENSIONS ON THE STRUCTURAL DRAWINGS ARE EXCLUSIVE OF FINISHES.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION METHOD AND MAINTENANCE OF SAFETY DURING THE CONSTRUCTION. SHOULD ANY ELEMENT PRESENT ITSELF TO BE DIFFICULT WITH RESPECT TO CONSTRUCTIBILITY OR SAFETY, THE ENGINEER IS TOBE NOTIFIED IMMEDIATELY TO ALLOW FOR DIRECTION TO BE GIVEN PRIOR TO PROCEEDING WITH WORKS.
7. ALL WORKS TO CONFORM TO THE NATIONAL CONSTRUCTION CODE "NCC".
8. THE STRUCTURE HAS BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE RELEVANT CODE/STANDARD PROVISIONS FOR THE STRUCTURE IN ITS SERVICE CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE & ADJACENT STRUCTURES DURING THE CONSTRUCTION PROCESS AND IS RESPONSIBLE TO ENSURE THAT NO STRUCTURAL ELEMENT IS IN ANY WAY OVERSTRESSED DURING THE CONSTRUCTION PROCESS. ANY TEMPORARY BRACING/SUPPORT WHICH IS REQUIRED IS TO BE DESIGNED AND INSTALLED BY APPROPRIATE SUB-CONTRACTORS.
9. CONTRACTOR SHALL ENSURE THAT THE STRUCTURE AND ADJACENT STRUCTURES ARE NOT UNDERMINED OR SURCHARGED.
10. ALL CONSTRUCTION SHALL BE UNDERTAKEN BY COMPETENT AND SUITABLY QUALIFIED PERSONS.

FOOTINGS

1. COMPACT ALL GRADES BELOW FOOTINGS AND SLAB ON GROUND TO ACHIEVE A MINIMUM PERTH SAND PENETROMETER (PSP) READING OF:
   - SINGLE STOREY: 8 BLOWS PER 300mm
   - MULTI STOREY:10 BLOWS PER 300mm
2. ALL EARTHWORKS SHALL BE IN ACCORDANCE WITH AS3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND SHALL INCLUDE BUT NOT BE LIMITED TO:
   - STRIP BUILDING AREA AND PERIMETER APRON OF ORGANIC MATERIAL AND RUBBISH
   - GRUB OUT ANY TREES/STUMPS AND BACKFILL WITH CLEAN COMPACTED SAND FREE OF ANY VOIDS
   - REMOVE ANY DELETERIOUS MATERIAL SUCH AS ROCK OR CLAY FROM THE BUILDING AREA OR APRON.
   - NOTIFY ENGINEER IF ANY ANOMALIES OR UNUSUAL FEATURES ARE ENCOUNTERED DURING THE WORKS.
   - CUT AND/OR FILL SITE TO FORM UP PAD WITH CLEAN COMPACTED SAND TO THE REQUIRED LEVEL.
   - REFER TO STRUCTURAL DRAWINGS FOR COMPACTION REQUIREMENTS.
   - CONSTRUCT FOOTINGS AND SLAB AS PER THE STRUCTURAL FOOTING DETAILS.
3. THE FOOTING DETAIL RECOMMENDED REQUIRES ONGOING MAINTENANCE OF THE SITE TO ENSURE ITS STRUCTURAL PERFORMANCE. REFER TO CSIRO PUBLICATION 10-91 "GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE" FOR DETAILS. THESE RECOMMENDATIONS AND FOOTING DETAILS PROVIDED ARE BASED ON PERFORMANCE AS DEFINED IN AS2870. MINOR FOUNDATION MOVEMENT IS TO BE EXPECTED WHICH CAN RESULT IN CRACKING RELATING TO DAMAGE CATEGORY '2'. THIS IS DEEMED TO BE NON-STRUCTURAL CRACKING.
4. ALL SAND SHALL BE CLEAN WELL GRADED SAND AND SHALL BE COMPACTED IN 300mm LAYERS.
5. POUR LOWER LEVEL FOOTINGS FIRST. DIFFERENCE IN FOUNDING LEVEL OF ADJACENT FOOTINGS SHALL NOT EXCEED HALF OF THE CLEAR DISTANCE BETWEEN THEM.
6. PRIOR TO POURING CONCRETE FOOTINGS AND SLABS ON GROUND, OBTAIN ENGINEERS APPROVAL OF ALL EXCAVATIONS.
7. STEP FOOTINGS 514 (MAX) TO SUIT SITE LEVELS U.N.O.
8. ALL FOOTINGS AND GROUND SLABS ARE TO BE BUILT IN ACCORDANCE WITH
   - AS2870 - RESIDENTIAL SLABS AND FOOTINGS
   - AS3798 - GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.

MASONRY

1. BRICKWORK SHALL COMPLY WITH AS3700 & AS4773.
2. LOADBEARING BRICKWORK SUPPORTING SUSPENDED FLOORS TO HAVE A MINIMUM UNCONFINED CHARACTERISTIC STRENGTH f'uc: 12MPa.
3. MORTAR TO BE M3. USE M4 WHEN LOCATED WITHIN 1km OF THE OCEAN OR WHEN IN DPC (DAMP PROOF COURSE).
4. MASONRY ABUTTING STEEL OR CONCRETE SHALL BE RESTRAINED USING 32 x 1.2mm STEEL STRAPS 300 LONG POWER FIXED AT THE LESSER OF EVERY 4TH COURSE OR 600mm VERTICALLY. ALTERNATIVELY, PROVIDE R6 RODS CRIMPED AND WELDED AT 300 CRS TO BOTH SIDES OF STEELWORK. PROVIDE BRICK TIES AS PER NOTE 5.
5. APPROVED WALL TIES ARE TO COMPLY WITH AS3700, AS/NZS2699.1 & AS4773.1
6. LOAD BEARING BRICKWORK SHALL NOT BE HORIZONTALLY OR DIAGONALLY CHASED OR CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER.

FORMWORK

1. ALL FORMWORK SHALL COMPLY WITH AS3610
2. FORMWORK STRIPPING TIMES (MINIMUM DAYS)
   - WALLS AND COLUMNS - 3 DAYS
   - BEAMS, SLABS & STAIRS - 10 DAYS
3. IMMEDIATELY AFTER STRIPPING, PROGRESSIVELY BACK PROP SLAB AND BEAMS. PLACE PROPS AT 1/4 POINTS OF BEAM SPANS, AND AT 2.4m CRS FOR SLAB.
4. DEPROP WHEN SLAB IS 28DAYS OLD. THIS CAN BE REDUCED TO 21 DAYS PROVIDED f'c IS REACHED (TESTED IN ACCORDANCE WITH AS1012.9) PRELOAD DEPROPPED SLAB WITH BRICKS PRIOR TO COMMENCING BRICKWORK CONSTRUCTION.
5. ALL FORMWORK TO COMPLY WITH AS3610. THE DESIGN CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FORMWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT STANDARDS.

CONCRETE

1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH AS3600
2. CONCRETE QUALITY; REFER TO TABLE

ELEMENT	GRADE OF CONCRETE f'c (MPa)	MAX. AGGREGATE. SIZE (mm)	SLUMP (mm)
FOOTINGS	N20	20	80
SLAB ON GROUND - INTERNAL	N20	20	80
SLAB ON GROUND - EXTERNAL	N20	20	80
SUSPENDED SLAB - INTERNAL	N32	20	80
SUSPENDED SLAB - EXTERNAL	N40	20	80
COLUMNS	N40	14	80

   - INTERNAL - PROTECTED FROM WEATHER, CONTAINED WITHIN THE MAIN BUILDING BY WALLS & ROOF ETC.
   - EXTERNAL - EXPOSED/OPEN TO WEATHER EG: UNDERSIDE OF EXTERNAL CANTILEVER, BALCONY SLABS, SLAB OVER ALFRESCO AREAS ETC.
3. ALL CEMENT SHALL CONFORM TO AS 3972, ALL CEMENT TO BE USED GENERAL PURPOSE CEMENT "TYPE GP". BLENDED CEMENTS "TYPE GB" SHALL NOT BE USED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
4. BUILD ALL FORMWORK FROM ARCHITECTURAL DRAWINGS. CONFIRM ANY CAST-IN ITEMS SUCH AS BOLTS, ANGLES, TIES, FLASHING, PLUMBING AND ELECTRICAL FITTINGS ETC.
5. ALL CONCRETE SHALL BE VIBRATED BY AN APPROVED IMMERSION TYPE VIBRATOR. THE FINISHED CONCRETE SHALL COMPLETELY FILL THE FORMWORK, ENCASE ALL REINFORCEMENT AND ENSURE SEGREGATION OF THE CONCRETE DOES NOT OCCUR.
6. POUR BEAMS AND SLABS MONOLITHICALLY.
7. CONSTRUCTION JOINT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
8. CAST-IN CONDUITS SHALL HAVE A MINIMUM 25mm CONCRETE COVER AND SHALL BE PLACED BETWEEN, NOT OUTSIDE, THE LAYERS OF REINFORCEMENT.
9. WHERE CONCRETE BEARS ON BRICKWORK, PROVIDE TWO LAYERS OF APPROVED BOND BREAKER BETWEEN WALLS AND SUSPENDED SLAB (ALSO APPLICABLE TO WALLS OVER SUSPENDED SLAB) U.N.O.
10. ALL CONCRETE SHALL BE MOIST CURED FOR 7 DAYS BY EITHER:
    - CONTINUOUS WATER PONDING
    - WET HESSIAN
    - APPROVED CURING MEMBRANE

    CURING COMPOUNDS ARE PERMITTED, PROVIDED THAT THEY COMPLY WITH AS3799 AND DO NOT EFFECT THE FLOOR FINISHES. THE USE OF PVA BASED COMPOUNDS IS NOT RECOMMENDED.
11. ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE POURING CONCRETE.
12. ADMIXTURES SHALL NOT BE USED WITHOUT WRITTEN APPROVAL FROM THE DESIGN ENGINEER.
13. UNLESS STATED ON THE ATTACHED PLANS, IT IS ASSUMED THAT POLISHED, HONED OR EXPOSED FINISHES WILL NOT BE USED TO CONCRETE SURFACES. REFER TO THIS OFFICE FOR FURTHER ADVICE IF USING ANY OF THE FINISHES STATED ABOVE.

STRUCTURAL STEEL

1. STEELWORK SHALL COMPLY WITH AS4100.
2. U.O.N. USE 2-M16 8.8/S BOLTS AND 10mm THICK PLATE FOR EACH CONNECTION.
3. ALL HOLLOW SECTIONS SHALL BE FULLY SEALED USING 3mm SEAL PLATES.
4. DRY PACK BENEATH ALL BASE PLATES USING 2:1 SAND/CEMENT STIFF MORTAR.
5. WELDING SHALL COMPLY WITH AS/NZS1554 AND SHALL HAVE A MINIMUM WELD CATEGORY OF GENERAL PURPOSE (GP). USE E48XX OR W50X WELDING CONSUMABLES U.N.O.
6. U.N.O USE 6mm CONTINUOUS FILLET WELD AT ALL WELDED JOINTS. FULL STRENGTH BUTT WELD (F.S.B.W) TO BE GP WELDED CATEGORY U.N.O.
7. ALL SITE WELDING TO BE PERFORMED BY QUALIFIED PERSONS.
8. TOUCH UP ALL SITE WELDS WITH 2 COATS OF 'COLD GALV' ZINC RICH PAINT.
9. ALL SURFACE TREATMENT OF STRUCTURAL STEEL SHALL COMPLY WITH AS/NZS2312 AND THE NATIONAL CONSTRUCTION CODE - "PROTECTIVE COATINGS". ALL STEEL BUILT INTO MASONRY SHALL ALSO COMPLY WITH AS/NZS2699.
10. ALL STEELWORK IN CONTACT WITH GROUND TO BE SUITABLY TREATED IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION CODE & CORROSION SPECIALISTS RECOMMENDATIONS. CONTACT THIS OFFICE FOR FURTHER ADVICE.
11. MINIMUM GRADE OF STEEL SHALL BE:
    - STRUCTURAL STEEL- GRADE 300 IN ACCORDANCE WITH AS/NZS3679
    - HOLLOW SECTIONS - CHS TO COMPLY WITH AS/NZS 1163-C250L0/C350L0
      - RHS/SHS TO COMPLY WITH AS/NZS1163-C450L0
    - PLATE - GRADE 300 IN ACCORDANCE WITH AS/NZS3678
    - FLAT BAR - GRADE 250 IN ACCORDANCE WITH AS/NZS3679
12. PROVIDE MINIMUM 200 CFW (CONTINUOUS FILLET WELD), TO BOTH SIDES OF WEB OF TBAR AT BOTH ENDS.
13. UNLESS SPECIFIED OTHERWISE, LINTELS & SHELF LINTELS TO COMPLY WITH AS4100, AS3700, AS4773, AS/NZS2699.3 AND THE NATIONAL CONSTRUCTION CODE.
14. UNLESS NOTED OTHERWISE LINTELS BELOW SUSPENDED FLOORS SHALL BE SCHEDULED AS NOMINATED BELOW.

MEMBER	MAX SPAN (mm)	MIN. END BEARING (mm)
100 x 75 x 8.0 EA	1500	150
125 x 75 x 8.0 EA	2000	150
150 x 90 x 8.0 UA	2500	230
150 x 100 x 10 UA	3000	230

TIMBER

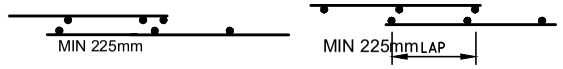
1. TIMBER SHALL BE IN ACCORDANCE WITH:
   - AS1684 & AS1720
   - NATIONAL CONSTRUCTION CODE
2. ALL STRUTTING BEAMS ARE TO BE LATERALLY RESTRAINED AT POINT OF LOADING AND AT ENDS TO AS1684.
3. U.N.O ALL LVL BEAMS ARE ASSUMED TO BE HYSPAN.
4. U.N.O ALL TIMBER TO CONFORM TO THE FOLLOWING HAZARD CLASS:
   - H1 - INSIDE ABOVE GROUND - FULLY PROTECTED, WELL VENTILATED.
   - H2 - INSIDE ABOVE GROUND - PROTECTED FROM WETTING AND LEACHING.
   - H3 - OUTSIDE ABOVE GROUND - MODERATE WETTING AND LEACHING.
   - H4 - OUTSIDE IN GROUND - SEVERE WETTING AND LEACHING.
5. MINIMUM STRESS GRADES ON TIMBER U.N.O:

TIMBER	GRADE	JOINT GRADE
SOFTWOOD	MGP10	JD5
HARDWOOD	F14	J3

6. THE BUILDER/OWNER IS RESPONSIBLE FOR ENSURING ALL EXTERNAL TIMBER IS REGULARLY INSPECTED AND APPROPRIATELY MAINTAINED OVER ITS LIFE BY SUITABLY QUALIFIED PERSONS.
7. TERMITE TREATMENT IN ACCORDANCE WITH AS3660.
8. UNLESS OTHERWISE NOTED PGI STRAP SHALL BE 30 x 0.8mm AND HAVE A MINIMUM OF 2/30 x 2.8mm NAILS AT EACH END AND A METAL FRAMING ANCHOR WITH 4/30 x 2.8mm NAILS TO EACH LEG/TAB.
9. TIMBER TO TIMBER ROOF BEAM CONNECTION TO BE MIN 5PL ANGLE CLEAT, 2-M10 BOLTS EACH BEAM OR APPROVED PROPRIETARY ANGLE.

REINFORCEMENT

1. SYMBOLS DENOTED IN DRAWINGS FOR GRADE AND STRENGTH OF REINFORCEMENT
   - SL & RL - GRADE 500 WELDED WIRE REINFORCING MESH TO AS/NZS4671.
   - L - GRADE 500 STEEL REINFORCING WIRE TO AS/NZS4671.
   - N - GRADE 500 HOT ROLLED DEFORMED REINFORCING BAR TO AS/NZS4671
   - R - GRADE 250 R PLAIN BAR TO AS/NZS4671.
   - W - GRADE 500 L COLD DRAWN ROUND WIRE TO AS/NZS4671.
2. SPLICE REINFORCEMENT IN ACCORDANCE WITH AS3600.
   - MESH SHALL BE LAPPED SO THAT THE TWO OUTERMOST MAIN WIRES OF ONE SHEET OVERLAP THE TWO MOST OUTERMOST MAIN WIRES OF THE OTHER SHEET.



   - THE SPLICE LENGTH OF BARS SHALL BE AS GIVEN IN THE FOLLOWING TABLE, EXCEPT WHERE OTHER DIMENSIONS ARE STATED ON THE ACTUAL DETAILS.
   - BASIC TENSILE LAP LENGTH FOR GRADE 500N DEFORMED BARS (mm).

f'c (Mpa)	EXP CLASS	BAR TYPE					
		N12	N16	N20	N24	N28	N32
≥ 32	≥ A1	500	750	1000	1250	1500	1750

3. PROVIDE STANDARD HOOKS OR COGS TO BAR ENDS IN ACCORDANCE WITH AS3600.
4. ALL REINFORCEMENT SHALL BE ADEQUATELY AND ACCURATELY TIED AND SUPPORTED ON PLASTIC, OR PLASTIC TIPPED CHAIRS. FULL PLASTIC CHAIRS ARE TO BE USED FOR EXTERNAL CONCRETE WHEN LOCATED WITHIN 1km OF THE COAST.
5. THE FIRST CONCRETE BEAM LIGATURE SHALL BE POSITIONED NO MORE THEN 50mm FROM ANY ADJACENT SUPPORT FACE.
6. THE FIRST CONCRETE COLUMN TIE SHALL BE PLACED NO MORE THAN 50mm FOR ANY ADJACENT SUPPORT FACE
7. ALL REINFORCEMENT TO SLAB ON GROUND SHALL BE SUPPORTED BY PLASTIC BAR CHAIRS AT 600 CRS MAX. TO MAINTAIN TOP COVER.
8. STEEL NOTATION
   - UT - UPPER TOP
   - UB - UPPER BOTTOM
   - LT - LOWER TOP
   - LB - LOWER BOTTOM
9. REINFORCING SHALL NOT BE BENT OR HEATED ON SITE WITHOUT APPROVAL FROM THE DESIGN ENGINEER. INCLUDED LUGS TO CAST IN ELEMENTS.
10. U.N.O CLEAR COVER TO REINFORCEMENT SHALL BE:

ELEMENT	REQUIRED COVER (mm)	
	INTERNAL	EXTERNAL
FOOTINGS	65	65
GROUND SLAB (TOP COVER)	25	40
SUSPENDED SLAB	REFER TO SUSPENDED SLAB PLAN FOR COVER REQUIREMENTS	
CONCRETE BEAM	REFER TO SUSPENDED SLAB PLAN FOR COVER REQUIREMENTS	
COLUMN (CONCRETE & FRC)	40 TO FITMENTS	
FULL PLASTIC CHAIRS ARE TO BE USED FOR EXTERNAL CONCRETE WHEN LOCATED WITHIN 1km OF THE COAST.		

   - U.N.O REQUIRED COVER INCLUDES TOP, BOTTOM AND SIDE COVER.

ANCHORS

1. ALL MECHANICAL AND CHEMICAL ACNHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. THE FOLLOWING TABLE PROVIDES MINIMUM ANCHOR CAPACITY REQUIREMENTS FOR UNCRACKED SUBSTRATES

MINIMUM WORKING LOAD ANCHOR CAPACITY		
BRICKWORK SUBSTRATE	SHEAR (kN)	TENSION (kN)
MEDIUM DUTY	2.5	2.5
CONCRETE SUBSTRATE	SHEAR (kN)	TENSION (kN)
MEDIUM DUTY	9	7
HEAVY DUTY	18	17

DESIGN CRITERIA

SITE CLASSIFICATION

IN ACCORDANCE WITH AS2870. REFER TO SITE REPORT 18-1429 PREPARED BY THIS OFFICE.
ASSUMED ALLOWABLE BEARING PRESSURE: 150kPa

M

WIND CLASSIFICATION

IN ACCORDANCE WITH AS4055

WIND REGION	A1
TERRAIN CATEGORY	3
SHIELDING	PS
TOPOGRAPHY	TO

N2

DURABILITY CLASSIFICATION

FOR COMPONENTS BUILT INTO MASONRY IN ACCORDANCE WITH AS3700 AND AS2699

R1

ENVIRONMENTAL CLASSIFICATION

FOR PROTECTION OF STEELWORK IN ACCORDANCE WITH SECTION 3.4.4.4 OF THE NATIONAL CONSTRUCTION CODE. FOR STRUCTURES OTHER THAN CLASS 1 AND 10 REFER TO AS2312.

MODERATE

IMPOSED ACTIONS

IN ACCORDANCE WITH AS1170.1

GENERAL AREAS	3.0Pa
BALCONIES	2.0kPa
ROOF (NON TRAFFICABLE)	0.25kPa

EARTHQUAKE DESIGN CATEGORY

IN ACCORDANCE WITH AS1170.4

N/A

HAZARD FACTOR	Z = 0.09
STRUCTURE	COMMERCIAL BUILDING< 8.5m HEIGHT

FRAMING TO COMPLY WITH NASH HANDBOOK
- RESIDENTIAL & LOW RISE STEEL FRAMING (2009)

modus compliance pty ltd
Building Surveying Contractor - BSC7
C22-0730 30/11/2022
Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
This plan has been assessed and approved in conjunction with the certificate of design compliance

STRUCTURAL NOTES
1:1

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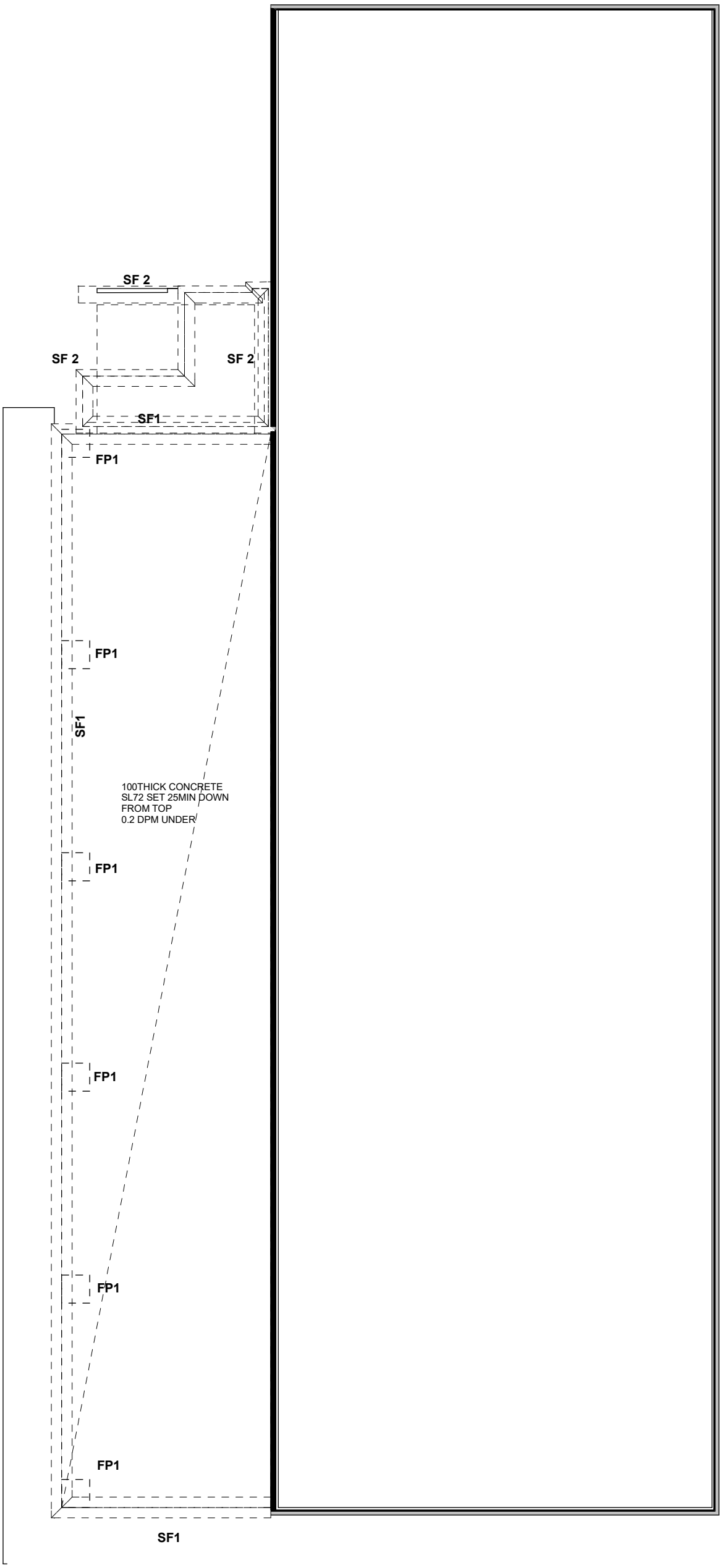
Drawing Title:
STRUCTURAL NOTES

Scale: 1:1 Date: **JULY 2022**

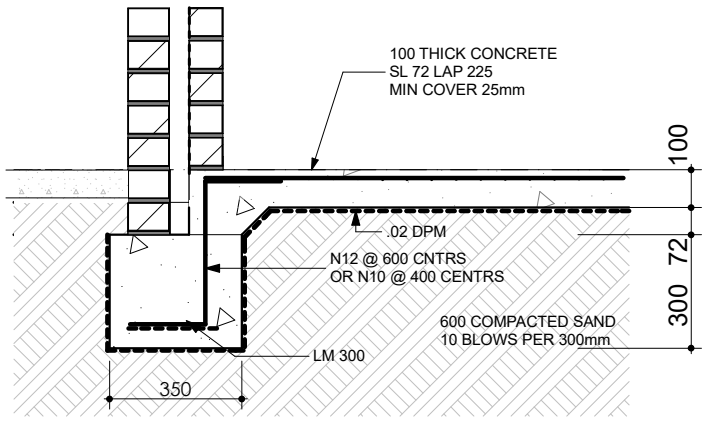
Status: WORKING DRAWINGS

JOB NO: **2321**

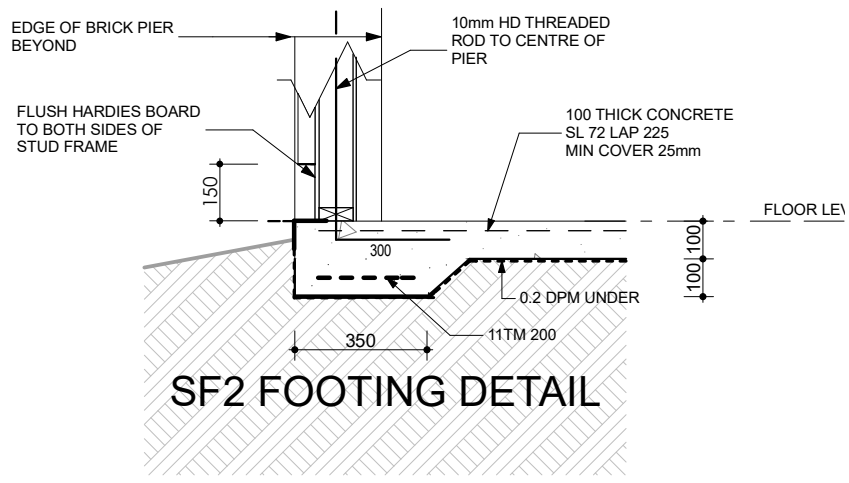
Drawing No: **14 of 17**



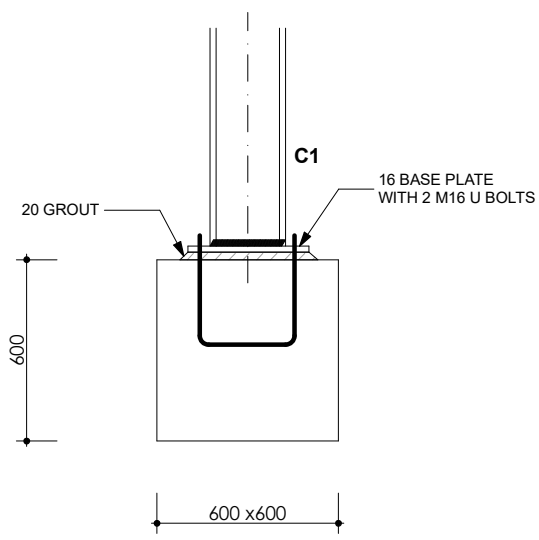
CONCRETE LAYOUT
1:100



SF1 FOOTING DETAIL



SF2 FOOTING DETAIL



FP1
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Drawing Title:
CONCRETE LAYOUT

Scale: 1:100, 1:20, 1:25 Date: **JULY 2022**

Status: WORKING DRAWINGS

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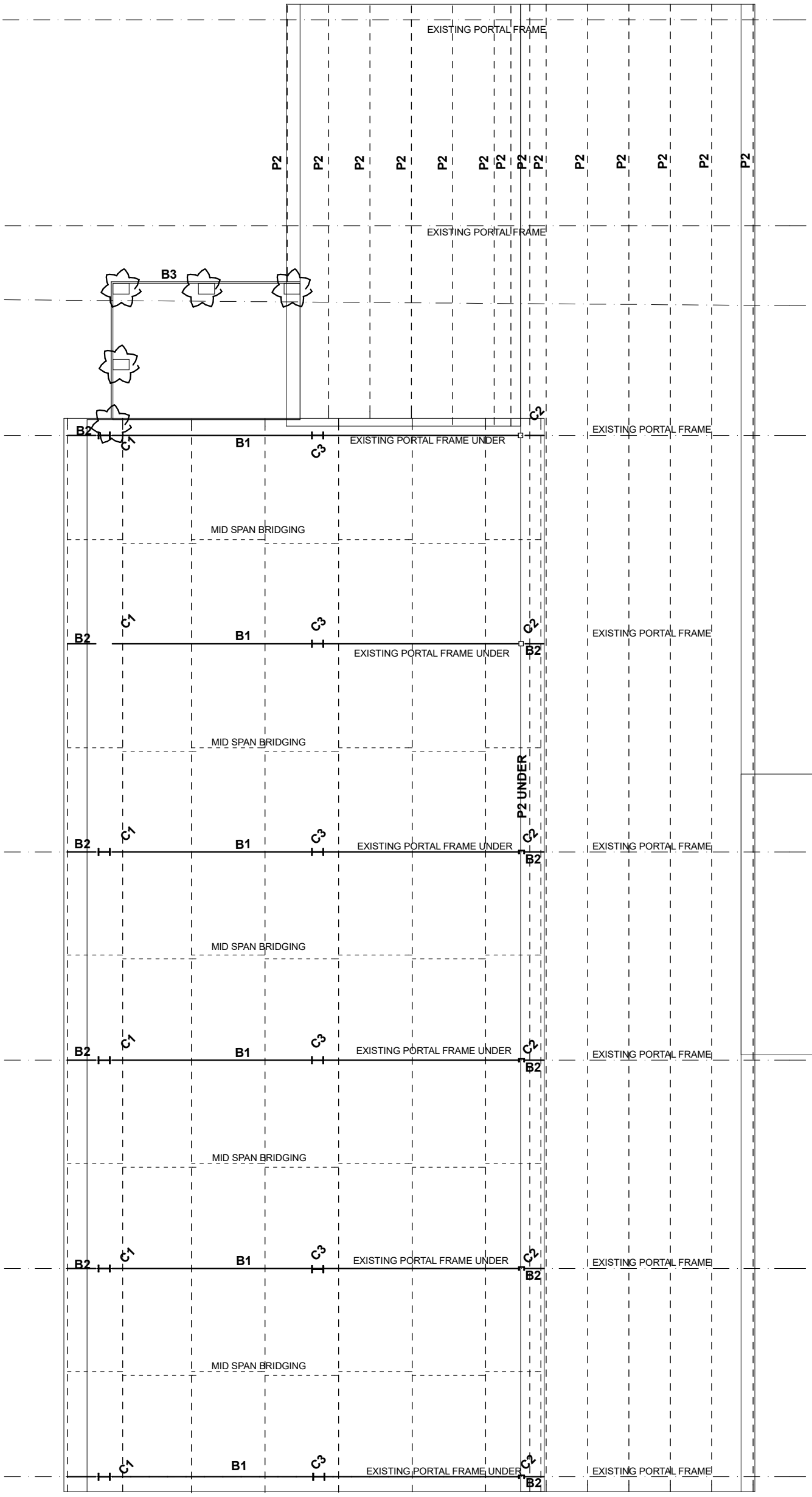

B1	250 UB31
B2	90x90x8 ANGLE
B3	200x75 PFC
C1	250UB 31
C2	100x100x3 SHS
C3	250 UB31

PURLINS Z150.15 AT CENTRES TO SUIT TRIMDEK WITH MID SPAN BRACING

HD 10DIAM THREADED ROD TO CENTRE OF EACH PIER

P2 PURLINS 125x75 FIXED TO EXISTING PFC WITH 2 M10 BOLTS

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ROOF LAYOUT

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01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
ROOF LAYOUT

Scale: 1:100 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **16 of 17**

Last accessed: judit on 7/11/2022

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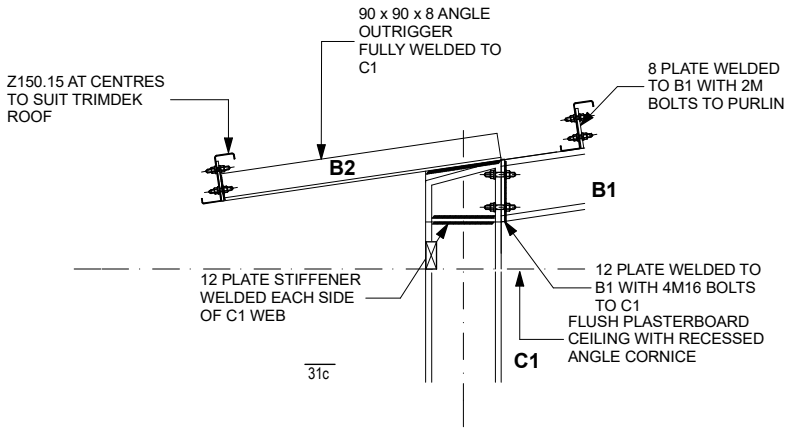
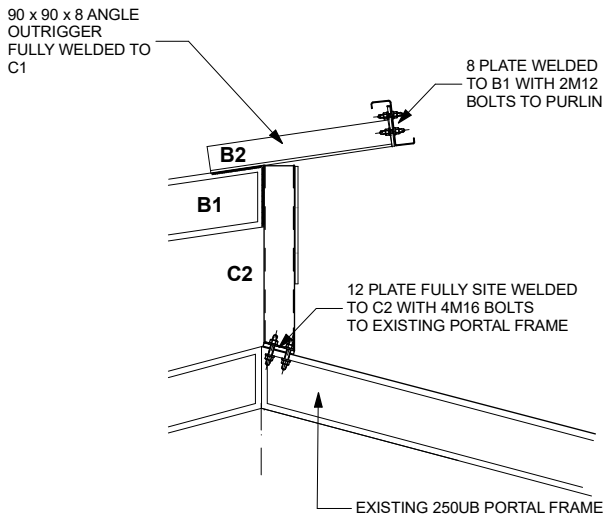
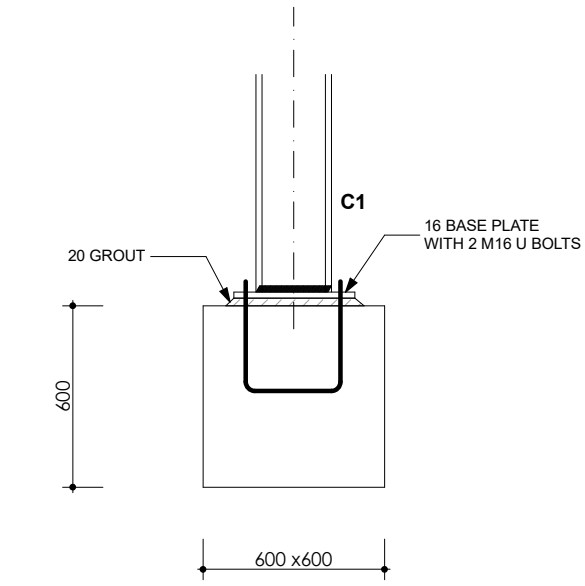


PORTAL DETAIL
1:25



RIDGE DETAIL
1:25



PORTAL PAD FOOTING
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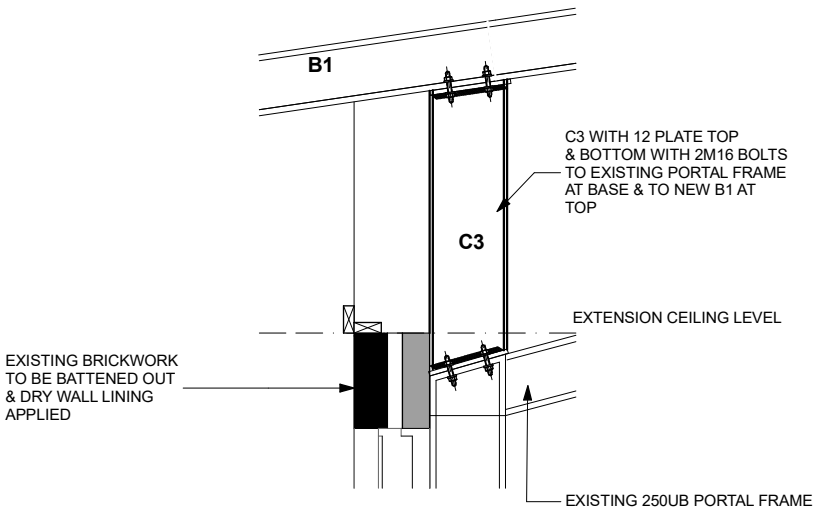
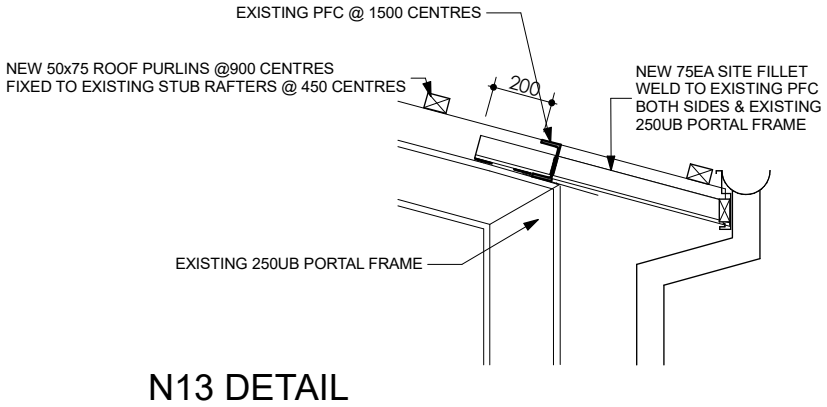


STUB CONNECTION DETAIL
1:25



N13 DETAIL
1:25

modus compliance pty ltd
Building Surveying Contractor - BSC7
C22-0730 30/11/2022
Building Surveyor - Matthew Sobelik
Accreditation - Level 2 Registration No - BSP2317
This plan has been assessed and approved in conjunction with the certificate of design compliance

JUDITH McDOUGALL DESIGNS
Accredited Member ACCRED 15013
BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA INC.
TEL 0447 550 275
ABN 79 425 984 191
Email: judithmcdougall@gmail.com
Design Matters National

CLIENT(S):
NARROGIN SHIRE FOR BOB FARR MEMORIAL LIBRARY
ADDRESS:
LOT 46 #49
FORTUNE STREET
NARROGIN 6312

THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS AND VERIFY ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWINGS. DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE ARCHITECT FOR CONSTRUCTION

COUNCIL:
NARROGIN

REV	DETAILS	DWN	DATE	CHK
01	CONTRACT	-	00-00-00	-
-	NEW ROOF TO EXIST	-	11.10.2022	
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Drawing Title:
STRUCTURAL DETAILS

Scale: 1:25 Date: **JULY 2022**

Status: WORKING DRAWINGS

JOB NO: **2321**

Drawing No: **17 of 17**

Last accessed: judit on 7/11/2022

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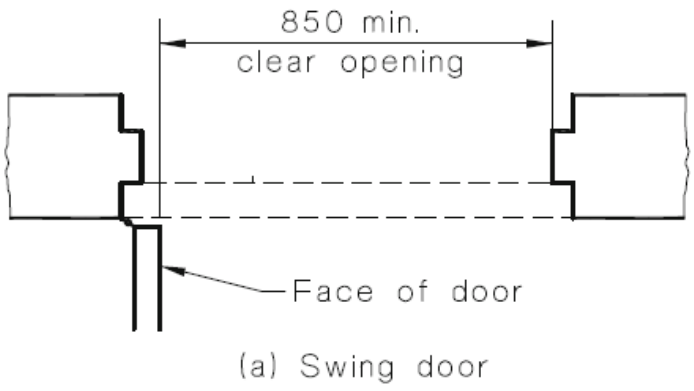
Linings, materials and assemblies to comply with the BCA Vol One **Part C1.10 & Specification C1.10**

Design & operation of doors handles to comply with the BCA Vol One **Part D2.21**

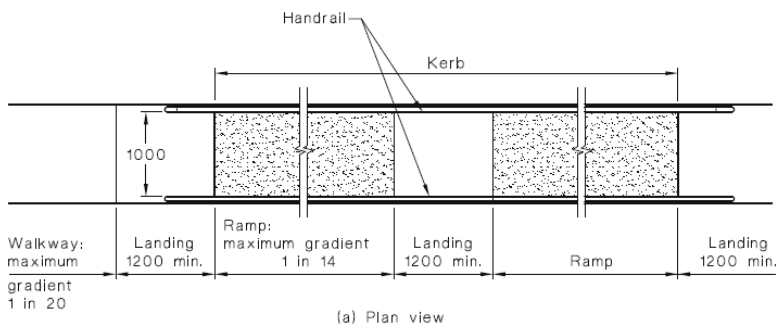
Access for People with a Disability to comply with BCA Vol One **Part D3, AS 1428.1, AS/NZS 2890.6 & Disability (Access to Premises – Buildings) Standards 2010**

BCA Vol One **Part D3.1 & AS1428.1 -** Doors to have 850mm minimum clear opening.

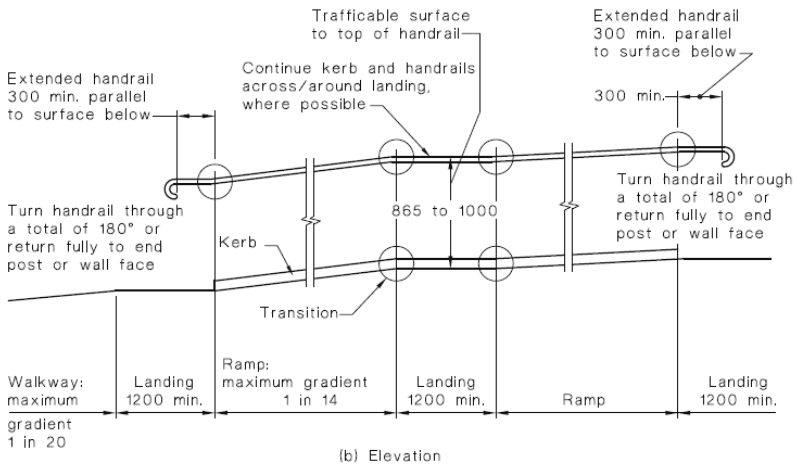


(a) Swing door

Ramp to comply with BCA Vol One **Section D3** and **AS 1428.1 Clause 10**



(a) Plan view



(b) Elevation

Braille & tactile signage to exits and sanitary facilities to be in accordance with BCA Vol One **Part D3.6 and AS 1428.1**

Portable Fire Extinguishers to comply with BCA Vol One **Part E1.6 and Sections 1, 2, 3 and 4 of AS 2444**

Fire precautions during construction as per BCA Vol One **Part E1.9**

Exit/Direction Signs shall be installed in accordance with the BCA Vol One **Parts E4.5, E4.6, E4.8 and AS/NZS 2293.1**

Emergency Lighting shall be installed in accordance with the BCA Vol One **Parts E4.2, E4.4 and AS/NZS 2293.1**

modus compliance pty ltd

Building Surveying Contractor - BSC7

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Waterproofing of wet areas in buildings to comply with BCA Volume One **Part F1.7, Table F1.7 and AS 3740**

Glazed assemblies in an external wall must comply with BCA Vol One Part **F1.13** and **AS 2047**

Hot, warm and cooling water systems must be installed in accordance with **AS/NZS 3666.1**

Artificial Lighting must be provided to comply with BCA Vol One **Parts F4.4 and AS 1680.0**