

# PROPOSED DUAL OCCUPANCY - 150 GLADSTONE ST, MUDGEE - ABERFOYLE HOMES

## GENERAL NOTES:

All interpretation of these plans or written advice shall be done in conjunction with other associated professional drawings and specifications. This includes manufacturer and proprietary product specifications. Any discrepancy must be referred to P&R Consulting before commencing work. It is assumed that the user of these plans & details has a level of familiarity and competency to understand and execute the works. All dimensions must be verified on site.

U.N.O = Unless noted otherwise.

Millimeters (mm) are used for all dimensions throughout these plans, U.N.O.

The scale of the drawing is denoted in the title block of each page U.N.O at the bottom of specific detail or plan. These plans should not be scaled.

All levels, setouts and fabrications shall be checked and confirmed prior to commencement of work at all applicable stages, by the builder.

The structure must be built in a safe manner such that no key components are temporarily overloaded or damaged so as to compromise the project's structural integrity.

Pest control and damp-proofing/sealing shall be performed to all required elements in accordance the National Construction Code (NCC) and provided house plans.

The NCC and other required regulatory codes and standards shall be followed. Other reasonable advice from authoritative guidelines should be followed where applicable.

## PERMANENT AND IMPOSED LOADING:

The following standard loads are used for residential developments U.N.O, drawn from A.S. 1170.1. Otherwise loads are generally in accordance with 1170.1 and shall be noted where applicable

Loaded Area	Imposed Load		Permanent Load (KPa)
	Distributed (KPa)	Concentrated(KN)	
Internal Floor	1.5	1.8	1.0
Verandah Floor	2.0	1.8	1.0
Metal Roof	0.25	-	0.4
Tiled Roof	0.25	-	0.9

Wind loads are in accordance with AS/NZS 1170.2 and/or AS/NZS 4055 (when residential). Wind classification shall be given on relevant sheets where applicable.

Earthquake and snow loadings are in accordance with 1170.4 and 1170.3 respectively when in earthquake prone and snow/alpine regions. These imposed loadings shall be stated on the appropriate sheets when applicable.

Serviceability limits are generally drawn from AS/NZS 1170.0.

## SITE PREPARATION FOR SLABS ON GROUND:

Topsoil, organic matter and rubbish shall be stripped from the proposed building area. The bottom of edge beams, strip footings and piles shall be cleaned of loose soil and clay.

The site shall be benched and be constructed to the approved house plan levels. Excavations of 600mm or more within 2000mm of the structure must be retained or battered with drainage directing water flow away. Larger excavations within a greater reach of the house may also need to be retained or properly battered. Contact engineer.

Where controlled fill is required, predominately granular non-cohesive soils shall be used. This shall be laid in 150mm layers and be rolled or vibrating plate compacted. Consult engineer if fill depth required is greater than 600mm.

Damp-proofing membranes shall be used as per details. The membrane shall be taped over laps and be 'intact' with no punctures. The membrane should be sufficiently large enough to be able to wrap against sides of footings or returned under brickwork.

## FOUNDATIONS:

All foundations shall be situated on ground with an allowable bearing pressure of no less than 100 kPa U.N.O.

Site classification is as given on layout and must be determined by a Geotechnical Engineer, unless this office was able to determine it through inspection of a structure on the same property and for a small proposed residential structure.

Footings shall be directly located under load-bearing walls and supports.

## FOUNDATION MAINTENANCE:

All structures will require foundation maintenance as all soil is affected by water. Clays are affected the strongest due to the shrink/swell effect water has on it. Silts and sands can also be affected in lesser amounts. Changes in the moisture content of soil and potential gross movement is reflected in the soil classification grades given in AS 2870. These soil classifications are as below:

A	-	Non Reactive.		
S	-	Slightly Reactive.		
M	-	Moderately Reactive. H1	-	Highly Reactive 1.
H2	-	Highly Reactive 2. E	-	Extremely Reactive.

A 'P' site classification can be given on problem sites that may have issues with moisture, vegetation/tress, fill, mine subsidence or general soil inconsistency/instability.

The seriousness to which the following measures are implemented are dependant on the level of site class given and its associated reactivity. Full masonry and masonry veneer buildings are the most susceptible to footing movement and consequent damage. The footings of these type structures shall be maintained and monitored properly. For clad or sheeted buildings lesser maintenance and monitoring may be sufficient.

'A' & 'S' Soil Classifications - Soil around foundations shall be maintained by protecting the stratum from becoming extremely wet and attending to any drainage or plumbing leaks that may erode the soil under the footings.

'M', 'H' or 'E' Soil Classifications shall be maintained for the building's lifetime to ensure STABLE moisture conditions and avoid periods of extreme wetting or drying. Drainage plans should be enacted to achieve this. The site should be graded and perimeter drainage implemented to prevent the 'ponding' of water around the footings of the structure. This will be achieved by sloping the finished ground away from the building a minimum of 50mm over 1000mm. Similarly, the sub-floor of any structure should be graded or drained to prevent flooding that may affect the footings performance.

Gardens and shrubs: Gardens shall not interfere with the drainage performance or sub-floor ventilation, as well as any weep hole drainage systems. Gardens should be avoided adjacent to the house and the watering of gardens near the house should be limited. Gardens can behave like moisture content 'dams' and increase the moisture content relative to other areas. This causes uneven swelling of the clay and will raise the footings of the local area.

Trees and bushes: Planting of trees should be avoided near the foundations of a building or neighbouring buildings on reactive sites. Trees can cause moisture issues in clay over substantial distances and the roots can physically interfere with the foundations. To reduce the possibility of damage tree planting should be restricted to a distance from nearby buildings of:

0.75 x mature height for M class sites.  
1.00 x mature height for H class sites.  
1.50 x mature height for E class sites.

The removal of large trees nearby a proposed structure can cause the ground moisture content to re-stabilise over a length of time. It should be considered to leave them or remove them a few months before building.

All water leaks should be promptly repaired.

## MASONRY:

All workmanship and materials shall be in accordance with AS 3700 and the characteristic compressive strength of masonry shall be  $f_{uc} = 24 \text{ mPa}$ .

All masonry walls supporting slabs or beams shall have a pre-greased, two layer, galvanised steel or aluminum slip joints between them.

Non load bearing walls shall be separated from elements above by a minimum 10 thick polyethylene strips.

Articulation joints shall be provided in masonry at maximum 5m centers U.N.O (excluding retaining walls) and between new and existing masonry.

MASONRY GROUT DURABILITY			
Mortar	Resistance Grade	Ties or other components	Min. Cover (mm)
M2	Protected	R1 (Gal 300g/m <sup>2</sup> )	5
M3	General Purpose	R2 (Gal 300g/m <sup>2</sup> )	15
M4	Exposure	R4 (Stainless)	30

Articulation joints shall be vertical and not toothed U.N.O. Joints shall extend to the full height of the masonry. If there is less than 600mm of brickwork below the damp proof course, this length can be omitted.

Any product used to fill the articulation joint shall not affect its performance. No mortar shall be in any articulation joint.

## REINFORCED CONCRETE:

All workmanship shall comply with AS 3600 for reinforced concrete and AS 2870 where it applies to residential slabs and footings.

Concrete quality shall vary as follows U.N.O and its  $f_c$  at 28 days (Concrete compressive strength) may further vary depending on locality.

Foundation	Slump (mm)	Max. Agg Size (mm)	Cement Type	$f_c$ at 28 days (MPa)
Footings	80	20	-	25
Slab on ground	80	20	-	25
Suspended slab	80	20	GP Type A	32

Requirements per LGA due to salinity Camden Council = 32MPa

Wollondilly Council = 32MPa

Any admixtures are to approved by engineer. Minimum cover as per below U.N.O.

Other councils may have varying concrete strength requirements. Builder will need to confirm with the LGA.

Exposure Classification	Minimum cover (mm)				
	Concrete Strength $f_c$				
	20MPa	25MPa	32MPa	40MPa	>50MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	-	(60)	40	30	25
B2	-	-	(65)	45	35
C	-	-	-	(70)	50

Residential Slabs Minimum Cover for N20 Grade (mm)	
Unprotected Ground	40
Protected Ground (membrane cover)	30
External Surface Exposure	40
Internal Surface Exposure	30
Strip & Pad Footing	50

Minimum Reinforcement lap length U.N.O (mm)	
Reinforcement steel bars	500
Fabric Mesh (SL72, SL82, SL92)	300
Trench Mesh	500

All concrete shall be compacted by immersion mechanical vibrator.

Curing of all concrete is to be achieved by either a spray curing compound or by keeping concrete surfaces continuously wet for a period of 3 days. Prevention of the loss of moisture should be maintained for a minimum of 7 days, followed by a gradual drying out. Concrete should not be poured on hot (30+ degrees) and windy days. Best results will be on cooler, still and wet days. Depth or size of concrete element do not include the thickness of any applied finishes

## CONSTRUCTION ISSUE

## STRUCTURAL STEEL:

All workmanship and materials shall comply as required with AS 4100, AS 1163, AS 1554.1, and AS/NZS 4600. The structural steel design, if applicable, has been based on the following steel grades, U.N.O: Hot rolled universal beams, columns, channels & angles: 300 PLUS Circular, square & rectangular hollow sections: C350/C450LO Cold formed open DuraGal profiles: C400/450LO Cold formed lipped Cee & Zed purlins: G550/G500G450

Qualifications of welding procedures and personnel shall conform to section 4 of AS 1554.1. All welds shall be 6mm continuous fillet welds SP U.N.O. All butt welds shall be complete penetration in accordance with AS 1554.1 U.N.O

Bolts used shall be commercial bolts to AS 1111, snug tightened U.N.O. Bolts U.N.O shall be M16 8.8S bolts, with a minimum of 2 bolts per connections.

If specified, high strength TF & TB bolts shall be installed using approved load indicative washers.

All gusset and cleat steel plates shall be 10mm thick U.N.O

Encased steel sections must have a minimum of 50mm cover and min 75mm where buried..

Where possible all fabrication should be done in the workshop. Any drilling, welding or other metalworks done on site shall be sprayed in cold-gal for corrosion protection. Any damage to steelwork shall be brought to the engineers attention for approval. Specifically any bends, dents and buckles where the section capacity may be compromised.

## SURFACE PROTECTION COATINGS FOR STRUCTURAL STEEL

EXPOSURE	Exposure Classification	Min. Surface Protection
MODERATE More than 1km from breaking surf or more than 100m from salt water not subject to breaking surf or non-heavy industrial areas.	A1/A2 Internal	Mechanically Clean - 1 coat Alkyd Primer (Zinc Phosphate)
	A1/A2 External	Two coats alkyd primer; or Two coats alkyd gloss; or Hot dip galvanise min. 300g/m <sup>2</sup> ; or Hot dip galvanise min. 100g/m <sup>2</sup> plus one coat vinyl gloss or alkyd
SEVERE Within 1km of breaking surf or within 100m of salt water not subject to breaking surf or heavy industrial areas.	B1 Internal	Abrasive Clean - 2 coats Alkyd Primer (Zinc Phosphate)
	B2 External	Inorganic zinc primer plus two coats vinyl gloss finishing coats; or Hot Dip Galvanize 300g/m <sup>2</sup> ; or Hot Dip Galvanize 100g/m <sup>2</sup> plus Two coats vinyl gloss or alkyd

## SURFACE PROTECTION COATINGS FOR LINTELS IN MASONRY

EXPOSURE	Min. Surface Protection
Moderate - A1/A2	Hot Dip Galvanize 300g/m <sup>2</sup>
Severe - B1/B2	Hot Dip Galvanize 600g/m <sup>2</sup>

All specified maximum spans in member schedules are not prescribed cut lengths. They are maximum clear spans (continuous or single as specified on layout). The builder should verify all member lengths to stamped plans prior to fabrication. If the specified maximum span on these plans are less than the required span, contact the engineer. Any unidentified beams are to be timber by others. If more steel is needed to be designed, contact engineer.

MISCELLANEOUS NOTES:  
All termite protection is to be done in accordance with the National Construction Code. Frame positioning on details is an indication only, but has to be within the general area shown and situated above designed concrete beams or structural elements. The frames position, including whether it is on the high of low side of a step down, is to be determined by the builder and other relevant parties.

P&R ENGINEERS CERTIFICATION NOTE:  
It is a condition of certification by P&R Consulting that any engineered elements in these plans are inspected prior to the continuation of work by an engineer from P&R Consulting.

DWG No <b>24067</b>	P & R CONSULTING P/L ACN 647 817 892 PH 0409 125 133 pnrconsult24@gmail.com pnrconsultingengineers.com.au		
	PROJECT:- PROPOSED DUAL OCCUPANCY		
	CLIENT:- ABERFOYLE HOMES		
DRAWN NV CHECKED DP DATE 01/05/2024 SCALE AS SHOWN SHEET 1	ADDRESS:- 150 GLADSTONE ST, MUDGEE		

**GENERAL NOTES:**

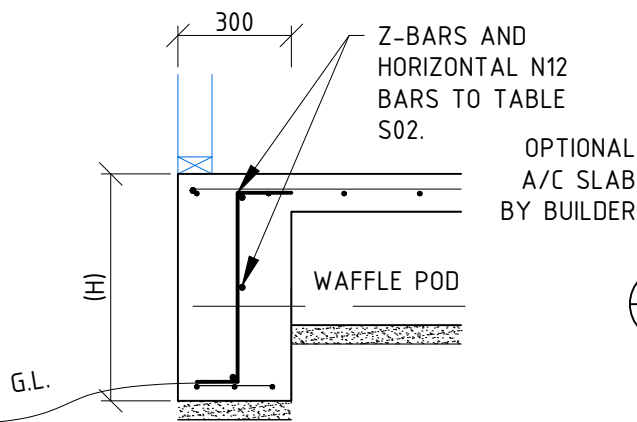
1. DIMENSIONS TO ARCHITECTURAL DRAWING
2. FOOTING TO BE FOUNDED ON CONSISTENT FOUNDATION MATERIAL. USE MASS PIERS 450 DIAMETER OR 400 SQUARE AT 2000 CTS TO AREAS OF INCONSISTENT MATERIAL TO EDGE BEAM & INTERNAL LOAD BEARING WALLS ONLY
3. REMOVE ORGANIC MATERIAL FROM AREA OF SLAB PRIOR TO CONSTRUCTION
4. PIERS AND SLAB TO BE VIBRATED AND 25MPa. ANY BRICKWORK & MORTAR BELOW DPC TO BE EXPOSURE RATED
5. IT IS A CONDITION OF CERTIFICATION OF THIS SLAB THAT PIER HOLES AND SLAB STEEL BE INSPECTED PRIOR TO POURING OF CONCRETE BY AN ENGINEER FROM THIS OFFICE
6. SALINITY HAS BEEN TAKEN INTO CONSIDERATION IN THE DESIGN OF THE SLAB.
7. GUTTERS TO HAVE MIN. 1% GRADE TO EACH DOWNPIPE
8. TILES IN WET AREAS MIN 1% FALL TO FLOOR WASTES
9. TILES - EXPANSION JOINTS AT MAX 5m CTS & MIN SIZE 10mm LAID ON FLEXIBLE BED

**GEOTECHNICAL REPORT NOTE:**

THIS IS TO CERTIFY THAT WE HAVE EXAMINED THE GEOTECHNICAL REPORT FOR THIS LOT PREPARED BY BARNSON, REPORT No. 43238-GRO1\_A, DATED 06/02/2024. I HAVE GIVEN DUE REGARD TO ITS COMMENTS AND HEREBY CERTIFY THAT THE DESIGN DRAWINGS HAVE BEEN PREPARED TO ENSURE THE LONGEVITY OF THE STRUCTURE.

**CONSTRUCTION ISSUE**

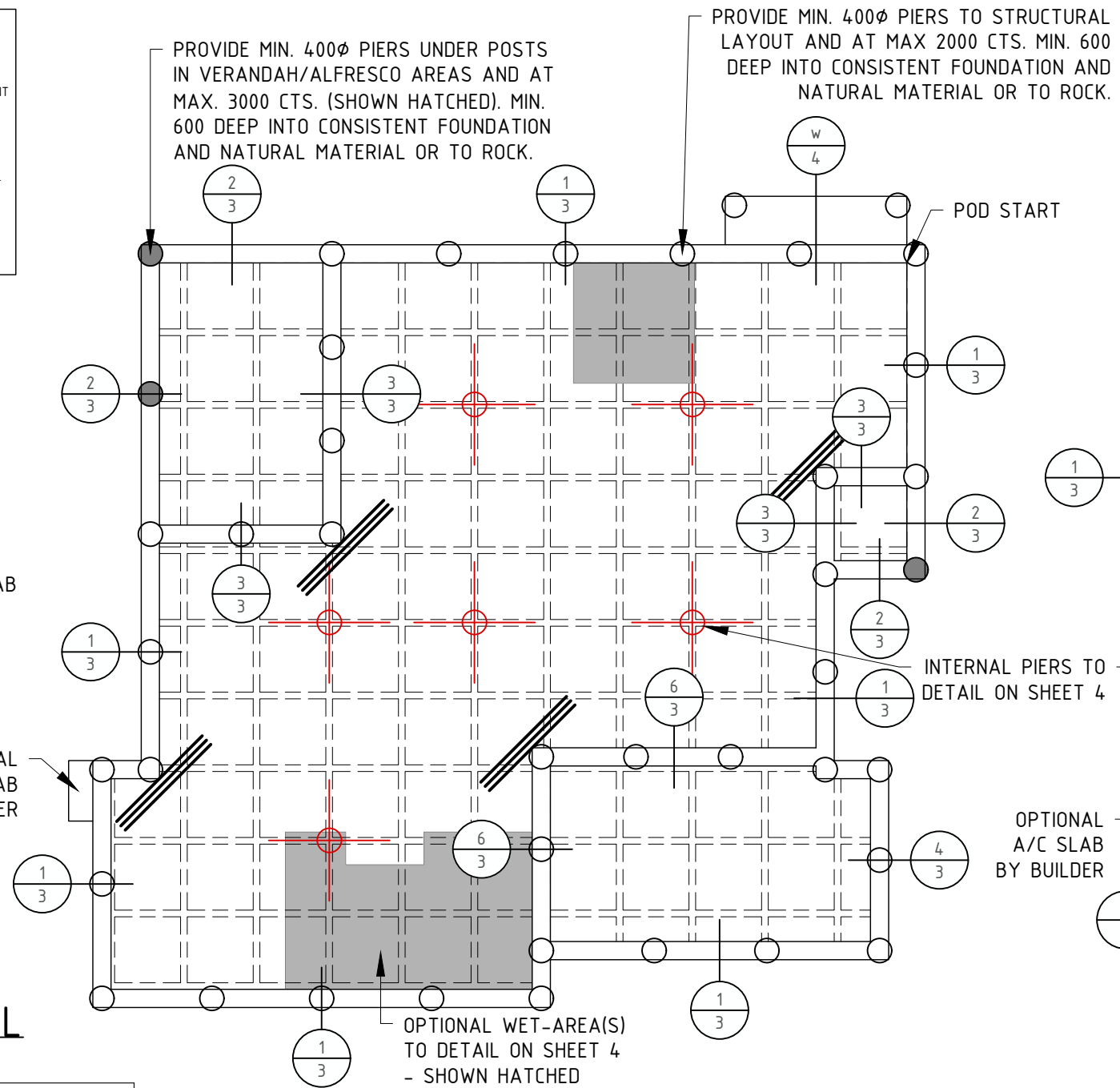
 = 3/N12 CRACKER BARS MIN. 2000 LONG ON ALL RE-ENTRANT CORNERS OF SLAB



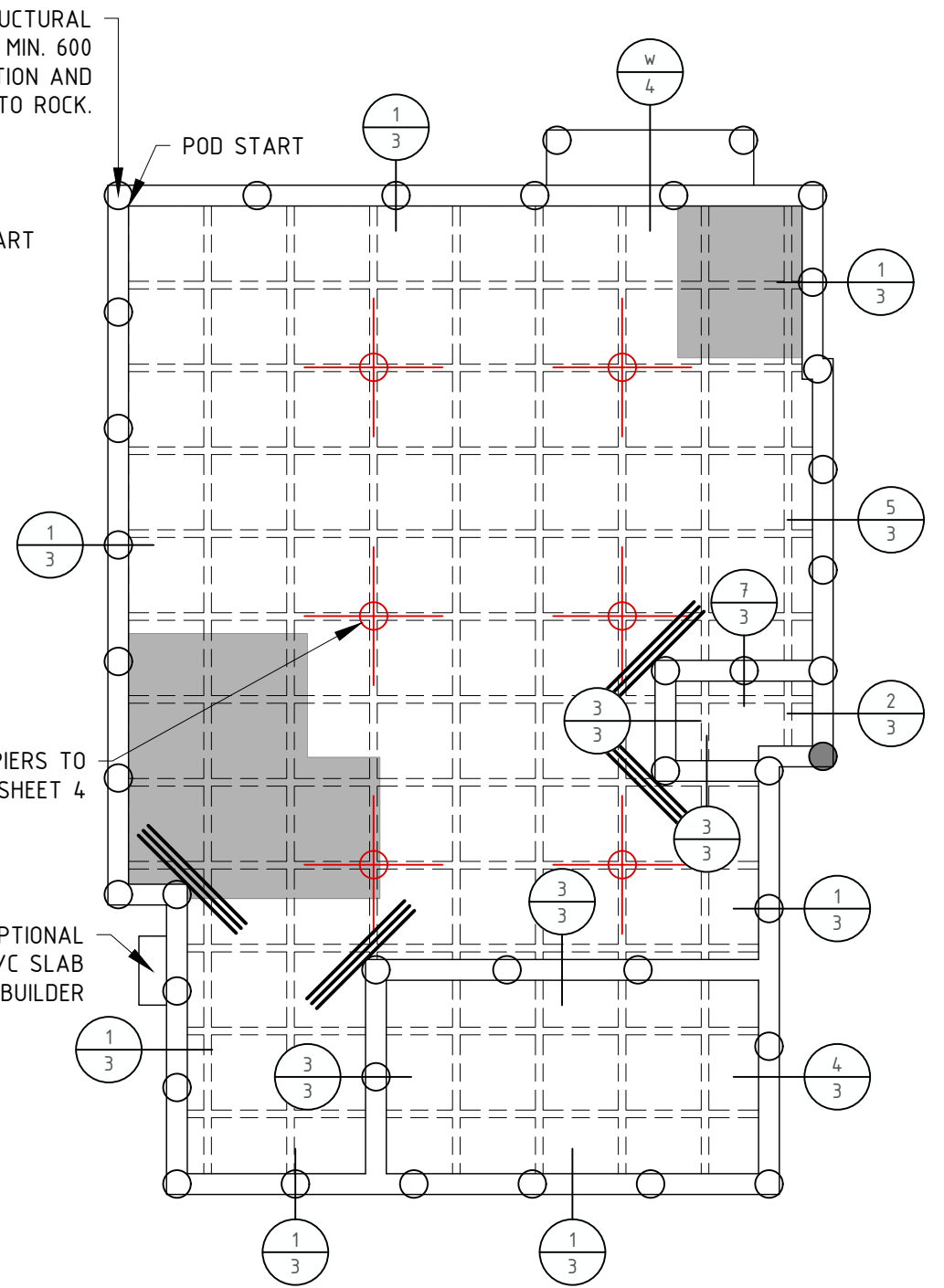
**TYPICAL DROP EDGE DETAIL**  
SCALE 1:20 - REFER TABLE S02

DROP EDGE HEIGHT (H)	VERTICAL & HORIZONTAL SPACING (CTS - mm)
NOMINAL - ≤400	R10 - 900
>400 - 800	N12 - 600
<800 - 1500	N12 - 300

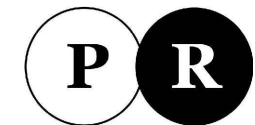
	POD SIZES	FABRIC SIZE	SLAB THICKNESS	CONCRETE COVER	CONCRETE STRENGTH
INTERIOR	225	SL82	100	30	25MPa
VERANDAHS	225	SL82	100	40	25MPa
GARAGE	225	SL82	100	40	25MPa
WET AREA	225	SL82	125	30	25MPa



**FOOTING LAYOUT HOUSE 2**  
SITE CLASSIFICATION -H1-D



**FOOTING LAYOUT HOUSE 1**  
SITE CLASSIFICATION - H1-D



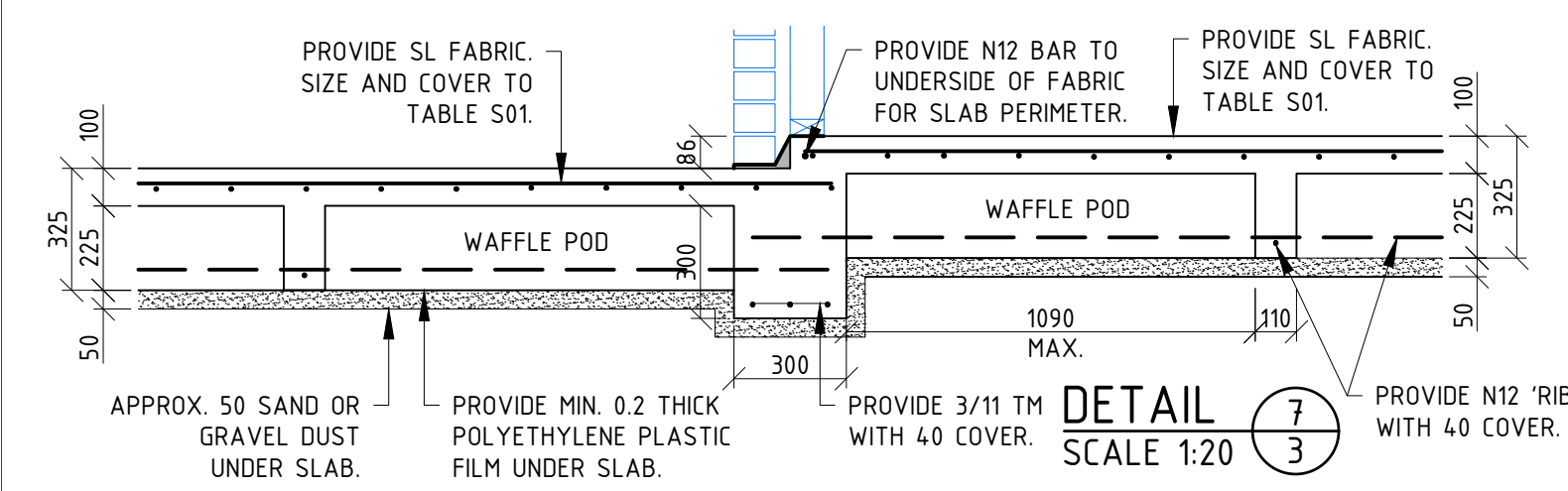
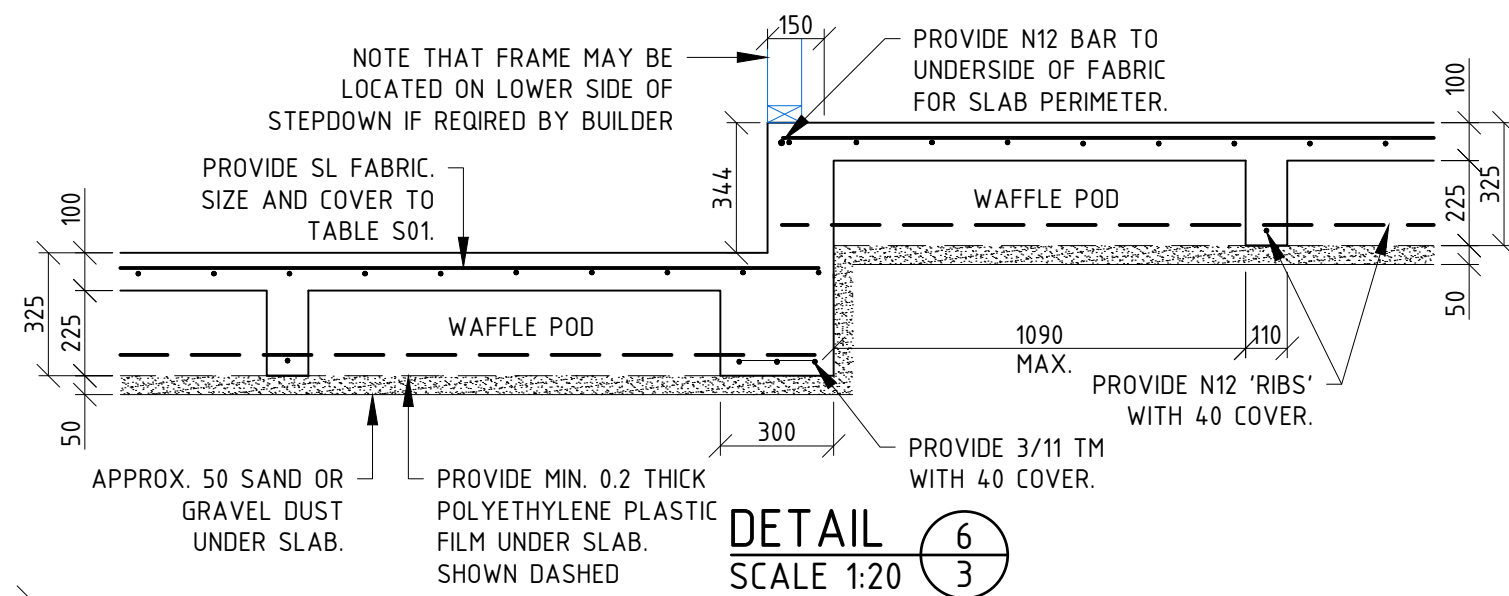
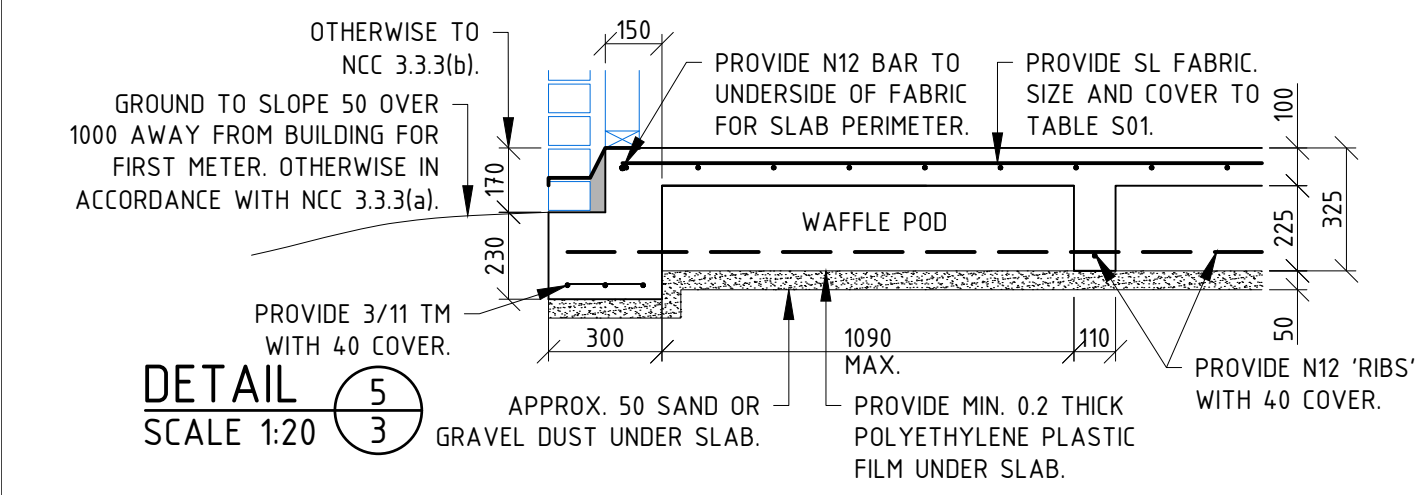
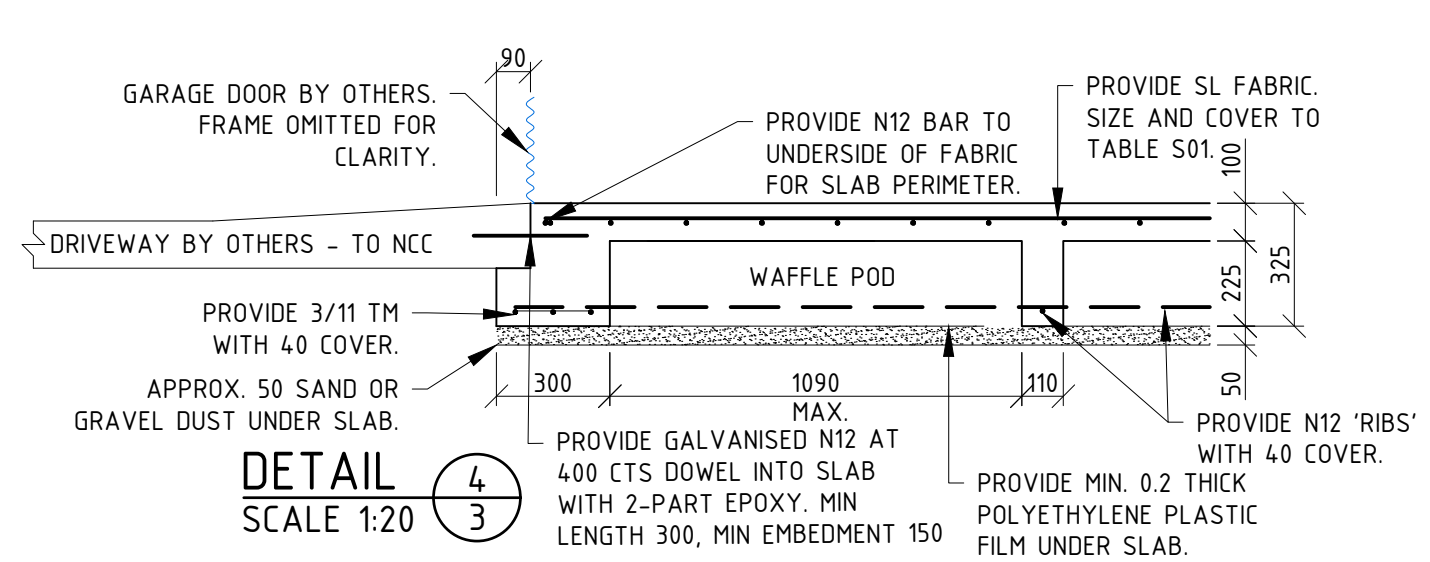
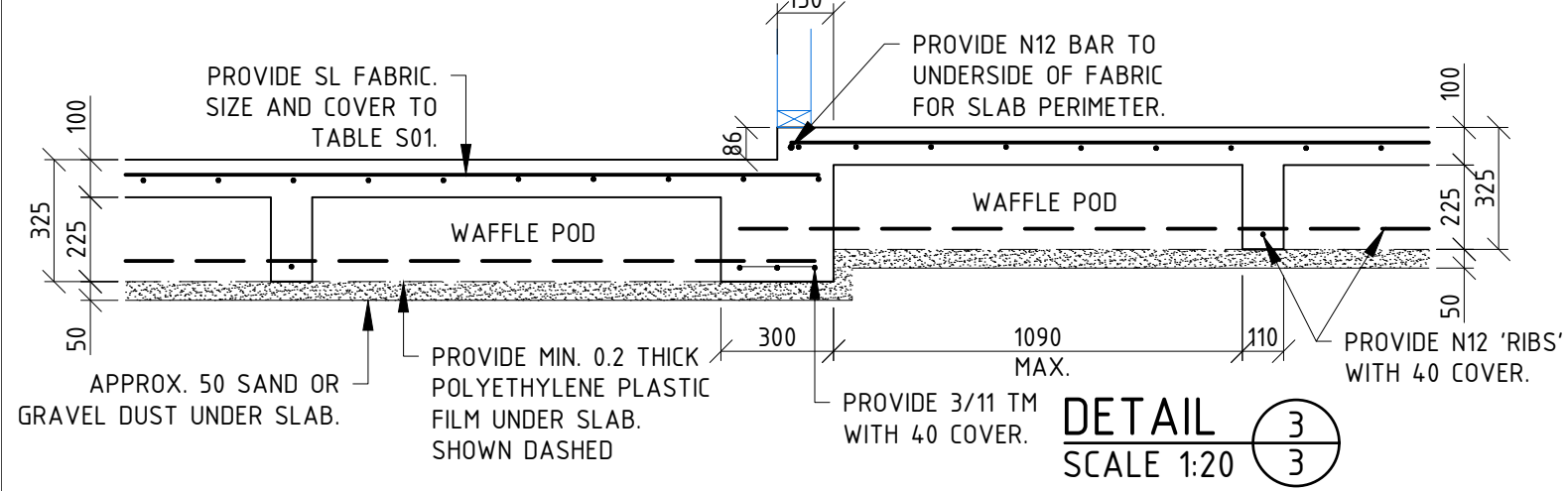
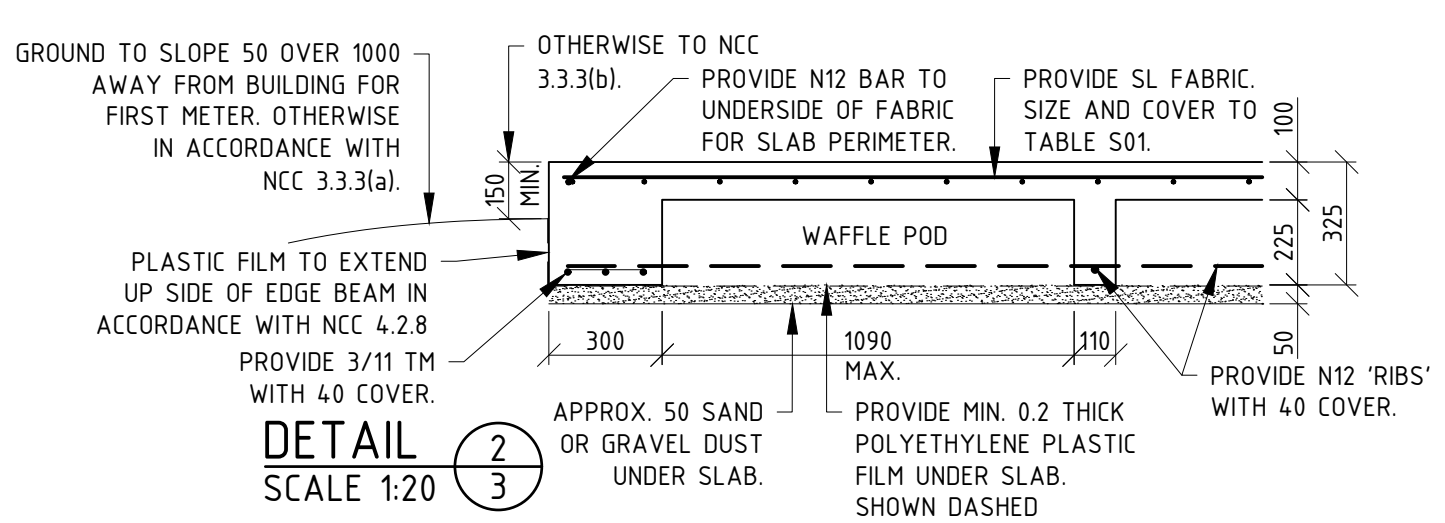
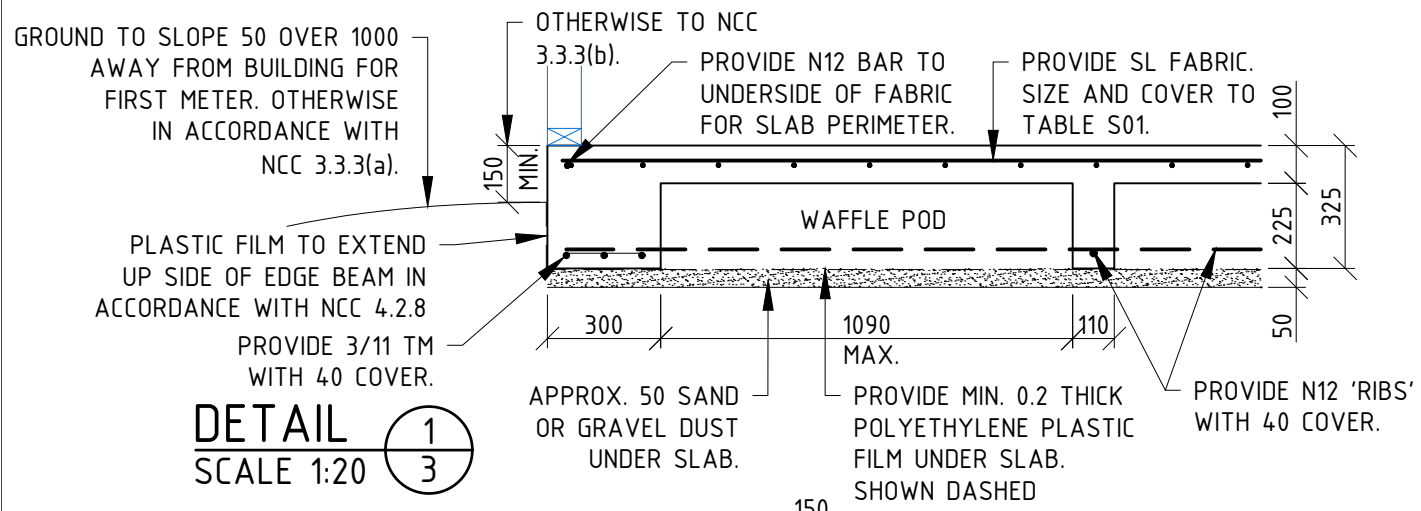
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PROJECT:- PROPOSED DUAL OCCUPANCY  
CLIENT:- ABERFOYLE HOMES

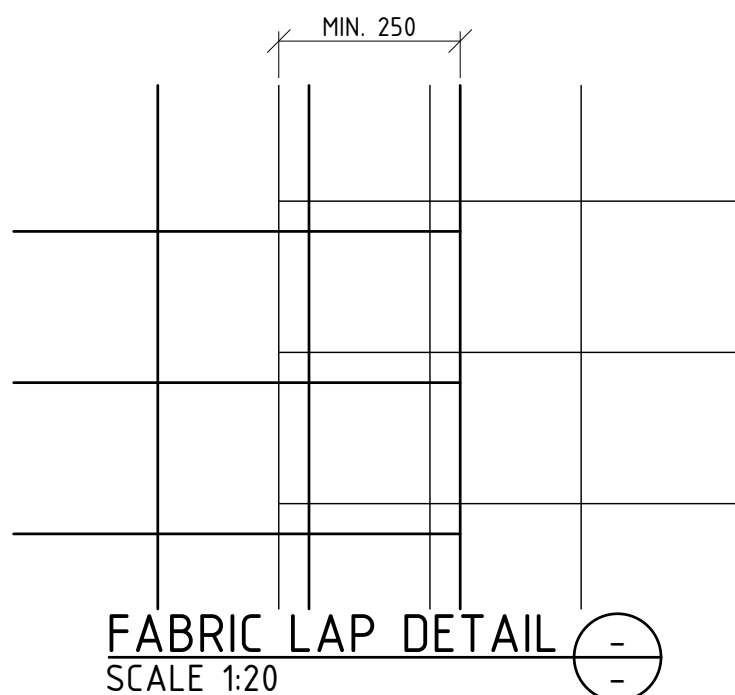
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DRAWN NV  
CHECKED DP  
DATE 01/05/2024  
SCALE 1:100  
SHEET 2

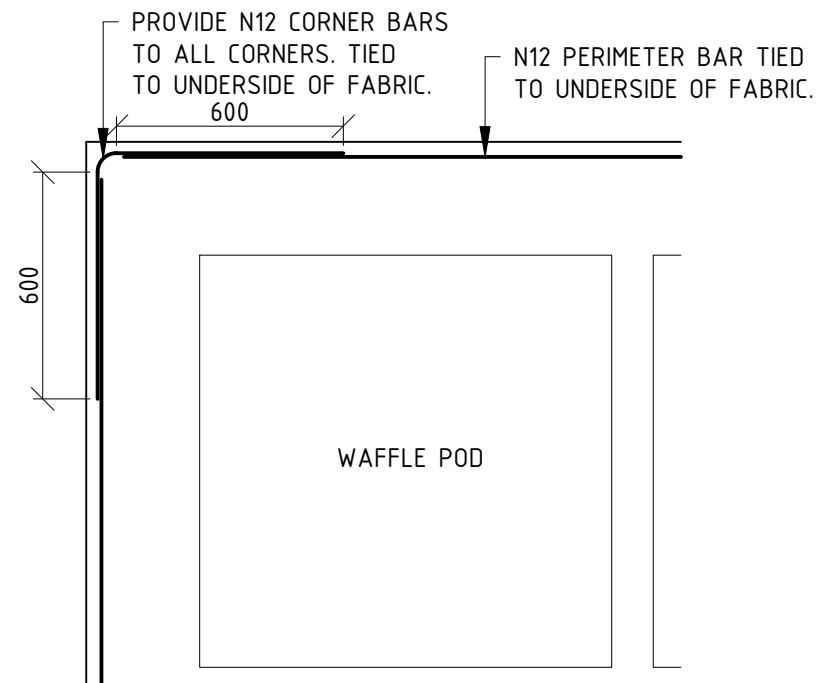
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**24067**



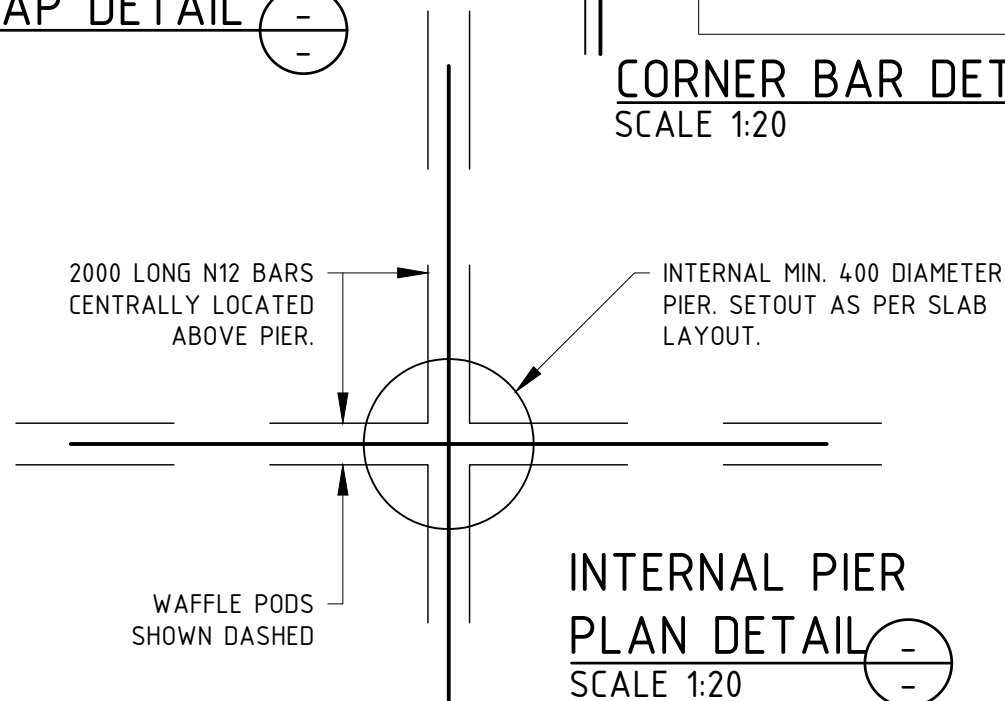
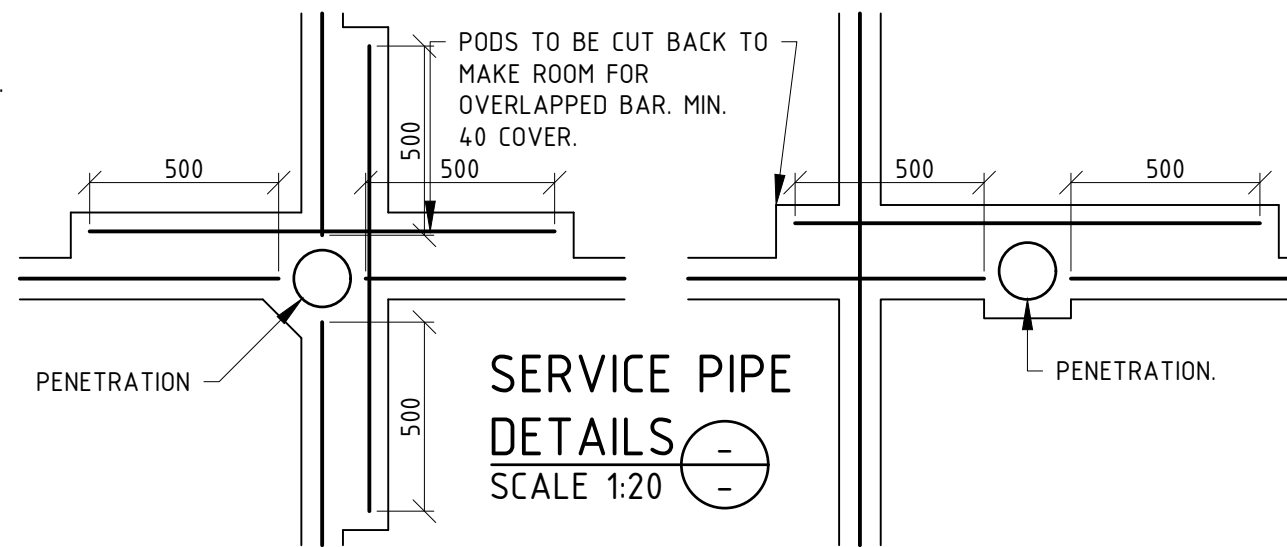
<p><b>P &amp; R CONSULTING ENGINEERS P/L</b> ACN 647 817 892 180 MACQUARIE GROVE RD KIRKHAM NSW PH 0409 125 133 pnrconsult234@gmail.com pnrconsultingengineers.com.au</p>	PROJECT:- PROPOSED DUAL OCCUPANCY	
	CLIENT:- ABERFOYLE HOMES	
ADDRESS:- 150 GLADSTONE ST, MUDGEE		
DRAWN NV CHECKED DP DATE 01/05/2024 SCALE 1:20 SHEET 3	<p><b>DWG No</b> <b>24067</b></p>	



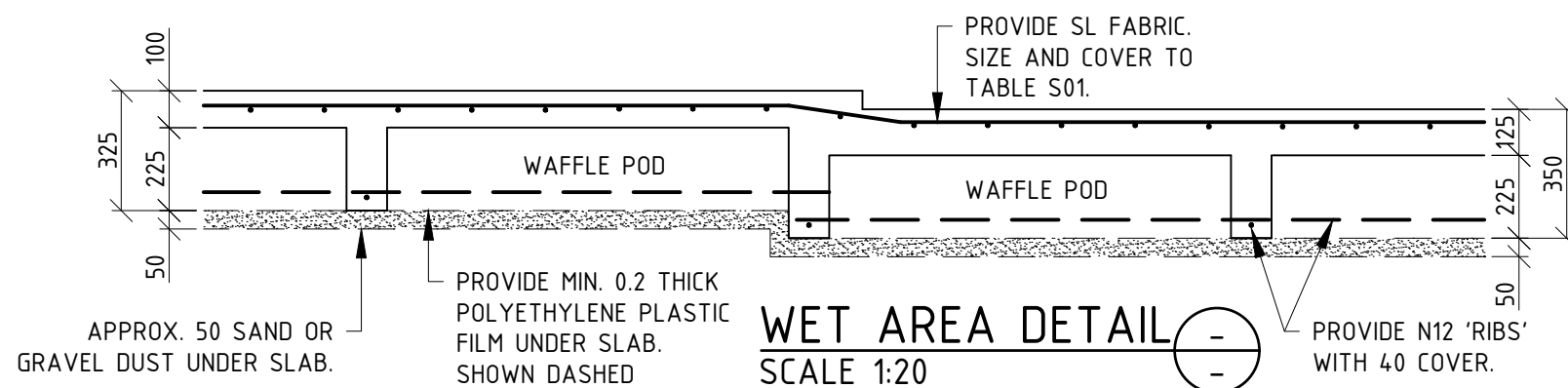
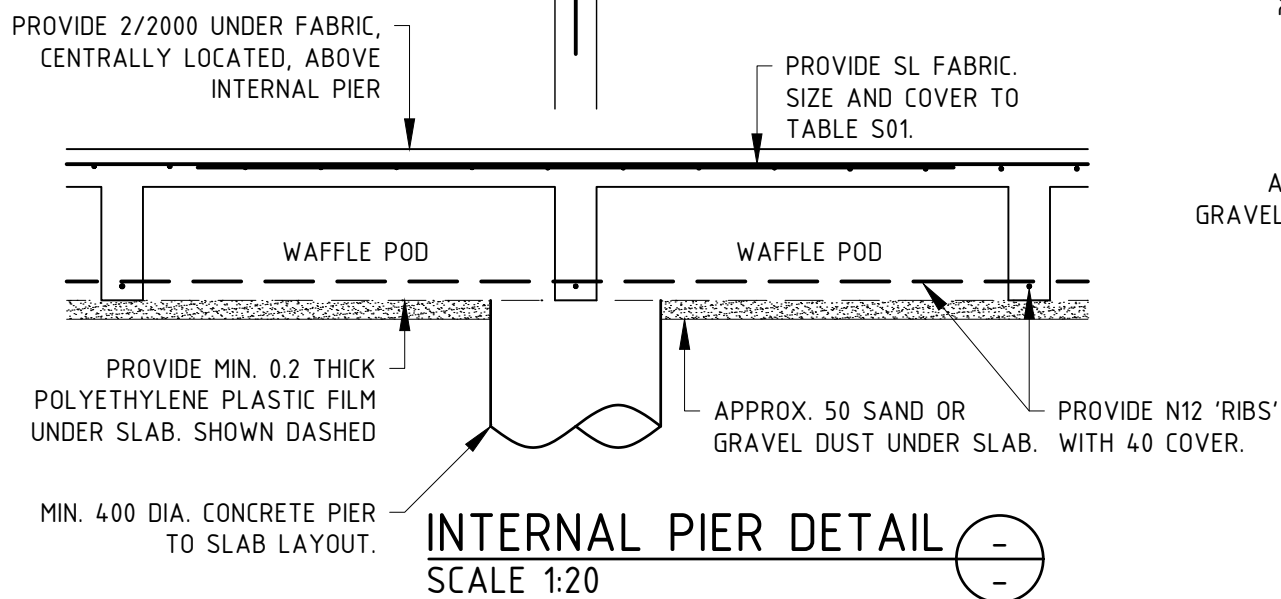
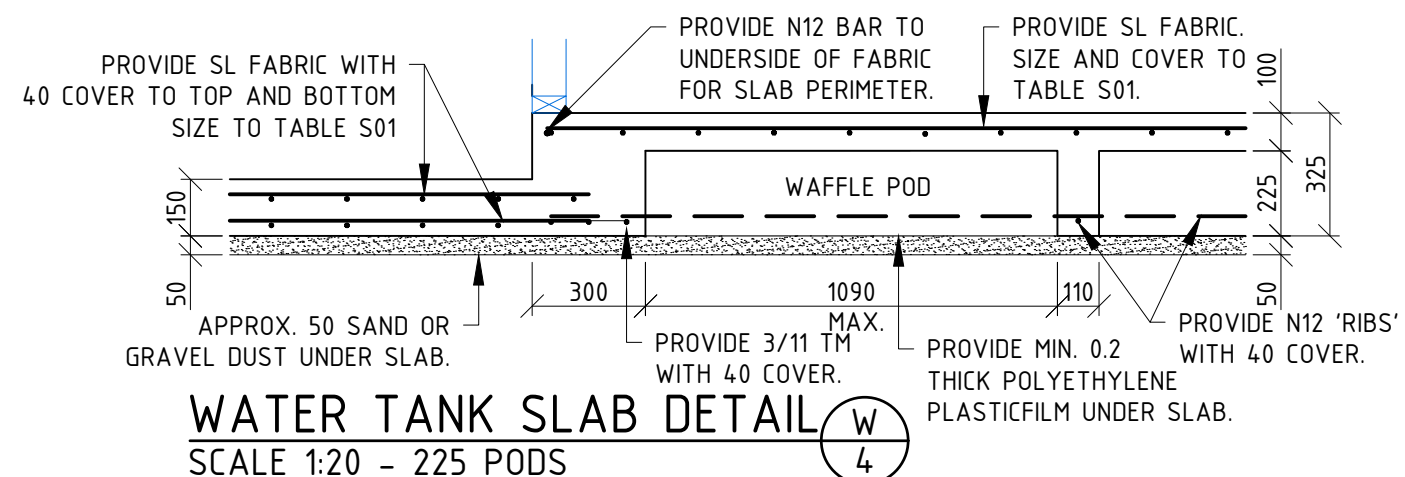
**FABRIC LAP DETAIL**  
SCALE 1:20



**CORNER BAR DETAIL**  
SCALE 1:20



**INTERNAL PIER PLAN DETAIL**  
SCALE 1:20



<p><b>P &amp; R CONSULTING ENGINEERS P/L</b> ACN 647 817 892 180 MACQUARIE GROVE RD KIRKHAM NSW PH 0409 125 133 pnrconsult234@gmail.com pnrconsultingengineers.com.au</p>	<p>PROJECT:- PROPOSED DUAL OCCUPANCY CLIENT:- ABERFOYLE HOMES</p>	
	<p>ADDRESS:- 150 GLADSTONE ST, MUDGEE</p>	
<p>DRAWN NV CHECKED DP DATE 01/05/2024 SCALE 1:20 SHEET 4</p>	<p><b>DWG No</b> <b>24067</b></p>	