



Compliance with Slope Stability Provisions

22 Africander Avenue, Norman Gardens

Client: Phil Healy

CQ Structural Engineering Pty Ltd

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ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/71-2025

Dated: 5 August 2025



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2025

Revision	Date	Revision Description	Approval for issue - for and on behalf of CQ Structural Engineering Pty Ltd
A	11 May 2025	Original Issue	Jake Bundred RPEQ # 27254 (Structural)



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Introduction

CQ Structural Engineering Pty Ltd was commissioned by Phil Healy to complete a brief report outlining the method of compliance for the proposed driveway & dwelling at 22 Africander Avenue, Norman Gardens with the recommendations provide in the Landslide Susceptibility Assessment by CQ Soil Testing and the publication Australian Geomechanics Society Vol 42 No 1 March 2007. The CQ Soil Testing report references previous yet similar design plans.

The Landslide Susceptibility Assessment has a correlated susceptibility rating of low, which allows construction based on a certain number of provisions being satisfied to reduce the landslide risk.

The proposed dwelling house is located on the side of a hill and is subject to the steep land overlay by Rockhampton Regional Council. The soil profile is generally gravelly to silty sand/clay underlaid by weathered rock.

CQ Structural Engineering Pty Ltd conducted a site visit on the 7 April 2025. The site visit was limited to a visual observation of the terrain and surface material. At the time of the site visit the house pad had been partially prepared and some earthworks had been completed. Works for the driveway had commenced.

Site Observations

The following pictures were taken during the site visit.



Figure 1 - Zone of building pad.



Figure 2 - Initial preparations for concrete driveway.



Comments and Recommendations

The Landslide Susceptibility Assessment by CQ Soil Testing and the Australian Geomechanics Society Vol 42 No 1 March 2007 publication noted various factors required to achieve a low susceptibility rating and to follow good hillside practice.

These factors relate to the earthworks, retaining walls and dwelling house foundations. The CQ Structural Engineering plans 25-147 reflect the earthworks and retaining wall requirements in the subgrade notes and the foundation requirements in the foundation notes section. The structural engineering draws contain further detail as required.

Conclusion

I confirm that:

- I am a Registered Professional Engineering of Queensland (RPEQ) in the field of structural engineering and my RPEQ number is #27254
- I have inspected the subject site being 22 Africander Avenue, Norman Gardens, Rockhampton owned by P Healy
- I have helped develop the site and building plans by Vaughan Building Design notably structural engineering plans by CQ Structural Engineering numbers 25-147/01 through 25-147/03 Rev A
- Also, I have prepared a driveway layout plan with detailed notations by CQ Structural Engineering number 25-147/04 Rev A
- I have reviewed two documents prepared some months ago by CQ Soil Testing notably a site classification report and slope stability report
- The first dealt with standard soil testing and the second addressed landslide susceptibility. The latter was based on earlier, part completed, plans before Rockhampton Regional Council (the Council)
- Having regard to the current plans before council, I believe appropriate measures are incorporated into the structural engineering plans to achieve a low landslide susceptibility rating
- More specifically and in relation to the steep land overlay code of the Rockhampton Regional Planning Scheme:
 - The dwelling house proposal before Council would satisfy the requirements of the Australian Geomechanics Society Volume 42 No1 2007 as identified in sections 8.2.11.3 and table 8.2.11.3.1 PO(a) of the Code
 - Would not involve further vegetation clearance for either the dwelling house or driveway as referred to in Table 8.2.11.3.1 PO(b).



Appendix A

SPECIFICATION NOTES

- ALL WORKS TO BE IN ACCORDANCE WITH; QUEENSLAND BUILDING ACT, QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT AND CODES, APPLICABLE CODES OF PRACTICE, NATIONAL CONSTRUCTION CODE, AUSTRALIAN STANDARDS, ACCEPTED INDUSTRY BEST PRACTICES AND THESE STRUCTURAL DRAWINGS.
- ALL WORKS TO BE PERFORMED IN A SAFE AND RESPONSIBLE MANNER BY SUITABLY QUALIFIED AND LICENSED SUBCONTRACTORS/CONTRACTORS.
- SAFETY IN DESIGN HAS BEEN CONSIDERED IN THIS DESIGN AND THE RISKS HAVE BEEN DEEMED TO BE TYPICAL OF THIS PROJECT. DUE CAUTION AND CARE TO BE EXHIBITED AT ALL TIMES.
- THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION DURING CONSTRUCTION WITH SUFFICIENT TEMPORARY BRACING.
- THESE STRUCTURAL DRAWINGS HAVE BEEN BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PROCESS HOWEVER ALL EXISTING STRUCTURAL ELEMENTS SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORKS. ANY DISCREPANCIES SHALL BE REFERRED TO CQ STRUCTURAL ENGINEERING.
- THESE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS FOR RELEVANT INFORMATION. ANY DISCREPANCIES SHALL BE REFERRED TO THE CQ STRUCTURAL ENGINEERING PRIOR TO COMMENCING WORKS.
- REFER TO ARCHITECT'S SPECIFICATIONS, THE RELEVANT AUSTRALIAN STANDARDS AND ACCEPTED INDUSTRY PRACTICES FOR ALL TERMITE CONTROLS AND WATERPROOFING. TERMITE CONTROLS SHALL NOT PREVENT CONNECTION OF STRUCTURAL ELEMENTS.
- REFER TO ARCHITECT'S DRAWINGS FOR ALL SET OUT, LEVELS, AND DIMENSIONS.
- DIMENSIONS IN THESE STRUCTURAL DRAWINGS WILL TYPICALLY BE IN MILLIMETRES AND LEVELS IN METRES.
- DETAILS IN THESE DRAWINGS TAKE PRECEDENCE OVER THESE SPECIFICATION NOTES.
- REFER TO RELEVANT CONSULTANT'S AND MANUFACTURER'S DETAILS AND SPECIFICATIONS REGARDING ARTICULATION OF ALL CLADDING, LININGS, SERVICES AND FINISHES TO ALLOW FOR MOVEMENT IN THE FOUNDATION MATERIALS.
- ALL PROPRIETARY PRODUCTS ARE TO BE USED, APPLIED AND/OR INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, DETAILS AND GUIDELINES.
- CONTRACTOR TO CONFIRM LOCATION OF ALL EXISTING IN-GROUND AND ABOVE GROUND SERVICES PRIOR TO WORKS COMMENCING. ALL EXISTING SERVICES SHOWN IN THESE DRAWINGS ARE INDICATIVE ONLY.
- ALL DEVIATIONS OR ALTERATIONS TO THESE STRUCTURAL DRAWINGS SHALL BE APPROVED BY CQ STRUCTURAL ENGINEERING.

DESIGN DATA

- SOUND STRUCTURAL ENGINEERING JUDGEMENT, APPLICATION OF ACCEPTED STRUCTURAL ENGINEERING PRINCIPLES AND THE RELEVANT SECTIONS OF THE QUEENSLAND BUILDING ACT, NATIONAL CONSTRUCTION CODE, AUSTRALIAN STANDARDS AND MANUFACTURER'S PUBLICATIONS HAVE BEEN CONSIDERED IN THE PREPARATION OF THESE STRUCTURAL DRAWINGS.
- THE FOLLOWING UNIFORMLY DISTRIBUTED/CONCENTRATED ACTIONS AND PARAMETERS HAVE BEEN ASSESSED AS APPROPRIATE FOR THIS PROJECT:
 - IMPOSED ACTIONS
 - GENERAL FLOOR ~ 15KPA AND 18KN
 - GENERAL BALCONY ~ 2.0KPA AND 18KN
 - ROOF ~ 0.25KPA AND 1.4KN
 - GARAGE FLOOR ~ 2.5KPA AND 13KN
 - RETAINING WALL SURCHARGE ~ 2.5 kPa
 - WIND LOADS
 - STRUCTURAL IMPORTANCE LEVEL 2
 - REGION C
 - TERRAIN CATEGORY 2.5
 - WIND DIRECTION MULTIPLIER (M_d) 0.9/1.0
 - TERRAIN HEIGHT MULTIPLIER (M_{zcat}) 0.87
 - SHIELDING MULTIPLIER (M_s) 1.0
 - CLIMATE CHANGE MULTIPLIER (M_c) 1.05
 - TOPOGRAPHICAL MULTIPLIER (M_t) 1.0
 - INTERNAL PRESSURE COEFFICIENTS +0.7/-0.65
 - FREE ROOFS ARE NOT BLOCKED UNDER
 - EQUIVALENT AS4055 WIND CLASSIFICATION C2

SUBGRADE INCL. EARTHWORK NOTES

- REFER TO THESE STRUCTURAL DRAWINGS, AS3798, ACCEPTED INDUSTRY BEST PRACTICES AND CONSULTANT'S DRAWINGS FOR SUBGRADE WORKS.
- INSTALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ACCEPTED INDUSTRY BEST PRACTICES.
- THE EXISTING SUBGRADE PREPARATION IS TO COMPLY WITH THE FOLLOWING.
 - PREPARE SUBGRADE UNDER ALL CONSTRUCTION WORKS FOR 1500mm PAST ALL STRUCTURAL ELEMENTS TO ENSURE IT IS FIRM AND LEVEL.
 - STRIP ALL UNSUITABLE SUBGRADE MATERIAL.
 - PROOF ROLL SUBGRADE ONCE PREPARED AND TREAT UNSUITABLE AREAS. SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH MRS 2.5 MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 200mm TO 98% MOD. PROOF ROLL SHALL BE COMPLETED WITH STATIC 12T SMOOTH STEEL WHEELED ROLLER, PNEUMATIC-TIRED TRUCK WITH MIN 20T GVM OR HIGHWAY TRUCK WITH AXLE LOAD +8T WITH TYRES INFLATED TO 550kPa.
 - PLACE CLEAN GRANULAR MATERIAL IN ALL EXCAVATED, FILLED AND BUILDING PAD ZONES.
 - CLEAN GRANULAR MATERIAL SHALL BE CBR15 MINIMUM COMPACTED IN 200mm LAYERS AND COMPACTED TO 98% MOD GENERALLY AND TO 100% MOD IN THE TOP 500mm UNDER CONCRETE SLABS/PAVEMENTS. MOISTURE VARIATION SHALL NOT EXCEED +/- 2%.
 - CONDUCT FIELD DENSITY TESTING OF CLEAN GRANULAR MATERIAL IN ACCORDANCE WITH TABLE 8.1 OF AS 3798 FOR TYPE 2: SMALL SCALE OPERATIONS.
 - SUBGRADE WORKS SHALL COMPLY WITH LEVEL 1 CONTROLLED FILL REQUIREMENTS.
- RETAINING WALLS SHALL COMPLY WITH AS4678 AND.
 - REFER TO ARCHITECTS REQUIREMENTS FOR WATERPROOFING.
 - AGRICULTURAL DRAINS SHALL BE PROVIDED TO ENSURE RETAINING WALLS ARE SUFFICIENTLY DRAINED.
 - DISCHARGE AGRICULTURAL DRAINS TO STORMWATER AS REQUIRED. ADEQUATE FALL SHALL BE PROVIDED AND MAINTAINED IN AGRICULTURAL DRAINS.
 - AGRICULTURAL DRAINS TO BE PLACED IN FREE DRAINING GRANULAR BACKFILL WRAPPED IN A SUITABLE GEOFABRIC MEMBRANE.
 - COMPACTION FOR RETAINING WALL BACKFILL SHOULD BE UNDERTAKEN WITH DUE CARE IN 100mm MAX THICK LAYERS.
 - COMPACTION SHALL BE USING LIGHT WEIGHT EQUIPMENT SUCH AS HAND CONTROLLED COMPACTIVE EQUIPMENT AND UNDERTAKEN WITH DUE CARE. BACKFILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 100mm TO 98% MOD. TEMPORARY WALL PROPPING SHALL BE USED IN HAND EQUIPMENT IS NOT USED.
 - A CLAY CAP SHALL BE PROVIDED OVER FREE DRAINING GRANULAR BACKFILL AND CONTRACTOR SHALL ENSURE SUFFICIENT DRAINAGE ABOVE RETAINING WALL.
- REFER ANY SITE CONTAMINATION ENCOUNTER DURING WORKS TO CQ STRUCTURAL ENGINEERING.
- CONSTRUCT FILL BATTERS BY OVERFILLING AND TRIMMING BACK TO THE FINAL PROFILE AND BENCH EXISTING SLOPES TO ACCEPT FILL.
- GRADE THE FINISHED SURFACE SMOOTHLY SO THERE WILL BE NO PONDING OF SURFACE

FOUNDATION NOTES

- REFER TO AS3798, AS2870, AS3600, THE PROJECT GEOTECHNICAL/SITE INVESTIGATION REPORT AND THESE STRUCTURAL ENGINEERING DRAWINGS FOR ALL FOUNDATIONS WORKS.
- THE FOLLOWING INFORMATION WAS CONSIDERED DURING THE DESIGN PROCESS.
 - GEOTECHNICAL TESTING AUTHORITY & REPORT NUMBER- CQ SOIL TESTING ~ CQ26465.
 - SITE CLASSIFICATION ~ S.
 - ALLOWABLE BEARING CAPACITY ~ RAFT/STRIP/PAD FOOTINGS ~ 500KPA.
- THE CONTRACTOR SHALL PROVIDE VERIFICATION OF REQUIRED ALLOWABLE BEARING CAPACITIES.
- ALL FOOTINGS SHALL BE FREE OF LOOSE MATERIAL, WATER AND ORGANIC MATERIAL PRIOR TO POURING CONCRETE.
- REFER TO CQ STRUCTURAL ENGINEERING IF NEW FOOTINGS ENCR OACH INTO THE ZONE OF INFLUENCE OF EXISTING FOOTINGS.
- ENSURE SUBGRADE MATERIALS REMAIN STABLE DURING CONSTRUCTION USING ALL REQUIRED METHODS.
- THE FOLLOWING RECOMMENDATIONS SHALL BE FOLLOWED.
 - LOCATE TREES AT LEAST 2 TIMES THEIR MATURE HEIGHT AWAY FROM ANY STRUCTURAL ELEMENTS.
 - SOURCES OF MOISTURE TO BE LOCATED OR TO DISCHARGE AT LEAST 5000mm FROM ANY STRUCTURAL ELEMENTS.
 - THE FINISHED LANDSCAPING IS TO HAVE A 2% MIN GRADE FOR 5000mm AWAY FROM ANY STRUCTURAL ELEMENTS.
 - GARDENS AND SHRUBS SHALL BE LOCATED AT LEAST 3M AWAY FROM ANY STRUCTURAL ELEMENTS.
 - A BUILDING PAD SHALL BE CREATED WITH SUFFICIENT HEIGHT TO ENSURE FALL OF FINISHED SURFACES AWAY FROM ALL STRUCTURAL ELEMENTS.
 - LANDSCAPING FEATURES SHALL BE INSTALLED TO DIRECT WATER AWAY FROM THE STRUCTURAL ELEMENTS AS REQUIRED.
 - THE BASE OF ALL SERVICE TRENCHES ARE TO FALL AWAY FROM ANY STRUCTURAL ELEMENTS. SERVICE TRENCHES ARE TO BE CAPPED WITH AN IMPERVIOUS CLAY SOIL LAYER 200mm THICK FOR 1500mm BEYOND ANY STRUCTURAL ELEMENTS AND ARE TO BE PLUGGED WITH IMPERVIOUS CLAY SOIL WHERE THEY PASS UNDER ANY EXTERNAL FOOTING.
 - PROVIDE ADEQUATE ARTICULATION OF ALL PLUMBING INCLUDING SANITARY AND STORMWATER DRAINAGE IN ACCORDANCE WITH AS3500. REFER TO QUEENSLAND BUILDING SERVICES AUTHORITY DRAWING "RECOMMENDED GUIDELINES FOR SANITARY AND STORM WATER INSTALLATION ON REACTIVE CLAY SITES ~ PLUMBING FOOTING DETAIL NO.1" FOR GENERAL GUIDELINES OF DESIGN AND INSTALLATION OF SUCH ARTICULATION.
 - REGULARLY INSPECT ALL SOURCES OF MOISTURE AND ENSURE ANY LEAKS ARE IDENTIFIED AND REPAIRED AS SOON AS POSSIBLE.
 - THE CONTRACTOR AND OWNER SHALL COMPLY WITH THE RECOMMENDATIONS CONTAINED IN INDUSTRY PUBLICATIONS INCLUDING:
 - QBCC INFORMATION BOOKLET, "A GUIDE TO PREVENTING STRUCTURAL DAMAGE".
 - QBCC INFORMATION BOOKLET "DEFECTIVE RESIDENTIAL CONSTRUCTION WORK CAUSING SUBSIDENCE, CONTRACTORS RESPONSIBILITY".
 - CSIRO BUILDING TECHNOLOGY FILE BTF 18 "FOUNDATION AND FOOTING PERFORMANCE: A HOMEOWNERS GUIDE".
 - CSIRO BUILDING TECHNOLOGY FILE BTF19 "A BUILDER'S GUIDE TO PREVENTING DAMAGE TO DWELLINGS PART 1-SITE INVESTIGATION AND PREPARATION"
 - CSIRO BUILDING TECHNOLOGY FILES BTF22 "A BUILDERS GUIDE TO PREVENTING DAMAGE TO BUILDINGS PART 2-SOUND CONSTRUCTION METHODS".

STEEL REINFORCEMENT NOTES

- REFER TO SHALL AS/NZS4671, AS3600, AS3700 AND AS3850 FOR ALL STEEL REINFORCEMENT REQUIREMENTS.
- PROVIDE ACRS CERTIFICATES FOR ALL STEEL REINFORCEMENT.
- STEEL REINFORCING SHALL COMPLY WITH:
 - N BAR ~ DEFORMED RIBBED NORMAL DUCTILITY GRADE 500MPa BAR.
 - SL MESH ~ DEFORMED RIBBED LOW DUCTILITY GRADE 500 MPA SQUARE MESH.
 - LxTM TRENCH MESH ~ DEFORMED RIBBED LOW DUCTILITY GRADE 500 MPA TRENCH MESH.
 - R BAR ~ ROUND NORMAL DUCTILITY GRADE 250 MPA BAR.
- STEEL REINFORCEMENT LAPS SHALL COMPLY WITH;
 - R10 ~ 450mm LAP.
 - N12 ~ 550mm LAP.
 - N16 ~ 650mm LAP.
 - LxTM TRENCH MESH- 500MM/FULL WIDTH AT INTERSECTIONS AND CORNERS.
 - SL MESH ~ 2 CROSS WIRES PLUS 25mm.
- REFER AS3600 FOR ALL BENDING OF STEEL REINFORCEMENT.
- ALL HEATING OR WELDING OF STEEL REINFORCEMENT SHALL BE APPROVED BY CQ STRUCTURAL ENGINEERING.
- ALL STEEL REINFORCEMENT SHALL BE SUPPORTED ON PLASTIC BAR CHAIRS AT 900MM MAX CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- REINFORCING STEEL SHALL BE DISPLACED EITHER SIDE OF PENETRATIONS IN CONCRETE/MASONRY ELEMENTS.

CONCRETE NOTES

- REFER TO AS1379, AS3600, AS3610 AND THESE STRUCTURAL DRAWINGS FOR ALL CONCRETE WORKS, FORMWORK ACTIVITIES AND BACK PROPPING.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCRETE FINISHES.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL LEVELS, STEPS, FALLS, REBATES AND THRESHOLD RAMPS.
- ALL CONDUITS, PIPES, RECESSES, CHASES TO BE PLACED IN THE MIDDLE THIRD OF CONCRETE ELEMENTS AND SHALL BE SPACED MINIMUM 2x THE LARGEST CAST IN ELEMENT.
- CONCRETE SHALL COMPLY THE FOLLOWING;
 - FOOTINGS ~ N20 GRADE ~ 20mm MAX AGGREGATE WITH 80mm SLUMP.
 - SLABS ON GROUND ~ N25 GRADE ~ 20mm MAX AGGREGATE WITH 80mm SLUMP.
 - SLABS ON FILL ~ N32 GRADE ~ 20mm MAX AGGREGATE WITH 80mm SLUMP.
 - WALLS ~ N32 GRADE ~ 10mm MAX AGGREGATE WITH 180mm SLUMP.
- REFER TO THE 'PROJECT ASSESSMENT' METHOD AS DETAILED IN AS1379 FOR ALL CONCRETE SAMPLING AND TESTING.
- REFER TO STEEL REINFORCING NOTES FOR ALL STEEL REINFORCING. ENSURE PLACEMENT OF STEEL REINFORCEMENT MAINTAINED DURING CONCRETE WORKS.
- COVER TO STEEL REINFORCEMENT SHALL COMPLY WITH:
 - FOOTINGS ~ 65mm COVER TO ALL FACES.
 - CAST IN ELEMENTS ~ 20mm TO ALL FACES.
 - INTERNAL SLAB ON GROUND ~ 25mm TO TOP AND EDGES.
 - EXTERNAL SLAB ON GROUND ~ 40mm TO TOP AND EDGES.
 - WALLS ~ N32 GRADE ~ 10mm MAX AGGREGATE WITH 180mm SLUMP.
- CONCRETE WORKS SHALL COMPLY WITH THE FOLLOWING;
 - ALL EXPOSED CONCRETE EDGES SHALL HAVE 20mm CHAMFER, FILLET OR RADIUS.
 - COMPACT CONCRETE USING APPROVED METHODS OR AN IMMERSION VIBRATOR.
 - INSTALL SAWN JOINTS IN GROUND SLABS WITHIN 24 HOURS OF POURING.
 - EXISTING CONCRETE TO BE SCABBLED TO REMOVE LAITANCE AND TO EXPOSE EXISTING AGGREGATE PRIOR TO POURING ADDITIONAL CONCRETE.
- THE CONCRETE CURING PROCEDURE SHALL BE APPROVED BY CQ STRUCTURAL ENGINEERING. CONCRETE CURING PROCEDURE SHALL INCLUDE;
 - APPLICATION OF EVAPORATION RETARDANT AS SOON AS PRACTICAL AND AS REQUIRED TO HORIZONTAL SURFACES.
 - FULLY SEALING WITH PLASTIC SHEETING/PONDING OF WATER/APPLICATION OF CURING AGENT COMPLIANT WITH AS3799.
- CONCRETE SLABS ON GROUND SHALL COMPLY WITH THE FOLLOWING;
 - ENSURE 200Um VISQUEEN PLACED UNDER ALL CONCRETE SLABS ON GROUND.
 - ENSURE 50mm OF BEDDING SAND PLACED UNDER ALL CONCRETE SLABS ON GROUND.
 - ENSURE 3/N12 X 2000mm LONG TRIMMER BARS PLACED AT ALL RE-ENTRANT CORNERS. FIRST TRIMMER BAR TO BE LOCATED COVER DISTANCE FROM RE-ENTRANT CORNER.
 - ENSURE BAR CHAIRS PROVIDED AT 900 CENTRES IN BOTH DIRECTIONS.
 - ENSURE SAWN/TOOL JOINTS AT MAXIMUM OF 6000mm CENTRES IN BOTH DIRECTIONS.

STRUCTURAL STEEL NOTES

- REFER TO AS4100, AS1418, AS/NZS1554, AS1627, AS/NZS2312, AS3828, AS/NZS4600, AS/NZS5131 AND THESE STRUCTURAL ENGINEERING DRAWINGS FOR ALL STRUCTURAL STEEL WORKS.
- ENSURE ACRS CERTIFICATES PROVIDED FOR ALL STRUCTURAL STEEL AND FABRICATED STRUCTURAL STEEL.
- ENSURE STRUCTURAL STEEL SHOP DRAWINGS ARE SUBMITTED TO CQ STRUCTURAL ENGINEERING FOR APPROVAL.
- STRUCTURAL STEEL SHALL COMPLY WITH;
 - PURLINS AND GIRTS ~ GRADE 450MPa TO AS4600
 - SQUARE HOLLOW SECTIONS ~ GRADE 350MPa TO AS/NZS1163
 - PLATE ~ GRADE 350MPa TO AS/NZS3678
- BOLTS, NUTS AND WASHERS ARE TO COMPLY WITH:
 - 4.6/5 BOLT ~ GRADE 4.6 COMMERCIAL TO AS1111 AND AS1112
- STRUCTURAL STEEL WELDING SHALL COMPLY WITH:
 - REFER TO AS1554 FOR ALL STRUCTURAL STEEL WELDING WORKS
 - ENSURE ALL WELDING SHALL BE COMPLETE BY AN EXPERIENCED AND QUALIFIED WELDER.
 - ENSURE ALL WELDS ARE 6MM CONTINUOUS FILLET WELD UNO.
 - ENSURE ALL ELECTRODES ARE E48XX.
 - ENSURE ALL FLAME CUT EDGES ARE GROUND SMOOTH, ALL SHARP EDGES AND BURRS REMOVED AND ALL WELD SPLATTER REMOVED.
- SURFACE PREPARATION SHALL BE CLASS 2.5 ABRASIVE BLAST CLEAN GENERALLY WITH INTERMEDIATE AND TOP COATS TO ARCHITECT'S DETAILS. CORROSION PROTECTION OF STRUCTURAL STEEL SHALL BE:
 - ZINC RICH PRIMER.
 - PURLINS AND GIRTS ~ Z350 GALVANISED COATING.
- INSTALL NON-SHRINK HIGH STRENGTH CEMENTITIOUS GROUT UNDER ALL BASE PLATES.
- STRUCTURAL STEEL WORKS SHALL COMPLY WITH;
 - ALL STRUCTURAL STEEL ENCASED IN CONCRETE SHALL HAVE RUST INHIBITING SEALANT (BITUMINOUS SEALANT OR SIMILAR).
 - FABRICATE ALL CLEATS FROM 10MM FLAT BAR.
 - GRIND ALL AND CORNERS SHARP EDGES SMOOTH/REMOVE BURRS.
 - ALL CHS, RHS AND SHS MEMBERS SHALL BE SEALED WITH NOMINAL SIZED PLATES.
 - BOLTS SHALL BE M16 4.6/S. ALL EXTERNAL BOLTS SHALL BE GALVANISED.
 - CAST IN BOLTS SHALL BE GALVANISED M16 4.6/S BOLTS WITH LEVELING NUTS AND WASHERS.
 - MINIMUM CURVE RADIUS OF CAST IN BOLTS SHALL BE 3 TIMES THE BOLT DIAMETER.
 - MINIMUM TWO BOLTS PER STRUCTURAL STEEL CONNECTION.
 - ENSURE 2MM BOLT HOLE CLEARANCE TYPICALLY.
 - ENSURE 4MM BOLT HOLE CLEARANCE FOR DRILLED ANCHORS.
 - ENSURE 6MM BOLT HOLE CLEARANCE FOR CAST IN, HOLD DOWN BOLTS.
 - ALL CHEMICAL ANCHORS SHALL BE HILTI HIT-RE500 V3 OR SIMILAR.

ISSUE	DATE	ISSUE DESCRIPTION	DRAFTED	DESIGNED	CHECKED	APPROVED
A	28/03/25	ISSUED FOR APPROVAL	C.D.	J.B.	R.B.	J.B.



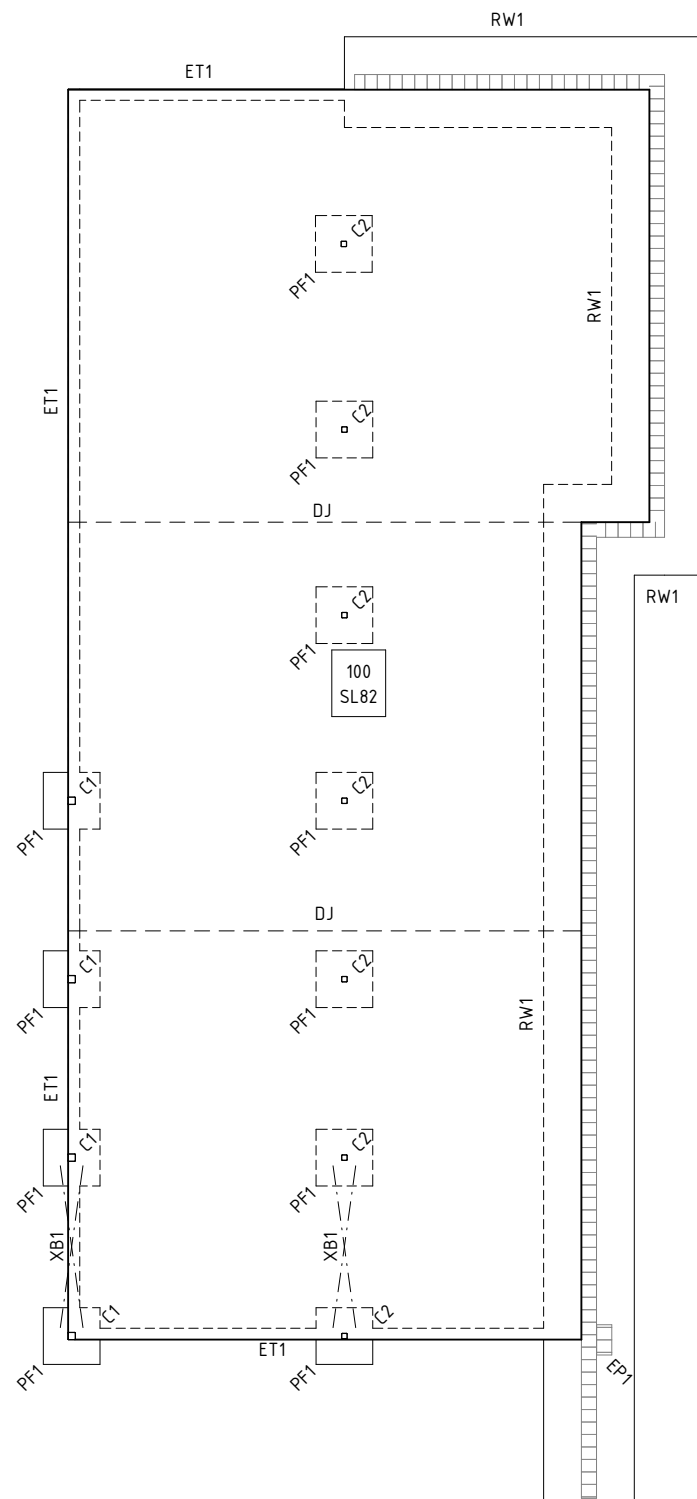
JAKE BUNDRED RPEQ#27254
FOR AND ON BEHALF OF
CQ STRUCTURAL ENGINEERING PTY LTD

CLIENT	P. HEALY
PROJECT	PROPOSED RESIDENCE
ADDRESS	22 AFRICANDER AVE, NORMAN GARDENS QLD 4701
TITLE	SPECIFICATION NOTES

ISSUED FOR APPROVAL

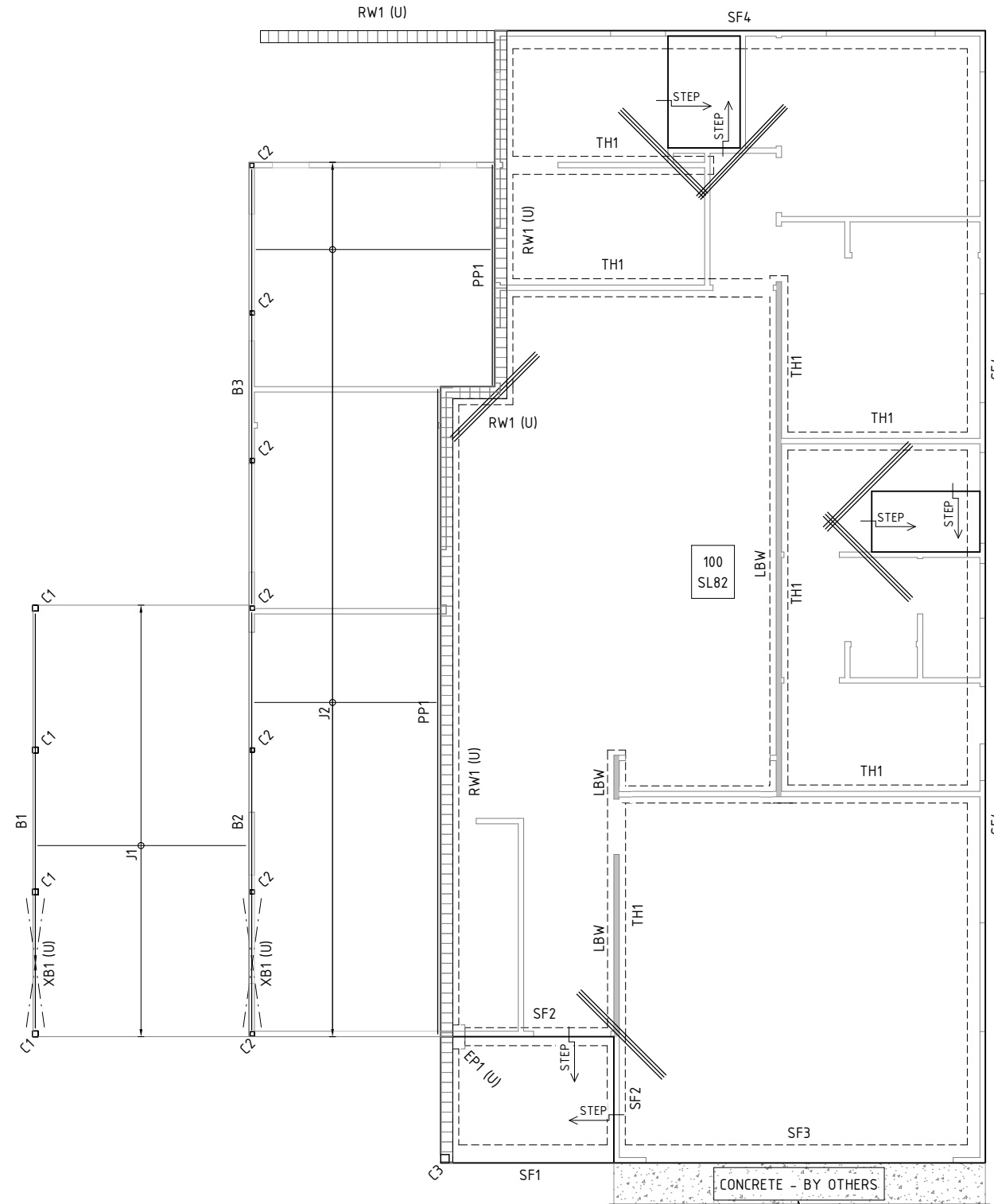
cqstructural.com.au
jake@cqstructural.com.au
0472631632

SCALE A1
DRAWING 25-147/01
ISSUE A



LOWER LEVEL SLAB AND FOOTING PLAN

SCALE: 1 : 50



LEVEL 1 FLOOR FRAMING PLAN

SCALE: 1 : 50

LEVEL 1 SLAB & FOOTING PLAN

SCALE: 1 : 50

MEMBER SCHEDULE

EP1 ENGAGED PIER - REFER DETAIL
ET1 EDGE THICKENING - REFER DETAIL
PF1 PAD FOOTING - REFER DETAIL
RW1 RETAINING WALL - REFER DETAIL

SF1 STRIP FOOTING - REFER DETAIL
SF2 STRIP FOOTING - REFER DETAIL
SF3 STRIP FOOTING - REFER DETAIL
SF4 STRIP FOOTING - REFER DETAIL
TH1 SLAB THICKENING - REFER DETAIL

DJ SAWN JOINT - REFER DETAIL

C1 100x100x4.0 SHS COLUMN
C2 75x75x4.0 SHS COLUMN
C3 140x140 F14 HWD POST

XB1 50x5.0 EA CROSS BRACING

B1 NC20524 BEARER
B2 2/NC20524 BEARER
B3 NC20524 BEARER
PP1 NC20524 POLE PLATE

J1 C20015 JOISTS AT 450 CTRS. MAX.
J2 C20015 JOISTS AT 450 CTRS. MAX.

DRAWING LEGEND

100 SL82	RC SLAB THICKNESS & MESH
	WALL FRAMING - BY OTHERS
	DINCEL WALL
LBW	LOAD BEARING WALL
STEP	SLAB STEP
	3/L11TM RE-ENTRANT BARS - 2000 LONG
(U) (O)	MEMBER UNDER (U) OVER (O)

WIND BRACING SCHEDULE

WIND DIRECTION	DIRECTION A		DIRECTION B	
BRACING LOAD (kN)	64kN		105kN	
TYPE OF BRACING	No. OF K BRACED REQUIRED	No. OF STRAP BRACING REQUIRED	No. OF K BRACED REQUIRED	No. OF STRAP BRACING REQUIRED
VALUE	16	4	26	8

DIRECTION B

ISSUE	DATE	ISSUE DESCRIPTION	DRAFTED	DESIGNED	CHECKED	APPROVED
A	28/03/25	ISSUED FOR APPROVAL	C.D.	J.B.	R.B.	J.B.



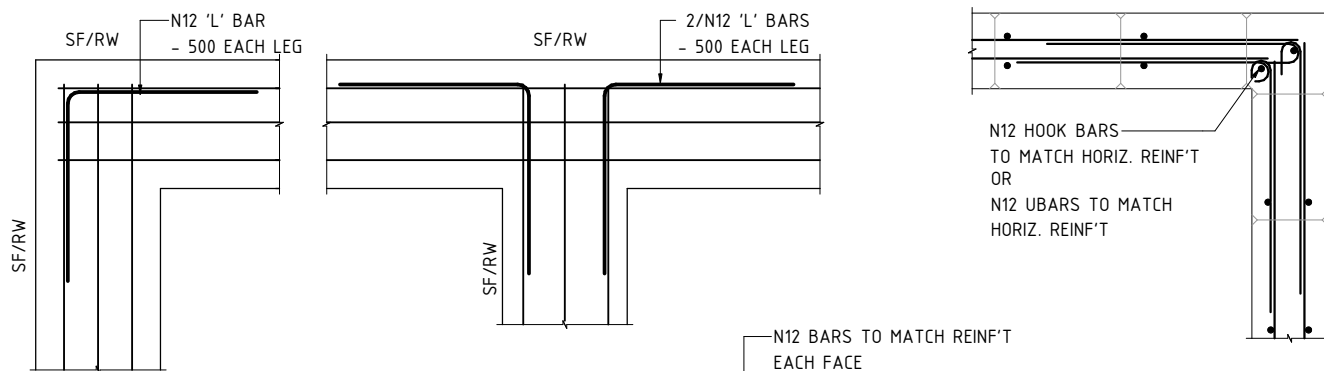
JAKE BUNDRED RPEQ#27254
FOR AND ON BEHALF OF
CQ STRUCTURAL ENGINEERING PTY LTD

CLIENT	P. HEALY
PROJECT	PROPOSED RESIDENCE
ADDRESS	22 AFRICANDER AVE, NORMAN GARDENS QLD 4701
TITLE	LAYOUT PLANS

ISSUED FOR APPROVAL

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SCALE A1 1:50
DRAWING 25-147/02
ISSUE A

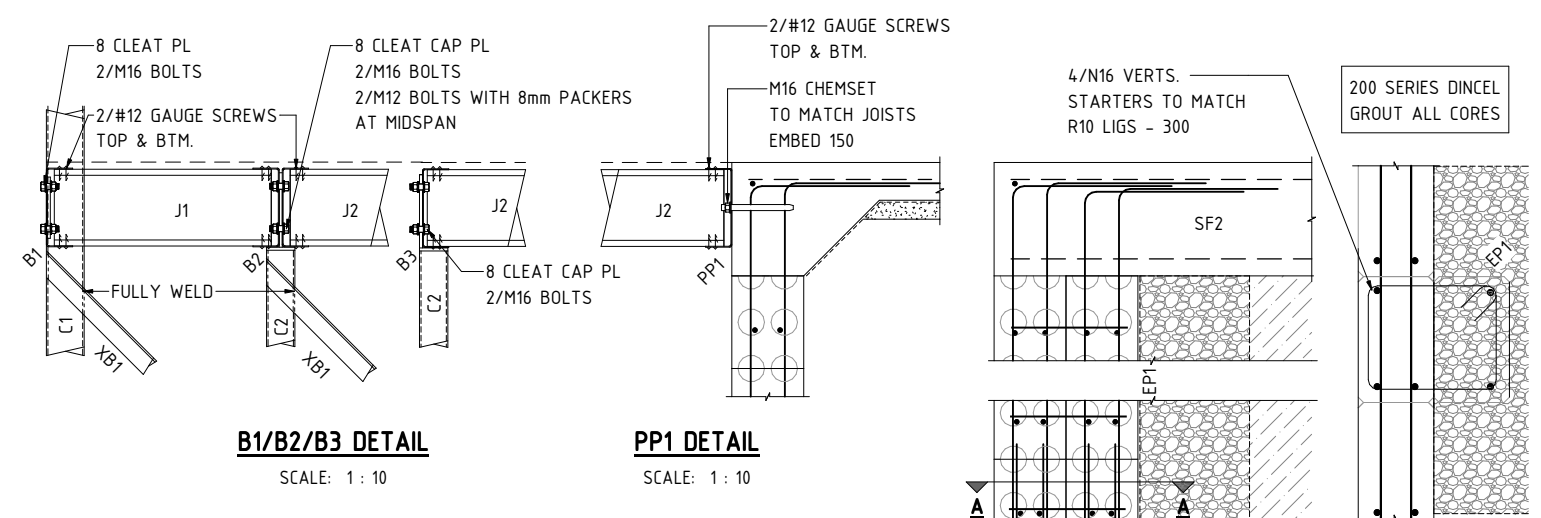


SF/RW TYPICAL CORNER DETAILS

SCALE: 1 : 10

DINCEL CORNER DETAIL

SCALE: 1 : 10



B1/B2/B3 DETAIL

SCALE: 1 : 10

PP1 DETAIL

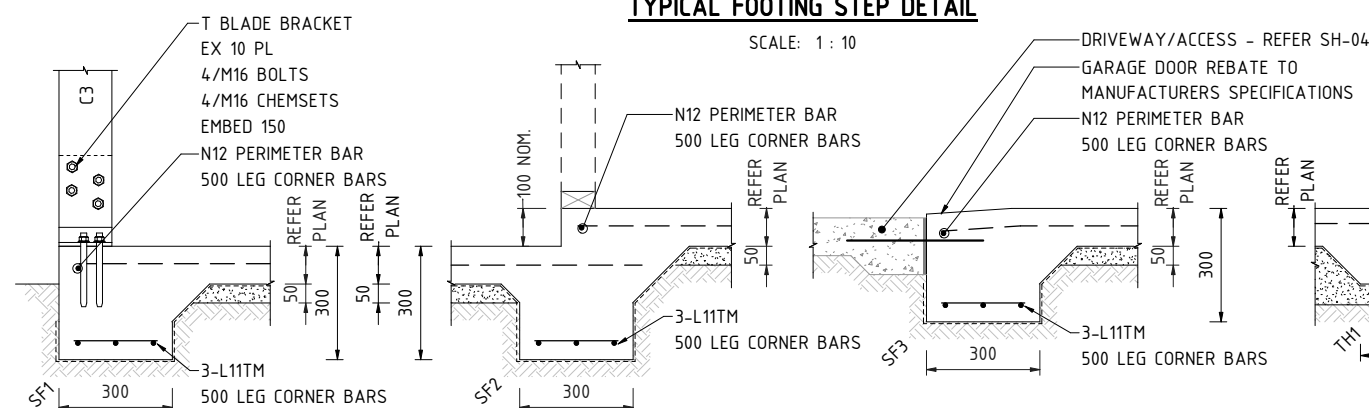
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EP1 DETAIL

SCALE: 1 : 10

TYPICAL FOOTING STEP DETAIL

SCALE: 1 : 10



SF1 DETAIL

SCALE: 1 : 10

SF2 DETAIL

SCALE: 1 : 10

SF3 DETAIL

SCALE: 1 : 10

TH1 DETAIL

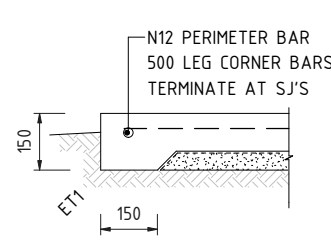
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SLAB STEP DETAIL

SCALE: 1 : 10

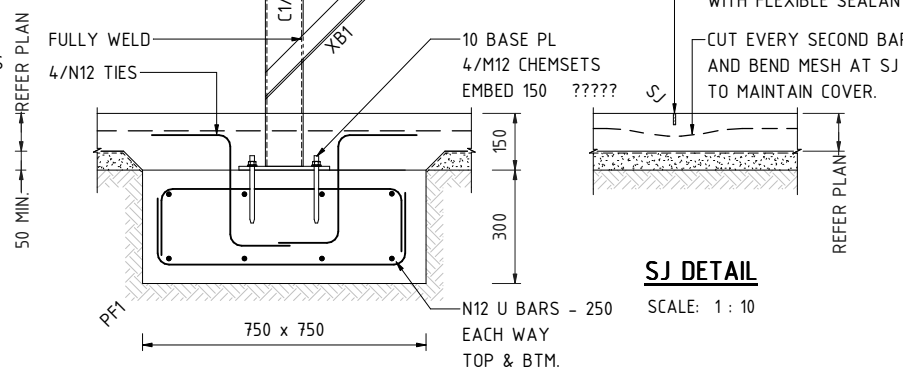
SF4 DETAIL

SCALE: 1 : 10



ET1 DETAIL

SCALE: 1 : 10

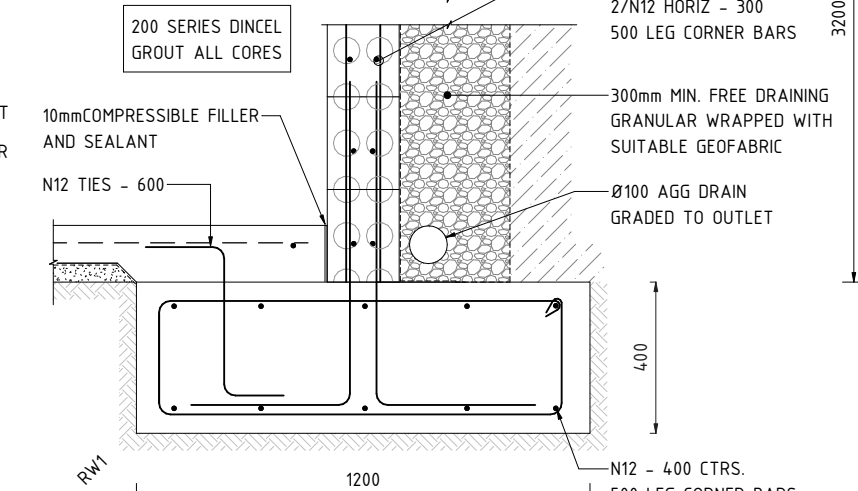


PF1 DETAIL

SCALE: 1 : 10

SJ DETAIL

SCALE: 1 : 10



RW1 DETAIL

SCALE: 1 : 10

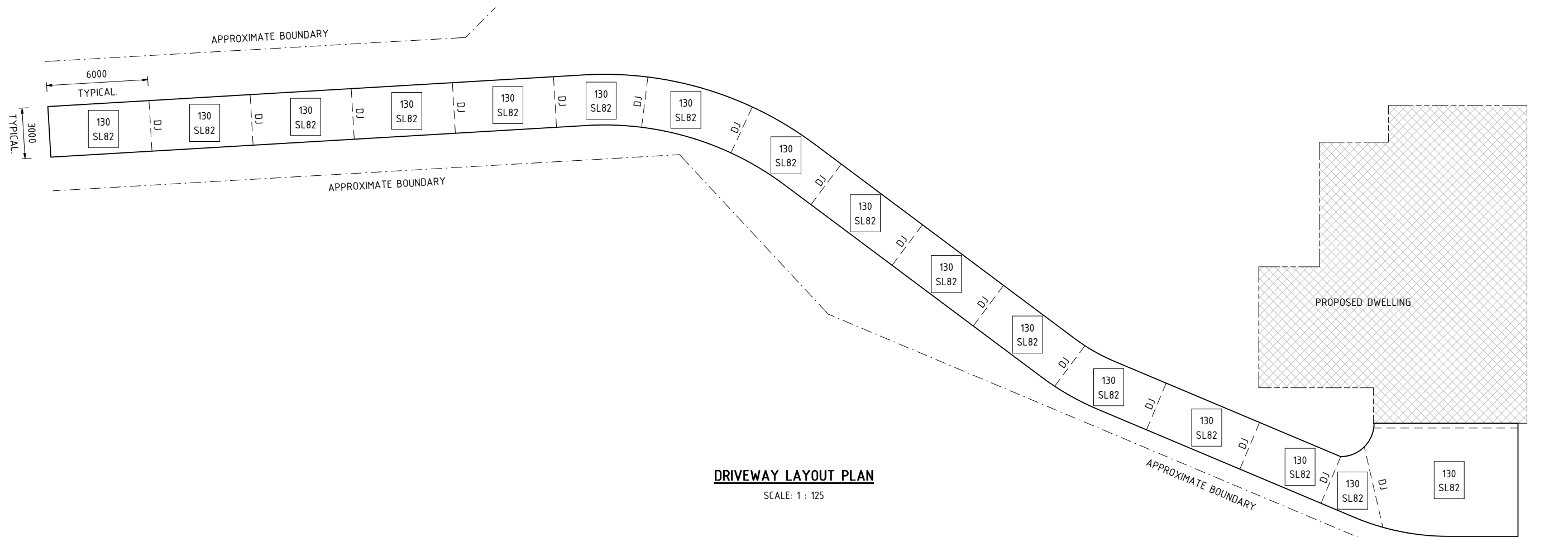
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A	28/03/25	ISSUED FOR APPROVAL	C.D.	J.B.	R.B.	J.B.



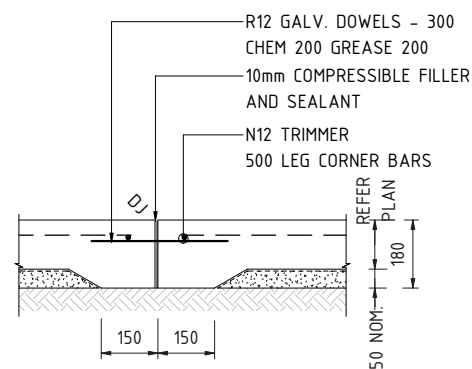
JAKE BUNDRED RPEQ#27254
FOR AND ON BEHALF OF
CQ STRUCTURAL ENGINEERING PTY LTD

CLIENT	P. HEALY
PROJECT	PROPOSED RESIDENCE
ADDRESS	22 AFRICANDER AVE, NORMAN GARDENS QLD 4701
TITLE	DETAILS

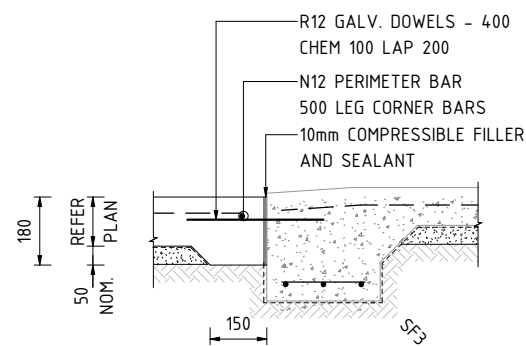
ISSUED FOR APPROVAL	SCALE A1 1:10
	DRAWING 25-147/03
	ISSUE A



DRIVEWAY LAYOUT PLAN
SCALE: 1 : 125



DJ DETAIL
SCALE: 1 : 10



DRIVEWAY DETAILS
SCALE: 1 : 10

MEMBER SCHEDULE	
DJ	SAWN JOINT - REFER DETAIL

DRAWING LEGEND	
130 SL82	RC SLAB THICKNESS & MESH

ISSUE	DATE	ISSUE DESCRIPTION	DRAFTED	DESIGNED	CHECKED	APPROVED
A	17/04/25	LAYOUT AND DETAILS ADDED	C.D.	J.B.	R.B.	J.B.



JAKE BUNDRED RPEQ#27254
FOR AND ON BEHALF OF
CQ STRUCTURAL ENGINEERING PTY LTD

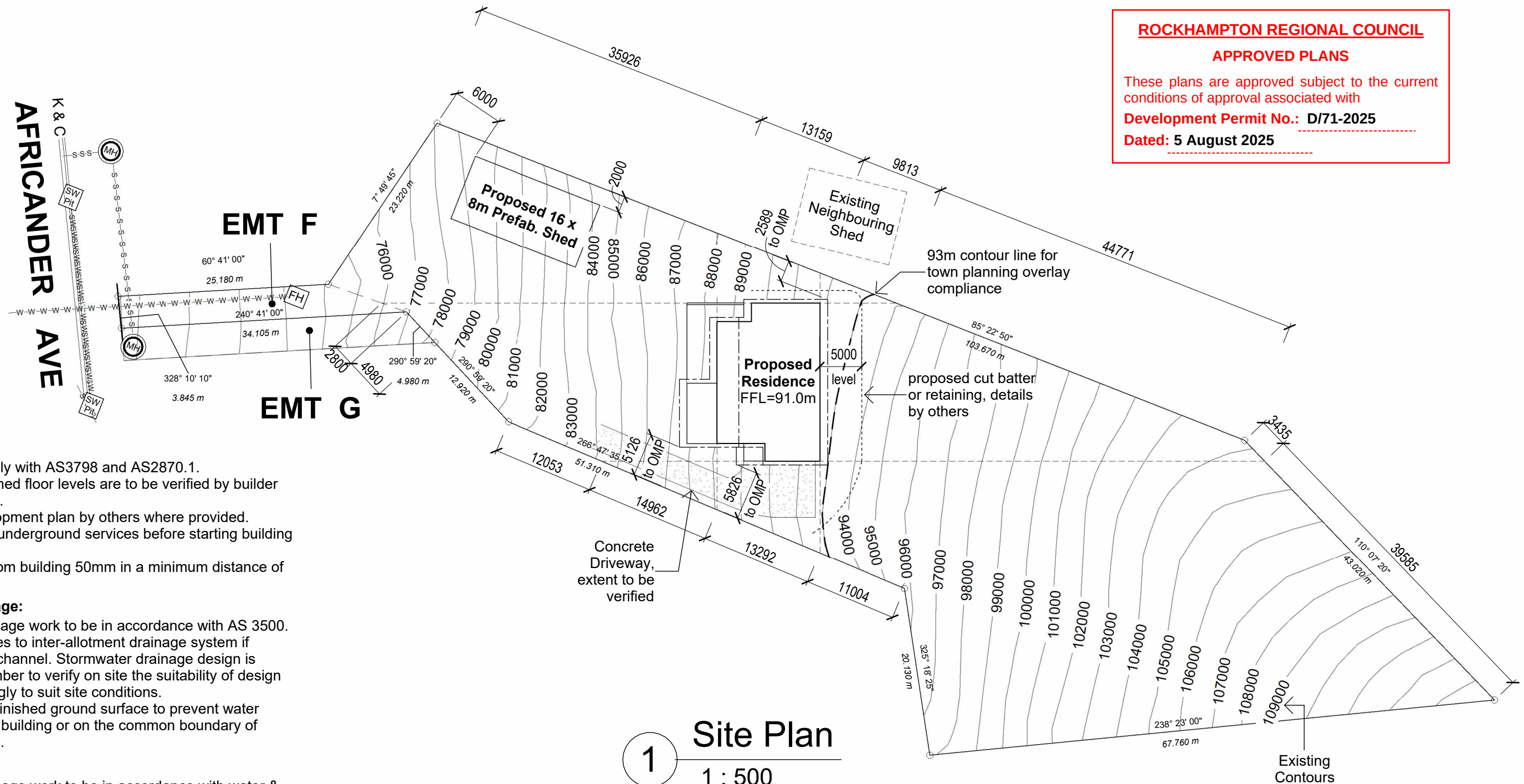
CLIENT	P. HEALY
PROJECT	PROPOSED RESIDENCE
ADDRESS	22 AFRICANDER AVE, NORMAN GARDENS QLD 4701
TITLE	DRIVEWAY LAYOUT PLAN & DETAILS

ISSUED FOR APPROVAL cqstructural.com.au jake@cqstructural.com.au 0472631632	SCALE A1 1:50
	DRAWING 25-147/04
	ISSUE A

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Dated: 5 August 2025



Site Notes

Earthworks to comply with AS3798 and AS2870.1.
Site levels and finished floor levels are to be verified by builder before starting work.
Refer to Site Development plan by others where provided.
Confirm location of underground services before starting building work.
Fall ground away from building 50mm in a minimum distance of 1m on all sides.

Stormwater Drainage:

All stormwater drainage work to be in accordance with AS 3500. Discharge downpipes to inter-allotment drainage system if available or kerb & channel. Stormwater drainage design is indicative only, plumber to verify on site the suitability of design and adjust accordingly to suit site conditions.
Provide falls to the finished ground surface to prevent water ponding around the building or on the common boundary of adjoining allotments.

Sewer Drainage:

All plumbing & drainage work to be in accordance with water & sewerage supply act & AS 3500.
On sewered sites discharge waste water to council sewer.
For unsewered sites refer to consultants plans for treatment system.
Sewer line location (if shown) has been scaled from council plans and is approximate only. If located near the proposed construction or location is in doubt it is the builders responsibility to physically locate the sewer line before starting work.

Notes:

"As Drawn" if noted on plan refers to an approximate measure based on available information. The builder is to confirm any values on site before finalising fees/ordering materials.

1

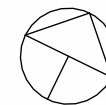
Site Plan

1 : 500

R.P.D.

Legend

- SW— - Stormwater Line
- S— - Sewer Line
- W— - Water Line
- (MH) - Access Chamber
- (FH) - Fire Hydrant
- (SW Pit) - Stormwater Pit
- K & C - Kerb & Channel



Lot Number : 14
Reg./Survey Plan Number : SP 117915
Parish : Murchison
County : Livingstone
Area : 4346.0m²
Datum : AHD*

* Contours provided by Queensland Government online mapping and are approx. only, additional contour survey may be required

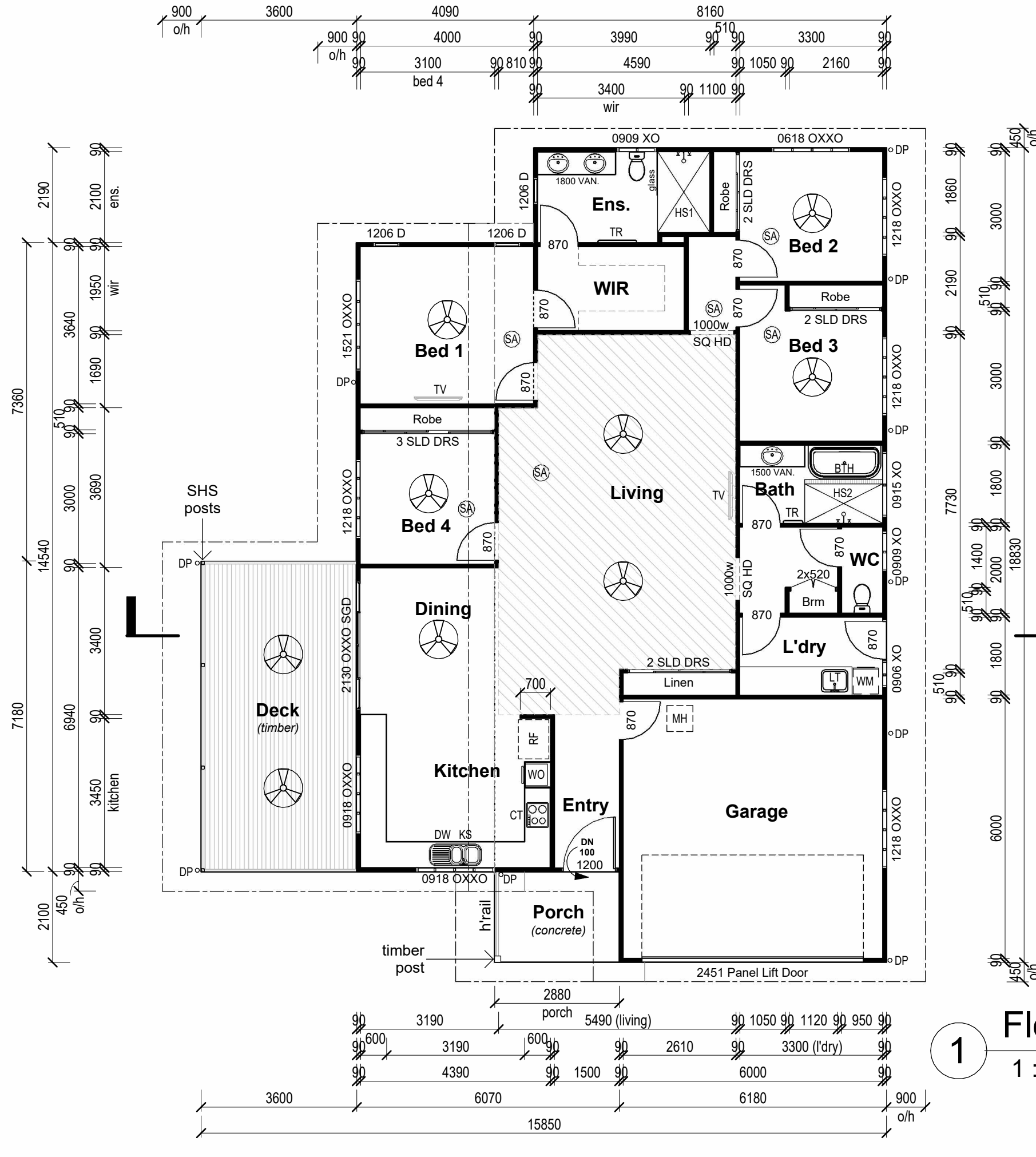
No.	Revision Description	Date
01	Preliminary Plan	04.02.2025
02	Building Application	20.03.2025
03	Minor Changes	08.04.2025
04	Building Location Adjusted	20.06.2025



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Email:
admin@vaughanbuildingdesign.com.au
www.vaughanbuildingdesign.com.au
QBCC Licence No.
(Ian Vaughan)
15007590

Proposed Residence
For P. Healy
At 22 Africander Ave,
Norman Gardens

Drawn By:	ILV	Project Number	24014
Checked By:	ILV		
A3	Wind Speed BY ENGINEER		
		SHEET 01 OF 11 SHEETS	



- ### Plan Legend
- BTH Bath
 - CT Cooktop
 - DP Down Pipe
 - DW Dishwasher
 - HC Hose Cock
 - HS1 Hobless Shower (1860 x 1200)
 - HS2 Hobless Shower (1000 x 1800)
 - KS Kitchen Sink
 - LT Laundry Tub
 - MH Man Hole
 - RF Refrigerator
 - SA Interconnected Photoelectric Smoke Alarm
 - TR Towel Rail
 - TV Television Location
 - WM Washing Machine
 - WO Wall Oven
- Raked Ceiling

ROCKHAMPTON REGIONAL COUNCIL

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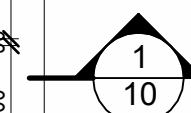
Phone: 0407 132 964
Email: admin@vaughanbuildingdesign.com.au
www.vaughanbuildingdesign.com.au

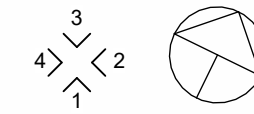
QBCC Licence No. (Ian Vaughan): 15007590

Drawn By: ILV	Wind Speed: BY ENGINEER	Project Number 24014 SHEET 02 OF 11 SHEETS
Checked By: ILV	Sheet Size: A3	

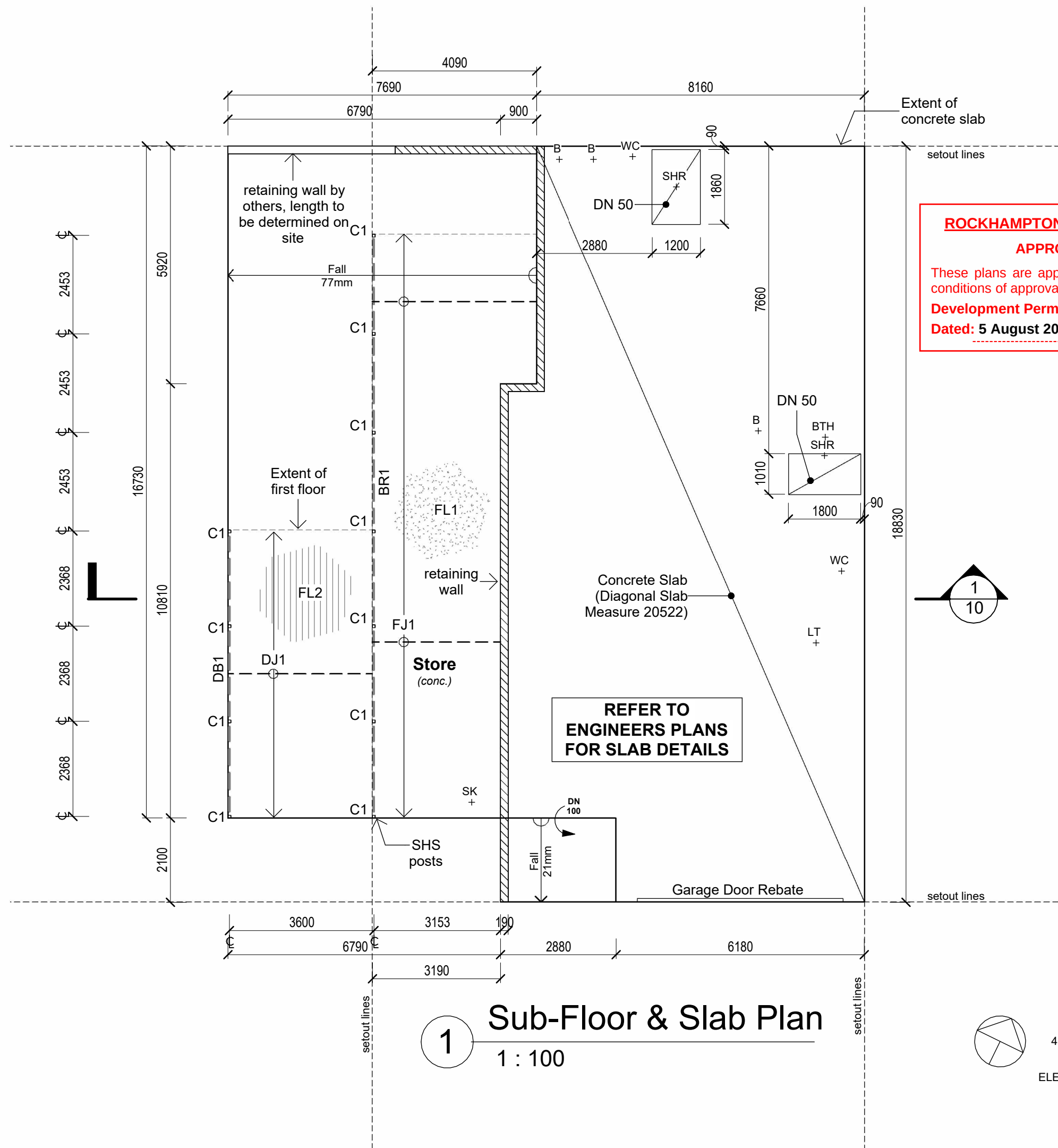
Floor Plan

1 : 100





ELEVATIONS



ROCKHAMPTON REGIONAL COUNCIL

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Slab Plan Legend

- B : Basin
BTH : Bath
FW : Floor Waste
SHR : Shower
SK : Sink
LT : Laundry Tub
TD : Tundish
WC : Water Closet

Members/Materials :

- FJ1 - Floor joists to engineers detail
DJ1 - Deck joists to engineers detail
BR1 - Floor bearer to engineers detail
DB1 - Deck Bearer to engineers detail
FL1 - 19mm 'Structaflor' or equiv.
FL2 - selected decking
C1 - SHS posts to engineers detail

**REFER TO ENGINEERS
PLANS FOR ALL
STRUCTURAL DETAILS**

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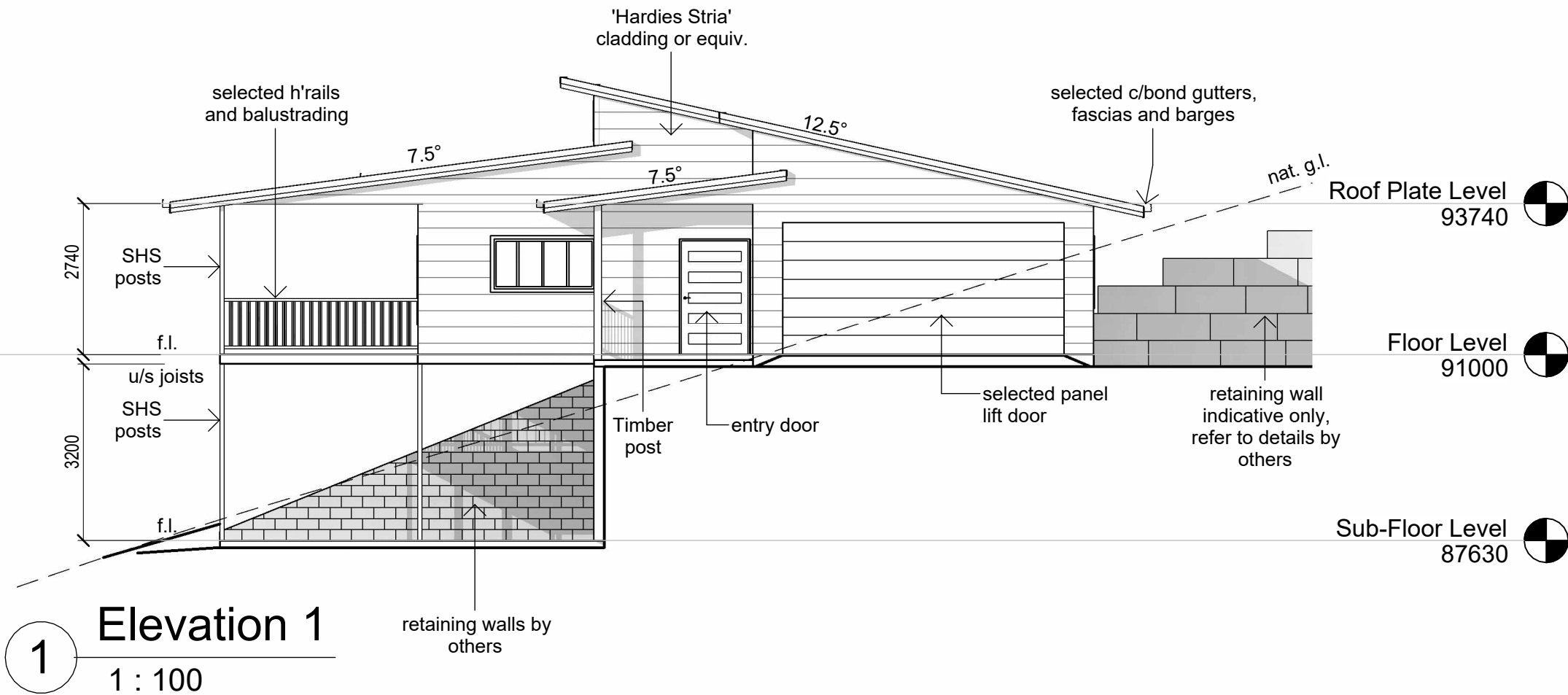
Proposed Residence
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At 22 Africander Ave,
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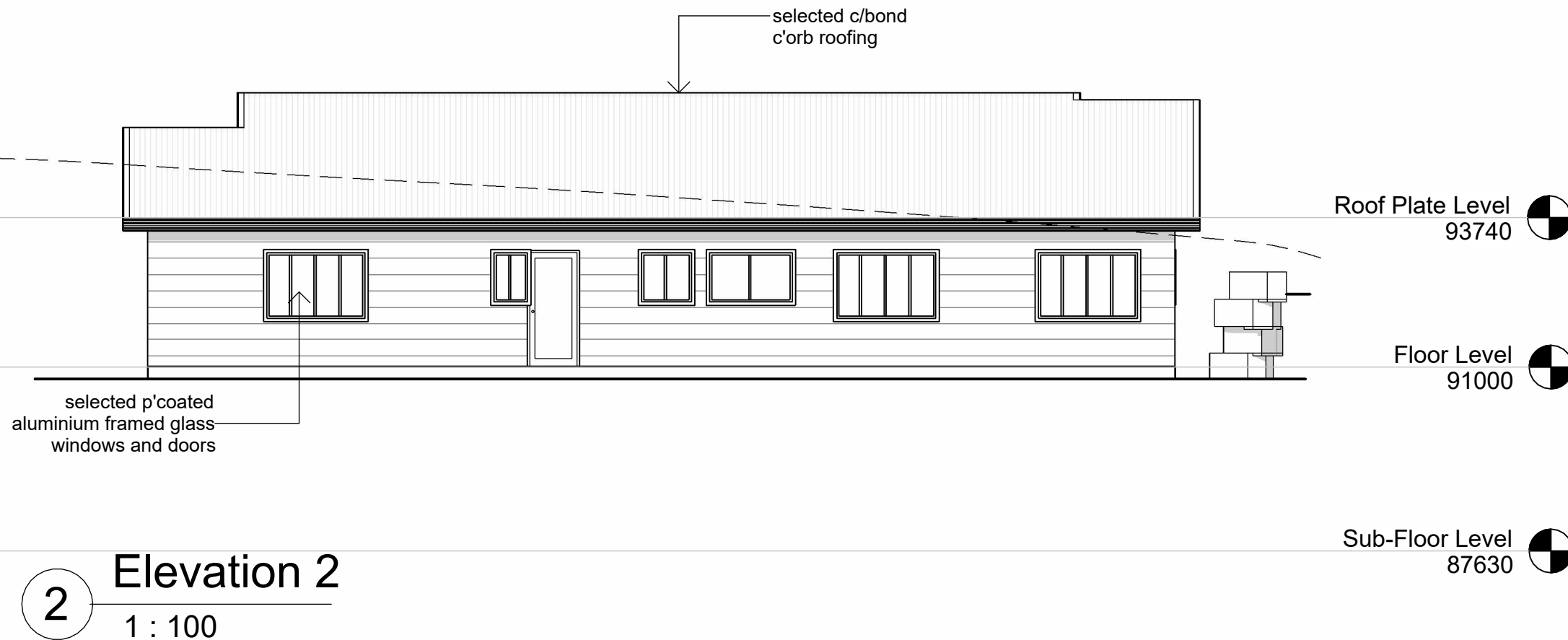
VAUGHAN
building design

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QBCC Licence No. (Ian Vaughan): 15007590

Drawn By: ILV	Wind Speed: BY ENGINEER	Project Number 24014
Checked By: ILV	Sheet Size A3	SHEET 03 OF 11 SHEETS



ROCKHAMPTON REGIONAL COUNCIL
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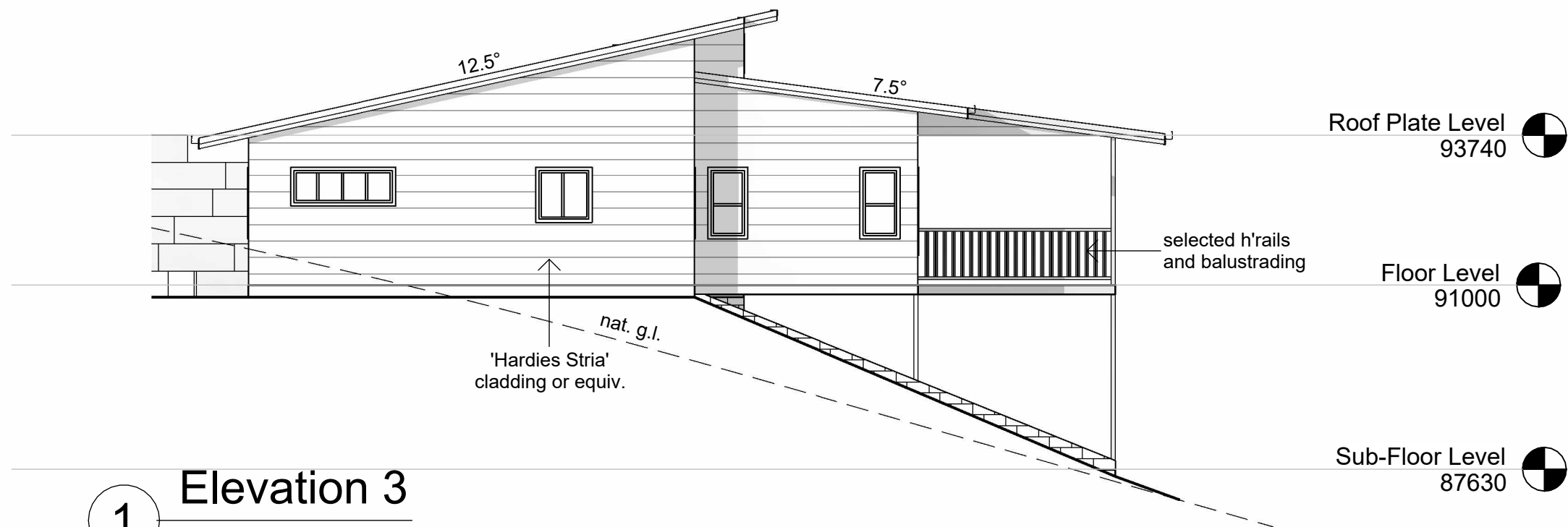
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building design

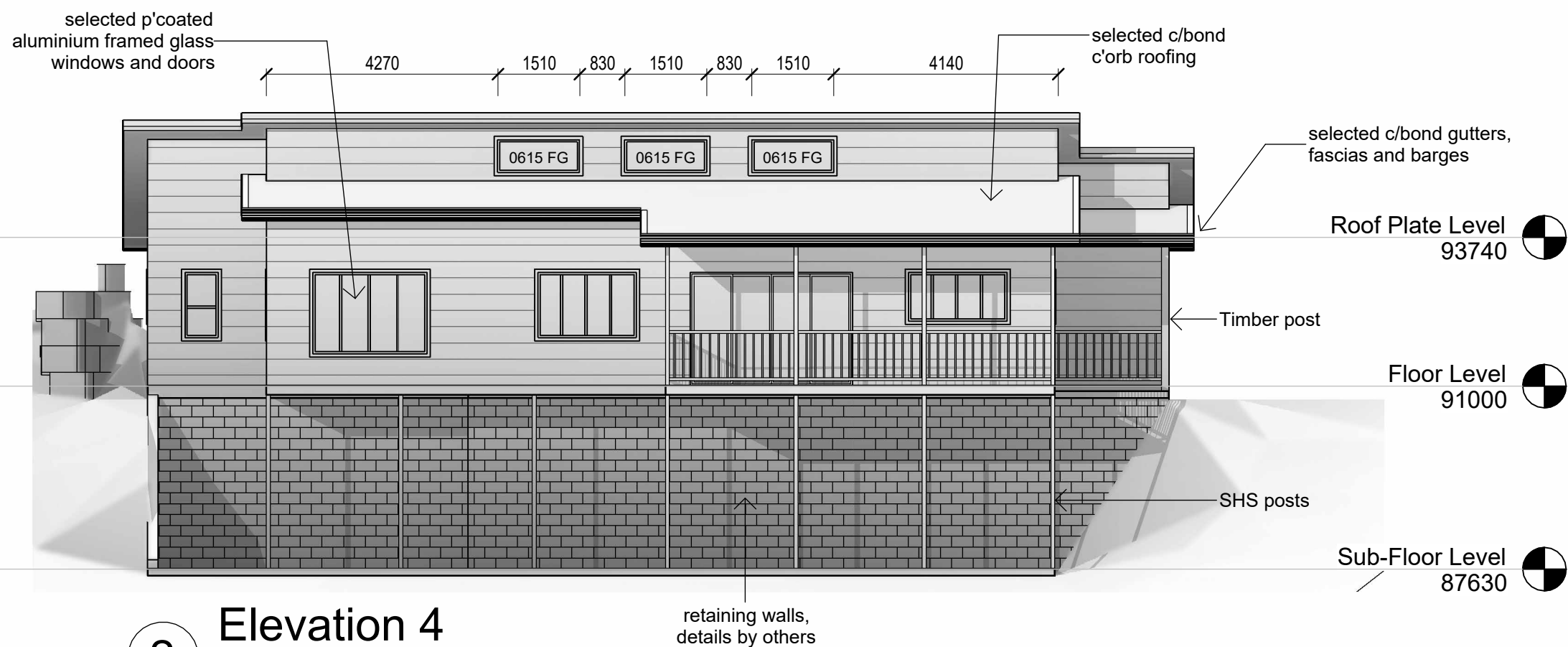
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Drawn By: ILV	Wind Speed: BY ENGINEER	Project Number 24014
Checked By: ILV	Sheet Size A3	SHEET 04 OF 11 SHEETS



1 Elevation 3
1 : 100

ROCKHAMPTON REGIONAL COUNCIL
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2 Elevation 4
1 : 100

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Drawn By: ILV	Wind Speed: BY ENGINEER	Project Number 24014
Checked By: ILV	Sheet Size A3	SHEET 05 OF 11 SHEETS