

17 October 2019

Our Ref: 2018-068

Barn and Build

62 La Marseillaise Road
Gedultsrivier
Colleen Glen
Port Elizabeth
6018

ATTENTION: MR DOUGAL MILES

Dear Mr MILES,

**NEW DWELLING HOUSE VOGT, ON ERF 59 BLUE HORIZON BAY, PORT EIZABETH:
CONFIRMATION OF CIVIL AND STRUCTURAL ENGINEERING COMPLIANCE**

1. Site and Surrounding area :

- 1.1. Site preparation for water ingress was not required as the soil on site is of free draining nature and the level of the site will be built up higher than the surrounding areas with terracing required only on the North Eastern side acting as a retaining boundary wall. There is no water table present onsite.
- 1.2. Roof stormwater runoff will be channelled to JoJo tanks via Ø 110 and 160 uPVC pipes for re-use,(See Attachment 6). The 300x350x6300 grid inlet located in the garage entrance will collect the runoff from the sloping driveway and be discharged on the Southern side of the site. (Refer to Attachment 4)
- 1.3. Site soil class "S1" is a fine grained free draining compressible soil with a low plasticity. The expected movement will be less than 10mm.(See Geotechnical report attached)
- 1.4. General earthworks required for the platform consists of the removal of scrub and installing a 150mm thick G5 layer compacted to 93% MOD AASHTO followed by a 150mm thick G5 layer compacted to 95% MOD AASHTO. (Refer to Typical Sections on Attachment 3).
- 1.5. We have a gravity fed sewerage system that ties into underground conservancy tank . The falls varies between 1:30 and 1:60. We confirm all water and drainage installations adhere to SANS 10400 Part P.

2. Substructure:

- 2.1. All foundation are supported by Ø300 micro piles and partially by soil bearing (Max 100Kpa). All wall foundations are 300mm deep and 800mm wide reinforced concrete strip footings with longitudinal and transverse reinforcing equal to Y10@250. All foundations are a minimum of 510mm below natural ground level. Refer to Attachment 2 and Attachment 3

- 2.2. Foundation concrete test result's are all above 25 MPa as specified. Refer to Attachment 11
- 2.3. Backfilling of the foundation trenches on the external side was done with selected fill material and with G5 material on the internal side compacted to 93% MOD ASSHTO in layers not exceeding 200mm. No organic material or stones larger than 50mm were present.
- 2.4. All surface beds will be cast with 30Mpa fibre reinforced concrete on top of two layers G5 material compacted to 95% and 98% MOD ASSHTO on top of one layer 150mm thick 3% cement stabilized in-situ material compacted to 93% MOD ASSHTO. Refer to Attachment 4 and Typical Sections on Attachment 3.
- 2.5. 250 micron thick dampproof membrane will be installed below all surface beds. All lap lengths are to be 250mm and turned up alongside all slab edges. All penetrations will be cut, folded and wrapped around pipes/conduits and finished by taping the damp proof membrane to the pipe/conduit.

3. **Super Structure**

- 3.1. DPC will be installed at surface bed soffit level passing through all walls to ensure no rising damp running up the walls. DPC was installed from top of surface bed level stepping down one brick course to the external brick skin to ensure any water entering the wall cavity will flow to the outside of the units and exit through weepholes. Above all windows and doors a stepped DPC detail similar to the one mentioned above was applied.
- 3.2. All load bearing walls have been designed to span vertically and were constructed in accordance SANS 1400 part K. Wall openings have a minimum coverage of 400mm above them and where 400mm could not be provided a concrete filled cavity beam has been installed. All external walls have 50mm cavities with a minimum of 4 butterfly ties per square meter and brick force every 3rd course hot dipped galvanized to SANS 935. No wall panels having openings larger than 15% exceed 6.5m x 2.6m in panel size. Maximum cavity (110-110) wall heights are all below 4m, with wall panels not exceeding 6m x 4,4m. All intersecting walls have been constructed using a block bonding configuration.
- 3.3. All walls where constructed with Class 2 mortar of nominal strength in excess of 5Mpa and using solid unit 14Mpa bricks in a stretcher bond fashion. Above all doors and windows 75x110/160 mm prestressed lintels, (2.65mm drawn wire), have been installed with a minimum bearing of 150mm and at least 5 brick courses above each lintel. Mortar joints are less than 15mm thick.
- 3.4. For all 230, 270 and 330 walls hot dip galvanized brick force 230mm x 2.8mm will be installed at every 3rd course except below the surface bed and above openings it must be every course. All single leaf walls have 75mmx2.8mm hot dip galvanized brick force installed at every 3rd course. The minimum laps lengths for any brick force is limited to 500mm minimum.
- 3.5. Control joint for shrinkage have been installed at each concrete column creating wall panel length of 5600mm. (See Attachment 4)

4. **Roof Structure**

- 4.1. The roof structure to be constructed will be a reinforced concrete slab 255mm thick covering the whole roof area with reinforcement as per engineers reinforcing schedule. See attachment 6

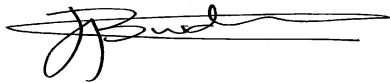
We herewith confirm that regular inspections were done during the construction of the Foundation system and we will continue inspections for the construction of the Superstructure and Roof structure to ensure compliance with our drawings 2018-068-000 to 2018-068-020 and SANS specifications. Please refer to geotechnical report, Attachments and photographs for additional information.

We herewith confirm that the structural components of House Vogt comply with our drawings and specifications.

I trust this meets with your approval.

Yours faithfully

BURDEN CONSULTANTS

A handwritten signature in black ink, appearing to read 'J Burden', written over a horizontal line.

Jasper Burden PrEng
(ECSA Reg. 950572)

PHOTOGRAPHS :



Picture 1: Scrub to be cleared and site to be levelled



Picture 2: Site levelled and preparing for G5 material to be imported



Picture 3: G5 material imported for platform



Picture 4: Terrace Wall on North Eastern Boundary



Picture 5: Pile installation complete



Picture 6: Foundation reinforcing installed



Picture 6 : Foundation concrete poured



Picture 7 : Pool wall reinforcement being installed

Geotechnical Report

GEOTECHNICAL SOIL TEST REPORT

Client: Burden Consultants
Project: Erf 59, Blue Horizon Bay
Date of test: 22.6.2018

Geotechnical Constraint	Risk			NHBC Classification
	Low	Medium	High	
Active clay	X			
Compressible soil		X		S1
Collapsible soil	X			
Uncontrolled fill	X			
Chemically aggressive soils	X			
Saturated soils/ groundwater seepage	X			
Shallow hard rock/ difficult excavations	X			
Slope stability problems	X			
Flood potential	X			
Seismicity	X			
Dolomitic land	X			

Disclaimer: The above classification is provided as a guideline and is true for the specific locations that were tested and may not be true for the entire site.

Site description:

The site is located on an undulating coastal dunefield with hummocky/uneven natural ground level with average slope gradients of ~ 1:5. The site is easily accessible from Hyacinth Road along the northern boundary. Vegetation consists of coastal fynbos and some scattered small trees, most of which has been recently cleared from the site (see **Fig 1**).



Fig 1: Photo of site looking from the crest of the sand dune in a northerly direction towards Hyacinth road.

Methods of investigation:

Two shallow test pits were excavated by hand to max depth of 1.6m at the positions indicated on the attached plan. A DCP test was conducted next to each test pit from natural ground level to a depth of ~2m to assess soil consistency. Four additional DCP tests were conducted at separate positions. A representative sample of in situ soil was taken from one of the test pits for a foundation indicator test which was conducted at a SANAS accredited laboratory.

Geology and Soil Profile:

According to the geological map the site is underlain by Quaternary aged unconsolidated aeolian sand (wind-blown dune deposits).

The test pits indicate that the soil profile consists of ~0.5m of transported light brown silty sand with rootlets (topsoil), which is underlain by relatively clean aeolian (dune) sand with isolated roots from the trees on site. No rock was encountered in any of the test pits. DCP tests indicate a loose horizon extending to a depth of ~0.7m (roughly corresponding to the topsoil), below which the consistency improves significantly to medium dense/dense state. The lab results indicate that the soil is non-plastic and therefore no heave is expected. No groundwater seepage was encountered in any of the test pits at the time of the investigation.

Recommendations:

Earthworks: Some earthworks are anticipated to create a level platform for construction due to the uneven ground levels (i.e. cut to fill). Earthworks can be accomplished with light machinery and all excavations to a depth of at least 2m are classified as per SABS1200D as “soft”. All organic rich topsoil should be cut to stockpile for landscaping purposes before bulk filling commences. The underlying insitu clean dune sand is suitable for backfilling and compaction under floors and foundations at the optimum moisture content. Any organic matter (roots) should be removed from fill material.

Foundations and floors: Single or double storey masonry and/or timber structures can be founded on lightly reinforced concrete strip or pad foundations at a nominal founding depth of 0.7m on well compacted insitu sands with bearing pressures limited to 100kPa. Alternative methods can include a raft on an engineered fill platform. Load-bearing (structural) fill should be compacted at the optimum moisture content to 100% of Mod AASHTO density. Foundation trenches should be well wetted and compacted with several passes of a mechanical trench rammer (Wacker) to mitigate settlement. It is recommended that foundation trenches are tested with a DCP before casting foundations and a max blow count of 25mm is required to a depth of 1m below footing invert. The engineer should inspect foundations before casting to ensure consistently dense founding conditions.

Roads: The insitu subgrade is probably G7/8 quality and the driveway will require an imported G5 subbase layer of at least 150mm thick (compacted to 95%) to support interlocking pavers.

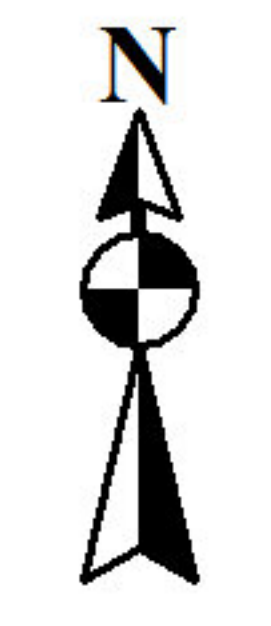
Drainage: The soil is highly permeable and site drainage is not envisaged to be a problem. No subsoil drains are deemed necessary.

Conclusions:

The site is considered suitable for the proposed development with only moderate geotechnical constraints. Conventional construction methods are envisaged and some recommendations are provided for consideration by the structural engineer.

A handwritten signature in black ink, appearing to be 'Iain Paton', written in a cursive style.

Iain Paton Pr.Sci.Nat. BSc Hons MEng

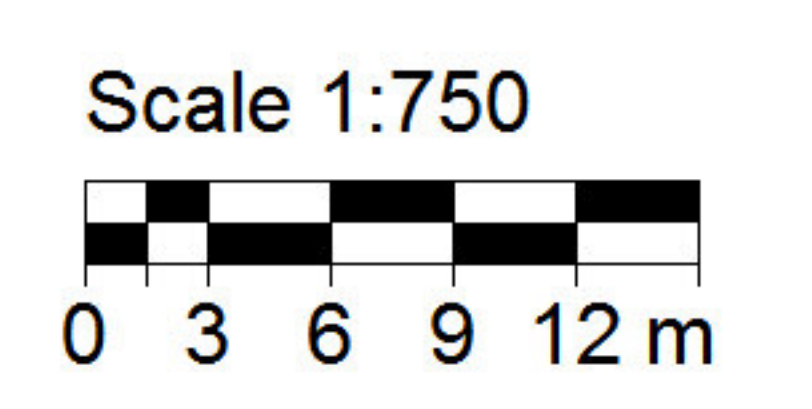


Legend

-  Test Positions
-  Site Boundary

Client: Burden Consultants
 Project: New Dwelling
 Site: Erf 59, Blue Horizon Bay
 Area: Nelson Mandela Bay

Drawing Name: Test positions
 Drawing No:
 Date: 28 June 2018
 Revision: 0
 Drawn By: S Gallant
 Checked By: I Paton



PO Box 964
 Knysna
 6570
 044-3820502
 iain@outeniqualab.co.za



OUTENIQUA GEOTECHNICAL SERVICES

Geotechnical Soil Profile

Client:	Burden Consultants
Project:	Erf 59, Blue Horizon Bay
Area:	Port Elizabeth
Date:	22.06.18
Excavator:	By Hand

	BHB 1 Datum: NGL Co-ords: 25 Y-022807 X3760741 Key to symbols: ● Sample taken ▽ Groundwater	Dynamic Cone Penetrometer (DCP)	Photo of Test Pit
	(0 to 450) Slightly moist, light brown, medium dense, intact, SILTY SAND & ROOTLETS , aeolian. (450 to 1550) Slightly moist to moist, light yellow, medium dense to dense, intact, SAND & MINOR ROOTS , aeolian. Foundation Indicator		

	BHB 2 Datum: NGL Co-ords: 25 Y-022799 X3760746 Key to symbols: ● Sample taken ▽ Groundwater	Dynamic Cone Penetrometer (DCP)	Photo of Test Pit
	(0 to 500) Slightly moist, light brown, medium dense, intact, SILTY SAND & ROOTLETS , aeolian. (500 to 1600) Slightly moist to moist, light yellow, medium dense to dense, intact, SAND , aeolian (side walls partially collapsed)		

TP Stopped
No water

TP Stopped
No Water



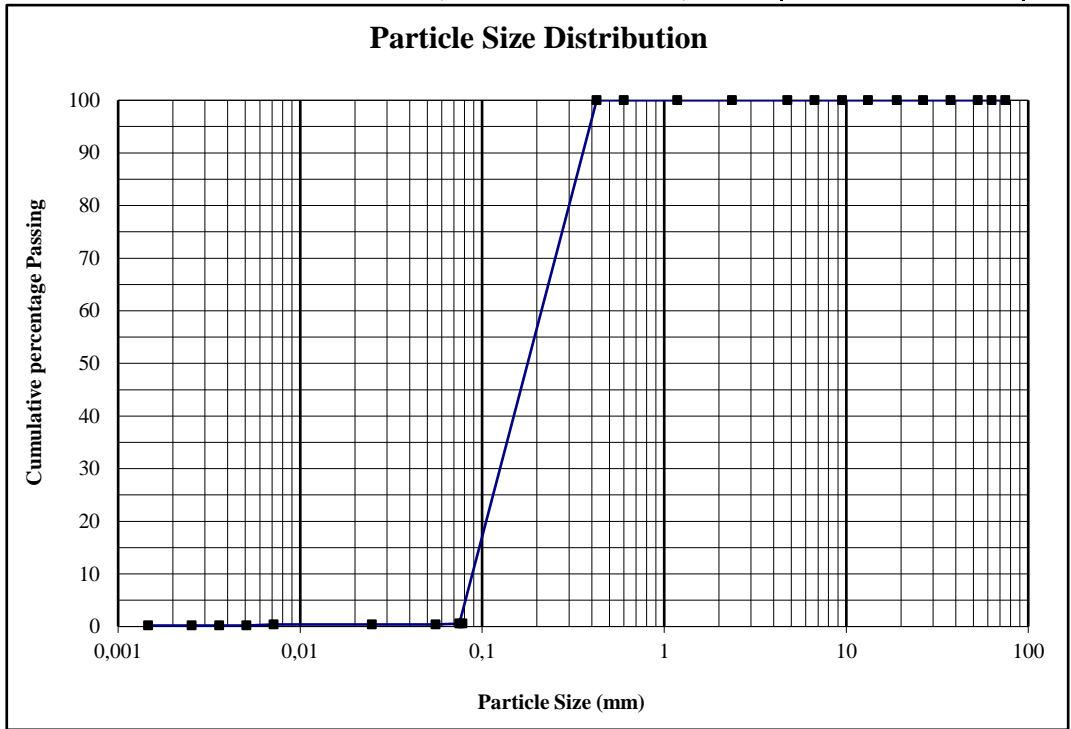
Customer :	Outeniqua Geotechnical Services cc	Project :	Erf 59 Blue Horizon
	Po Box 964	Date Received :	25/06/18
	Knysna	Date Reported :	02/07/18
	6570	Req. Number :	468/18
Attention :	Iain Paton	No. of Pages :	1/1

TEST REPORT

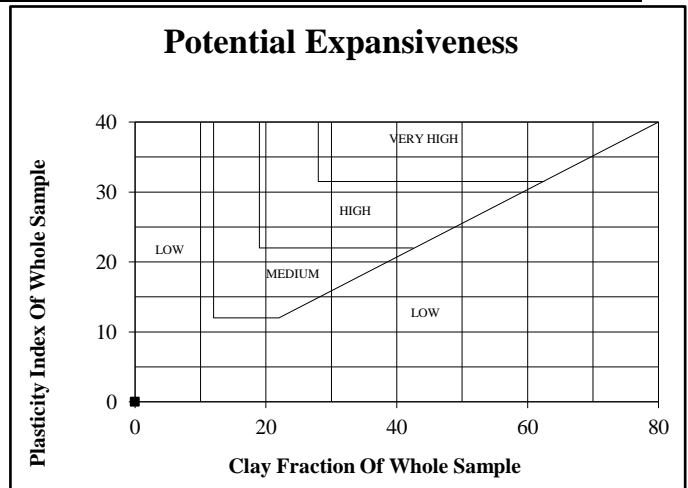
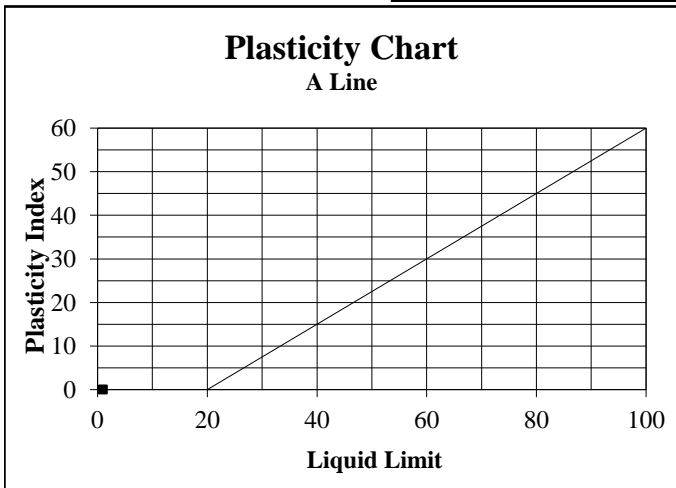
FOUNDATION INDICATOR - (TMH 1 Method A1(a),A2,A3,A4,A5) & (ASTM Method D422)

Material Description:	Light Yelow - Silty Sand with Minor Roots	Sample Number:	12136		
Position:	BH BI	Liquid Limit	NP	Linear Shrinkage	0
Depth:	450-1050	Plasticity Index	NP	Insitu M/C%	1,7

Sieve Size(mm)	% Passing
75,0	100
63,0	100
53,0	100
37,5	100
26,5	100
19,0	100
13,2	100
9,5	100
6,7	100
4,75	100
2,36	100
1,18	100
0,600	100
0,425	100
0,075	1
0,0779	1
0,0554	0
0,0248	0
0,0072	0
0,0051	0
0,0036	0
0,0025	0
0,0015	0



% Clay	0	% Silt	0	% Sand	100	% Gravel	0
Unified Soil Classification		SP		PRA Soil Classification		A-3 / A-2-4	



Notes:

- Specimens delivered to Outeniqua Lab in good order.

L Malgraff (Member)
For Outeniqua Lab EC cc.

- The test results are reported with an approximate 95% level of confidence.
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Dec-14

Geotechnical Engineering Consultants

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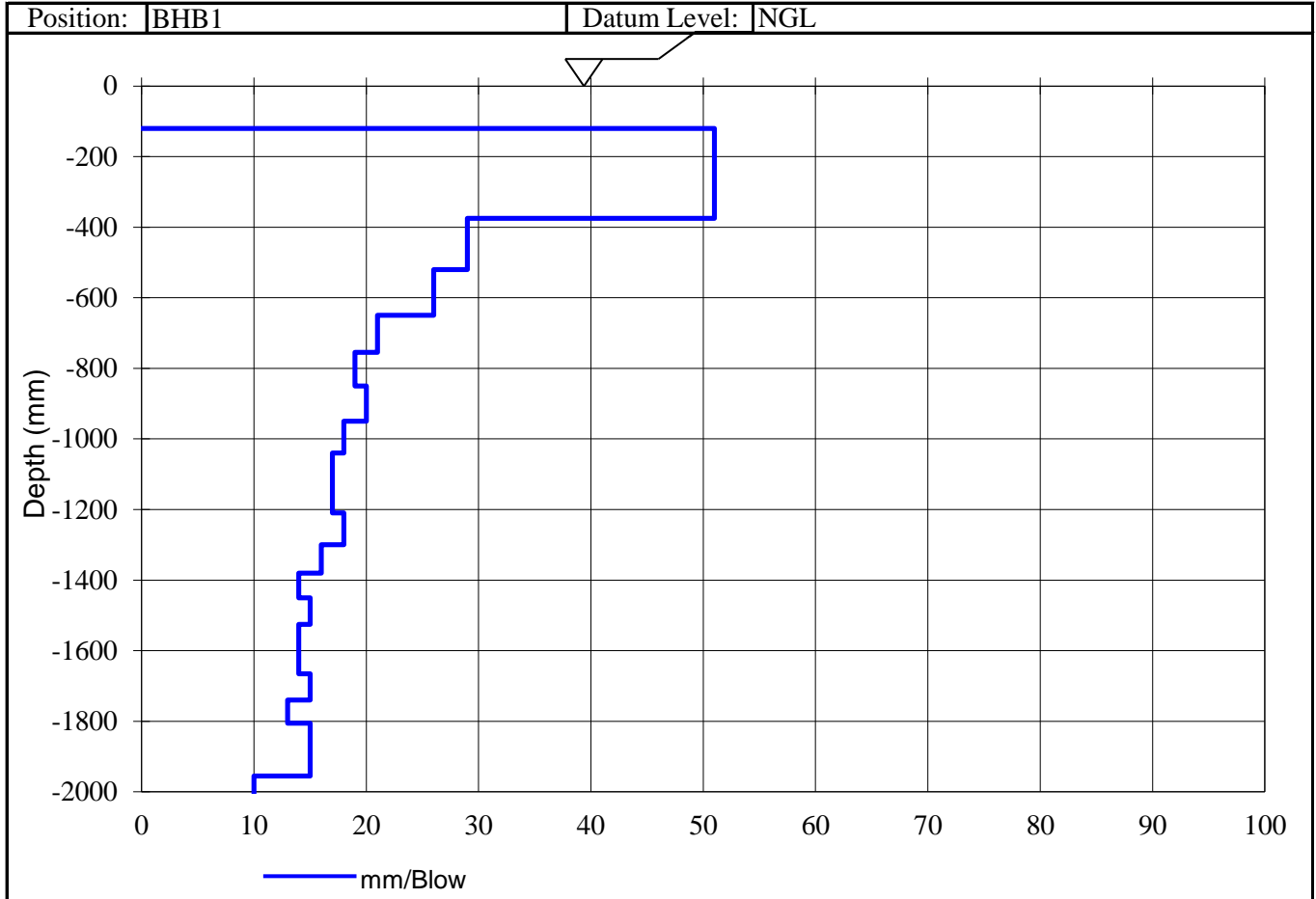
18 Clyde Street, Knysna : PO Box 964, Knysna, 6570

Tel: 044 3820502 : Fax: 044 3820503 : e-mail: iain@outeniqualab.co.za

Customer :	Burden Consultants	Project :	Erf 59, Blue Horizon Bay, Port Elizabeth
	73A Heugh Road	Date Received :	21.06.18
	Walmer, PE 6070	Date Reported :	22.06.18
Attention :	Jasper Burden	Req. Number :	
		No. of Pages :	1 of 6

TEST REPORT

Dynamic Cone Penetrometer (DCP) - (TMH 6 Method ST6)



I Paton (Member)
For Outeniqua Geotech. Services cc.
Technical Signatory

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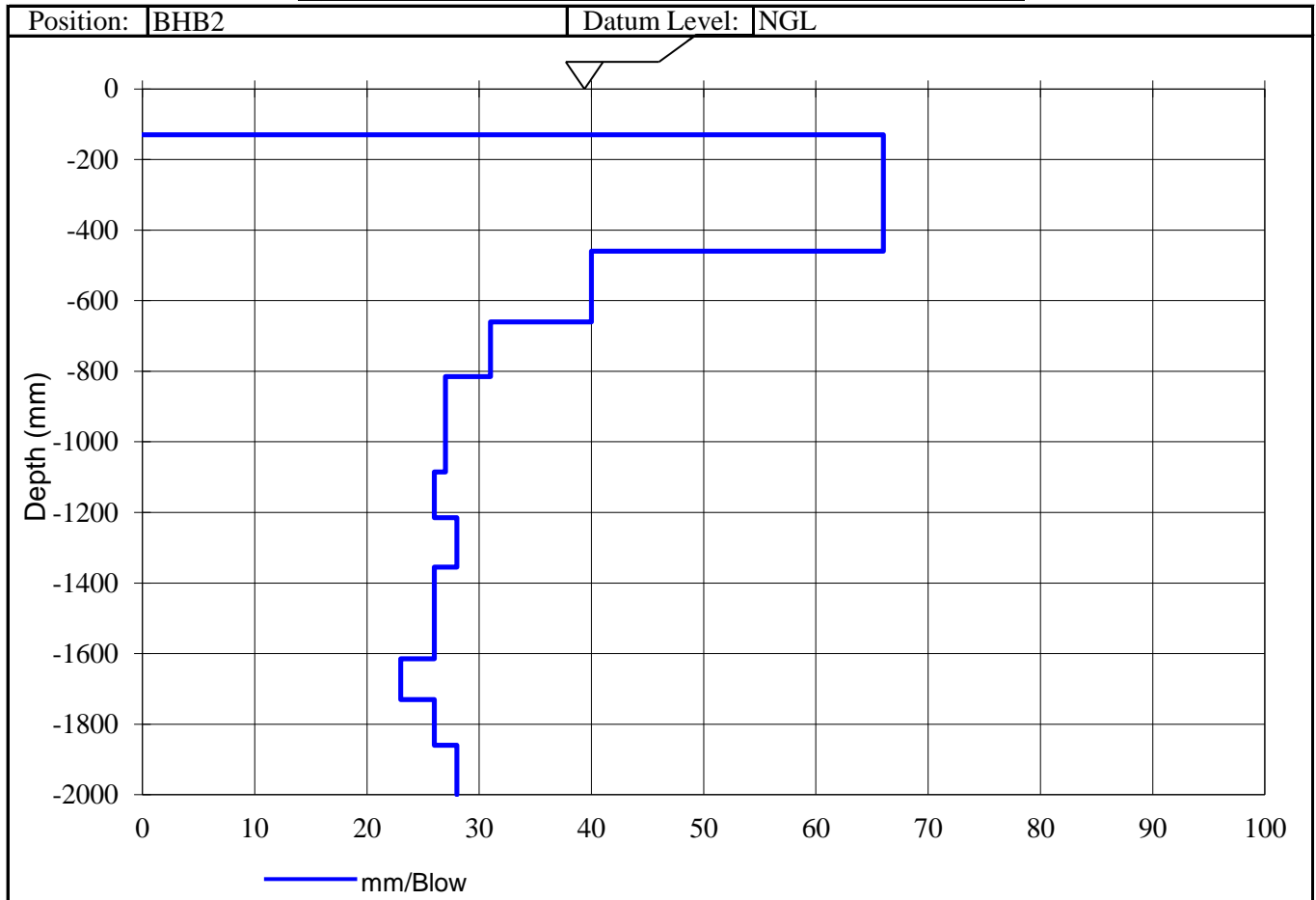
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TEST REPORT

Dynamic Cone Penetrometer (DCP) - (TMH 6 Method ST6)



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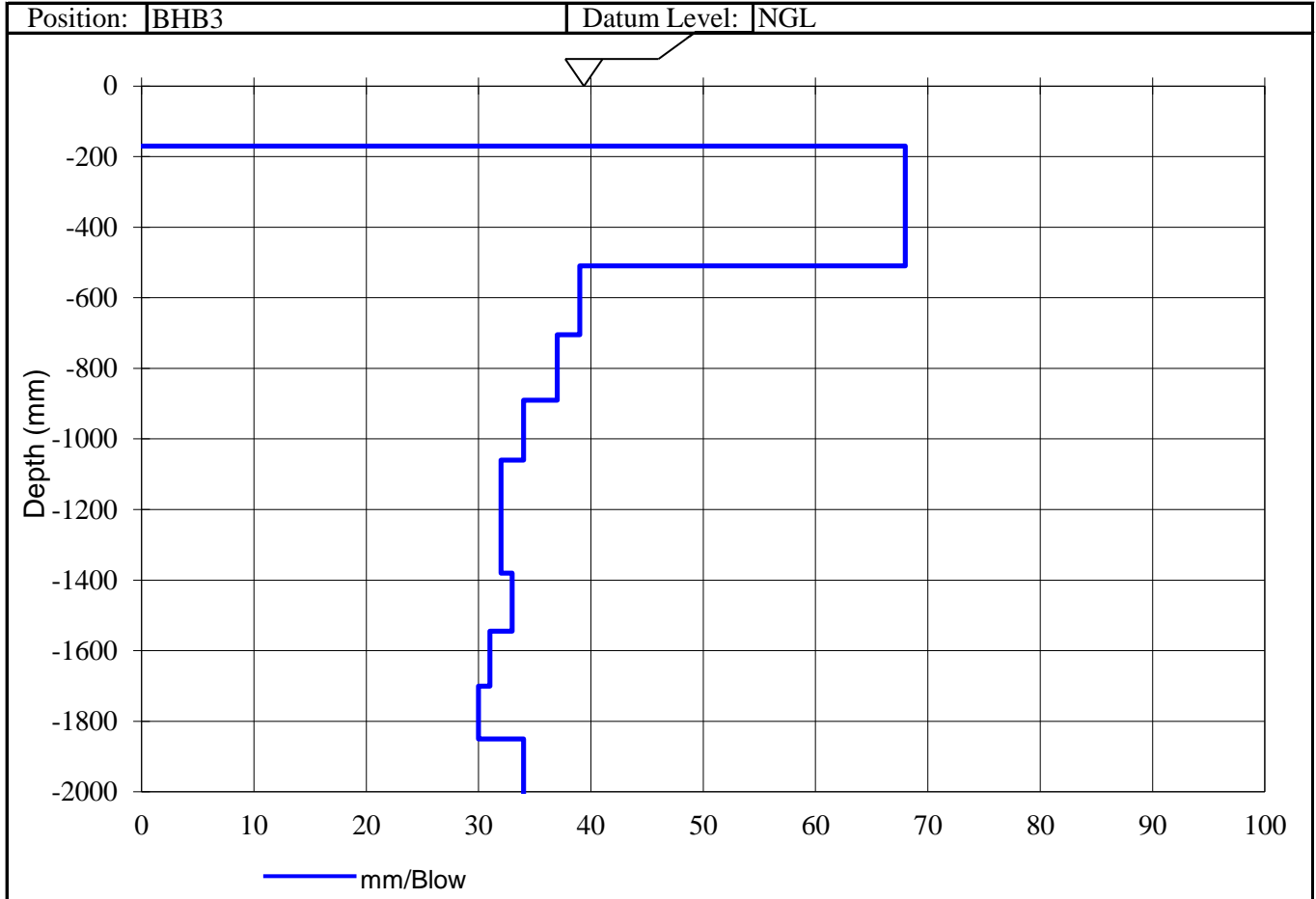
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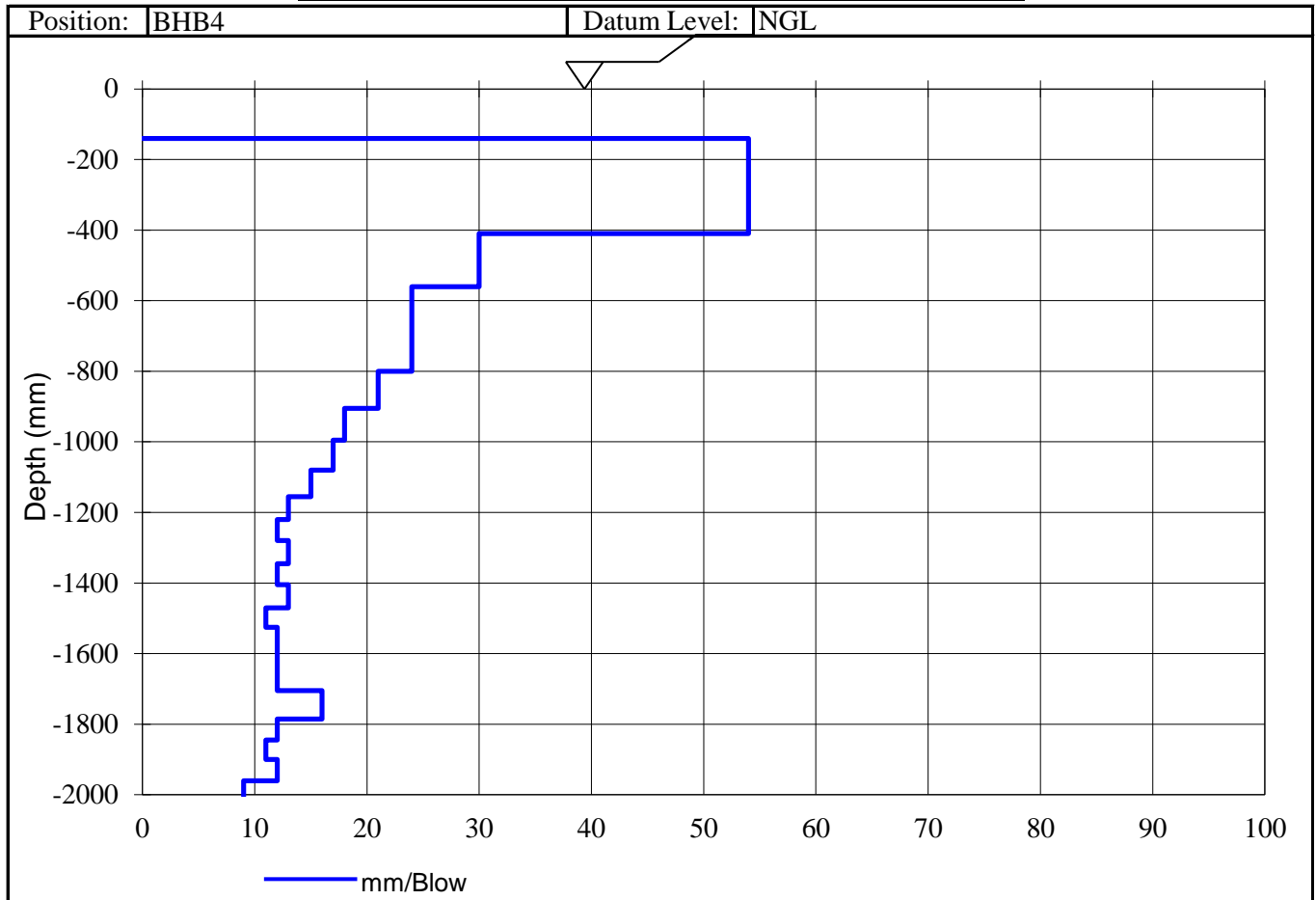
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Tel: 044 3820502 : Fax: 044 3820503 : e-mail: iain@outeniqualab.co.za

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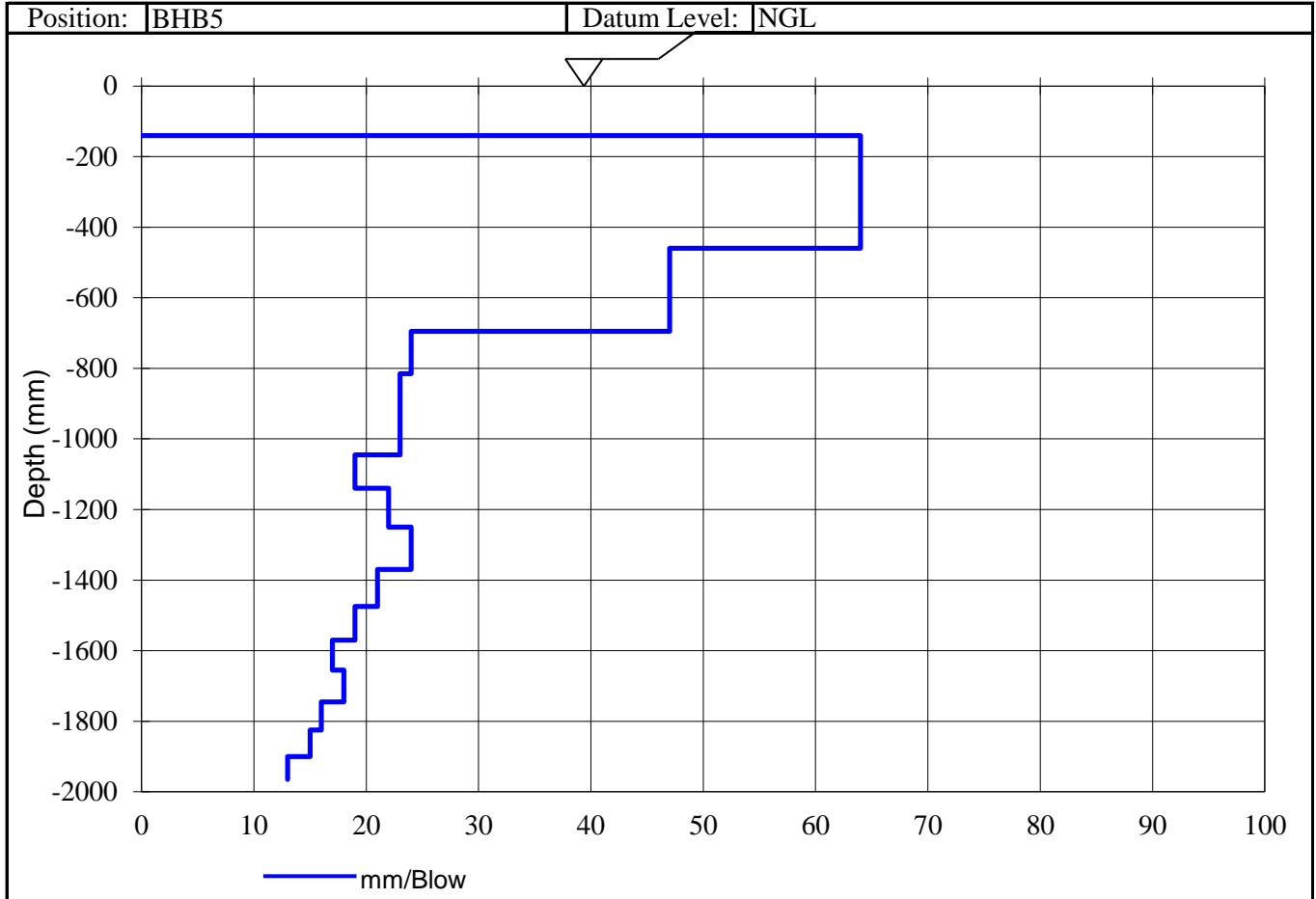
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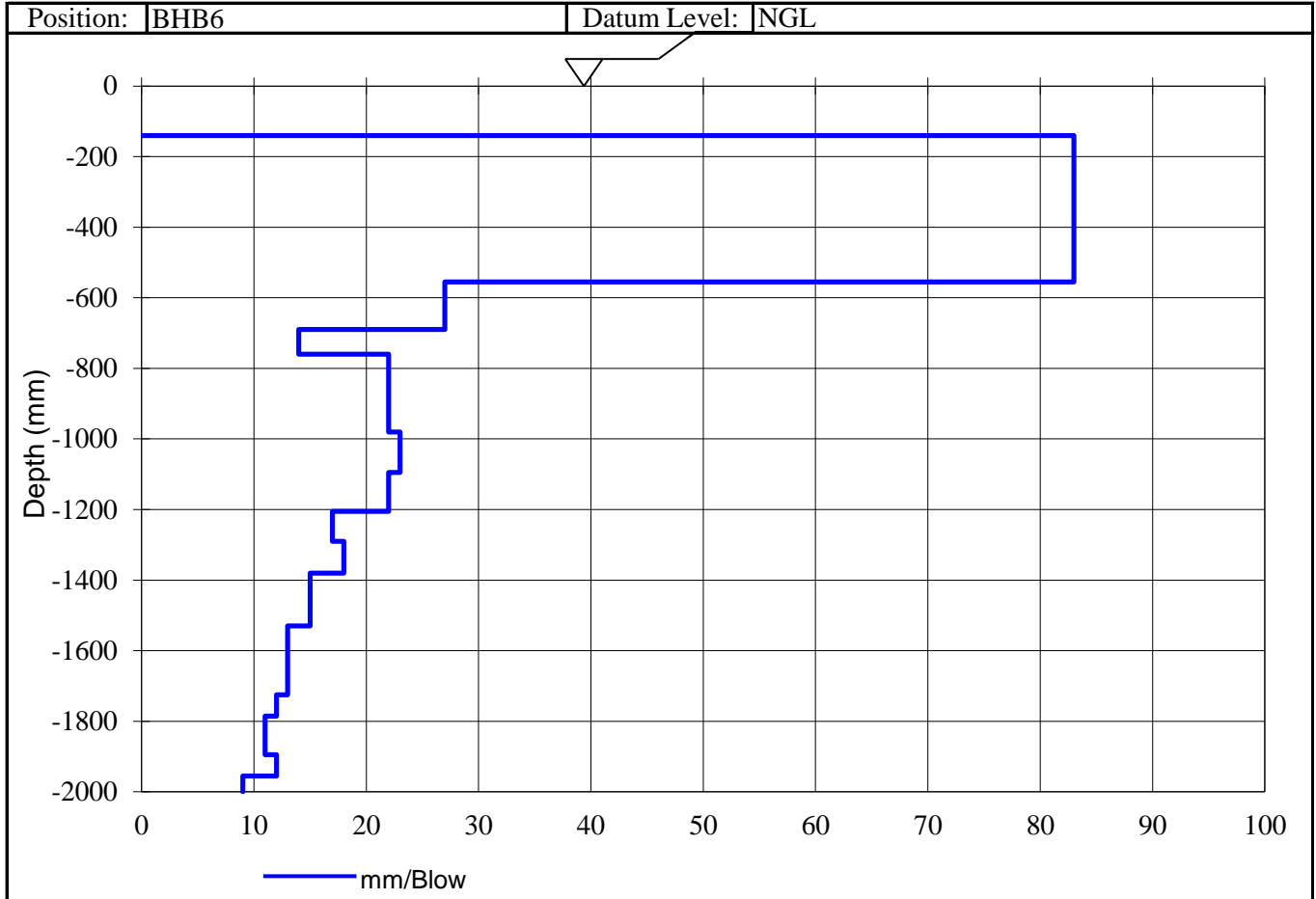
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Attachments

- Attachment 1 – Standard Notes (000)
- Attachment 2 – Piling Layout (001)
- Attachment 3 – Foundation Layout (002)
- Attachment 4 – Basement Surface bed layout (003)
- Attachment 5 – First Floor Layout (004)
- Attachment 6 – Roof Layout (005)
- Attachment 7 – Section A-A & B-B (010)
- Attachment 8 – Section C-C (011)
- Attachment 9 – Section D-D (012)
- Attachment 10 – Details (020)

GENERAL NOTES:

1. THE CONTRACTOR TO KEEP A FULL SET OF DRAWINGS ON SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CORRECT SETTING OUT OF BUILDINGS ON SITE WITH PARTICULAR REFERENCE TO BOUNDARIES AND BUILDING LINES AND GIVEN CO-ORDINATES.
3. THE CONTRACTOR TO VERIFY ALL LEVELS AND DIMENSIONS ON SITE.
4. DO NOT SCALE, USE FIGURED DIMENSIONS ONLY.
5. LARGE SCALE DETAILS TO BE USED WHERE AVAILABLE.
6. ALL LAYOUTS TO BE READ IN CONJUNCTION WITH ANY RELEVANT ARCHITECTURAL, CIVIL, STRUCTURAL OR OTHER DRAWINGS.
7. ANY ERRORS OR DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY FOR CORRECTION BEFORE WORK IS UNDERTAKEN.
8. THE CONTRACTOR IS TO IDENTIFY AND EXPOSE, WHERE RELEVANT, ALL UNDERGROUND SERVICES ON SITE.
9. CONSTRUCTION TO BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATION WORKS INFORMATION, OR RELEVANT SABS 1200 SPECIFICATION.
10. SHOULD THE ENGINEER BE REQUIRED ON SITE, 24 HRS NOTICE IS REQUESTED.

GENERAL NOTES - CONCRETE:

1. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF SABS 1200 G.
3. STRIPPING TIMES OF FORMWORK AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200G.
4. 25mm X 25mm CHAMFER TO ALL VEHICLE MOVEMENT EXPOSED CORNERS.
5. ALL EXPOSED CONCRETE WORK TO BE OFF-SHUTTER FINISH.
6. CEMENT EXTENDERS TO BE USED ONLY IF APPROVED BY THE ENGINEER.
7. ALL EXPOSED SLAB EDGES TO HAVE 50mm COVER.
8. ALL INSIDE LEVELS REFER TO RAW CONCRETE AND NOT TO FINISHED FLOOR EXCEPT WHERE OTHERWISE INDICATED.
9. CONCRETE STRENGTH 30MPa FOR ALL ELEMENTS

FOUNDATION NOTES:

1. FOUNDATION ARE DESIGNED FOR AN ALLOWABLE GROUND BEARING CAPACITY OF 100 KPa, UNLESS SPECIFIED OTHERWISE BY THE ENGINEER.
2. BEFORE CONCRETING TAKES PLACE ALL FOUNDATIONS ARE TO BE INSPECTED ON SITE BY THE ENGINEERS.
3. FOUNDATION LEVELS INDICATED ARE APPROXIMATE. FINAL FOUNDING LEVELS ARE TO BE DETERMINED ON SITE BY THE ENGINEERS.
4. THE DIFFERENCE BETWEEN FINAL FOUNDING LEVELS AND BOTTOM OF FOUNDATIONS SHOWN TO BE MADE UP WITH 15 MPa MASS CONCRETE.
5. ALL OTHER FOUNDATIONS TO HAVE A MINIMUM 50mm OF 15 MPa MASS CONCRETE BLINDING LAYER.
6. DURING CONSTRUCTION ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER.
7. ALL INTERNAL AND EXPOSED CONCRETE IS TO BE SHUTTERED IF EXTERNAL CONCRETE IS NOT SHUTTERED, 25mm OF CONCRETE IS TO BE ADDED TO CREATE COVER OF 75mm.
8. NO FOOTINGS MAY BE FOUNDED ON RUBBLE, BACKFILLED MATERIAL OR SOILS CONTAINING HIGH HUMUS CONTENT.
9. THE BOTTOM OF ALL FOUNDATIONS ARE TO BE LEVEL. IF REQUIRED, STEPS MAY BE FORMED IN ACCORDANCE WITH SABS 0400, BUT TO THE APPROVAL OF THE ENGINEER.

GLAZING NOTES:

1. GLASS BETWEEN 0 & 0.75 m² TO BE 3mm THICK.
2. GLASS BETWEEN 0.75 & 1.5 m² TO BE 4mm THICK.
3. ALL GLAZING SHALL COMPLY WITH THE REQUIREMENTS CONTAINED IN SABS 0137.

TIMBER NOTES:

1. ALL STRUCTURAL TIMBER SHALL BE IN ACCORDANCE WITH SABS 1245 LAMINATED TIMBER SABS 1460.
2. ALL STRUCTURAL TIMBER DELIVERED TO THE PROJECT SHOULD BE MARKED WITH THE RELEVANT TIMBER GRADE STRESS.
3. THE CONTRACTOR IS TO COVER ALL MATERIALS AGAINST THE WEATHER IF STORED FOR LONG PERIODS.
4. TRUSS HOLD-DOWN ARE TO BE IN ACCORDANCE WITH STANDARD DETAILS OR DESIGNERS DETAILS.
5. ALL CONNECTIONS, HANGERS AND CLEATS TO BE IN ACCORDANCE WITH DESIGN SPECIFICATION.
6. THE CONTRACTOR IS TO CHECK THAT ALL BRACING SPECIFIED HAS BEEN FIXED IN THE CORRECT POSITION.

ELECTRICAL SLEEVES:

1. ALL TELECOMMUNICATION AND ELECTRICAL SLEEVES ARE TO BE 100mm DIAMETER CLASS 4 UPVC AND LAID 600mm BELOW FINAL ROAD LEVEL UNLESS OTHERWISE SHOWN.
2. ALL TELECOMMUNICATION AND ELECTRICAL SLEEVES TO EXTEND 1000mm BEHIND THE KERB, COMPLETE WITH RUST FREE DRAW WIRES.
3. REFER TO ELECTRICAL ENGINEERS DRAWINGS FOR LOCATION OF SLEEVES.
4. ALL EXISTING SERVICES TO BE LOCATED BY THE CONTRACTOR BEFORE EXCAVATIONS COMMENCE.

REINFORCEMENT NOTES:

1. THE STEEL STRESS AND BENDING OF ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH SABS 920.
2. REINFORCEMENT SHALL BE FIXED TO COMPLY WITH THE TOLERANCES AS SPECIFIED IN SABS 1200 G.
3. NO HEATING BENDING OR CUTTING OF REINFORCEMENT WITHOUT PRIOR APPROVAL OF THE ENGINEER.
4. THE CONTRACTOR IS REQUESTED TO INSPECT THE FIXED REINFORCEMENT AND TO ENSURE THAT THE CONCRETE COVER IS AS SPECIFIED ON THE RELEVANT DRAWINGS BEFORE THE ENGINEER IS NOTIFIED.

SOIL:

1. ANT POISON TO BE ADDED TO SOIL.

LOAD BEARING BRICKWORK:

1. ALL MASONRY MATERIALS, COMPONENTS, WORKMANSHIP AND TESTING SHALL COMPLY WITH SABS 0164 "THE STRUCTURAL USE OF MASONRY" AND SABS 0400.
2. THE MINIMUM CRUSHING STRENGTH OF ALL LOAD BEARING BRICKWORK SHALL BE 14 MPa AND THE MAXIMUM WATER ABSORPTION 12%.
3. THE MINIMUM CRUSHING STRENGTH OF MORTAR SHALL BE AS FOR CLASS II MORTAR IN ACCORDANCE WITH TABLE 1 OF SABS 0164 PART 1-1980.
4. CAVITY WALLS TO HAVE STEPPED DPC'S.
5. SEE ARCHITECTS DRAWINGS FOR GENERAL LAYOUT OF BRICKWORK.
6. ALL BRICK ANCHORS, WALL TIES AND STRAPS SHALL BE HOT-DIPPED GALVANIZED.
7. FULL DEPTH V-JOINTS SHALL BE MADE IN PLASTER WORK WHERE BRICKWORK AND CONCRETE JOIN.
8. NON-LOAD BEARING BRICKWORK MAY NOT BE BUILT CLOSER THAN 20mm FROM THE SOFFITS OF BEAMS AND SLABS UNLESS OTHERWISE SHOWN.
9. LOAD BEARING BRICKWORK SHALL BE REINFORCED WITH AN APPROVED BRICKFORCE EVERY FOURTH LAYER AND FOR THREE COURSES ABOVE ALL WALL OPENINGS.
10. BRICKFORCE TO BE PROVIDED EVERY 5 COURSES IN NON-LOADBEARING WALLS.
11. ALL BUILDING WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL BUILDING REGULATIONS.
12. WALL TIES IN CAVITY WALLS AND BRICK RETAINING WALLS SHALL BE OF THE VERTICAL TWISTED TYPE AS IN SABS 0164 PART 1-1980 FIGURE 1 OR SIMILAR APPROVED, PLACED EVERY FOURTH LAYER VERTICALLY AND AT 500 C/C HORIZONTALLY.
13. CLAY BRICKS MUST BE WETTED BEFORE USE.
14. WALL JOINTS MUST BE REPEATED IN ALL TILED FINISHES.
15. BRICK BALUSTRADES ON ROOF TO HAVE JOINTS AT 6m C/C.
16. ALL PLANTERS BUILT IN BRICKWORK ARE TO BE PROVIDED WITH 25mm DIA. WEEP HOLES ABOVE FINISHED PAVING LEVELS AND AT 1000 C/C.
17. BRICK WALLS TO BE TIED TO CONCRETE COLUMNS OR RINGBEAMS WITH 30 X 1.6MM X 400 LONG GALVANIZED MILD STEEL TIES AT EVERY 4TH COURSE. FIX THE TIES TO THE COLUMNS WITH 2 HILTI SHOT STUDS EACH.
18. CONTROL JOINTS IN BRICKWORK SHALL BE PROVIDED AT POSITIONS SHOWN ON THE DRAWINGS.
19. ALL VERTICAL AND HORIZONTAL JOINTS TO BE FILLED SOLID WITH MORTAR.
20. NO VERTICAL OR HORIZONTAL CHASING IS PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
21. ALL EXTERNAL JOINTS TO BE SEALED WITH AN APPROVED POLYURETHANE JOINT SEALER.
22. LOAD-BEARING CAVITY WALLS TO BE FILLED SOLID WITH CONCRETE FOR THE TOP 4 COURSES.
23. 10mm VERTICAL SOFTBOARD OR JOINTEX TO BE PLACED WHERE THE SLAB ABUTS AGAINST A WALL.
24. SLIP JOINT CONSISTING OF 2 LAYERS OF TEMPERED MASONITE WITH SMOOTH FACES TOGETHER ON TOP OF ALL WALLS SUPPORTING A CONCRETE SLAB.
25. LINTOLS OVER OPENINGS TO HAVE A MINIMUM OF 230mm BEARING EACH END.

CORROSION PROTECTION:

1. HOT DIPPED GALVANISED TO SANS 121:2011 (ISO 1461:2009) AFTER MANUFACTURE.
2. ALL STEELWORK, INCLUDING COLD-FORMED LIPPED CHANNELS & BOLTS, BUT EXCLUDING HD BOLTS, SHALL BE HOT DIPPED GALVANISED TO SANS 121:2011 (ISO 1461:2009) AFTER MANUFACTURE.
3. HD BOLTS SHALL BE PAINTED 2 COATS SIGMAZINC 19 PRIOR TO INSTALLING COLUMN BASE PLATES ALL IN STRICT ACCORDANCE WITH SIGMA SPECIFICATIONS.
4. ALL GRATES AND COVERS TO TRENCHES AND CATCH PITS, ETC. TO BE STAINLESS STEEL.

EARTHWORKS GENERAL NOTES:

1. ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 D-1988.
2. SELECTED LAYER (ON REDUCED BULK EXCAVATION BED) IN ACCORDANCE WITH SABS 1200 DM.
3. SMALL WORKS IN ACCORDANCE WITH SABS 1200 DB.
4. SITE CLEARANCE AND GRUBBING OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 C.
5. THE CONTRACTOR TO IDENTIFY AND EXPOSE, WHERE RELEVANT, ALL UNDERGROUND SERVICES ON SITE. HE SHOULD LIAISE WITH ALL RELEVANT AUTHORITIES FOR THE LOCATION AND PROTECTION OF THESE SERVICES.
6. ALL UNSUITABLE MATERIALS I.E. ROOTS, CONCRETE PIPES, OLD FOUNDATIONS, BUILDING RUBBLE SHALL BE DISPOSED OF TO A SUITABLE DUMPING SITE.
7. 150mm TOP SOIL TO BE STOCKPILED ON SITE FOR LATER USE UNLESS OTHERWISE SPECIFIED.
8. ALL APPROVED MATERIAL TO BE STOCKPILED SEPARATELY, AND LATER BE REUSED AS PER ARCHITECTS/ENGINEERS INSTRUCTIONS.
9. THE CONTRACTOR IS TO USE ONLY APPROVED FILL MATERIAL AS SPECIFIED BY THE ENGINEER.
10. ALL EXPOSED REDUCED EXCAVATION BEDS AND AREAS TO RECEIVE FILL SHALL BE CLEARED, RIPPED, WETTED AND COMPACTED TO 90% MOD. A.A.S.H.T.O. TO A DEPTH OF 150mm UNLESS NOTED OTHERWISE.
11. ALL AREAS IN CUT SHALL BE RIPPED, SCARIFIED TO A DEPTH OF 150mm AND RE-COMPACTED TO 90% MOD. A.A.S.H.T.O. AT 1% TO 2% BELOW OMC.
12. THE CONTRACTOR SHALL TIMEOUSLY SUBMIT FIELD AND LABORATORY TEST RESULTS OF RELATIVE COMPACTION DENSITIES, CBR INDICATOR TESTS OR ANY OTHER TEST RESULTS AS REQUIRED, TO THE ENGINEER.
13. FIELD DENSITY TESTS SHOULD BE CARRIED OUT AT A RATE OF 1 TEST PER 150m² PER LAYER.
14.
 - a. THE POSITION OF TESTS AND LAYERS TESTED TO BE INDICATED ON A KEY PLAN AND SUBMITTED WITH THE RESULTS TO THE ENGINEER.
 - b. TESTS TO BE DONE BY AN INDEPENDENT LABORATORY APPROVED BY THE ENGINEER.
 - c. POSITIONS OF TESTS TO BE APPROVED BY THE ENGINEER.
 - d. ONE OF THE DENSITY TESTS SHOULD BE A SAND REPLACEMENT TEST / 10 TROXLER TESTS AND EVENLY SPREAD OVER ALL LAYERS.
15. THE CONTRACTOR SHOULD MAKE PROVISION FOR STORMWATER CONTROL.
16. MAXIMUM CUT SLOPES TO BE 1:1 AND FILL SLOPES TO BE 1:2 UNLESS OTHERWISE STATED.
17. AS BUILT SURVEY LEVELS TO BE HANDED TO THE ENGINEER AFTER COMPLETION OF EARTHWORKS.

STRUCTURAL STEELWORK - COASTAL CONDITIONS

1. ALL STRUCTURAL STEELWORK TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH SANS 1921-3, SANS 10162-1: 2005, SANS 2001-CS1:2005 AND THE PROJECT SPECIFICATION.
2. WELDING SHALL CONFORM TO AWS D1.1-90 SPECIFICATIONS.
3. BUTT-WELDS SHALL DEVELOP THE FULL STRENGTH OF THE ELEMENTS JOINED.
4. ALL WELDING TO BE 6mm CONTINUOUS FILLET WELDS UNLESS OTHERWISE SHOWN.
5. WELDING ELECTRODE TO BE E70XX (UNLESS OTHERWISE NOTED).
6. A COMPLETE SET OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION COMMENCES.
7. ALL STRUCTURAL STEELWORK SHALL BE GRADE S355JR OR GRADE 350WA EXCEPT FOR COLD-ROLLED PURLINS AND GIRTS WHERE COMMERCIAL QUALITY STEEL MAY BE USED IF APPROVED BY THE ENGINEER.
8. ALL STRUCTURAL BOLTS SHALL BE CLASS 8.8 (U.O.N.) A MINIMUM OF TWO BOLTS PER CONNECTION WILL BE USED (U.O.N.)
9. WHERE TEMPORARY PROPPING IS NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, MAINTENANCE AND REMOVAL OF SUCH SUPPORTS.
10. IF SPICES IN STEEL MEMBERS ARE REQUIRED FOR TRANSPORT OR MANUFACTURE, PROPOSALS FOR THIS WILL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
11. BASE PLATES SHALL BE GROUTED WITH A CEMENTITIOUS NON-SHRINK GROUT WITH A MINIMUM CRUSHING STRENGTH OF 40 MPa. GROUTING MUST TAKE PLACE BEFORE THE PRIMARY LOADS ARE APPLIED TO THE STRUCTURE.
12. ALL PAINTING MUST COMPLY WITH SABS 1200 HC.
13. FIREPROOFING OF STEELWORK TO COMPLY WITH THE REQUIREMENTS OF SABS 0400 PART T. THE FIREPROOFING METHOD MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
14. CORROSION PROTECTION TO BE AS PER SPECIFICATION AND SCHEDULE OF QUANTITIES.

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PROJECT: HOUSE VOGT (NEW DWELLING ON ERF 59 BLUE HORIZON BAY)

CLIENT: Mr. VOGT

ISSUED FOR: CONSTRUCTION

R	DATE	DESCRIPTION	BY	CHK
A	2018.11.06	FOR APPROVAL	A.S.	J.B.
C	2019.02.13	FOR CONSTRUCTION	A.S.	J.B.

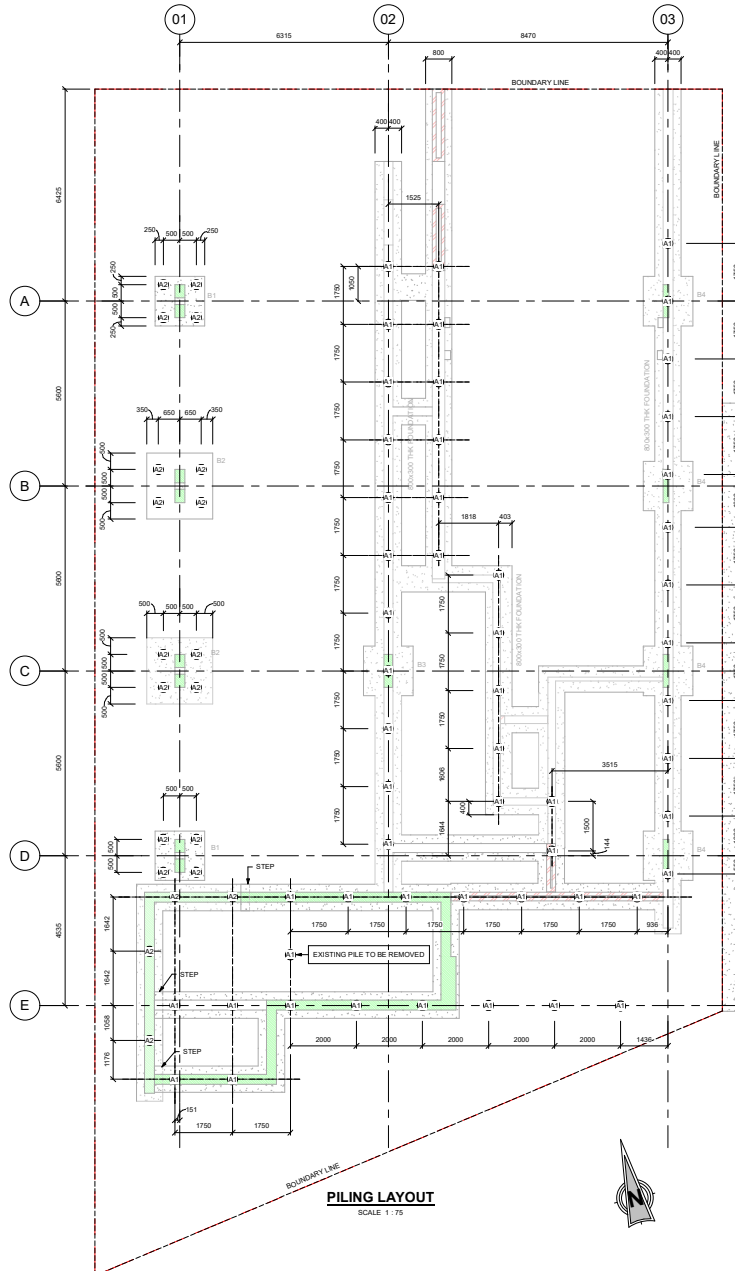


STANDARD NOTES

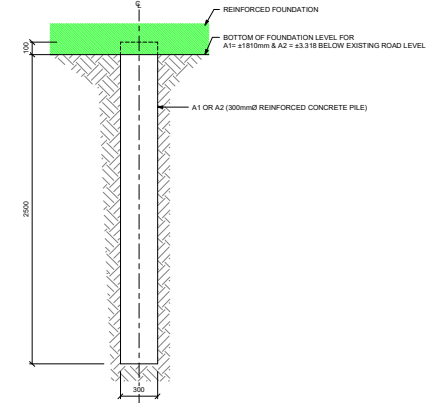
ERP NUMBER:	ERP 59 BLUE HORIZON BAY		
SCALE:	DATE:	DRAWN:	
	1/10/18	A.S. / J.B.	
CHECKED BY:	J.J. BURDEN PPR. Eng. 950572		
APPROVED BY:	J.J. BURDEN PPR. Eng. 950572		

PROJECT No.:	2018-068
DRAWING No.:	0

ATTACHMENT 2



PILES		
Mark	Type	Count
A1	300mm Ø PILE	54
A2	300mm Ø PILE	20



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- LEGEND**
- F.F.L. FINISHED FLOOR LEVEL
 - F.G.L. FINISHED GROUND LEVEL
 - M.A.M.D. MAXIMUM DRY DENSITY
 - N.G.L. NATURAL GROUND LEVEL
 - RC REINFORCED CONCRETE
 - T.O.B. TOP OF BASE
 - T.O.B.M. TOP OF BEAM
 - T.O.C. TOP OF CONCRETE
 - T.O.G. TOP OF GIRT
 - T.O.K. TOP OF KERB
 - T.O.P. TOP OF PAVING
 - T.O.P.L. TOP OF REESTABL
 - T.O.S. TOP OF SCREED
 - T.O.W. TOP OF WALL
 - T.W.L. TOP WATER LEVEL
 - TYP. TYPICAL
 - UNO. UNLESS NOTED OTHERWISE
 - USE. REINFORCED CONCRETE IN SECTION
 - BRICK. REINFORCED CONCRETE IN PLAN
 - LB. LOAD BEARING BRICKWORK

PROJECT: HOUSE VOGT (NEW DWELLING ON ERF 59 BLUE HORIZON BAY)

CLIENT: Mr. VOGT

ISSUED FOR: CONSTRUCTION

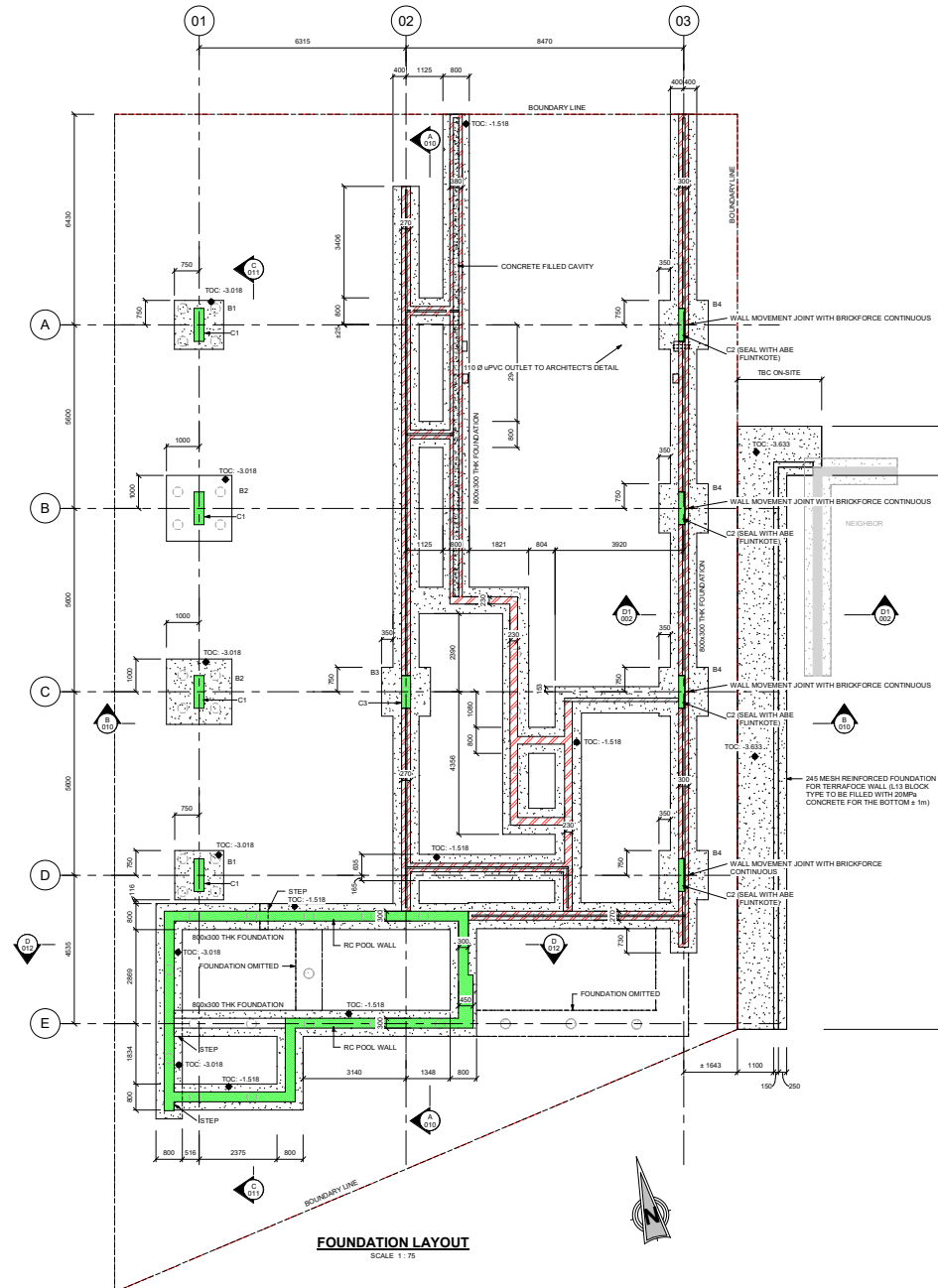
R	DATE	DESCRIPTION	BY	CHK'D
A	2018.09.07	FOR APPROVAL	A.S.	J.B.
B	2018.11.06	PILE A2 AND BASES B1 & 2 LEVELS REVISED BY 1:50	A.S.	J.B.
C	2019.02.13	FOR CONSTRUCTION (20x A1 PILES & 40x A2 PILES ADDITIONAL)	A.S.	J.B.

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P.O. Box 20320, Homewood, WYOMING 82513, USA
Tel: +1 307 337 3333, Fax: +1 307 337 3333, Email: jason@burden.com.au

DRAWING TITLE: MICRO PILING LAYOUT
ERF NUMBER: ERF 59 BLUE HORIZON BAY
SCALE: As indicated | DATE: 27/09/18 | DRAWN: A.S. (TACK)
CHECKED BY: J.J. BURDEN P.R. Eng. 950572
APPROVED BY: J.J. BURDEN P.R. Eng. 950572

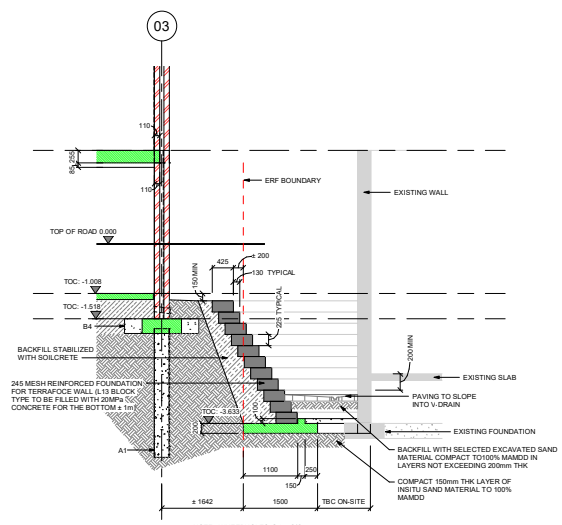
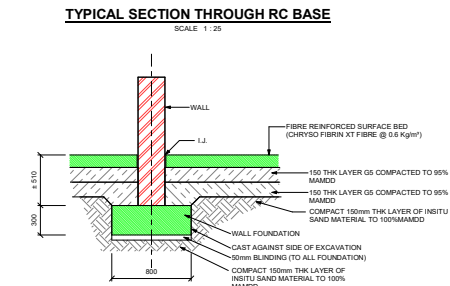
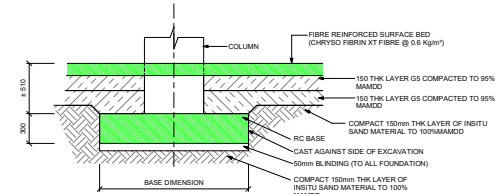
PROJECT No.: 2018-068
DRAWING No.: 001 | REV: 0

ATTACHMENT 3



BASES		
BASE NO.	SIZE	NUMBER OF
B1	1500x1500x300	2
B2	2000x2000x300	2
B3	1500x1500x300	1
B4	1500x1500x300	4

CONCRETE COLUMNS		
COLUMN NO.	SIZE	NUMBER OF
C1	1000x300 RC COLUMN	4
C2	1000x180 RC COLUMN	4
C3	1000x270 RC COLUMN	1



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LEGEND

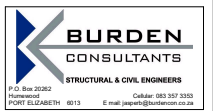
- PFL : FINISHED FLOOR LEVEL
- FGL : FINISHED GROUND LEVEL
- MAMDD : MCD ASHTO MAXIMUM DRY DENSITY
- NGL : NATURAL GROUND LEVEL
- RC : REINFORCED CONCRETE
- TOB : TOP OF BASE
- TOBM : TOP OF BEAM
- TOC : TOP OF CONCRETE
- TOG : TOP OF GIRT
- TOK : TOP OF KEEL
- TOP : TOP OF PAVING
- TOPL : TOP OF PRECAST
- TOS : TOP OF SCREED
- TOW : TOP OF WALL
- TWL : TOP WATER LEVEL
- TYP : TYPICAL
- UNL : UNLESS NOTED OTHERWISE
- USE : REINFORCED CONCRETE IN SECTION
- REF : REINFORCED CONCRETE IN PLAN
- LD : LOAD BEARING BRICKWORK

PROJECT: HOUSE VOGT (NEW DWELLING ON ERF 59 BLUE HORIZON BAY)

CLIENT: Mr. VOGT

ISSUED FOR: CONSTRUCTION

R	DATE	DESCRIPTION	BY	CHK
A	2018.09.07	FOR APPROVAL	A.S.	J.B.
B	2018.09.21	FOR APPROVAL BOUNDARY WALL FOUNDATION ADDITIONAL	A.S.	J.B.
C	2018.11.06	PILE AZ AND BASES BT&2 LEVEL REDUCE BY 1.5m	A.S.	J.B.
D	2019.02.13	FOR CONSTRUCTION (POOL POSITION REVISED, COLUMN C2 SIZE REDUCED, WALL JOINTS ADDITIONAL AND SUNKEN FIRE PIT FOUNDATIONS REMOVED)	A.S.	J.B.



FOUNDATION LAYOUT

ERF NUMBER: ERF 59 BLUE HORIZON BAY

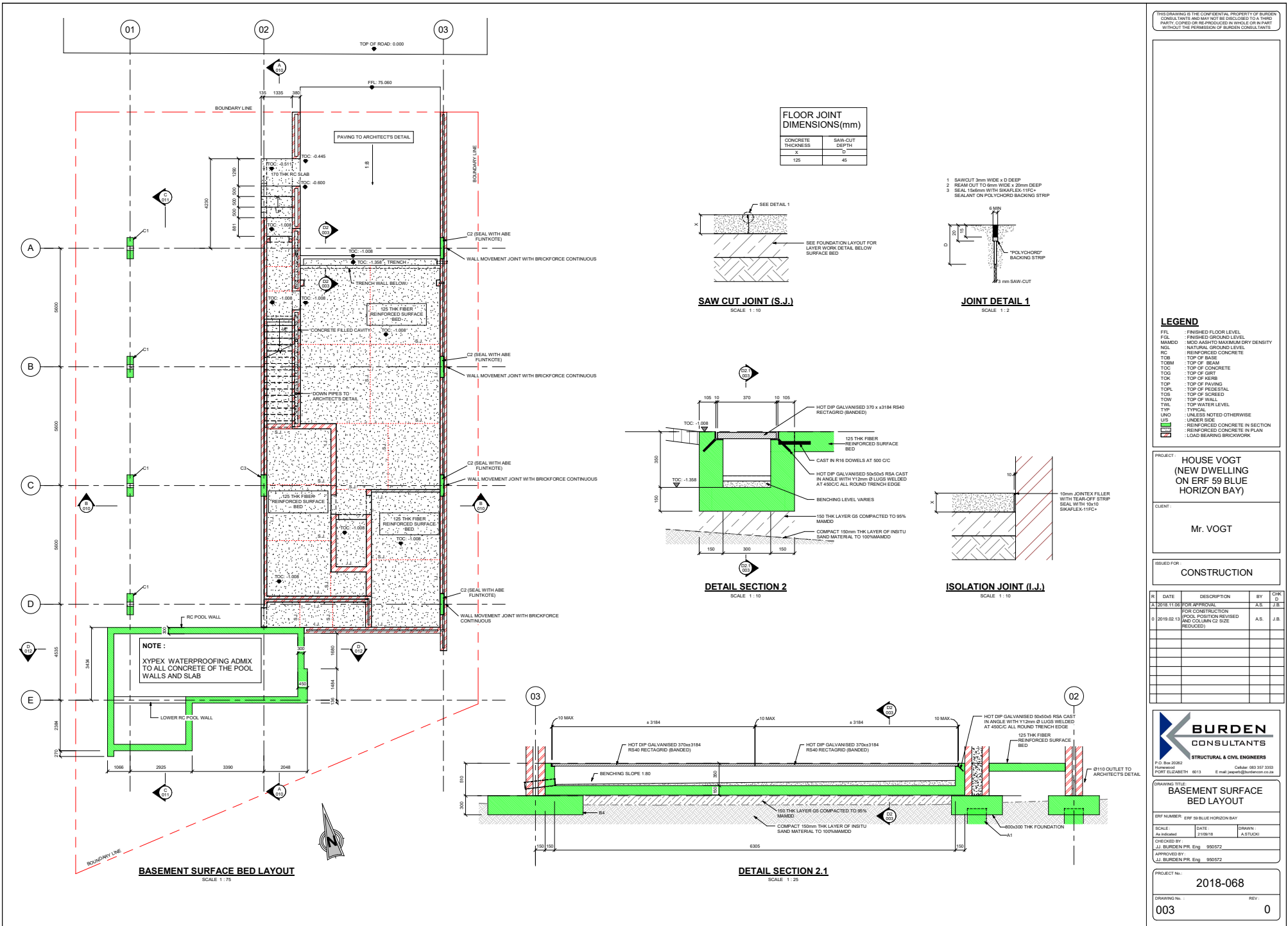
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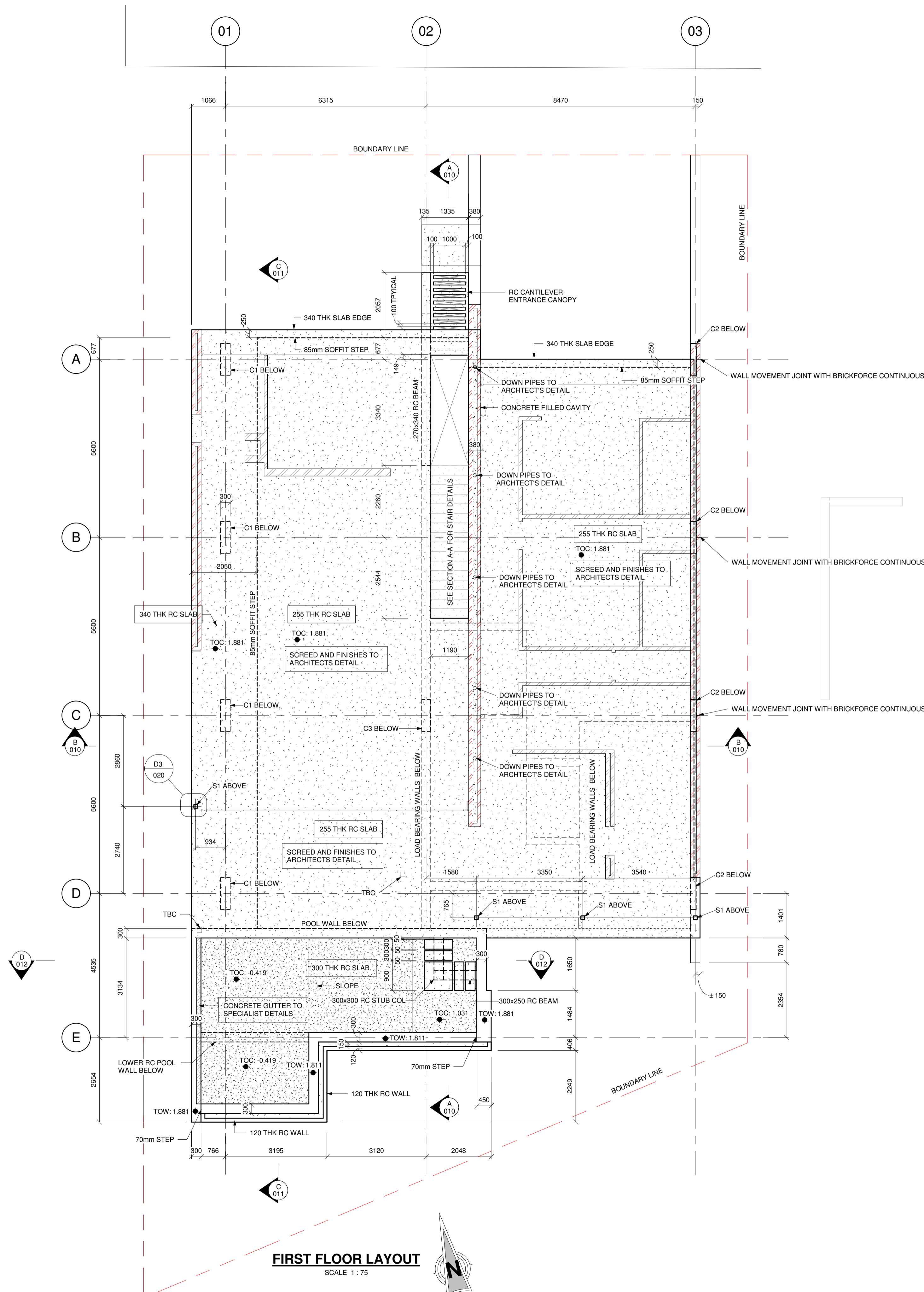
CHECKED BY: J.J. BURDEN P.R. Eng. 950572

APPROVED BY: J.J. BURDEN P.R. Eng. 950572

PROJECT No.: 2018-068

DRAWING No.: 002 | REV: 0





FIRST FLOOR LAYOUT
SCALE 1 : 75

STEEL COLUMN TABLE		
NO	COLUMN SIZES	NO. OF
S1	120x120x4 SHS	4

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LEGEND

- FFL : FINISHED FLOOR LEVEL
- FGL : FINISHED GROUND LEVEL
- MAMDD : MOD AASHTO MAXIMUM DRY DENSITY
- NGL : NATURAL GROUND LEVEL
- RC : REINFORCED CONCRETE
- TOB : TOP OF BASE
- TOBM : TOP OF BEAM
- TOC : TOP OF CONCRETE
- TOG : TOP OF GIRT
- TOK : TOP OF KERB
- TOP : TOP OF PAVING
- TOPL : TOP OF PEDESTAL
- TOS : TOP OF SCREED
- TOW : TOP OF WALL
- TWL : TOP WATER LEVEL
- TYP : TYPICAL
- UNO : UNLESS NOTED OTHERWISE
- US : UNDER SIDE
- [Symbol] : REINFORCED CONCRETE IN SECTION
- [Symbol] : REINFORCED CONCRETE IN PLAN
- [Symbol] : LOAD BEARING BRICKWORK

PROJECT : **HOUSE VOGT (NEW DWELLING ON ERF 59 BLUE HORIZON BAY)**

CLIENT : **Mr. VOGT**

ISSUED FOR : **CONSTRUCTION**

R	DATE	DESCRIPTION	BY	CHK D
A	2018.11.06	FOR APPROVAL	A.S.	J.B.
0	2019.02.13	FOR CONSTRUCTION (SLAB EDGE & POOL POSITION REVISED, COLUMN C2 SIZE REDUCED)	A.S.	J.B.
1	2019.05.14	POOL TABLES REMOVED, POOL WALL HEIGHT INCREASED BY 70mm, POOL SEATING AREA FLOOR LEVEL REDUCED, POOL SLAB SLOPE REVISED	A.S.	J.B.

BURDEN CONSULTANTS
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Hunwood
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DRAWING TITLE: **FIRST FLOOR LAYOUT**

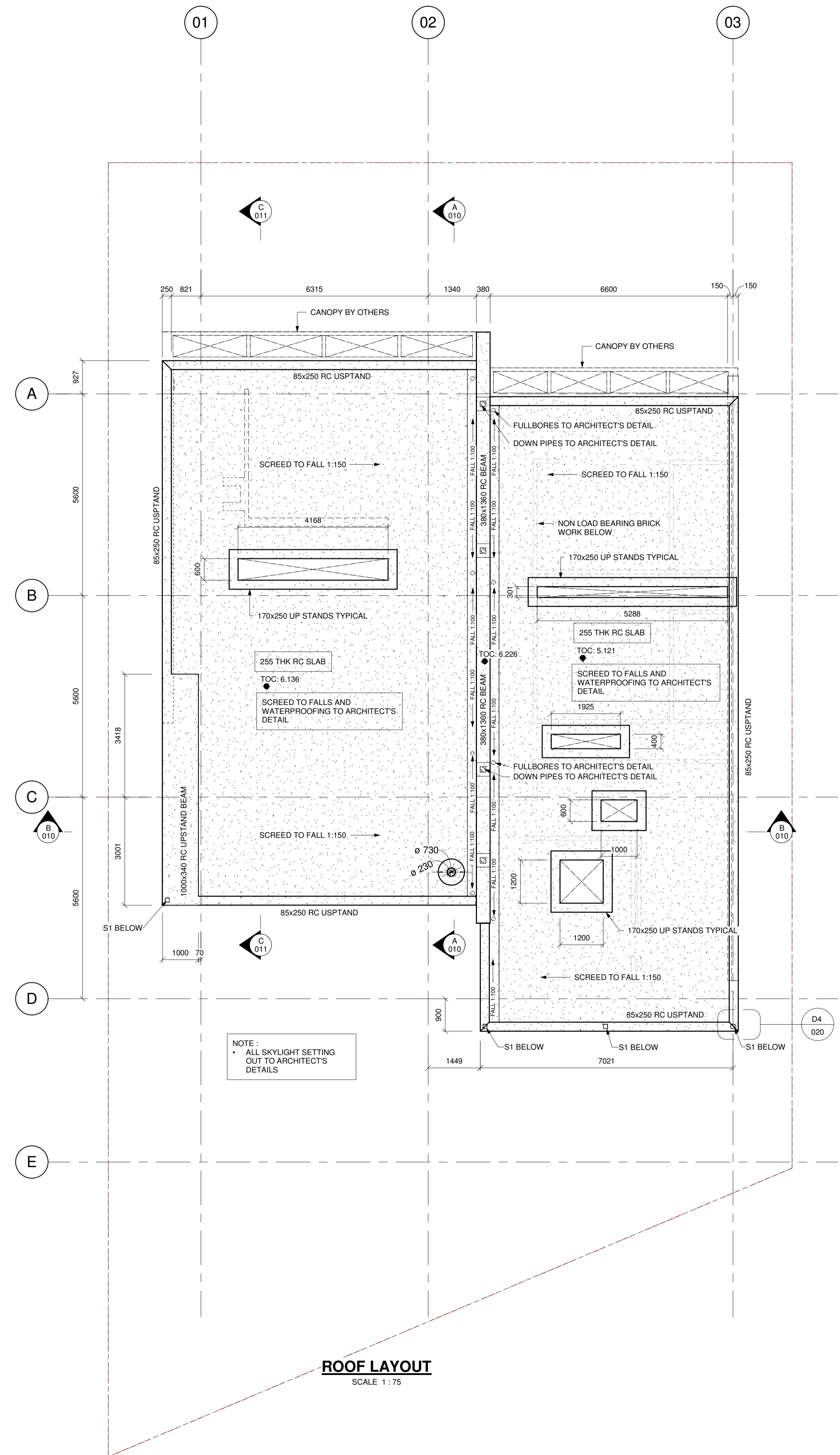
ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE : As Indicated	DATE : 10/31/18	DRAWN : A.STUCKI
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CHECKED BY : JJ. BURDEN PR. Eng 950572
APPROVED BY : JJ. BURDEN PR. Eng 950572

PROJECT No.: **2018-068**

DRAWING No. : 004	REV : 1
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ROOF LAYOUT
SCALE 1 : 75

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LEGEND

FFL	: FINISHED FLOOR LEVEL
FGL	: FINISHED GROUND LEVEL
MAMD	: MOD ASHTO MAXIMUM DRY DENSITY
NGL	: NATURAL GROUND LEVEL
RC	: REINFORCED CONCRETE
TOB	: TOP OF BASE
TOBM	: TOP OF BEAM
TOC	: TOP OF CONCRETE
TOG	: TOP OF GIRT
TOK	: TOP OF KERB
TOP	: TOP OF PAVING
TOPL	: TOP OF PEDESTAL
TOS	: TOP OF SCREED
TOW	: TOP OF WALL
TWL	: TOP WATER LEVEL
TYP	: TYPICAL
UNO	: UNLESS NOTED OTHERWISE
US	: UNDER SIDE
[Green Box]	: REINFORCED CONCRETE IN SECTION
[Red Box]	: REINFORCED CONCRETE IN PLAN
[Hatched Box]	: LOAD BEARING BRICKWORK

PROJECT : **HOUSE VOGT
(NEW DWELLING
ON ERF 59 BLUE
HORIZON BAY)**

CLIENT : **Mr. VOGT**

ISSUED FOR : **CONSTRUCTION**

R	DATE	DESCRIPTION	BY	CHK D
A	2018.11.06	FOR APPROVAL	A.S.	J.B.
0	2019.02.13	FOR CONSTRUCTION (USPTAND BEAM SIZES REDUCED)	A.S.	J.B.
1	2019.05.22	SKYLIGHT DIMENSION ADDITIONAL SCREED TO FALL REVISED TO 1:150	A.S.	J.B.

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DRAWING TITLE: **ROOF LAYOUT**

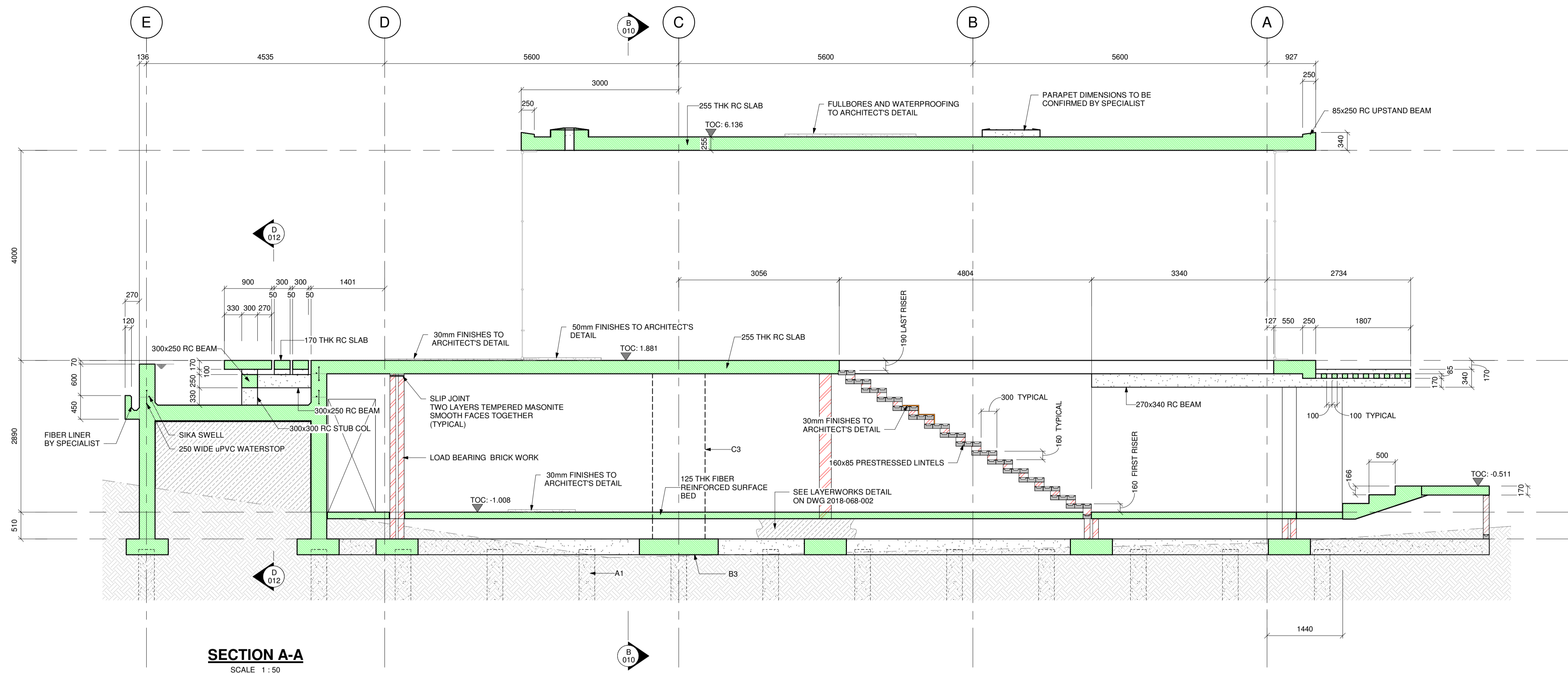
ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE : As Indicated	DATE : 10/31/18	DRAWN : A.STUCKI
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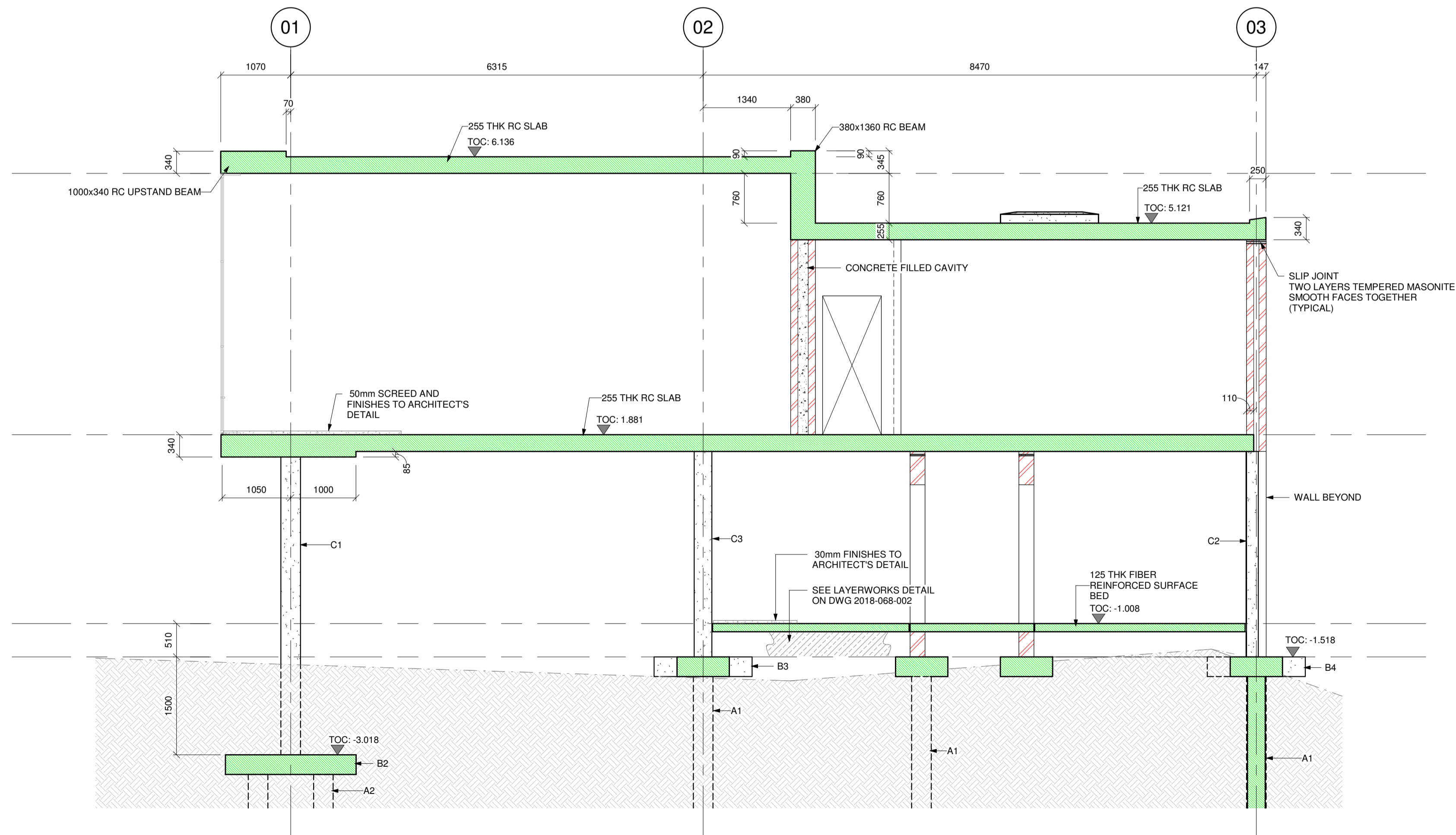
CHECKED BY : JJ. BURDEN PR. Eng 950572
APPROVED BY : JJ. BURDEN PR. Eng 950572

PROJECT No.: **2018-068**

DRAWING No.: **005** REV : **1**



SECTION A-A
SCALE 1:50



SECTION B-B
SCALE 1:50

LEGEND

- FLL : FINISHED FLOOR LEVEL
- FGL : FINISHED GROUND LEVEL
- MAMDD : MOD AASHTO MAXIMUM DRY DENSITY
- NGL : NATURAL GROUND LEVEL
- RC : REINFORCED CONCRETE
- TOB : TOP OF BASE
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- TOC : TOP OF CONCRETE
- TOG : TOP OF GIRT
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- TOP : TOP OF PAVING
- TOPL : TOP OF PEDESTAL
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- TOW : TOP OF WALL
- TWL : TOP WATER LEVEL
- TYP : TYPICAL
- UNO : UNLESS NOTED OTHERWISE
- U/S : UNDER SIDE
- [Green hatched box] : REINFORCED CONCRETE IN SECTION
- [Red hatched box] : REINFORCED CONCRETE IN PLAN
- [Red hatched box] : LOAD BEARING BRICKWORK

PROJECT : **HOUSE VOGT
(NEW DWELLING
ON ERF 59 BLUE
HORIZON BAY)**

CLIENT : **Mr. VOGT**

ISSUED FOR : **CONSTRUCTION**

R	DATE	DESCRIPTION	BY	CHK D
A	2018.11.06	FOR APPROVAL	A.S.	J.B.
0	2019.02.13	FOR CONSTRUCTION (SLAB EDGE & POOL POSITION REVISED, COLUMN C2 AND ROOF UPSTAND SIZE REDUCED)	A.S.	J.B.
1	2019.05.14	POOL TABLES REMOVED, POOL WALL HEIGHT INCREASED BY 70mm, POOL SEATING AREA FLOOR LEVEL REDUCED, POOL SLAB SLOPE REVISED	A.S.	J.B.

BURDEN CONSULTANTS
STRUCTURAL & CIVIL ENGINEERS
P.O. Box 20262, Plumwood, PORT ELIZABETH 6013
Cellular: 083 357 3353, E-mail: jasper@burdencon.co.za

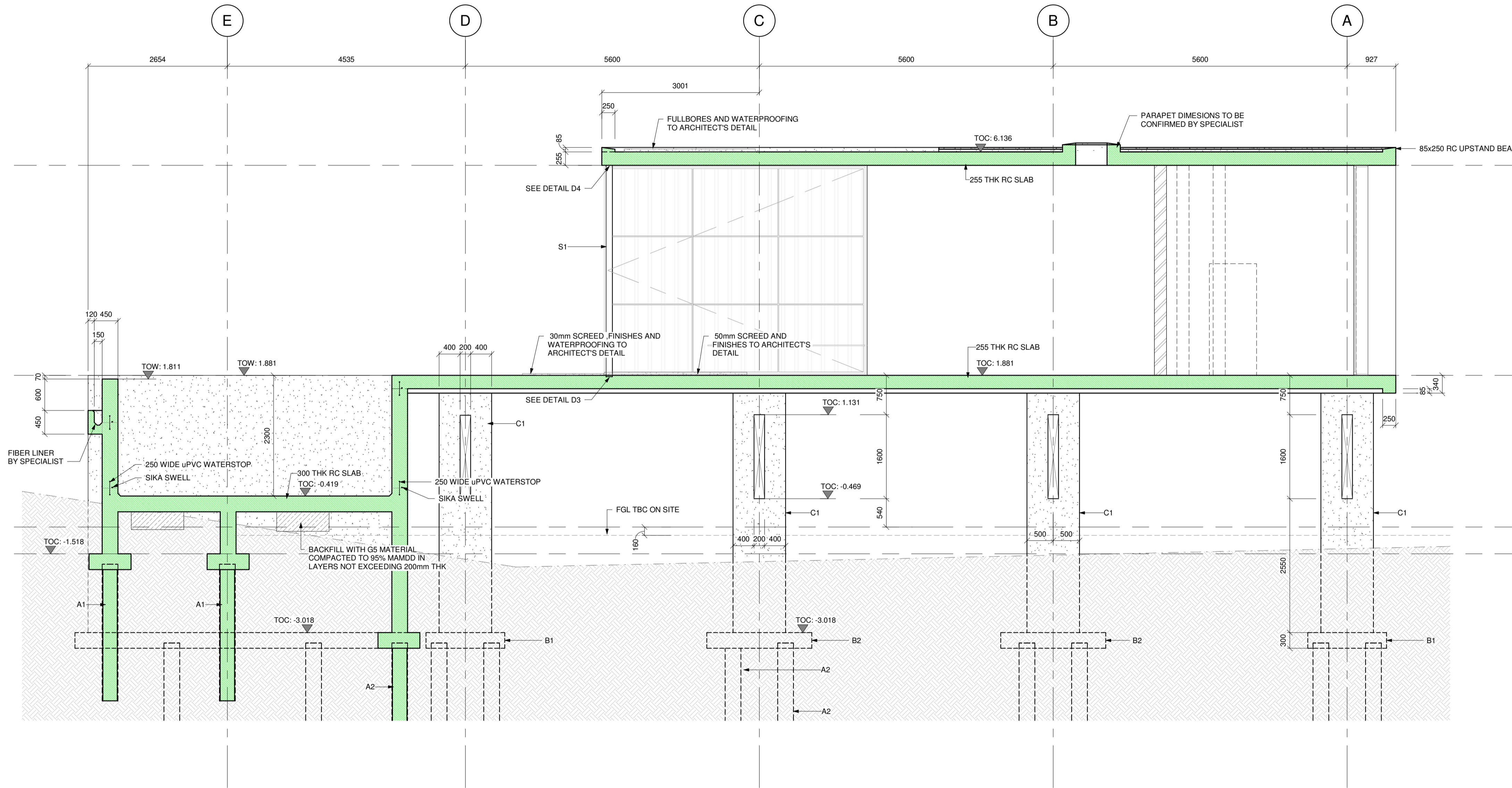
DRAWING TITLE: **SECTIONS A-A & B-B**

ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE: As Indicated	DATE: 10/08/18	DRAWN: A.STUCKI
CHECKED BY: J.J. BURDEN PR. Eng 950572	APPROVED BY: J.J. BURDEN PR. Eng 950572	

PROJECT No.: **2018-068**

DRAWING No.:	REV:
010	1



SECTION C-C
SCALE 1:50

PROJECT: **HOUSE VOGT
(NEW DWELLING
ON ERF 59 BLUE
HORIZON BAY)**

CLIENT:
Mr. VOGT

ISSUED FOR:
CONSTRUCTION

R	DATE	DESCRIPTION	BY	CHK D
A	2018.11.06	FOR APPROVAL	A.S.	J.B.
0	2019.02.13	FOR CONSTRUCTION (SLAB EDGE & POOL POSITION REVISED, COLUMN C2 AND ROOF UPSTAND SIZE REDUCED)	A.S.	J.B.
1	2019.02.19	COLUMN DIMENSIONS REVISED	A.S.	J.B.
2	2019.05.14	POOL TABLES REMOVED, POOL WALL HEIGHT INCREASED BY 70mm, POOL SEATING AREA FLOOR LEVEL REDUCED, POOL SLAB SLOPE REVISED	A.S.	J.B.

BURDEN CONSULTANTS
STRUCTURAL & CIVIL ENGINEERS
P.O. Box 20262, Plumwood, PORT ELIZABETH 6013
Cellular: 083 357 3353, E mail: jasper@burdencon.co.za

DRAWING TITLE:
SECTION C-C

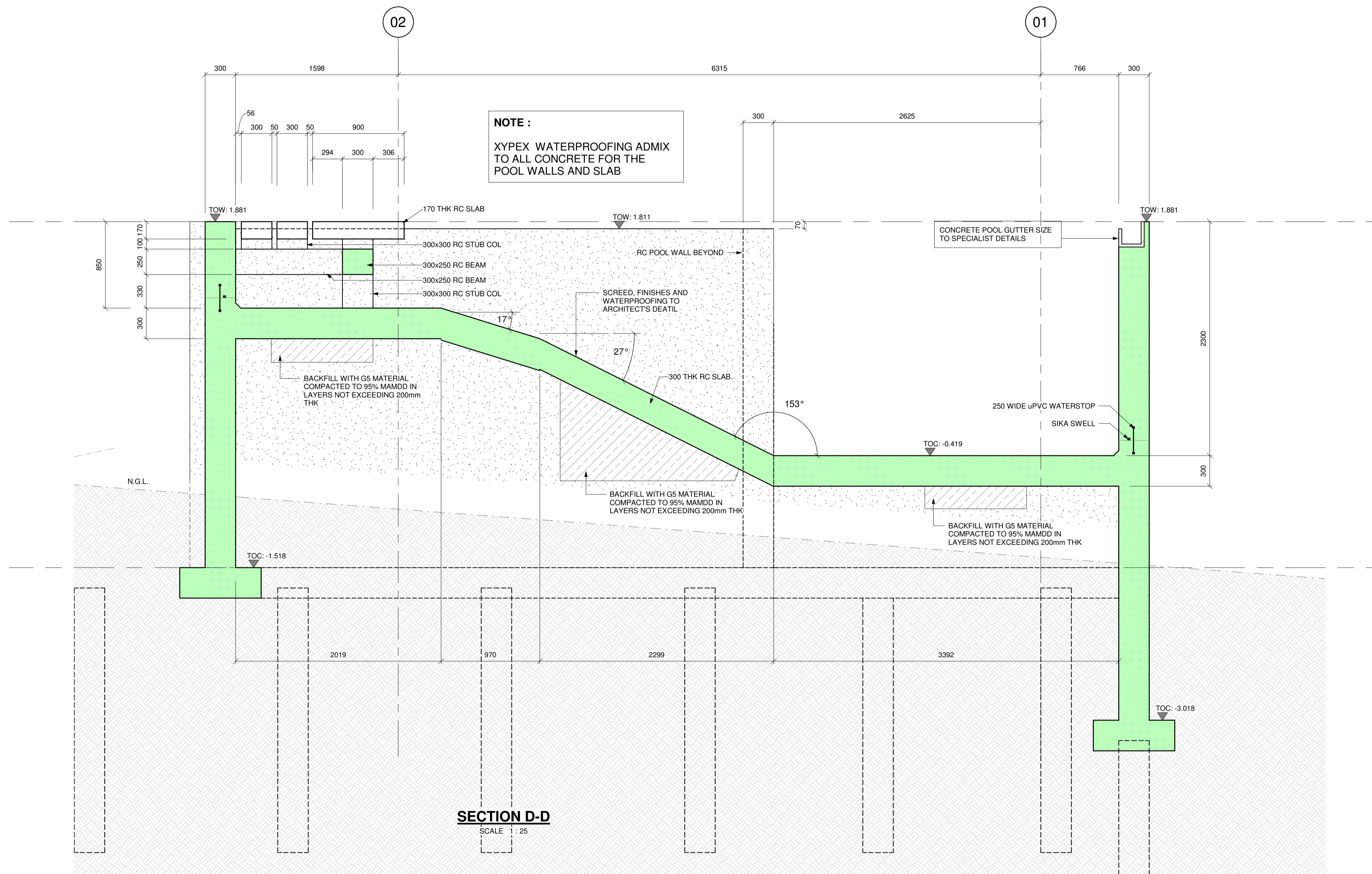
ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE: 1:50 DATE: 08/11/18 DRAWN: A.STUCKI

CHECKED BY: JJ. BURDEN PR. Eng 950572
APPROVED BY: JJ. BURDEN PR. Eng 950572

PROJECT No.: **2018-068**

DRAWING No.: **011** REV: **2**



PROJECT: HOUSE VOGT (NEW DWELLING ON ERF 59 BLUE HORIZON BAY)

CLIENT: Mr. VOGT

ISSUED FOR: CONSTRUCTION

R	DATE	DESCRIPTION	BY	CHK D
0	2019.02.13	FOR CONSTRUCTION	A.S.	J.B.
1	2019.05.14	POOL TABLES REMOVED, POOL WALL HEIGHT INCREASED BY 70mm, POOL SEATING AREA FLOOR LEVEL REDUCED, POOL SLAB SLOPE REVISED	A.S.	J.B.

BURDEN CONSULTANTS
STRUCTURAL & CIVIL ENGINEERS

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Hunnewood
PORT ELIZABETH 6013

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E mail: jasperb@burdencon.co.za

DRAWING TITLE: SECTION D-D

ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE: 1:25 DATE: 13/02/19 DRAWN: A.STUCKI

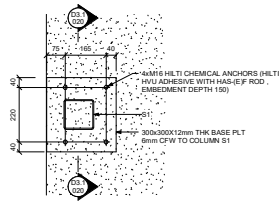
CHECKED BY: JJ. BURDEN PR. Eng 950572

APPROVED BY: JJ. BURDEN PR. Eng 950572

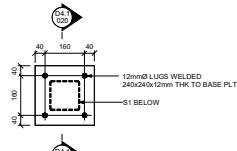
PROJECT No.: 2018-068

DRAWING No.: 012 REV: 1

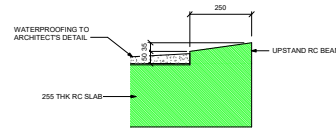
ATTACHMENT 10



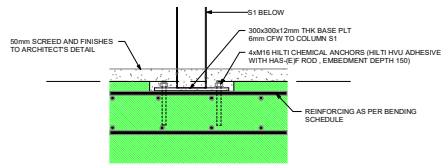
DETAIL 3
SCALE: 1:10



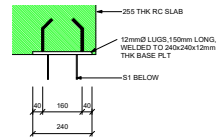
DETAIL 4
SCALE: 1:10



DETAIL 5
SCALE: 1:10



DETAIL SECTION 3.1
SCALE: 1:10



DETAIL SECTION 4.1
SCALE: 1:10

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PROJECT: HOUSE VOGT
(NEW DWELLING ON ERF 59 BLUE HORIZON BAY)

CLIENT: Mr. VOGT

ISSUED FOR: CONSTRUCTION

R	DATE	DESCRIPTION	BY	CHK'D
0	2019.02.13	FOR CONSTRUCTION	A.S.	J.B.

BURDEN CONSULTANTS
STRUCTURAL & CIVIL ENGINEERS

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Homewood
MORFELSBETH 4013 Cell: 083 357 3333 E-mail: jason@burden.com.co.za

DRAWING TITLE: **DETAILS**

ERF NUMBER: ERF 59 BLUE HORIZON BAY

SCALE: 1:10 DATE: 31/01/18 DRAWN: A.S. (TACK)

CHECKED BY: J.J. BURDEN PPR. Eng. 950572

APPROVED BY: J.J. BURDEN PPR. Eng. 950572

PROJECT No.: **2018-068**

DRAWING No.: **020** REV: **0**

ISO/IEC 17025 ACCREDITED

Customer : MADIBA BAY READY MIX T/A AMMOLITE PROPERTIES

Location : Blue Horizon Bay

Structure : -

Position : -

Element : -

Ref/Delivery Note : -

Address : P.O Box 10019
Linton Grange
Port Elizabeth, 6001

Project : ST ALBANS

Order No : -

Job Card Number : C21458

Sampling Method: Delivered to the laboratory

Plant No : -

Date Reported : 09.01.2019

COMPRESSIVE STRENGTH OF HARDENED CONCRETE REPORT

SANS 5863:2006 Edition 2.1

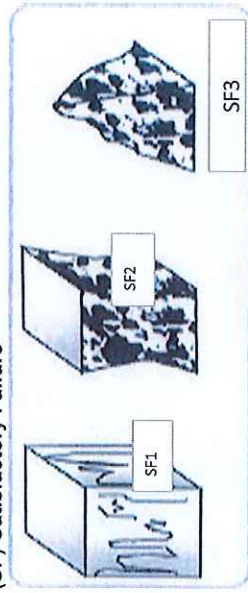
Laboratory Number	Specified Strength (MPa)	Specimen Markings	Reported Date Cast	Age of Test (days)	Date Tested	Slump (mm)	Dimension (mm) (1)	Dimension (mm) (2)	Dimension (mm) (3)	Mass (kg)	Gauge Reading (kN)	Corrected Gauge Reading (kN)	Density (kg/m ³)	Compressive Strength (MPa)	Mean (Mpa)	Condition of Cube	Type of Failure															
C192900			07.12.18	7	14.12.18	105	150	150	150	7.912	464	458	2344	20.6		Normal	SF1															
C192901			07.12.18	7	14.12.18	105	150	150	150	7.976	415	410	2363	18.4	20.0	Normal	SF1															
C192902	25/19P	Barn and Build	07.12.18	7	14.12.18	105	150	150	150	8.057	462	456	2387	20.5		Normal	SF1															
C192903			07.12.18	33	09.01.19	105	150	150	150	8.014	597	590	2375	26.5		Normal	SF1															
C192904			07.12.18	33	09.01.19	105	150	150	150	8.034	594	587	2380	26.4	26.5	Normal	SF1															
C192905			07.12.18	33	09.01.19	105	150	150	150	8.062	601	593	2389	26.7		Normal	SF1															
<table border="1"> <tr> <td>MPa Range</td> <td>0 to 200</td> <td>200+ to 400</td> <td>400+ to 600</td> <td>600+ to 800</td> <td>800+ to 1000</td> <td>1000+ to 1500</td> <td>1500+ to 1800</td> </tr> <tr> <td>Correction Factor</td> <td>0.9999</td> <td>0.9988</td> <td>0.9976</td> <td>0.9977</td> <td>0.9979</td> <td>0.9986</td> <td>0.9995</td> </tr> </table>																	MPa Range	0 to 200	200+ to 400	400+ to 600	600+ to 800	800+ to 1000	1000+ to 1500	1500+ to 1800	Correction Factor	0.9999	0.9988	0.9976	0.9977	0.9979	0.9986	0.9995
MPa Range	0 to 200	200+ to 400	400+ to 600	600+ to 800	800+ to 1000	1000+ to 1500	1500+ to 1800																									
Correction Factor	0.9999	0.9988	0.9976	0.9977	0.9979	0.9986	0.9995																									

The above test results are pertinent only to the samples received and tested at the laboratory. This report shall not be reproduced, except in full, without the prior consent of Tosca Lab (Pty) Ltd.

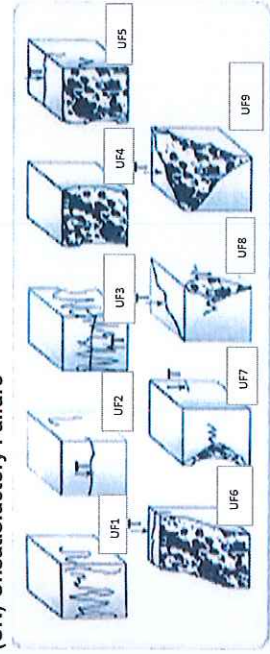
* Indicate non-accredited tests

Correction Factor = 0.987750

(SF)-Satisfactory Failure



(UN)-Unsatisfactory Failure



Condition of Cube: N-Normal O-Over-size U-Undersize V-With Voids D-Dry on Receipt ED-Edge Damage

ALTS
Hurculene Petrus
Technical Signatory

Name :