

GENERAL

1. THESE NOTES SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS OF THE ENGINEER AND ALL APPLICABLE CODES AND SPECIFICATIONS MENTIONED BELOW. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE NOTES AND THE CODES AND SPECIFICATIONS, THESE NOTES SHALL TAKE PRECEDENCE.
2. ALL CODES, STANDARDS AND SPECIFICATIONS MENTIONED BELOW . REFER TO THE LATEST EDITIONS THEREOF.
3. THE ENGINEERS DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, CONSULTANTS AND SPECIALISTS DRAWINGS. ANY DISCREPANCIES SHALL IMMEDIATELY BE REFERRED TO THE ENGINEER IN WRITING PRIOR TO COMMENCING WITH CONSTRUCTION.
4. THE RELEVANT SECTIONS OF THE SANS 2001 CCI SHALL APPLY.
5. NO SCALING OFF OF DRAWINGS IS ALLOWED.
6. THE SUPERIMPOSED DESIGN LOADS FOR THE SUSPENDED SLABS ARE INDICATED ON THE ENGINEER'S DRAWINGS. THESE DESIGN LOADS MAY NOT BE EXCEEDED AT ANY STAGE DURING CONSTRUCTION, UNLESS ADEQUATE ADDITIONAL SUPPORT IS PROVIDED FOR THE SLAB. THE CONTRACTOR MUST OBTAIN THE ENGINEERS CONSENT REGARDING ANY PROPOSED ADDITIONAL SUPPORT METHODOLOGY.
7. FOR RETAINING WALLS LATERALLY SUPPORTED BY CONCRETE SLABS, BACKFILLING TO BE CARRIED OUT NO SOONER THAN 7 DAYS AFTER CASTING OF SLAB.
8. ALL WORK IS TO BE EXECUTED IN ACCORDANCE WITH THE LATEST OCCUPATIONAL HEALTH AND SAFETY ACT.
9. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL SUB-CONTRACTORS AND RELEVANT SITE PERSONNEL ARE IN POSSESSION OF THESE NOTES AND HAVE FAMILIARISED THEMSELVES WITH THE CONTENT.

FOUNDATIONS

10. FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE BEARING PRESSURE: 125 KP_a
11. ALL FOUNDING DEPTHS AND FOUNDATION EXCAVATIONS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER ON SITE.
12. DESIGN BEARING PRESSURE AS SPECIFIED IS TO BE VERIFIED BY THE GEOTECHNICAL ENGINEER ON SITE.
13. FOUNDATION LEVELS SHOWN OF THE STRUCTURAL ENGINEER'S DRAWINGS ARE PRELIMINARY, AND MAY VARY DEPENDING ON THE GEOTECHNICAL ENGINEERS FINDINGS ON SITE.
14. AS BUILT LEVELS OF ALL FOUNDATIONS MUST BE FORWARDED TO THE ENGINEER FOR HIS RECORDS.
15. ALL FOUNDATIONS ARE LOCATED CENTRALLY UNDER COLUMNS OR WALLS UNLESS SHOWN OTHERWISE.
16. CAST 15 MPA BLINDING UNDER ALL REINFORCED FOUNDATIONS AND PILE CAPS UNLESS SHOWN OTHERWISE. MINIMUM THICKNESS OF BLINDING TO BE 50mm.
17. NO EXCAVATIONS SHALL UNDERMINE ANY EXISTING FOUNDATIONS.

CONCRETE

18. ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF SANS 2001 CCI CONCRETE SPECIFICATIONS:

ELEMENT	28 DAY - FCU(MPA)	AGGREGATE (mm)
19. ELEMENT	28 DAY - FCU(MPA)	AGGREGATE (mm)
20. MASS CONCRETE/BLINDING	15	19
21. FOUNDATIONS	30	19
22. SLABS	30	19
23. SURFACE BEDS	30	19
24. BEAMS	30	19
25. WALLS & RETAINING WALLS	30	19

26. THE CONTRACTOR SHALL SUBMIT A MIX DESIGN AND REPORT BY A RECOGNISED CONCRETE LABORATORY, TO INDICATE THAT SUITABLE MATERIALS AND MIX PROPORTIONS WILL BE USED. THE MIX DESIGN IS TO BE SUBMITTED TO THE ENGINEER FOR HIS RECORDS PRIOR TO COMMENCING WITH CONSTRUCTION.
27. MAX SLUMP FOR ALL CONCRETE TO BE 75MM UNLESS OTHERWISE APPROVED BY THE ENGINEER.
28. NO PUMPING OF CONCRETE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
29. ALL CONCRETE SHALL BE CONTINUOUSLY CURED FOR 7 DAYS BY AN APPROVED METHOD. THIS METHOD TO BE SUBMITTED TO THE ENGINEER FOR HIS RECORDS.
30. THE POSITION AND METHOD OF FORMING ALL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
31. REFER TO ARCHITECT, ELECTRICAL AND MECHANICAL ENGINEERS DRAWINGS TO VERIFY POSITIONS OF DOWNPIPES, DUCT PENETRATIONS, RECESSES ECT. AS REQUIRED BY THEM PRIOR TO CASTING. ANY DISCREPANCIES SHALL IMMEDIATELY BE REFERRED TO THE ENGINEER.
32. DEPTH OF RC BEAMS (DOWNSTAND AND INVERTED) IS THE SECOND DIMENSION AND INCLUDES THE SLAB THICKNESS.
33. NO KICKERS TO BE CAST FOR COLUMNS AND WALLS.

CONCRETE COVER:

ELEMENT	MIN COVER (MM)
34. FOUNDATIONS & PILE CAPS	75
35. COLUMNS	40
36. BEAMS	40
37. WALLS	40
38. SLABS	25

39. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND ENSURING THAT THE REINFORCEMENT IS FIXED AND MAINTAINED IN THE CORRECT POSITION BEFORE AND DURING THE CASTING OF CONCRETE.
40. ALL REINFORCEMENT MUST BE INSPECTED BY THE ENGINEER BEFORE CONCRETE IS CAST. THE ENGINEER SHALL BE GIVEN 24 HOURS ADVANCE NOTICE OF AN INSPECTION. INSPECTIONS WILL ONLY BE CARRIED OUT ONCE ALL THE RELEVANT REINFORCEMENT HAS BEEN PROPERLY FIXED, THE SPACER BLOCKS HAVE BEEN POSITIONED, THE SHUTTERING HAS BEEN CLEANED OUT AND THE CONTRACTOR HAS CHECKED AND APPROVED THE REINFORCEMENT.
41. NO ALTERATIONS MAY BE MADE TO THE STRUCTURE OR THE REINFORCEMENT WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
42. BENDING DIMENSIONS AND SCHEDULING OF STEEL REINFORCEMENT FOR CONCRETE IS TO SANS 282. (R) - DENOTES MILD STEEL BARS (FY - 250 MPA) ; (Y) - DENOTES HIGH-YIELD BARS (FY - 450 MPA)
43. MILL CERTIFICATES FOR REINFORCEMENT BARS TO BE SUBMITTED TO THE ENGINEER FOR HIS RECORDS.
44. WELDING OF HIGH-YIELD (Y) REINFORCEMENT IS NOT ALLOWED. MILD STEEL (R) REINFORCEMENT MAY BE WELDED ONLY IF INSTRUCTED IN WRITING BY THE ENGINEER.
45. CONCENTRATIONS OF A LARGE NUMBER OF SLEEVES OR SERVICES TO BE CAST INTO A CONCRETE ELEMENT WILL NOT BE ALLOWED. POSITION AND SPACING TO BE AGREED WITH THE ENGINEER PRIOR TO CASTING.

46. NO CHASING OF SERVICES INTO THE CONCRETE STRUCTURE WILL BE ALLOWED.
47. NO CORE DRILLING WILL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
48. ANY PENETRATIONS NOT SHOWN ON THE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CASTING.
49. THE STANDARD OF CONCRETE FINISH SHALL BE TO THE ARCHITECT'S SPECIFICATION.
50. ALL EXPOSED CORNERS OF CONCRETE ELEMENTS TO HAVE 20x20 CHAMFER OR AS PER ARCHITECT'S SPECIFICATION.

REMOVAL OF FORMWORK IN NORMAL TO HOT CONDITIONS (REFER SANS 2001 CCI):

	TIME TO REMOVAL
51. TYPE OF STRUCTURAL	
52. MEMBER OR FORM WORK	
53. BEAM SIDES, WALLS & UNLOADED COLUMNS.	1 DAY
54. SLABS WITH PROPS LEFT UNDERNEATH.	4 DAYS
55. BEAM SOFFITS & COFFER SLAB SOFFITS WITH PROPS LEFT UNDERNEATH.	7 DAYS
56. SLAB PROPS	10 DAYS
57. BEAM PROPS, SLAB CANTILEVER PROPS	
58. AND BEAM CANTILEVER PROPS	14 DAYS
59. EXTENT OF BACK PROPPING AND SEQUENCE TO BE DISCUSSED WITH THE ENGINEER BEFORE COMMENCEMENT OF WORKS.	
60. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF ALL TEMPORARY STRUCTURES, INCLUDING FORMWORK AND SUPPORT WORK.	
61. ONE SET OF CONCRETE TEST CUBES SHALL BE PREPARED PER 50M3 OF CONCRETE CAST, OR ANY PART THEREOF DAILY OF EVERY TYPE CAST.	
62. GENERALLY THREE CONCRETE CUBES SHALL BE TESTED AT 7 DAYS AND THREE CUBES AT 28 DAYS.	
63. CONDITIONS ON SITE, THE SIDES OF THESE CUBES ARE TO BE PROTECTED TO PREVENT EXCESSIVE DRYING OUT.	
64. THE CUBE RESULTS ARE TO BE FORWARDED TO THE ENGINEER IMMEDIATELY AFTER TESTING. THE CUBE RESULTS SHOULD BE CLEARLY LABELED AND REFERENCED, INDICATING THE CAST DATE, WHICH ELEMENT TYPE AND SPECIFIC ELEMENTS WERE CAST WITH THE RELEVANT CONCRETE.	
65. ALL SUSPENDED SLABS ARE TO BE ADEQUATELY SURVEYED AT INTERVALS AS AGREED WITH THE ENGINEER BEFORE AND AFTER REMOVAL OF SUPPORT WORK. RESULTS TO BE FORWARDED TO THE ENGINEER FOR HIS RECORDS.	
66. SAWN JOINTS IN SURFACE BEDS SHALL BE CUT WITHIN 48 HOURS AFTER CASTING CONCRETE.	

MASONRY

66. ALL BRICKWORK OR BLOCKWORK TO BE LAID TO THE REQUIREMENTS AND TOLERANCES OF SABS 0164 APPENDIX B.
69. CLASS II MORTAR SHALL BE USED THROUGHOUT AS PER SABS 0164.
70. ALL STRUCTURAL BRICKWORK OR BLOCKS SHALL HAVE A NOMINAL COMPRESSIVE STRENGTH OF 14 MP_a.
71. WATER ABSORPTION OF CLAY BRICKS NOT TO EXCEED 12%.
72. CLAY BRICKS SHALL COMPLY WITH SABS 227 AND SHALL BE WELL SATURATED 2 HOURS BEFORE BEING USED.
73. NO CLAY BRICKS SHALL BE LAID WITHIN 6 WEEKS FROM REMOVAL FROM KILN.
74. CALCIUM SILICATE BRICKS SHALL COMPLY WITH SABS 285; BRICKS SHALL BE LAID SLIGHTLY WETTED BUT NOT SATURATED.
75. CONCRETE BLOCKS SHALL COMPLY WITH SABS 1215 AND SHALL BE LAID DRY.
76. FOR CAVITIES SMALLER THAN 75MM GALVANIZED BUTTERFLY TIES COMPLYING WITH SABS 28 OR APPROVED POLYPROPYLENE TIES SHALL BE BUILT INTO CAVITY WALLS AT A RATE OF 5 TIES PER M2 MINIMUM.
77. FOR CAVITIES BIGGER THAN 75MM GALVANISED VERTICAL TWIST TYPE TIES SHALL BE USED AT A RATE OF 5 TIES PER M2.
78. ADJACENT TO COLUMNS, WALL TIES TO BE BUILT INTO EVERY SECOND LAYER OF BRICKWORK.
79. IN CONCRETE BLOCKWORK BRICKFORCE SHALL BE INSTALLED CONTINUOUS THROUGHOUT IN EVERY SECOND COURSE AS WELL AS IN TWO COURSES BELOW AND ABOVE ALL WINDOWS AND ABOVE ALL DOORS, EXTENDING 600MM PAST SUCH OPENINGS.
80. IN CLAY BRICKWORK BRICKFORCE SHALL BE INSTALLED CONTINUOUSLY THROUGHOUT IN EVERY THIRD COURSE AS WELL AS IN TWO COURSES BELOW AND ABOVE ALL WINDOWS AND ABOVE ALL DOORS, EXTENDING AT LEAST 600MM PAST SUCH OPENINGS.
81. GALVANIZED HOOP IRON ANCHORS (MIN 60 MM2 SECTION) SHALL BE INSTALLED EVERY 4TH COURSE BETWEEN RC COLUMNS AND BRICKWALLS AND EXTEND MIN 600MM INTO MASONRY. USE 6MM NAIL PLUGS, NO SHOT FIXING WILL BE ALLOWED.
82. ALL BRICKFORCE SHALL BE GALVANIZED AND COMPRISE OF HARD DRAWN STEEL WIRE COMPRISING TWO MAIN DIAMETER WIRES OF DIAMETER NOT LESS THAN 2.8MM SPACED A CONSTANT DISTANCE APART AND 2.5MM DIAMETER CROSS WIRES SPACED AT LONGITUDINAL INTERVALS OF 300MM IN LADDER TYPE BRICKFORCE.
83. A SLIP JOINT OF 2 LAYERS 3-PLY MALTHOID MUST BE PROVIDE BETWEEN ALL LOADBEARING BRICKWORK AND CONCRETE STRUCTURE.
84. A 10MM SOFT JOINT (JOINTEX) MUST BE PROVIDED BETWEEN ALL NON-LOADBEARING BRICKWORK AND CONCRETE STRUCTURE.
85. JOINTS TO BE SEALED IN ACCORDANCE WITH ARCHITECT'S SPECIFICATION.
86. ALL BRICK WALLS TO BE SET OUT ACCORDING TO ARCHITECT'S DRAWING.
87. ALL BRICK WALLS TO BE BUILT ON CENTRALLY STRIP FOOTINGS UNLESS NOTED OTHERWISE.
88. BRICK- OR BLOCKWORK BUILT ON SUSPENDED SLABS TO BE BUILT ONLY ONCE THE CONCRETE SLAB HAS REACH ITS REQUIRED DESIGN STRENGTH AND ALL THE PROPS HAVE BEEN REMOVED.
89. BRICK- OR BLOCKWORK BUILT ON SUSPENDED SLABS TO HAVE NO BRICK- OR BLOCKWORK ABOVE INTERNAL DOOR OPENINGS.
90. PRECAST LINTOLS TO BE PROPPED DURING BRICKWORK OVER, AND TO REMAIN PROPPED FOR A MINIMUM PERIOD OF 7 DAYS.

STRUCTURAL STEEL

91. ALL STRUCTURAL STEELWORK SHALL COMPLY WITH SANS 2001-CS1: 2005
92. ALL STRUCTURAL STEELWORK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF SANS 2001 H EXCLUDING CLAUSE 8.
93. THE STEEL STRUCTURE SHALL BE MANUFACTURED AND ERECTED ACCORDING TO SANS 2001 H DEGREE OF ACCURACY II.
94. THE CONTRACTOR SHALL AT THE COMMENCEMENT OF THE PROJECT ACQUAINT HIMSELF WITH THE AVAILABILITY AND DELIVERY TIME OF THE PRODUCTS AND STEEL PROFILES SPECIFIED ON THE DRAWINGS SO THAT SUCH MATERIAL CAN BE ORDERED AHEAD OF TIME.

95. ALL HOT ROLL SECTIONS TO BE GRADE S355 JR.
96. ALL COLD-FORMED STEEL SECTIONS - MIN YIELD STRESS OF 200 MPA
97. ALL BOLTS TO BE GRADE 8.8
98. ALL COLD-FORMED STEEL SECTIONS AND BOLTS TO BE HOT-DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
99. STEELWORK SHALL COMPLY WITH THE REQUIREMENTS OF SANS 1431 FOR WELDABLE STRUCTURAL STEEL.
100. A CERTIFICATE FROM THE STEEL MANUFACTURER VERIFYING THE GRADE OF THE STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR HIS RECORDS.
101. THE SEQUENCE OF THE ERECTION OF THE STRUCTURE IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENSURE THE STABILITY OF THE STRUCTURE DURING ERECTION. WHERE TEMPORARY BRACING OR PROPPING IS NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, ERECTION, MAINTENANCE AND REMOVAL (WHERE NECESSARY) OF SUCH SUPPORTS.
102. THE CONTRACTOR TO SUBMIT IN WRITING HIS PROPOSED ERECTION METHOD STATEMENT FOR THE COMMENT OF THE ENGINEER. IT REMAINS THE CONTRACTORS RESPONSIBILITY TO PRODUCE THE FINAL PRODUCT IN ACCORDANCE WITH THE ENGINEERS DESIGN DRAWINGS.
103. ALL DRAWINGS ARE DESIGN DRAWINGS. WORKSHOP DRAWINGS ARE TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WITH FABRICATION. THE CONTRACTOR MUST ALSO PREPARE DRAWINGS SHOWING ALL POSITIONS, LEVELS AND ORIENTATION OF CAST IN PLATES AND BOLTS.
104. CONTRACTOR TO ALLOW A MINIMUM OF 2 WEEKS FOR CHECKING AND APPROVAL OF THE WORKSHOP DRAWINGS BY THE ENGINEER. THE CONTRACTOR SHOULD ALSO ALLOW FOR POSSIBLE CHANGES TO WORKSHOP DRAWINGS.
105. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE BY THE CONTRACTOR BEFORE COMMENCING WITH WORKSHOP DRAWINGS AND MANUFACTURE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING.
106. FOR STRUCTURAL STEEL FIXED TO CONCRETE ALLOW 20MM TOLERANCE FOR LINING UP.
107. APPROVED NON-SHRINK STRUCTURAL GROUT SHALL BE PROVIDED UNDER ALL STEEL SUPPORTED ON CONCRETE.
108. ALL DESIGN SHALL BE ACCORDANCE WITH SANS 10160 AND SANS 10162.
109. ALL CONNECTIONS TO BE ADEQUATE TO DEVELOP THE FULL TENSILE CAPACITY OF THE MEMBERS.
110. ALL TRUSS AND GIRDER MEMBERS TO BE WELDED ALL ROUND BOTH SIDES. ALLOW FOR GUSSET PLATES IF NECESSARY TO ENSURE ADEQUATE WELDING LENGTH TO DEVELOP FULL TENSILE CAPACITY OF THE MEMBERS.
111. CENTROIDS OF ALL MEMBERS TO INTERSECT, NO ECCENTRICITIES EXCEPT FOR THOSE SHOWN ON THE ENGINEERS DESIGN DRAWINGS SHALL BE ALLOWED.
112. ALL CONNECTION DETAILS TO BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO FABRICATION.
113. USE CLASS E70XX ELECTRODES FOR ALL WELDING.
114. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1 STRUCTURAL WELDING CODE-STEEL.
115. MINIMUM WELD SIZE TO BE 6MM CONTINUOUS FILLET WELDS. THROAT THICKNESS NOT TO BE LESS THAN 0.7 X THE THINNER MATERIAL THICKNESS WELDED TO.
116. ALL BUTT WELDS TO BE FULL PENETRATION BUTT WELDS OF FULL STRENGTH.
117. ALL WELDERS SHALL BE CODED WELDERS.
118. THE CONTRACTOR SHALL PRODUCE EVIDENCE ACCEPTABLE TO THE ENGINEER THAT WELDING PROCEDURES AND WELDERS HAVE BEEN TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF SABS 044, PARTS III AND IV
119. POST-FIXING USING MECHANICAL OR CHEMICAL ANCHORS TO BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING WITH INSTALLATION. ALL FIXINGS TO BE STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
120. PENETRATIONS AND HOLES REQUIRED IN GALVANIZED STEEL SHALL BE PRE-DRILLED BEFORE THE STEEL IS GALVANIZED. NO DRILLING IS ALLOWED ON SITE IN ANY GALVANISED STEEL MEMBERS.
121. NO HOLES MAY BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT THE PRIOR CONSENT OF THE ENGINEER.
122. NO SITE CUTTING OR WELDING WILL BE ALLOWED UNLESS APPROVED OR SPECIFIED BY THE ENGINEER.

CORROSION PROTECTION SPECIFICATION:

- PRE-FABRICATION PREPARATION: COMMERCIAL BLAST STEEL TO REMOVE RUST AND MILL SCALE
- DUPLEX SYSTEM: POST-FABRICATION & TRIAL ASSEMBLY: HOT DIPPED GALVANIZED TO SANS 121:2000 (HEAVY DUTY) - UN-PASSIVATED. MICRO-BLAST WITH GARNET SLAG TO ACHIEVE A WATER BREAK FREE SURFACE & ROUGH PROFILE
- APPLY ONE COAT OF EPOXY PRIMER TO A DFT OF 60 MICRONS.
- APPLY ONE COAT OF RE-COATABLE POLYURETHANE FINISHING TO A DFT OF 30 MICRONS (COLOUR TO ARCHITECT'S SPECIFICATION).

128. CLADDING TO BE DONE IN ACCORDANCE WITH SABS 1200 HB
129. ALL ROOF AND SIDE CLADDING TO BE AS PER ARCHITECT'S SPECIFICATION.
130. CLADDING TO ONLY COMMENCE ONCE ALL BRACING IS INSTALLED, INSPECTED AND APPROVED BY THE ENGINEER.
131. CLADDING CONTRACTOR TO ENSURE PURLINS AND GIRTS REMAIN STRAIGHT DURING INSTALLATION OF CLADDING AND INSULATION MATERIAL.
132. FIXING OF SERVICES TO THE ROOF STRUCTURE - FIXING TO PURLINS TO BE DONE BY SCREWING OR BOLTING THROUGH THE VERTICAL LEG (WEB) OF THE PURLIN. PURLIN CLAMPS SHALL NOT BE ALLOWED ANYWHERE. NO HANGING OFF THE PURLINS UNTIL THE ROOF SHEETING HAS BEEN INSTALLED.
133. NO FIXING OF SERVICES TO LONGITUDINAL TIES AT TRUSS BOTTOM CHORDS WILL BE ALLOWED.
134. MAIN PIPE RUNS AND OTHER HEAVY ITEMS ARE TO BE SUSPENDED FROM TRUSSES AND GIRDERS ONLY AND NEVER FURTHER THAN 100MM FROM A NODE POINT. APPROVED FLANGE CLAMPS MAY BE USED.
135. FEEDER PIPES AND OTHER LIGHTWEIGHT ELEMENTS:
136. RUNNING PERPENDICULAR TO THE PURLINS ARE TO BE SUSPENDED FROM EVERY PURLIN IT CROSSES.
137. RUNNING PARALLEL TO THE PURLINS HAVE TO BE SUSPENDED FROM TWO ADJACENT PURLINS AND AT 1250MM C/C MAX.

TIMBER ROOF SYSTEM


- ALL TIMBER ROOF TRUSSES TO BE DESIGNED, SUPPLIED AND INSTALLED BY A SPECIALIST.
- ALL DETAILS TO BE SUBMITTED TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
- DESIGNER TO PROVIDE SANS10400-FORM 3 COMPLETION CERTIFICATE.

CONFIRMATION OF DIMENSIONS
ALL DIMENSIONS, LEVELS AND CO-ORDINATES TO BE CHECKED AND CONFIRMED ON SITE WITH THE ENGINEER BEFORE CONSTRUCTION COMMENCES. ONLY WRITTEN DIMENSIONS ARE TO BE USED. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING.

COPYRIGHT RESERVED
THE COPYRIGHT OF THIS PLAN AND DESIGN RESIDES WITH NWE AND MAY NOT BE REPRODUCED, ISSUED OR USED FOR ANY PURPOSE OTHER THAN WHAT IT WAS ORIGINALLY INTENDED FOR.

REV	DESCRIPTION	DATE
A	ISSUED FOR INFORMATION	2019.04.18

ISSUED FOR INFORMATION




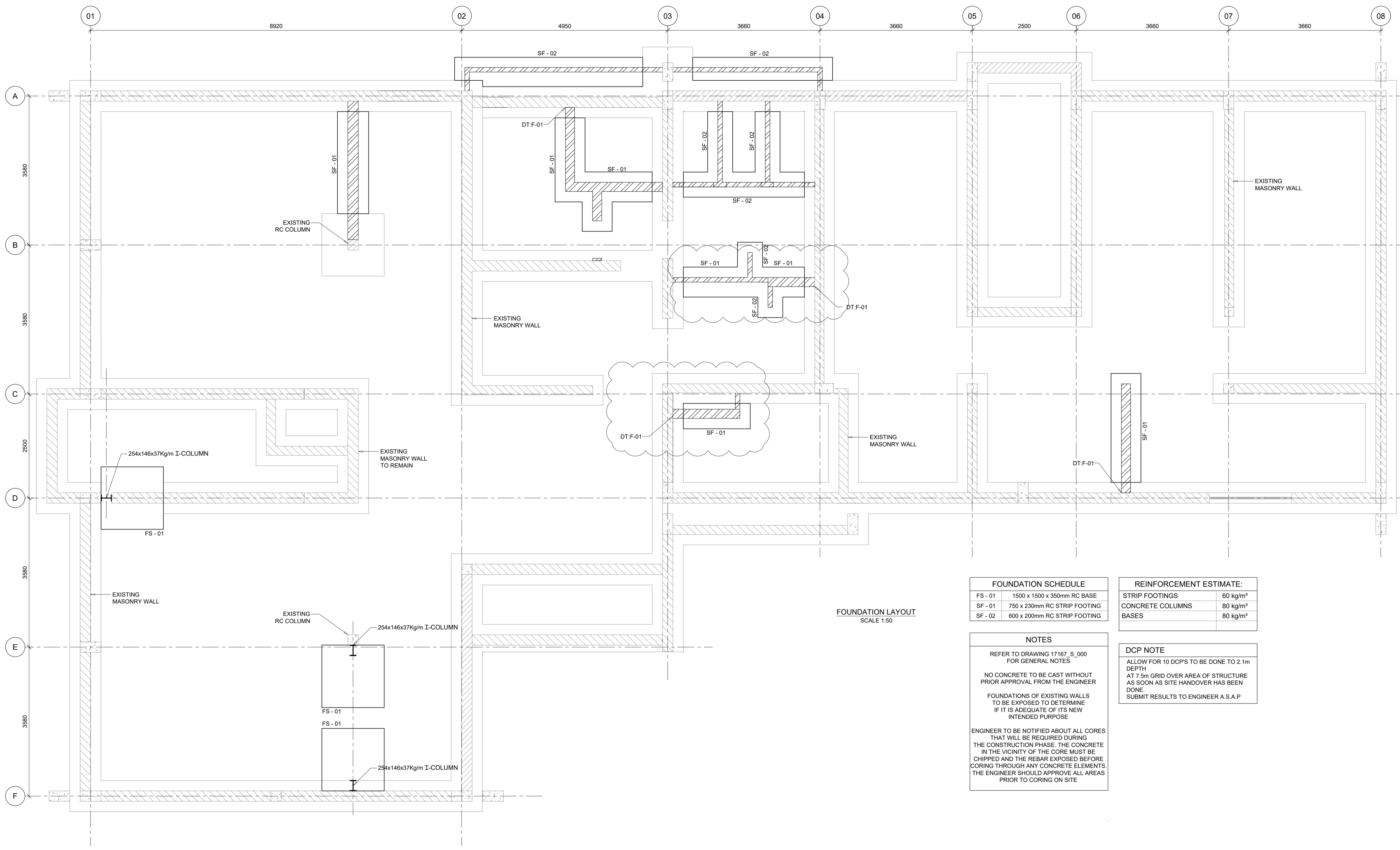
Modena Building Level 6, Bella Rosa, 21D Durbanville Avenue, Bellville, 7530
P.O. Box 5263 Tyger Valley, 7536, South Africa
TEL. (+27) 21 914 2264 FAX. (+27) 21 914 2260
E-mail: admin@nweeng.co.za

CLIENT: 

PROJECT NAME:
REFURBISHMENT & UPGRADE OF BLOCK B FOR THE DIRECTOR OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

STRUCTURAL NOTES

CLIENT	SIGNATURE	DATE	
RESPONSIBLE PERSON M.STEYN	SIGNATURE + ECSA DETAILS 	DATE 2019.04.18	
NWE RESPONSIBLE PERSON	DATE	SHEET SIZE	
DESIGN	M.STEYN	APRIL 2019	A1
DRAWN	C.NORTJE	APRIL 2019	SCALE
APPROVED	M.STEYN	APRIL 2019	SHOWN
NWE DRAWING No:	17167_S_000		REVISION No: A



FOUNDATION LAYOUT
SCALE 1:50

FOUNDATION SCHEDULE	
FS - 01	1500 x 1500 x 350mm RC BASE
SF - 01	750 x 230mm RC STRIP FOOTING
SF - 02	600 x 200mm RC STRIP FOOTING

REINFORCEMENT ESTIMATE:	
STRIP FOOTINGS	60 kg/m ³
CONCRETE COLUMNS	80 kg/m ³
BASES	80 kg/m ³

NOTES

REFER TO DRAWING 17167_S_000 FOR GENERAL NOTES

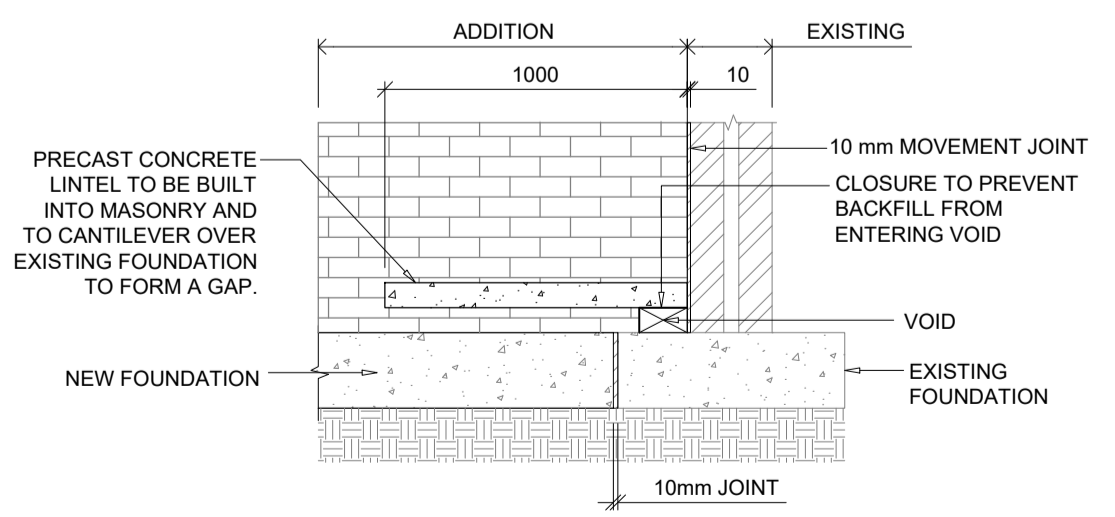
NO CONCRETE TO BE CAST WITHOUT PRIOR APPROVAL FROM THE ENGINEER

FOUNDATIONS OF EXISTING WALLS TO BE EXPOSED TO DETERMINE IF IT IS ADEQUATE OF ITS NEW INTENDED PURPOSE

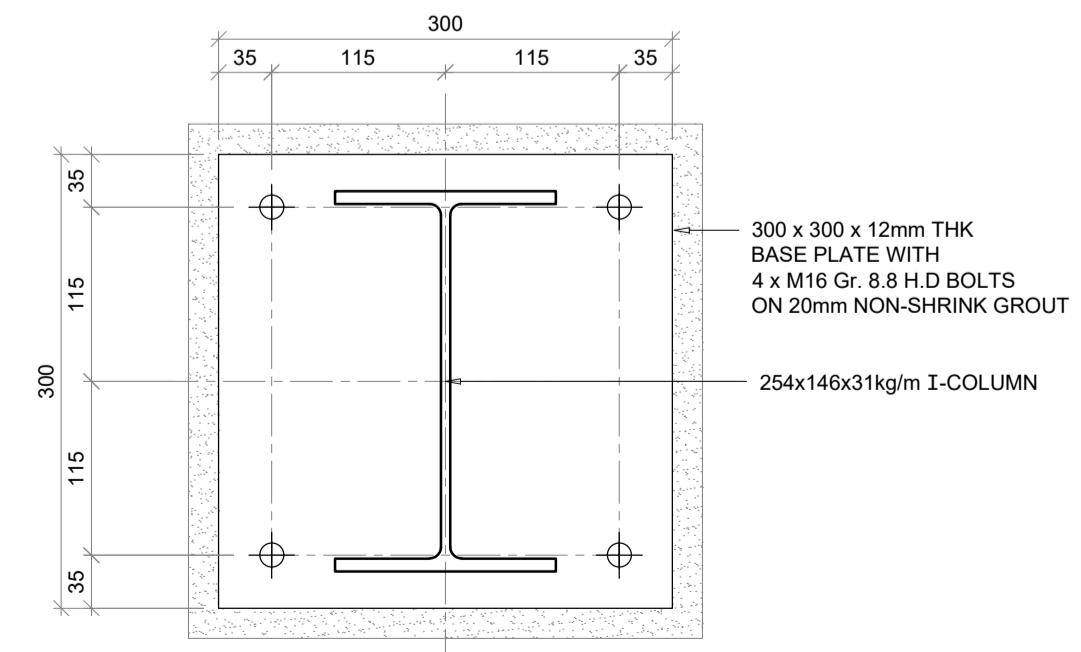
ENGINEER TO BE NOTIFIED ABOUT ALL CORES THAT WILL BE REQUIRED DURING THE CONSTRUCTION PHASE. THE CONCRETE IN THE VICINITY OF THE CORE MUST BE CHIPPED AND THE REBAR EXPOSED BEFORE CORING THROUGH ANY CONCRETE ELEMENTS. THE ENGINEER SHOULD APPROVE ALL AREAS PRIOR TO CORING ON SITE

DCP NOTE

ALLOW FOR 10 DCP'S TO BE DONE TO 2.1m DEPTH AT 7.5m GRID OVER AREA OF STRUCTURE AS SOON AS SITE HANDOVER HAS BEEN DONE. SUBMIT RESULTS TO ENGINEER A.S.A.P



DT-F-01
FOUNDATION DETAIL AT INTERFACE OF ADDITION AND EXISTING BUILDING
SCALE 1:25



254x146x31kg/m I-COLUMN
BASE PLATE DETAIL
SCALE 1:5

CONFIRMATION OF DIMENSIONS

ALL DIMENSIONS, LEVELS AND CO-ORDINATES TO BE CHECKED AND CONFIRMED ON SITE WITH THE ENGINEER BEFORE CONSTRUCTION COMMENCES. ONLY WRITTEN DIMENSIONS ARE TO BE USED. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING.

COPYRIGHT RESERVED

THE COPYRIGHT OF THIS PLAN AND DESIGN RESIDES WITH NWE AND MAY NOT BE REPRODUCED, ISSUED OR USED FOR ANY PURPOSE OTHER THAN WHAT IT WAS ORIGINALLY INTENDED FOR.

REV	DESCRIPTION	DATE
B	LAYOUT UPDATED	2019.05.14
A	ISSUED FOR INFORMATION	2019.04.18

ISSUED FOR INFORMATION

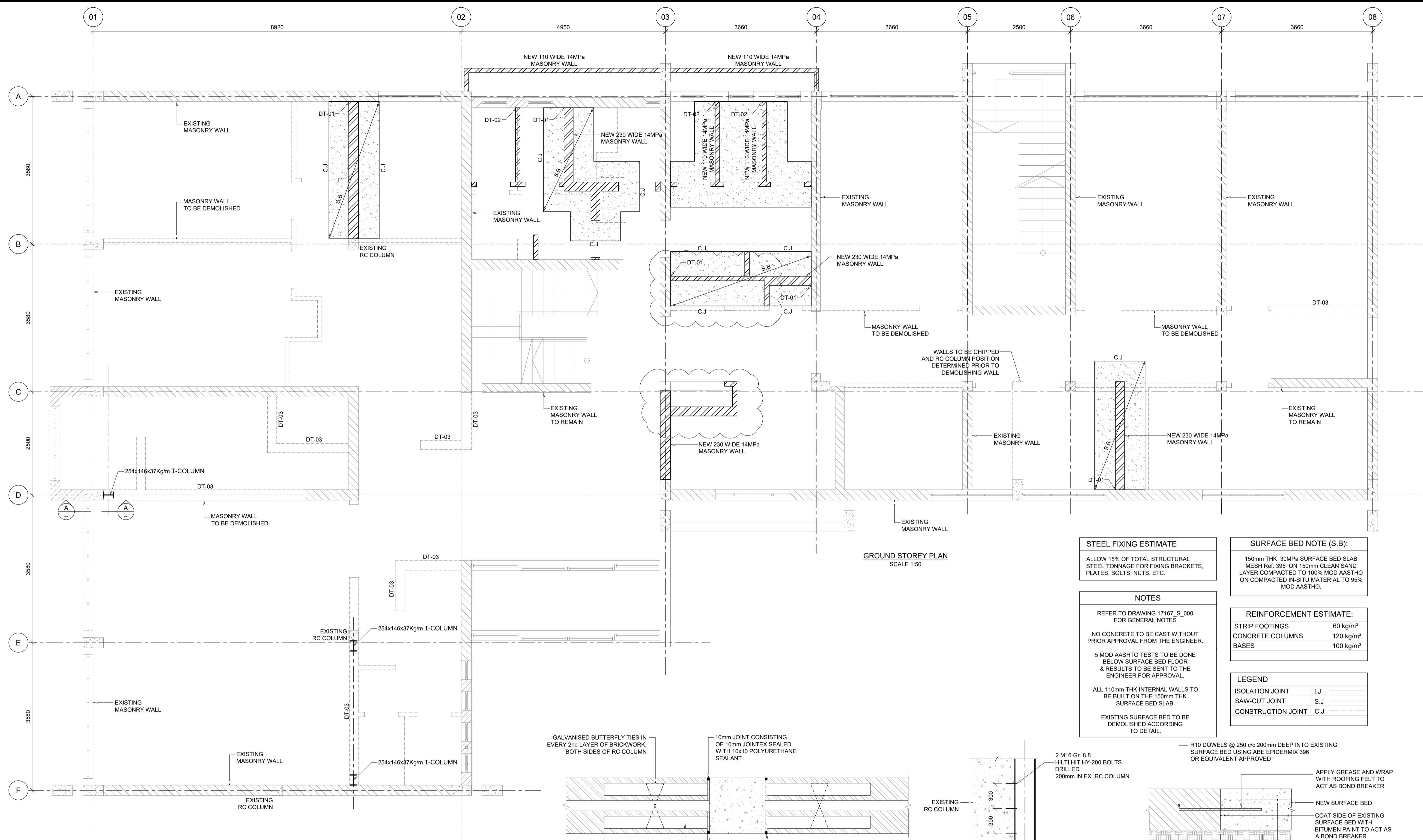
Modena Building Level 6, Bella Rosa, 21D Durbanville Avenue, Bellville, 7530
P.O. Box 5263 Tyger Valley, 7536, South Africa
TEL. (+27) 21 914 2264 FAX. (+27) 21 914 2260
E-mail: admin@nweng.co.za

CLIENT:

PROJECT NAME:
REFURBISHMENT & UPGRADE OF BLOCK B FOR THE DIRECTOR OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

DRAWING TITLE:
FOUNDATION LAYOUT + SECTIONS & DETAILS

CLIENT	SIGNATURE	DATE
RESPONSIBLE PERSON M.STEYN	SIGNATURE - ECSA DETAILS 	DATE 2019.05.14
NWE RESPONSIBLE PERSON	DATE	SHEET SIZE
DESIGN M.STEYN	APRIL 2019	A1
DRAWN C.NORTJE	APRIL 2019	SCALE
APPROVED M.STEYN	APRIL 2019	SHOWN
NWE DRAWING NO. 17167_S_001	REVISION B	



GROUND STOREY PLAN
SCALE 1:50

STEEL FIXING ESTIMATE
ALLOW 15% OF TOTAL STRUCTURAL STEEL TONNAGE FOR FIXING BRACKETS, PLATES, BOLTS, NUTS, ETC.

SURFACE BED NOTE (S.B.):
150mm THK 30MPa SURFACE BED SLAB MESH Ref. 395 ON 150mm CLEAN SAND LAYER COMPACTED TO 100% MOD AASHTO ON COMPACTED IN-SITU MATERIAL TO 95% MOD AASHTO.

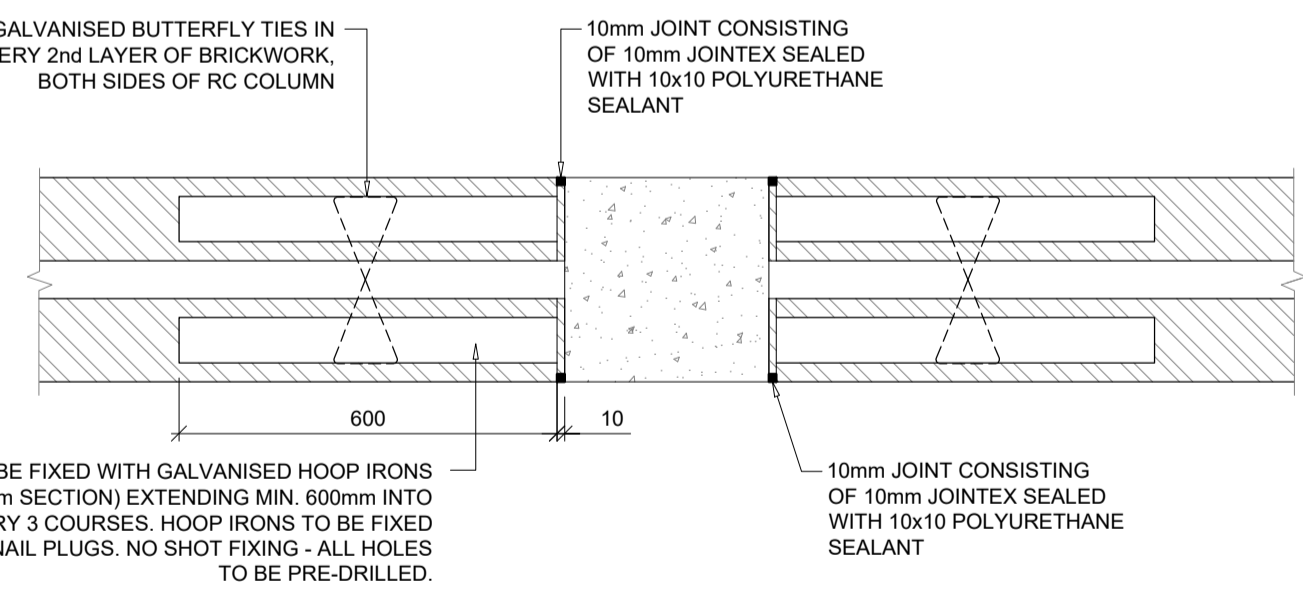
NOTES
REFER TO DRAWING 17167_S_000 FOR GENERAL NOTES
NO CONCRETE TO BE CAST WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
5 MOD AASHTO TESTS TO BE DONE BELOW SURFACE BED FLOOR & RESULTS TO BE SENT TO THE ENGINEER FOR APPROVAL.
ALL 110mm THK INTERNAL WALLS TO BE BUILT ON THE 150mm THK SURFACE BED SLAB.
EXISTING SURFACE BED TO BE DEMOLISHED ACCORDING TO DETAIL.

REINFORCEMENT ESTIMATE:

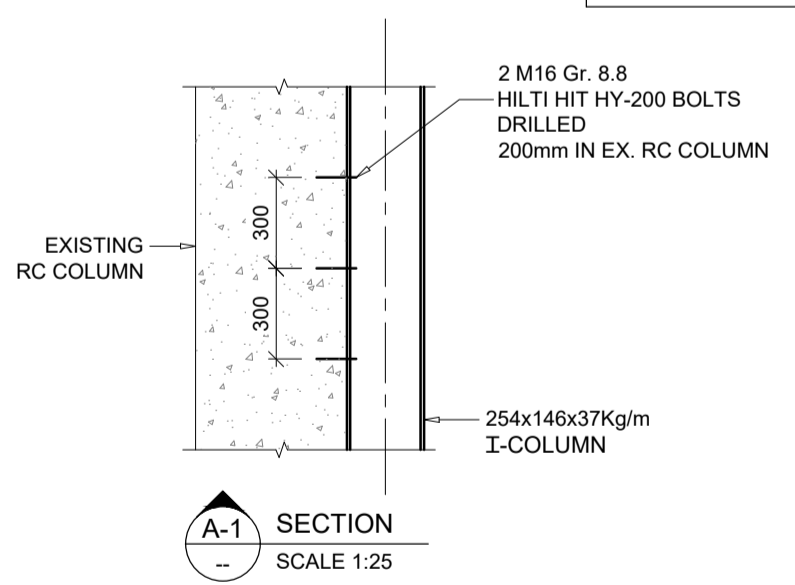
STRIP FOOTINGS	60 kg/m ³
CONCRETE COLUMNS	120 kg/m ³
BASES	100 kg/m ³

LEGEND

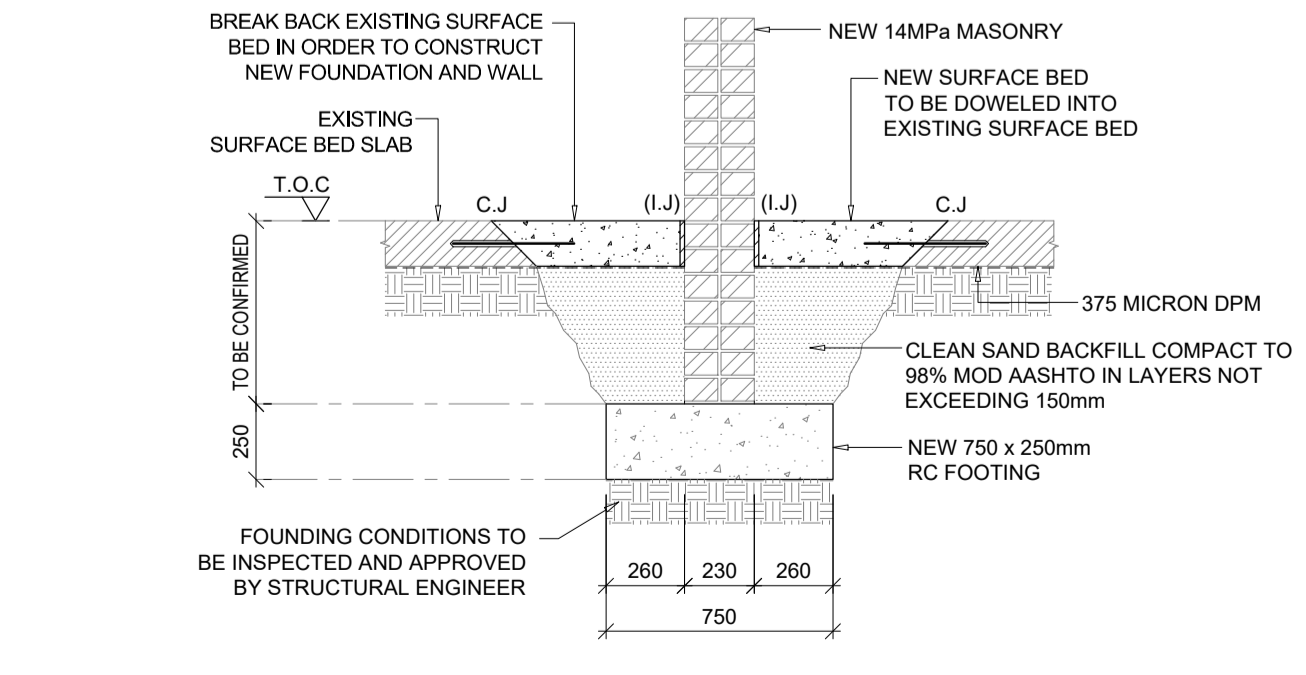
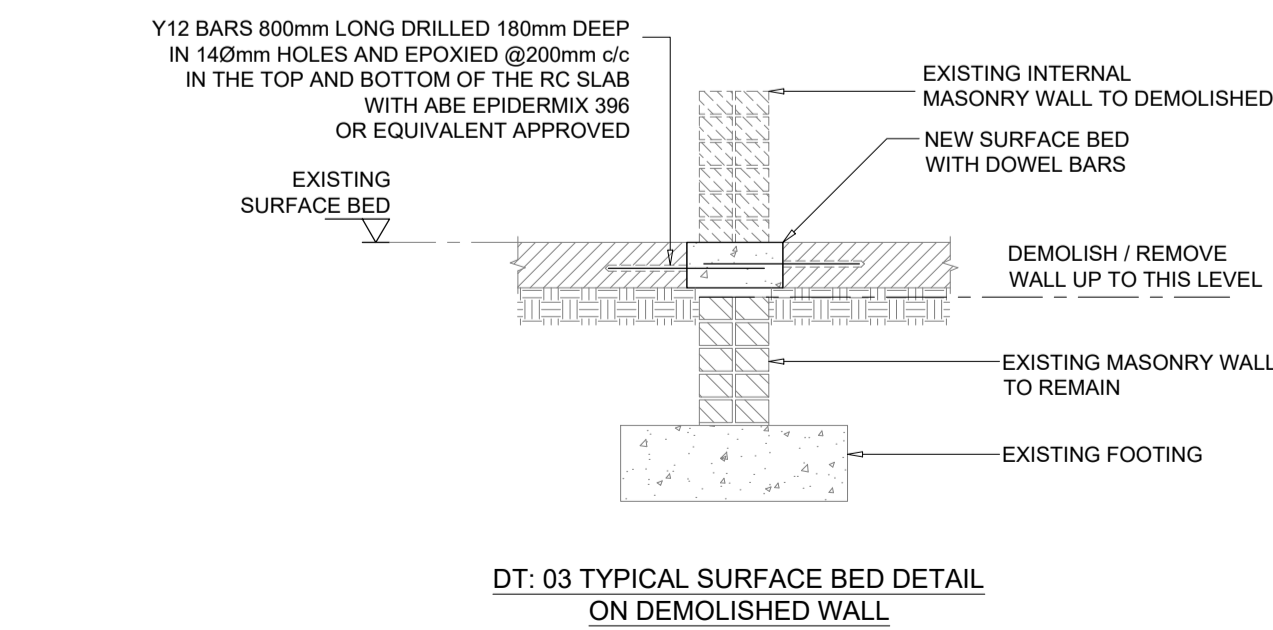
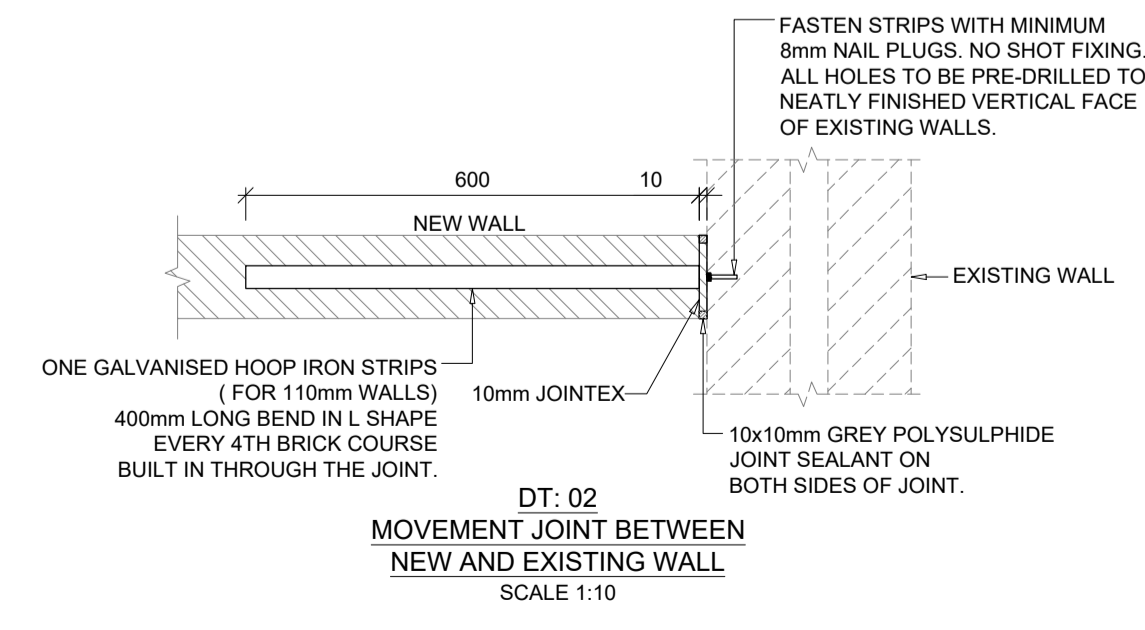
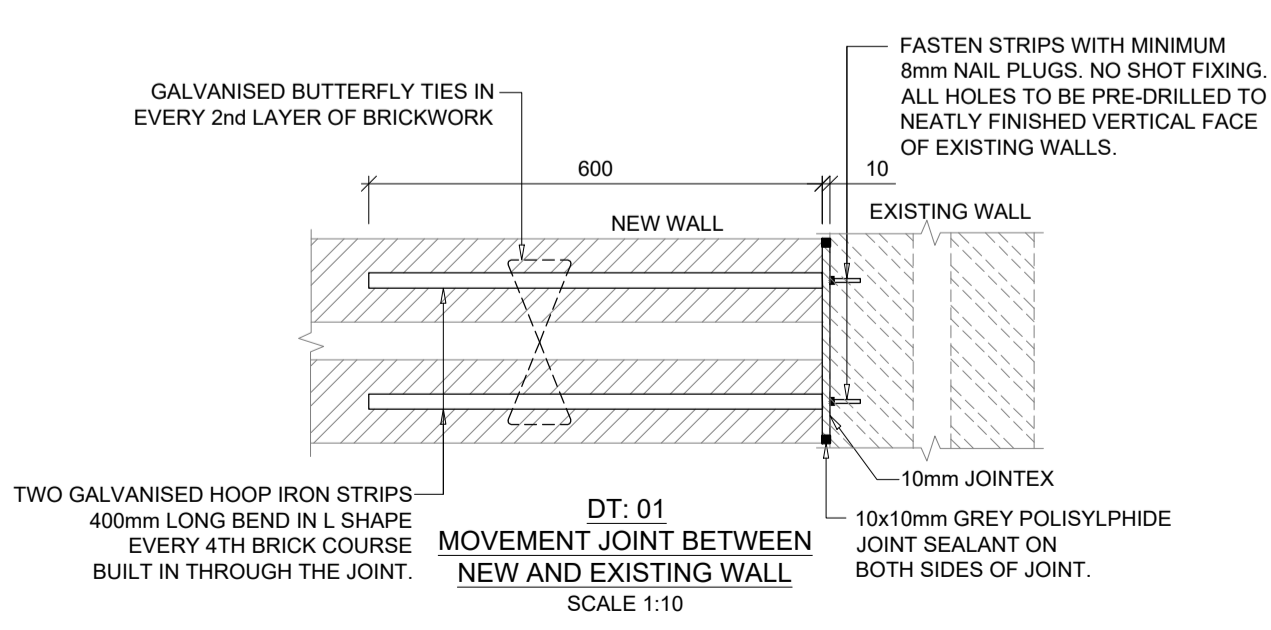
ISOLATION JOINT	I.J
SAW-CUT JOINT	S.J
CONSTRUCTION JOINT	C.J



MOVEMENT JOINT BETWEEN EXISTING RC COLUMN AND MASONRY WALL
SCALE 1:10



TYPICAL CONSTRUCTION JOINT (C.J.)
SCALE 1:10



NOTE:
THICKNESS OF EXISTING SURFACE BED TO BE DETERMINED ON SITE. IF FOUND TO BE THICKER THAN 125mm, AND COMPACTION BELOW THE SURFACE BED IS ADEQUATE, 115mm WALLS CAN BE BUILT ON EXISTING SURFACE BED.

CONFIRMATION OF DIMENSIONS
ALL DIMENSIONS, LEVELS AND CO-ORDINATES TO BE CHECKED AND CONFIRMED ON SITE WITH THE ENGINEER BEFORE CONSTRUCTION COMMENCES. ONLY WRITTEN DIMENSIONS ARE TO BE USED. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING.

COPYRIGHT RESERVED
THE COPYRIGHT OF THIS PLAN AND DESIGN RESIDES WITH NWE AND MAY NOT BE REPRODUCED, ISSUED OR USED FOR ANY PURPOSE OTHER THAN WHAT IT WAS ORIGINALLY INTENDED FOR.

REV	DESCRIPTION	DATE
B	LAYOUT UPDATED	2019.05.14
A	ISSUED FOR INFORMATION	2019.04.18

ISSUED FOR INFORMATION

NWE CONSULTING ENGINEERS
Modena Building Level 6, Bella Rosa, 21D Durbanville Avenue, Bellville, 7530
P.O. Box 5263 Tyger Valley, 7536, South Africa
TEL: (+27) 21 914 2264 FAX: (+27) 21 914 2260
E-mail: admin@nwe.co.za

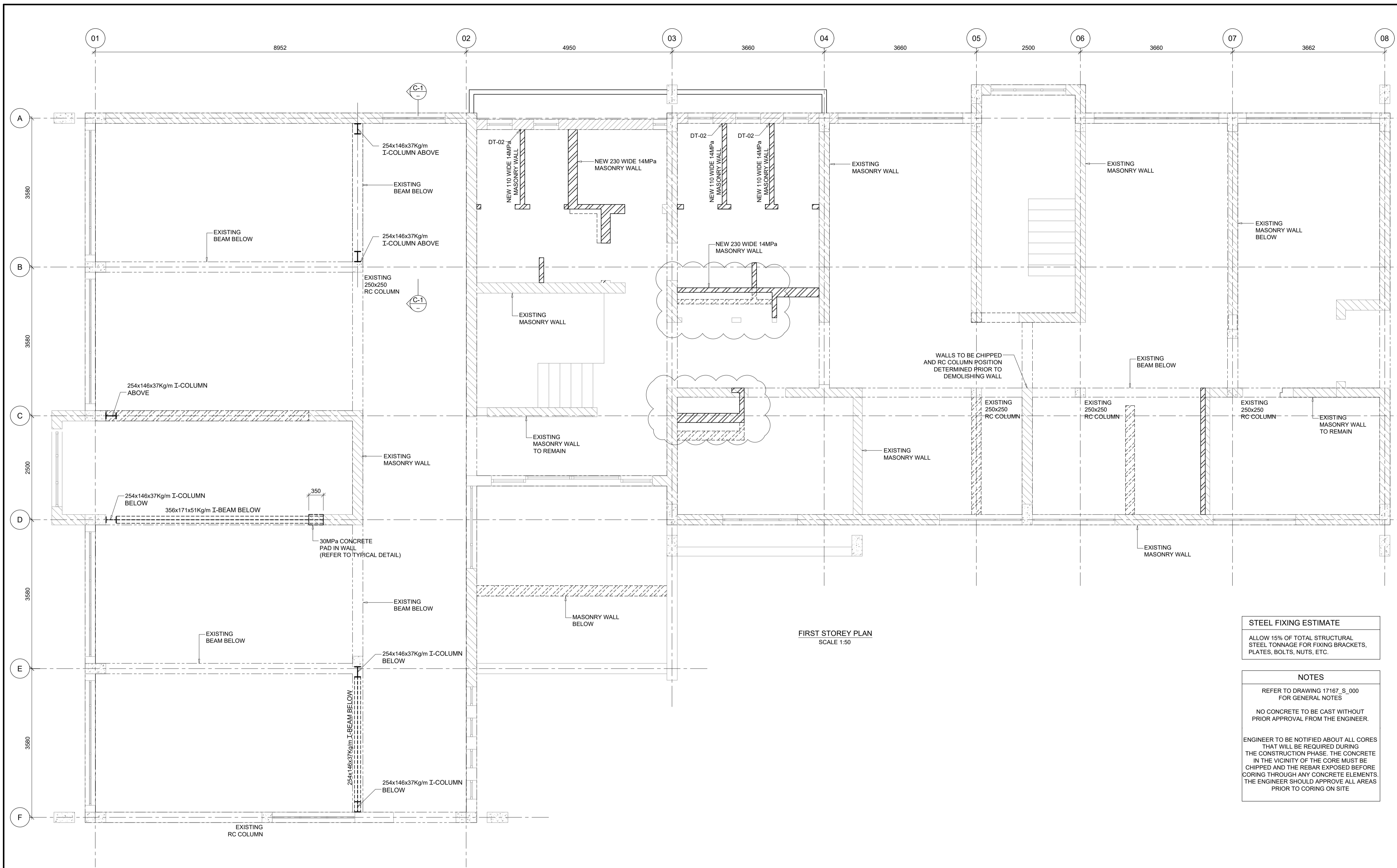
CLIENT:

PROJECT NAME:
REFURBISHMENT & UPGRADE OF BLOCK B FOR THE DIRECTOR OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

DRAWING TITLE:
GROUND STOREY LAYOUT + SECTIONS & DETAILS

CLIENT	SIGNATURE	DATE
RESPONSIBLE PERSON M. STEYN	SIGNATURE - ECSA DETAILS	DATE 2019.05.14

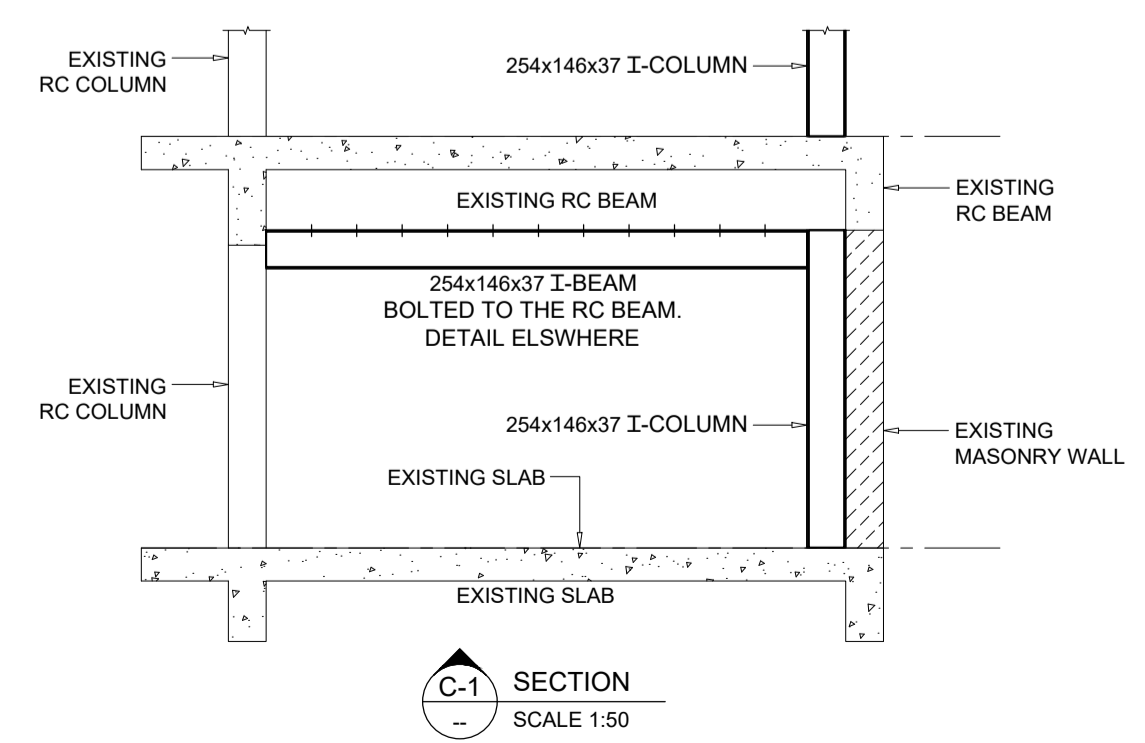
NWE RESPONSIBLE PERSON	DATE	SHEET SIZE
DESIGN M. STEYN	APRIL 2019	A1
DRAWN C. NORTJE	APRIL 2019	SCALE
APPROVED M. STEYN	APRIL 2019	SHOWN
NWE DRAWING NO. 17167_S_002		B



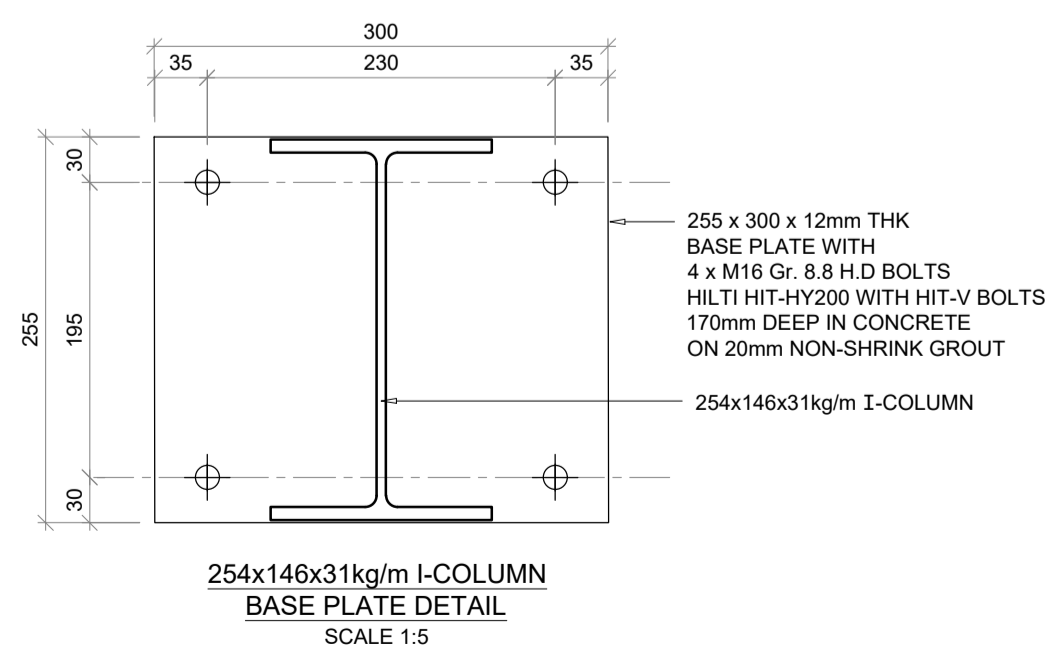
FIRST STOREY PLAN
SCALE 1:50

STEEL FIXING ESTIMATE
ALLOW 15% OF TOTAL STRUCTURAL STEEL TONNAGE FOR FIXING BRACKETS, PLATES, BOLTS, NUTS, ETC.

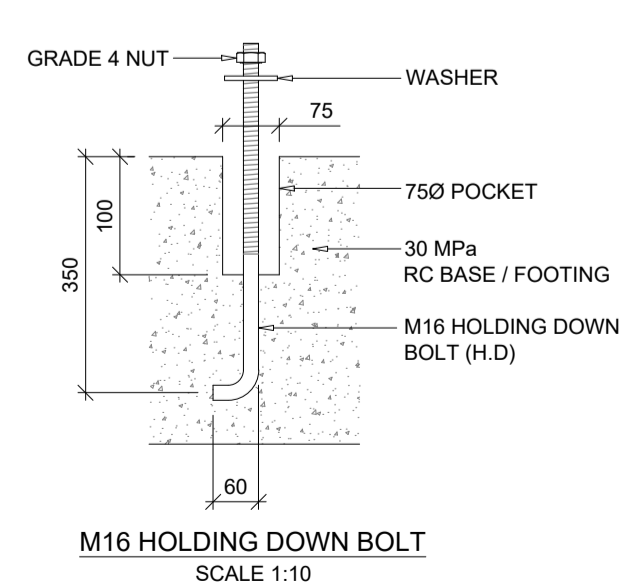
NOTES
REFER TO DRAWING 17167_S_000 FOR GENERAL NOTES
NO CONCRETE TO BE CAST WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
ENGINEER TO BE NOTIFIED ABOUT ALL CORES THAT WILL BE REQUIRED DURING THE CONSTRUCTION PHASE. THE CONCRETE IN THE VICINITY OF THE CORE MUST BE CHIPPED AND THE REBAR EXPOSED BEFORE CORING THROUGH ANY CONCRETE ELEMENTS. THE ENGINEER SHOULD APPROVE ALL AREAS PRIOR TO CORING ON SITE



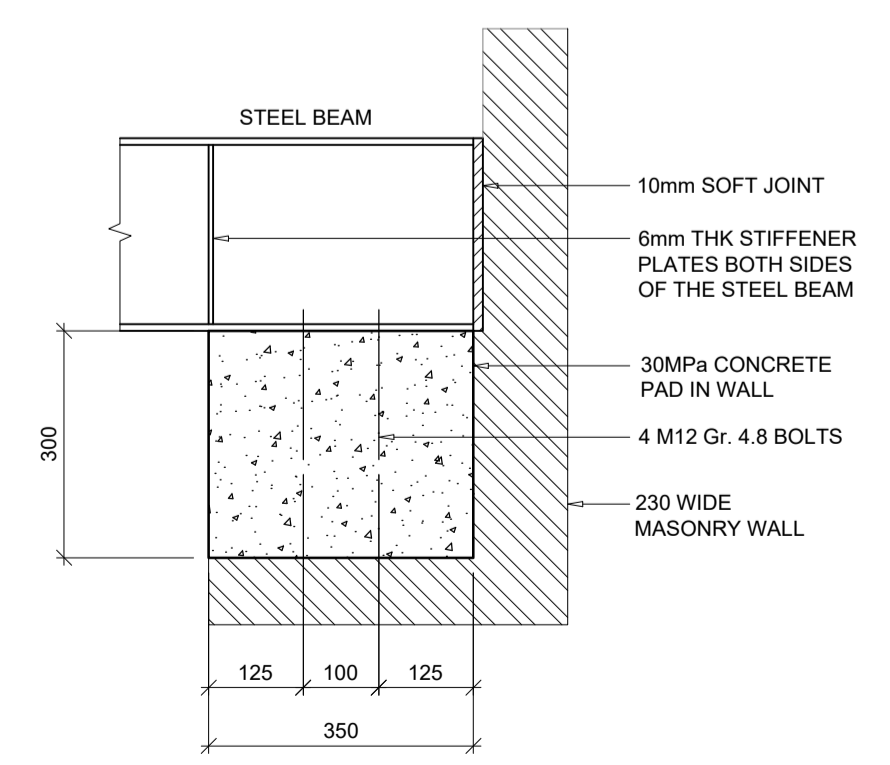
C-1 SECTION
SCALE 1:50



254x146x31kg/m I-COLUMN
BASE PLATE DETAIL
SCALE 1:5



M16 HOLDING DOWN BOLT
SCALE 1:10



TYPICAL DETAIL
OF CONCRETE PAD IN WALL
SCALE 1:10

CONFIRMATION OF DIMENSIONS
ALL DIMENSIONS, LEVELS AND CO-ORDINATES TO BE CHECKED AND CONFIRMED ON SITE WITH THE ENGINEER BEFORE CONSTRUCTION COMMENCES. ONLY WRITTEN DIMENSIONS ARE TO BE USED. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING.

COPYRIGHT RESERVED
THE COPYRIGHT OF THIS PLAN AND DESIGN RESIDES WITH NWE AND MAY NOT BE REPRODUCED, ISSUED OR USED FOR ANY PURPOSE OTHER THAN WHAT IT WAS ORIGINALLY INTENDED FOR.

REV	DESCRIPTION	DATE
B	LAYOUT UPDATED	2019.05.14
A	ISSUED FOR INFORMATION	2019.04.18

ISSUED FOR INFORMATION

INFORMATION

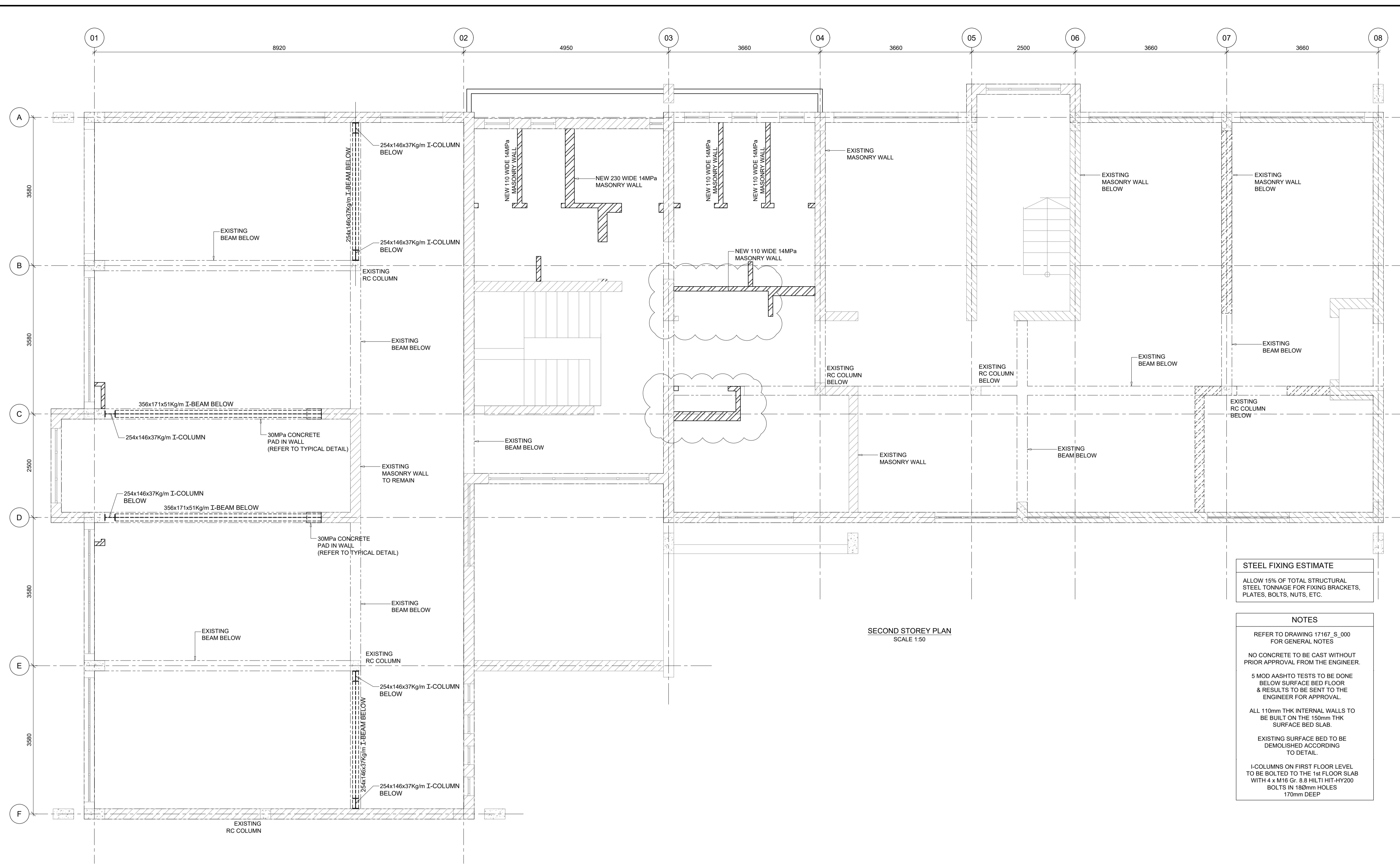
Modena Building Level 6, Bella Rosa, 21D Durbanville Avenue, Bellville, 7530
P.O. Box 5263 Tyger Valley, 7536, South Africa
TEL: (+27) 21 914 2264 FAX: (+27) 21 914 2260
E-mail: admin@nweng.co.za

CLIENT:

PROJECT NAME:
REFURBISHMENT & UPGRADE OF BLOCK B FOR THE DIRECTOR OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

DRAWING TITLE:
FIRST STOREY LAYOUT + SECTIONS & DETAILS

CLIENT	SIGNATURE	DATE
RESPONSIBLE PERSON M. STEYN	SIGNATURE - ECSSA DETAILS 	DATE 2019.05.14
NWE RESPONSIBLE PERSON	DATE	SHEET SIZE A1
DESIGN M. STEYN	APRIL 2019	SCALE SHOWN
DRAWN C. NORTJE	APRIL 2019	REVISION B
APPROVED M. STEYN	APRIL 2019	
NWE DRAWING NO. 17167_S_003		



SECOND STOREY PLAN
SCALE 1:50

STEEL FIXING ESTIMATE
ALLOW 15% OF TOTAL STRUCTURAL STEEL TONNAGE FOR FIXING BRACKETS, PLATES, BOLTS, NUTS, ETC.


NOTES
REFER TO DRAWING 17167_S_000 FOR GENERAL NOTES
NO CONCRETE TO BE CAST WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
5 MOD AASHTO TESTS TO BE DONE BELOW SURFACE BED FLOOR & RESULTS TO BE SENT TO THE ENGINEER FOR APPROVAL.
ALL 110mm THK INTERNAL WALLS TO BE BUILT ON THE 150mm THK SURFACE BED SLAB.
EXISTING SURFACE BED TO BE DEMOLISHED ACCORDING TO DETAIL.
I-COLUMNS ON FIRST FLOOR LEVEL TO BE BOLTED TO THE 1st FLOOR SLAB WITH 4 x M16 Gr. 8.8 HILTI HIT-HY200 BOLTS IN 180mm HOLES 170mm DEEP

CONFIRMATION OF DIMENSIONS
ALL DIMENSIONS, LEVELS AND CO-ORDINATES TO BE CHECKED AND CONFIRMED ON SITE WITH THE ENGINEER BEFORE CONSTRUCTION COMMENCES. ONLY WRITTEN DIMENSIONS ARE TO BE USED. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING.
COPYRIGHT RESERVED
THE COPYRIGHT OF THIS PLAN AND DESIGN RESIDES WITH NWE AND MAY NOT BE REPRODUCED, ISSUED OR USED FOR ANY PURPOSE OTHER THAN WHAT IT WAS ORIGINALLY INTENDED FOR.

REV	DESCRIPTION	DATE
B	LAYOUT UPDATED	2019.05.14
A	ISSUED FOR INFORMATION	2019.04.18

ISSUED FOR

INFORMATION



NWE
CONSULTING ENGINEERS
Modena Building Level 6, Bella Rosa, 21D Durbanville Avenue, Bellville, 7530
P.O. Box 5263 Tyger Valley, 7536, South Africa
TEL. (+27) 21 914 2264 FAX. (+27) 21 914 2260
E-mail: admin@nweng.co.za

CLIENT:



PROJECT NAME:
REFURBISHMENT & UPGRADE OF BLOCK B FOR THE DIRECTOR OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

DRAWING TITLE:
SECOND STOREY LAYOUT + SECTIONS & DETAILS

CLIENT	SIGNATURE	DATE
RESPONSIBLE PERSON M.STEYN	SIGNATURE + ECSA DETAILS  2.019.04.18	DATE 2019.05.14

NWE RESPONSIBLE PERSON	DATE	SHEET SIZE
DESIGN M.STEYN	APRIL 2019	A1
DRAWN C.NORTJE	APRIL 2019	SCALE
APPROVED M.STEYN	APRIL 2019	SHOWN
NWE DRAWING No.	REVISION	
17167_S_004	B	