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Department of
Sport, Arts, Culture and Recreation
FREE STATE PROVINCE

SMITHFIELD MULTI-PURPOSE INDOOR SPORT CENTRE

STRUCTURAL ENGINEERING DRAWINGS

Quantum
BUILT & ENVIRONMENT CONSULTANTS (PTY) LTD

TENDER DOCUMENT

CODES:

DESIGN CODES:
- SANS 10100-1: The structural use of concrete.
- SANS 2001: Standardised specification for Civil Engineering Construction.
- SANS 10160: The General procedures and loadings to be adopted in design of buildings
- SANS 10162: The structural use of steel
- SANS 10400: The application of National Building Regulations

CONSTRUCTION CODES AND NOTES
The contractor shall adhere to the following codes during construction as applicable:
SANS 2001 construction works:
- Part CC1: Concrete Works (Structural)
- Part CC2: Concrete Works (Minor Works)
- Part CC3: Installation of Glazing in Window And Door Frames
- Part CM1: Masonry Walling
- Part CM2: Strip Footings, Pad Footings and Slab-On-The-Ground Foundations for Masonry Walling
- Part CS1: Structural Steelwork
- Part CT1: Structural Timberwork (Flooring)
- Part CT2: Structural Timberwork (Roofing)
- Part EM1: Cement Plaster

SANS 10155 accuracy in buildings (SANS 2001 CC1 Table 11)
Grade II permissible deviation / tolerance shall apply U.N.O.
One copy of each of these codes shall be kept on-site and shall be made available to the engineer on request.

GENERAL
- SANS 10155 accuracy in buildings (SANS 2001 CC1 Table 11)
- Grade II permissible deviation / tolerance shall apply U.N.O.
- One copy of each of these codes shall be kept on-site and shall be made available to the engineer on request.
- All civil works to comply with S.A.N.S. 1200 accuracy level III UNO
- Do not scale any drawings, work to figured dimensions only.
- These drawings must be read as part of the contract documents and all discrepancies must be discussed with the engineer without delay.
- Any discrepancies on the drawings are to be brought to the engineers' attention prior to implementation of any work.
- The engineer should be notified in good time if he is required on site.
- All setting-out dimensions and levels must be checked by the contractor prior to any work commencing on-site.
- Only concrete dimensions are shown on these drawings.
- Refer to the relevant *architect's* drawings for finishing details and masonry work.
- The contractor is to maintain a full set of the latest drawings on site.

STRUCTURAL CONCRETE (SANS 10100 - 1: 2000)

CONCRETE SPECIFICATION:
- Only CEM 1 cement to be used. (SANS 50197-1)
- Maximum extender to be used is 30% for all concrete, except extenders for surface beds must be limited to 20%
- Only fly ash to be used as an extender. No GGBS allowed.
- Maximum water content for walls and slabs = 180 l/m³
- Aggregate to be 19mm stone U.N.O
- Only potable water to be used
- Sand to be well graded, free of clay with a sand equivalent of more than 85% (AASHTO T 176) (SANS 1083)
- Aggregate to consist of rock types that will produce low shrinkage and are not Alkali Reactive
- Design mix to be submitted to BVI for approval before the concrete pour.

Minimum concrete cubes crushing strength after 28 days for: (u.n.o.)

Retaining walls	30 MPa
Structural foundations	25 MPa
Structural columns	30 MPa
Structural walls	30 MPa
Suspended slabs, beams & parapets	30 MPa
Non-structural foundations	20 MPa
Blinding layers	15 MPa
Surface beds (with max. 20% extender)	30 MPa
Mass concrete (non-structural fill)	10 MPa
Mass concrete (structural fill below found.)	25 MPa
Bond-dek or bond-tek slabs	30 MPa
Shear walls and lift shafts	35 MPa
Solicrete	80 kg/m³
Water retaining concrete (water tank)	35 MPa

PLACEMENT AND POURING (SANS 2001 CC1 4.7.9 – 4.7.10)
No concrete pouring allowed without obtaining the written consent of the consulting engineer.
No concrete must be poured in rainy conditions or after 16h00 without approval.
Do not pour concrete after a delay of 60 minutes if mixing water has been added. (SANS 2001 CC1 4.7.10.3)
Concrete must not be mixed or poured in temperatures under 2 degrees Celsius on a rising thermometer or under 5 degrees Celsius on a falling thermometer. Thereafter concrete must be kept at a minimum of 10 degrees Celsius and a maximum of 26 degrees Celsius for at least 72 hours. (SANS 2001 CC1 4.7.14)
When concrete is poured against existing concrete, existing concrete must be watered and coated with cement paste (SANS 2001 CC1 Table 7)
Concrete shall not be allowed to fall freely through a height of more than 3 m. (SANS 2001 CC1 4.7.10.6)

CURING (SANS 2001 CC1 4.7.13):
All green concrete must be effectively covered and watered for a minimum period of 10 days (e.g. Hessian for walls and columns and 25mm sand for floor plus water).
The use of a curing compound is also allowed. Curing method of concrete to be agreed with the engineer.

PRESTRESSING:
The support and laying of prestressed material must be in accordance with the supplier's requirements.

FINISHES (SANS 2001 CC1 Table 1):
Concrete surfaces to be power float finished (U.N.O) to be confirmed with architects' drawings.
All exposed concrete edges to have 25x25mm *chamfer* (U.N.O).

OFF-SHUTTER (Special off-form):
- Formwork quality shall be special: smooth and fair in accordance with SANS 2001 CC1 Table 1.
- Designated joints shall be in the position and of the details shown on the working drawings. Should the contractor wish to incorporate further construction joints or amend the position of those shown to suit his own requirements or technique, this may be allowed provided that all design considerations are met, that the prior approval of the engineer is obtained and that any extra costs are borne by the contractor.
- Special care shall be taken to ensure that forms are clean and free of all pieces of tying wire, nails and other debris at the time of concreting. The standard of finish shall be such that upon removal of the formwork, no further treatment, other than treatment of bolt holes if required, shall be found necessary to provide a straight, smooth and uniform finish of good quality and consistent colour and texture, free of all honeycombing etc. Any defect shall be made good by either removing and replacing the defective concrete or, in certain instances only, by patching.

Removal of formwork as per SANS 2001 CC1 Table 2

REMEDIALS:
- No "honey-combing" in concrete should be rectified without inspection and consent of the engineer. Do not cover with plaster or other finishes to hide the defect. All Honey Combing must be chipped open for visual inspection by engineer before repair remedial can be provided.
- Crack repairs to be confirmed by engineer before repairs commence.

CONCRETE COVER ON MAIN REINFORCING: (U.N.O.)
(To be confirmed with Durability class, see SANS 2001 CC1 Table 3)

Slabs all round	30mm
Beams all round	30mm
Foundation bottom, no blinding	75mm
Foundation sides and top	50mm
Columns	30mm
Ret. Walls - inside face	30mm
Ret. Walls - outside face	40mm
RC walls	30mm

CONCRETE SLABS
In slabs with main reinforcement in two directions, the steel spanning the shorter distance must be laid first (u.n.o). Reinforcement in top of slabs must be supported by stools at 1/m² (minimum).

BACKPROPPING
When suspended floor slabs are poured in a multi-storey building, the following guidelines apply with regard to the propping of the supporting floor slabs:
- If slabs are poured less than 10 days apart
  - Wet concrete and construction joint of the slab to be poured must be supported with 100% propping on at least 3 former slabs,
- If slabs are poured more than 10 days apart:
  - 50% props under the first slab
  - 25% props under the second slab
  - 0% props under the third slab.
- The position of the props on top and bottom of slab must correspond.
- Not withstanding the above-mentioned, no shuttering may be stripped without the consent of the consulting engineer. Stripping procedures should be agreed with consulting engineer.
- Props to remain in place for 21 days or as otherwise directed by the engineer.

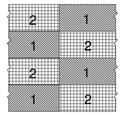
UPWARD CAMBER:
Beams and slabs to be poured with an upward camber as follows:

Cantilever beams & cantilever slabs	Span / 150
Other beams & slabs	Span / 500

Beam dimensions:
- Width x depth UP/DOWN -STAND. The slab thickness is excluded in the beam depth (U.N.O). i.e 230x510 DP RC UP-STAND BEAM
- Width x depth. The slab thickness is included in the beam depth (U.N.O). i.e 230x510 DP RC BEAM

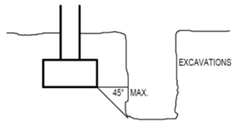
COMPACTION
- In-situ material (cut to fill) compacted in layers of 150mm TO 95% MOD. AASHTO (U.N.O).
- Final 150mm layers to be compacted to 98% MOD. AASHTO (U.N.O).
- If topsoil is collapsible sand then top soil to be removed to a depth of 300mm and replaced with an approved material.
- Soil to be compacted in 150mm LAYERS to a density of 95% MOD. AASHTO (U.N.O).
- Refer to drawings to confirm if above is adapted for specific site conditions

SURFACE BED
- All surface beds to be constructed on 250 micron polyethene sheeting.
- Surface beds to be cast in panels not exceeding 13x13m with saw cut and isolation joints as indicated on drawings. A proper construction joint must be formed. Saw cut joints to be cut within 24 hours after pouring of concrete.
- Alternatively; Surface beds to be cast in a block pattern, of no more than 5x5m. Alternative casting to be approved by the consulting engineer.



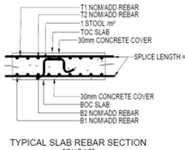
TYPICAL PANEL CAST SEQUENCE

FOUNDATIONS:
- The final dimension for the foundations are reserved until the excavations are approved.
- The excavation for foundations must be kept dry and compacted where necessary (U.N.O).
- All concrete work to be founded on in-situ soil or fill as specified on the construction drawing.
- When excavating for drainage pits etc, the contractor must take care that the bottom of such excavation does not undermine adjacent footings. See figure below:

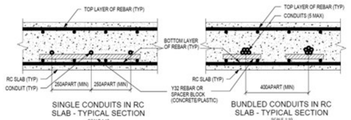


REINFORCEMENT
- All bending dimensions for reinforcement are overall, unless shown otherwise on the schedules.
- Reinforcing steel to SANS 920-1969 as amended.
- When pouring concrete: reinforcement to be maintained in position and at specified depth by means of approved spacers to ensure correct concrete cover.
- Measures should be taken to protect reinforcement from rust. All rust must be removed. Excessively corroded rebar may be rejected by the consulting engineer. All rebar to be clean from shutter oil / rust / dirt or any contaminants.
- Where main reinforcement in beams is laid in two or more layers (in same direction) spacer bars must be provided at 1000mm centre-to-centre to support the upper layers.
- The engineer shall be informed 72 hours in advance when an inspection on the reinforcement fixing is required.
- All reinforcement is to be inspected by the responsible engineer prior to casting of any concrete.
- Bars to be bundled and tagged with bar no., drg no. and member no. before delivery to site.
- SANAS certificate to be provided to confirm reinforcement compliance (SANS 2001 CC1 4.2.5.3)

SERVICES
No supply or waste pipes may enter the concrete construction without the consent of the consulting engineer. And no rebar may be cut to make space for ducts and cables (services)



TYPICAL SLAB REBAR SECTION
SCALE 1:20



SINGLE CONDUITS IN RC SLAB - TYPICAL SECTION
SCALE 1:10

BUNDLED CONDUITS IN RC SLAB - TYPICAL SECTION
SCALE 1:10

ALLOWABLE CONDUIT PLACING IN RC SLAB

WATERPROOFING
- Waterproofing to be designed and installed by a manufacturer's approved applicator.
- All pipes must be cast in-situ unless approved by the structural engineer.
- 250 micron DPM waterproofing required beneath foundations
- 250 micron DPC waterproofing required brickwall at NGL
- Drainage around perimeter of buildings and water to drain away from building with the use of aprons.
- Edge drip detail at the soffit of all exposed RC slabs.

CONCRETE TESTING (SANS 2001 CC1 5:
- Concrete SANS 2001-CC1- 5.1.3.2 Unless otherwise specified in the specification data, at least one set of samples of concrete shall be taken from each day's casting and from at least every 50 m³ of concrete of each grade placed.
- Concrete cubes must comply with the SANS code (see C&CI publication on "how to make 150mm test cubes"). SANS 5861-3.
- Slump Testing: SANS 5862-1.
- Slump: Max 80mm for vibrated and max 120mm for pumped concrete. (SANS 2001 CC1 Table 4 and 4.7.3)
- MOD AASHTO tests on earthworks per layer: every 30m or 3 sets per individual structure
- Soil classification test: 1 per 1000m³ imported soil
- Compliance as per SANS 2001 CC1 5

NOTE:
- Further construction procedures must comply with SANS codes for reinforced and plain concrete.
- Equivalent products from the specified can be used if approved by engineer beforehand.

PERMISSIBLE DEVIATION ACCEPTANCE CRITERIA ON CONCRETE SLABS
In general, tolerances for structural elements to comply with SANS 1200G (Concrete Structural) Clause 6 or SANS 2001 CC1 Table 11.

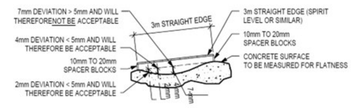
Floor tolerances to fulfil two criteria, flatness and deviation from a prescribed level.

FLATNESS:
- A) Any deviation from flatness of a plane surface will be measured as the maximum deviation of the surface from any straight line of length 3m joining two points on the surface, determined by means of a straight-edge, the ends of which are supported on identical blocks of suitable thickness placed over each of the points. (See sketch 1 and 2).

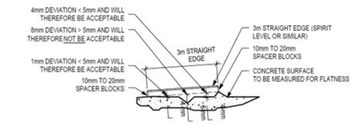
- B) Any abrupt change in a continuous surface, including a local depression or peak in a floor or wall and any abrupt change caused by a joint in framework will be measured as specified in (a) above. (see sketch 3).

The maximum deviation from flatness as measured in (A) and (B) above shall be 5mm.

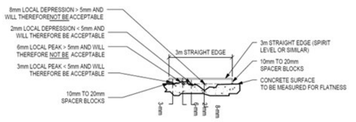
DEVIATION FROM A PRESCRIBED LEVEL (SEE SKETCH 4):
- The permissible deviation from a prescribed design level on the upper or lower surface unless otherwise specified is +5 /-15mm PLUS the expected elastic and long-term deflection calculated by the engineer i.e. SPAN/300 (≥25mm at midspan for a 7500mm or SPAN/300 for terminal deflection of cantilevers.
- Quality assurance investigation shall be carried out after removal of shuttering, but before removal of props.
- Props to remain in place for 21 days or as otherwise directed by the engineer.
- There shall be no limitation as to the number of readings.
- No deviation from the specification shall be accepted i.e. remedial works will be necessary in non-compliant areas



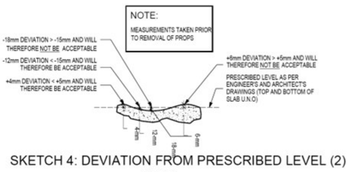
SKETCH 1: DEVIATION FROM FLATNESS (1.a)
SCALE N.T.S.



(STRAIGHT EDGE PLACED ONTO A LOCAL PEAK)
SKETCH 2: DEVIATION FROM FLATNESS (1.a)
SCALE N.T.S.



SKETCH 3: DEVIATION FROM FLATNESS (1.b)
SCALE N.T.S.



SKETCH 4: DEVIATION FROM PRESCRIBED LEVEL (2)
SCALE N.T.S.

STRUCTURAL STEEL

The quality of work and materials must comply with SANS 10162 "the structural use of steel", SANS 1200H "standardized specifications for civil engineering construction chapter 4 - structural steelwork" and SANS 2001 CS1.

CONSTRUCTION / MANUFACTURING / ERECTION:
- Steel structures are to be strictly in accordance with SANS 2001.CS1
- Steel grade S355JR U.N.O. and the mark must be clearly visible
- The contractor must submit detailed workshop drawings to the engineer for review prior to manufacture
- Only sizes of structural members, connections and splices will be checked
- Final dimensions and the correct fitting of members shall remain the responsibility of the contractor,
- All dimensions are to be confirmed on site prior to manufacturing of elements.
- The position of holding down bolts is to be verified on-site.
- All sliding plates must be supplied with graphite grease.
- Permissible deviations as per SANS 2001 CC1 Table 3

FASTENERS:
- All fasteners to be class 8.8 bolts with class 8 lock nuts (u.n.o.). (SANS 1700-5-1)
- Only 2mm oversize bolt holes are permitted
- Minimum bolt size to be M12 (u.n.o.).

WELDING:
- Welding must be of high quality with minimum defects
- No notches or cracks shall be accepted
- The full penetration groove welds shall have contoured fillet reinforcing to provide a smooth flow of stresses.
- All welds to be continuous and not intermittent welds shall be allowed
- Intersecting welds running in various directions at any point must be prevented by cutting selected plates so as to remain clear of the intersection
- Welding must comply with SANS 10044. If gusset plates are used, members must be welded around full circumference of contact area. If not specified, welds must be 6mm fillet welds with 4.2mm throat thickness.
- Welding machines must be of sufficient capacity to ensure full penetration - 150 amps is regarded the minimum.
- All welds to be E70 XX electrodes with min weld strength of 480 MPa (SANS 2001 CS1 Table2)
- Welders certificate must be qualified as per ANSI/AWS D1.1/D1.1M (SANS 2001 CC1 5.2)
- MINIMUM WELD SIZES:

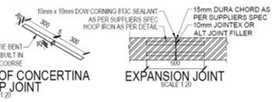
THICKNESS OF THICKER PART (mm)	MIN FILLET WELD
UP TO 12mm	6mm
OVER 12mm TO 20mm	8mm
OVER 20mm TO 40mm	8mm

The structural steel contractor must provide for the following in his tender price:
- Temporary bracing and struts, if necessary to improve ease of erection and positioning of any steel members.
- Testing of at least 5 welds if required by the engineer via X-Ray, Magnetic Particle Inspection or dye penetrant inspection. (SANS 2001 CC1 5.3.4)
- Workshop drawings (SANS 1200H 5.1.2 refers).

CORROSION PROTECTION:
- All structural steel must be painted directly after manufacture, in accordance with contract specifications.
- Damage to paintwork must be touched-up after completion of structural steelwork.
- Corrosion protection to all external steel elements for environmental class C3 industrial for 5-year maintenance period in accordance with ISO 12944 part 2 U.N.O TBC with engineer
- If manufactured structural steelwork has to be stored, measures should be taken to avoid rusting. No rusted steel may be erected.

Bolt anchoring and grout:
- If grout is specified, use PRO-STRUCT 531MCI five star grout (u.n.o).
- If an epoxy grout is specified, use PRO-STRUCT 510 epoxy grout (u.n.o).
- If an epoxy is specified, use PRO-STRUCT 617 general epoxy adhesive (u.n.o).
- If a chemical anchor is specified, use HILTI HVU with grade 8.8 has rods (u.n.o).
- Use PRO-STRUCT 617 general-purpose epoxy adhesive for fixing of dowel bars.

Dowel bars: holes drilled for dowels to be 1.25 to 1.5 x dowel bar diameter (u.n.o):
- Y10 DOWELS = ø14mm HOLE
- Y12 DOWELS = ø18mm HOLE.
- Y16 DOWELS = ø24mm HOLE.
- Y20 DOWELS = ø30mm HOLE.
- Y25 DOWELS = ø36mm HOLE.
- Y32 DOWELS = ø44mm HOLE.



ISO VIEW OF CONCERTINA TIE TO EXP. JOINT
SCALE 1:20

EXPANSION JOINT
SCALE 1:20

BRICKWORK (SANS 10164 -1)

All load-bearing brickwork to be in accordance with SANS 10164 and installed as per SANS 10400-K.
- Loadbearing walls to be a minimum 220mm wide with a minimum compressive strength of the masonry units to be 14 MPa, with class II Mortar.
  - 375µm DPM on the troweled mortar between all RC slabs and masonry.
  - Openings in load-bearing walls to be spanned by prestressed lintels supplied by contractor with min support of 300mm on load-bearing walls. Max 2.4m span for precast lintels with minimum coarse height of 425mm.
  - All non-load-bearing brickwork to receive jointex or softboard between slab soffit and top of walls.
  - Plaster joint between slabs/coils & brickwork to be cut through the plaster to create a clear movement joint.
  - Jointex/softboard to be installed between RC coils & brickwork.
  - No brickwork to continue over structural expansion joints.
  - Seismic requirement: all brickwork shall be tied to concrete with galvanised hoop iron ties every 4th course

Cavity Walls:
- To be filled with mass concrete below surface bed level, and typ. 600mm below RC slabs/beams and roof wall plate.
- Must have 3.15mm thick galvanised butterfly wall ties spaced at 400mm vertically, 600mm horizontal (± 3 ties / m²) and staggered with min. Overlap of 50mm on mortar.
- Weepholes installed in the external cavity wall above DPC to prevent moisture build-up spaced at max. 1m c/c UNO.
- Around openings must have 3.15mm thick galvanised butterfly wall ties spaced at 300mm vertically, 400mm horizontally, and not morethan 225mm from the edge of the opening.
- Wall cavities to be kept clean and free from mortar debris or other construction waste. Cavities to be covered to block and prevent waste infill during construction.

2mm brickforce to be placed in brick walls every:
- Brick course in foundation walls.
- Brick course in internal walls for the first 3 brick courses, then
- Every fifth brick course.
- Third brick course for external brick courses.
- Brick course for the last 4 brick courses below roof level.
- Brick course for 5 courses below all windows & 5 courses above all Windows & doors - to extend 800mm on both sides of openings.

Vertical Control- / expansion joints to comply with sans 10400-K:
- Max 7.5m c/c for walls (u.n.o) or
- As specified by SANS 10400-K:2011 ed 3 Table 19

Wall stiffeners / lateral support to comply with SANS 10400-K:
- Generally 5m c/c for 230mm walls (u.n.o) above 3.3m in height tbc
- Generally 3m c/c for 110mm walls (u.n.o) above 3.3m in height tbc

Horizontal movement joint:
- To be every floor level, max 3.3m (seating angle).

Engineers to be consulted with regards to additional brickwork requirements.

DOCUMENTATION TO BE ISSUED TO THE ENGINEER
- Geotechnical report
- Site survey
- Fill material test results
- Compaction test results
- Soil poisoning certificate
- Concrete mix designs
- 150x150x150mm cube test results
- SANAS certificate to be provided to confirm reinforcement compliance
- Workshop drawings (SANS 1200H 5.1.2 refers).
- Paint specification
- ITC certified roof sign off for timber / LFS roofs
- Roof sheeting material guarantee
- Roof sheeting installation guarantee
- Waterproofing 10 year material guarantee
- Waterproofing 10 year installation

ABBREVIATIONS:

U.N.O	= UNLESS NOTED OTHERWISE
U.S.O	= UNLESS STATED OTHERWISE
RET.	= RETAINING (EXAMPLE: RETAINING WALLS)
EXP.	= EXPANSION (EXAMPLE: EXPANSION BOLTS)
S/BED	= SURFACE BED
RC	= REINFORCED CONCRETE
COL	= COLUMN
BM	= BEAM
T.O.C.	= TOP OF CONCRETE
B.O.C.	= BOTTOM OF CONCRETE
S.S.L.	= STRUCTURAL SLAB LEVEL
F.F.L.	= FINISHED FLOOR LEVEL
F.L.	= FINISHED / FINAL LEVEL
I.L.	= INVERT LEVEL
R.E.	= RODDING EYE
C.E.	= CLEANING EYE
I.E.	= INSPECTION EYE
RWDP.	= RAIN WATER DOWN PIPE
THK	= THICK
PL OR PLT	= PLATE
L	= ANGLE IRON
UB	= UNIVERSAL BEAM (I-SECTION)
UC	= UNIVERSAL COLUMN (H-SECTION)
CFLC	= COLD-FORMED LIPPED CHANNEL
PFC	= PARALLEL FLANGE CHANNEL
TFC	= TAPERED FLANGE CHANNEL
RHS	= RECTANGULAR HOLLOW SECTION
CHS	= CIRCULAR HOLLOW SECTION
SHS	= SQUARE HOLLOW SECTION

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-01-26	A0	0

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT

/A : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVI
/E : BY OTHER ( )

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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bvi ENGINEERING PROCUREMENT MANAGEMENT
Central Office
Registration No. 1998/004150/07
ISO 14001 EMS 0001
BBBEE Level 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

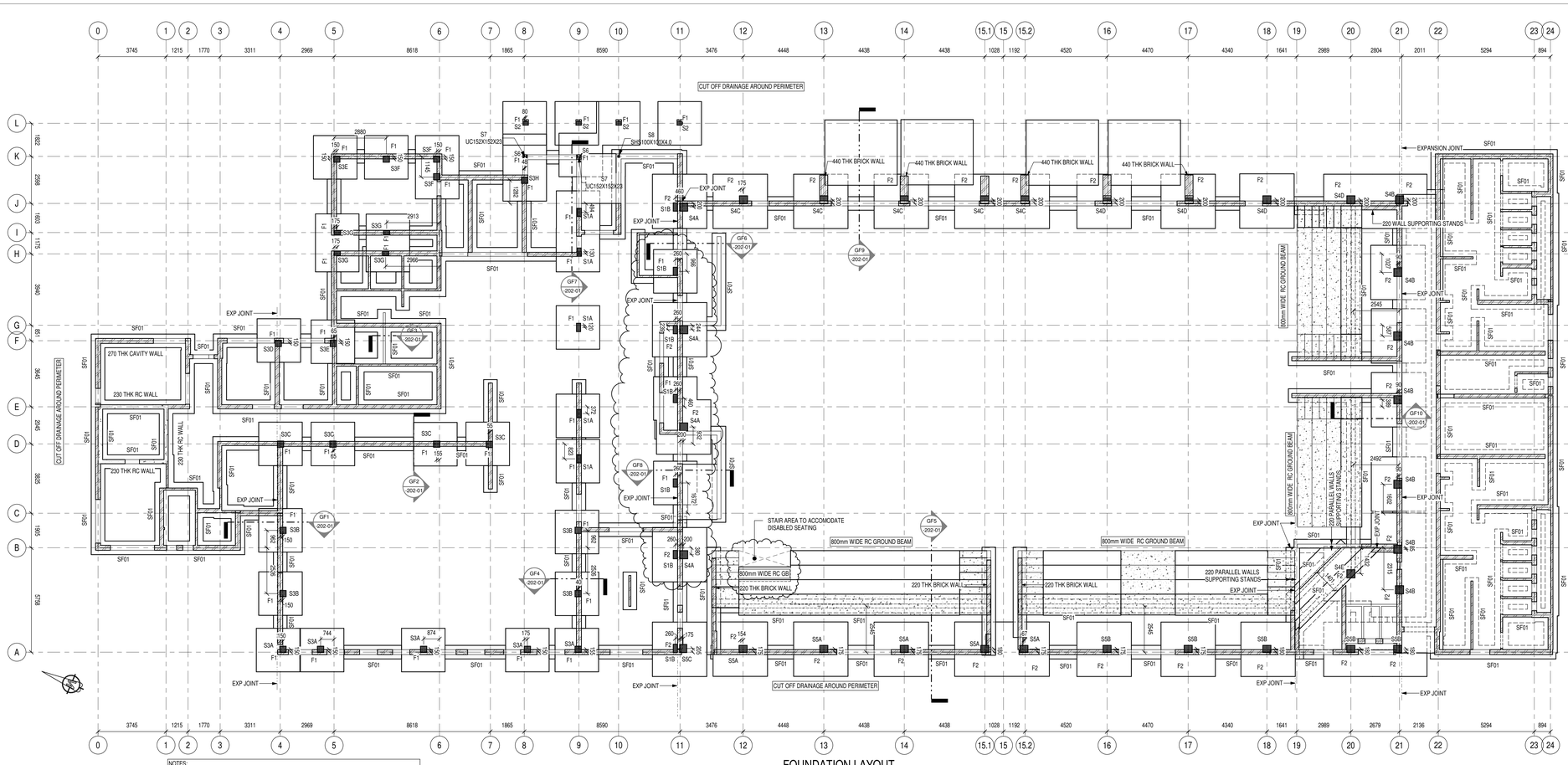
STANDARD SPECIFICATIONS

APPROVED BY BVI

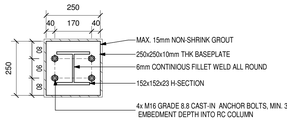
JJ HAEFELE | 20190844 | 2024-01-26
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1 : 1	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -200-G01	0	2024-01-26



FOUNDATION LAYOUT
1 : 100



152x152 H-SECTION BASEPLATE DETAIL
SCALE 1:10

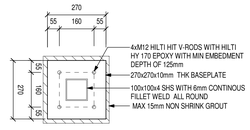
NOTES:

EARTHWORKS:
-REMOVE THE UNSUITABLE HORIZON 1m BEYOND THE PERIMETER OF THE STRUCTURE AND EXCAVATE TO ROCK DEPTH,AND REPLACE WITH BACKFILL (G6/G5) WITH LAYERS OF NOT MORETHAN 150mm COMPACTED TO 95% MOD AASHTO.
-FOUNDATION EXCAVATIONS TO DEEP WEATHERED BEDROCK AND FOUNDATION LEVELS WILL BE GUIDED BY NATURAL GROUND LEVELS (WEATHERED ROCK DEPTH APPROXIMATED AT 1m).

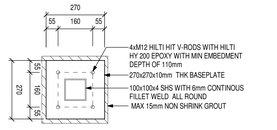
SURFACE BEDS:
- ALL SURFACE BEDS TO BE CONSTRUCTED ON 250 MICRON POLYETHYLENE SHEETING.
-SOIL POISONING AS PER SANS.
- REINFORCING MESH TO BE PLACED 30mm FROM TOP AND BOTTOM.
-SURFACE BED JOINTS TO BE SAWED WITHIN THE FIRST 6-18 HOURS AFTER CONCRETE PLACING.

WALLS:
-ALL WALL TYPES, LEVELS, SETTING OUT, AND POSITIONS AS PER ARCHITECT LAYOUT.
-REFER TO GENERA WALL NOTES ON STANDARD SPECIFICATIONS DRAWING FOR WALL DETAILS.

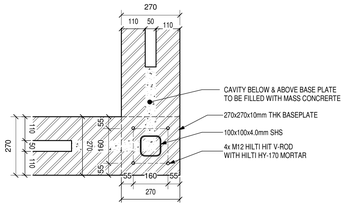
DRAINAGE:
-V-DRAIN CHANNEL ALL ROUND THE PERIMETER OF ALL FACILITIES FOR STORM-WATER CONTROL



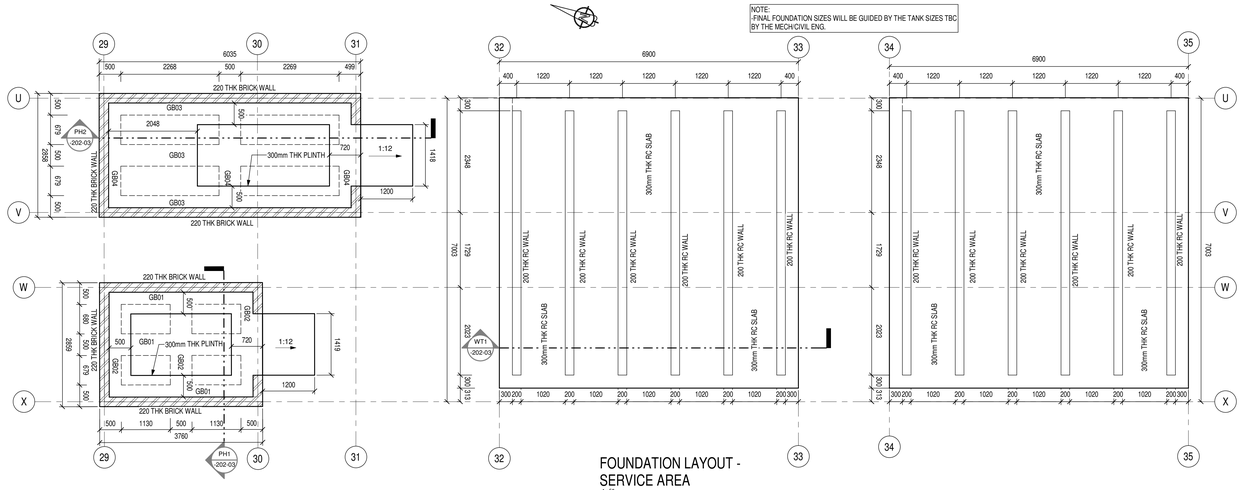
SHS BASEPLATE DETAIL-MASONRY
SCALE 1:10



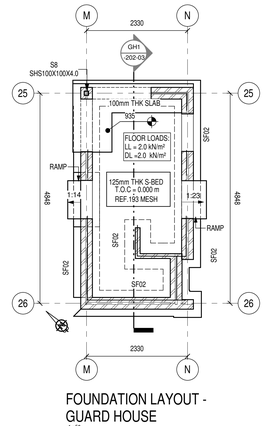
SHS BASEPLATE DETAIL-CONCRETE
SCALE 1:10



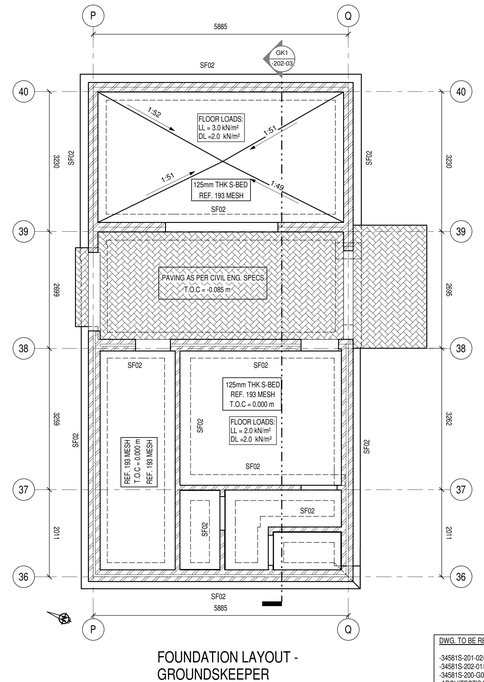
270 CAVITY WALL -SHS BASEPLATE DETAIL



FOUNDATION LAYOUT - SERVICE AREA
1 : 50



FOUNDATION LAYOUT - GUARD HOUSE
1 : 50



FOUNDATION LAYOUT - GROUNDSKEEPER
1 : 50

DWG. TO BE READ IN CONJUNCTION WITH:
-34581S-201-02/3/04
-34581S-202-01/02/03
-34581S-200-G01
-ARCHITECT'S DRAWINGS

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL II.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE:
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS.
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

STRIP FOOTING SIZES

SF01 - 750x250mm STRIP FOOTING
SF02 - 600x250mm STRIP FOOTING

PAD FOOTING SIZES:

F1: 2.4x2.4x0.60m
F2: 3.0x3.0x0.60m

COLUMN SIZE
CONCRETE:
S1 - 230x460mm
S2 - 300x200mm
S3 - 350x350mm
S4 - 450x450mm
S5 - 450x400mm
S6 - 250x250mm
STEEL:
S7-152x152x23mm
S8-100x100x4.0mm

COLUMN LEVELS & TAGS:	
S1A	-T.O.C=-7395
S1B	-T.O.C=-3400
S2	-T.O.C=-3145
S3A	-T.O.C=-5950
S3B	-T.O.C=-6885
S3C	-T.O.C=-7565
S3D	-T.O.C=-3570
S3E	-T.O.C=-5015
S3F	-T.O.C=-5885
S3G	-T.O.C=-5440
S3H	-T.O.C=-6545
S4A	-T.O.C=-9115
S4B	-T.O.C=-7230
S4C	-T.O.C=-7170
S4D	-T.O.C=-6120
S4E	-T.O.C=-4820
S5A	-T.O.C=-6420
S5B	-T.O.C=-5310
S5C	-T.O.C=-5413
S6	-T.O.C=-1020

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	2

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CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

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0,1,2.../ : AFTER TENDER
Z / : AS BUILT

/A : BY CLIENT
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/C : BY MECHANICAL OR ELECTRICAL
/D : BY BV.
/E : BY OTHER ( )

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DATE:	INITIAL:	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)
2024-05-20	JTM	2	ADDITIONAL DETAILS (SEE REVISION CLOUDS)

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Registration No. 1998/009180/07
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BBBEE Level 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

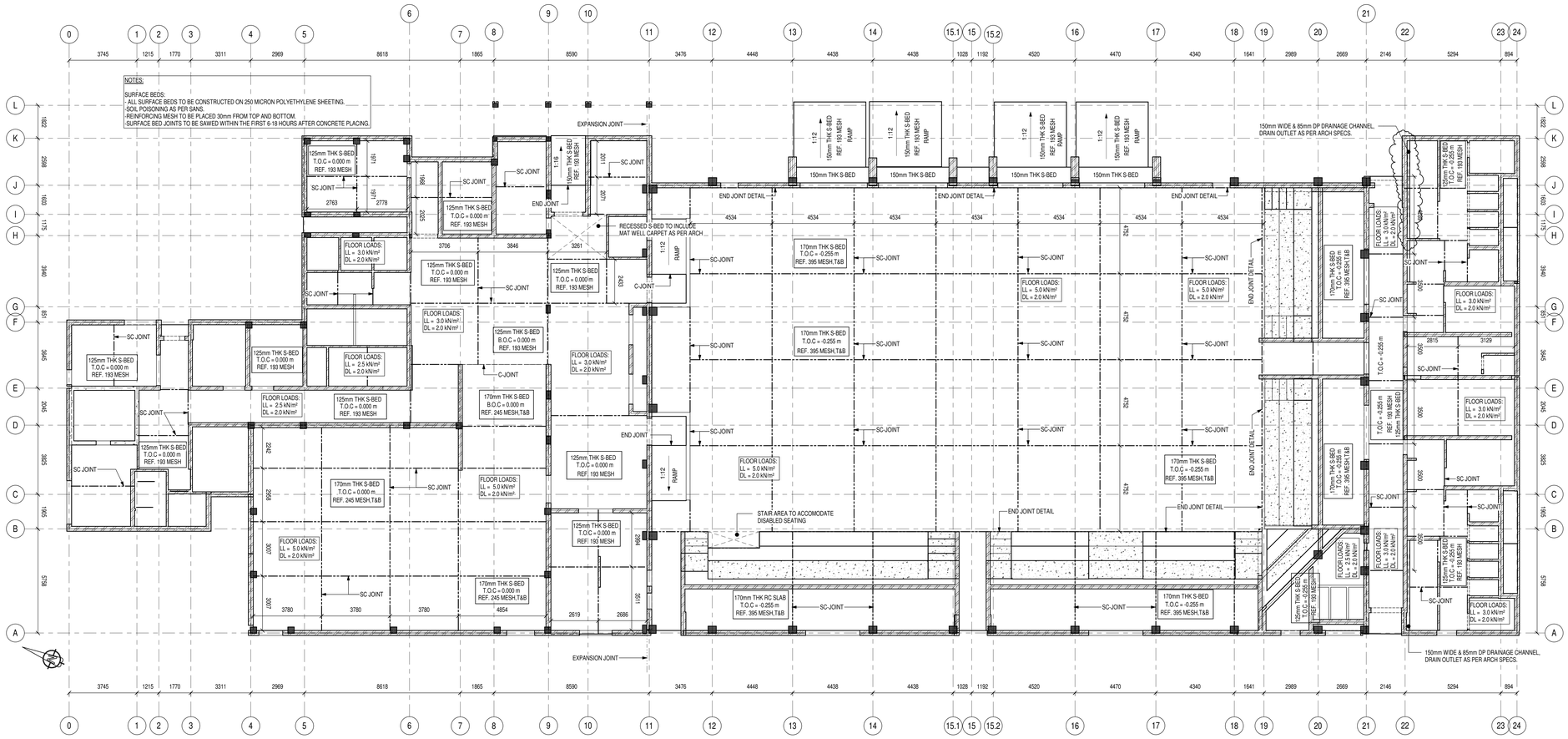
FOUNDATION LAYOUT

APPROVED BY BVi

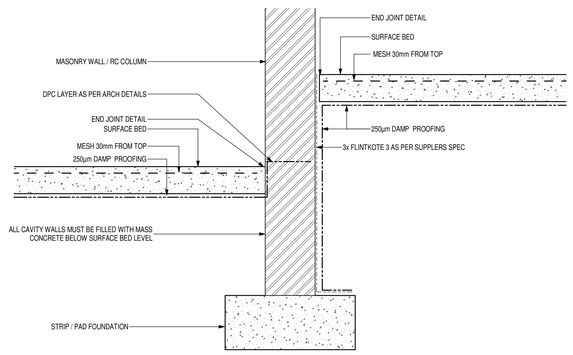
JJ HAEFELE | 20190844 | 2024-05-20
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE:	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

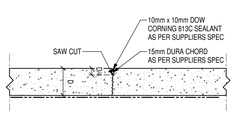
PLAN NUMBER		REVISION NO.	DATE SAVED
34581S	-201-01	2	2024-05-20



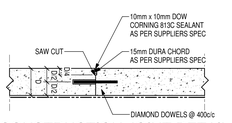
SURFACE BED LAYOUT
1 : 100



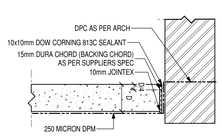
TYPICAL SURFACE BED STEP DETAIL
SCALE 1:10



SAW CUT DETAIL
SCALE 1:10



CONSTRUCTION JOINT DETAIL
SCALE 1:10



END JOINT DETAIL
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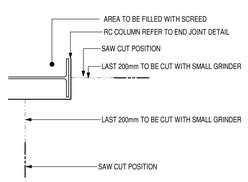
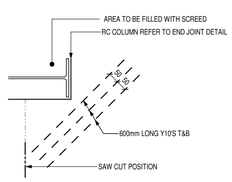


SAW CUT DETAILS
SCALE 1:10



TYPICAL ANTI CRACK REBAR 'X'
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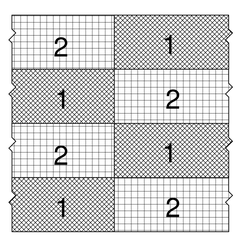

TYPICAL PANEL CAST SEQUENCE

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 5
2. DO NOT SCALE ANY DRAWINGS. WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE

NOTE:
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE TO THIS CONSTRUCTION WORKS:
- SANS 10400 : GENERAL WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART DP1: DAMP PROOFING
SANS 10155 ACCURACY IN BUILDING
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

GENERAL

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- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2025-07-29	A0	3

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CITY ENGINEER / CLIENT | REG. NO. | DATE

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)
2024-05-20	JTM	2	ADDITIONAL DETAILS (SEE REVISION CLOUDS)
2024-07-29	JTM	3	ADDED SAW-CUT JOINTS

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Central Office
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DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

SURFACE BED LAYOUT

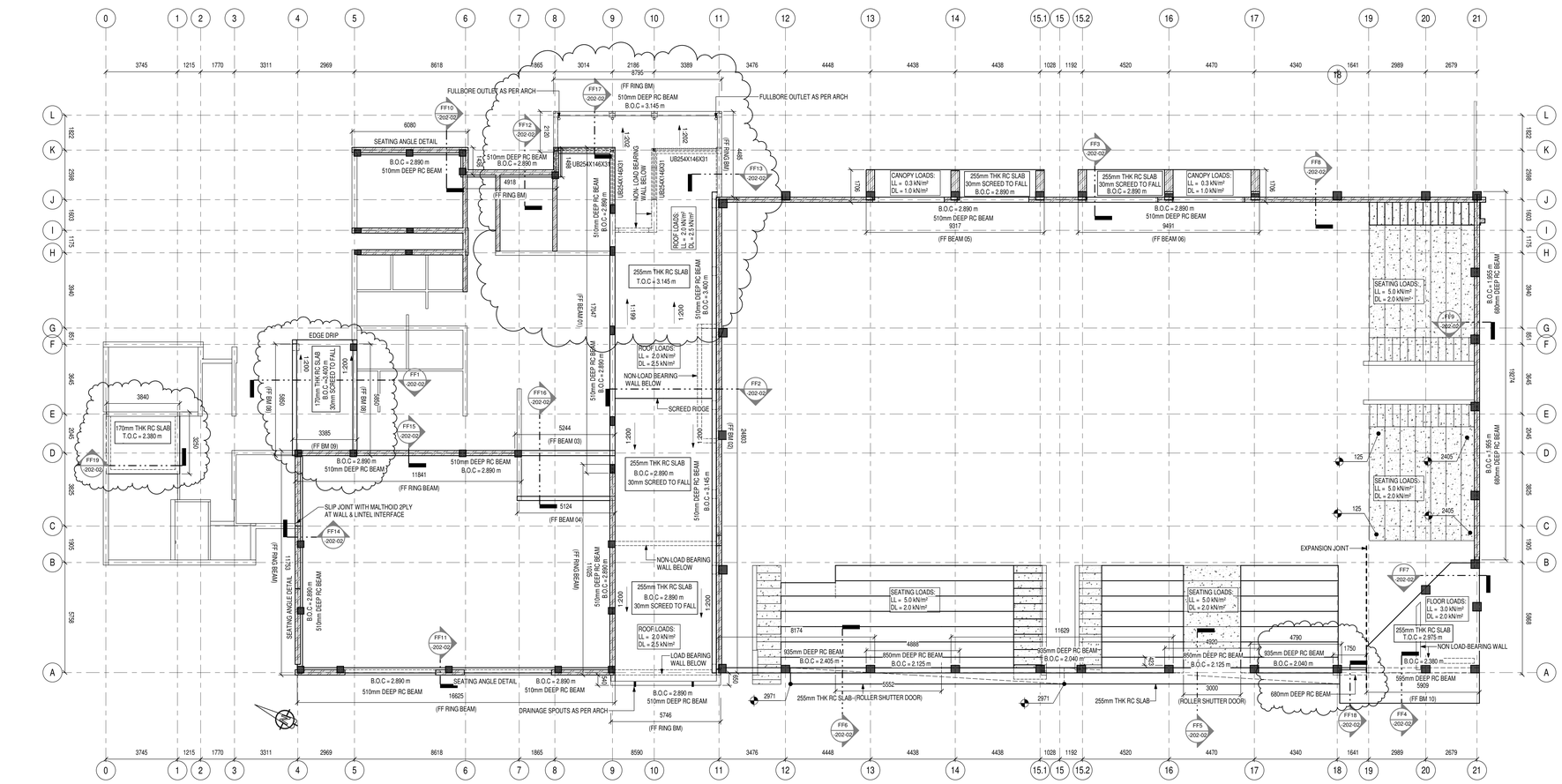
APPROVED BY BVI

JJ HAEFELE | 20190844 | 2025-07-29
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

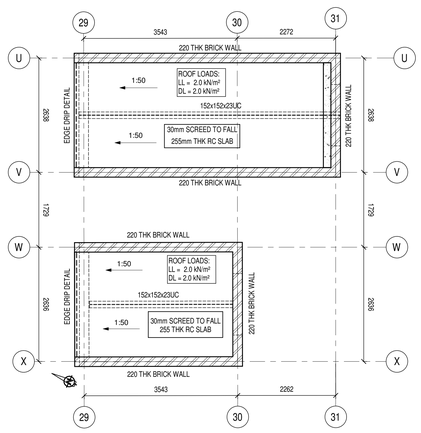
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

DWG. TO BE READ IN CONJUNCTION WITH:
-34581S-200-G01
-34581S-201-01

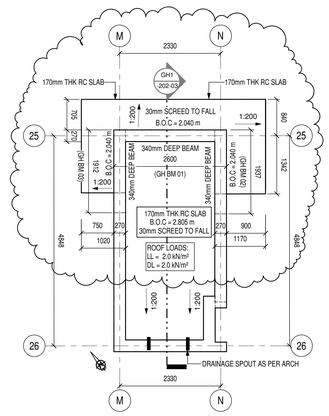
PLAN NUMBER		REVISION NO.	DATE SAVED
34581S	-201-02	3	2025-07-29



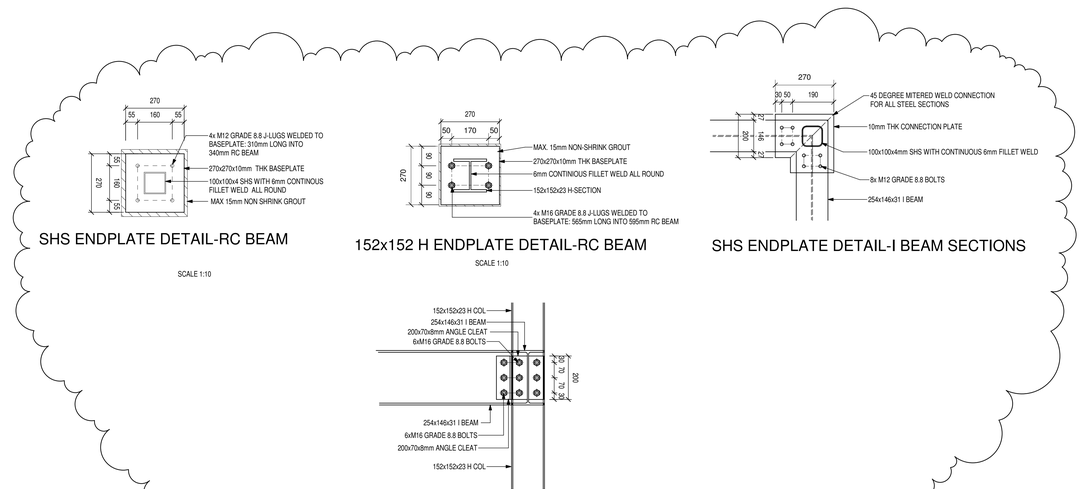
FIRST FLOOR LAYOUT
1:100



ROOF LAYOUT - SERVICE AREA
1:50



ROOF LAYOUT - GUARD HOUSE
1:100



GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.
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PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
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PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
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PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS.
GRADE II PERMISSIBLE DEVIATION - TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

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ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
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2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)

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CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

FIRST FLOOR LAYOUT

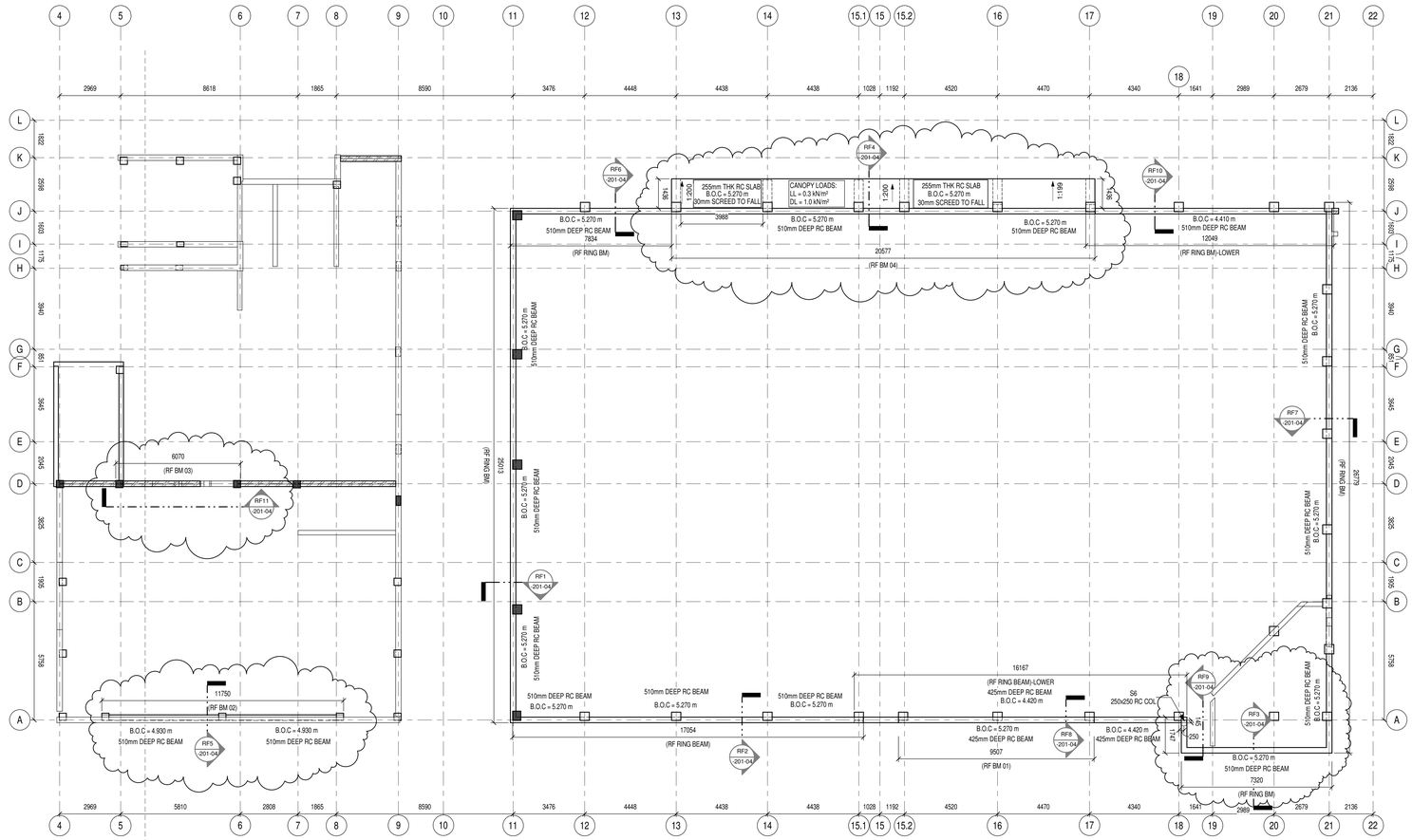
APPROVED BY BVi

JJ HAEFELE | 20190844 | 2024-05-17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

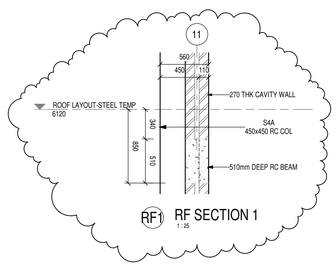
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -201-03	1	2024-05-17

DWG. TO BE READ IN CONJUNCTION WITH:
-34552S-200-G01
-34581S-201-01/02



ROOF LAYOUT
-CONCRETE
1 : 100



RF1 RF SECTION 1
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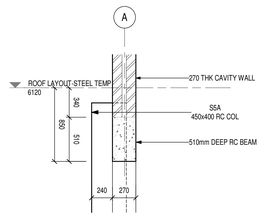

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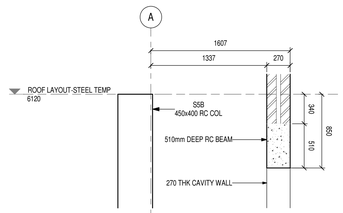

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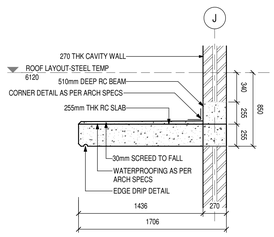

RF4 RF SECTION 4
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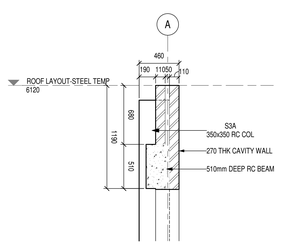

RF5 RF SECTION 05
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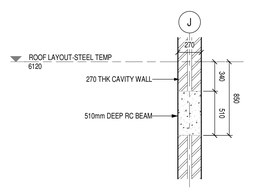

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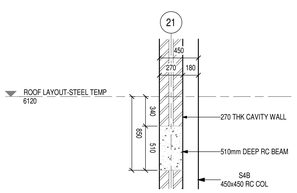

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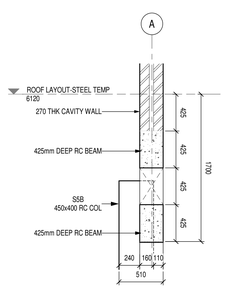

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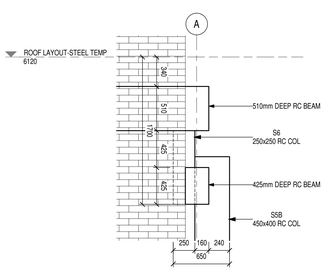

RF9 RF SECTION 9
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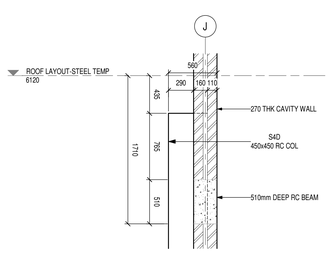

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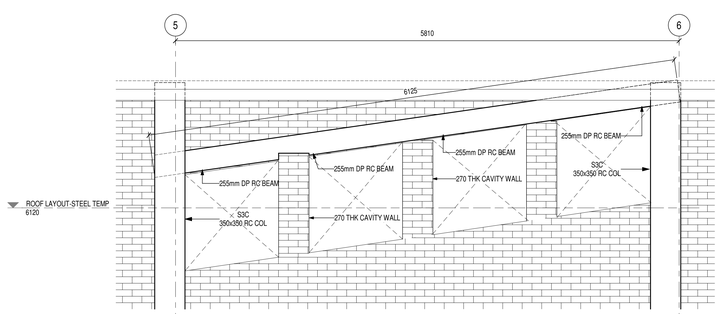

RF11 RF SECTION 11
1 : 25

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 6
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. ALL WORKS TO BE CARRIED OUT IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE:
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS:
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT

IA : BY CLIENT
IB : BY ARCHITECT
IC : BY MECHANICAL OR ELECTRICAL
ID : BY BVi
IE : BY OTHER ( )

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)

OFFICES

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Free State	Central	(051) 447-2137	bhi@bvifs.co.za

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bvi ENGINEERING PROCUREMENT MANAGEMENT
Central Office
Registration no. 1999/001450/07
ISO 9001 BUREAU VERITAS
BBBEE Level 1
CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

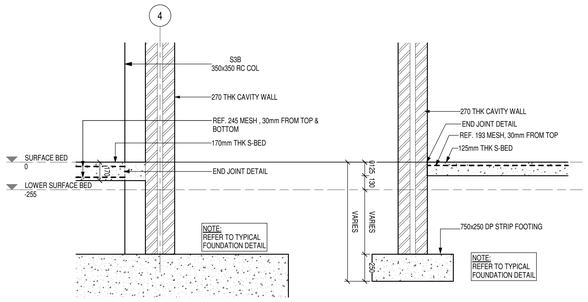
ROOF LAYOUT-CONCRETE

APPROVED BY BVI

JJ HAEFELE | 20190844 | 2024-05-17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -201-04	1	2024-05-17



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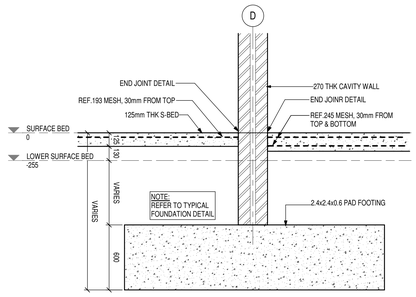

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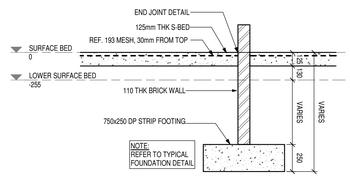

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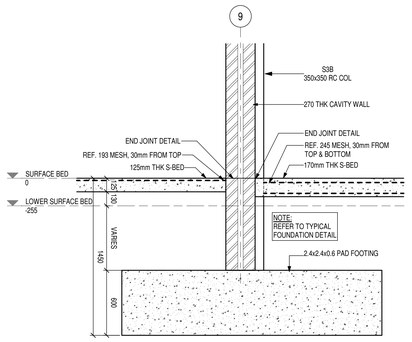

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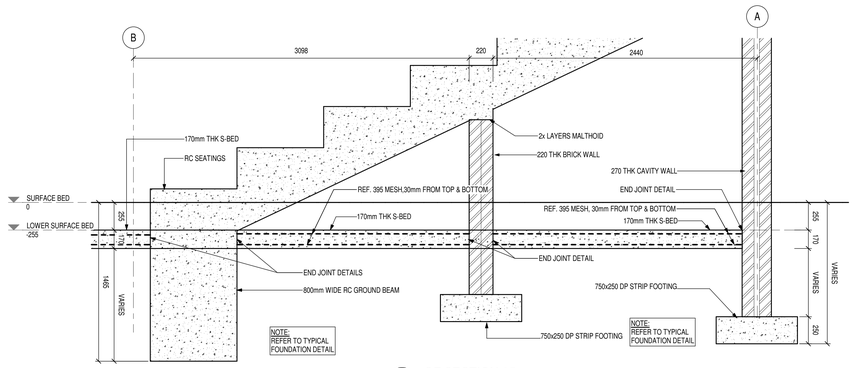

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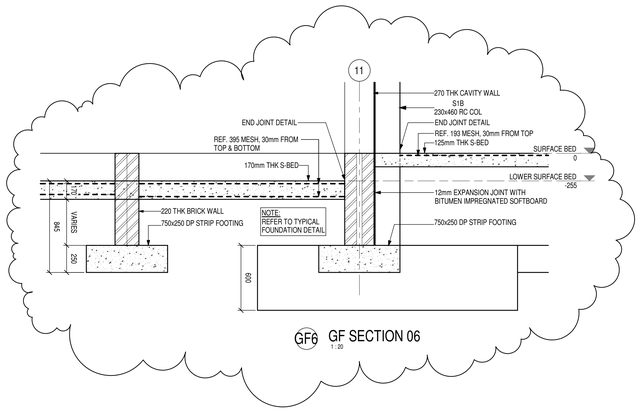

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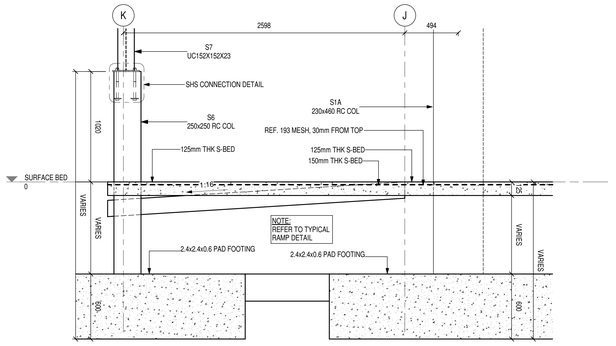

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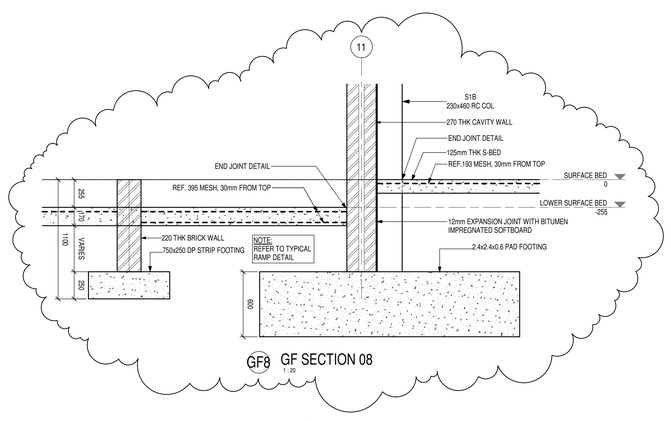

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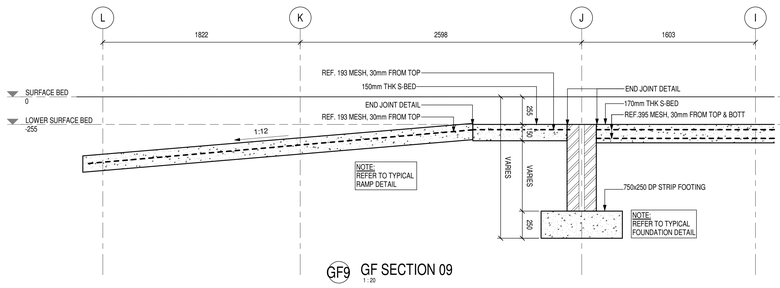

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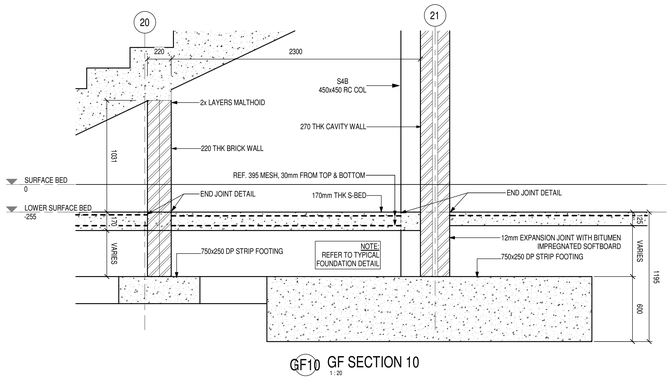

GF10 GF SECTION 10
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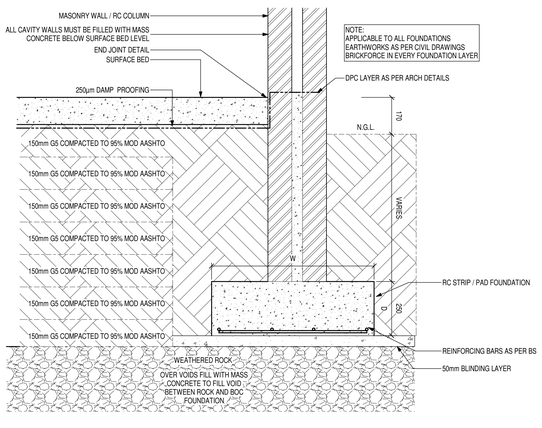
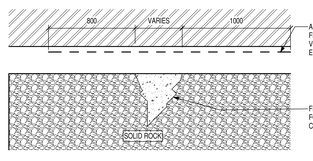


TYPICAL FOUNDATION SECTION
SCALE 1:10



TYPICAL FOUNDATION DETAIL OVER VOID
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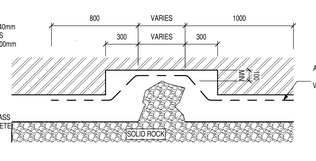

TYPICAL FOUNDATION DETAIL OVER ROCK PROTRUSION
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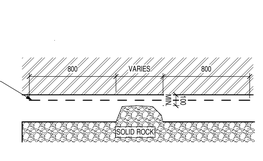

TYPICAL FOUNDATION DETAIL OVER ROCK PROTRUSION
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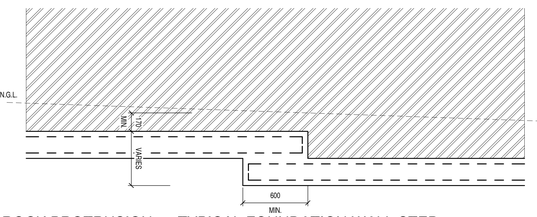

TYPICAL FOUNDATION WALL STEP
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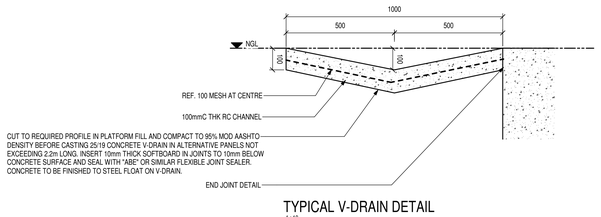

TYPICAL V-DRAIN DETAIL
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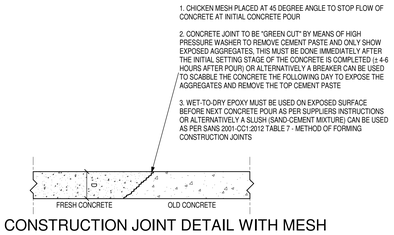

CONSTRUCTION JOINT DETAIL WITH MESH
SCALE 1:10

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION BEFORE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE:
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY (BRICK)
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS.
GRADE 9 PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
SHALL BE AT LEAST AS THE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	2

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

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CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

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T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
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/C : BY MECHANICAL OR ELECTRICAL
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/E : BY OTHER ( )

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DATE.	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	REVISED DETAILS ON SECTIONS
2024-05-20	JTM	2	REVISED DETAILS (SEE REVISION CLOUDS)

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Central Office
Registration no. 1998/009180/07
BBBEE Level 1
CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

FOUNDATION SECTIONS

APPROVED BY BVI

JJ HAEFELE | 20190844 | 2024-05-20
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE:	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

DWG. TO BE READ IN CONJUNCTION WITH:
- 34581S-200-G01
- 34581S-201-01-02:03
- ARCHITECTURAL DRAWINGS

PLAN NUMBER	REVISION NO.	DATE SAVED
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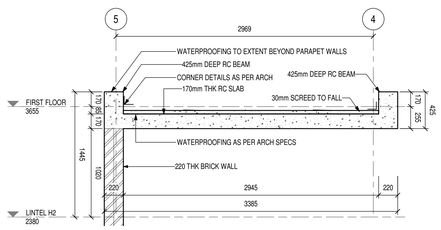

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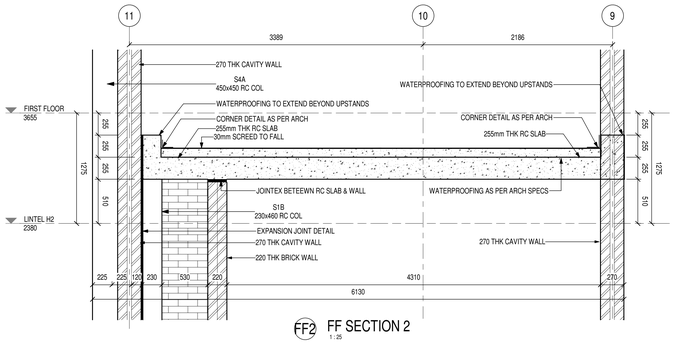

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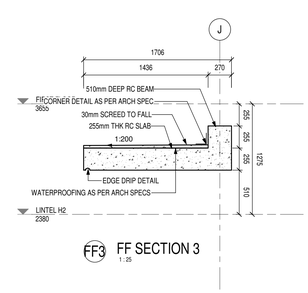

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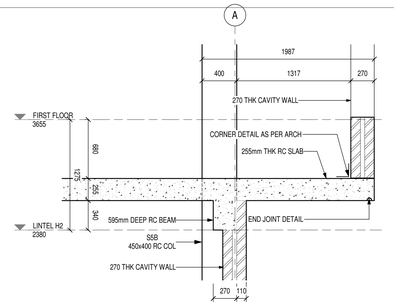

FF4 FF SECTION 4
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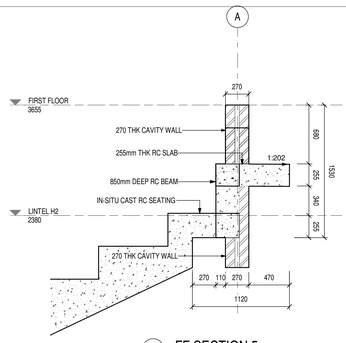

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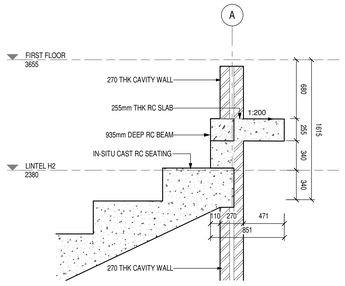

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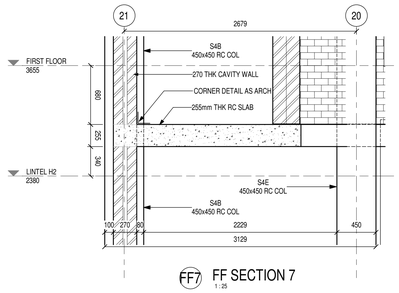

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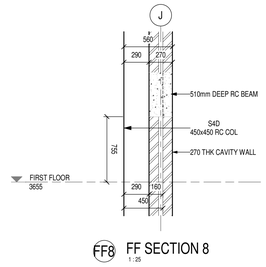

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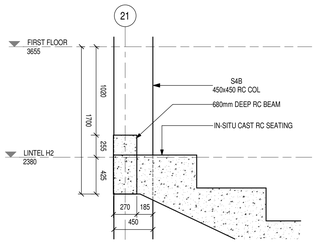

FF9 FF SECTION 9
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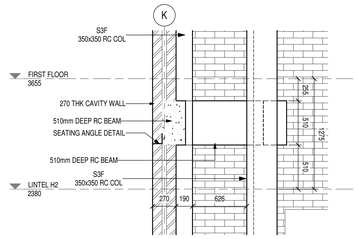

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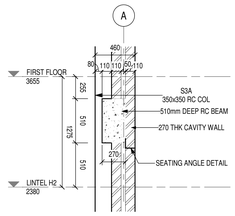

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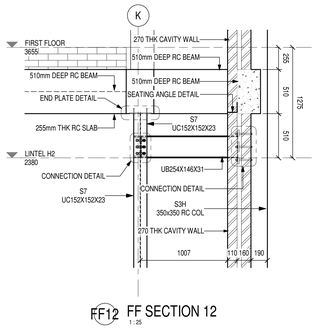

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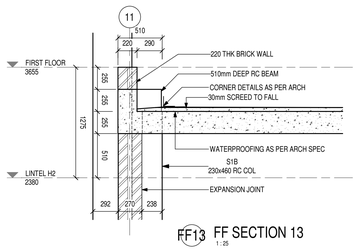

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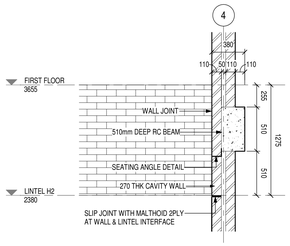

FF14 FF SECTION 14
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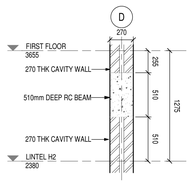

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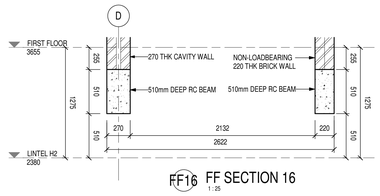

FF16 FF SECTION 16
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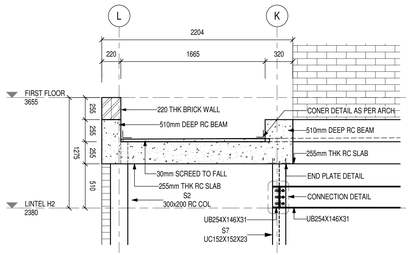

FF17 FF SECTION 17
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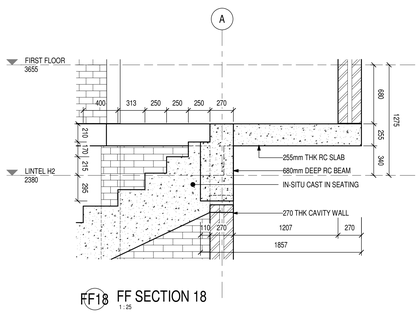

FF18 FF SECTION 18
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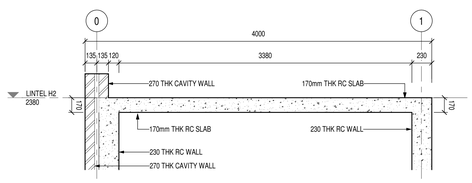

FF19 FF SECTION 19
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GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE :
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PART CC1 : CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CS1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS.
GRADE II PERMISSIBLE DEVIATION - TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

GENERAL

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ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0

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	FOR TENDER
X	FOR CONSTRUCTION
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CITY ENGINEER / CLIENT — REG. NO. — DATE

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

OFFICES

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Free State	Central	(051) 447-3137	bhs@bvifs.co.za

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DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

FIRST FLOOR SECTIONS

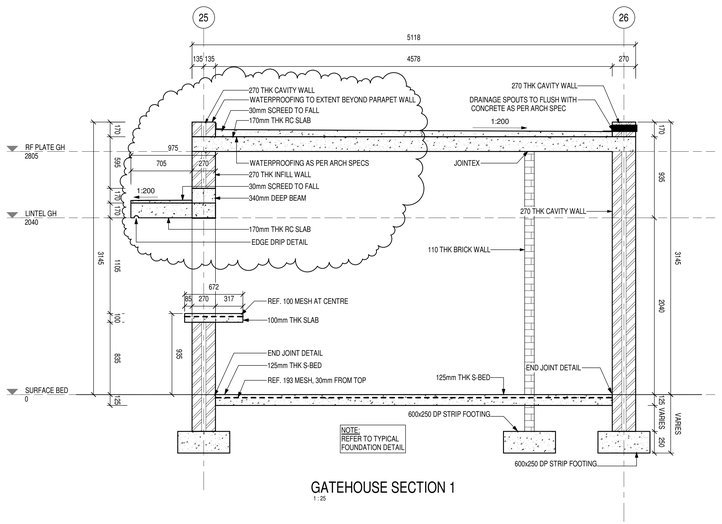
APPROVED BY BVI

JJ HAEFELE — 20190844 — 2024-05-17
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

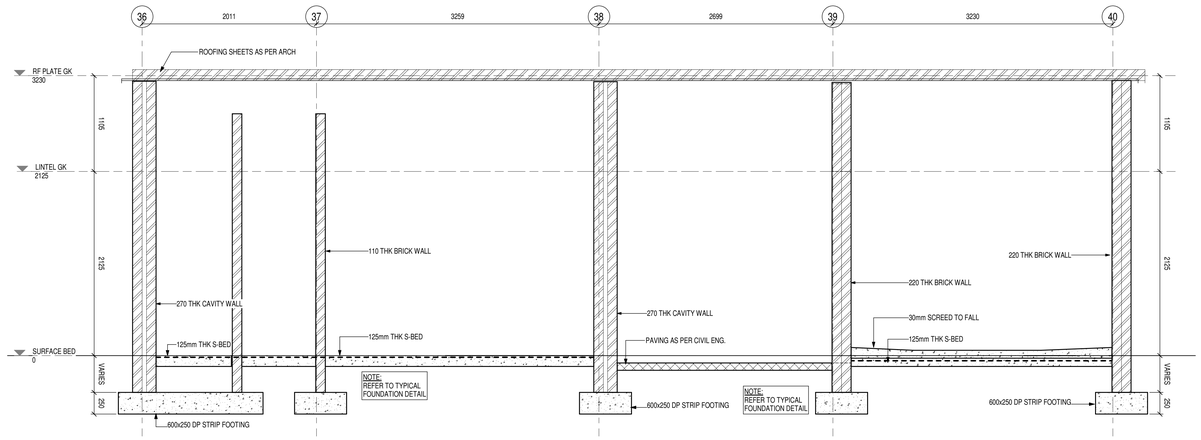
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER		REVISION NO.	DATE SAVED
34581S	-202-02	0	2024-05-17

DWG. TO BE READ IN CONJUNCTION WITH:
-34552S-200-G01
-34581S-201-01/02/03



GATEHOUSE SECTION 1
1 : 25



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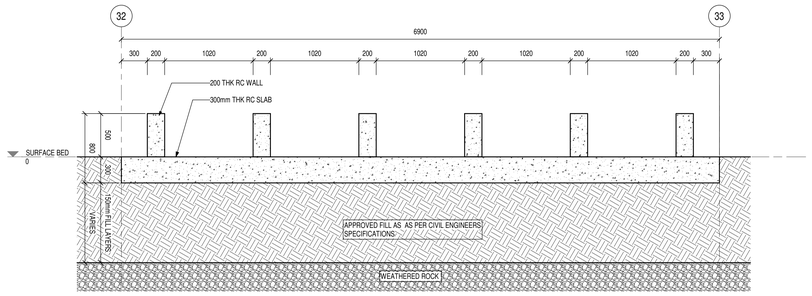

STL WATER TANK
SECTION 1
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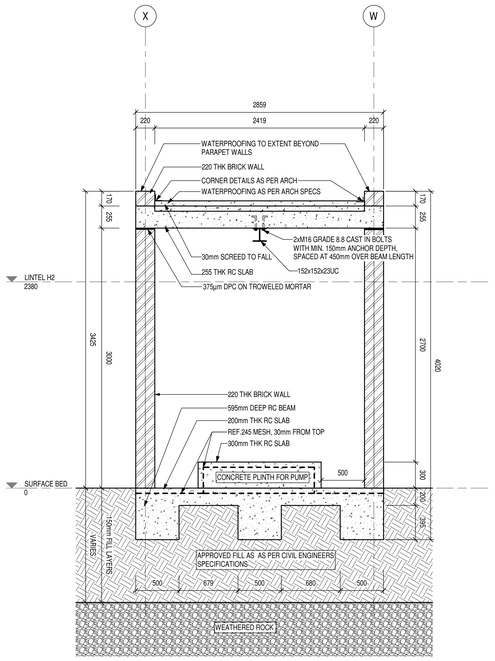

PUMP HOUSE SECTION 1
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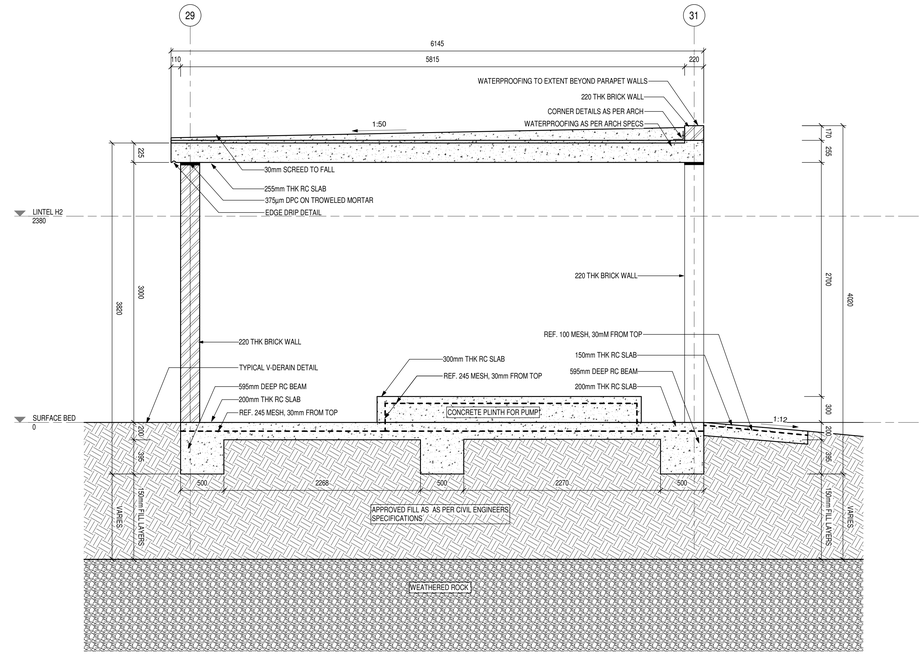

PUMP HOUSE SECTION 2
1 : 25

TO BE READ IN CONJUNCTION WITH:
- 34581S-200-Q01
- 34581S-202-01
- ARCHITECT'S DRAWINGS

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION BEFORE COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

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- PART CS1: STRUCTURAL STEELWORK
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- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS.
GRADE 9 PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF ALL APPLICABLE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

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ISSUE DATE:	DRAWING SIZE:	REVISION:
2023-05-17	A0	1

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CITY ENGINEER / CLIENT — REG. NO. — DATE

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17		1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)

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DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

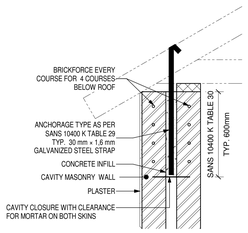
CONCRETE SECTIONS P1

APPROVED BY BVI

JJ HAEFELE — 20190844 — 2023-05-17
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

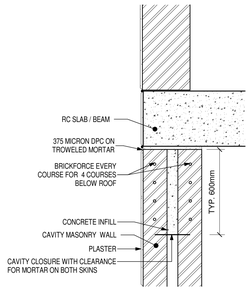
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -202-03	1	2023-05-17



FILLED CAVITY WALL ANCHOR DETAIL

SCALE 1:10



FILLED CAVITY WALL DETAIL

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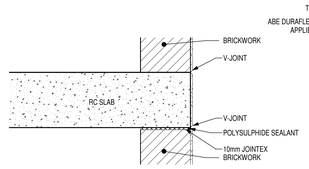
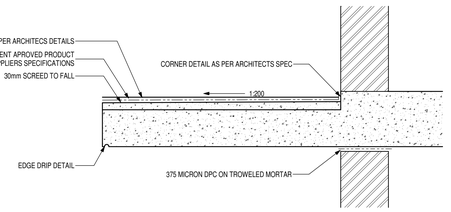


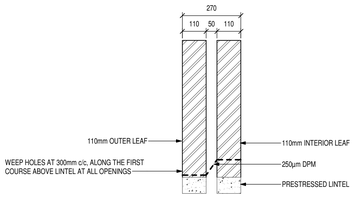
TYPICAL SECTION AT SLAB JUNCTIONS
WITH NON-STRUCTURAL BRICK WALLS

SCALE 1:10



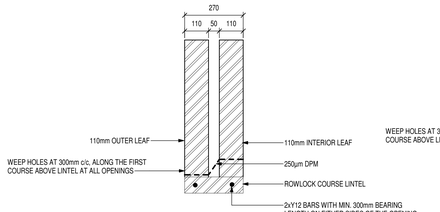
TYPICAL BACONY SECTION FOR
LOAD BEARING BRICKWORK

SCALE 1:10



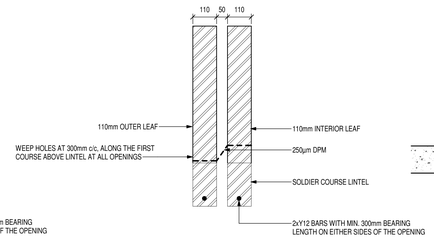
PRESTRESSED LINTEL DETAIL

SCALE 1:10



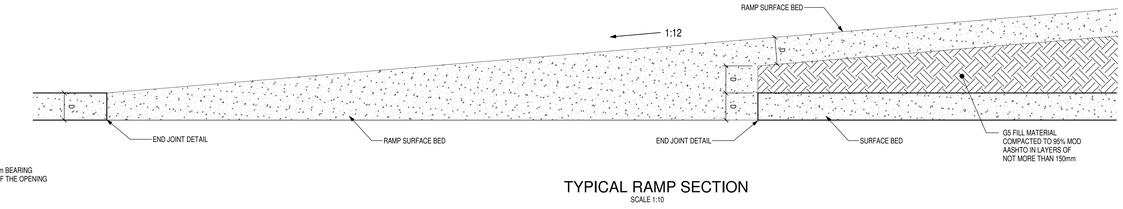
ROWLOCK COURSE LINTEL DETAIL

SCALE 1:10



SOLDIER COURSE LINTEL DETAIL

SCALE 1:10



TYPICAL RAMP SECTION

SCALE 1:10

MASONRY WALL NOTES

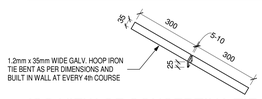
BRICKWORK
-OPENINGS IN LOAD-BEARING WALLS TO BE SPANNED BY PRESTRESSED LINTELS SUPPLIED BY BUILDER (U.N.O). MINIMUM 300mm SUPPORT ON LOAD BEARING WALLS. MAX 2.4m SPAN FOR PRECAST LINTELS
-ALL NON LOAD-BEARING BRICKWORK TO RECEIVE JOINTEX OR SOFTBOARD BETWEEN SLAB SOFFIT AND TOP OF WALLS.
-PLASTER JOINT BETWEEN SLABS/COLS & BRICKWORK TO BE CUT THROUGH THE PLASTER TO CREATE A CLEAR MOVEMENT JOINT.
-JOINTEX/SOFTBOARD TO BE INSTALLED BETWEEN RC COLS & BRICKWORK
-NO BRICKWORK TO CONTINUE OVER STRUCTURAL EXPANSION JOINTS.
-ENGINEERS TO BE CONSULTED WITH REGARDS TO ADDITIONAL BRICKWORK REQUIREMENTS.
-SEISMIC REQUIREMENT: ALL BRICKWORK SHALL BE TIED TO CONCRETE WITH GALVANISED HOOP IRON TIES EVERY 4TH COURSE. ONLY APPLICABLE TO SEISMIC DESIGN AREAS

BRICKFORCE
2mm BRICKFORCE TO BE PLACED IN BRICK WALLS EVERY:
- BRICK COURSE IN FOUNDATION WALLS.
- BRICK COURSE IN INTERNAL WALLS FOR THE FIRST 3 BRICK COURSES, THEN EVERY FOURTH BRICK COURSE.
- THIRD BRICK COURSE FOR EXTERNAL BRICK COURSES.
- BRICK COURSE FOR THE LAST 4 BRICK COURSES BELOW ROOF LEVEL.
- BRICK COURSE FOR 6 COURSES BELOW ALL WINDOWS & 6 COURSES ABOVE ALL WINDOWS & DOORS - TO EXTEND 800mm ON BOTH SIDES OF OPENINGS.

CAVITY WALLS
- TO BE FILLED WITH MASS CONCRETE BELOW SURFACE BED LEVEL, AND TYP. 600mm BELOW RC SLABS/BEAMS AND ROOF WALL PLATE.
- MUST HAVE 3.15mm THICK GALVANISED BUTTERFLY WALL TIES SPACED AT 400mm VERTICALLY, 600mm HORIZONTALLY. (± 3 TIES / m²) AND STAGGERED WITH MIN. OVERLAP OF 50mm ON MORTAR.
- WEEPHOLES INSTALLED IN THE EXTERNAL CAVITY WALL ABOVE DPC TO PREVENT MOISTURE BUILD-UP SPACED AT MAX. 1m C/C UNO.
- AROUND OPENINGS MUST HAVE 2.15mm THICK GALVANISED BUTTERFLY WALL TIES SPACED AT 300mm VERTICALLY, 400mm HORIZONTALLY, AND NOT MORE THAN 225mm FROM THE EDGE OF THE OPENING.
-WALL CAVITIES TO BE KEPT CLEAN AND FREE FROM MORTAR DEBRIS OR OTHER CONSTRUCTION WASTE. CAVITIES TO BE COVERED TO BLOCK AND PREVENT WASTE INFILL DURING CONSTRUCTION.

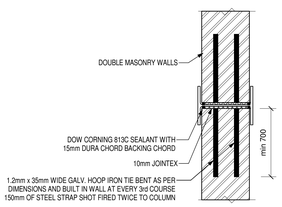
HOOP IRONS
- HOOP IRONS TO BE 35mm WIDE x 1.2mm THICK x 350mm LONG (GALVANIZED).
- HOOP IRONS TO BE SHOT INTO CONCRETE COLUMNS WITH HILTI ANCHORS (TWO PER HOOP IRON).
- HOOP IRONS TO BE FIXED TO COLUMNS EVERY THIRD BRICK COURSE FOR EXTERNAL BRICKWORK.
- HOOP IRONS TO BE FIXED TO COLUMNS EVERY FIFTH BRICK COURSE FOR INTERNAL BRICKWORK.

BRICK JOINTS
- VERTICAL EXPANSION JOINTS TO BE MAXIMUM 7.5m APART OR AS PER SANS 10400-K TABLE 19
- HORIZONTAL MOVEMENT JOINT TO BE EVERY FLOOR LEVEL, MAX 3.3m (SEATING ANGLE) .



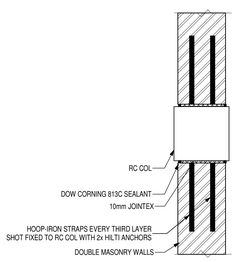
ISO VIEW OF CONCERTINA TIE TO EXP JOINT

SCALE 1:10



WALL STIFFENER DETAIL

SCALE 1:10



WALL STIFFENER DETAIL

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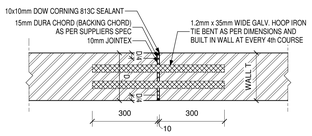
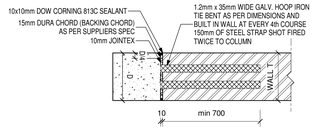


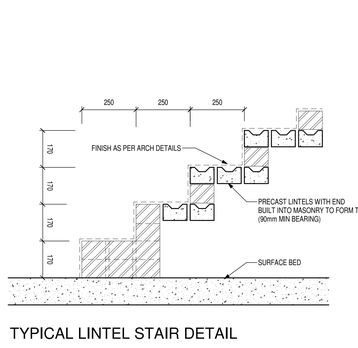
MASONRY WALL EXPANSION JOINT DETAIL

SCALE 1:10

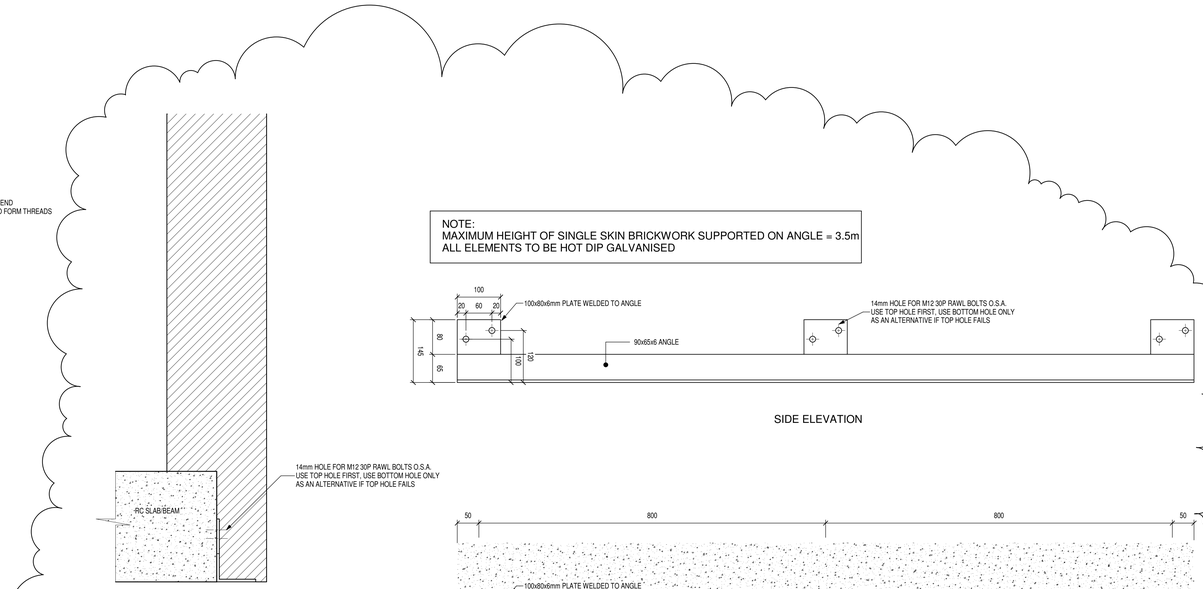


MASONRY WALL TO RC EXPANSION JOINT DETAIL

SCALE 1:10



TYPICAL LINTEL STAIR DETAIL



TYPICAL SEATING ANGLE
DETAIL
1 : 5

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 6.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE THE START OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WORK
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY
UNLESS OTHERWISE NOTED.
ONE COPY OF ALL APPLICABLE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
TO / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT

/A : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVI
/E : BY OTHER ( )

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DATE.	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION DETAILS)

OFFICES

PROVINCE	OFFICE	TEL	E-MAIL
Free State	Central	(051) 447-2137	bvi@bvifs.co.za

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bvi ENGINEERING PROCUREMENT MANAGEMENT
Central Office
Registration No. 1998/009150/07
ISO 9001 SANAS
BBBEE Level 1
CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE
& RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

CONSTRUCTION DETAILS

APPROVED BY BVI

JJ HAEFELE — 20190844 — 2024-05-17
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

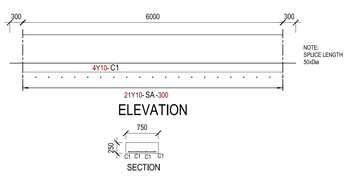
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER		REVISION NO.	DATE SAVED
34581S	-202-04	1	2024-05-17

TO BE READ IN CONJUCTION WITH:
-34581S-200-G01
-34581S-201-01/02/03/04
-34581S-202-01/02/03

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
SF 01	123	4	Y10	6600	492	C1	20	[6600]					2002
	123	21	Y10	650	2583	SA	20	[650]					1035

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			3037							3037
TOTAL			3037							3037



ELEVATION

SECTION

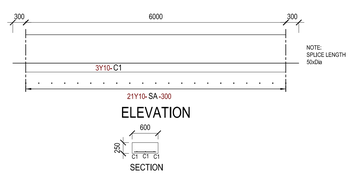
750x250 DP STRIP FOUNDATION

SCALE: 1:50
VERT: NTS
NO OFF: 123

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-01-26
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR STRIP FOOTING: SF01	Revision:	0
		Schedule No:	34581S-206-01

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
SF02	20	3	Y10	6600	60	C1	20	[6600]					244
	20	19	Y10	500	380	SA	20	[500]					117

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			361							361
TOTAL			361							361



ELEVATION

SECTION

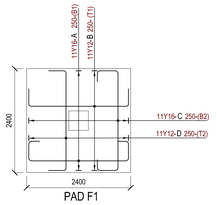
600x250 DP STRIP FOUNDATION

SCALE: 1:50
VERT: NTS
NO OFF: 20

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-01-26
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR STRIP FOOTING: SF02	Revision:	0
		Schedule No:	34581S-206-02

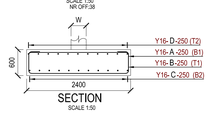
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
PAD F1	38	11	Y16	3550	418	A	55	250	450	2300	450	[250]	2342
	38	11	Y12	3050	418	B	38	400	2300	[400]			1132
	38	11	Y16	3600	418	C	55	250	470	2300	470	[250]	2375
	38	11	Y12	3050	418	D	38	400	2300	[400]			1132

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y				2264	4717					6981
TOTAL				2264	4717					6981



PAD F1

SCALE 1:50
NR OFF:38



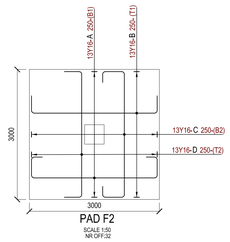
SECTION

SCALE 1:50

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-05-20
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR PAD: F1	Revision:	1
		Schedule No:	34581S-206-03

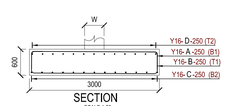
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
PAD F2	32	13	Y16	4200	416	A	55	250	480	2900	480	[250]	2758
	32	13	Y16	3650	416	B	38	400	2900	[400]			2397
	32	13	Y16	4250	416	C	55	250	500	2900	500	[250]	2790
	32	13	Y16	3650	416	D	38	400	2900	[400]			2397

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y					10341					10341
TOTAL					10341					10341



PAD F2

SCALE 1:50
NR OFF:32



SECTION

SCALE 1:50

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-05-20
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR PAD: F2	Revision:	1
		Schedule No:	34581S-206-04

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S1A	5	6	Y16	6400	30	A	41	5090	510	[800]	50		303
	5	6	Y16	3950	30	B	20	[3960]					187
	5	50	Y10	1300	250	S1	60	170	400				200
	5	49	Y10	400	245	S2	35	170					60
	5	6	Y16	1800	30	STA	37	500	[1350]				85
	5	10	Y10	1100	50	STS	60	130	340				34
COL S1B	7	4	Y16	5750	28	A	37	200	[5570]				254
	7	2	Y12	5750	14	B	37	200	[5570]				71
	7	29	Y10	1300	203	S1	60	170	400				163
	7	29	Y10	400	203	S2	35	170					50
	7	4	Y16	1800	28	STA	37	500	[1350]				80
	7	2	Y12	1850	14	STB	37	500	[1350]				23
	7	10	Y10	1100	70	STS	60	130	340				47
COL S2	4	4	Y16	5550	16	A	37	200	[5380]				140
	4	28	Y10	900	112	S1	60	140	240				62
	4	4	Y16	1800	16	STA	37	500	[1350]				45
	4	10	Y10	750	40	STS	60	100	200				18

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			636	94	1095					1825
TOTAL			636	94	1095					1825

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-05-17
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR COLUMN: S1 & S2	Revision:	1
		Schedule No:	34581S-206-05

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE.
SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	2

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C,../ :BEFORE TENDER
T0 / : / TENDER DRAWING
0,1,2.../ :AFTER TENDER
Z / : AS BUILT

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C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	REVISED DETAILS (SEE REVISION CLOUDS)
2024-05-20	JTM	2	REVISED DETAILS (SEE REVISION CLOUDS)

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BVi CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers, Environmental & Project Management

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

FOUNDATION REBAR LAYOUT

APPROVED BY BVI

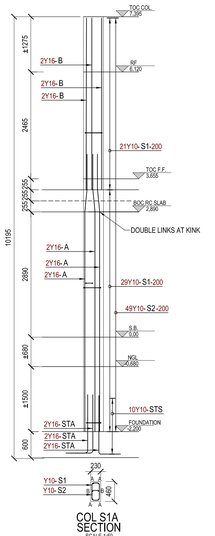
JJ HAEFELE | 20190844 | 2024-05-20

ENGINEER/TECHNOLOGIST | REG. NO. | DATE

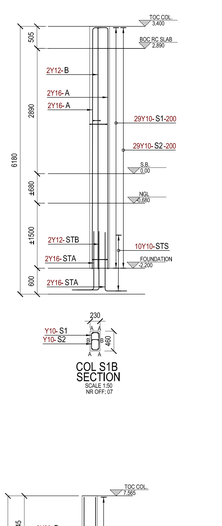
SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-01A		2	

DWG TO BE READ IN CONJUNCTION WITH:

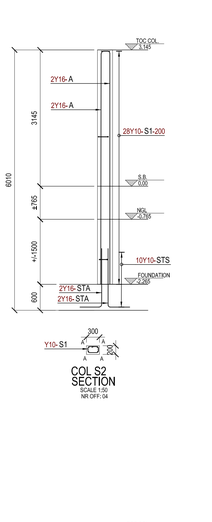
-34851S-201-01/02/03/04
-34851S-202-01/02
-34851S-200-G01



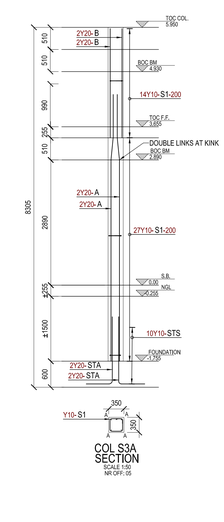
COL S1A SECTION
SCALE 1:50
NR OFF: 05



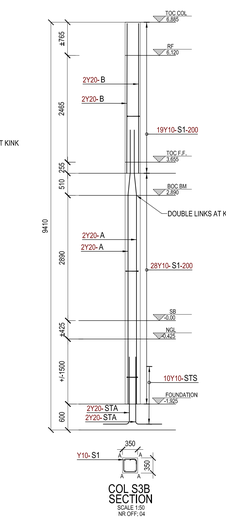
COL S1B SECTION
SCALE 1:50
NR OFF: 07



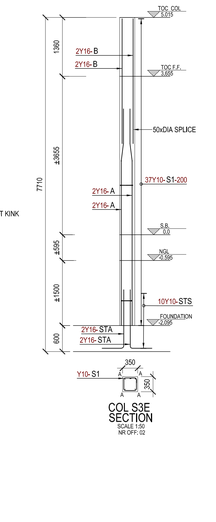
COL S2 SECTION
SCALE 1:50
NR OFF: 04



COL S3A SECTION
SCALE 1:50
NR OFF: 05



COL S3B SECTION
SCALE 1:50
NR OFF: 04



COL S3E SECTION
SCALE 1:50
NR OFF: 02

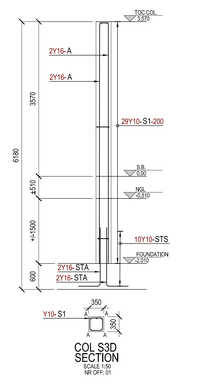
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S3A	5	4	Y20	6150	20	A	41	4640	510	[1000]	50		303
	5	4	Y20	2550	20	B	20	[2520]					126
	5	41	Y10	1300	205	S1	60	290	290				164
	5	4	Y20	2100	20	STA	37	600	[1550]				104
	5	10	Y10	1150	50	STS	60	250	250				35
COL S3B	4	4	Y20	6350	16	A	41	4810	510	[1000]	50		251
	4	4	Y20	3450	16	B	20	[3450]					136
	4	47	Y10	1300	188	S1	60	290	290				151
	4	4	Y20	2100	16	STA	37	600	[1550]				83
	4	10	Y10	1150	40	STS	60	250	250				28
COL S3C	4	4	Y20	6200	16	A	41	4670	510	[1000]	50		245
	4	4	Y20	4150	16	B	20	[4130]					164
	4	50	Y10	1300	200	S1	60	290	290				160
	4	4	Y20	2100	16	STA	37	600	[1550]				83
	4	10	Y10	1150	40	STS	60	250	250				28
COL S3D	1	4	Y16	5700	4	A	37	200	[5550]				36
	1	29	Y10	1300	29	S1	60	290	290				23
	1	4	Y16	1800	4	STA	37	500	[1350]				11
	1	10	Y10	1150	10	STS	60	250	250				7
COL S3E	2	4	Y16	5000	8	A	41	3800	400	[800]	50		63
	2	4	Y16	2900	8	B	20	[2880]					37
	2	37	Y10	1300	74	S1	60	290	290				59
	2	4	Y16	1800	8	STA	37	500	[1350]				23
	2	10	Y10	1150	20	STS	60	250	250				14
COL S3F	3	4	Y16	6600	12	A	41	5070	510	[1000]	50		125
	3	4	Y16	2450	12	B	20	[2430]					46
	3	44	Y10	1300	132	S1	60	290	290				106
	3	4	Y16	1800	12	STA	37	500	[1350]				34
	3	10	Y10	1150	30	STS	60	250	250				21
COL S3G	4	4	Y16	5000	16	A	41	3800	400	[800]	50		126

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-01-26
		Det. by:	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR COLUMN: S3	Revision:	0
		Schedule No:	34581S-206-06A

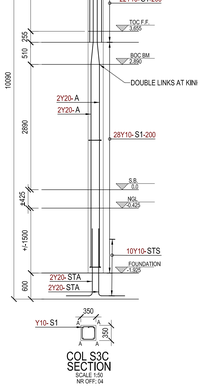
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S3A	5	4	Y16	3400	16	B	20	[3380]					86
	4	39	Y10	1050	156	S1	60	160	290				101
	4	4	Y16	1800	16	STA	37	500	[1350]				45
	4	10	Y10	900	40	STS	60	130	260				22
COL S3H	1	4	Y16	5000	4	A	41	3800	400	[800]	50		32
	1	4	Y16	4500	4	B	20	[4490]					28
	1	47	Y10	1300	47	S1	60	290	290				38
	1	4	Y16	1800	4	STA	37	500	[1350]				11
	1	10	Y10	1150	10	STS	60	250	250				7

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			966		704	1493				3164
TOTAL			966		704	1493				3164

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-01-26
		Det. by;	JTM
		Ref Dwg:	34581S-204-01A
bvi	Schedule Description: FOUNDATION REBAR COLUMN: S3	Revision:	0
		Schedule No:	34581S-206-06B



COL S3D SECTION
SCALE 1:50
NR OFF: 01



COL S3C SECTION
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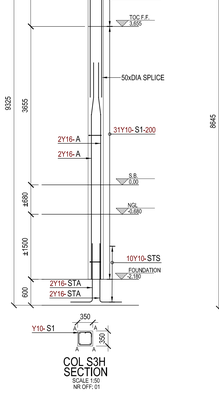

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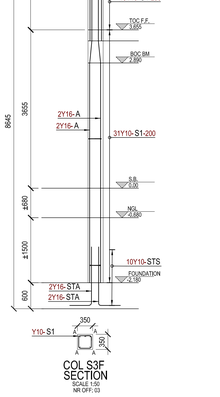

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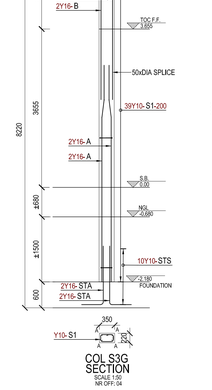

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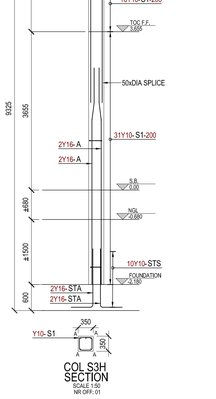

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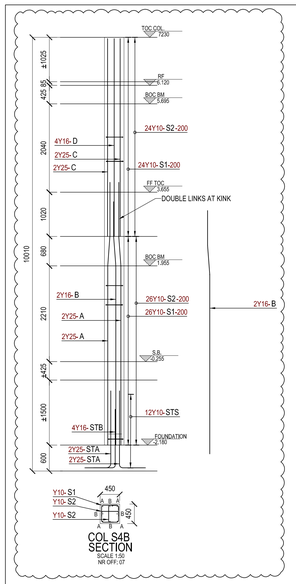

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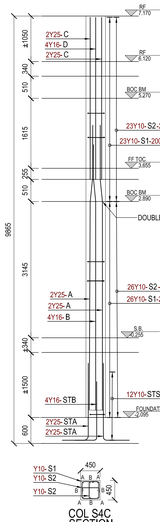

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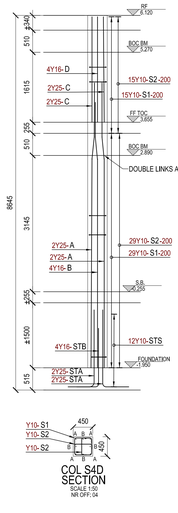

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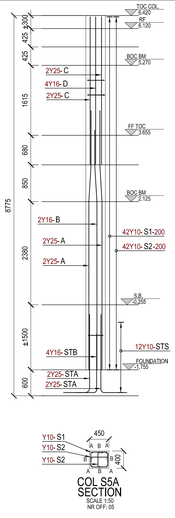

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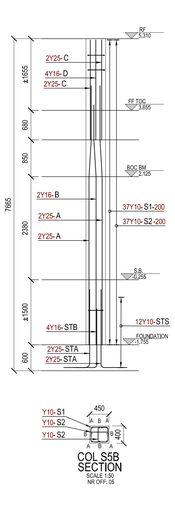

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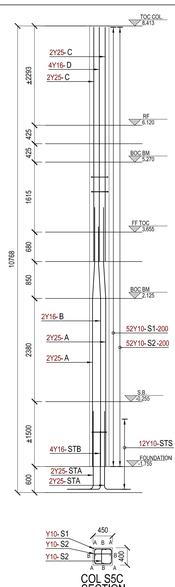

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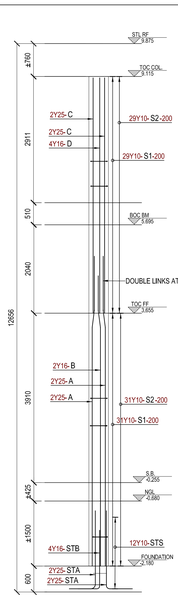

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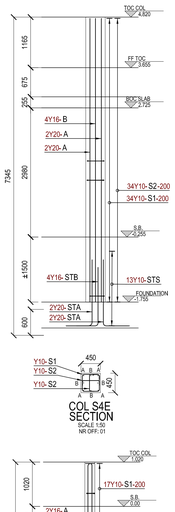


COL S4E SECTION
SCALE 1:50
NR OFF: 01

COL S6 SECTION
SCALE 1:50
NR OFF: 02

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S4A	4	4	Y25	7150	16	A	41	5500	400	[1250]	50		441
	4	2	Y16	6700	8	B	41	5500	400	[800]	50		85
	4	4	Y25	5450	16	C	20	[5430]					336
	4	4	Y16	5450	16	D	20	[5430]					138
	4	60	Y10	1700	240	S1	60	390	390				252
	4	120	Y10	600	480	S2	35	390					178
	4	4	Y25	2350	16	STA	37	600	[1800]				145
	4	4	Y16	1800	16	STB	37	500	[1350]				45
	4	12	Y10	1500	48	STS	60	340	340				44
COL S4B	7	4	Y25	6050	28	A	41	4130	680	[1250]	50		653
	7	2	Y16	5600	14	B	41	4130	680	[800]	50		124
	7	4	Y25	4550	28	C	20	[4560]					491
	7	4	Y16	4550	28	D	20	[4560]					201
	7	50	Y10	1700	350	S1	60	390	390				367
	7	100	Y10	600	700	S2	35	390					259
	7	4	Y25	2300	28	STA	37	600	[1770]				248
	7	4	Y16	1800	28	STB	37	500	[1350]				80
	7	12	Y10	1500	84	STS	60	340	340				78
COL S4C	5	4	Y25	6800	20	A	41	4810	510	[1250]	50		509
	5	4	Y16	6150	20	B	41	4810	510	[800]	50		194
	5	4	Y25	3750	20	C	20	[3740]					289
	5	4	Y16	3750	20	D	20	[3740]					118
	5	49	Y10	1700	245	S1	60	390	390				257
	5	98	Y10	600	490	S2	35	390					181
	5	4	Y25	2300	20	STA	37	600	[1770]				177
	5	4	Y16	1800	20	STB	37	500	[1350]				57
	5	12	Y10	1500	60	STS	60	340	340				55
COL S4D	4	4	Y25	6600	16	A	41	4810	510	[1250]	50		407
	4	4	Y16	6150	16	B	41	4810	510	[800]	50		155
	4	4	Y25	2450	16	C	20	[2430]					151
	4	4	Y16	2450	16	D	20	[2430]					62
	4	44	Y10	1700	176	S1	60	390	390				184
	4	88	Y10	600	352	S2	35	390					130
	4	4	Y25	2300	16	STA	37	600	[1770]				142
	4	4	Y16	1800	16	STB	37	500	[1350]				45
	4	12	Y10	1500	48	STS	60	340	340				44
COL S4E	1	4	Y20	6550	4	A	20	[6540]					65
	1	4	Y16	6550	4	B	20	[6540]					41
	1	34	Y10	1700	34	S1	60	390	390				36
	1	68	Y10	600	68	S2	35	390					25

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-02-28
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	FOUNDATION REBAR COLUMN: S4	Revision:	1
		Schedule No:	34581S-206-07A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	4	Y20	2100	4	STA	37	600	[1520]				21
	1	4	Y16	1800	4	STB	37	500	[1350]				11
	1	13	Y10	1500	13	STS	60	340	340				12

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			2102		1357	85	3988			7533
TOTAL			2102		1357	85	3988			7533

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2025-02-28
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	FOUNDATION REBAR COLUMN: S4	Revision:	0
		Schedule No:	34581S-206-07B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S4B-ADD	7	2	Y16	5600	14	B	41	4130	680	[800]	50		124

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y					124					124
TOTAL					124					124

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2025-02-28
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	FOUNDATION REBAR COLUMN: S4B ADDITIONAL	Revision:	0
		Schedule No:	34581S-206-07C

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
COL S5A	5	4	Y25	6000	20	A	41	3880	850	[1250]	50		462
	5	2	Y16	5550	10	B	41	3880	850	[800]	50		88
	5	4	Y25	3400	20	C	20	[3410]					262
	5	4	Y16	3400	20	D	20	[3410]					107
	5	42	Y10	1600	210	S1	60	340	390				207
	5	84	Y10	600	420	S2	35	390					155
	5	4	Y25	2350	20	STA	37	600	[1800]				181
	5	4	Y16	1800	20	STB	37	500	[1350]				57
	5	12	Y10	1400	60	STS	60	290	340				52
COL S5B	5	4	Y25	6000	20	A	41	3880	850	[1250]	50		462
	5	2	Y16	5550	10	B	41	3880	850	[800]	50		88
	5	4	Y25	2300	20	C	20	[2300]					177
	5	4	Y16	2300	20	D	20	[2300]					73
	5	37	Y10	1600	185	S1	60	340	390				182
	5	74	Y10	600	370	S2	35	390					137
	5	4	Y25	2350	20	STA	37	600	[1800]				181
	5	4	Y16	1800	20	STB	37	500	[1350]				57
	5	12	Y10	1400	60	STS	60	290	340				52
COL S5C	1	4	Y25	6000	4	A	41	3880	850	[1250]	50		92
	1	2	Y16	5550	2	B	41	3880	850	[800]	50		18
	1	4	Y25	5400	4	C	20	[5400]					83
	1	4	Y16	5400	4	D	20	[5400]					34
	1	52	Y10	1600	52	S1	60	340	390				51
	1	104	Y10	600	104	S2	35	390					38
	1	4	Y25	2350	4	STA	37	600	[1800]				36
	1	4	Y16	1800	4	STB	37	500	[1350]				11
	1	12	Y10	1400	12	STS	60	290	340				10
COL S6	2	4	Y16	3300	8	A	37	150	[3170]				42
	2	17	Y10	900	34	S1	60	190	190				19
	2	4	Y16	1800	8	STA	37	500	[1350]				23

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-10-03
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	FOUNDATION REBAR COLUMN: S5	Revision:	1
		Schedule No:	34581S-206-8A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	2	10	Y10	750	20	STS	60	150	150				9

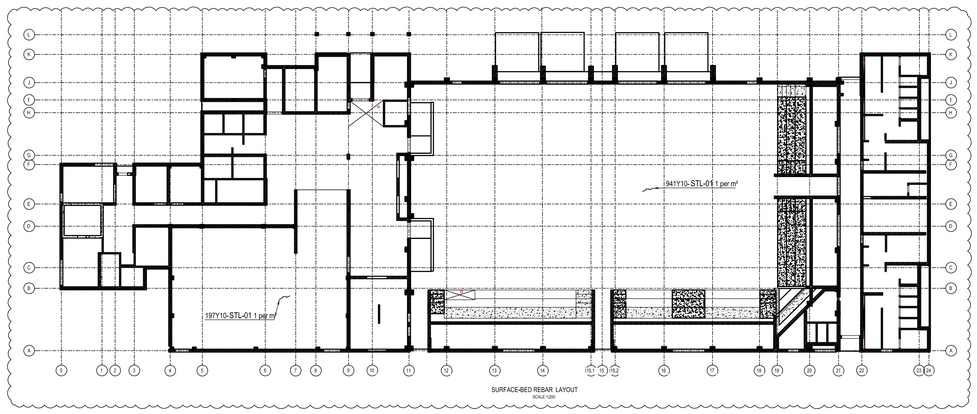
	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			914		596		1938			3448
TOTAL			914		596		1938			3448

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	FOUNDATION REBAR COLUMN: S5 & S6	Revision:	1
		Schedule No:	34581S-206-8B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
S-BED STL	1	1138	Y10	1150	1138	STL-01	83	350	90	350	[350]		807

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			807							807
TOTAL			807							807

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2025-07-29
		Det. by:	JTM
		Ref Dwg:	34581S-204-01B
Schedule Description:	SURFACE-BED REBAR STOOLS	Revision:	0
		Schedule No:	34581S-206-09



NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL II.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE.
SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CO1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155: ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2025-07-29	A0	5
	PRELIMINARY	
	INFO ONLY	
	FOR TENDER	
X	FOR CONSTRUCTION	
	AS-BUILT	

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT

A : BY CLIENT
B : BY ARCHITECT
C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
E : BY OTHER ( )

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ANY PERSON WITHOUT THE WRITTEN PERMISSION OF THE PROPRIETORS.

DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-17	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)
2024-06-03	JTM	2	REVISED DETAILS (SEE REVISION CLOUDS).
2024-10-03	JTM	3	ADDITIONAL NO. OF COL S5B (SEE REVISION CLOUD)
2025-02-28	JTM	4	COL S4B ADDITIONAL BARS (SEE REVISION CLOUD)
2025-07-29	JTM	5	SURFACE BED STOOLS (SEE REVISION CLOUD)

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VMI or contact us online at www.2sdgroup.co.za

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EBBEE LEVEL 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

FOUNDATION REBAR LAYOUT

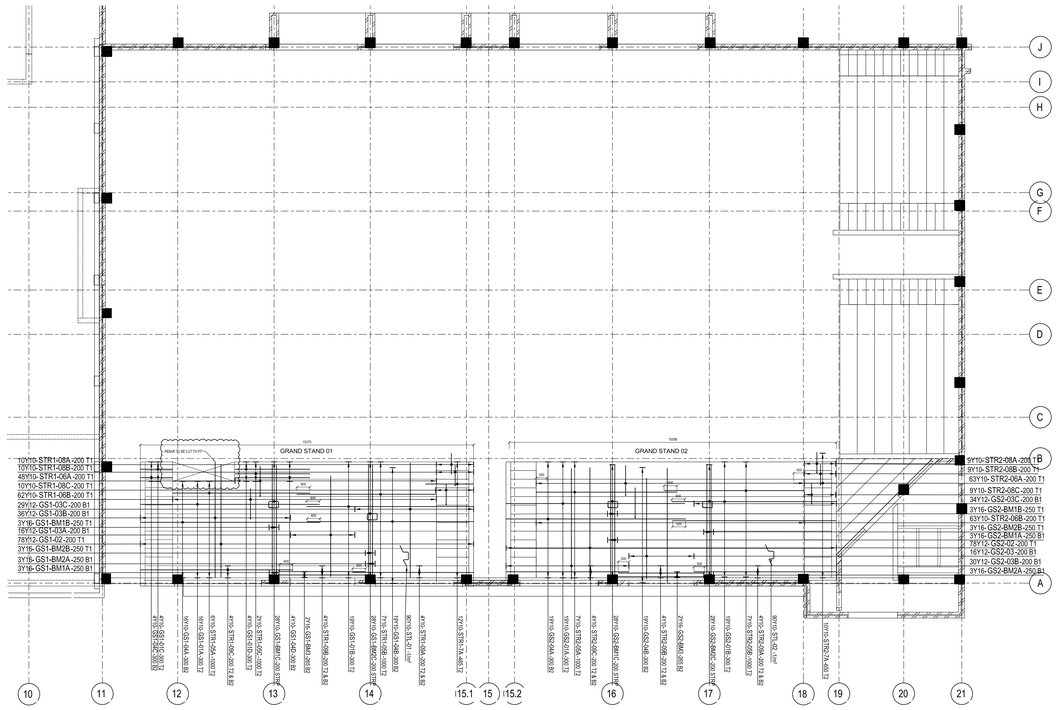
APPROVED BY BVi

JJ HAEFELE | 20190844 | 2025-07-29
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-01B		5	

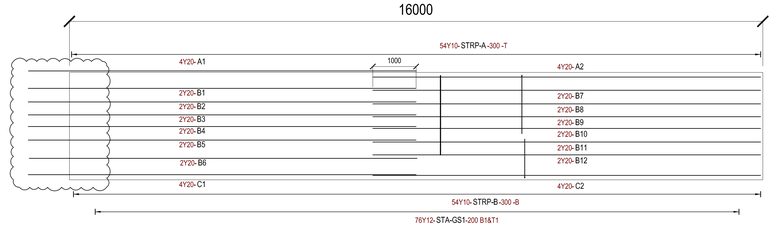
DWG TO BE READ IN CONJUNCTION WITH:

-34851S-201-01
-34851S-202-01
-34851S-200-G01



GRANDSTANDS 01 & 02 REBAR LAYOUT

SCALE: 1:100



GRAND STAND 01-GB

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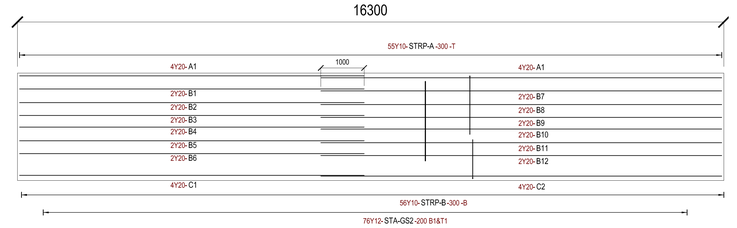
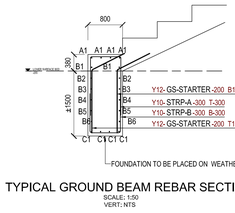


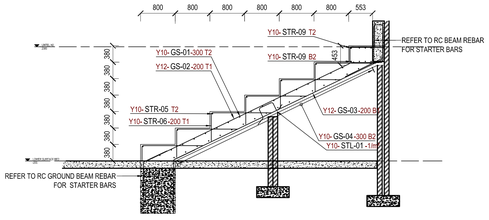
GRAND STAND 02-GB

SCALE: 1:50



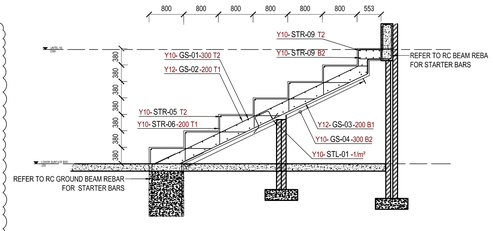
TYPICAL GROUND BEAM REBAR SECTION

SCALE: 1:50
VERT.: NTS



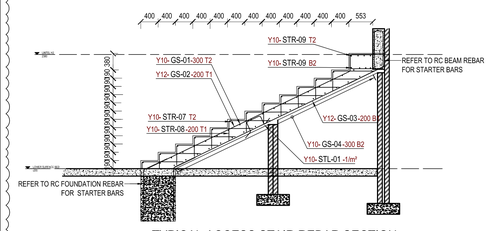
TYPICAL GRANDSTAND 01 & 02 REBAR SECTION

SCALE: 1:50
VERT: NTS



TYPICAL GRANDSTAND 01 & 02 REBAR SECTION ABOVE ROLLER SHUTTER DOOR

SCALE: 1:50
VERT: NTS



TYPICAL ACCESS STAIR REBAR SECTION

SCALE: 1:50
VERT: NTS

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GR STAND 01	1	16	Y10	8250	16	GS1-01A	20	[8260]					81
	1	19	Y10	7700	19	GS1-01B	20	[7690]					90
	1	4	Y10	1500	4	GS1-01C	20	[1480]					4
	1	4	Y10	3450	4	GS1-01D	20	[3450]					9
	1	78	Y12	6050	78	GS1-02	99I	5180	380	520	4680	90	419
	1	16	Y12	5400	16	GS1-03A	99I	4810	330	300	4350	90	77
	1	36	Y12	5350	36	GS1-03B	20	[5350]					171
	1	29	Y12	5300	29	GS1-03C	20	[5300]					136
	1	16	Y10	8300	16	GS1-04A	20	[8290]					82
	1	19	Y10	7700	19	GS1-04B	20	[7670]					90
	1	4	Y10	1500	4	GS1-04C	20	[1480]					4
	1	4	Y10	3450	4	GS1-04D	20	[3450]					9
	1	3	Y16	5300	3	GS1-BM1A	20	[5300]					25
	1	3	Y16	6050	3	GS1-BM1B	99I	5180	380	520	4680	120	29
	1	28	Y10	1600	28	GS1-BM1C	60	290	450				28
	1	3	Y16	5300	3	GS1-BM2A	20	[5300]					25
	1	3	Y16	6050	3	GS1-BM2B	99I	5180	380	520	4680	120	29
	1	28	Y10	1600	28	GS1-BM2C	60	290	450				28
	1	2	Y16	4900	2	GS1-BM3	20	[4880]					15
	1	6	Y10	6350	6	STR1-05A	20	[6330]					23
	1	7	Y10	6450	7	STR1-05B	20	[6430]					28
	1	2	Y10	3450	2	STR1-05C	20	[3450]					4
	1	48	Y10	1750	48	STR1-06A	37	350	[1400]				52
	1	310	Y10	2050	310	STR1-06B	37	650	[1400]				392
	1	24	Y10	2200	24	STR1-7A	20	[2210]					33
	1	20	Y10	1100	20	STR1-08A	37	150	[950]				14
	1	20	Y10	1300	20	STR1-08B	37	340	[950]				16
	1	200	Y10	1400	200	STR1-08C	37	450	[950]				173
	1	8	Y10	5500	8	STR1-09A	20	[5480]					27
	1	8	Y10	3950	8	STR1-09B	20	[3960]					19

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE

Schedule Description: GRAND STANDS REBAR SEATING & STAIR REBAR

Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-02A
Revision: 1
Schedule No: 34581S-206-11A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	8	Y10	6750	8	STR1-09C	20	[6730]					33
	1	90	Y10	1450	90	STL-01	83	350	240	350	[350]		80
GR STAND 02	1	19	Y10	8250	19	GS2-01A	20	[8250]					97
	1	19	Y10	7550	19	GS2-01B	20	[7560]					88
	1	78	Y12	6050	78	GS2-02	99I	5180	380	520	4680	90	419
	1	30	Y12	5100	30	GS2-03B	20	[5100]					136
	1	34	Y12	5300	34	GS2-03C	20	[5300]					160
	1	16	Y12	5400	16	GS2-03	99I	4810	330	300	4350	90	77
	1	19	Y10	8300	19	GS2-04A	20	[8290]					97
	1	19	Y10	7550	19	GS2-04B	20	[7530]					88
	1	3	Y16	5300	3	GS2-BM1A	20	[5300]					25
	1	3	Y16	6050	3	GS2-BM1B	99I	5180	380	520	4680	120	29
	1	28	Y10	1600	28	GS2-BM1C	60	290	450				28
	1	3	Y16	5300	3	GS2-BM2A	20	[5300]					25
	1	3	Y16	6050	3	GS2-BM2B	99I	5180	380	520	4680	120	29
	1	28	Y10	1600	28	GS2-BM2C	60	290	450				28
	1	2	Y16	4900	2	GS2-BM3	20	[4880]					15
	1	7	Y10	6500	7	STR2-05A	20	[6500]					28
	1	7	Y10	6500	7	STR2-05B	20	[6480]					28
	1	63	Y10	1750	63	STR2-06A	37	350	[1400]				68
	1	315	Y10	2050	315	STR2-06B	37	650	[1400]				398
	1	10	Y10	1950	10	STR2-7A	20	[1940]					12
	1	18	Y10	1100	18	STR2-08A	37	150	[950]				12
	1	18	Y10	1300	18	STR2-08B	37	340	[950]				14
	1	180	Y10	1400	180	STR2-08C	37	450	[950]				155
	1	8	Y10	6550	8	STR2-09A	20	[6540]					32
	1	8	Y10	4000	8	STR2-09B	20	[4000]					20
	1	8	Y10	5700	8	STR2-09C	20	[5670]					28
	1	90	Y10	1450	90	STL-02	83	350	240	350	[350]		80

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y				2620	1595	246				4461
TOTAL				2620	1595	246				4461

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE

Schedule Description: GRAND STANDS REBAR SEATING & STAIR REBAR

Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-02A
Revision: 1
Schedule No: 34581S-206-11B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GB01	1	4	Y20	8950	4	A1	20	[8940]					88
	1	4	Y20	8950	4	A2	20	[8950]					88
	1	2	Y20	8950	2	B1	20	[8940]					44
	1	2	Y20	8950	2	B2	20	[8940]					44
	1	2	Y20	8950	2	B3	20	[8940]					44
	1	2	Y20	8950	2	B4	20	[8940]					44
	1	2	Y20	8950	2	B5	20	[8940]					44
	1	2	Y20	8950	2	B6	20	[8940]					44
	1	2	Y20	8950	2	B7	20	[8950]					44
	1	2	Y20	8950	2	B8	20	[8950]					44
	1	2	Y20	8950	2	B9	20	[8950]					44
	1	2	Y20	8950	2	B10	20	[8950]					44
	1	2	Y20	8950	2	B11	20	[8950]					44
	1	2	Y20	8950	2	B12	20	[8950]					44
	1	4	Y20	8950	4	C1	20	[8940]					88
	1	4	Y20	8950	4	C2	20	[8950]					88
	1	152	Y12	2300	152	STA-GS1	62	830	750	[1450]			310
	1	54	Y10	3350	54	STRP-A	38	1350	700	[1350]			112
	1	54	Y10	2450	54	STRP-B	38	900	700	[900]			82
GB02	1	4	Y20	7950	4	A1	20	[7940]					78
	1	4	Y20	9250	4	A1	20	[9240]					91
	1	2	Y20	7950	2	B1	20	[7940]					39
	1	2	Y20	7950	2	B2	20	[7940]					39
	1	2	Y20	7950	2	B3	20	[7940]					39
	1	2	Y20	7950	2	B4	20	[7940]					39
	1	2	Y20	7950	2	B5	20	[7940]					39
	1	2	Y20	7950	2	B6	20	[7940]					39
	1	2	Y20	9250	2	B7	20	[9250]					46
	1	2	Y20	9250	2	B8	20	[9250]					46
	1	2	Y20	9250	2	B9	20	[9250]					46

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE

Schedule Description: GRAND STANDS REBAR GROUND BEAM REBAR

Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-02A
Revision: 1
Schedule No: 34581S-206-12A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	2	Y20	9250	2	B10	20	[9250]					46
	1	2	Y20	9250	2	B11	20	[9250]					46
	1	2	Y20	9250	2	B12	20	[9250]					46
	1	4	Y20	7950	4	C1	20	[7940]					78
	1	4	Y20	9250	4	C2	20	[9250]					91
	1	152	Y12	2300	152	STA-GS2	62	830	750	[1450]			310
	1	55	Y10	3350	55	STRP-A	38	1350	700	[1350]			114
	1	56	Y10	2450	56	STRP-B	38	900	700	[900]			85

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			391	621		1731				2743
TOTAL			391	621		1731				2743

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE

Schedule Description: GRAND STANDS REBAR GROUND BEAM REBAR

Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-02A
Revision: 1
Schedule No: 34581S-206-12B

NOTES / LEGEND

GENERAL NOTES

1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE.
SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
T3 / : TENDER DRAWING
C1,2,../ : AFTER TENDER
Z / : AS BUILT

A : BY CLIENT
B : BY ARCHITECT
C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
E : BY OTHER ( )

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-20	JTM	1	ADDITIONAL DETAILS (SEE REVISION CLOUDS)

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bvi CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers Environmental & Project Management
BBBEE LEVEL 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

GRAND STANDS REBAR LAYOUT

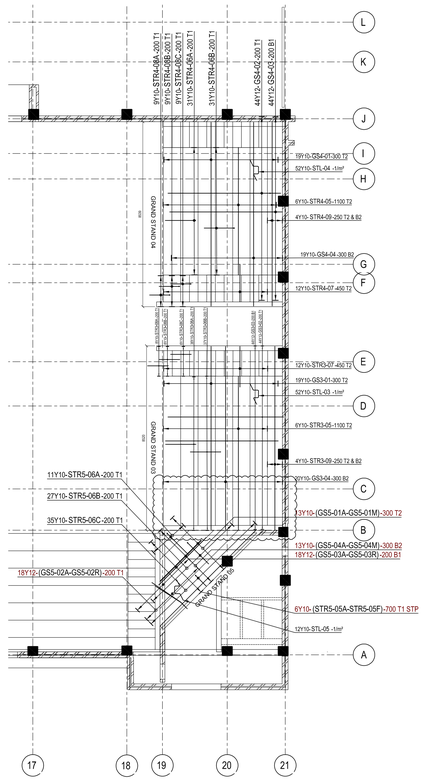
APPROVED BY BVI

JJ HAEFELE — 20190844 — 2024-05-20
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

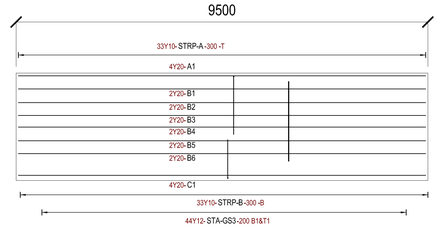
SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER: 34581S-204-02A
REVISION NO.: 1

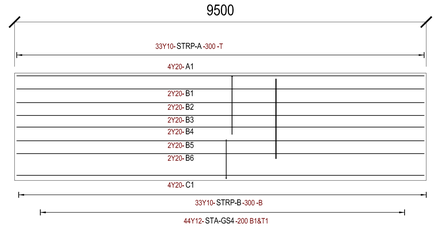
DWG TO BE READ IN CONJUNCTION WITH:
-34851S-201-01/02/03
-34851S-202-01/02
-34851S-204-03
-34851S-200-G01



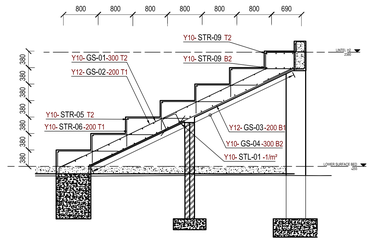
GRANDSTANDS 03-05 REBAR LAYOUT
SCALE: 1:100



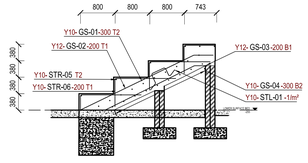
GRAND STAND 03-GB
SCALE: 1:50



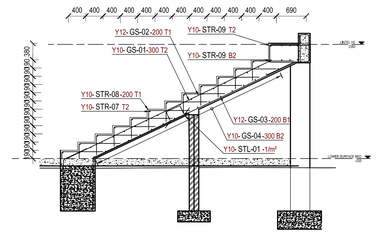
GRAND STAND 04-GB
SCALE: 1:50



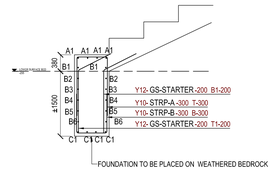
TYPICAL GRANDSTAND 03 & 04 REBAR SECTION
SCALE: 1:50
VERT: NTS



TYPICAL GRANDSTAND 05 REBAR SECTION
SCALE: 1:50
VERT: NTS



TYPICAL ACCESS STAIR REBAR SECTION
SCALE: 1:50
VERT: NTS



TYPICAL GROUND BEAM REBAR SECTION
SCALE: 1:50
VERT: NTS

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GR STAND 03	1	19	Y10	8450	19	GS3-01	20	[8460]					99
	1	44	Y12	6200	44	GS3-02	998	5180	380	660	4680	90	242
	1	44	Y12	5200	44	GS3-03	20	[5200]					203
	1	20	Y10	8450	20	GS3-04	20	[8460]					104
	1	6	Y10	7100	6	STR3-05	20	[7100]					26
	1	38	Y10	1750	38	STR3-06A	37	350	[1400]				41
	1	185	Y10	2050	185	STR3-06B	37	650	[1400]				234
	1	12	Y10	1850	12	STR3-07	20	[1860]					14
	1	8	Y10	1100	8	STR3-08A	37	150	[950]				5
	1	8	Y10	1300	8	STR3-08B	37	340	[950]				6
	1	80	Y10	1400	80	STR3-08C	37	450	[950]				69
	1	8	Y10	8450	8	STR3-09	20	[8450]					42
	1	52	Y10	1450	52	STL-03	83	350	240	350	[350]		46
GR STAND 04	1	19	Y10	8500	19	GS4-01	20	[8470]					100
	1	44	Y12	6050	44	GS4-02	998	5180	380	520	4680	90	236
	1	44	Y12	5200	44	GS4-03	20	[5200]					203
	1	19	Y10	8500	19	GS4-04	20	[8470]					100
	1	6	Y10	5900	6	STR4-05	20	[5880]					22
	1	31	Y10	1750	31	STR4-06A	37	350	[1400]				33
	1	155	Y10	2050	155	STR4-06B	37	650	[1400]				196
	1	24	Y10	1750	24	STR4-07	20	[1730]					26
	1	18	Y10	1100	18	STR4-08A	37	150	[950]				12
	1	18	Y10	1300	18	STR4-08B	37	340	[950]				14
	1	180	Y10	1400	180	STR4-08C	37	450	[950]				155
	1	8	Y10	8500	8	STR4-09	20	[8470]					42
	1	52	Y10	1450	52	STL-04	83	350	240	350	[350]		46
GR STAND 05	1	1	Y10	300	1	GS5-01A	20	[280]					
	1	1	Y10	700	1	GS5-01B	20	[680]					
	1	1	Y10	1100	1	GS5-01C	20	[1085]					1
	1	1	Y10	1500	1	GS5-01D	20	[1485]					1

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-02B
	GRAND STANDS REBAR SEATING & STAIR REBAR	Revision:	1
		Schedule No:	34581S-206-13A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	1	Y10	1900	1	GS5-01E	20	[1885]					1
	1	1	Y10	2300	1	GS5-01F	20	[2290]					1
	1	1	Y10	2700	1	GS5-01G	20	[2690]					2
	1	1	Y10	3100	1	GS5-01H	20	[3090]					2
	1	1	Y10	3500	1	GS5-01I	20	[3495]					2
	1	1	Y10	3900	1	GS5-01J	20	[3895]					2
	1	1	Y10	4300	1	GS5-01K	20	[4295]					3
	1	1	Y10	4700	1	GS5-01L	20	[4700]					3
	1	1	Y10	5100	1	GS5-01M	20	[5100]					3
	1	2	Y12	750	2	GS5-02A	62	300	300	[440]			1
	1	2	Y12	900	2	GS5-02B	62	455	300	[440]			2
	1	2	Y12	1050	2	GS5-02C	62	605	300	[440]			2
	1	2	Y12	1200	2	GS5-02D	62	760	300	[440]			2
	1	2	Y12	1350	2	GS5-02E	62	910	300	[440]			2
	1	2	Y12	1500	2	GS5-02F	62	1065	300	[440]			3
	1	2	Y12	1650	2	GS5-02G	62	1220	300	[440]			3
	1	2	Y12	1800	2	GS5-02H	62	1370	300	[440]			3
	1	2	Y12	2000	2	GS5-02I	62	1525	300	[440]			4
	1	2	Y12	2100	2	GS5-02J	62	1675	300	[440]			4
	1	2	Y12	2300	2	GS5-02K	62	1830	300	[440]			4
	1	2	Y12	2450	2	GS5-02L	62	1980	300	[440]			4
	1	2	Y12	2600	2	GS5-02M	62	2135	300	[440]			5
	1	2	Y12	2750	2	GS5-02N	62	2290	300	[440]			5
	1	2	Y12	2900	2	GS5-02O	62	2440	300	[440]			5
	1	2	Y12	3050	2	GS5-02P	62	2595	300	[440]			5
	1	2	Y12	3200	2	GS5-02Q	62	2745	300	[440]			6
	1	2	Y12	3350	2	GS5-02R	62	2900	300	[440]			6
	1	2	Y12	550	2	GS5-03A	62	300	300	[250]			1
	1	2	Y12	700	2	GS5-03B	62	430	300	[250]			1
	1	2	Y12	800	2	GS5-03C	62	560	300	[250]			1

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-02B
	GRAND STANDS REBAR SEATING & STAIR REBAR	Revision:	1
		Schedule No:	34581S-206-13B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	2	Y12	950	2	GS5-03D	62	690	300	[250]			2
	1	2	Y12	1100	2	GS5-03E	62	820	300	[250]			2
	1	2	Y12	1200	2	GS5-03F	62	945	300	[250]			2
	1	2	Y12	1350	2	GS5-03G	62	1075	300	[250]			2
	1	2	Y12	1450	2	GS5-03H	62	1205	300	[250]			3
	1	2	Y12	1600	2	GS5-03I	62	1335	300	[250]			3
	1	2	Y12	1700	2	GS5-03J	62	1465	300	[250]			3
	1	2	Y12	1850	2	GS5-03K	62	1595	300	[250]			3
	1	2	Y12	2000	2	GS5-03L	62	1725	300	[250]			4
	1	2	Y12	2100	2	GS5-03M	62	1855	300	[250]			4
	1	2	Y12	2250	2	GS5-03N	62	1980	300	[250]			4
	1	2	Y12	2350	2	GS5-03O	62	2110	300	[250]			4
	1	2	Y12	2500	2	GS5-03P	62	2240	300	[250]			4
	1	2	Y12	2650	2	GS5-03Q	62	2370	300	[250]			5
	1	2	Y12	2750	2	GS5-03R	62	2500	300	[250]			5
	1	1	Y10	300	1	GS5-04A	20	[280]					
	1	1	Y10	700	1	GS5-04B	20	[680]					
	1	1	Y10	1100	1	GS5-04C	20	[1085]					1
	1	1	Y10	1500	1	GS5-04D	20	[1485]					1
	1	1	Y10	1900	1	GS5-04E	20	[1885]					1
	1	1	Y10	2300	1	GS5-04F	20	[2290]					1
	1	1	Y10	2700	1	GS5-04G	20	[2690]					2
	1	1	Y10	3100	1	GS5-04H	20	[3090]					2
	1	1	Y10	3500	1	GS5-04I	20	[3495]					2
	1	1	Y10	3900	1	GS5-04J	20	[3895]					2
	1	1	Y10	4300	1	GS5-04K	20	[4295]					3
	1	1	Y10	4700	1	GS5-04L	20	[4700]					3
	1	1	Y10	5100	1	GS5-04M	20	[5100]					3
	1	1	Y10	300	1	STR5-05A	20	[300]					
	1	1	Y10	1400	1	STR5-05E	20	[1400]					1

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-02B
	GRAND STANDS REBAR SEATING & STAIR REBAR	Revision:	1
		Schedule No:	34581S-206-13C

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	1	Y10	2500	1	STR5-05D	20	[2500]					2
	1	1	Y10	3600	1	STR5-05E	20	[3600]					2
	1	1	Y10	4700	1	STR5-05E	20	[4700]					3
	1	1	Y10	5800	1	STR5-05F	20	[5800]					4
	1	11	Y10	1750	11	STR5-06A	37	350	[1400]				12
	1	54	Y10	2050	54	STR5-06B	37	650	[1400]				68
	1	13	Y10	1350	35	STR5-06C	37	650	[710]				29
	1	12	Y10	1450	12	STL-05	83	350	240	350	[350]		11

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			1608	1003						2611
TOTAL			1608	1003						2611

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-02B
	GRAND STANDS REBAR SEATING & STAIR REBAR	Revision:	1
		Schedule No:	34581S-206-13D

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GB03	1	4	Y20	9400	4	A1	20	[9400]					93
	1	2	Y20	9400	2	B1	20	[9400]					46
	1	2	Y20	9400	2	B2	20	[9400]					46
	1	2	Y20	9400	2	B3	20	[9400]					46
	1	2	Y20	9400	2	B4	20	[9400]					46
	1	2	Y20	9400	2	B5	20	[9400]					46
	1	2	Y20	9400	2	B6	20	[9400]					46
	1	4	Y20	9400	4	C1	20	[9400]					93
	1	88	Y12	2300	88	STA-GS3	62	830	750	[1450]			180
	1	33	Y10	3350	33	STRP-A	38	1350	700	[1350]			68
	1	33	Y10	2450	33	STRP-B	38	900	700	[900]			50
GB04	1	4	Y20	9400	4	A1	20	[9400]					93
	1	2	Y20	9400	2	B1	20	[9400]					46
	1	2	Y20	9400	2	B2	20	[9400]					46
	1	2	Y20	9400	2	B3	20	[9400]					46
	1	2	Y20	9400	2	B4	20	[9400]					46
	1	2	Y20	9400	2	B5	20	[9400]					46
	1	2	Y20	9400	2	B6	20	[9400]					46
	1	4	Y20	9400	4	C1	20	[9400]					93
	1	88	Y12	2300	88	STA-GS4	62	830	750	[1450]			180
	1	33	Y10	3350	33	STRP-A	38	1350	700	[1350]			68
	1	33	Y10	2450	33	STRP-B	38	900	700	[900]			50

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			236	359		927				1523
TOTAL			236	359		927				1523

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-02B
	GRAND STANDS REBAR GROUND BEAM REBAR	Revision:	0
		Schedule No:	34581S-206-14

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE.
SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CS1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE 8 PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	1
	PRELIMINARY	
	INFO ONLY	
	FOR TENDER	
X	FOR CONSTRUCTION	
	AS-BUILT	

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2,../ : AFTER TENDER
Z / : AS BUILT

A : BY CLIENT
B : BY ARCHITECT
C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
E : BY OTHER ( )

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DATE.	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-20	JTM	1	REVISED DETAILS (SEE REVISION CLOUDS)

OFFICES

PROVINCE	OFFICE	E-MAIL
Free State	Central	bfs@bvifs.co.za

Visit or contact us online at www.bvigroup.co.za

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CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers, Environmental & Project Management
ISO 9001:2015 BBBEE LEVEL 1 CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

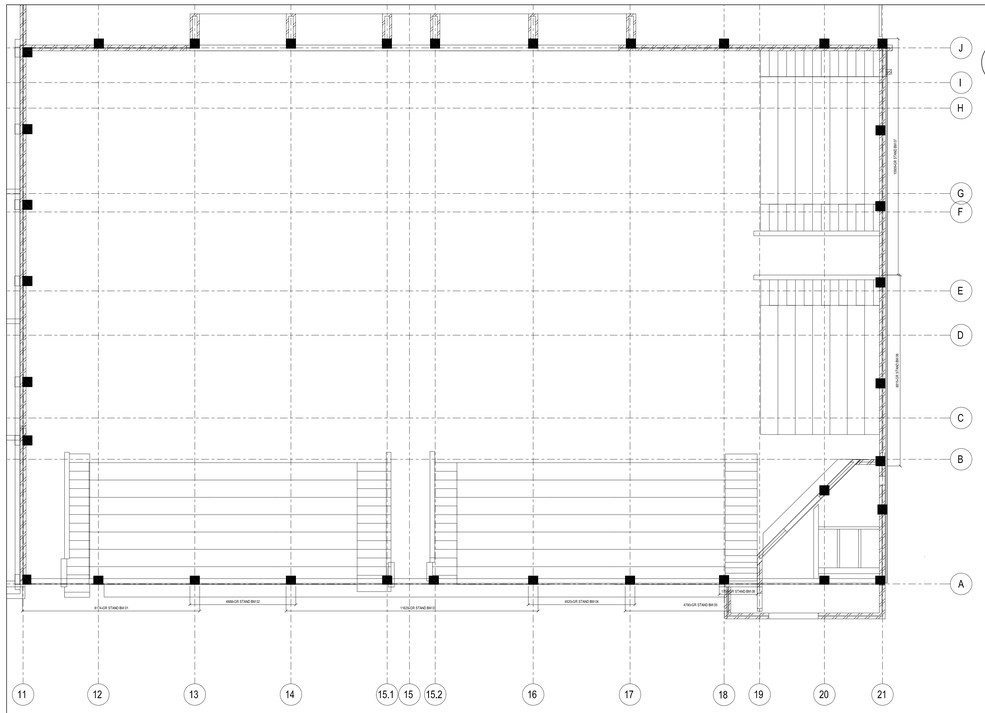
GRAND STANDS REBAR LAYOUT

APPROVED BY BVI

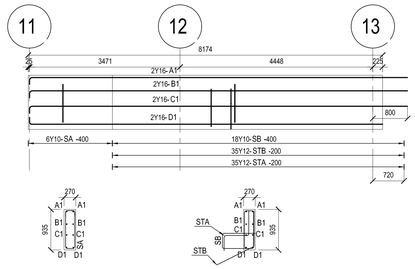
JJ HAEFELE | 20190844 | 2024-05-20
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-02B		1	

DWG TO BE READ IN CONJUNCTION WITH:
-34851S-201-01/02/03
-34851S-202-01/02
-34851S-204-03
-34851S-200-G01



GRANDSTAND BEAMS LAYOUT
SCALE 1:100



GR STND BM 01
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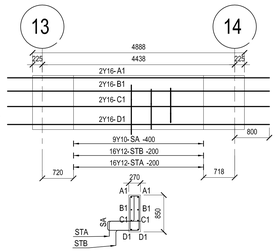
NO OFF: 01



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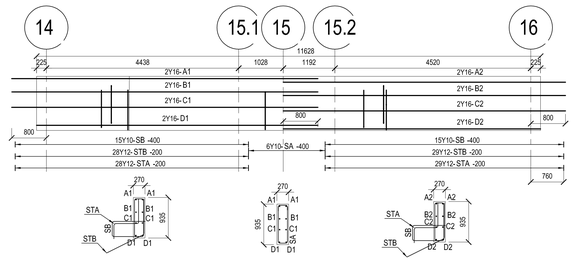

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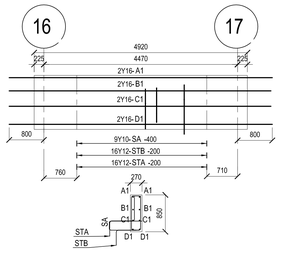
SCALE: 1:50
VERT: NTS
NO OFF: 01



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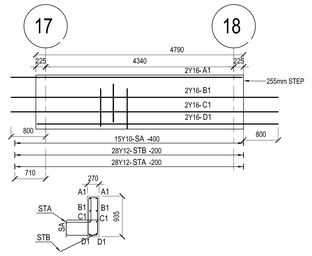
NO OFF: 01



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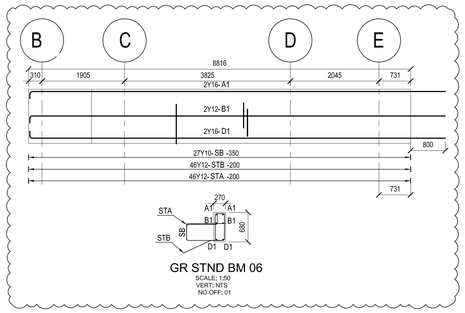
NO OFF: 01



GR STND BM 06
SCALE: 1:50
VERT: NTS
NO OFF: 01

GR STND BM 07
SCALE: 1:50
VERT: NTS
NO OFF: 01

GR STND BM 08
SCALE: 1:50
VERT: NTS
NO OFF: 01



TYPICAL RC BEAM CONNECTION AT RC COLUMN
SCALE 1:50

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GR STND BM 01	1	2	Y16	8850	2	A1	37	8710	[160]				28
	1	2	Y16	8850	2	B1	37	8710	[160]				28
	1	2	Y16	8850	2	C1	37	8710	[160]				28
	1	2	Y16	8250	2	D1	37	8140	[160]				26
	1	6	Y10	2500	6	SA	74	870	210				9
	1	18	Y10	3800	18	SB	75	760	350	760	870	210	42
	1	35	Y12	1450	35	STA	54	350	570	[580]			45
	1	35	Y12	1800	35	STB	62	950	860	[820]			56
GR STND BM 02	1	2	Y16	6050	2	A1	20	[6030]					19
	1	2	Y16	6050	2	B1	20	[6030]					19
	1	2	Y16	6050	2	C1	20	[6030]					19
	1	2	Y16	6050	2	D1	20	[6030]					19
	1	9	Y10	3500	9	SA	75	760	220	760	790	210	19
	1	16	Y12	1450	16	STA	54	350	570	[580]			21
	1	16	Y12	1650	16	STB	54	350	560	[800]			23
GR STND BM 03	1	2	Y16	7050	2	A1	20	[7060]					22
	1	2	Y16	6500	2	A2	20	[6510]					21
	1	2	Y16	7050	2	B1	20	[7060]					22
	1	2	Y16	6500	2	B2	20	[6510]					21
	1	2	Y16	7050	2	C1	20	[7060]					22
	1	2	Y16	6500	2	C2	20	[6510]					21
	1	2	Y16	6500	2	D1	20	[6490]					21
	1	2	Y16	5950	2	D2	20	[5930]					19
	1	6	Y10	2500	6	SA	74	870	210				9
	1	30	Y10	3800	30	SB	75	760	350	760	870	210	70
	1	57	Y12	1450	57	STA	54	350	570	[580]			73
	1	57	Y12	1800	57	STB	62	950	860	[820]			91
GR STND BM 04	1	2	Y16	6100	2	A1	20	[6070]					19
	1	2	Y16	6050	2	B1	20	[6030]					19
	1	2	Y16	6050	2	C1	20	[6030]					19

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			341	710	683					1734
TOTAL			341	710	683					1734

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
		Ref Dwg:	34581S-204-03
	Schedule Description: GRANDSTANDS REBAR GRANDSTAND BEAM REBAR	Revision:	1
		Schedule No:	34581S-206-15A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	2	Y16	6100	2	D1	20	[6070]					19
	1	9	Y10	3500	9	SA	75	760	220	760	790	210	19
	1	16	Y12	1450	16	STA	54	350	570	[580]			21
	1	16	Y12	1650	16	STB	54	350	560	[800]			23
GR STND BM 05	1	2	Y16	5350	2	A1	20	[5330]					17
	1	2	Y16	6150	2	B1	20	[6160]					19
	1	2	Y16	6150	2	C1	20	[6160]					19
	1	2	Y16	5550	2	D1	20	[5560]					18
	1	15	Y10	3800	15	SA	75	760	350	760	870	210	35
	1	28	Y12	1450	28	STA	54	350	570	[580]			36
	1	28	Y12	1800	28	STB	62	950	860	[820]			45
GR STND BM 06	1	2	Y16	9700	2	A1	37	9580	[160]				31
	1	2	Y12	9700	2	B1	37	9580	[160]				17
	1	2	Y16	9700	2	D1	37	9580	[160]				31
	1	27	Y10	3600	27	SB	75	900	390	900	620	210	60
	1	46	Y12	1250	46	STA	54	350	710	[240]			51
	1	46	Y12	1600	46	STB	998	680	320	620	290	90	65
GR STND BM 07	1	2	Y16	11700	2	A1	20	[11670]					37
	1	2	Y12	11700	2	B1	20	[11670]					21
	1	2	Y16	11700	2	D1	20	[11670]					37
	1	10	Y10	2000	10	SA	74	620	210				12
	1	23	Y10	3600	23	SB	75	900	390	900	620	210	51
	1	39	Y12	1250	39	STA	54	350	710	[240]			43
	1	39	Y12	1600	39	STB	998	680	320	620	290	90	55
GR STND BM 08	1	3	Y16	3350	3	A1	20	[3350]					16
	1	3	Y16	3350	3	C1	20	[3350]					16
	1	3	Y16	2550	3	D1	20	[2550]					12
	1	6	Y10	3350	6	SA	75	760	350	710	610	330	12
	1	10	Y12	1050	10	STA	54	350	430	[320]			9
	1	10	Y12	1550	10	STB	62	950	860	[580]			14

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-20
		Det. by:	JTM
		Ref Dwg:	34581S-204-03
	Schedule Description: GRANDSTANDS REBAR GRANDSTAND BEAM REBAR	Revision:	1
		Schedule No:	34581S-206-15B

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE:
SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CO1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-20	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
TI : / : TENDER DRAWING
C.T.Z.../ : AFTER TENDER
Z : / : AS BUILT

A : BY CLIENT
B : BY ARCHITECT
C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
E : BY OTHER ( )

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-20	JTM	1	REVISED DETAILS (SEE REVISION CLOUDS)

OFFICES

PROVINCE	OFFICE		E-MAIL
Free State	Central	(051) 447-2137	bfs@bvifs.co.za

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Civil, Structural & Electrical Engineers, Environmental & Project Management
HEALTH & SAFETY PRACTICE
DBSA DEVELOPMENT FUND
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

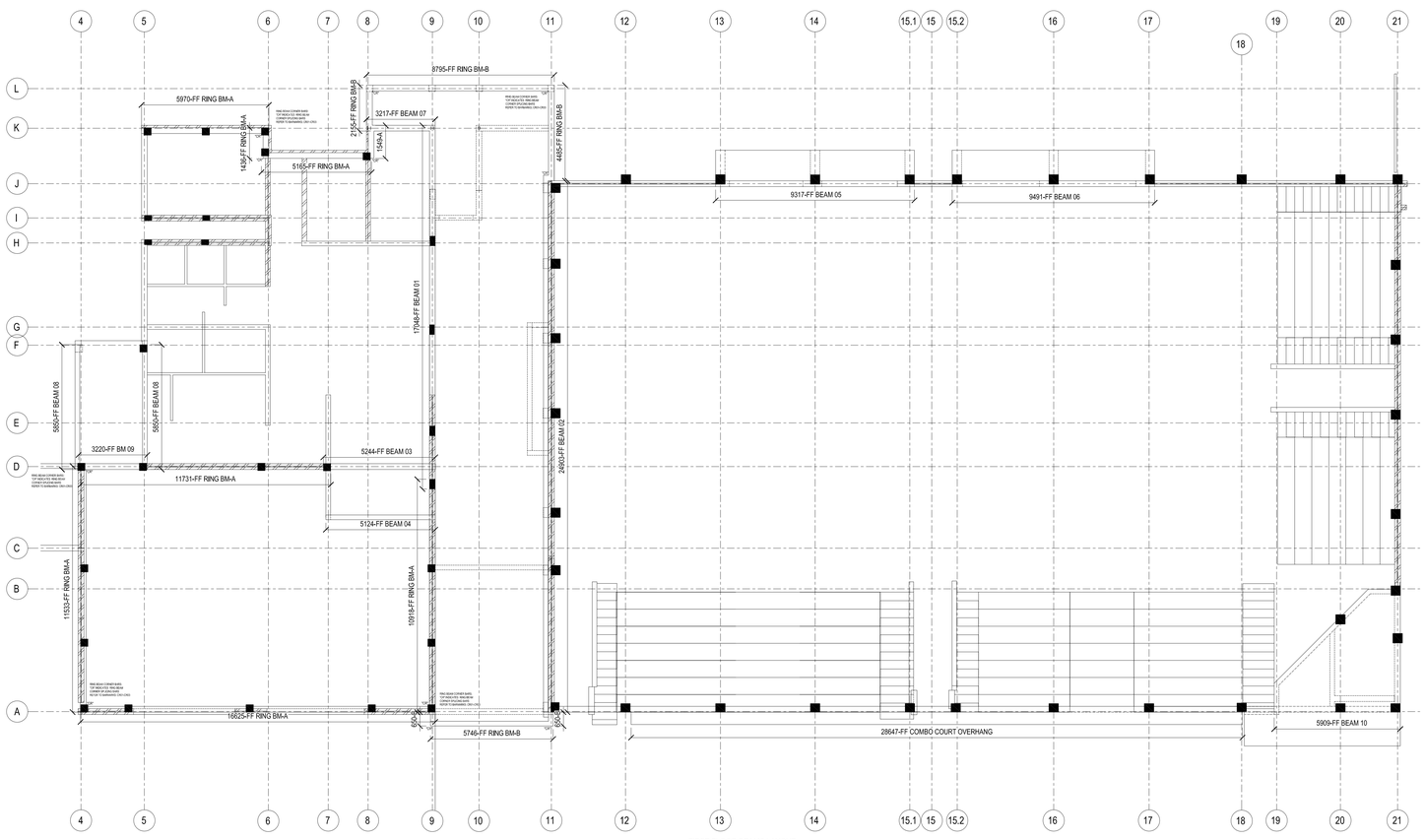
GRAND STANDS BEAMS REBAR LAYOUT

APPROVED BY BVI

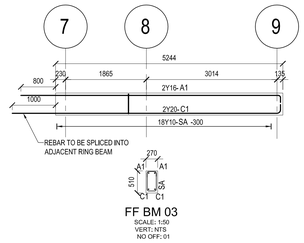
JJ HAEFELE | 20190844 | 2024-05-20
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-03		1	

DWG TO BE READ IN CONJUNCTION WITH:
-34581S-201-01/02/03
-34581S-202-01/02
-34581S-204-02A/B
-34581S-200-G01



FIRST FLOOR BEAMS LAYOUT
SCALE 1:100



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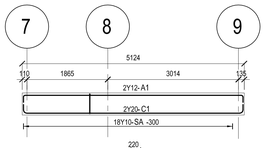

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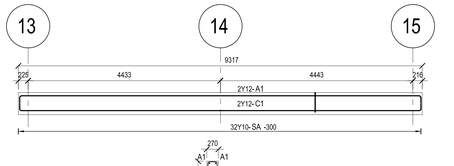

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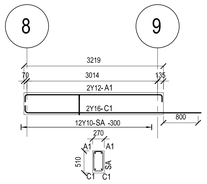

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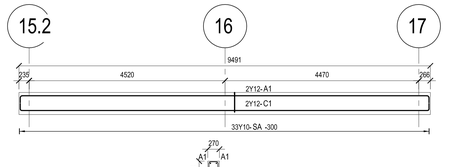

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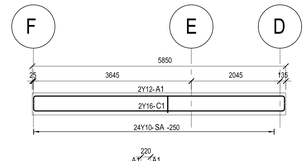

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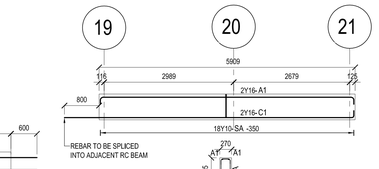

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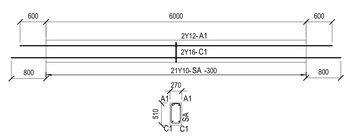
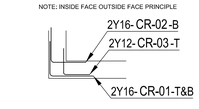
SCALE: 1:50
VERT: NTS
NO OFF: 01



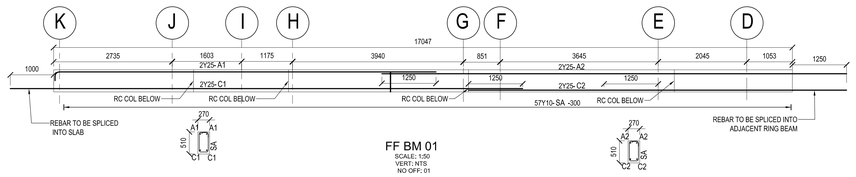
FF RING BEAM-A
SCALE: 1:50
VERT: NTS
NO OFF: 11



FF RING BEAM CORNER REBAR
SCALE: 1:50
NR OFF.: 12



FF COMBO-COURT OVERHANG
SCALE: 1:50
VERT: NTS
NO OFF: 5



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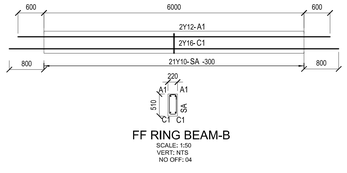
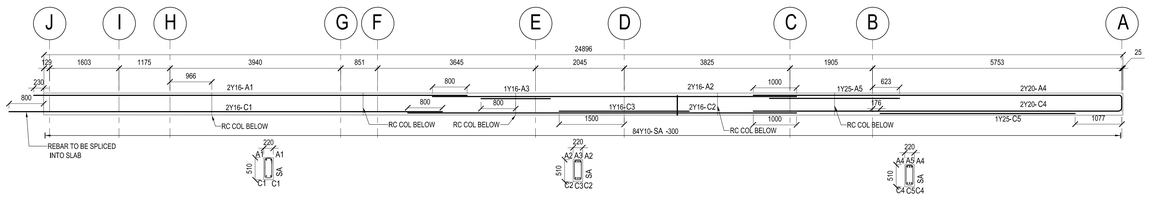
NO OFF: 01



FF RING BEAM-B
SCALE: 1:50
VERT: NTS
NO OFF: 04



FF BM 02
SCALE: 1:50
VERT: NTS
NO OFF: 01

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
FF BM01	1	2	Y25	8950	2	A1	37	8790	[200]				69
	1	2	Y25	10750	2	A2	20	[10720]					83
	1	2	Y25	11850	2	C1	20	[11820]					91
	1	2	Y25	8750	2	C2	20	[8720]					67
	1	57	Y10	1450	57	SA	60	450	210				51
FF BM02	1	2	Y16	10000	2	A1	20	[10000]					32
	1	2	Y16	8400	2	A2	20	[8400]					27
	1	1	Y16	1600	1	A3	20	[1600]					3
	1	2	Y20	8600	2	A4	37	8500	[160]				42
	1	1	Y25	3000	1	A5	20	[3000]					12
	1	2	Y16	10000	2	C1	20	[10000]					32
	1	2	Y16	9000	2	C2	20	[8970]					28
	1	1	Y16	3000	1	C3	20	[3000]					5
	1	2	Y20	8650	2	C4	37	8500	[200]				43
	1	1	Y25	4500	1	C5	20	[4500]					17
	1	84	Y10	1350	84	SA	60	450	160				70
FF BM03	1	2	Y16	6100	2	A1	37	5980	[160]				19
	1	2	Y20	6350	2	C1	37	6180	[200]				31
	1	18	Y10	1450	18	SA	60	450	210				16
FF BM04	1	2	Y12	5350	2	A1	38	160	5060	[160]			9
	1	2	Y20	5350	2	C1	38	200	5060	[200]			26
	1	18	Y10	1350	18	SA	60	450	160				15
FF BM05	1	2	Y12	9500	2	A1	38	160	9250	[160]			17
	1	2	Y12	9500	2	C1	38	160	9250	[160]			17
	1	32	Y10	1450	32	SA	60	450	210				29
FF BM06	1	2	Y12	9700	2	A1	38	160	9430	[160]			17
	1	2	Y12	9700	2	C1	38	160	9430	[160]			17
	1	33	Y10	1450	33	SA	60	450	210				30
FF BM07	1	2	Y12	3400	2	A1	38	160	3150	[160]			6
	1	2	Y16	4200	2	C1	37	160	[4050]				13

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-04
	FIRST FLOOR REBAR BEAMS REBAR	Revision:	0
		Schedule No:	34581S-206-20A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	12	Y10	1450	12	SA	60	450	210				11
FF BM08	2	2	Y12	6050	4	A1	38	160	5790	[160]			21
	2	2	Y16	6050	4	C1	38	160	5790	[160]			38
	2	24	Y10	1200	48	SA	60	360	160				36
FF BM09	1	2	Y12	3600	2	A1	38	160	3320	[160]			6
	1	2	Y16	3550	2	C1	38	160	3320	[160]			11
	1	13	Y10	1200	13	SA	60	360	160				10
FF BM10	1	2	Y16	6100	2	A1	38	160	5840	[160]			19
	1	2	Y16	6800	2	C1	37	160	[6670]				21
	1	18	Y10	1600	18	SA	60	530	210				18
FF CC OVERHANG	5	5	Y12	7200	25	A1	20	[7200]					160
	5	5	Y12	7200	25	C1	20	[7200]					160
	5	31	Y10	2100	155	SA	60	180	790				201
FF RING BM CR	12	2	Y16	1750	24	CR-01	37	800	[1000]				66
	12	2	Y16	1550	24	CR-02	37	800	[800]				59
	12	2	Y12	1200	24	CR-03	37	600	[600]				26
FF RING BM-A	11	2	Y12	7200	22	A1	20	[7200]					141
	11	2	Y16	7600	22	C1	20	[7600]					264
	11	21	Y10	1450	231	SA	60	450	210				207
FF RING BM-B	4	2	Y12	7200	8	A1	20	[7200]					51
	4	2	Y16	7600	8	C1	20	[7600]					96
	4	21	Y10	1350	84	SA	60	450	160				70

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			761	649	733	143	339			2624
TOTAL			761	649	733	143	339			2624

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-04
	FIRST FLOOR REBAR BEAMS REBAR	Revision:	0
		Schedule No:	34581S-206-20B

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE.
SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CO1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS
GRADE 8 PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
T0 / : / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : / AS BUILT

A : BY CLIENT
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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers, Environmental & Project Management

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

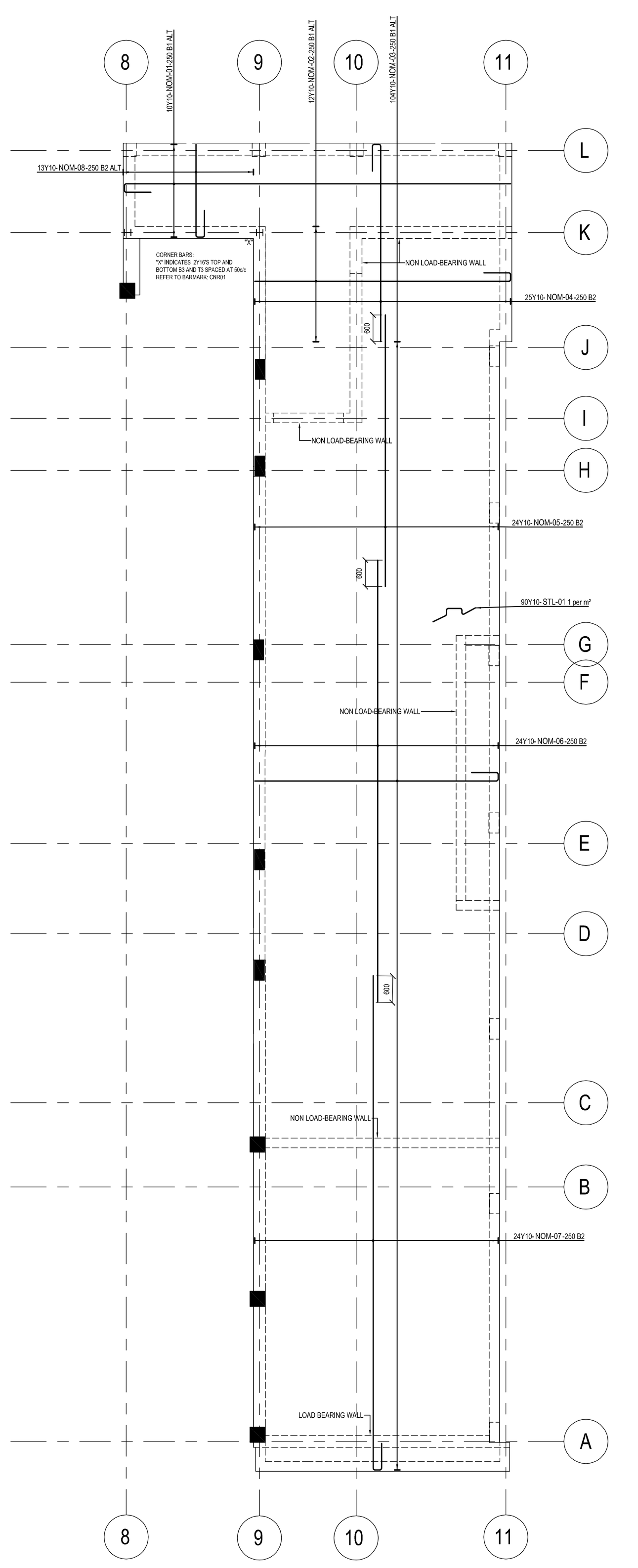
FIRST FLOOR BEAMS REBAR LAYOUT

APPROVED BY BVI

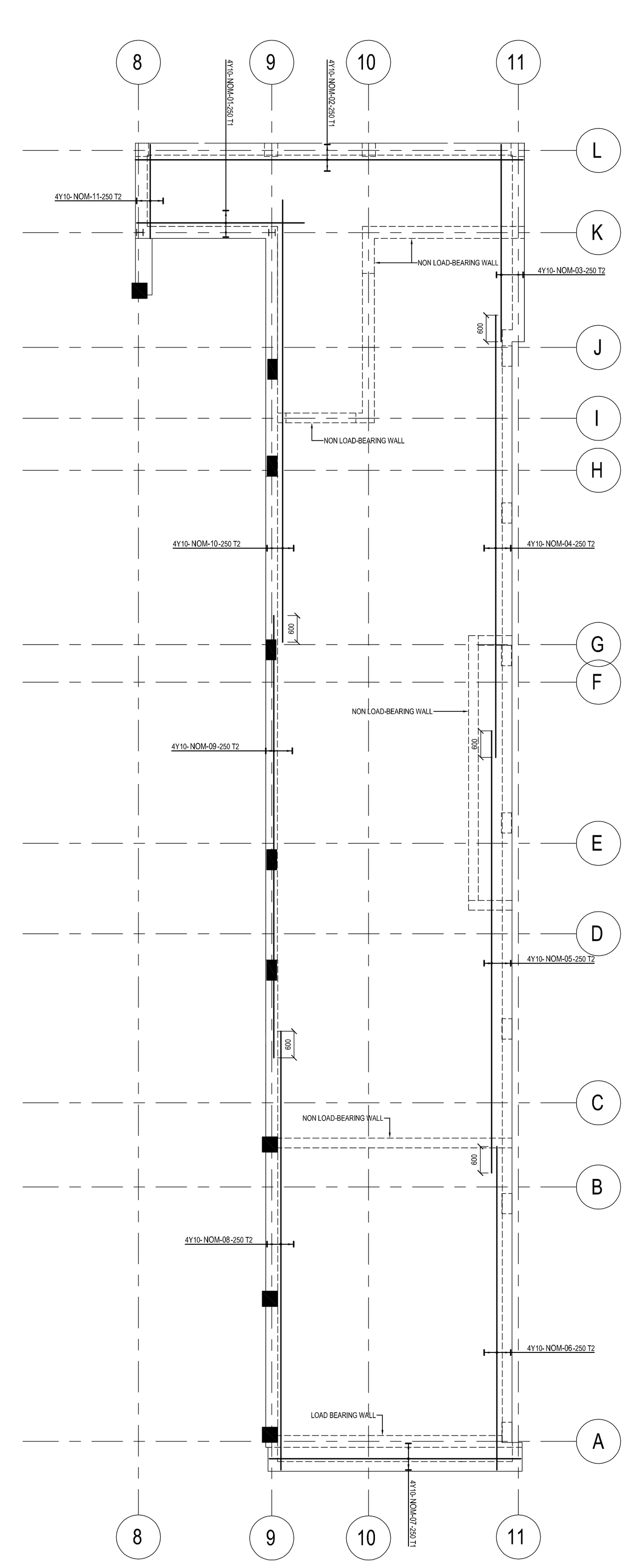
JJ HAEFELE — 20190844 — 2024-05-17
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-04		0	

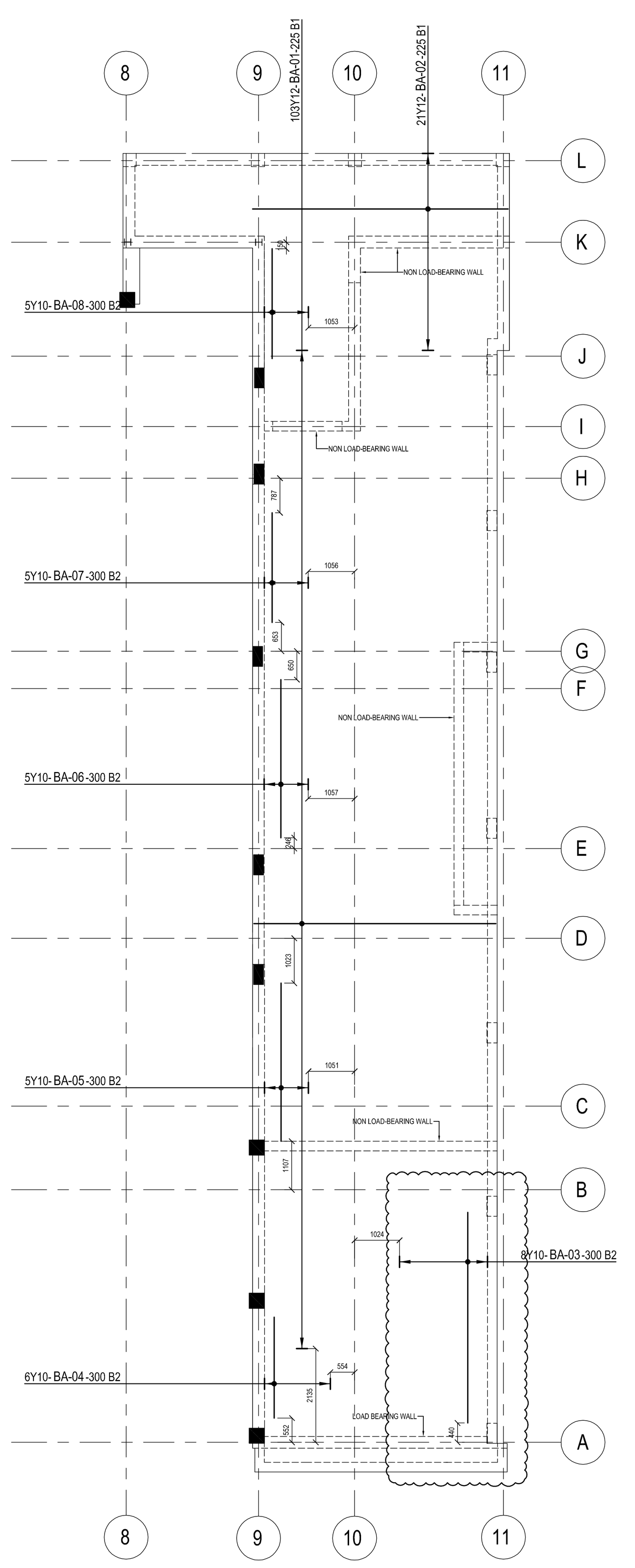
DWG TO BE READ IN CONJUNCTION WITH:
-34581S-201-01/02/03
-34581S-202-01/02
-34581S-200-G01



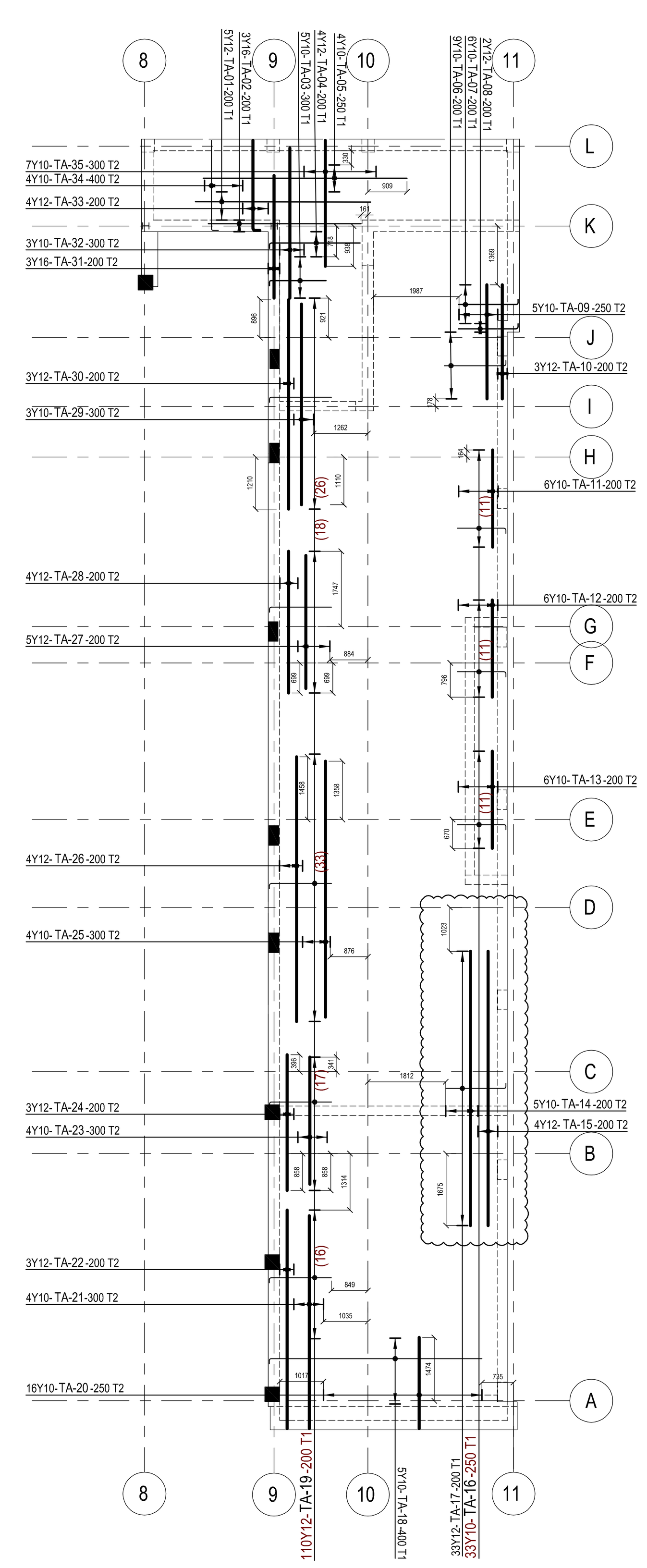
MAIN BUILDING RF BOTTOM NOMINAL REBAR
SCALE 1:100



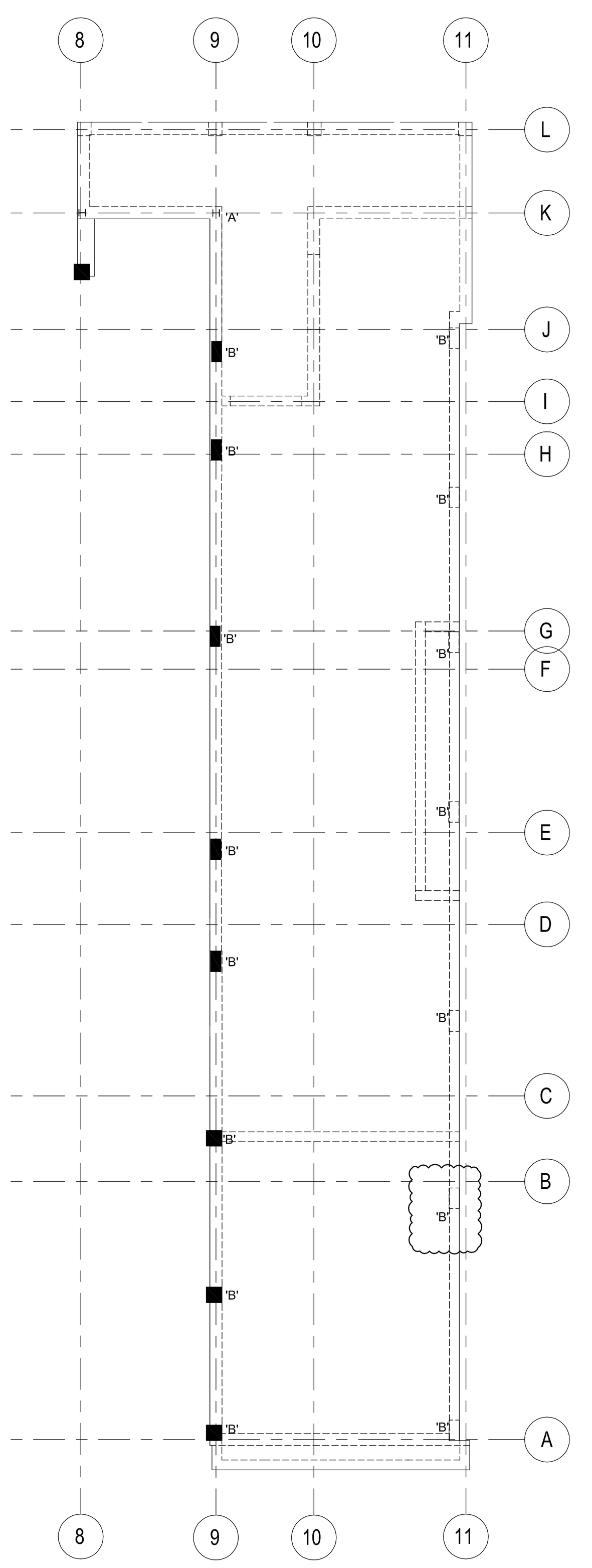
MAIN BUILDING RF TOP NOMINAL REBAR
SCALE 1:100



MAIN BUILDING RF BOTTOM ADDITIONAL REBAR
SCALE 1:100



MAIN BUILDING RF TOP ADDITIONAL REBAR
SCALE 1:100



MAIN BUILDING RF SHEAR REBAR LAYOUT
SCALE 1:100

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MB RF NOM BOTT	1	4	Y16	1500	4	CNR-01	20	[1500]					9
	1	10	Y10	9500	10	NOM-01	38	8730	190	[600]			59
	1	12	Y10	6550	12	NOM-02	38	5780	190	[600]			48
	1	104	Y10	6250	104	NOM-03	38	5500	190	[600]			401
	1	25	Y10	5200	25	NOM-04	38	4450	190	[600]			80
	1	24	Y10	6150	24	NOM-05	20	[6140]					91
	1	24	Y10	10000	24	NOM-06	20	[10000]					148
	1	24	Y10	11900	24	NOM-07	38	11170	190	[600]			176
	1	13	Y10	2850	13	NOM-08	38	2090	190	[600]			23
	1	90	Y10	1250	90	STL-01	83	350	150	350	[350]		69
MB RF NOM TOP	1	4	Y10	3800	4	NOM-01	20	[3780]					9
	1	4	Y10	8750	4	NOM-02	20	[8760]					22
	1	4	Y10	4450	4	NOM-03	20	[4460]					11
	1	4	Y10	10000	4	NOM-04	20	[10000]					25
	1	4	Y10	10000	4	NOM-05	20	[10000]					25
	1	4	Y10	7300	4	NOM-06	20	[7310]					18
	1	4	Y10	5700	4	NOM-07	20	[5680]					14
	1	4	Y10	9950	4	NOM-08	20	[9920]					25
	1	4	Y10	10000	4	NOM-09	20	[10000]					25
	1	4	Y10	10000	4	NOM-10	20	[10000]					25
	1	4	Y10	2150	4	NOM-11	20	[2120]					5

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			1298		9					1307
TOTAL			1298		9					1307

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION
Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE
Schedule Description: MAIN BUILDING ROOF SLAB NOMINAL BOTTOM & TOP REBAR
Job No: 34581S
Date: 2024-05-17
Det. by: JTM
Ref Dwg: 34581S-204-05
Revision: 0
Schedule No: 34581S-206-21

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MB RF BOTT ADD	1	103	Y12	5500	103	BA-01	20	[5500]					503
	1	21	Y12	5800	21	BA-02	20	[5810]					108
	1	8	Y10	4800	8	BA-03	20	[4800]					24
	1	6	Y10	2300	6	BA-04	20	[2300]					9
	1	5	Y10	3600	5	BA-05	20	[3600]					11
	1	5	Y10	3600	5	BA-06	20	[3600]					11
	1	5	Y10	2500	5	BA-07	20	[2500]					8
	1	5	Y10	2500	5	BA-08	20	[2500]					8

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			70	611						681
TOTAL			70	611						681

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION
Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE
Schedule Description: MAIN BUILDING ROOF SLAB ADDITIONAL BOTTOM REBAR
Job No: 34581S
Date: 2024-05-17
Det. by: JTM
Ref Dwg: 34581S-204-05
Revision: 0
Schedule No: 34581S-206-22

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MB RF TOP ADD	1	5	Y12	4100	5	TA-01	20	[4070]					18
	1	3	Y16	3550	3	TA-02	20	[3550]					17
	1	5	Y10	1400	5	TA-03	37	1310	[120]				4
	1	4	Y12	2200	4	TA-04	37	2110	[120]				8
	1	4	Y10	4750	4	TA-05	20	[4730]					12
	1	9	Y10	1550	9	TA-06	37	1430	[120]				9
	1	6	Y10	1500	6	TA-07	37	1380	[120]				6
	1	2	Y12	1500	2	TA-08	37	1380	[120]				3
	1	5	Y10	2650	5	TA-09	20	[2650]					8
	1	3	Y12	2650	3	TA-10	20	[2650]					7
	1	6	Y10	2250	6	TA-11	20	[2260]					8
	1	6	Y10	2250	6	TA-12	20	[2260]					8
	1	6	Y10	2250	6	TA-13	20	[2260]					8
	1	5	Y10	6400	5	TA-14	20	[6380]					20
	1	4	Y12	6400	4	TA-15	20	[6380]					23
	1	33	Y10	1250	33	TA-16	37	120	[1130]				25
	1	33	Y12	1500	33	TA-17	37	1400	[120]				44
	1	5	Y10	5050	5	TA-18	37	4940	[120]				16
	1	110	Y12	1550	110	TA-19	37	1440	[120]				151
	1	16	Y10	2100	16	TA-20	20	[2110]					21
	1	4	Y10	4950	4	TA-21	20	[4950]					12
	1	3	Y12	5100	3	TA-22	20	[5080]					14
	1	4	Y10	2950	4	TA-23	20	[2960]					7
	1	3	Y12	3150	3	TA-24	20	[3150]					8
	1	4	Y10	5950	4	TA-25	20	[5950]					15
	1	4	Y12	6150	4	TA-26	20	[6150]					22
	1	5	Y12	3100	5	TA-27	20	[3090]					14
	1	4	Y12	3300	4	TA-28	20	[3290]					12
	1	3	Y10	4700	3	TA-29	20	[4670]					9
	1	3	Y12	4900	3	TA-30	20	[4870]					13

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION
Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE
Schedule Description: MAIN BUILDING ROOF SLAB ADDITIONAL TOP REBAR
Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-05
Revision: 1
Schedule No: 34581S-206-23A

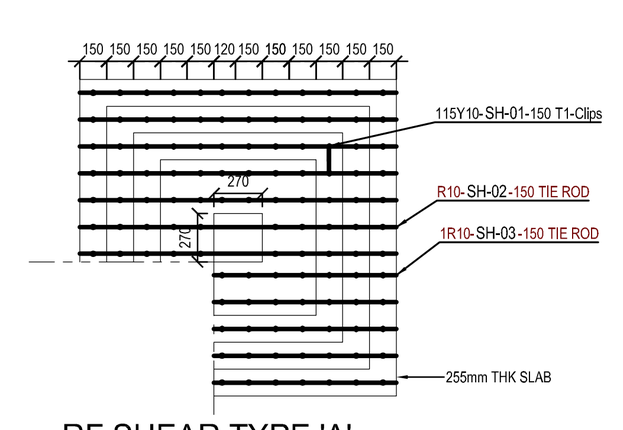
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	3	Y16	2850	3	TA-31	20	[2850]					13
	1	3	Y10	3500	3	TA-32	20	[3490]					6
	1	4	Y12	2250	4	TA-33	37	2090	[160]				8
	1	4	Y10	2250	4	TA-34	37	2090	[160]				6
	1	7	Y10	2950	7	TA-35	20	[2930]					13

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			212	344	30					587
TOTAL			212	344	30					587

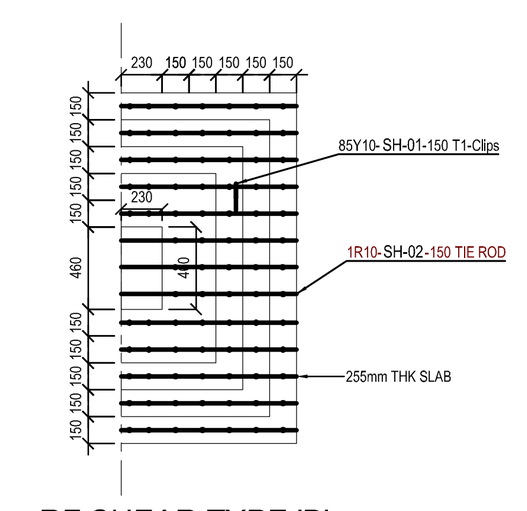
Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION
Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE
Schedule Description: MAIN BUILDING ROOF SLAB ADDITIONAL TOP REBAR
Job No: 34581S
Date: 2024-05-20
Det. by: JTM
Ref Dwg: 34581S-204-05
Revision: 1
Schedule No: 34581S-206-23B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MB RF SHEAR A	1	115	Y10	450	115	SH-01	85	150	190	80	[80]		32
	1	7	R10	1800	7	SH-02	20	[1770]					8
	1	5	R10	1050	5	SH-03	20	[1020]					3
MB RF SHEAR B	15	85	Y10	450	1275	SH-01	85	150	190	80	[80]		354
	15	13	R10	1000	195	SH-02	20	[980]					120

	6	8	10	12	16	20	25	32	40	TOTAL
R			131							131
Y			386							386
TOTAL			517							517



RF SHEAR TYPE 'A'
SCALE 1:25
NR OFF: 1



RF SHEAR TYPE 'B'
SCALE 1:25
NR OFF: 15

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION
Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE
Schedule Description: MAIN BUILDING ROOF SLAB SHEAR REBAR
Job No: 34581S
Date: 2024-05-17
Det. by: JTM
Ref Dwg: 34581S-204-05
Revision: 0
Schedule No: 34581S-206-24

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL II.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE:
SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE: 2024-05-20
DRAWING SIZE: A0
REVISION: 1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT
/A : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVi
/E : BY OTHER ( )

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DATE.	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-05-20	JTM	1	REVISED DETAILS (SEE REVISION CLOUDS)

OFFICES

PROVINCE	OFFICE	☎	E-MAIL
Free State	Central	(051) 447-2137	bfn@bvifs.co.za

Visit or contact us online at www.bvigroup.co.za

BBEEE LEVEL 1
CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers, Environmental & Project Management

CLIENT
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

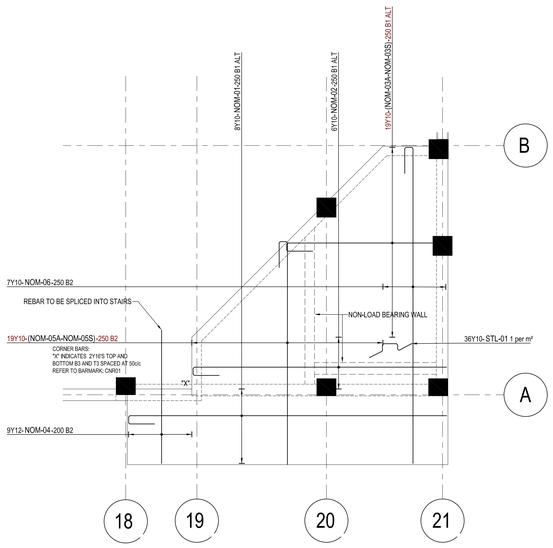
PROJECT
SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE
MAIN BUILDING RF SLAB REBAR LAYOUT

APPROVED BY BVI
JJ HAEFELE | 20190844 | 2024-05-20
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

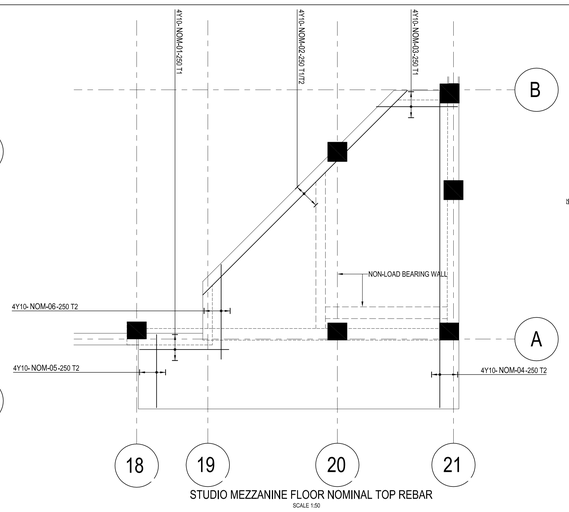
SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-05		1	

DWG TO BE READ IN CONJUNCTION WITH:
-34851S-201-01/02/03
-34851S-202-01/02
-34851S-204-04
-34851S-200-G01



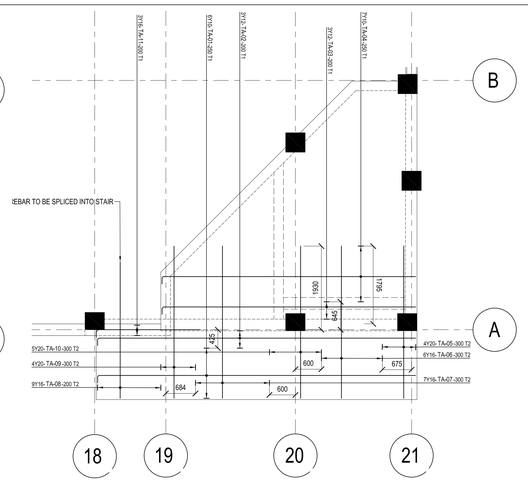
STUDIO MEZZANINE FLOOR NOMINAL BOTTOM REBAR

SCALE 1:50



STUDIO MEZZANINE FLOOR NOMINAL TOP REBAR

SCALE 1:50

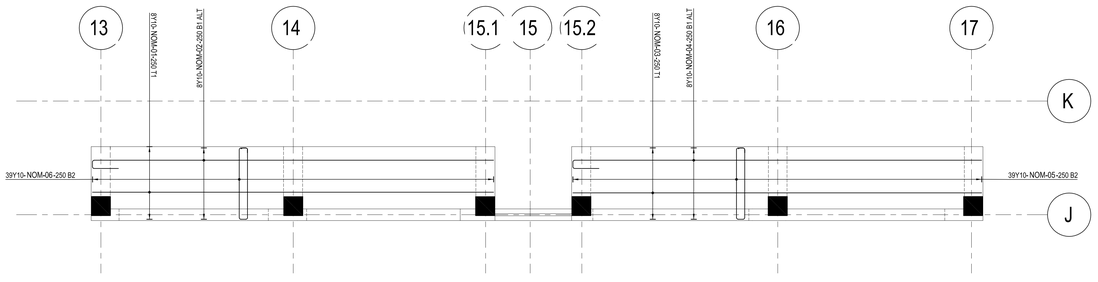


STUDIO MEZZANINE FLOOR ADDITIONAL TOP REBAR

SCALE 1:50

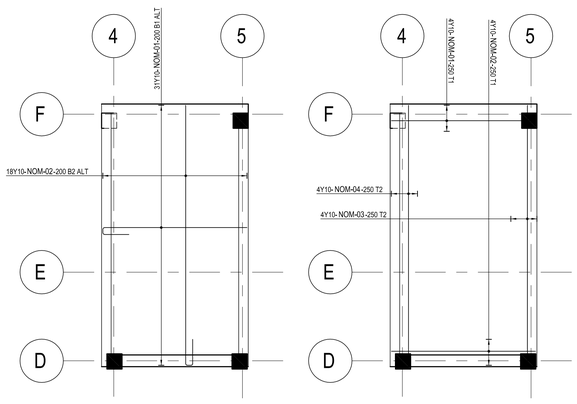
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
OFF RF NOM BOTT	1	31	Y10	4050	31	NOM-01	38	3320	160	[600]			77
	1	18	Y10	6700	18	NOM-02	38	6000	160	[600]			74
OFF RF NOM TOP	1	4	Y10	3350	4	NOM-01	20	[3320]					8
	1	4	Y10	3350	4	NOM-02	20	[3320]					8
	1	4	Y10	6000	4	NOM-03	20	[6000]					15
	1	4	Y10	6000	4	NOM-04	20	[6000]					15

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			198							198
TOTAL			198							198



COMBO-COURT ENTRANCE OVERHANGS NOMINAL REBAR

SCALE 1:50



OFFICE RF NOMINAL BOTTOM REBAR

SCALE 1:50

OFFICE RF NOMINAL TOP REBAR

SCALE 1:50

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: OFFICE ROOF SLAB NOMINAL BOTTOM & TOP REBAR	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-29

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MEZZ NOM BOTT	1	4	Y16	1500	4	CNR-01	20	[1500]					9
	1	8	Y10	8100	8	NOM-01	38	7330	190	[600]			40
	1	6	Y10	6600	6	NOM-02	38	5840	190	[600]			24
	1	1	Y10	2250	1	NOM-03A	38	1510	190	[600]			1
	1	1	Y10	2500	1	NOM-03B	38	1755	190	[600]			2
	1	1	Y10	2750	1	NOM-03C	38	2000	190	[600]			2
	1	1	Y10	3000	1	NOM-03D	38	2240	190	[600]			2
	1	1	Y10	3250	1	NOM-03E	38	2485	190	[600]			2
	1	1	Y10	3500	1	NOM-03F	38	2730	190	[600]			2
	1	1	Y10	3700	1	NOM-03G	38	2975	190	[600]			2
	1	1	Y10	3950	1	NOM-03H	38	3215	190	[600]			2
	1	1	Y10	4200	1	NOM-03I	38	3460	190	[600]			3
	1	1	Y10	4450	1	NOM-03J	38	3705	190	[600]			3
	1	1	Y10	4700	1	NOM-03K	38	3950	190	[600]			3
	1	1	Y10	4950	1	NOM-03L	38	4195	190	[600]			3
	1	1	Y10	5200	1	NOM-03M	38	4435	190	[600]			3
	1	1	Y10	5450	1	NOM-03N	38	4680	190	[600]			3
	1	1	Y10	5700	1	NOM-03O	38	4925	190	[600]			4
	1	1	Y10	5900	1	NOM-03P	38	5170	190	[600]			4
	1	1	Y10	6150	1	NOM-03Q	38	5410	190	[600]			4
	1	1	Y10	6400	1	NOM-03R	38	5655	190	[600]			4
	1	1	Y10	6650	1	NOM-03S	38	5900	190	[600]			4
	1	9	Y12	3750	9	NOM-04	62	2250	1600	[1480]			30
	1	1	Y10	3700	1	NOM-05A	38	2940	190	[600]			2
	1	1	Y10	3950	1	NOM-05B	38	3185	190	[600]			2
	1	1	Y10	4200	1	NOM-05C	38	3430	190	[600]			3
	1	1	Y10	4400	1	NOM-05D	38	3675	190	[600]			3
	1	1	Y10	4650	1	NOM-05E	38	3920	190	[600]			3
	1	1	Y10	4900	1	NOM-05F	38	4165	190	[600]			3
	1	1	Y10	5150	1	NOM-05G	38	4410	190	[600]			3

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: STUDIO MEZZANINE FLOOR SLAB NOMINAL BOTTOM REBAR	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-25A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	1	Y10	5400	1	NOM-05H	38	4655	190	[600]			3
	1	1	Y10	5650	1	NOM-05I	38	4900	190	[600]			3
	1	1	Y10	5900	1	NOM-05J	38	5145	190	[600]			4
	1	1	Y10	6150	1	NOM-05K	38	5390	190	[600]			4
	1	1	Y10	6400	1	NOM-05L	38	5635	190	[600]			4
	1	1	Y10	6650	1	NOM-05M	38	5880	190	[600]			4
	1	1	Y10	6900	1	NOM-05N	38	6125	190	[600]			4
	1	1	Y10	7100	1	NOM-05O	38	6370	190	[600]			4
	1	1	Y10	7350	1	NOM-05P	38	6615	190	[600]			5
	1	1	Y10	7600	1	NOM-05Q	38	6860	190	[600]			5
	1	1	Y10	7850	1	NOM-05R	38	7105	190	[600]			5
	1	1	Y10	8100	1	NOM-05S	38	7350	190	[600]			5
	1	7	Y10	8050	7	NOM-06	38	7290	190	[600]			35
	1	36	Y10	1300	36	STL-01	83	350	170	350	[370]		29

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			249	30	9					289
TOTAL			249	30	9					289

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: STUDIO MEZZANINE FLOOR SLAB NOMINAL BOTTOM REBAR	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-25B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MEZZ NOM TOP	1	4	Y10	2050	4	NOM-01	20	[2050]					5
	1	4	Y10	6700	4	NOM-02	20	[6670]					17
	1	4	Y10	1900	4	NOM-03	20	[1870]					5
	1	4	Y10	7300	4	NOM-04	20	[7290]					18
	1	4	Y10	1700	4	NOM-05	20	[1680]					4
	1	4	Y10	2200	4	NOM-06	20	[2180]					5

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			54							54
TOTAL			54							54

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: STUDIO MEZZANINE FLOOR SLAB NOMINAL TOP REBAR	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-26

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
MEZZ ADD TOP	1	6	Y10	7500	6	TA-01	37	7330	[170]				28
	1	3	Y12	7500	3	TA-02	37	7330	[170]				20
	1	3	Y12	6000	3	TA-03	37	5840	[170]				16
	1	7	Y10	6000	7	TA-04	37	5840	[170]				26
	1	4	Y20	3500	4	TA-05	20	[3510]					35
	1	6	Y16	3500	6	TA-06	20	[3510]					33
	1	7	Y16	3500	7	TA-07	20	[3510]					39
	1	9	Y16	3800	9	TA-08	62	2250	1600	[1550]			54
	1	4	Y20	3500	4	TA-09	20	[3510]					35
	1	5	Y20	3500	5	TA-10	20	[3510]					43
	1	3	Y16	2550	3	TA-11	37	2400	[170]				12

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			54	36	138	112				340
TOTAL			54	36	138	112				340

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: STUDIO MEZZANINE FLOOR SLAB ADDITIONAL TOP REBAR	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-27

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
CC FF CANOPY NOM	1	8	Y10	9250	8	NOM-01	20	[9250]					46
	1	8	Y10	10000	8	NOM-02	38	9250	190	[600]			49
	1	8	Y10	9450	8	NOM-03	20	[9430]					47
	1	8	Y10	10200	8	NOM-04	38	9430	190	[600]			50
	1	39	Y10	3800	39	NOM-05	60	1640	190				91
	1	39	Y10	3800	39	NOM-06	60	1640	190				91

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			375							375
TOTAL			375							375

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
bvi	Schedule Description: COMBO COURT CANOPY REBAR FF CANOPY NOMINAL TOP & BOTT	Det. by:	JTM
		Ref Dwg:	34581S-204-06
		Revision:	0
		Schedule No:	34581S-206-28

DWG TO BE READ IN CONJUNCTION WITH:
-34581S-201-01/02/03
-34581S-202-01/02
-34581S-204-04
-34581S-200-G01

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
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3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
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5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE:
SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE 8 PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

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- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED, THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0
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	INFO ONLY	
	FOR TENDER	
X	FOR CONSTRUCTION	
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AMENDMENTS CODE

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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Civil, Structural & Electrical Engineers. Environmental & Project Management
BBBEE LEVEL 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

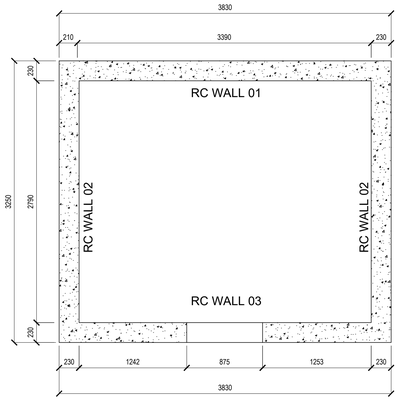
FIRST FLOOR SLABS REBAR LAYOUT

APPROVED BY BVI

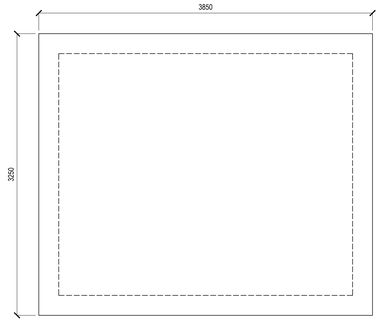
JJ HAEFELE | 20190844 | 2024-05-17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.
34581S-204-06	0



STRONG ROOM GF LAYOUT
SCALE: 1:25



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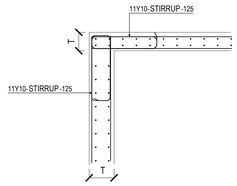
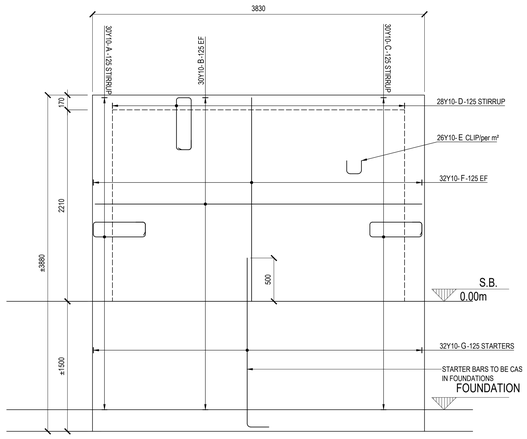
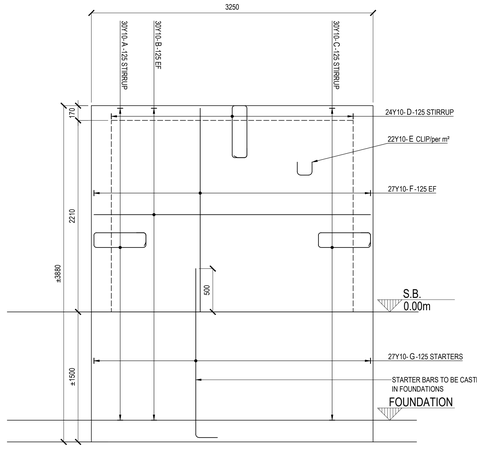
SCALE: 1:25



TYPICAL CORNER DETAIL
SCALE 1:20



RC WALL 01 REBAR LAYOUT
SCALE: 1:25
NO OFF: 01



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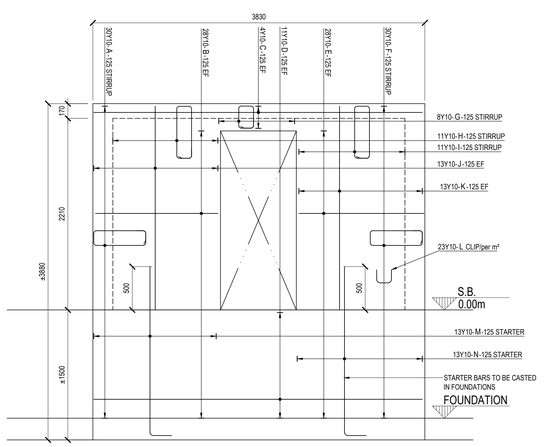
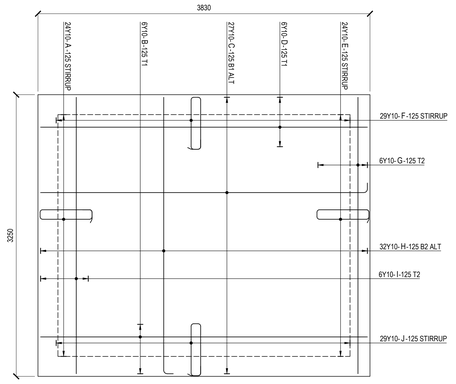
SCALE: 1:25
NO OFF: 02



RC WALL 03 REBAR LAYOUT
SCALE: 1:25
NO OFF: 01



RC RF SLAB REBAR LAYOUT
SCALE: 1:25

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
SR RC WALL 01	1	30	Y10	1700	30	A	60	600	170				31
	1	60	Y10	3800	60	B	20	[3770]					141
	1	30	Y10	1700	30	C	60	600	170				31
	1	28	Y10	1700	28	D	60	600	170				29
	1	26	Y10	450	26	E	38	150	170	[150]			7
	1	64	Y10	2350	64	F	20	[2350]					93
	1	64	Y10	2200	64	G	37	1940	[250]				87
SR RC WALL 02	2	30	Y10	1700	60	A	60	600	170				63
	2	60	Y10	3200	120	B	20	[3190]					237
	2	30	Y10	1700	60	C	60	600	170				63
	2	24	Y10	1700	48	D	60	600	170				50
	2	22	Y10	450	44	E	38	150	170	[150]			12
	2	54	Y10	2350	108	F	20	[2350]					156
	2	54	Y10	2200	108	G	37	1940	[250]				146
SR RC WALL 03	1	30	Y10	1700	30	A	60	600	170				31
	1	56	Y10	1400	56	B	20	[1410]					48
	1	8	Y10	3800	8	C	20	[3790]					19
	1	22	Y10	3800	22	D	20	[3790]					52
	1	56	Y10	1450	56	E	20	[1440]					50
	1	30	Y10	1700	30	F	60	600	170				31
	1	8	Y10	1000	8	G	60	250	170				5
	1	11	Y10	1700	11	H	60	600	170				12
	1	11	Y10	1700	11	I	60	600	170				12
	1	26	Y10	2350	26	J	20	[2350]					38
	1	26	Y10	2350	26	K	20	[2350]					38
	1	23	Y10	450	23	L	38	150	170	[150]			6
	1	26	Y10	2200	26	M	37	1940	[250]				35
	1	26	Y10	2200	26	N	37	1940	[250]				35
SR RF SLAB	1	24	Y10	1550	24	A	60	600	110				23
	1	6	Y10	3800	6	B	20	[3770]					14

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-06
		Det. by:	JTM
		Ref Dwg:	34581S-204-06
	Schedule Description: STRONG ROOM RC WALLS & ROOF SLAB REBAR	Revision:	0
		Schedule No:	34581S-206-30A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	1	27	Y10	3850	27	C	37	3770	[110]				64
	1	6	Y10	3800	6	D	20	[3770]					14
	1	24	Y10	1550	24	E	60	600	110				23
	1	29	Y10	1550	29	F	60	600	110				28
	1	6	Y10	3200	6	G	20	[3190]					12
	1	32	Y10	3300	32	H	37	3180	[110]				65
	1	6	Y10	3200	6	I	20	[3190]					12
	1	29	Y10	1550	29	J	60	600	110				28

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			1842							1842
TOTAL			1842							1842

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-06
		Det. by:	JTM
		Ref Dwg:	34581S-204-06
	Schedule Description: STRONG ROOM RC WALLS & ROOF SLAB REBAR	Revision:	0
		Schedule No:	34581S-206-30B

NOTES / LEGEND

GENERAL NOTES

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SANS 2001 CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CG1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
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ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0
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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

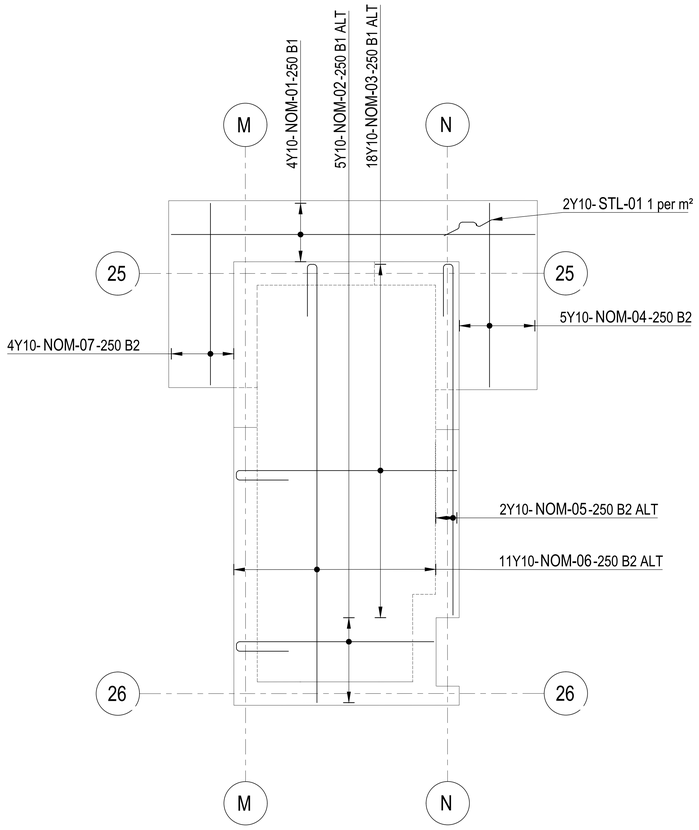
STRONG ROOM REBAR LAYOUT

APPROVED BY BVI

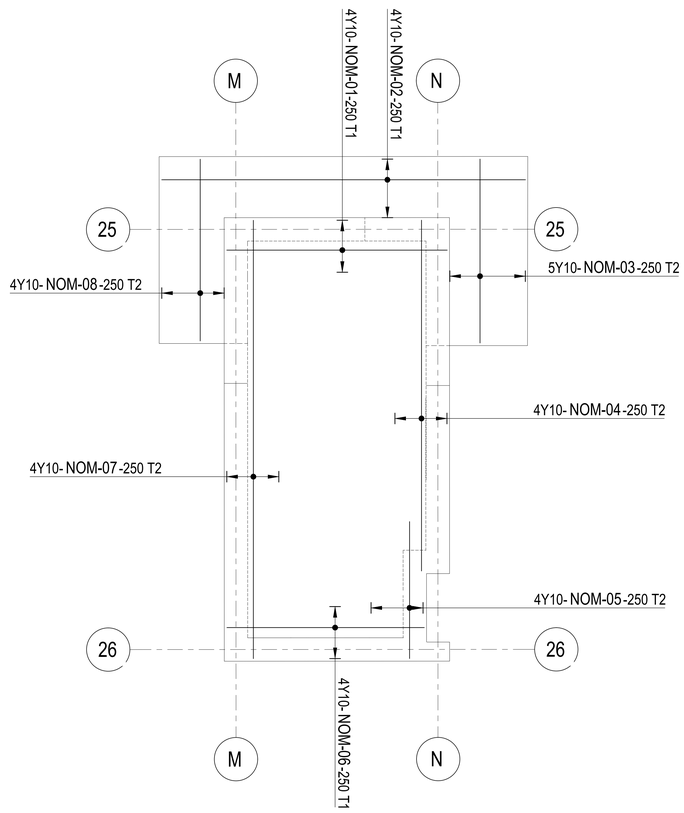
JJ HAEFELE | 20190844 | 2024-05-17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-07		0	

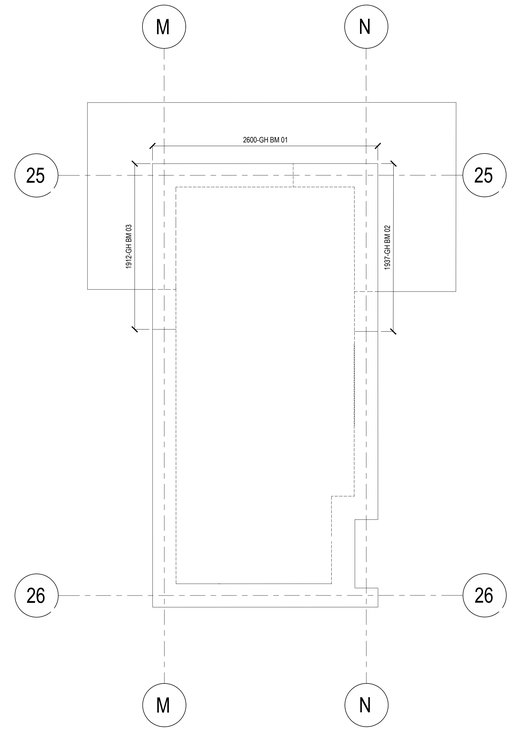
DWG TO BE READ IN CONJUNCTION WITH:
-34851S-201-01/02/03
-34851S-202-01/02
-34851S-200-G01



GUARD HOUSE ROOF BOTTOM NOMINAL REBAR LAYOUT
SCALE: 1:25
NO OFF: 01



GUARD HOUSE ROOF TOP NOMINAL REBAR LAYOUT
SCALE: 1:25
NO OFF: 01



GUARD HOUSE BEAMS REBAR LAYOUT
SCALE: 1:25
NO OFF: 01

MEMBER	NO OF	NO. BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GH RF NOM BOTT	1	4	Y10	4200	4	NOM-01	20	[4190]					10
	1	5	Y10	2950	5	NOM-02	38	2270	110	[600]			9
	1	18	Y10	3200	18	NOM-03	38	2540	110	[600]			36
	1	5	Y10	2150	5	NOM-04	20	[2120]					7
	1	2	Y10	4700	2	NOM-05	38	4040	110	[600]			6
	1	11	Y10	5700	11	NOM-06	38	5050	110	[600]			39
	1	4	Y10	2100	4	NOM-07	20	[2090]					5
	1	2	Y10	650	2	STL-01	83	200	70	200	[200]		1
GH RF NOM TOP	1	4	Y10	2550	4	NOM-01	20	[2540]					6
	1	4	Y10	4200	4	NOM-02	20	[4190]					10
	1	5	Y10	2150	5	NOM-03	20	[2120]					7
	1	4	Y10	4050	4	NOM-04	20	[4040]					10
	1	4	Y10	1600	4	NOM-05	20	[1580]					4
	1	4	Y10	2300	4	NOM-06	20	[2270]					6
	1	4	Y10	5050	4	NOM-07	20	[5050]					12
	1	4	Y10	2100	4	NOM-08	20	[2090]					5

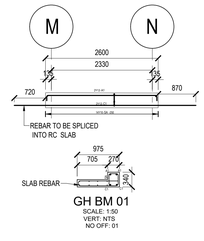
	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			173							173
TOTAL			173							173

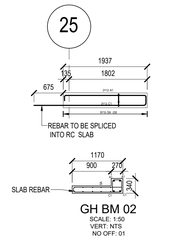
Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-05-17
		Det. by:	JTM
		Ref Dwg:	34581S-204-08
	Schedule Description: GUARD HOUSE REBAR ROOF & CANOPY SLAB NOMINAL	Revision:	0
		Schedule No:	34581S-206-31

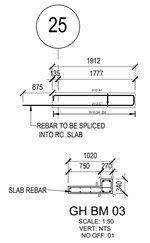
MEMBER	NO OF	NO. BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
GH BM 01	1	2	Y12	2750	2	A1	38	120	2540	[120]			5
	1	2	Y12	4200	2	C1	20	[4190]					7
	1	12	Y10	2700	12	SA	75	910	110	910	280	210	20
GH BM 02	1	2	Y12	2050	2	A1	38	120	1870	[120]			4
	1	2	Y12	2700	2	C1	37	2580	[120]				5
	1	9	Y10	3100	9	SA	75	1110	110	1110	280	210	17
GH BM 03	1	2	Y12	2050	2	A1	38	120	1850	[120]			4
	1	2	Y12	2650	2	C1	37	2550	[120]				5
	1	9	Y10	2800	9	SA	75	960	110	960	280	210	16

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			53	29						82
TOTAL			53	29						82

Client: DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	Job Description: SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Job No:	34581S
		Date:	2024-05-17
		Det. by:	JTM
		Ref Dwg:	34581S-204-08
	Schedule Description: GUARD HOUSE REBAR CANOPY BEAMS	Revision:	0
		Schedule No:	34581S-206-32







NOTES / LEGEND

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ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0

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CITY ENGINEER / CLIENT | REG. NO. | DATE

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

OFFICES

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Free State	Central (051) 447-2137	bfs@bvfs.co.za

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CONSULTING ENGINEERS CENTRAL
Civil, Structural & Electrical Engineers, Environmental & Project Management

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

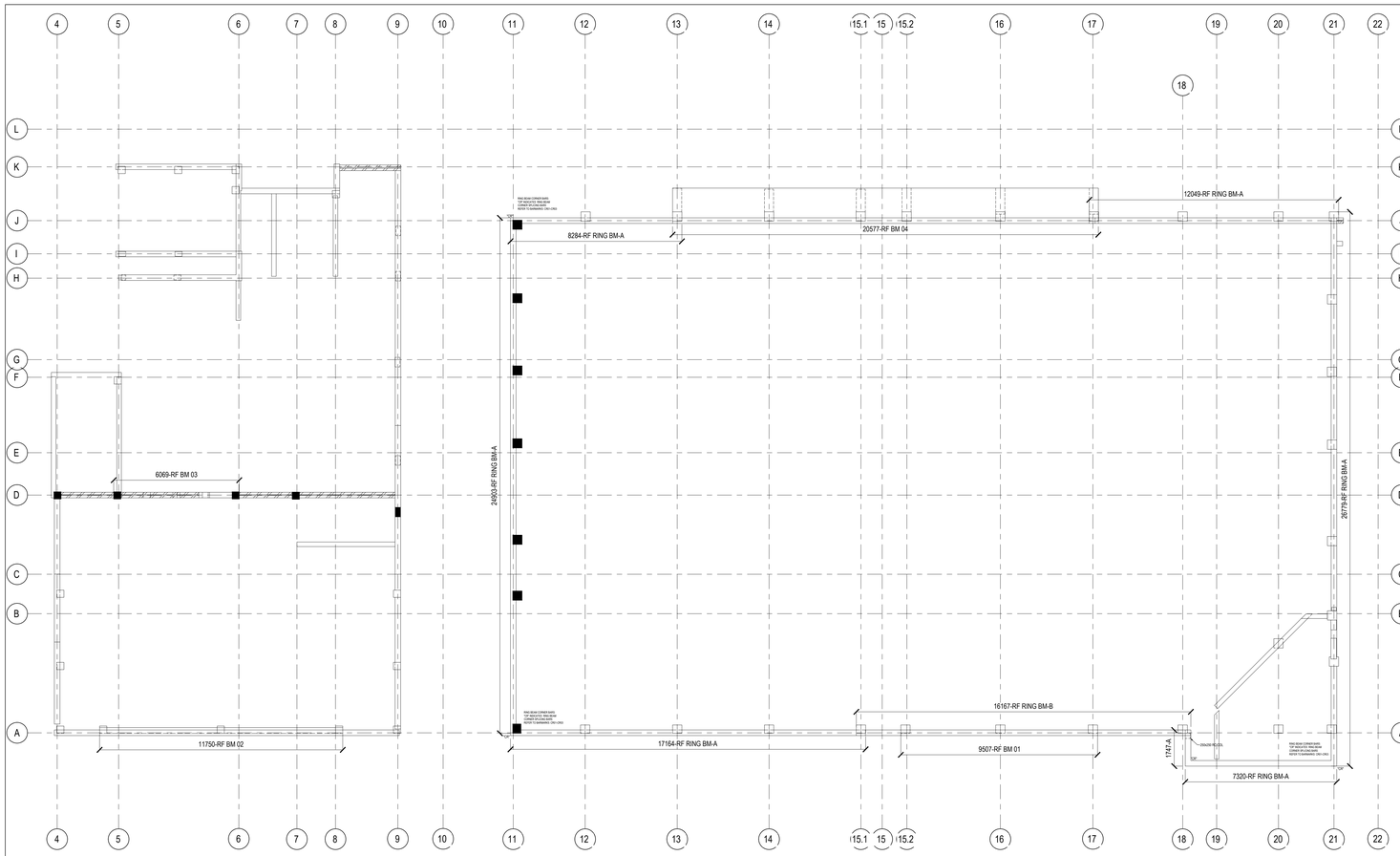
GUARD HOUSE ROOF & CANOPY REBAR LAYOUT

APPROVED BY BVI

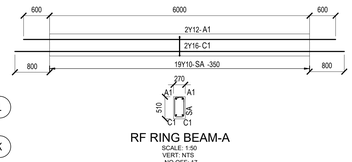
JJ HAEFELE | 20190844 | 2024-05-17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-08		0	

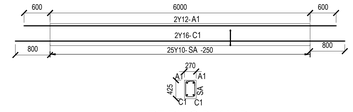
DWG TO BE READ IN CONJUNCTION WITH:
-34581S-201-01/02/03
-34581S-202-01/02/04
-34581S-200-G01



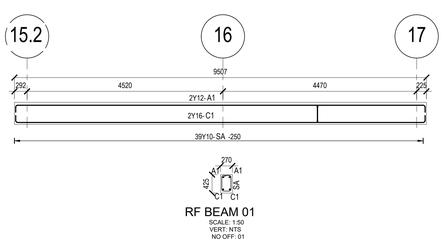
ROOF BEAMS LAYOUT
SCALE 1:100



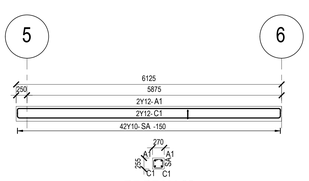
RF RING BEAM-A
SCALE: 1:50
VERT: NTS
NO OFF: 17



RF RING BEAM-B
SCALE: 1:50
VERT: NTS
NO OFF: 03



RF BEAM 01
SCALE: 1:50
VERT: NTS
NO OFF: 01



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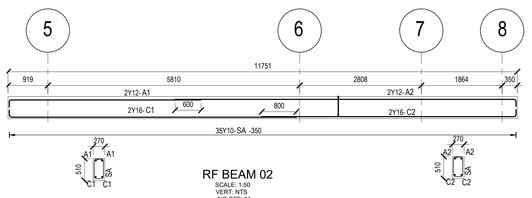
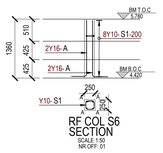
NO OFF: 01

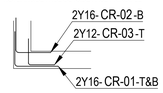


RF BEAM 02
SCALE: 1:50
VERT: NTS
NO OFF: 01

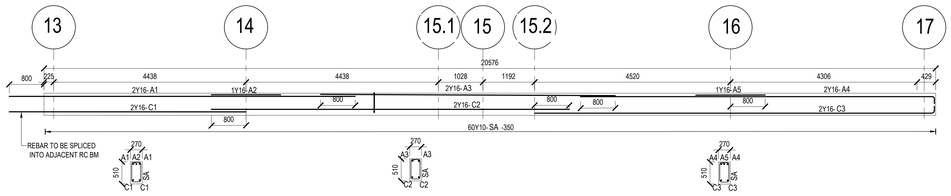


RF COL S6
SECTION
SCALE: 1:50
NR OFF: 01

NOTE: INSIDE FACE OUTSIDE FACE PRINCIPLE



RF RING BEAM CORNER REBAR
SCALE 1:50
NR OFF.: 04



RF BEAM 04
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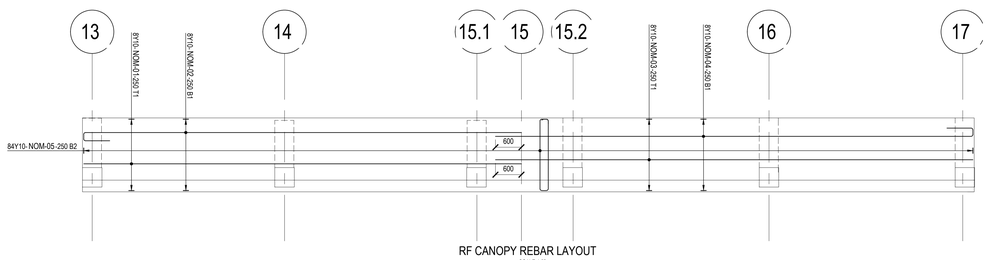
VERT: NTS
NO OFF: 01



RF CANOPY REBAR LAYOUT
SCALE 1:50

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
RF BM 01	1	2	Y12	9700	2	A1	38	160	9440	[160]			17
	1	2	Y16	9700	2	C1	38	160	9440	[160]			31
	1	39	Y10	1300	39	SA	60	360	210				31
RF BM 02	1	2	Y12	4550	2	A1	37	160	[4410]				8
	1	2	Y12	8000	2	A2	37	160	[7860]				14
	1	2	Y16	6750	2	C1	37	160	[6620]				21
	1	2	Y16	6000	2	C2	37	160	[5860]				19
	1	35	Y10	1450	35	SA	60	450	210				31
RF BM 03	1	2	Y12	6250	2	A1	38	120	6060	[120]			11
	1	2	Y12	6250	2	C1	38	120	6060	[120]			11
	1	42	Y10	950	42	SA	60	190	210				25
RF BM 04	1	2	Y16	8000	2	A1	20	[7980]					25
	1	1	Y16	1600	1	A2	20	[1600]					3
	1	2	Y16	6800	2	A3	20	[6790]					21
	1	2	Y16	8300	2	A4	37	8160	[160]				26
	1	1	Y16	1600	1	A5	20	[1600]					3
	1	2	Y16	5450	2	C1	20	[5460]					17
	1	2	Y16	8250	2	C2	20	[8250]					26
	1	2	Y16	9350	2	C3	37	9220	[160]				30
	1	60	Y10	1450	60	SA	60	450	210				54
RF COL S6	1	4	Y16	1600	4	A	37	350	[1300]				10
	1	8	Y10	900	8	S1	60	190	190				4
RF RING BM CR	4	2	Y16	1750	8	CR-01	37	800	[1000]				22
	4	2	Y16	1550	8	CR-02	37	800	[800]				20
	4	2	Y12	1200	8	CR-03	37	600	[600]				9
RF RING BM-A	17	2	Y12	7200	34	A1	20	[7200]					217
	17	2	Y16	7600	34	C1	20	[7600]					408
	17	19	Y10	1450	323	SA	60	450	210				289
RF RING BM-B	3	2	Y12	7200	6	A1	20	[7200]					38
	3	2	Y16	7600	6	C1	20	[7600]					72

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-09
	ROOF REBAR RC ROOF BEAMS & COLUMN	Revision:	0
		Schedule No:	34581S-206-40A

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
	3	25	Y10	1300	75	SA	60	360	210				60

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			494	326	753					1573
TOTAL			494	326	753					1573

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-17
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-09
	ROOF REBAR RC ROOF BEAMS & COLUMN	Revision:	0
		Schedule No:	34581S-206-40B

MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
CC RF CANOPY NOM	1	8	Y10	10100	8	NOM-01	20	[10090]					50
	1	8	Y10	10850	8	NOM-02	38	10090	190	[600]			54
	1	8	Y10	11000	8	NOM-03	20	[11010]					54
	1	8	Y10	11750	8	NOM-04	38	11010	190	[600]			58
	1	84	Y10	3800	84	NOM-05	60	1640	190				197

	6	8	10	12	16	20	25	32	40	TOTAL
R										
Y			412							412
TOTAL			412							412

Client:	Job Description:	Job No:	34581S
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION	SMITHFIELD MULTI-PURPOSE INDOOR SPORTS CENTRE	Date:	2024-05-10
		Det. by:	JTM
	Schedule Description:	Ref Dwg:	34581S-204-09
	ROOF REBAR RC ROOF CANOPY SLAB	Revision:	0
		Schedule No:	34581S-206-41

NOTES / LEGEND

GENERAL NOTES
1.ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL II.
2.DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3.ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4.THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6.THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7.ALL CONCRETE WORK TO BE FOUNDED ON IN-SITU SOIL OR FILL AS SPECIFIED ON THE CONSTRUCTION DRAWING.

NOTE :
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE:
SANS 2001:CONSTRUCTION WORKS:
- PART CC1: CONCRETE WORKS (STRUCTURAL)
- PART CC2: CONCRETE WORKS (MINOR WORKS)
- PART CS1: INSTALLATION OF GLAZING IN WINDOW AND DOOR FRAMES
- PART CM1: MASONRY WALLING
- PART CS1: STRUCTURAL STEELWORK
- PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
- PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
- PART EM1: CEMENT PLASTER

SANS 10155 ACCURACY IN BUILDINGS
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-05-17	A0	0

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

AMENDMENTS CODE

A,B,C ,/ : BEFORE TENDER
TB / : TENDER DRAWING
0,1,2 ../ : AFTER TENDER
Z / : AS BUILT

A : BY CLIENT
B : BY ARCHITECT
C : BY MECHANICAL OR ELECTRICAL
D : BY BVI
E : BY OTHER ( )

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-05-17	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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ISO 9001 BVQI FS 31444
BBBEE LEVEL 1
CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

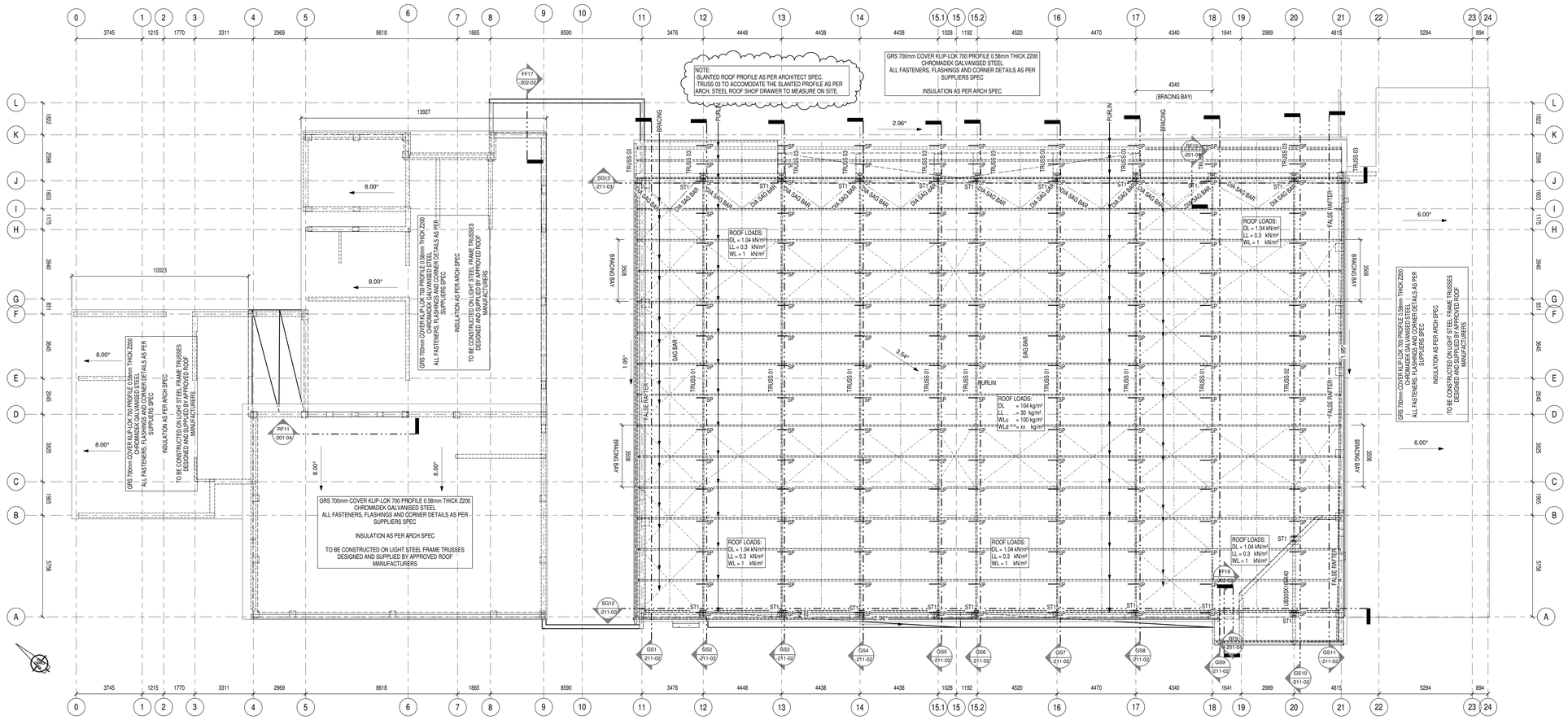
ROOF BEAMS & CANOPY REBAR LAYOUT

APPROVED BY BVI

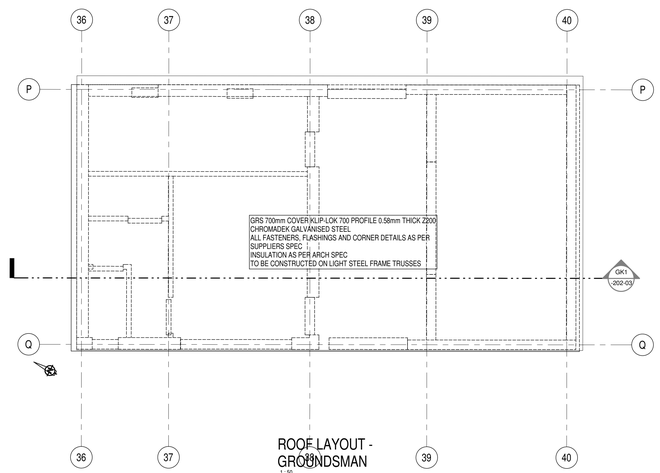
JJ HAEFELE — 20190844 — 2024-05-17
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

SCALE	AS SHOWN	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH
PLAN NUMBER		REVISION NO.	
34581S-204-09		0	

DWG TO BE READ IN CONJUNCTION WITH:
-34851S-201-01/02/03/04
-34851S-202-01/02/03/04
-34851S-200-G01



ROOF LAYOUT-STEEL
1 : 100



ROOF LAYOUT - GROUNDSMAN
1 : 50

GENERAL NOTES:
1. ALL SETTING OUTWORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2. DO NOT SCALE ANY DRAWINGS. WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE:
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CS1: STRUCTURAL STEELWORK (STRUCTURAL)
PART CC1: CONCRETE WORKS (CONCRETE IN WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART CW1: WALL AND FLOOR TILING
PART CP1: PLASTERWORK (INTERNAL PLASTER)
SANS 10155 ACCURACY IN BUILDING
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

ROOF MEMBER SIZES

- FALSE RAFTER: 200x75 PPC - 1xM12 Gr.8.8 MECHANICAL ANCHOR STAGGERED @ 0.45m C/C IN BRICKWORK
- STEEL STUB COL (ST1): 254x146x31 I-SECTION
- RAFTER: 305x165x401-SECTION
- SAG BARS: 75x50x20x2.5 CFLC SAG BARS WITH 4mm END PLATES & 2xM10 Gr 4.8 BOLTS PER CONNECTION
- CROSS BRACING: 70x70x6.0 ANGLES WITH 2xM16 Gr.8.8 BOLTS PER CONNECTION TO 8mm CLEATS
- PURLIN: 250x75x20x2.5 CFLC
- PURLIN SPLICE "SP" REQUIRED AT ALL PURLIN JOINT POSITIONS TO CREATE CONTINUOUS PURLIN SYSTEM
- KB: KNEE BRACES 60x60x4 L

TRUSS MEMBERS DETAILS:

TRUSS 01 & 02
TC: 90x90x6 BACK TO BACK ANGLE
BC: 90x90x6 BACK TO BACK ANGLE
DIA: 90x90x6 L
VERT: 90x90x6 L

TRUSS 03:
TC: 70x70x6 ANGLE
BC: 70x70x6 ANGLE
DIA: 70x70x6 L
VERT: 70x70x6 L

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-06-03	A0	1

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	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT	REG. NO.	DATE

AMENDMENTS CODE

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0,1,2.../ : AFTER TENDER
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IC : BY MECHANICAL OR ELECTRICAL
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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2024-06-03	JTM	1	REVISED DETAILS (SEE REVISION CLOUDS)

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bvi ENGINEERING PROCUREMENT MANAGEMENT
Central Office
Registration no. 1999/018452/07
BBBEE Level 1
CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

STEEL ROOF LAYOUT

APPROVED BY BVI

JJ HAEFELE	20190844	2024-06-03
ENGINEER/TECHNOLOGIST	REG. NO.	DATE

NOTES ON STEEL WORK:

FASTENERS:
- ALL FASTENERS TO BE CLASS 8.8 BOLTS WITH CLASS 8 LOCK NUTS
- ONLY 2mm OVERSIZE BOLT HOLES ARE PERMITTED

CONSTRUCTION / MANUFACTURING / ERECTION:
- STEEL STRUCTURES ARE TO BE STRICTLY IN ACCORDANCE WITH SANS 2001.CS1
- STEEL GRADE S355J
- THE CONTRACTOR MUST SUBMIT DETAILED WORKSHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO MANUFACTURE
- ONLY SIZES OF STRUCTURAL MEMBERS, CONNECTIONS AND SPLICES WILL BE CHECKED
- FINAL DIMENSIONS AND THE CORRECT FITTING OF MEMBERS SHALL REMAIN THE RESPONSIBILTY OF THE CONTRACTOR

WELDING:
- WELDING MUST BE OF HIGH QUALITY WITH MINIMUM DEFECTS
- NO NOTCHES OR CRACKS SHALL BE ACCEPTED
- THE FULL PENETRATION GROOVE WELDS SHALL HAVE CONTOURED FILLET REINFORCING TO PROVIDE A SMOOTH FLOW OF STRESSES.
- ALL WELDS TO BE CONTINUOUS AND NOT INTERMITTENT
- WELDS SHALL BE ALLOWED
- INTERSECTING WELDS RUNNING IN VARIOUS DIRECTIONS AT ANY POINT MUST BE
- PREVENTED BY CUTTING SELECTED PLATES SO AS TO REMAIN CLEAR OF THE INTERSECTION

MINIMUM WELD SIZES:

THICKNESS OF THICKER PART (mm)	MIN FILLET WELD
1. UP TO 12mm	5mm
2. OVER 12mm TO 20mm	6mm
3. OVER 20mm TO 40mm	8mm

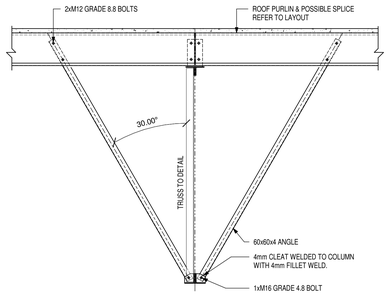
- ALL WELDS TO BE E70 XX ELECTRODES WITH MIN WELD STRENGTH OF 480 MPa

PAINT SPECIFICATIONS:
CORROSION PROTECTION TO ALL EXTERNAL STEEL ELEMENTS FOR ENVIRONMENTAL CLASS C3 INDUSTRIAL FOR 5 YEAR MAINTENANCE PERIOD IN ACCORDANCE WITH ISO 12944 PART 2

TO BE READ IN CONJUNCTION WITH:
-34581S-200-G01
-34581S-211-01
-34581S-211-02
-ARCHITECT'S DRAWINGS

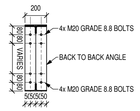
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -210-01	1	2024-06-03



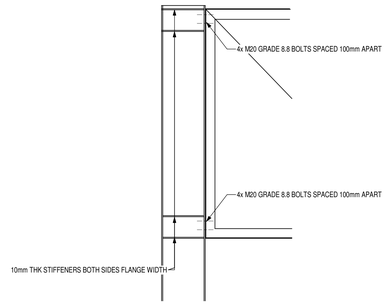
TYPICAL TRUSS KNEE BRACE DETAIL

SCALE 1:20



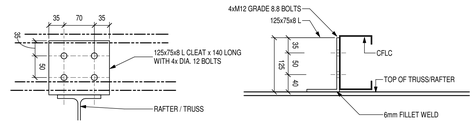
TYPICAL TRUSS TO COLUMN CONNECTION

SCALE 1:20



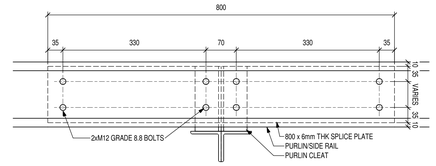
TYPICAL TRUSS TO COLUMN CONNECTION

SCALE 1:20



PURLIN CONNECTION DETAIL

SCALE 1:5



PURLIN SPLICE DETAIL

SCALE 1:5

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 6.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
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6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
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NOTE
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDINGS
GRADE F PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

MASONRY WALL NOTES

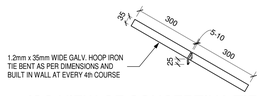
BRICKWORK
-OPENINGS IN LOAD-BEARING WALLS TO BE SPANNED BY PRESTRESSED LINTELS SUPPLIED BY BUILDER (U.N.O). MINIMUM 300mm SUPPORT ON LOAD BEARING WALLS. MAX 2.4m SPAN FOR PRECAST LINTELS
-ALL NON-LOAD-BEARING BRICKWORK TO RECEIVE JOINTEX OR SOFTBOARD BETWEEN SLAB SOFFIT AND TOP OF WALLS.
-PLASTER JOINT BETWEEN SLABS/COLS & BRICKWORK TO BE CUT THROUGH THE PLASTER TO CREATE A CLEAR MOVEMENT JOINT.
-JOINTEX/SOFTBOARD TO BE INSTALLED BETWEEN RC COLS & BRICKWORK
-NO BRICKWORK TO CONTINUE OVER STRUCTURAL EXPANSION JOINTS.
-ENGINEERS TO BE CONSULTED WITH REGARDS TO ADDITIONAL BRICKWORK REQUIREMENTS.
-SEISMIC REQUIREMENT: ALL BRICKWORK SHALL BE TIED TO CONCRETE WITH GALVANISED HOOP IRON TIES EVERY 4TH COURSE. ONLY APPLICABLE TO SEISMIC DESIGN AREAS

BRICKFORCE
2mm BRICKFORCE TO BE PLACED IN BRICK WALLS EVERY:
- BRICK COURSE IN FOUNDATION WALLS.
- BRICK COURSE IN INTERNAL WALLS FOR THE FIRST 3 BRICK COURSES, THEN EVERY FOURTH BRICK COURSE.
- THIRD BRICK COURSE FOR EXTERNAL BRICK COURSES.
- BRICK COURSE FOR THE LAST 4 BRICK COURSES BELOW ROOF LEVEL.
- BRICK COURSE FOR 6 COURSES BELOW ALL WINDOWS & 6 COURSES ABOVE ALL WINDOWS & DOORS - TO EXTEND 800mm ON BOTH SIDES OF OPENINGS.

CAVITY WALLS
- TO BE FILLED WITH MASS CONCRETE BELOW SURFACE BED LEVEL, AND TYP. 600mm BELOW RC SLABS/BEAMS AND ROOF WALL PLATE.
- MUST HAVE 3.15mm THICK GALVANISED BUTTERFLY WALL TIES SPACED AT 400mm VERTICALLY, 600mm HORIZONTALLY. (± 3 TIES / m²) AND STAGGERED WITH MIN. OVERLAP OF 50mm ON MORTAR.
- WEEPHOLES INSTALLED IN THE EXTERNAL CAVITY WALL ABOVE DPC TO PREVENT MOISTURE BUILD-UP SPACED AT MAX. 1m C/C UNO.
- AROUND OPENINGS MUST HAVE 3.15mm THICK GALVANISED BUTTERFLY WALL TIES SPACED AT 300mm VERTICALLY, 400mm HORIZONTALLY, AND NOT MORE THAN 225mm FROM THE EDGE OF THE OPENING.
- WALL CAVITIES TO BE KEPT CLEAN AND FREE FROM MORTAR DEBRIS OR OTHER CONSTRUCTION WASTE. CAVITIES TO BE COVERED TO BLOCK AND PREVENT WASTE INFILL DURING CONSTRUCTION.

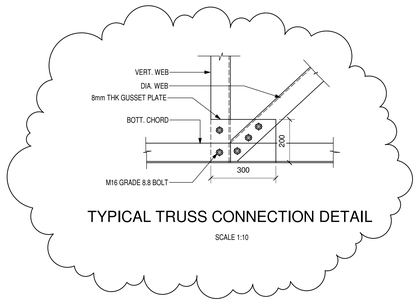
HOOP IRONS
- HOOP IRONS TO BE 35mm WIDE x 1.2mm THICK x 350mm LONG (GALVANIZED).
- HOOP IRONS TO BE SHOT INTO CONCRETE COLUMNS WITH HILTI ANCHORS (TWO PER HOOP IRON).
- HOOP IRONS TO BE FIXED TO COLUMNS EVERY THIRD BRICK COURSE FOR EXTERNAL BRICKWORK.
- HOOP IRONS TO BE FIXED TO COLUMNS EVERY FIFTH BRICK COURSE FOR INTERNAL BRICKWORK.

BRICK JOINTS
- VERTICAL EXPANSION JOINTS TO BE MAXIMUM 7.5m APART OR AS PER SANS 10400-K TABLE 19
- HORIZONTAL MOVEMENT JOINT TO BE EVERY FLOOR LEVEL, MAX 3.3m (SEATING ANGLE) .



ISO VIEW OF CONCERTINA TIE TO EXP JOINT

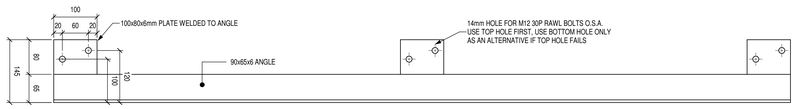
SCALE 1:10



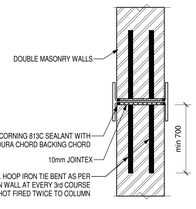
TYPICAL TRUSS CONNECTION DETAIL

SCALE 1:10

NOTE:
MAXIMUM HEIGHT OF SINGLE SKIN BRICKWORK SUPPORTED ON ANGLE = 3.5m
ALL ELEMENTS TO BE HOT DIP GALVANISED

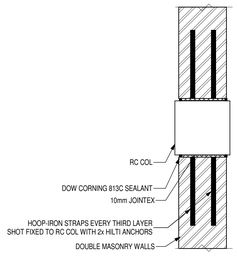


SIDE ELEVATION



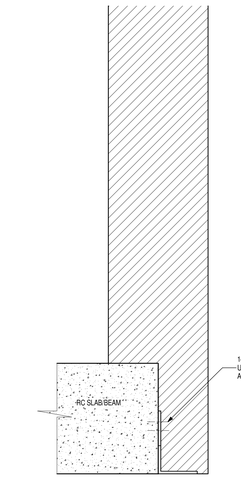
WALL STIFFENER DETAIL

SCALE 1:10

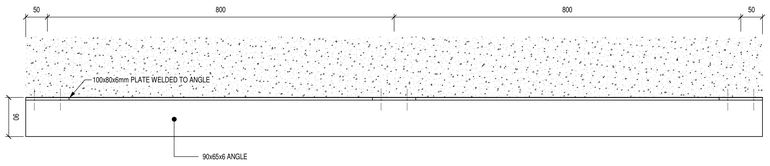


WALL STIFFENER DETAIL

SCALE 1:10

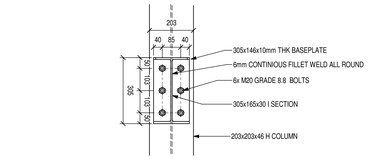


SECTION



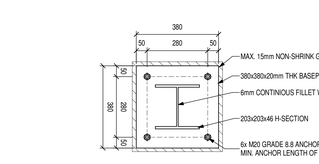
PLAN VIEW

TYPICAL SEATING ANGLE DETAIL
1 : 5



MASONRY WALL EXPANSION JOINT DETAIL

SCALE 1:10



MASONRY WALL TO RC EXPANSION JOINT DETAIL

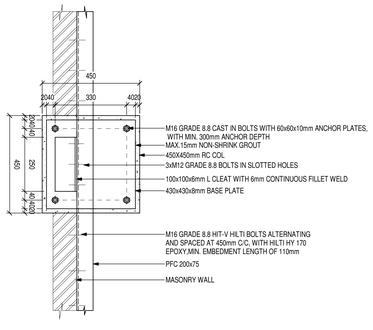
SCALE 1:10

TYPICAL BEAM TO COLUMN FLANGE CONNECTION

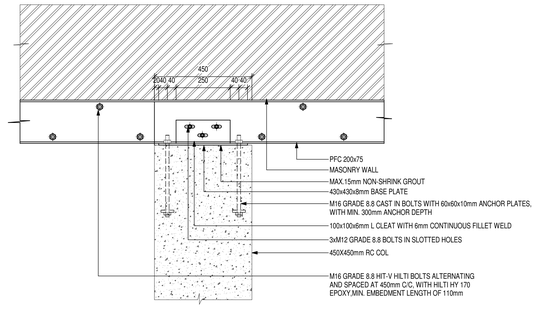
SCALE 1:10

203x203x46 H-SECTION BASEPLATE DETAIL

SCALE 1:10



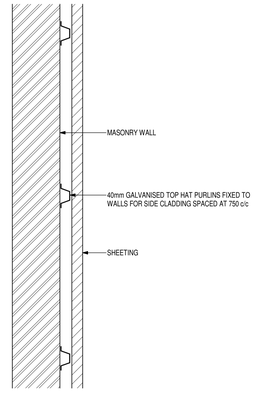
TOP VIEW



FRONT VIEW

FALSE RAFTER CONNECTION DETAILS

SCALE 1:10



TYPICAL SIDE CLADDING FIXING DETAIL

SCALE 1:10

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
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ISSUE DATE:	DRAWING SIZE:	REVISION:
2025-07-29	A0	1

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
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0,1,2.../ : AFTER TENDER
Z / : AS BUILT

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/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVI
/E : BY OTHER ( )

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DATE	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES
2025-07-29	JTM	1	ADDITIONAL CONNECTION DETAILS

OFFICES

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bvi — ENGINEERING PROCUREMENT MANAGEMENT — Central Office — BBBEE Level 1 — CESA

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

STRUCTURAL STEEL SECTIONS P1

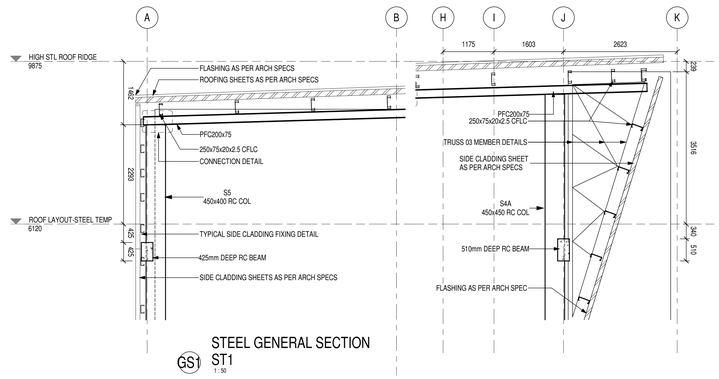
APPROVED BY BVI

JJ HAEFELE — 20190844 — 2025-07-29
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

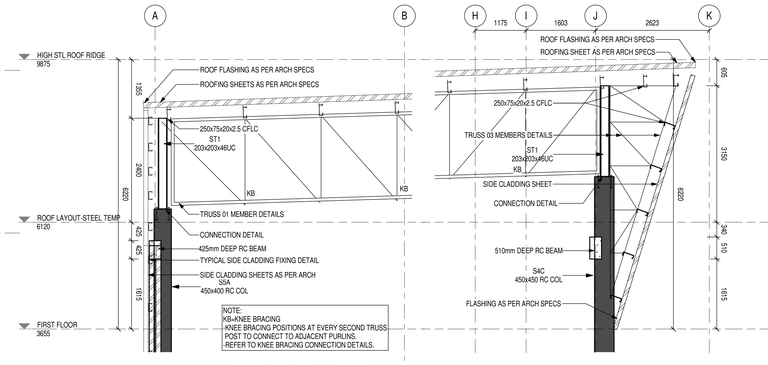
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -211-01	1	2025-07-29

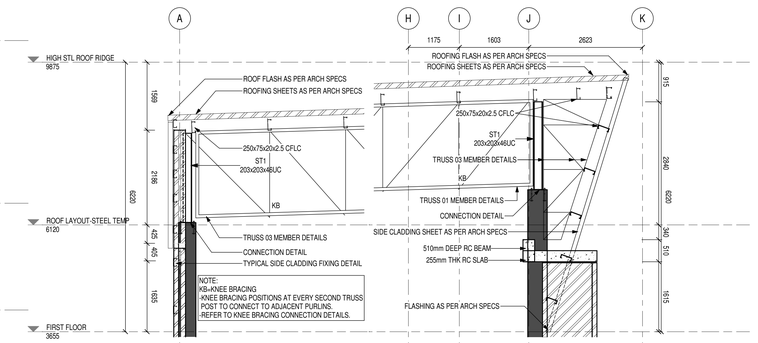
TO BE READ IN CONJUNCTION WITH:
-34581S-200-G01
-34581S-210-01
-34581S-211-02
-ARCHITECTS DRAWINGS



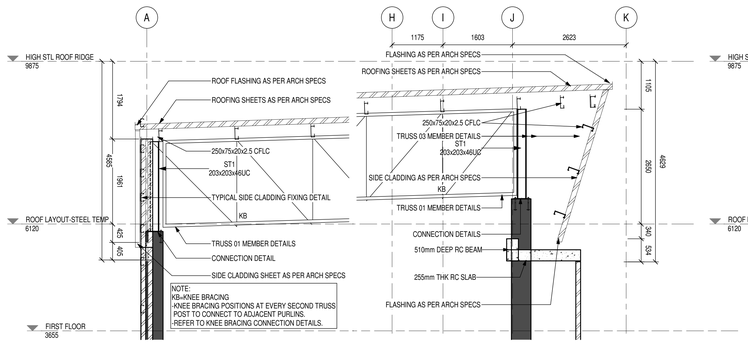
GS1 STEEL GENERAL SECTION ST1 1 : 50



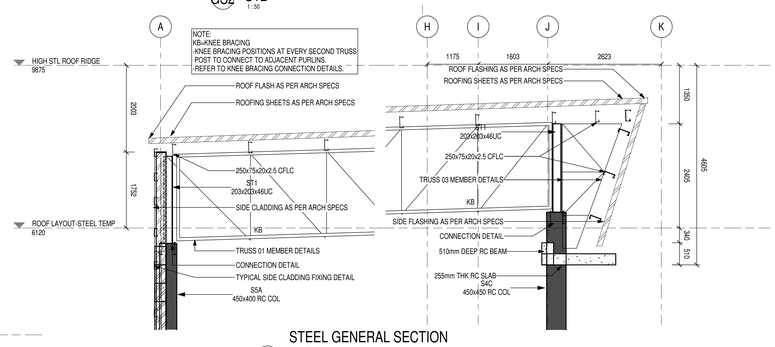
GS2 STEEL GENERAL SECTION ST2 1 : 50



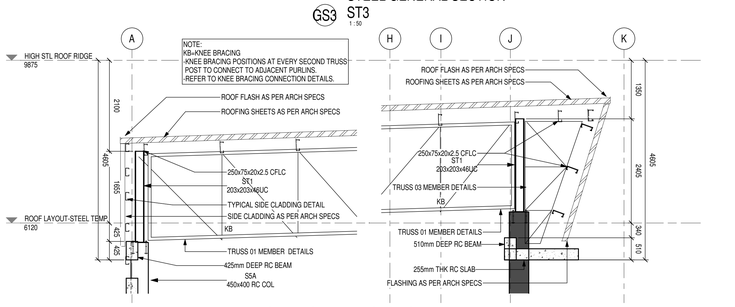
GS3 STEEL GENERAL SECTION ST3 1 : 50



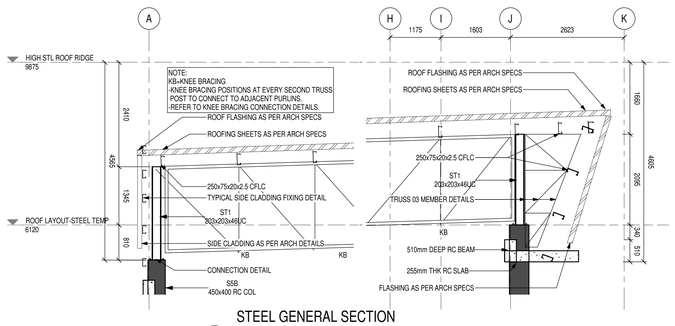
GS4 STEEL GENERAL SECTION ST4 1 : 50



GS5 STEEL GENERAL SECTION ST5 1 : 50



GS6 STEEL GENERAL SECTION ST6 1 : 50



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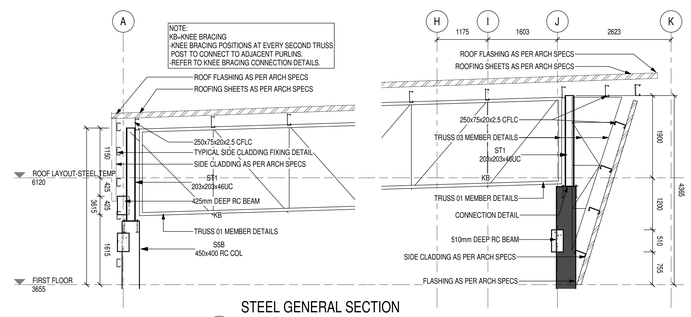
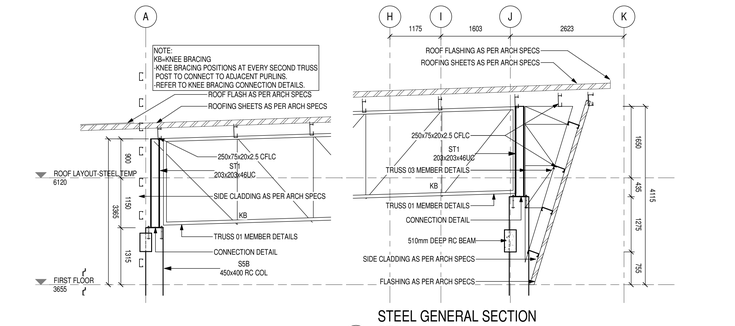
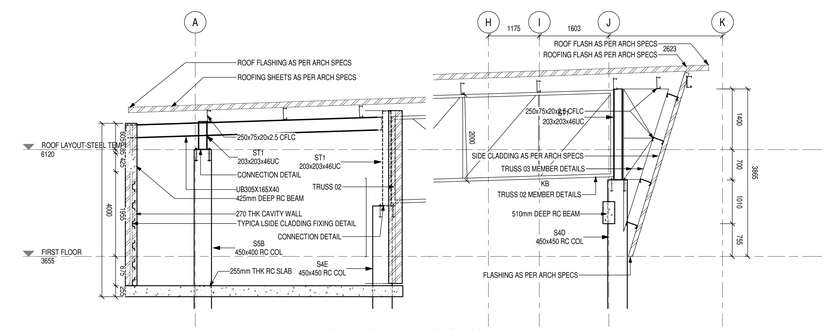


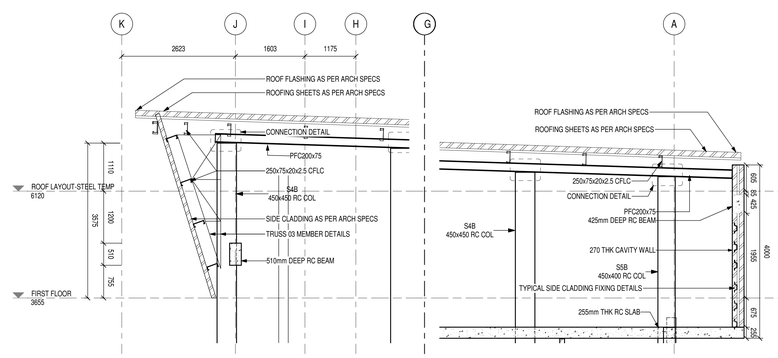
GS8 STEEL GENERAL SECTION ST8 1 : 50



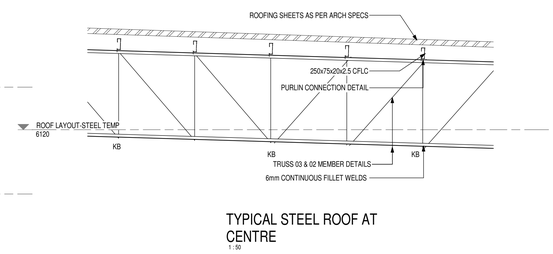
GS9 STEEL GENERAL SECTION ST9 1 : 50



GS10 STEEL GENERAL SECTION ST10 1 : 50



GS11 STEEL GENERAL SECTION ST11 1 : 50



TYPICAL STEEL ROOF AT CENTRE 1 : 50

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 6
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
3. ANY DISCREPANCIES ON THIS DRAWING TO BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO IMPLEMENTATION OF ANY WORK.
4. THE CONTRACTOR IS TO MAINTAIN A FULL SET OF DRAWINGS ON SITE.
5. ALL WORKS TO BE CARRIED OUT IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE.
7. ALL REINFORCEMENT TO BE INSPECTED BY THE RESPONSIBLE ENGINEER PRIOR TO CASTING OF ANY CONCRETE.

NOTE
THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODES DURING CONSTRUCTION AS APPLICABLE: SANS 2001 CONSTRUCTION WORKS:
PART CC1: CONCRETE WORKS (STRUCTURAL)
PART CC2: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART EM1: CEMENT PLASTER
SANS 10160: ACCURACY IN BUILDINGS
GRADE F PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
ONE COPY OF EACH OF THESE CODES SHALL BE KEPT ON SITE AND SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST.

ROOF MEMBER SIZES

- FALSE RAFTER: 200x75 PFC - 1xM12 Gr.8.8 MECHANICAL ANCHOR STAGGERED @ 0.45m C/C IN BRICKWORK
- STEEL STUB COL (ST1): 254x146x31 I-SECTION
- RAFTER: 305x165x40 I-SECTION
- SAG BARS: 75x50x20x2.5 CFLC SAG BARS WITH 4mm END PLATES & 2xM10 Gr 4.8 BOLTS PER CONNECTION
- CROSS BRACING: 70x70x6.0 ANGLES WITH 2xM16 Gr.8.8 BOLTS PER CONNECTION TO 8mm CLEATS
- PURLIN: 250x75x20x2.5 CFLC
- PURLIN SPLICE "SP": REQUIRED AT ALL PURLIN JOINT POSITIONS TO CREATE CONTINOUS PURLIN SYSTEM
- KB: KNEE BRACES 60x60x4 L

TRUSS MEMBERS DETAILS:

TRUSS 01 & 02
TC: 90x90x6 BACK TO BACK ANGLE
BC: 90x90x6 BACK TO BACK ANGLE
DIA: 90x90x6 L
VERT: 90x90x6 L

TRUSS 03
TC: 70x70x6 ANGLE
BC: 70x70x6 ANGLE
DIA: 70x70x6 L
VERT: 70x70x6 L

NOTES / LEGEND

GENERAL

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- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-01-26	A0	0

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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CESA Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

STRUCTURAL STEEL SECTIONS P2

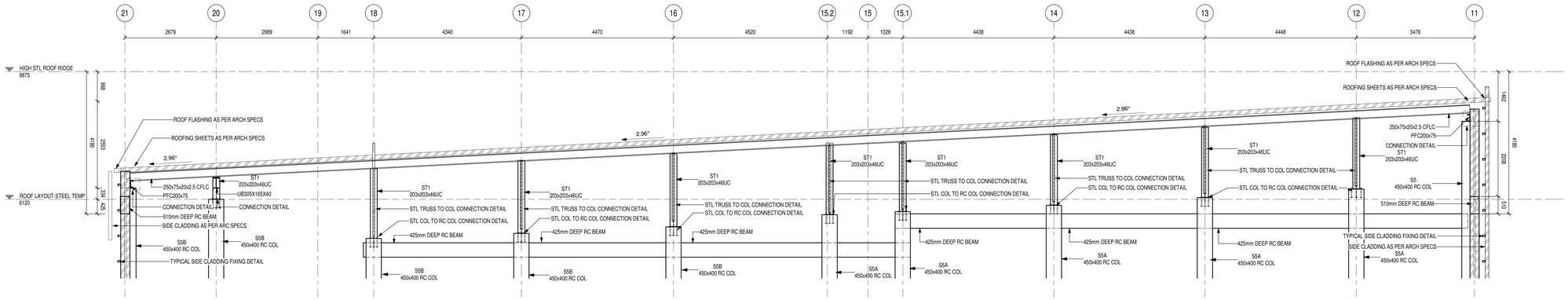
APPROVED BY BVI

JJ HAEFELE | 20190844 | 2024-01-26
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

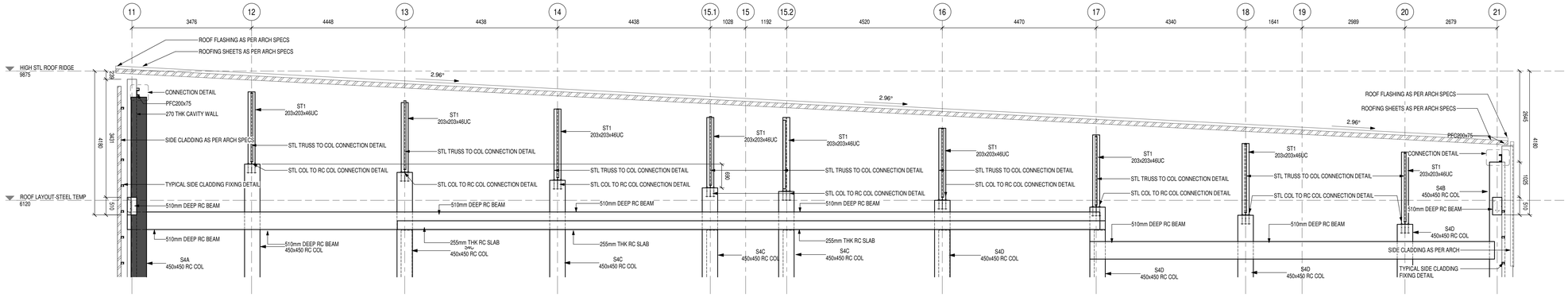
SCALE	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
34581S -211-02	0	2024-01-26

TO BE READ IN CONJUNCTION WITH:
-34581S-200-G01
-34581S-210-01
-34582S-211-01
-ARCHITECT'S DRAWINGS



STEEL GENERAL SECTION
SG12 ST12
1 : 50



STEEL GENERAL SECTION
SG13 ST13
1 : 50

TO BE READ IN CONJUNCTION WITH:
34581S-200-G01
34581S-210-01
34581S-211-01
34581S-211-02

GENERAL NOTES:
1. ALL CIVIL WORKS TO COMPLY WITH S.A.N.S. 1200 ACCURACY LEVEL 8.
2. DO NOT SCALE ANY DRAWINGS, WORK TO FIGURED DIMENSIONS ONLY.
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NOTE :
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PART CC1: CONCRETE WORKS (MINOR WORKS)
PART CG1: INSTALLATION OF GLAZING IN WINDOW
PART CM1: MASONRY WALLING
PART CS1: STRUCTURAL STEELWORK
PART CT1: STRUCTURAL TIMBERWORK (FLOORING)
PART CT2: STRUCTURAL TIMBERWORK (ROOFING)
PART CW1: CEMENT PLASTER
SANS 10155 ACCURACY IN BUILDING
GRADE II PERMISSIBLE DEVIATION / TOLERANCE SHALL APPLY UNLESS OTHERWISE NOTED.
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- RAFTER: 305x165x40 I-SECTION
- SAG BARS: 75x50x2x2.5 CFLC SAG BARS WITH 4mm END PLATES & 2xM10 Gr 4.8 BOLTS PER CONNECTION
- CROSS BRACING: 70x70x6.0 ANGLES WITH 2xM16 Gr.8.8 BOLTS PER CONNECTION TO 8mm CLEATS
- PURLIN: 250x75x20x2.5 CFLC
- PURLIN SPLICE "SP" REQUIRED AT ALL PURLIN JOINT POSITIONS TO CREATE CONTINIOUS PURLIN SYSTEM
- KB: KNEE BRACES 60x60x4 L

TRUSS MEMBERS DETAILS:

TRUSS 01 & 02
TC: 90x90x6 BACK TO BACK ANGLE
BC: 90x90x6 BACK TO BACK ANGLE
DIA: 90x90x6 L
VERT: 90x90x6 L

TRUSS 03:
TC: 70x70x6 ANGLE
BC: 70x70x6 ANGLE

NOTES / LEGEND

GENERAL

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2024-01-26	A0	0

	PRELIMINARY
	INFO ONLY
	FOR TENDER
X	FOR CONSTRUCTION
	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
T0 / : TENDER DRAWING
0,1,2.../ : AFTER TENDER
Z / : AS BUILT

/A : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVI
/E : BY OTHER ( )

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DATE:	INITIAL	NO.	DESCRIPTION OF REVISION
2024-01-26	JTM	0	ISSUED FOR CONSTRUCTION PURPOSES

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Consulting Engineers South Africa

CLIENT

DEPARTMENT OF SPORTS, ARTS, CULTURE
& RECREATION

PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRE

DRAWING TITLE

STRUCTURAL STEEL SECTION P3

APPROVED BY BVI

JJ HAEFELE | 20190844 | 2024-01-26
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE:	As indicated	DRAWN	JTM
DESIGNED	JTM	CHECKED	JTM

PLAN NUMBER		REVISION NO.	DATE SAVED
34581S	-211-03	0	2024-01-26