6. Repairs to Resultant Damage to Surface Building

6.1. Following completion of the waterproofing works, the Contractor shall carry out repairs and reinstatement of internal building elements affected by the condition of the roof and the execution of the Works. The condition of the walls will need to be assessed, and the next remedial step shall be 6.2. if the plaster sounds solid and shows only flaking, or 6.3. if the condition of the wall is severely deteriorated.

6.2. The scope of repairs includes, but not limited to, the following:
- 6.2.1. Scrape off all loose/flaking paint.
- 6.2.2. Wire-brush/scrape away loose material.
- 6.2.3. Allow the wall to dry thoroughly.
- 6.2.4. Repair minor surface defects with suitable filler/plaster.
- 6.2.5. Apply an appropriate damp/sealing or masonry primer once sufficiently dry.
- 6.2.6. Repaint with a suitable breathable coating.

6.3. The scope of repairs includes, but is not limited to, the following:
- 6.3.1. Hacking off and removal of damaged plaster, paint finishes, and surface contaminants from walls and ceilings.
- 6.3.2. Replastering and repainting of affected areas to match the existing finishes.
- 6.3.3. Replacement of damaged floor coverings, including carpets, to match the existing.
- 6.3.4. Replacement of damaged ceilings and associated components to match the existing.
- 6.3.5. Reinstatement of all downpipes.
- 6.3.6. All waste generated (including building waste) must be removed from site and disposed of at a permitted /licensed landfill or hazardous waste site applicable to the waste type

7. Electrical work: dig out the buried electric cables and reroute them outside the field and ensure electric supply to all four (4) Distribution Boxes in the piggery.
8. Check electrical connection from the nearest transformer and all internal electrical work in compliance with relevant electrical safety standards.
9. Compliance with all applicable building codes, health and safety regulations, and environmental standards during construction.
10. Removal of site establishment.

E | STANDARD TECHNICAL SPECIFICATIONS

1. PRELIMINARIES & GENERAL

The contractor is to note that all insurances (UIF, workmen's compensation, works, public liability etc.); site and equipment safety; site establishment and security; services (water and electricity); testing of materials and any specialist services are for the contractor's responsibility and attention throughout the contract duration until handover of the project. This item also includes Occupational Health & Safety Act requirements. The Department reserves the right to stop progress of the works in case of non-compliance until these conditions are complied with.

2. APPLICABLE STANDARDS: SPECIFICATIONS & MATERIALS

Although not bound in or issued with this document, the following SANS 1200 Standardized Specification for Civil Engineering Construction as approved by the Council of the South African Bureau of Standards shall apply to this Contract. The Contractor shall be in possession of these Standardized Specifications and their related SANS 0120 Code of Practice that apply equally and shall keep a copy of each on site for reference by him and the Engineer for the duration of the Contract.

For "Workmen's Compensation Act" read "Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993)" wherever it appears. For "Machinery and Occupational Safety Act" and "Mines and Works Act" read "Occupational Health and Safety Act, 1993 (Act 85 of 1993)" wherever they appear. In general, the Specifications published by the South African Bureau of Standards (SABS/SANS), series 1200 (Standardised Specifications for Civil Engineering Construction) shall apply. For "maintenance period" read "Defects Liability Period" in terms of Clause 53.1 of the General Conditions of Contract for Construction Works 2015, wherever it appears.

The following technical specifications apply to this Contract for the execution of the Works:

- SANS 2001-CC1 – Construction works: Concrete works (structural)
- SANS 2001-CC2 – Construction works: Concrete works (minor works)
- 240-105658000 – Supplier Contract Quality Requirements Specification
- ISO 10005:2018 – Quality Management – Guidelines for Quality Plans
- SANS 2001-EM1 – Construction works: Cement plaster
- SANS 1200 – Standardised specification for civil engineering construction (all parts)
- SANS 10100-2 – Structural use of concrete: Materials and execution of work
- SANS 10021 – Waterproofing of buildings (including damp-proofing and vapour barrier installation)
- SANS 10109-2 – Concrete floors: Finishes to concrete floors
- SANS 10400 – National Building Regulations (all parts)

Copies of SANS 1200 Standardized Specifications are available from the South African Bureau of Standards, Private Bag X191, Pretoria, 0001. In addition, the following Occupational Health and Safety Regulations (No 85 of 1993) are applicable: -

- General Safety Regulations
- Environmental Regulations for Workplaces
- Facilities Regulations

3. APPLICABLE STANDARDS: MODEL PREAMBLES FOR TRADE (2008)

3.1. All materials to be SANS approved and installed to applicable standards specified by SANS, NBR, or the manufacturer. The Bid shall refer to "the Model Preambles for Trade" (2008 version), issued by the Association of South African Quantity Surveyors.

This covers the following categories (items in italics in particular apply to this contract):

Model Preambles for Trade (2008) (MPT2008)	
A | General	B | Alterations
C | Earthworks	*D | Concrete, Formwork and Reinforcement*
E | Precast Concrete	*F | Masonry*
G | Waterproofing	*H | Roof Coverings etc*
I | Carpentry and Joinery	J | Ceilings, Partitions and Access Flooring
K | Floor Coverings, Wall Linings, etc	*L | Ironmongery*
M | Structural Steelwork	*N | Metalwork*
O | Plastering	P | Tiling
Q | Plumbing and Drainage	R | *Glazing*
S | Paintwork	T | Paperhanging
U | External Works	

4. MATERIALS AND CONSTRUCTION

4.1. All materials must be newly purchased and conform to SABS specifications for the products. This includes all items such as bricks, blocks, brick reinforcement, damp proofing, lintels, glazing, plumbing and drainage, curtains, etc. All construction works must conform to the applicable standard specifications and installation requirements as per NBR requirements and manufacturers recommendations. All concrete works to conform to CNCI standards and recommendations.

5. CONCRETE MIXES

5.1. All concrete, except for fencing bases, is to be ready mix, or mechanically mixed. No hand mixing.

5.2. Concrete cubes to be sent to test lab for the 7th day and 28th day concrete cube strength testing.

5.3. Cement and aggregates shall be mixed by volume and the contents of a 50kg sack of cement shall be taken to be 0.033m³.

5.4. Water addition should be kept to a minimum. Only sufficient water should be used to produce a workable mix of 60-100mm slump. A recommended maximum water: cement ratio is 1 for a 10MPa; 0.8 for a 15MPa; 0.65 for a 20MPa; 0.59 for a 25MPa; 0.53 for a 30MPa mix, however the lower the ratio the better the durability of the concrete. Approximately 210 litres per m³ of concrete is required for an average quality sand and optimum quantity 19mm stone.

5.5. Concrete for non-structural purposes shall be "Prescribed mix concrete" produced in accordance with the requirements indicated in Table 3.

TABLE 3: STANDARD CONCRETE MIXES

Class of Concrete	Min. Compressive Strength in MPa at 28 Days	Max. Nominal Size of Coarse Aggregate in mm	Proportion of Constituents >> 1 Wheelbarrow = 2 bags of cement <<		
			Cement (Parts)	Sand (Parts)	Stone (Parts)
A	10	37,5	1	4	5
B	15	19,0	1	3	4
C	*20*	*19,0*	*1*	*2.5*	*3.5*
D	25	19,0	1	2	3
E	*30*	*19,0*	*1*	*2*	*2½*

#LET'S MAKE AGRICULTURE FASHIONABLE #PHEZ'KOMKHONO

5.6. All required concrete to be ready mix delivered to site.

6. STANDARD PLASTER & MORTAR MIXES

6.1. The standard **plaster** mixes are as listed in Table 2:

TABLE 2: STANDARD PLASTER MIXES

PLASTER CLASS:	MIX RATIO: (By Volume)	MASONRY CEMENT: kg	LIME: L	SAND: (loose and damp) L (max)
Rich mix (foundations, wet areas)	1:4	50	0-10	130
General purpose	1:5	50	0-40	165

6.2. The standard **mortar** mixes are as listed in Table 3:

TABLE 3: STANDARD MORTAR MIXES

MORTAR CLASS	MIX RATIO: (By Volume)	MASONRY CEMENT: kg	LIME: L	SAND: (loose and damp) L (max)
I	1:4	50	0-10	130
II	1:6	50	0-40	200
This project	**1:5**	**50**	**0-25**	**165**

7. FINISHES TO IN-SITU CONCRETE

7.1. Class U1 - Ordinary Finish (Screeded)

Immediately after placing, the concrete shall be finished rough by screeding with the edge of a wooden board of straight and true line and working between guides set accurately to level. No mortar shall be added and noticeable surface irregularities caused by the displacement of coarse aggregate shall be made good by re-screeding after removing or tamping down the offending aggregate. *Application:* finishes covered by backfill or concrete, footpaths, yards and driveways.

7.2. Class U2 - Wood Float Finish

The concrete surface shall first be brought to the standard Class U1 ordinary finish and then floated with a wood or bull float. Floating shall be started as soon as the screed finish is stiffened sufficiently, and bleed water has evaporated or been removed and it shall be the minimum necessary to produce a surface free from screed marks and uniform in texture.
Application: as for U1 where a higher standard of finish is required. Floors to receive carpets with underlay or similar coverings, inverts of syphons, flumes, floors of canal structures, spillways outlet works and stilling basins. Surfaces which are intended for use by ambulant disabled or wheelchair-bound persons.

7.3. Class U3 - Trowelled

The concrete surface shall first be brought to a Class U1 ordinary finish. Then it is to be manually or mechanically steel trowelled after the concrete is sufficiently hardened, to prevent excess fine material and water being worked to the surface. This may be done in one or two stages depending on degree of smoothness required.
Application: Direct wearing floors such as in factories, warehouses and processing plants, floors to receive thin sheet coverings, carpet and similar coverings. Inverts of water, tunnels and tunnel spillways. Not generally used for pedestrian or vehicular traffic where a smooth finish should be

dangerous in icy or wet conditions. Is not suitable even when dry, for surfaces which are intended for use by ambulant disabled or wheelchair-bound persons.

7.4. Class U4 - Machine Finish

The concrete surface shall first be brought to the standard Class U1 ordinary finish. Then it shall be screeded by a vibrating or oscillating screed or vibrating plate, or both, which may be supplemented by long handled metal, wooden, or rubber floats.
Application: this finish is used for durability where resistance to erosion and cavitation under action of high velocity water is especially required; and as firsts and second stage finishing for roads and airfield pavements prior to texturing with U5, U6 and U8 finishes.

7.5 Class U5 - Shallow Textured Finish (hard or soft broom)

After any of the first 4 finishes (U1-U4), a brush finish is then applied with a hard or soft bristled broom. "Brushing" shall be started soon after any of the first 4 finishes to produce a uniform patterned coarse surface finish with a rough surface texture in the desired drainage direction.
Application: Footpaths, yards, driveways, roads.

8. CONCRETE STRENGTH TESTING

8.1. Compressive strength testing

8.1.1. Two sets of two cubes (for 7- and 28-days testing) should be tested per batch for 7- and 28-days testing. Certified lab to conduct the tests and test results to be submitted before payments for concrete bases can be made.

8.1.2. If the strength of any specimen varies by more than 15 percent of average strength, the work of which the sample was taken will be rejected. The average of three specimens gives the crushing strength of concrete. Deviations of the crushing strength by more than 10% below the required strength (30 MPa) will result in rejection of the bases of which the samples were taken. These will be destroyed and rebuilt. Careful referencing of samples will be required.

8.2. Cube test sampling & preparation

8.2.1. Mixing *of the concrete*

1. Mix the cement and fine aggregate on a watertight none-absorbent platform until the mixture is thoroughly blended and is of uniform colour.
2. Add the coarse aggregate and mix with cement and fine aggregate until the coarse aggregate is uniformly distributed throughout the batch.
3. Add water and mix it until the concrete appears to be homogeneous and of the desired consistency.

8.2.2 Sampling of Cubes for Test

1. Clean the moulds and apply oil.
2. Fill the concrete in the moulds in layers approximately 5cm thick.
3. Compact each layer with not less than 35 strokes per layer using a tamping rod (steel bar 16mm diameter and 60cm long, bullet pointed at lower end)
4. Level the top surface and smoothen it with a trowel

8.2.3 Curing of Cubes

1. The test specimens are stored in moist air for 24 hours and after this period the specimens are marked and removed from the moulds and kept submerged in clear fresh water until taken out prior to test.

9. SITE CLEARANCE

9.1. Applicable standards

SANS 2001 – Construction Works Part BS1: Site Clearance. SANS 2001 standard specifications are deemed to satisfy the provisions of SANS 10400 (The application of the National Building Regulations).

9.2. Cutting of trees

9.2.1. *Precautions.* The contractor shall take the necessary precautions to prevent injury to persons and animals and damage to structures and other private and public property. Where necessary, trees shall be cut in sections from the top downwards.

9.2.2. *Branches overhanging boundaries.* The branches of trees to be left standing shall be so trimmed as not to encroach upon the space (of height at least 7m) vertically above any carriageway, railway formation, or other designated area.

9.2.3. *Preservation of trees.* No tree shall be cut down until the engineer has given written authorization for such work to commence.

9.3. Clearing

9.3.1. *Clearing shall consist of:*

- The removal of all trees, rubbish, fences, and all other material that may interfere with the construction of the work.
- The disposal of all material resulting from clearing.
- The removal of rocks and boulders of size up to 0.15m^3 that are lying on the surface to be cleared or exposed during the clearing operations.
- Where fences have to be taken down, sorting, coiling, and stacking of the material.
- The removal and stacking of other reusable materials as scheduled.

9.3.2. *Haulage.* The moving of a certain amount soil or gravel may be inherent in or unavoidable during the process of clearing. No extra payment will be made for the removal such soil or gravel.

9.3.3. *Re-clearing of vegetation.* If during the contract period vegetation should again grow on any portion of the site, borrow areas, or the areas that have been cleared in accordance with the specification, the Engineering Representative may, if considers it necessary, order that such area be re-cleared. Such re-clearing shall include the removal and disposal of grass, shrubs, and other vegetation, as in the first clearing operation.

9.3.4. The site, including an area extending to at least 3 meters beyond the actual building or, if fencing forms part of the scope of works, up to the fencing perimeter, must be cleared and stripped of all plant materials, roots and topsoil prior to site levelling. The cleared and stripped material is to be stockpiled away from the construction site and is to be levelled / replaced once all construction is complete

9.4. Grubbing

9.4.1. Stumps and roots larger than 75mm in diameter shall be removed to a depth of at least 600mm below the finished level and at least 100mm below the original ground level. Where the area has to be compacted, all stumps and roots including matted roots shall be removed to a depth of at least 200mm below the cleared surface.

9.4.2. Except in borrow areas, cavities resulting from grubbing shall be backfilled with approved material and compacted to a density at least equal to that of the surrounding ground.

9.5. Conservation of topsoil

9.5.1. The terms of Sub-clause 5.2.2 of SANS 1200DA: 1988 shall apply.

9.6. Other general works specifications

9.6.1 Levelling: the site is to be levelled prior to any construction. This includes excavation of in situ material to provide the pit.

9.6.2 Backfilling: Materials excavated and suitable for backfilling will be placed in even, thin layers and compacted with thickness applicable to the compaction method/machinery used but not exceeding 150mm.

9.6.3 Compaction: compaction of the site shall take place at optimum moisture content (OMC) to a maximum dry density of at least 95% of Mod. AASHTO. The Contractor shall arrange independent compaction testing, before the floor slabs are cast. Four (4) distributed places per site shall be tested, once off, after completion of the compaction of the floor base. (test results are to be provided). The floor is to be inspected prior to the pouring of any concrete.

9.6.4 Site demarcation. The corner points and other crucial points of the development must be pegged out by the contractor and will be checked by an Engineer before actual works can begin.

9.6.5 Surplus material. Surplus material will be retained by the department, and should any surplus material be taken by the contractor, or any material not be supplied, payment will be made based on what has been actually used/put in (to) the scheme. All material must be checked by a departmental representative prior to installation.

9.6.6 Soil heaps resulting from the levelling/clearing process must be levelled before the contractor leaves the site.

F | PROJECT SPECIFIC SPECIFICATIONS

1. CONCRETE MIXES

1.1. **The use of ready-mix concrete for all structural concrete works required for the maintenance of buildings, including foundations, floor slab, and apron, is strongly recommended.** If ready-mix concrete is not available, the use of mechanical mixers is mandatory for structural elements such as the foundation and slab.

1.2. Concrete used for structural elements must achieve a minimum compressive strength of **30 MPa** at 28 days, with a maximum nominal size of coarse aggregate of 19 mm, in accordance with SANS 10100-2:2021.

1.3. Compressive strength test results from a SANAS-accredited laboratory for each concrete mix used (including ready-mix deliveries) must be submitted to the Engineer to confirm compliance with the design specifications.

1.4. The contractor may hand mix concrete on site only for non-structural items, such as small kerbs or minor external works. All other concrete works must be mechanically mixed or sourced as ready-mix.

2. SITE ESTABLISHMENT BY CONTRACTOR

2.1. The site handover will only take place after the Contract Form (SBD 7.2) has been signed and an order has been issued and is in the possession of the Contractor.

2.2. Site establishment and commencement of works are to take place no later than 14 days after site handover.

2.3. During Site Handover, the KZN DARD officials will introduce the contractor to the participants and or community.

2.4. Contractor to show and/or submit for approval all required documentation at the site handover (H&S file, insurances, programme of works, cashflow projection, notification of construction work signed by the Department of Labour). No work to commence without these documents being approved.

2.5. Any issues regarding use of local labour, accepted labour rates, storage of provisions and materials/tools; services etc. can be discussed by the contractor with the participant(s); community representatives and the DARD local agricultural staff and on any other issue pertaining to the project.

2.6. Thereafter the contractor is expected to complete the site establishment as provided for.

3. SUPPLY AND DELIVERY OF ALL MATERIALS

3.1. The contractor must make proper and timeous arrangements with the participants regarding delivery of materials on site.

3.2. The contractor will remain responsible for the safekeeping of all material and equipment kept on site or kept for him by the community representatives. In the event of theft, losses or damage, the replacement costs will be borne by the Contractor alone.

3.3. The Engineer can request from the contractor the relevant invoices to verify if the materials on site are indeed as specified.

4. SITE CLEARANCE AND DE-BUSHING

4.1. The site must be cleared and stripped of all plant materials, roots etc.

4.2. Specifications for site clearing, including grubbing, are as per Section 9 of the Standard Technical Specifications.

4.3. During the compulsory site briefing it will be determined what exact work (clearing and/or grubbing and/or cutting of trees and/or bushes, etc) will be required to get the site ready for maintenance of buildings.

5. EARTHWORKS (EXCAVATIONS AND SITE LEVELLING)

5.1. In terms of this contract, the term 'earthworks' refers to two (2) distinct operations, namely excavations and site levelling.

5.2. A combination of minor excavation work (for the pit and poles), as well as site levelling work (only in sloping areas, to be done **before** the excavation works), are required for this project to bring the site to the required standard that will then facilitate the implementation of all the other required works.

5.3. Normal regulations regarding safety, municipal by-laws, contamination of water sources, erosion, siltation etc. will still apply.

5.4. Cleared and stripped topsoil material is to be stockpiled away from the construction site and is to be levelled out /replaced once all construction is complete.

5.5. Materials excavated and suitable for backfilling will be placed in even layers not exceeding 150mm and compacted in layers appropriate to the compaction method/machinery used but.

6. STRIP FOUNDATIONS

6.1. All foundations to be on suitable well-compacted material (to extend through any fill material where applicable and well compacted). The foundation trenches are to be inspected prior to the pouring of any concrete.

6.2. All external and internal walls are to be centrally constructed on a 650 x 250 mm strip footing.

6.3. Class C concrete and surface finishes as per drawing (min U2 finish): 20 MPa / 19 mm, 1:2½:3½ mix, slump to SANS 2001-CC. All foundations are to be properly cured for a minimum period of seven days by keeping moist and covered over this time or by applying a concrete curing compound (applied as per manufacturer's specifications).

6.4. Permissible deviations: SANS 2001-CC1, Degree of accuracy III for concrete.

7. FOUNDATION WALLS

7.1. The exterior and internal foundation walls are to be constructed of SANS-compliant stock bricks or solid concrete brick units (220 mm wide) with SANS-approved galvanized brick force in each course, installed in accordance with SANS 2001-CM1. All brickwork shall be built in stretcher bond in Class I mortar for foundation walls. The use of any clay masonry units requires that the units are wetted before being laid, and the course last laid shall be re-wetted before laying the next course.

7.2. The foundation wall carrying the veranda slab shall consist of double clay bricks.

7.3. Final foundation levels are to correspond to the floor slab level, a minimum of 150 mm above finished ground level.

7.4. The foundation wall is to be constructed as detailed in the drawing, using a double brick wall with galvanized brick force (SANS approved) in every course. The mortar shall be a rich mix (Class I). Unless otherwise specified, Portland cement of normal setting quality is to be used, complying with SANS 50197-1, and must be used fresh. Cement containing more than 15% blast furnace slag is not permitted.

7.5. Permissible deviations shall comply with SANS 2001-CC1, Degree of accuracy III for concrete.

7.6. All brickwork is to be sealed with a rich plaster mix on both sides before backfilling with soil. Portland cement used shall comply with SANS 50197-1 and must be fresh. Unless otherwise specified, only normal-setting cement is permitted.

8. FLOORS

8.1. Sub-Base - The soil layer under the floor slab is to be well and uniformly compacted. Backfilling & soil compaction to SANS 2001-CE1. The floors are to be on a levelled base and well compacted to minimum 95% Mod AASHTO. Contractor to supply test results proving compaction results. Department Engineer to be notified of test and observe test procedures.

8.2. Base - On top of the compacted soil, a layer of 100 mm of aggregate/rubble/stone and 50 mm of river sand will be applied and compacted. The floor base is to be inspected prior to the pouring of any concrete. The base is to be inspected before the laying of damp proofing or any concrete.

8.3. Pest Control - Pre-construction soil poisoning with a termiticide by a specialist Pest Control Operator (PCO) registered in terms of Section 10 of Act 47 of 1947, as amended in July 1983, in categories (IV) Structural Pest Control and/or (VI) Wood Control. Work to be done in accordance with SANS 10124:2006, including issuing of a compliance certificate.

8.4. Damp Proof Sheeting - Damp proof sheeting of minimum 250-micron thickness is required throughout the structure and shall comply with SANS 952-1.

8.5. Reinforcing - Ref 193 reinforcing mesh is required for all floors. Mesh must be sized and placed so that it does not cross joints and is to be inspected. Ref 100 reinforcing mesh is required for aprons.

8.6. Floor - Concrete shall be Class D with a compressive strength of ≥30 MPa, using 19 mm aggregate, and a mix ratio of 1:2:3. Slump to comply with SANS 2001-CC1. A U2 surface finish is required as per drawing. Inspection is required during the pouring of the concrete.
Permissible deviations to SANS 2001-CC1, Degree of Accuracy III.

8.7. Curing - The floor slab is to be properly cured for a minimum period of seven (7) days by either: Keeping the slab moist and covered or applying a concrete curing compound (after the floating process), as per the manufacturer's specifications.

8.8. Joints - No joints are required inside the building other than: Where the ablution and duty room floors meet under the connecting door, and at the entry where the veranda floor meets the duty room slab. Use 6 mm soft board and sealant at these locations to separate the slabs.

8.9. Floor - Floors shall be constructed of material that is water-impermeable, corrosion-resistant and easy to clean, and shall be laid to an even surface that is smooth but not slippery, and is free from cracks, crevices and open joints. Floors in the food handling areas shall be suitably sloped and shall drain into external gullies, sumps and sewers.

8.10. Floor Paint - All floor areas are to be with Primed with epoxy primer and painted with two coats of epoxy resin. Colour: Light Grey.

8.11. Apron: A concrete apron is to be constructed around the entire structure 750mm wide. The dimensions are to be 100mm thick and slope away from the structure. The aprons are to be constructed in panels not exceeding 3m length x 1.0m wide and reinforced (Ref 100 mesh).

9. WALLS

9.1. A SANS-compliant damp proof course (DPC) is required at the base course above floor slab level throughout the structure. The DPC must conform to SANS 952-1.

9.2. All interior wall surfaces in the food handling areas shall be faced with a smooth, corrosion-resistant, light-coloured, washable, water-impermeable, and impact-resistant material to a height of at least 2 m above the floor. However, if soiling of the walls can occur above this height, then the facing shall be continued to a higher level

9.3. Walls shall be constructed of material that shall not deteriorate, is impervious, smooth and free from flaking paint so as not to contaminate food.

9.4. External walls are to be full brick, 230 mm wide, consisting of;

- Outer skin: red clay face brick (e.g., Coro brick Travertine Montana or approved equivalent)
- Inner skin: plaster brick. Internal walls are to be half-brick construction using plaster bricks.
- Foundation walls for the veranda slab must be built using SANS-approved clay bricks.

9.5. All clay masonry units must be wetted before laying, and the last laid course should also be wetted before laying a new one. All brick/blockwork shall be built in stretcher bond using Class II mortar (general-purpose mix). Unless otherwise specified, cement used shall be Portland cement of normal setting quality, compliant with SANS 50197-1 and must be used fresh.

9.6. All walls must be reinforced with brick force, which must comply with SANS 1931, and reinforcement shall be as detailed in the Bill of Quantities (BoQ).

9.7. Internal and external walls are to be plastered and painted.

9.8. Each outlet shall have, immediately outside the walls of the food handling area, a trap that prevents the entry of rodents.

9.9. An inspection is required once the brickwork reaches lintel height.

9.10. An inspection is required prior to the plastering of any walls

10. ENTRANCES

10.1. All precast concrete lintels used over openings must comply with SANS 1504. All recommended procedures for transporting, handling, installation, bracing, and minimum end bearing into the brickwork must be strictly followed.

10.2. A heavy-duty, 8-panel Meranti door is required for both the main entrance and the internal connecting door. The external entrance must also include a hinged burglar gate for added security.

10.3. Internal doors must be flush commercial veneer hollow-core doors, sized 700 mm x 1900 mm — for the toilets and the connecting door.

10.4. A hasp and staple latch are required on the external door. The door must be varnished before installation with: Two coats of varnish. The first coat diluted by 10% using mineral turpentine.

11. WINDOWS

11.1. All windows shall be galvanised steel, fitted with brass stays, fasteners, and handles, and include factory-fitted burglar bars. Glazing shall comply with SANS 10400-N and SANS 613, using appropriate safety glass where required.

11.2. All windows are to have external sills constructed from red "cant" bricks, chamfered on the edges (40 mm × 40 mm chamfer).

11.3. All windows shall be fitted with removable and cleanable insect-proof screens.

12. ROOFING AND CEILING

12.1. Ceiling
To be 6mm Nutec, on 38 x 38mm brandering at 320mm centres. Last line of brandering 25mm from the wall.

12.2. Roof structure:
Trusses to be manufactured by recognized specialist truss makers.

12.3. Roof sheets:
IBR profile, green chromadek 0.53mm thick.

12.4. All ridge capping and barge boards are as per the drawings.

12.5. Insulation: Alucushion Bubble foil insulation (or equivalent) on PVC straining wire (2.5mm min, wires 300mm apart) is required throughout the structure. To be well secured and fixed to the structure.

13. FINISHINGS

13.1. Supply and installation of 5kg ozone friendly fire extinguishers (dry chemical) in the building.

13.2. Connection to the grid and water mains.

14. LIGHTING AND WALL SOCKETS

14.4. All electrical work — including connection to the grid, installation of lamps, sockets, and switches — must be subcontracted to a licensed electrician. Upon completion, a valid Certificate of Compliance (CoC) must be submitted in accordance with SANS 10142-1 (The Wiring of Premises – Part 1: Low-voltage installations).

14.5. All electrical materials and installation methods must comply with the relevant SANS electrical installation standards, including but not limited to:

- SANS 60614 – Conduits for electrical installations
- SANS 60884 – Plugs and socket-outlets for household and similar purposes
- SANS 61084 – Cable trunking and ducting systems for electrical installations
- SANS 61386 (replaces SANS 61035) – Conduit fittings for electrical installations
- SANS 10142-1 – The Wiring of Premises (general compliance and safety)

14.6. All fixtures, switches, socket outlets, distribution board (DB), and other components must be installed as per Drawing 7 and Section 14 of the Pricing Schedule.

15. PLUMBING

15.1. The use of a sink and washing basin requires the connection of the shed to a waste & grey water collection/ processing facility. This could be an existing municipal sewer system or, in the absence thereof, a conservancy tank. In both cases the contractor is responsible for the installations and connections.

15.2. The contractor is responsible for all supply, installation, connection, and testing of plumbing services to ensure full functionality and compliance with local authority requirements.

15.3. All plumbing work must be carried out by a qualified and registered plumber, in accordance with the following SANS standards:

- SANS 10400-P – Drainage
- SANS 10252-1 – Water supply installations for buildings
- SANS 10252-2 – Drainage installations for buildings

15.4. All work must comply with the National Building Regulations (NBR), and a valid Plumbing Certificate of Compliance (CoC) must be submitted upon completion.

16. GUTTERS AND WATER TANKS

16.1. Seamless aluminium roof industrial OGEE profile gutters (125mm x 100mm) and aluminium downpipes (100 x 75mm).

16.2. All guttering and down pipes must be adequately fixed to the roof and structure. The end gutters are to discharge into the tank.

17. PROGRESS REPORTS

17.1. Contractor to submit monthly progress reports to the Engineer monitoring the construction. Such reports must detail the actual work completed and verified against the updated approved programme of work.

18. SITE CLEAN-UP AND EXIT

18.1. Upon completion of all works, the contractor shall remove all excess materials, rubble, debris, packaging, and waste from the site.

18.2. The site must be left in a neat, clean, and safe condition, free of construction-related hazards or obstructions.

18.3. Any damage caused to existing infrastructure, landscaping, fencing, or adjacent properties during the construction process must be repaired at the contractor's cost.

18.4. The contractor must ensure that all final inspections (municipal, engineering, and client) have been completed and signed off before demobilisation.

18.5. All site clean-up activities must comply with SANS 1921-1:2004 – Construction and Management Requirements for Works Contracts, specifically Section 5.4 regarding final cleaning and decommissioning.

18.6. A Completion Certificate and, where applicable, a Certificate of Occupancy must be obtained and handed over to the client before final exit from the site.

19. SAFETY PRECAUTIONS ON SITE DURING CONSTRUCTION

19.1. Contractor to complete APPENDIX 2A: The Contractor's Health and Safety Declaration as part of his bid/quote. See also SCC Clause 16 for the OHS compliance requirements.

19.2. One 5kg ozone friendly fire extinguisher (dry chemical) and one (1) fully fitted first aid box is to be available at all times.

19.3. All safety equipment required to construct the facility are for the contractor's responsibility and provisioning. Examples include safety and protective clothing; sound scaffolding; false work and bracing; ladders etc. All equipment, tools and safety equipment are to be in a safe operating condition and must be used by the workers where appropriate.

19.4. Refer to general conditions for site safety as included in the regulations of the *Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).*

19.5. Site operations and conditions requiring special attention include but are not limited to:

- Equipment, machinery, tools: (stationary or mobile) such as vehicles, generators, pumps, drills, augers, picks, spades, hand tools, ladders, scaffolding to be in a safe operating condition and are to be used in a safe and responsible manner. The contractor is responsible for all such monitoring and control of site operations and equipment throughout the works for the entire contract duration.
- Lifting and lowering of materials or personnel in any way whatsoever.
- Personnel access and operations at raised levels or on raised platforms or scaffolding.
- Excavation works and holes are to be clearly indicated to prevent injury to personnel.
- Potential ingress of water on/through the site.
- Potentially hazardous services may be present on site such as water and sewerage mains, electricity cables etc.
- Chemical transport, storage and usage whatsoever – this includes chemical contact through equipment use such as fuels and oils; materials such as creosote, paints, solvents, cement, concrete.
- Barriers and safety cordons, safety and warning signage, sirens, lighting etc. as required
- Safety equipment: Safety and protective clothing, gloves, goggles, masks, hard hats, boots, harnesses etc.
- A first aid box is to be provided and available at all times on site during working hours and is to comply with the requirements of the Occupational Health and Safety Act.
- Additional risks associated with specific methods of construction selected by the contractor which are not necessarily covered in the above.

20. ABLUTION FACILITIES

20.1. Contractor to provide his own ablution facilities in compliance with the *Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).*

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