



St Andrews Hospital HEALTH AND SAFETY SPECIFICATION

OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993

EXTRACT FROM THE CONSTRUCTION REGULATIONS

1. **Scope:** This specification details the health and safety requirement with the Works.
2. **Interpretations :** Construction work is defined as: any work in connection with: -
 - a) The erection, maintenance, alteration, repair, demolition or dismantling of or addition to a building or any similar structure;
 - b) The installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling; or
 - c) The moving of earth, clearing of land, the making of an excavation, piling or any similar type of work.
3. **General:** The Employer will take reasonable steps to ensure that the contractor's health and safety plan is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.

Should the Contractor at any stage in the execution of the work-

- a) Fail to implement or maintain contractors' health and safety plan;
- b) Execute construction work which is not in accordance with contractors' health and safety plan; or
- c) Act in any way which may poses a threat to the health and safety of any person/s, **the Employer or employers' representative/agent will stop the Contractor from executing construction work.**

4. General Requirements

- 4.1. **First Aid Equipment:** The Contractor shall provide for its employees an approved first aid box. The first aid box to be checked weekly by a responsible person, who shall be appointed by the Contractor.
- 4.2. **Reporting of incidents and /or injuries:**
 - 4.2.1. All incidents in respect of damage to Works, property or machinery or injury to persons, shall be reported by the Contractors Safety Officer or Site Representative to the Representative/agent by the quickest means possible.

4.7. Ladders:

4.7.1. Every ladder shall be:

- Of good construction, sound material and adequate strength and suitable to the purpose for which it is used (e.g. electricians shall use suitable insulated ladders),
- Fitted with non-skid devices at the bottom of the stiles or with hooks or similar devices at the tops of the stiles.

4.7.2. Except for extension ladders, no ladder shall be used which is longer than 4,5m and no ladder shall have its reach extended by tying together two or more ladders.

4.7.3. All ladders shall be inspected weekly and a log shall be kept of the inspections.

4.8. Scaffold Framework:

4.8.1. Scaffold standards shall be firmly supported and secured against displacement and shall be kept vertical.

4.8.2. No Contractor shall use, or cause to be used, any scaffold unless it is inspected by a competent person at least once a week and after inclement weather.

4.9. Prevention of Uncontrolled Collapse: The Contractor shall ensure that no structure or part of a structure is loaded in a manner that would render it unsafe.

4.10. Electrical Equipment and Procedures Used by the Contractor:

4.10.1. All electrical equipment to be inspected regularly by a qualified electrician, who shall be appointed by the Contractor and inspections to be logged.

4.10.2. The Contractor shall ensure that all his electrical equipment conforms to the operational and safety requirements.

4.10.3. All earth leakage units shall be tested at intervals of not more than one month and signed for by a qualified electrician.

4.11. Indemnity of the Employer and his agents: The annexure to this Contract Document contain a "Mandatory Form of Authority and Agreement in terms of Section 37 (2) of the Occupational Health and Safety Act, No, 85 of 1993 which agreement shall be entered into and duly signed by both the Employer and Contractor prior to the commencement with work. A copy of the signed agreement shall be included in the Contractors health and safety plan.

4.12. Minimum Requirements of a Safety File

1. Health & Safety specifications.
2. Baseline risk assessment
3. Task based Risk Assessment
4. Approved SHE plan



St Andrews District Hospital TECHNICAL SPECIFICATION

1. GENERAL

- 1.1. This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION, including the National Building Regulations SABS 0400 of 1990 as amended and the Occupational Health and Safety Act and Regulations, 85 of 1993.
- 1.2. Cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

2. SCOPE

- 2.1. The work to be carried out under this contract includes the supply, delivery, installation, connecting, testing and leaving in good service condition to the satisfaction of the Head of Department or his or her designee, the building maintenance, renovations, repairs and minor new works to KwaZulu-Natal Health Institutions as specified by the Head of Department or his or her designee.
- 2.2. Work to be done as per drawing.
- 2.3. Material as specified below.
- 2.4. Work to be done according to Standard preambles of Trade of the Department of Health.
- 2.5. No jack hammers to be used unless cleared by Maintenance Manager.
- 2.6. If unsure please contact Maintenance Manager before commencing with the work.
- 2.7. No cutting off cables (electrical or network) if not cleared by Maintenance Manager. Contractor will be responsible if any cables are cut without permission.

3. REFERENCES

- 3.1. Where references have been made to specific brand names, these are read as "OR OTHER APPROVED BY DEPARTMENT OF HEALTH, FACILITIES MANAGEMENT."

4. STRUCTURAL SPECIFICATION:

- 4.1. The scope of work consists of the installation of macerator in the waste disposal room, including all electrical and plumbing.
- 4.2. Unit supply by institution "Salvajor" Waste Disposal 300-CA-MRSS Cone Dimensions: 689mm Height
- 4.3. Electrical Load: 2.25Kw/3HP, 400V 3 Phase N+E Dedicated Sewage Line - No Grease Trap
- 4.4. Install water supply closer to wall.
- 4.5. Erect safety barriers around construction site, including safety signs.
- 4.6. Supply water to food macerator using **Copper CLASS 2** and lever valve.
- 4.7. Supply and install wall plate elbow for existing tap.
- 4.8. Supply and install isolating valve on exterior of building.
- 4.9. Excavate and expose existing sewer pipes.
- 4.10. Install new 110mm PVC outlet between macerator and sewer line. System is to be vented.
- 4.11. Construct manhole at junction. Construct new manhole with size 600mmx450mm cast iron manhole covers at change of direction/junction. Manhole walls to be 230mm (9 inch) wide, hard burnt clay bricks and smooth plastered internally (As per Preambles, pages 62 to 67-no.15). Benching to be smooth and uniform.
- 4.12. Installation is to include all pipes, fittings, sundries, etc. Only SABS Approved pipes and fittings are to be used.
- 4.13. Ensure that existing sewer is functional during duration of contract.

STAH MACERATOR: ZNQ:.....

Bidders Signature:.....



**St Andrews District Hospital
SCOPE OF WORK**

1. GENERAL

1.1. St Andrews District Hospital: installation of macerator

2. SCOPE OF WORK

- a. The work to be carried out in terms of this section of the project comprises the supply and installation of all the materials necessary, as per the Bill of Quantities and Drawings.
- b. All work must be checked and approved by the Chief Works Inspector.
- c. All workmanship will be done fully in accordance of the Occupational Health and Safety Act 85/1993, as amended.
- d. All work to be carried out as per Department of Health - Standard Preambles to all trades, **Rev 3-January 2009**.
- e. Contractors are advised to visit the site to acquaint themselves fully with the nature and full extent of the work involved. Claims on the grounds of insufficient information will not be entertained.
- f. Site to be cleared daily of building rubble and work area kept clean at all times.

**PLEASE NOTE THAT THIS CONTRACT PERIOD IS FOR FOUR (4) WEEKS.
CONTRACTOR IS TO ENSURE THAT THEY HAVE STAFF IN PLACE TO COMPLETE
THIS CONTRACT WITHIN THE STATED PERIOD.**

Time required for completion of this contract as specified from receipt of official order: -

Lead Time: One (1) Week
 Site Time: Three (3) Weeks
 Total Time: Four (4) Weeks

Signature of Contractor

Name of Contractors

Contractor Name in block letters

Date

Contractors Stamp

BILLS OF QUANTITIES

PRICE BILLS OF QUANTITIES

Notes to Bidders: All items to be priced fully inclusive of all charges, e.g. labour, scaffolding, materials, profit, Transport etc. including Value Added Tax.

| ITEM | DESCRIPTION | Unit | Quantity | Rate | | TOTAL | | | | | | | | | | | |
|-------------|--|------------------|----------------|------------------|----------------|-------|--------|--------------------------------|--------------|--------------|--|---|----------|--|--|--|--|
| | | | | R | c | R | c | | | | | | | | | | |
| | ZNQ Reference No.: ZNQ: INSTITUTION: St Andrews District Hospital: installation of macerator in the waste disposal room, including all electrical and plumbing. All rates quoted shall be inclusive of transport, labour and profit. | | | | | | | | | | | | | | | | |
| | PROPRIETARY ARTICLES: All equipment and material used in this contract shall be that which is specified or other approved by the Department of Health. | | | | | | | | | | | | | | | | |
| 1 | ELECTRICAL | | | | | | | | | | | | | | | | |
| | Supply, deliver and install the following: | | | | | | | | | | | | | | | | |
| 1.1 | Supply, deliver and install <i>New armoured Cable</i> underground: PVC SWA PVC with ECC (per metre) installed (Cu Conductors): 4core + earth 2.5mm ² 600/1000V. Outside cables coming from down and up walls Bosal galvanised sleeve 2x two 2.5m long, DIA 32mm, 500mm into ground. Include (3X) three Steel Galvanised Saddles per sleeve above surface. <i>New Cable termination Glands:</i> Making off cable ends for copper core, PVC SWA PVC with ECC cables, including Pratley or CCG Glands. | m | 37 | | | | | | | | | | | | | | |
| 1.2 | Trenching Unit price per metre cable trench 300mm wide and 700mm deep (including backfilling and compaction) The trench is in soft rock | m | 5 | | | | | | | | | | | | | | |
| 1.3 | Fill Trench with soft river sand clear of Rocks | m ³ | 0.75 | | | | | | | | | | | | | | |
| 1.4 | Underground yellow cable Tape, Reading "Caution Electrical cable below" in Black writing, | | | | | | | | | | | | | | | | |
| | <table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">Tape Colour</td> <td style="width: 20%;">Text</td> <td style="width: 20%;">Roll Size /Width</td> <td style="width: 20%;">Tape Thickness</td> <td style="width: 15%;"></td> </tr> <tr> <td>Yellow</td> <td>Caution - Electric Cable Below</td> <td>365m x 150mm</td> <td>100µm + 50µm</td> <td></td> </tr> </table> | Tape Colour | Text | Roll Size /Width | Tape Thickness | | Yellow | Caution - Electric Cable Below | 365m x 150mm | 100µm + 50µm | | m | 5 | | | | |
| Tape Colour | Text | Roll Size /Width | Tape Thickness | | | | | | | | | | | | | | |
| Yellow | Caution - Electric Cable Below | 365m x 150mm | 100µm + 50µm | | | | | | | | | | | | | | |

STAH MACERATOR: ZNQ:.....

Bidders Signature:.....

| | | | | | | | |
|--------------------------------|---|------|---|--|--|----------|--|
| 1.14 | Clearly label on the old GENSET Distribution board and new waster room distribution boards, e.g. circuit breaker no.12. MACERATOR DB. The outside 12-Way macerator DB, e.g. Marked FED from circuit breaker. FED from C/B12. All engraving to be done clearly and on hard plastic labels black on white writing. | Item | 1 | | | | |
| 1.15 | Testing of installation new points including providing a new electrical compliance certificate. C.O.C. Certificate of Compliance to be issued for all electrical work signed off by certified Electrician doing the work. Proof of Wireman's and Electrician Qualifications to be attached. All copies to be certified. Originals to be shown on request. | Item | 1 | | | | |
| Collection Summary PS 1 | | | | | | R | |

PRICE BILLS OF QUANTITIES

Notes to Bidders: All items to be priced fully inclusive of all charges, e.g. labour, scaffolding, materials, profit, Transport etc. including Value Added Tax.

| ITEM | DESCRIPTION | Unit | Quantity | Rate | | TOTAL | |
|------|--|------|----------|------|---|-------|---|
| | | | | R | c | R | c |
| 2 | PLUMBING AND DRAINAGE | | | | | | |
| | <i>Water supply pipes in/on walls, including all couplings, openings and repair of walls to existing finish. Only compression fittings shall be used in walls. Contractor to re measure all to satisfy themselves.</i> | Note | | | | | |
| 2.1 | Supply and install ½" (Copper CLASS 2) cold water supply point for food macerator. Link to unit. Installation is to include 5m x 15mm copper pipe including all fittings and holder batts which must be positioned 1m apart. Supply and install ½" Gate/Lever valve. Install holder batts every 1m. Fit existing tap on wall plate elbow. Install 15mm gate/lever valve on exterior of building. TEST AND COMMISSION INSTALLATION | Item | sum | | | | |

COLLECTION SUMMARY

INSTITUTION: St Andrews District Hospital:
ADDRESS:
PROJECT DESCRIPTION: ZNQ:
INSTALLATION OF MACERATOR

NOTE:

THIS COLLECTION SUMMARY MUST BE COMPLETED IN FULL BY THE CONTRACTOR AND RETURNED TOGETHER WITH THE QUOTATION FORM.

| | | |
|--|---|--|
| Collection Summary PS 1 | R | |
| Collection Summary PS 2 | R | |
| Collection Summary PS 3 | R | |
| <u>SUB-TOTAL: CARRIED TO QUOTATION FORM</u> | R | |

REFER TO STANDARD PREAMBLES BELOW

Materials to be used

1. SPECIFICATIONS:

a. Notes to Bidders:

- i. All work to be priced fully inclusive of all charges: VAT, labour, plant, profit, etc...
- ii. The Department reserves the right to negotiate prices in the Bill of Quantities.
- iii. All materials used in this contract shall be that which is specified. All material must be SABS approved. Paint will only be a Plascon product. All material must be cleared by maintenance supervisor before installation.
- iv. Contractors are advised to visit site to acquaint themselves with the site and the layout of the Institution as no claims on the grounds of ignorance of the locality/siting of the Institution will be entertained later. Measurements given must be treated as a guide.
- v. Final measurements are the responsibility of the contractor and any discrepancy must be addressed with the Facility Manager prior to the submission of the quotation.
- vi. Contractors are informed that living on the Institutions premises during the contract is not allowed and arrangements for accommodation will have to be allowed for by the contractor.
- vii. Site will be kept clean at all times. Building rubble must be removed from site daily. Workshop skip will not be used for contractor's rubble.
- viii. Removal of redundant items must be done by the contractor and removal thereof must be approved by the Facility Manager.
- ix. Contractor to re measure all Building Material and Plumbing fittings, to satisfy themselves.

STAH MACERATOR: ZNQ:.....

Bidders Signature:.....

- xiv. When existing paint film is in good condition any flaking or bared patches are to be properly feathered into the surrounding paint and spot primed as necessary.
- xv. When existing paint films are in poor condition and require to be removed completely, they are to be removed by means of wire brushing, paint remover, burning off, or other approved method. Paint removers shall be free of wax and caustic substances and shall preferably be of water-soluble type. When burning off paint from wood, care must be taken to avoid charring the wood.
- xvi. The final state of preparatory work to existing decorated surfaces shall in all cases produce in the finished decorated surfaces a condition similar to new work.
- xvii. The Contractor will be held responsible for the proper and adequate preparation of the surfaces and any work which fails to meet the manufacturers recommendations must be made good at the Contractors expense to the satisfaction of the Department.

STRUCTURAL SPECIFICATION AS PER STANDARD PREAMBLES TO ALL TRADES: Rev 3 January 2009

ABOVE GROUND WATER SUPPLIES

Colour Coding Cold Water Supply the exposed piping for this non potable (recycled) water shall be colour banded Brilliant Green (B49) / Yellow Band(H10).

The other exposed piping for potable (drinkable) water shall be colour banded Brilliant Green (B49) / Blue Band(F29)

Galvanized mild steel piping for water supplies shall be medium quality screwed and socketed normalised welded mild steel pipe, galvanized inside and outside, and shall comply with SANS Specification 62.

Fittings to galvanized mild steel piping shall be steel pipe fittings complying with SANS Specification 62 or malleable cast iron fittings complying with SANS Specification 509.

Copper piping shall be of approved manufacture, complying with SANS Specification 460 and shall be of Class 2 – fixed and jointed in accordance with the manufacturer’s instructions. Class 2 copper piping must be jointed with brass compression fittings with compression rings and coupling nuts complying with SANS Specification 1067 part I Type ‘A’.

Polypropylene / Multilayered Piping shall be of approved manufacture, complying with SANS Specification 1315, laid and jointed in accordance with the manufacturer’s instructions. This applies to hot and cold water supply within ceiling spaces also.

Stainless steel piping shall be of approved manufacture, complying with SANS Specification 4127 and shall be A.I.S.I. Type 304 L. Fittings to stainless steel piping not exceeding 50mm nominal bore shall be brass compression fittings with compression rings and coupling nuts.

Piping exceeding 50mm nominal bore shall be welded piping with 1.5mm wall thickness, unless otherwise stated, and of A.I.S.I. Type 316 stainless steel. Joints are to comprise approved A.I.S.I. Type 316 stainless steel pressed collars welded to ends of pipes and fittings with loose galvanized mild steel slip-on flanges complete with galvanized mild steel bolts, nuts and washers, and neoprene gaskets. Fittings must be A.I.S.I. Type 316 stainless steel butt weld fittings.

Phosphoric acid based fluxes must be used for all welded joints which are to be argon arc TIG welded using Type 316 filler rods, with the welds treated with suitable pickling compound.

STAH MACERATOR: ZNQ:.....

Bidders Signature:.....

BRICKWORK: —unless otherwise described is to be in burnt clay common bricks and wherever practicable is to be in stretcher bond with the skins tied together with and including galvanized crimped wire wall ties in accordance with SANS Specification 28. The wire ties are to be of sufficient length to allow each end to be built into brickwork built into every fourth course and spaced at 450mm staggered centres (seven ties per square metre). The bricks are to be well wetted before being laid and the course of bricks laid last is to be well wetted before bedding the next course of bricks upon it. The brickwork is to have all perpend flush up solid and each course is to be laid on a solid bed of mortar. No false headers are to be used. Whole bricks are to be used except where bats or closers are legitimately required to form bond.

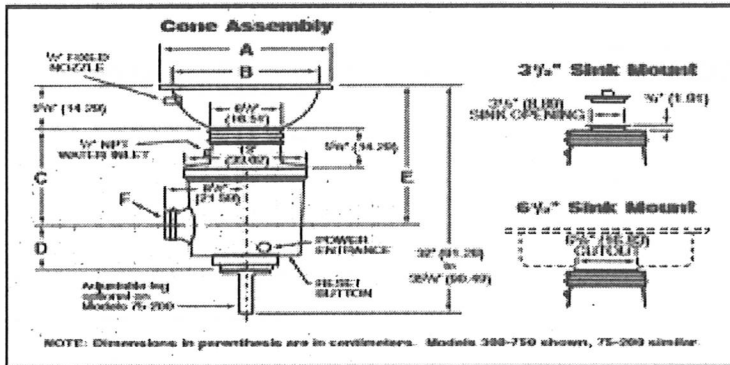
Unless otherwise described one brick walls are taken at a nominal thickness of 230mm. The joints of all walls to be plastered are to be raked out as the work proceeds to form key for plaster. All walls are to be carried up regularly so that no part is built more than 1,2m higher than the adjoining walls.

Mortar joints generally are not to exceed 10mm thickness unless otherwise indicated on the drawings. If a specific brick scale is indicated on the drawings, either drawn or written, it must be adhered to.

Solid bricks to X-Ray Room walls are to be used. If hollow core bricks are used, these are to be grouted up solid.

Salvajor Food Waste Disposers

DETAILS AND DIMENSIONS



NOTE: Dimensions in parentheses are in centimeters. Models 300-750 shown, 75-200 similar.

| | 12" Cone | 15" Cone | 18" Cone |
|---|-------------------|-------------------|-------------------|
| A | 14.78" (37.50) | 17.70" (45.40) | 20.70" (52.60) |
| B | 12" (30.48) | 15" (38.10) | 18" (45.72) |

(Specifications subject to change without notice)
Current specifications details may be found online
at www.salvajor.com

| | Models 75-200 | Models 300-750 |
|---|--------------------|---------------------|
| C | 8.50" (21.59) | 13.1316" (33.34) |
| D | 7.5016" (19.01) | 6.516" (16.63) |
| E | 14.10" (35.80) | 19.7016" (50.07) |
| F | 2" Drain | 2" or 3" Drain |

| | | |
|---|--|---|
| Disposer Models: JK 100, 150, 200 JK 300, 350 All Controls | Disposer Models: JK 100, 150, 200 JK 300, 350, 750 All Controls | Disposer Models: JK 100, 150 JK 300, 350, 750 All Controls |
|---|--|---|

| SAMPLE SPECIFICATION | | | |
|----------------------|----------|------------|------------|
| 500-CA-18 | ANSI-LD | (208/60/3) | |
| Model | Disposer | Control | Electrical |
| Assembly | Speed | Speed | Speed |

◆ SPECIFY EXACT OPERATING VOLTAGE ◆

FULL LOAD AMPS

| Model 75 (1/2 HP) | | |
|-------------------|---------|-----------|
| 115 Volts | 1 Phase | 17.8 Amps |
| 208 Volts | 1 Phase | 9.5 Amps |
| 230 Volts | 1 Phase | 8.8 Amps |
| 208 Volts | 3 Phase | 4.2 Amps |
| 230 Volts | 3 Phase | 4.0 Amps |
| 460 Volts | 3 Phase | 2.1 Amps |

| Model 100 (1 HP) | | |
|------------------|---------|-----------|
| 115 Volts | 1 Phase | 18.6 Amps |
| 208 Volts | 1 Phase | 10.2 Amps |
| 230 Volts | 1 Phase | 9.3 Amps |
| 208 Volts | 3 Phase | 4.6 Amps |
| 230 Volts | 3 Phase | 4.3 Amps |
| 460 Volts | 3 Phase | 2.3 Amps |

| Model 150 (1 1/2 HP) | | |
|----------------------|---------|-----------|
| 115 Volts | 1 Phase | 22.8 Amps |
| 208 Volts | 1 Phase | 11.8 Amps |
| 230 Volts | 1 Phase | 11.0 Amps |
| 208 Volts | 3 Phase | 5.2 Amps |
| 230 Volts | 3 Phase | 4.9 Amps |
| 460 Volts | 3 Phase | 2.6 Amps |

| Model 200 (2HP) | | |
|-----------------|---------|-----------|
| 115 Volts | 1 Phase | 24.8 Amps |
| 208 Volts | 1 Phase | 12.1 Amps |
| 230 Volts | 1 Phase | 11.2 Amps |
| 208 Volts | 3 Phase | 5.6 Amps |
| 230 Volts | 3 Phase | 5.3 Amps |
| 460 Volts | 3 Phase | 2.9 Amps |

| Model 300 (3HP) | | |
|-----------------|---------|----------|
| 208 Volts | 3 Phase | 8.3 Amps |
| 230 Volts | 3 Phase | 7.9 Amps |
| 460 Volts | 3 Phase | 4.0 Amps |

| Model 500 (5HP) | | |
|-----------------|---------|-----------|
| 208 Volts | 3 Phase | 13.8 Amps |
| 230 Volts | 3 Phase | 12.9 Amps |
| 460 Volts | 3 Phase | 6.3 Amps |

| Model 750 (7 1/2 HP) | | |
|----------------------|---------|-----------|
| 208 Volts | 3 Phase | 19.3 Amps |
| 230 Volts | 3 Phase | 18.4 Amps |
| 460 Volts | 3 Phase | 9.0 Amps |



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 Manufacturers of Commercial Food Waste Disposing Systems since 1944

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 Form No. 02P-3/01