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Doc No:	[DOC NO.]
Company / Contractor Name:	[ENTER COMPANY / CONTRACTOR NAME]

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Project Location	[PROJECT LOCATION]	Project Name	[PROJECT NAME]
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Prepared By	[NAME / DESIGNATION]	Reviewed By	[NAME / DESIGNATION]
Approved By	[NAME / DESIGNATION]	Client / Owner	[CLIENT / OWNER NAME]
Main Contractor	[MAIN CONTRACTOR NAME]	Sub-Contractor	[SUB-CONTRACTOR NAME]
Applicable Standards	ISO 9001:2015 ISO 45001:2018 ISO 14001:2015 IEC 60034 ASME B73 BS EN 805		
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1. Purpose

This Method Statement defines the procedures, controls, and responsibilities governing the safe and technically compliant installation of Submersible Pumps and Deep Well Pumps within MEP and Mechanical systems. It covers all activities from material receipt and handling through installation, connection, testing, and commissioning, ensuring works are executed in a controlled, quality-assured, and hazard-mitigated manner.

This document shall be read in conjunction with the approved construction drawings, project mechanical specifications, manufacturer's Installation, Operation, and Maintenance (IOM) manuals, and the requirements of [LOCAL AUTHORITY / REGULATORY BODY NAME]. All personnel engaged in the works shall be briefed on the contents of this Method Statement prior to commencement of any activity.

2. Scope of Work

The scope of this Method Statement encompasses the following activities:

- Supply, receipt, inspection, and storage of submersible pumps, deep well pumps, and all associated ancillary components.
- Setting out, verification, and preparation of pump sumps, wet wells, bore casings, or installation pits per approved drawings.
- Installation of guide rails, auto-coupling systems, anchor bolts, and baseframes as applicable.
- Pre-installation assembly, inspection, and testing of pump units per manufacturer's IOM manual.
- Lowering, positioning, and seating of submersible pump units using appropriate lifting equipment.
- Installation of discharge pipework, non-return valves, isolating valves, and associated fittings.
- Electrical cable routing, termination, and connection to motor control centres (MCC) or control panels.
- Commissioning activities including trial runs, rotation checks, performance/flow rate testing, and vibration monitoring.
- Completion of as-built records, O&M documentation, and handover packages.
- Interface coordination with civil, electrical, and controls trades as required for a complete installation.

3. Responsibilities

Role / Designation	Responsibilities
Site Engineer	Overall technical oversight of pump installation; review of drawings and specifications; coordination with project engineer; sign-off on ITP hold points; resolution of technical non-conformances.
Site Foreman / Supervisor (MEP)	Direct supervision of installation crew; ensuring correct pump orientation, alignment, and torque values; toolbox talk delivery; adherence to this method statement; daily progress reporting.

HSE Officer	Enforcement of HSE plan; conducting pre-activity toolbox talks; inspection of PPE compliance; permit-to-work issuance; incident reporting; environmental waste management oversight.
QA/QC Inspector	Witness and sign-off on all ITP hold/witness points; verification of material submittals; documentation of inspection results; issuing non-conformance reports (NCRs) as required.

Additional roles may be added as required per *[PROJECT / COMPANY ORGANISATIONAL CHART REFERENCE]*.

4. Required Tools & Equipment

1. Hydraulic or electric chain block / hoist (rated capacity per pump weight + 20% safety margin)
2. Lifting slings, shackles, and spreader beam (certified and within test date)
3. Mobile crane or telescopic handler (as required by pump size and installation depth)
4. Submersible pump lowering frame and guide rail installation jigs
5. Laser level and optical level instrument for foundation and plumb checks
6. Torque wrench set (range: 20–500 Nm) for anchor bolts and flange connections
7. Pipe alignment clamps and flange alignment tools
8. Drilling equipment (rotary hammer drill, core drill) for anchor installations
9. Multimeter and insulation resistance (IR) tester (500 V DC) for motor and cable checks
10. Clamp meter and power analyser for commissioning current readings
11. Vibration analyser / data collector (ISO 10816 compliant) for commissioning checks
12. Portable pressure gauge (calibrated, range suitable for system test pressure)
13. Flow measurement equipment (ultrasonic flow meter or installed duty meter)
14. Cable pulling equipment, cable drum stands, and conduit installation tools
15. Hand tools: spanners, socket sets, hexagonal key set, pipe wrenches
16. Personal gas monitor (for confined space entry where applicable)
17. Tripod and mechanical retrieval winch for confined space / deep well access
18. Safety barriers, signage, and temporary access platforms as required

5. Materials

All materials shall be in strict accordance with the approved material submittals and project specifications. No substitutions shall be made without written approval from the engineer / client.

- Submersible pump unit(s) and/or deep well pump unit(s) — type, model, flow, head, and power per design schedule
- Motor control centre (MCC) / control panel with soft-starter or variable speed drive (VSD) as specified
- Guide rail system: stainless steel or galvanised steel rails, guide brackets, and auto-coupling assemblies
- Discharge pipework: ductile iron, stainless steel, or uPVC as specified, with flanged connections
- Non-return valve (check valve) and isolation gate/butterfly valve on discharge line
- Anchor bolts, chemical anchors, and expansion anchors per structural specification
- Submersible power cables: rated for continuous submersion, appropriate cross-section per motor kW rating

- Cable protection conduit, cable ties, cable markers, and gland kits
- Flange gaskets (EPDM or NBR as compatible with fluid), bolts, nuts, and washers
- Grout (non-shrink cementitious or epoxy) for base plate bedding where applicable
- Corrosion protection: bituminous coating, epoxy paint, or zinc primer as specified for buried/submerged surfaces
- Lifting lugs, safety chains, and stainless steel safety rope as required by IOM

Reference standards for materials: IEC 60034 (motors), ASME B73 (pump hydraulics), BS EN 805 (water supply pipework).

6. Handling & Storage

6.1 Fabrication / Pre-assembly

Where partial pre-assembly of pump guide rails, auto-coupling systems, or discharge pipe spools is undertaken off-site or in a fabrication yard, all works shall comply with the approved drawings and be inspected by the QA/QC Inspector prior to transport to site. Prefabricated elements shall be tagged with item references matching the installation schedule and protected against damage during transit.

6.2 Receipt & Inspection at Site

Upon delivery to site, the following inspection activities shall be performed by the Site Foreman and QA/QC Inspector:

- Verify delivery documentation against the approved material submittal: model number, serial number, performance rating, and certifications.
- Inspect pump casing, impeller housing, cable entry glands, motor terminals, and guide rail couplings for physical damage, corrosion, or defects.
- Confirm that all factory test certificates, motor winding resistance data, and IOM manuals are included in the delivery package.
- Check shaft rotation by hand (where accessible) to confirm impeller is free and undamaged.
- Any non-conforming items shall be segregated, tagged 'HOLD / REJECTED', and reported to the engineer. No installation shall proceed with rejected materials.

6.3 Unloading, Shifting & Storage

- Unloading shall be carried out using certified lifting equipment with SWL adequate for the pump assembly weight. Manufacturer's lifting points must be used.
- Pumps shall not be rolled, dragged, or dropped. Cables shall not be used as lifting or pulling points.
- Pumps and associated components shall be stored in a clean, dry, weatherproof area. Vertical storage per manufacturer's recommendation.
- Submersible power cables shall be coiled and stored off the ground, away from UV exposure and mechanical damage.
- Flanged pipe ends and cable entries shall be capped or wrapped to prevent ingress of debris and moisture.
- Storage areas shall be secure and access controlled to prevent unauthorised handling.

7. Installation / Work Procedure

7.1 Preparatory & Pre-commencement Checks

7.1.1 Ensure all required permits are in place prior to commencement, including Permit to Work, Confined Space Entry Permit (if applicable), Hot Work Permit (if applicable), and any authority permits required by [LOCAL AUTHORITY / REGULATORY BODY NAME].

7.1.2 Conduct a toolbox talk (TBT) with all installation personnel covering: scope of work, hazards identified in the Risk Assessment (Ref: **[ENTER RA REFERENCE]**), PPE requirements, emergency procedures, and first aid locations.

7.1.3 Verify that approved construction drawings (latest revision) are available on site and that all dimensional setting-out information has been confirmed by the Site Engineer.

7.1.4 Confirm that civil / structural works for the sump, wet well, or borehole are complete and have received QA/QC sign-off. Ensure sump walls are cured and free of standing water prior to pump installation.

7.1.5 Inspect all tools, lifting equipment, and testing instruments to confirm calibration status and certification validity.

7.2 Mobilisation & Site Setup

7.2.1 Establish a clear, organised working area around the pump installation zone. Erect safety barriers and signage to prevent unauthorised access.

7.2.2 Position mobile crane, chain block, or hoist in alignment with the pump lowering axis. Confirm rated load capacity is sufficient. Obtain Rigger's and Slinger's presence prior to any lifts.

7.2.3 Stage all materials, tools, and consumables in the immediate working area to minimise manual handling distances.

7.2.4 Where confined space entry is required (sump depth > 1.2 m or as per risk assessment), implement confined space procedures: atmospheric testing with calibrated gas detector, standby man stationed at access point, retrieval equipment deployed.

7.3 Pump Foundation & Sump Preparation

7.3.1 Using a laser level, verify the sump invert level and dimensions against the approved drawing. Record actual vs. specified dimensions in the inspection record.

7.3.2 For deep well installations, verify bore diameter, casing alignment, and depth against the pump column length and impeller setting depth as specified by the hydrogeological report or project specification.

7.3.3 Install guide rail anchor brackets at the top of the sump / wet well at the specified centres. Drill anchor positions using rotary hammer drill; install chemical anchors or expansion anchors to structural specifications. Allow full cure time per manufacturer's data before loading.

7.3.4 Install guide rails from top bracket to the bottom auto-coupling base plate. Set rails plumb using laser level. Torque all connections to the specified values. Bottom plate shall be anchored to the sump floor by the specified number and diameter of anchor bolts.

7.3.5 Install the auto-coupling (duck-foot bend) base assembly at the sump floor. Verify discharge port alignment with the delivery pipework centreline. Grout base plate where specified using non-shrink grout; allow full cure before proceeding.

7.4 Pump Assembly & Pre-installation Checks

7.4.1 Remove pump from packaging and carry out a final pre-installation inspection: check impeller rotation by hand, inspect motor terminal connections, verify cable entry gland tightness, and confirm all plugs and blanks are removed.

7.4.2 Carry out motor insulation resistance test using a 500 V DC megohmmeter. Record phase-to-phase and phase-to-earth resistance values. Minimum acceptable value: 1 MΩ (dry, ambient temperature). Results shall be logged on the commissioning sheet.

7.4.3 Attach the safety chain and lifting slings to the pump manufacturer's designated lifting points only. Do not lift by the power cable under any circumstances.

7.4.4 Dress the submersible power cable along the pump body using the cable clips provided. Leave sufficient cable loop at the motor entry for thermal expansion; secure to the discharge column at intervals per IOM recommendation (typically every 3 m).

7.5 Pump Lowering & Installation

7.5.1 Position pump over the sump opening with the guide rail brackets aligned with the pump guide rails. Confirm all personnel are clear of the lift zone before the lift commences.

7.5.2 Lower the pump slowly and smoothly, ensuring the pump guide brackets remain engaged with the guide rails throughout the descent. A second operative shall observe cable management during lowering to prevent snagging or kinking.

7.5.3 Continue lowering until the pump auto-coupling assembly seats fully and positively on the duck-foot base. Confirm seating by listening for the click of the coupling and verifying by sight or probe where access allows. The pump weight on the coupling provides the hydraulic seal; no bolting is required.

7.5.4 For deep well pump installations, lower the pump column assembly section by section, connecting threaded or flanged column joints per the manufacturer's torque specification. Ensure correct pump setting depth per design.

7.5.5 Install the safety chain from the pump to an anchor point above the sump. Remove lifting tackle only after safety chain is confirmed secured.

7.5.6 Route the submersible power cable from the pump to the motor control panel, maintaining the minimum bend radius specified by the manufacturer and securing at approved intervals using cable clamps and conduit.

7.6 Pipework, Electrical & Control Connections

7.6.1 Connect the discharge pipework to the auto-coupling outlet using flanged connections. Install non-return valve and isolation valve in the correct orientation as shown on the approved P&ID drawing.

7.6.2 All flanged joints shall be made with correctly rated gaskets; bolts shall be tightened in a cross-pattern sequence to the specified torque. Ensure pipework is supported independently of the pump — no load shall be transmitted to the pump casing through unsupported pipework.

7.6.3 Terminate the submersible power cable at the MCC / control panel by a licensed electrician per the approved wiring diagram and panel schedule. Confirm cable identification labels match motor reference. Tighten terminal screws to the manufacturer's torque specification.

7.6.4 Connect level control sensors (float switches, pressure transducers, or level probes) to the control panel per the instrument wiring diagram. Verify sensor set-points with the project control engineer.

7.6.5 Set motor overload protection in the MCC to the correct full-load current (FLA) of the motor as stated on the nameplate. Set under-voltage, phase-failure, and thermal protection relays per project specification.

7.7 Grout, Sealing & Structural Completion

7.7.1 Where specified, grout around guide rail base plates and any pipe penetrations through the sump wall using non-shrink or hydraulic cement grout. Remove all formwork after the specified cure time and carry out a visual inspection.

7.7.2 Apply specified corrosion protection coatings to exposed ferrous components in the wet zone, allow drying/curing per manufacturer's data sheet.

7.7.3 Install access covers, gratings, or hatches over the sump opening per the approved drawing. Verify covers are of anti-slip type and capable of sustaining the specified imposed load.

7.8 Quality Checks During Installation

7.8.1 The QA/QC Inspector shall witness all ITP hold points as listed in Section 9. No work shall proceed past a hold point without the Inspector's written sign-off.

7.8.2 All inspection results, test readings, and as-built deviations shall be recorded in the relevant inspection request (IR) and attached to the ITP document.

7.8.3 Non-conformances shall be raised as an NCR and resolved prior to commissioning. The Site Engineer shall determine corrective action in consultation with the project engineer and manufacturer's representative where required.

7.9 Protection of Completed Work

7.9.1 On completion of installation and prior to commissioning, install temporary covers over all open pipe ends and motor control connections to prevent ingress of debris, water, or foreign objects.

7.9.2 Maintain safety barriers and restricted access around the installation area throughout the commissioning phase.

7.9.3 Do not energise the motor or operate the pump until all ITP sign-offs are obtained and the commissioning checklist is completed and approved.

8. Health, Safety & Environment (HSE)

All works shall comply with the project HSE Plan, the applicable regulations of [LOCAL HSE AUTHORITY / REGULATORY BODY NAME], and the requirements listed below:

- **Toolbox Talk (TBT):** A documented TBT shall be conducted before each shift. Attendance shall be recorded by signature. Topics shall include daily hazards, permit requirements, PPE, and emergency procedures.
- **Mandatory PPE:** Hard hat, safety boots (steel toecap), high-visibility vest, safety glasses, chemical-resistant gloves (when handling sealants/lubricants), and hearing protection when operating drilling equipment.
- **Working at Height:** Where installation requires access above 1.8 m, appropriate edge protection, scaffolding, or MEWP shall be used. Full harness and lanyard (compliant with BS EN 363) required where collective protection is not feasible.
- **Confined Space Entry:** A Confined Space Entry Permit is mandatory for access to sumps, wet wells, or ducts deeper than 1.2 m or where oxygen-deficient or toxic atmospheres may exist. Continuous atmospheric monitoring and a trained standby man are required.
- **Electrical Safety:** All electrical works shall be performed by licensed electricians. Lockout/Tagout (LOTO) procedures shall be applied before working on any energised circuit. Only 110 V centre-tapped earth (CTE) power tools to be used on site unless otherwise permitted.
- **Lifting Operations:** All lifting operations to be planned by a competent person. Lifting equipment certified and within test date. Exclusion zones established below all suspended loads. Rigger and Slinger to be trained and appointed.
- **Chemical / Substance Handling:** Safety Data Sheets (SDS) for all chemicals (lubricants, sealants, grout admixtures) shall be held on site. Chemicals to be stored in bunded areas. Spill kits to be available adjacent to work area.
- **Manual Handling:** Where pump components exceed 25 kg, mechanical lifting aids shall be used. Manual handling risk assessment to be conducted. Operatives to be trained in correct lifting techniques.
- **Environmental Controls:** Waste shall be segregated into hazardous and non-hazardous streams and disposed of in accordance with local regulations. Prevent oil, grease, or chemical spillage from entering drainage systems. Drip trays to be used when handling lubricants.
- **Emergency Procedures:** Site emergency contacts, first aid station location, and muster points shall be communicated at TBT. A trained first aider shall be available on site. Nearest hospital: [NEAREST HOSPITAL / EMERGENCY CENTRE NAME AND DISTANCE].

Permit to Work Requirements: [ENTER PTW REQUIREMENTS]

Risk Assessment Reference: [ENTER RA REFERENCE]

9. Quality Control & Inspection

All inspection and testing activities shall be conducted in accordance with the project Inspection and Test Plan (ITP). The QA/QC Inspector shall witness and sign off all designated hold points. No work shall proceed past a hold point without written sign-off. Results shall be recorded on the applicable Inspection Request (IR) form.

#	Inspection Activity	Reference Document	Acceptance Criteria
1	Material receipt & documentation check	Approved Submittals / Delivery Note	Correct model, rating, certifications match approved submittal
2	Pump nameplate & rating verification	Project Specifications / MDS	Nameplate data matches design schedule (flow, head, kW, rpm)
3	Foundation / sump dimension check	Approved Construction Drawings	Dimensions within ± 5 mm of drawing; surface level and plumb
4	Pre-installation pump assembly inspection	Manufacturer's IOM Manual	Impeller free, shaft straight, seals intact, no visible damage
5	Anchor bolt / guide rail installation check	Approved Drawings / Specifications	Correct bolt diameter, embedment depth, spacing, and torque
6	Pump lowering and seating verification	IOM Manual / Approved Drawings	Pump fully seated on coupling/guide claw; no misalignment
7	Electrical connection & motor insulation test	IEC 60364 / Wiring Schematic	Insulation resistance ≥ 1 M Ω at 500 V DC prior to energisation
8	Pressure test of discharge pipework	Project Specifications / ASME B31.1	System holds test pressure (1.5 $\times$ working pressure) for 30 min
9	No-load trial run & rotation check	IOM Manual / Commissioning Checklist	Correct rotation; no abnormal vibration, noise, or leakage
10	Performance / flow rate acceptance test	Project Specifications / BS EN 805	Flow and pressure within $\pm 5\%$ of design values at duty point

ITP Reference: [ENTER ITP DOCUMENT REFERENCE NUMBER]

10. Reference Documents

- ISO 9001:2015 — Quality Management Systems
- ISO 14001:2015 — Environmental Management Systems
- ISO 45001:2018 — Occupational Health & Safety Management Systems
- IOSH — Managing Safely (risk assessment and method statement principles)
- IEC 60034 — Rotating Electrical Machines (motor standards)
- IEC 60364 — Low Voltage Electrical Installations
- ASME B73 — Centrifugal Pumps for Chemical Process
- ASME B31.1 — Power Piping
- BS EN 805 — Water Supply — Requirements for Systems and Components Outside Buildings
- ISO 10816 — Mechanical Vibration — Evaluation of Machine Vibration by Measurements on Non-Rotating Parts
- BS EN 363 — Personal Fall Protection Equipment

- OSHA 29 CFR 1926.502 — Fall Protection Systems Criteria
- ISO 16025 — Standards for Height Safety Equipment
- Approved Material Submittals — [SUBMITTAL REFERENCE]
- Approved Shop / Construction Drawings — [DRAWING REGISTER REFERENCE]
- Project Specifications — [SPECIFICATION SECTION REFERENCE]
- Project HSE Plan — Ref: [ENTER REFERENCE]
- Inspection & Test Plan (ITP) — Ref: [ENTER REFERENCE]
- Risk Assessment — Ref: [ENTER REFERENCE]

11. Document Revision History

Rev.	Date	Description of Change	Approved By
00	[DD/MM/YYYY]	Initial Issue	[NAME / DESIGNATION]
01	[DD/MM/YYYY]	[DESCRIPTION OF CHANGE]	[NAME / DESIGNATION]

12. Approval & Sign-Off

Prepared By	Reviewed By	Approved By	Client / Owner Representative
Name: [NAME] Designation: [DESIGNATION] Signature: _____ Date: _____	Name: [NAME] Designation: [DESIGNATION] Signature: _____ Date: _____	Name: [NAME] Designation: [DESIGNATION] Signature: _____ Date: _____	Name: [NAME] Designation: [DESIGNATION] Signature: _____ Date: _____

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