



JOB DESCRIPTION

1. JOB IDENTIFICATION

Job Title:	Maintenance Craftsperson (Plumbing and Heating Engineer)
Responsible to:	Maintenance Supervisor
Department:	Estates
Directorate:	Estates and Facilities
Last Update:	November 2020

2. JOB PURPOSE

The Maintenance Craftsman (Plumbing and Heating Engineer) will assist in the inspection and upkeep of all NHS property and ensure that routine maintenance is carried out.

To maintain, repair and operate a range of plant and equipment ranging from simple plumbing installations to complex distribution systems which is necessary for the provision of a safe, efficient healthcare service to sites within NHS Shetland whilst ensuring compliance with relevant safety standards and NHS Estates guidance and procedures.

- Delivering a planned maintenance, repair & installations service which represents quality and value for money at all times.
- Providing a safe maintenance service to all plant and equipment and service infrastructure within the Health Care Environment
- Assisting in the development of the Estates function into a customer focused range of services.
- Adopting a flexible, integrated working approach to the delivery of Estates Service

3. DIMENSIONS (Job Facts and Figures)

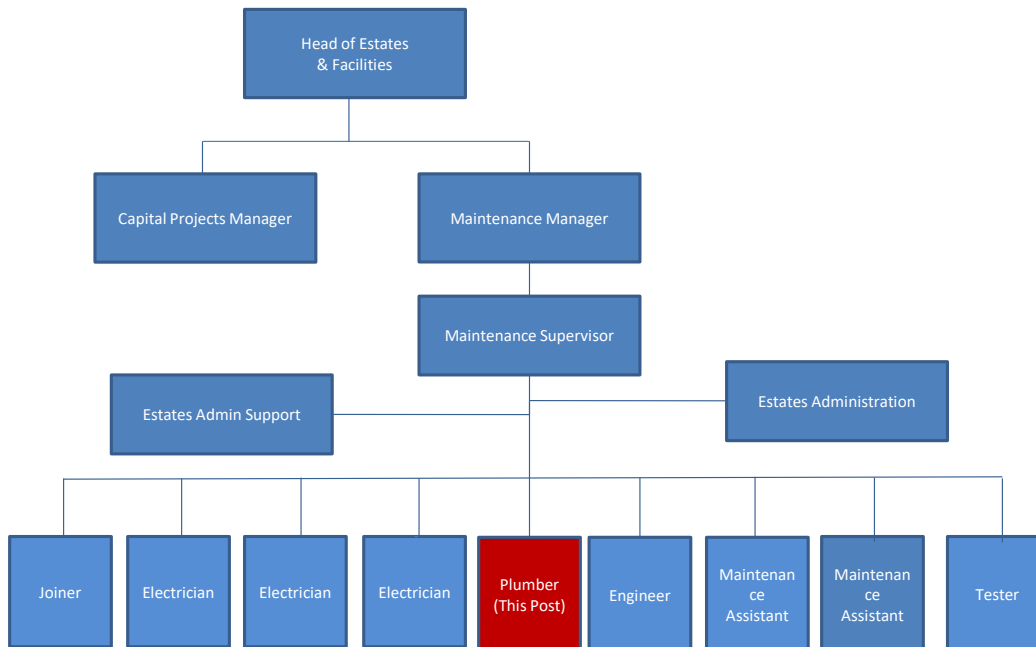
The post holder will be primarily based at the Estates Department, Gilbert Bain Hospital in Lerwick, although there will be a requirement to travel to work to all NHS Shetland properties.

There are two hospitals in Lerwick (the Gilbert Bain & Montfield), ten rural Health Centres, various nurses' homes & accommodation including four located in the outer isles of Skerries, Foula, Fair isle & Fetlar. In addition there is a 32 room staff accommodation complex at Montfield & Doctors' residencies at Breiwick House comprising of six single rooms, two 3-bedroom houses and two 2-bedroom flats. The total floor area of all NHS Shetland estates property is approximately 22000m².

The Gilbert Bain Hospital contains many departments & provides a wide range of services including two operating Theatres and a Central Decontamination Unit (CDU). There are two General Wards, a Maternity Ward and a slow stream rehabilitation Ward (Ronas), X-ray, Physio, Audiology, Pharmacy, Dental & Outpatients Departments, kitchens, laboratories, offices etc.

The post holder, working in a nine-man Estates Maintenance Team, will be expected to work at any of these properties, as required. The team consists of a Maintenance Manager, Maintenance Supervisor, Engineer, 3No. Electricians, Plumbing and Heating Engineer (This post), Joiner, Tester, 2No. Maintenance Assistants and an Administration Assistant. The post holder will also be expected to mentor a Modern Apprentice plumber.

4. ORGANISATIONAL POSITION



5. ROLE OF DEPARTMENT

The Estates & Facilities department manages all the building and engineering maintenance and repairs to all NHS Shetland properties, these premises cover a large geographical area and vary in size and complexity from an acute hospital in Lerwick to very small premises on the remote non-doctor islands. The maintenance is done using a combination of the internal Estates team and / or external contractors.

The Facilities part of the department manages the cleaning, portering, catering and waste management which is all currently managed in house.

To provide a safe comfortable & statutory compliant environment for the effective provision of state of the art clinical care for our patients.

This is achieved by maintaining and delivering an effective Planned Preventive Maintenance programme and reactive repair service as well as executing installation and commissioning works of critical plant and equipment to support the delivery of all clinical services.

Provide an integral contribution to the continual management & control of Health Associated Infection with respect to the built environment, in compliance with national HAI SCRIBE, Health Environment Inspectorate (HEI) & Healthcare Associated Infections Task Force audits and Facilities Management Tool (FMT).

Provide technical support & expert guidance in the design and implementation of clinical service developments, including development support in the writing of specification & preparation of tender documents through to awarding contracts, planning & organising the projects.

6. KEY RESULT AREAS

SCOPE AND RANGE

The post holder assists the Maintenance Supervisor in providing a proactive/reactive plumbing service to the properties and equipment within the Estates department remit.

The post holder assists the Maintenance Supervisor in providing other members of the department with technical backup or assistance relevant to the core skill.

The post holder provides assistance to other Operational Estates staff out-with their relevant core skill to the best of ability and competence to provide service delivery.

There are no budgetary responsibilities although the post holder(s) duties will impact on the departmental budget. The post holder shall participate in on call rota and cover areas as instructed by the line manager. The post holder shall also driver company or lease vehicle or own vehicle suitably insured and carry out work in different sites across NHS Shetland.

MAIN TASKS, DUTIES AND RESPONSIBILITIES

General Duties

- Provide a safe and comfortable environment for the provision of clinical care
- Ascertain desired action using acquired skills and abilities to expedite best solution for desired outcome and assist putting solutions into practice
- In depth knowledge of Building Services infrastructure including the following services:
 - Electrical distribution Systems
 - Steam & Condensate distribution systems
 - Domestic Hot & Cold water services
 - Heating service (Wet systems)
 - Heating, Ventilation & Air Conditioning (HVAC)
 - Air Tube Transport System
 - Fire Alarm Systems
 - Nurse Call Systems

- In depth knowledge of Production services:
 - **Laundry**
 - Steam Boilers
 - Industrial Tunnel Washer
 - Hydro washer extractors
 - Folding plant
 - Conveyor systems
- Install and commission machinery using installation manuals to ensure safety and in compliance with health and safety, and statutory regulations that benefits and provides a safe environment for the user and patient care.
- Interpret detailed manufacturers installation manuals and specification, technical data and wiring diagrams and schematic drawings for building services, systems, plant and equipment.
- Complete Planned Preventative Maintenance in accordance with organisational and manufacturers recommendation, using appropriate tools, test equipment and recording details of work carried out, to prevent breakdowns and maintain optimal operational ability.
- Respond to breakdowns, evaluate situation and take corrective action to ensure minimal disruption and damage.
- In depth effective use of BMS (Building Management System) computer to set parameters and record data on a wide range of building services to provide correct environmental conditions throughout the hospital and provide an early warning of service faults (heating, water, power etc.)
- Measure up jobs for new installations and alterations, check plan drawings & on site plans, work out best route to run supplies and services, measure up & advise Supervisor of materials required to complete work.
- Member of Fire Response Team, trained to operate as a member of a Fire Team to evacuate staff, patients and visitors in conjunction with Fire Officer and Fire Brigade in the event of a fire alert. (annual fire response team training).

Mechanical Duties

- Survey plant and equipment for, safety, soundness and establish maintenance to be undertaken.
- Work on and maintain safety of pressurised systems such as steam, compressed air and hydraulic systems etc in compliance with statutory Pressure Systems Regulation 1998.
- Verify integrity and monitor heating and ventilation systems utilising calibrated test equipment to maintain a safe working environment within hospital sites
- Working with external competent inspection agency to prepare for and support the statutory inspection and re-validation of:-

- **Pressure Equipment Regulations 1999 & Pressure Systems Safety Regulation 2000:** covering Steam/MTHW boiler & sterilisation plant, compressed air plant, pressurised storage vessels & safety valves i.e. Boilers, Calorifiers, heat exchangers for the provision of heating, hot water and compressed gas services to hospital properties.
- **Lifting Operations & Lifting Equipment Regulations 1998 (LOLER):** Passenger lifts, Patient lifting equipment & Industrial lifting equipment.

Electrical Duties

- Run, test and maintain emergency back-up generators to ensure continuity of clinical services for patients and staff in event of an electrical mains failure both Off- Load and On-Load and be competent in all aspects of emergency procedures in the event of loss of Electrical Mains
- Mandatory first Aid duties for working with electricity; to level of competence and training to meet requirements of safe code of practice for working with electricity

Plumbing Duties

- Participate in the development and delivery of water management regime to maintain, control, monitor & record that all plant, distribution system and stored product are within safe operating limits to ensure a high quality of potable water for use within a clinical environment. In compliance with;
 - HSE Approved Code of Practice (ACOP) L8, mandatory guidance; “The control of Legionella Bacteria in Water Systems” and
 - “Scottish Health Technical Memorandum (SHTM) 04-01: Water safety for healthcare premises; Pt B: “Operational Management”
- Carry our routine mandatory water quality monitoring and inspection duties as detailed in the above guidance documents.
- Ensure that only approved water fittings and materials are installed in NHS shetland potable water systems; as approved by the Water Regulations Advisory Scheme (WRAS) under the “Water Fittings and Materials Directory”
- Monitor & record water meter readings to identify usage patterns, which will enable proactive identification and repair of leaks or resolution of high consumption
- Repair and install plumbing, heating, waste pipework when required to do so

Health & Safety Duties

- Training in & continual development of Health and Safety requirements relating to the provision of Estates services, to ensure personal safety and maintain a safe environment for staff and patients
 - Asbestos awareness (SHB safe system of work Policy & Procedures)
 - Confined spaces (SHB safe system of work Policy & Procedures)
 - First aid training required for all staff working with electricity (Mandatory SHTM 06-02)
 - Working at heights (SHB safe system of work Policy & Procedures)
- Work to all Board H&S policies & procedures
- Carry out risk assessments to ensure own safety and safety of others

7a. EQUIPMENT AND MACHINERY

Please describe any machinery and/or equipment used in the job:

Give brief description of use of each item used:

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| a) A complete range of hand tools, including fine calibration & commissioning tools. | a) Screwdrivers, micrometers, vernier gauges, pliers, Spanners, |
| b) Test Electrical test equipment | b) Multi-meter |
| c) Power Tools | c) Drilling machine, grinders etc |
| d) Welding and metal burning equipment. | d) Joining and separating metal sections. |
| e) Gauges, callipers, rule, laser markers etc | e) Disassembling, measuring, marking out, assembling and calibrating plant & equipment. |
| f) Workbench and engineer's vice. | f) Holding stabilising work pieces. |
| g) Mechanical hacksaw. | g) Cutting materials. |
| h) Pedestal Drill. | h) Drilling, reaming and threading jobs. |
| i) Bench Grinder. | i) Sharpening drills and tools. |
| j) Block and Tackle units. | j) Industrial moving & handling: - Lifting, lowering and positioning plant & equipment. |
| k) Engine hoist. | k) Industrial moving & handling: - Lifting, lowering and positioning large plant & equipment. |
| l) Pallet Lifters. | l) Industrial moving & handling:- Transporting & large plant/equipment & stores |
| m) Communication devices (Radio Pager, Telephones, two way radio & portable electronic devices) | m) Effective communication, Emergency job response, data and record management. |
| n) Steam & High Pressure Hot Water (HPHW) & Low temperature Hot Water (LTHW) Boilers & Associated Plant | n) Maintain service, test, calibrate & prepare for statutory inspection. |
| o) Domestic Hot Water Generation, Storage & Distribution Plant. | o) Maintain service, test, calibrate & prepare for statutory inspection. |
| p) Cold Water Distribution Plant. | p) Maintain service, test, calibrate & prepare for statutory inspection. |

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| q) Supply & Extract Ventilation Plant & Distribution Systems | q) Maintain service, test, calibrate & prepare for Mandatory inspection |
| r) Air Compressors, Air Receivers & Distribution Systems. | r) Maintain service, test, calibrate & prepare for statutory inspection. |
| s) Standby Diesel Electricity Generators. | s) Operate, test & monitor to ensure operating parameters are in line with manufacturer's specification. |
| t) Internal Transport Vehicles | t) Service & Maintain to Manufacturers specification |
| u) Laundry Equipment | u) Maintain service, repair, test, programme & calibrate. |
| v) Housing stock | v) General repairs and maintenance |
| w) Fire Alarm system | w) Carry out routine functional testing, monitoring and recording of alarm activity and works operations carried out. |

7b. SYSTEMS

Please describe any systems used in the job: Give brief description of use of each item used:

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| a) Building Management System | a) Monitor site services and plant conditions and adjust controls to maintain continuity of service. |
| b) Computer aided facilities management (Cafm) system | b) Record and report on planned maintenance tasks/repair actions taken & materials used via hand held electronic interface devices (tablets etc) |
| c) Statutory records system | c) Record statutory works and inspections to access, input and update of compliance registers. <ul style="list-style-type: none">• Fire Alarm Systems• Generator Equipment.• Boiler/ pressure vessels.• Sterilisers/washer disinfectors.• Building Maintenance Systems.• Water Treatment• Water Temperature (i.e. Legionella). |
| d) Permit to work Systems | d) Follow formal Safety policy & procedure while working on higher risk systems, by application of defined safe systems of work and associated safety documentation. |
| e) Fire Alarm System Network Graphical user interface, and local sub panel user interface. | e) To manage the fire detection system during fire alert conditions (emergency) and to manage the system operation on a daily bases with respect to system statutory testing & potential site operations/works impacting on the integrity of the system. Maintain system log of all activations and operations on the system. |

8. ASSIGNMENT AND REVIEW OF WORK

To carry out planned preventative and reactive maintenance to both fixed plumbed equipment, hot and cold domestic water circuits within Estates premises.

To maintain /repair/check drainage systems within Estates premises.

Ensure that allocated tasks are carried out in a safe and competent manner to all legislative procedures, Health and Safety Policies and departmental codes of practice.

React to service/repair requests within the agreed timescales.

Assist the Estates Management in ensuring that all contractors carry out work in a safe and competent manner.

Participate in departmental training, development and teamwork.

Assist other Estates staff in carrying out their duties when required be it core skill or noncore skill to ensure speedy response within ability and competence levels.

Participate in 24 hour emergency call –out cover and maintain a flexible approach to workload.

Participate in gaining knowledge and training on new equipment/systems/technology as the service dictates.

Ensure all hospital premises comply to SHTM 04-01

9. DECISIONS AND JUDGEMENTS

The Post holder works unsupervised and is responsible for daily decision making on priority of workload, and during emergencies Co-ordinates with clinical staff to ensure that patient care is uncompromised in the event of a loss of electrical, mechanical or plumbing services during essential fault finding and analysis.

The Post holder works without supervision and during emergencies is required to make critical decisions on technical solutions which impact on clinical services by carrying out assessment and condition appraisal of utility services, plant and equipment and makes decisions whether equipment is safe for use by patients and staff? Implements defined contingency plans/arrangements to ensure continuity of clinical service in such circumstances. Effectively communicates technical and safety issues resulting from such decisions with nursing and medical staff to support effective continuity of clinical service.

The post holder regularly makes technical and safety decisions, including independently when on call, on methods of repairing and maintaining plant and equipment.

The post holder is required to work both independently and as part of an effective team.

The post holder will test, maintain, diagnose faults and repair a variety of complex, multi-faceted equipment such as :
e.g. Building Management Systems, nurse call, fire alarm systems

The post holder is responsible for undertaking Periodic Inspection and Testing, compiling and issuing reports and certificates.
Typical judgements, technical option appraisal and feasibility.

The post holder will make decision on economic value of repair or replace at components level.
The post holder will undertake self risk assessments, identifies risks and plans work safely around these.
Technical reference to Estates manager / supervisor on specialist topics as required to deliver an effective service

The post holder will liaise with Theatres, Wards and Departmental Staff for access to clinically sensitive areas review and agree working arrangements.
The post holder proposes changes to working practices through consultation with management and implements agreed changes.
The post holder examines and inspects faults in plant and machinery, establishes and recommends how faults may be repaired and discusses with managers /heads of departments if it is financially viable or if new equipment is needed and if any other considerations are required e.g effect on wards/theatres/patient etc.
The post holder shall be a trained first aider
The post holder can request a contractor to cease working on a particular task if the post holder feels that the work being carried out is incorrect or unsafe.

10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

Physical skills:

- Use of fine hand tools and test equipment, manual dexterity, workshop machinery skills, keyboard skills

Physical effort:

- Manual handling for periods greater than 20 minutes on a frequent basis.
- Occasional movement of Heavy Plant & Equipment, with or without the aid of lifting equipment for long periods within awkward locations.
- Ongoing requirement to exert moderate physical effort, i.e.: carrying heavy tool bags for periods greater than 20 minutes.
- Climbing stairs and ladders.
- Crawling, stooping and lifting objects
- Driving Estates transport between various sites

Mental demands:

- Immediate technical assessment required.
- Frequent Concentration required in stressful situations and can be occasionally prolonged.
- Stress of being on call and being randomly disturbed during these periods where frequent concentration is needed and work pattern is unpredictable due to the range of plant and possible breakdowns which can occur.
- Working under pressure during Emergency Response to critical service failures

Emotional demands:

- Frequently working in Wards, Theatres & Intensive care with very ill and distressed patients

Working conditions:

- very high ambient temperatures in the boiler house and other heating plant located within confined spaces.
- Frequent exposure to Hazardous materials and body fluids during routine maintenance & repairs
- Daily working in highly unpleasant conditions i.e.: noise, smell, noxious fumes, body fluids, cramped and confined spaces.
- Some exposure to hazards i.e. Accident and Emergency Dept, Mental Health Wards
- Working in confined spaces for long periods of time

11. COMMUNICATIONS AND RELATIONSHIPS

Ability to interpret and communicate complex information to technical and non technical staff. To provide training, technical advice & support to trainee's, maintenance assistants, fellow colleagues & specialised contractors, clinical staff and managers.

- a) Communicates and relates with all levels of staff and patients, relating to investigation of reported failures & planned maintenance tasks and the direct impact these may have on service continuity

Overcome barriers to understanding when explaining the technical tasks that are to take place and how they impact on the ward/patients .

- b) Consult with clinical staff to establish working restrictions in relation to the control of risk of infection.
- c) Communicates with internal Estates management, peers & external specialist contractors:

To support a wider team approach to resolving complex estates service issues to minimise adverse impact on clinical service provision.

- d) Delivery drivers, and suppliers: To ensure that the materials and equipment are directed to the correct destination for installation and commissioning in a timely manner to minimise adverse impact on clinical service delivery.

12. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB

Qualifications

A minimum of a relevant heating & ventilatin/plumbing apprenticeship.

Preferably educated to CITB or EITB apprenticeship and has an SVQ level 3 or City & Guilds Certificate or equivalent qualification.

Must be technically competent and knows the limit of that knowledge.

Experience

Experience gained working within a healthcare environment.

Ability to demonstrate versatility and flexibility in approach to work.

13. JOB DESCRIPTION AGREEMENT

A separate job description will need to be signed off by each jobholder to whom the job description applies.

Job Holder's Signature:

Date:

Head of Department Signature:

Date: