

JOB FAMILIES ~ Technical ~ Highway & Transport, Highway Laboratory

Introduction

A job family is a way of describing and grouping the different levels of responsibility for similar roles. The work for each family is described in broad generic job descriptions which capture key accountabilities, typical skills and experience needed together with any essential qualifications, competencies and performance outputs (measures). Each family will have a number of different levels of responsibility; each level matches an existing grade within our salary structure. All engineering posts currently JG3- JM3 will be moved to the job families.

There will be no need for individual job descriptions as the generic ones can be used for recruitment, induction and on-going performance management. Employees will also be able to see the relationship between the levels within the same family which can help with developing personal career pathways.

This job family has been specifically designed to show the career path for technicians and engineers within the Material Laboratory services. Progression beyond Material Laboratory Engineer (JG5), Senior Material Laboratory Engineer (JG7), and Principal Engineer (JM2) will also be subject to a suitable vacancy and the service requirements. Continuation in the post and progression from one level to the next will be dependent on the attainment of the appropriate qualifications including professional accreditation, and demonstration of the required skills and competences as assessed by the appraising manager and service manager.

Qualification level requirements are in accordance with the comparison set out at the following GOV.UK web site; <https://www.gov.uk/what-different-qualification-levels-mean/compare-different-qualification-levels> and is set out below.

All staff are required to maintain a record of their continual professional development (CPD). The focus of the assessment will be to determine whether the candidate can work to the relevant job descriptor. The candidate will be required to produce evidence of qualifications and their CPD showing two or three key pieces of work that demonstrate the competencies required. Full assessment will be through interview and a presentation supported by evidence from the individual's appraisal. Application for progression can be made at any time but only one application can be made each year. Should an application for progression be turned down then the candidate may appeal to the Head of Service. The decision from the appeal is final.

The council has a training scheme to support the attainment of qualifications. Where the post-holder terminates their employment with the council during or within two years of completing the professional training, the council will reclaim the financial assistance given. However, financial assistance will not be reclaimed if the course is discontinued because of pregnancy, ill health or redundancy or other exceptional circumstances. Where an employee discontinues a course, fails to sit an examination within a reasonable period of time, or fails to show satisfactory progress, the council will reclaim the financial assistance given. Where an employee fails an examination despite satisfactory effort, the council will pay for and allow time to attend a re-sit. This will be granted once only.

In exceptional circumstances directly relevant experience may be accepted as an alternative to the minimum qualification requirement at the discretion of the Director.

Overarching all level profiles and generic job descriptions are the council's principles for equalities and diversity, health and safety and continuous personal development.

Equality and Diversity

We expect all employees to act professionally and to treat colleagues and service users with dignity and respect. This means setting a strong personal example of good equality and diversity practice at all times and ensuring they are sensitive to the needs and views of others and reflect this in the way they behave. The ability to converse at ease with customers and provide advice in accurate spoken English is essential for all customer facing roles. Managers have additional responsibilities of managing others effectively by recognising and valuing each team member as an individual and always challenging inappropriate language and behaviour.

Health and Safety

We all have a responsibility to work within health and safety legislation, associated codes of practice, North Somerset Council's policies and procedures and our local safe systems of work and emergency arrangements.

Continuous Development

Our jobs and the way we do things evolve over time and we need to keep abreast of new technologies, legislation and methodologies for our own subject areas. We are responsible for reviewing and developing our own professional practice. The Engineering Council has recommended levels of CPD hours which should be met for the different levels of professional engineer.

Jobs in this family are concerned with the application of technical expertise in order to shape and deliver specific council services. In addition to direct service delivery to customers, job holders will use their knowledge, skill and expertise in a particular discipline to improve the delivery of existing services and develop new services.

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Job title: Trainee Materials Laboratory Technician

Grade: JG3 (Career grade)

Role purpose: Required to carry out a range of activities working within detailed procedures and routines to clearly defined guidelines. Roles at this level will require a specific knowledge of duties performed and how these contribute to the service area. There is no expectation at this level to supervise the work of others.	
Typical activities	Knowledge, skills & experience
<p>To assist in taking samples of material from roads and other designated sites and make effective reinstatement to cover core holes in compliance with regulations governing working in the highway and general safe systems of work.</p> <p>Assist colleagues in running basic tests on materials and recording results in compliance with national standards.</p> <p>Undertake routine calibration of equipment, general cleaning of equipment and the lab environment and basic routine maintenance as directed.</p> <p>Use appropriate IT systems and programmes to maintain accurate and retrievable records of work and technical information.</p> <p>Maintain physical records of samples tested in compliance with agreed laboratory practice.</p> <p>Comply with and understand the need for safe systems of work to maintain a safe working environment for self and colleagues, both in the highway and in the laboratory, including wearing and maintaining all PPE in accordance with recommended best practice.</p> <p>Assist in the handling of enquiries from the public, contractors and colleagues, preparing written replies where appropriate.</p>	<p>A minimum of 5 GCSEs at grades C or above including maths, English and a science or equivalent qualifications.</p> <p>NVQ level 2 units or equivalent practical work experience to allow access to achieve a technical qualification in skills relating to the service area.</p> <p>Practical work experience to give an understanding of the processes and practices required and support safe working practices</p> <p>Awareness of the service area protocols and regulations in order to ensure compliance.</p> <p>Knowledge and understanding of regulations and national guidance in safe systems of work for handling chemicals, manual handling and working in highways</p> <p>Good oral and written communication skills</p> <p>Demonstrable IT skills in the main standard Microsoft Office software programmes.</p> <p>Ability to travel to designated work sites and work at night on occasion.</p>

<p>Communicate with colleagues and contractors through verbal and written reports and keeping records of site visits and/or activities completed in accordance with procedures and guidelines.</p>	<p>Ability to lift road cores to the weight of 20kg and carry them over a distance of 100 metres</p>
<p>Performance measures</p>	<p>Competencies</p>
<p>Quantifiable objectives ~ e.g.</p> <ul style="list-style-type: none"> • Assessment of safe work environment • impact evaluation of technical contribution • quality of records, • achievement of appropriate level technical qualification • Feedback from colleagues, contractors and partner agencies <p>Key Performance Indicators (where available)</p> <p>Line manager assessment or competencies demonstrated</p> <p>Moving to the next grade is dependent on achieving agreed targets as assessed by the line manager at the annual appraisal.</p>	<p><u>Team Working</u> ~ cooperation and flexibility, contributes positively by sharing information and supports team consensus</p> <p><u>Outcome focused</u> ~ works without prompting and progresses tasks using initiative</p> <p><u>Problem Solving & judgment</u> ~ identifies causes rather than just symptoms to inform solutions</p> <p><u>Planning & Organising</u> ~ prioritises what is important in line with team & service goals</p> <p><u>Business Awareness</u> ~ understands the role of others in relation to their impact on own role and recognises how decisions made in other areas can impact on theirs.</p>

Job Title: Materials Laboratory Technician
Grade: JG4 (career grade)

<p>Role purpose: Required to carry out a range of more complex activities working within existing procedures and routines with limited supervision. Roles at this level will require a broad knowledge and understanding of the work processes in the specific area of work . The post holder will resolve routine technical and process problems and queries, escalating the more complex to others. It is expected that the responsibilities of this level build on the previous one and there may be a requirement to supervise trainee activities.</p>	
<p>Typical activities</p> <p>Undertake inspections, sampling, testing, and equipment calibration for specific technical materials under the general guidance of senior colleagues. .Assist in preparation of traffic orders, technical investigations and prepare reports / written findings for others to take action.</p> <p>Assist in the preparation of computerised management information and contribute to evaluating or monitoring of work.</p> <p>Provide information to others on a range of subjects within the remit of the Highways Minerals laboratory to encourage compliance with and understanding of standard operating procedures for UKAS accreditation.</p> <p>Communicate with colleagues, contractors and other partner agencies through verbal reports and keeping records of site visits and technical activities completed in accordance with procedures and guidelines.</p>	<p>Knowledge, skills & experience</p> <p>As above and:</p> <p>NVQ level 3 units of qualification or equivalent practical work experience in Highway construction or similar discipline.</p> <p>Practical work experience to give a thorough understanding of the standard operating procedures for a quality controlled environment such as the materials laboratory.</p> <p>Knowledge of safe systems of work including the legislation governing working in the highway.</p> <p>Awareness and general understanding of the service area technical protocols, regulations and relevant legislation for UKAS accreditation in a quality controlled environment.</p> <p>Ability to work with contractors and engage with the general public</p>
<p>Performance measures</p>	<p>Competencies</p>
<p>Quantifiable objectives ~ e.g.</p> <ul style="list-style-type: none"> • Assessment of safe work environment • impact evaluation of intervention/ activity • quality of records, 	<p><u>Team Working</u> ~ cooperation and flexibility, contributes positively by sharing information and supports team consensus</p> <p><u>Outcome focused</u> ~ delivers specific pieces of work to agreed specifications.</p>

• Achievement of appropriate level of technical qualification
Feedback from colleagues, contractors and the general public
Key Performance Indicators (where available)
Line manager assessment required for moving to the next grade.

Problem Solving & judgment ~ confident in making decisions within guidelines

Planning & Organising ~ prioritises what is important in line with team & service goals

Business Awareness ~ understands the role of others in relation to the impact on own role and recognises how decisions made in other areas can impact on theirs.

Job Title: Materials Laboratory Engineer
Grade: JG5 (career grade)

<p>Role purpose: Required to give a practical technical service within the Lab testing programme using specialist knowledge that will be acquired through practical experience and vocational qualifications. Roles at this level may work unsupervised much of the time within defined procedures but with readily available advice from managers. Roles at this level will supervise the activities of less experienced staff on a day to day basis.</p>	
<p>Typical activities</p> <p>Provide a range of planned activities to take samples and carry out tests within an agreed programme under the general supervision of a qualified professional.</p> <p>Assist with quality control of materials and workmanship through undertaking tests both in the lab and out on site to agreed UKAS accreditation levels.</p> <p>Attend on site to ensure strict compliance with approved plans, specifications and other agreements. Provide information and advice to others on a range of subjects within a specific area of work to ensure compliance with and understanding of the quality control standards required by UKAS.</p> <p>Apply knowledge and skills to a range of activities demonstrating understanding of the technical service area, relevant procedures, legislation and guidelines such as UKAS accreditation</p> <p>Analyse test results and flag anomalies to the Team Manager, explaining what steps have been taken to verify and confirm the results. Contribute to developments in services to expand the range of tests undertaken and develop standard operating procedures and implement agreed changes in procedures to improve service delivery.</p> <p>Undertake inspections and monitoring of specific technical schemes under the guidance of senior colleagues and/or within statutory frameworks.</p>	<p>Knowledge, skills & experience</p> <p>As above and:</p> <p>NVQ level 3 or 4 qualifications or equivalent to HNC in a relevant discipline to demonstrate technically specific skills relating to the appropriate area of work</p> <p>Additional modular vocational units or other technical qualifications specific to particular areas of the service</p> <p>Practical work experience to give through understanding of the processes and practices required to deliver the service and working in a quality controlled environment.</p> <p>Awareness and general understanding of the service area technical protocols, regulations, safe systems of work and relevant legislation</p> <p>Ability to work with contractors and engage with the general public</p> <p>Ability to present evidence clearly and confidently</p> <p>Ability to work without close supervision and recognise professional boundaries to seek advice when appropriate.</p>

<p>Communicate with colleagues, contractors and other partner agencies through verbal reports and keeping records of site visits and technical activities completed in accordance with procedures and guidelines.</p>	
<p>Performance measures</p>	<p>Competencies</p>
<p>Quantifiable objectives ~ e.g.</p> <ul style="list-style-type: none"> • number of cases/projects worked on at any one time, • impact evaluation of investigation/ activity/ inspection • quality of site records / case files etc • Achievement of appropriate level of technical qualification <p>Feedback from service users, colleagues and partner agencies Key Performance Indicators (where available) Line manager assessment</p>	<p><u>Team Working</u> ~ cooperation and flexibility, follows principles of integrated working, actively shares information and best practice <u>Service user/ outcome focused</u> ~ achievement of results/targets through appropriate interventions/activities etc <u>Problem solving & judgement</u> ~ makes links between identified potential issues and possible solutions, seeks advice from others, application of technical knowledge to problems <u>Planning & Organising</u> ~ Prioritises work, organising work for self to meet agreed deadlines <u>Business Awareness</u> ~ Demonstrates an understanding of what it takes to be successful within own work area and the contribution of the role to the area of work</p>

Progression beyond this grade depends on the requirements of the business for work to be carried out at the higher graded positions.

Job Title: Material Laboratory Engineer**Grade: JG6**

Role purpose: Required to undertake a number of diverse specialist or technical activities within the Materials Lab using skills that would have be gained through formal qualifications and/or considerable relevant work experience. Roles at this level are expected to work unsupervised for much of the time, accessing and assessing information independently. They will be responsible for the supervision and safe working practices of less experienced staff both on site and in the lab.	
Typical activities	Knowledge, skills & experience
<p>To take responsibility for a programme of sampling and testing, under general direction of a qualified professional, to meet the agreed programme of work, applying knowledge and skills to a range of activities demonstrating understanding of the standard operating procedures and guidelines for working in a quality controlled environment.</p> <p>Undertake site inspections and set up sampling regimes for specific highways materials under the guidance of senior colleagues and/or within statutory frameworks.</p> <p>Process work for customers within the appropriate guidelines and technical specifications in compliance with the UKAS quality system.</p> <p>Undertake method modification, development and validation of new tests under the direction of the Lead Engineer.</p> <p>Introduce or give information and advice to customers about technical standards and the results of samples tested. Establish & maintain appropriate links with customers to ensure correct technical standards are complied with and increase the customer base.</p>	<p>As above and:</p> <p>Vocational qualification or experience to 4 relevant to the service user group or equivalent.</p> <p>Significant practical experience of working within a laboratory environment, giving rise to a variety of technical skills and sound understanding of the services available, work practices and processes relevant to the role.</p> <p>Knowledge and understanding of technical standards, safe working practices and legislation for service areas, including highway construction and materials.</p> <p>Ability to make analytical reasoning and recommendations about particular areas of work.</p> <p>Ability to engage with customers and contractors within the relevant codes of practice</p> <p>Ability to present evidence clearly and confidently</p>

<p>Contribute to the development of lab practices to support UKAS accreditation and undertake risk assessments for new work and procedures.</p> <p>Report, present, analyse and interpret data from tests, checking and verifying anomalous results.</p> <p>Communicate effectively with colleagues and customers, both verbally and in writing through the appropriate use of case or site notes and other records within information sharing protocols and record keeping policies.</p> <p>Supervision of work and day to day management for others undertaking similar activities</p>	<p>Ability to manage own work without close supervision and experience of supervising the work of others</p> <p>Understanding and recognition of professional boundaries</p>
<p>Performance measures</p>	<p>Competencies</p>
<p>Quantifiable objectives ~ e.g. number of cases worked on at any one time, quality of site records, number of enforcements/inspections undertaken</p> <p>Feedback from customers, colleagues and partner agencies</p> <p>Key Performance Indicators (where available)</p> <p>Line manager assessment</p>	<p><u>Team Working</u> ~ cooperation and flexibility, follows principles of integrated working, sharing best practice and information to develop self and others</p> <p><u>Service user/ outcome focused</u> ~ achievement of results through appropriate decision making, delivery of project areas, inspection or enforcement reports, case preparation etc.</p> <p><u>Problem solving & judgement</u> ~ develops solutions, makes links between identified potential issues and possible solutions, makes decisions within guidelines</p> <p><u>Planning & Organising</u> ~ Prioritises work, organising work for self and others to avoid or minimise peaks and troughs</p> <p><u>Business Awareness</u> ~ understands the role of others in relation to the impact on own role and recognises how decisions made in other areas can impact on theirs.</p>

Job Title: Senior Materials Laboratory Engineer**Grade: JG7**

Role purpose: Expected to undertake specialist or technical assessments/activities and make decisions based on those assessments within the highways materials laboratory, using skills that would have been gained through professional qualifications and/or practical experience. Roles at this level will be involved in supervising/managing the work of others within an overall management framework.	
Typical activities	Knowledge, skills & experience
<p>Carry out the full range of tests and calibrations on highway materials and equipment and undertake method modifications as directed by the Lead Engineer.</p> <p>Undertake risk assessments, quality audits and prepare Health and Safety plans within the lab and on site to ensure compliance with UKAS standards and other regulations governing the work for the protection of staff, contractors and the public.</p> <p>Provide quotations for work and plan the work programme as it is commissioned. Complete accurate records to produce invoices for customers.</p> <p>Contribute to the supervision, management and development of others to improve service standards and delivery within the lab.</p> <p>Give information, opinions and advice to clients about highway material test results and expected standards of materials for longevity of material, quality, value for money and safety, as directed by the Lead Engineer.</p> <p>Engage with existing and potential clients to generate a growing client base and respond appropriately to requests for new work.</p>	<p>Vocational qualification or experience to NQF level 4 or above, relevant to one or more of the service areas, such as a diploma in asphalt technology.</p> <p>A recognised qualification for working in highways such as HAUC chapter 8 signing and guarding.</p> <p>Practical experience of working within Highways, giving rise to a variety of technical skills and sound understanding of the standards, legal responsibilities, work practices and processes relevant to highway construction materials (to include bituminous/ concrete and dry stone products)</p> <p>Experience of supervising others within the same field of work</p> <p>Knowledge of managing quality control systems such as UKAS</p> <p>Knowledge and understanding of technical standards, safe working practices and legislation for highway construction and working in the highway.</p> <p>Ability to analyse designated areas of work and make decision to improve them.</p>

<p>Write technical reports and interpret information for clients to support testing results.</p> <p>Communicate effectively with contractors, colleagues and business clients, both verbally and in writing, through the appropriate use of case notes and other record keeping within information sharing protocols and record keeping policies.</p>	<p>Ability to engage with businesses and partner agencies to engender the client relationship.</p> <p>Ability to prepare & present evidence clearly and confidently</p> <p>Ability to manage/organise own work and that of others to meet agreed deadlines</p> <p>Understanding and recognition of professional boundaries</p>
<p>Performance measures</p>	<p>Competencies</p>
<p>Quantifiable objectives ~ e.g. number of cases held at any one time, number of enforcements taken, quality of site or court records, etc</p> <p>Feedback from businesses, colleagues and partner agencies</p> <p>Key Performance Indicators (where available)</p> <p>Line manager assessment</p>	<p><u>Team Working</u> ~ cooperation and flexibility, sharing best practice to develop self and others</p> <p><u>Service user/ outcome focused</u> ~ delivery of service achievement of results through appropriate decision making, evidenced based enforcements, improve technical standards.</p> <p><u>Problem solving & initiative</u> ~ develops solutions, makes links between identified potential issues and possible solutions.</p> <p><u>Planning & Organising</u> ~ Prioritises work, organising work for self and others</p> <p><u>Business Awareness</u> ~ understands the role of others in relation to the impact on own role and recognises how decisions made in other areas can impact on theirs.</p>

Progression beyond this grade depends on the requirements of the business for work to be carried out at the higher graded positions.