

Job Description

For Engineer Positions

This form is used to provide a complete description of the specific job (or role) and defines the skills, knowledge and abilities required to undertake the specific and generic role profile.

Section A: Specific Role Profile

The specific role profile provides key information relating to the salary and working conditions e.g. location of a job, along with the current focus of the job role and a brief description of the main duties.

Role Details

Job Title:	Senior Design Traffic Signals Engineer	JEID	EN004
Salary Grade:	Grade L		
Team:	Traffic Control and Information Systems		
Service Area:	Engineering Design Services - Communities Group		
Primary Location:	Shire Hall, Warwick		
Political Restriction	This position is not politically restricted.		
Responsible to:	Section Manager - Traffic Control and Information System Team		
Responsible for:	EN003, EN002 and EN001		

Role Purpose

Primarily you will be involved with the detail design and the implementation of traffic signal junctions, pedestrian crossings, car park management signs and other Intelligent Transport Systems in order to support both the annual capital programme and developer funded schemes.

As the Senior Design Engineer, you will lead and advise the delivery of the service associated with the: - investigation, evaluation, design, consultation and specification of complex traffic signal junctions, pedestrian crossings, car park management signs and other Intelligent Transport Systems. Also, you will have responsibility to ensure that the existing traffic signal junctions and pedestrian crossings are operating safely and efficiently.

Role Responsibilities

Evaluating the need for traffic signal junctions, pedestrian crossing facilities and other intelligent transport systems in accordance with County Council policy.

Experience in applying - Design Manual for Roads and Bridges, Manual for Streets and Department for Transport's Local Transport Notes and other guidance/advice notes.

Carryout detail design of complex traffic signal junctions using AutoCAD.

Project management of schemes which includes for the: - detail design, consultation, financial management, reporting and procuring the associated equipment for various types of schemes.

Dealing with enquiries from elected Members, members of the public, District Councils, Police and other bodies.

Model complex traffic signal junctions using the LinSig software and evaluating the output results.

Writing detailed reports on the outcome of any investigation or studies based upon County Council policy and making reference to any national guidance.

Evaluate Transport Assessment reports; review/undertake technical approval of third party's design.

Writing Committee reports on Capital and Developer funded schemes.

Carrying out Site Acceptance Tests and Commissioning of traffic signal junctions and pedestrian crossings.

Writing/amending documents associated with the Quality Management Systems.

Carrying out as and when necessary site observation and traffic movement inspections; some of which will be outside normal office hours.

Keeping up to date with new technology i.e. CAV and associated systems; advising on the need for new policies and standards.

Assisting as and when required with the operation of the UTMC system including other associated systems: - remote monitoring system, fault management system, car park management signs, automatic rising bollards and CCTV.

Leading on updating of records, inventories, drawings and other information to ensure that information, databases and contracts are accurate and complete, including the investigation and resolving of queries as relevant.

Positively contributing to the management and delivery of the service area aims and objectives embedded in the Councils service business plan.

Carry out such other duties as may be required from time to time by the Head of Engineering Design Services.

Section B: Generic Role Profile

The generic role profile provides a list of the main tasks that cover the broad range of duties and responsibilities performed at this level for the job role. An employee may not be undertaking all of these at any one time, but they could be expected to do so under their contract of employment.

Generic Role Details

Job Role:	Engineer – Level 4
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Main Tasks

- To be responsible for professional engineering input (e.g. design, development, advice and management) across one or more of the following areas as required:
 1. undertaking feasibility studies
 2. maintaining specialist capability with service area and provide technical guidance/ supervision to less-experienced members of the team and assisting with training junior staff in technical and professional disciplines
 3. maintaining technical standards and good practice within the team;
 4. initiating legal processes for traffic regulation etc
 5. programming of highway maintenance work to ensure there is a consistent and high quality service provided in order to maintain the network in a safe and serviceable condition
 6. responsibility for the highway routine maintenance budgets allocated to a specified area of the County (up to £3m per annum) and to resolve problems that arise from under/over spending by locality officers
 7. contributing to the development of annual structural and cyclical structural maintenance works programmes ensuring resources are allocated effectively
 8. ensuring that reactive maintenance is reduced and planned maintenance optimised by preparing local maintenance plans and work schedules to improve resource effectiveness and minimise disruption on the network
 9. the delivery of a significant transport planning projects with direction only in complex circumstances
 10. undertaking engineering design for large complex engineering works.
 11. the development of S38 Agreements, including technical approval of proposals for compliance with planning and other conditions, preparing cost estimates, negotiating with prospective developers, inspections and the issuing of final certificates
 12. providing statutory highway advice, undertaking pre-application advice and appraisals on significant planning applications to District/Borough Councils and for major sites and significant proposals affecting the LDF
 13. leading on the critical analysis of significant transport / traffic assessments, consulting with relevant professional colleagues in order to agree appropriate local infrastructure improvements that can be secured through S278 works or S106 agreements
 14. carrying out complex safety audits and supervising and being responsible for audits undertaken by less senior colleagues
 15. leading and managing major projects which may involve other agencies including establishing partnerships
 16. managing depots, plant and equipment, ensuring availability and in suitable condition for use by staff, contractors and others when required
 17. managing Winter Maintenance including the prediction and instruction of treatments required across the County
- To act as project manager for the delivery of large or complex schemes up to including the supervision of and negotiations with contractors on site, anticipating and resolving complex problems with designers and contractors or where technical and political considerations conflict, in order to achieve agreed objectives in relation to completion, quality and safety standards.

- To monitor and manage budgets for own projects and take corrective action when expenditure diverges from budget with supervision only in complex circumstances, act as a 'supervisor with delegated powers' under the Engineering and Construction contract for medium-sized works.
- To monitor, co-ordinate and manage programmes encompassing more than one individual scheme, recommending optimum solutions balancing engineering, economic and environmental aspects and resolving complex problems using professional judgement to ensure work is completed to the appropriate standards.
- To produce project plans, technical and formal committee reports and take decisions outside standard parameters within specialist areas with limited supervision.
- To contribute to the monitoring and review across a number of areas of County Council policy e.g. Local Transport Plan, Asset Management Plan, LDF and Development Control Policy, through the provision of technical advice and guidance in response to changes at local, regional and national levels.
- To investigate, develop, procure, implement systems and equipment and monitor operational performance, including planned inspection and maintenance and taking remedial action as required and the commissioning of consultants to carry out specialist work as necessary.
- To take the lead role in managing complex consultations including those which relate to contentious matters, independently attending and making presentations at public meetings with elected members, parish and town councils, residents associations.
- To deal with enquiries and complaints from MPs elected members, developers, agents, planning officers, government agencies and members of the public and act as the Council's representative, and promote the interests of the Council at formal hearings and inquiries in respect of relevant matters.
- To be responsible for the development of performance management processes in order to ensure monitoring and reporting of service performance in relation to the postholder's area of responsibility.

Section B: Person Specification

The person specification provides a list of essential and desirable criteria (skills and competencies) that a candidate should have in order to perform the job.

Each of the criteria listed below will be measured through; the application form (A), a test / exercise (T), an interview (I), a presentation (P) or documentation (D).

Essential Criteria

Assessed By:

Either hold a full relevant professional qualification or have significant experience of managing large projects at a senior level	A, I, D
The ability to independently interpret and analyse varied and complex information or situations and to produce solutions over the long term	A, I
The ability to communicate complicated and contentious information with varied audiences in person and/or writing.	A, I
Have experience of using ICT including relevant Engineering/Transport Planning systems e.g. CAD	A, I, D
The ability to work within broad practice or guidelines using managerial discretion over a broad area of activity	A, I
The ability to work under a very high degree of pressure, including meeting unpredictable deadlines and dealing with conflicting demands	A, I

The ability to cope in situations where there is an emotional demand arising from the work being undertaken	A, I
Ability to provide day to day supervision to less-experienced members of the team including delegation and checking of work and provision of technical guidance, also covering for and providing technical support to the Team Leader as required	A, I
Experience of monitoring, managing and being accountable for budgets	A, I
Experience of contributing to the development of Engineering/Transport Planning Policies and Procedures	A, I
The ability to persuade others to adopt a course of action which is not necessarily their preferred approach	A, I

Desirable Criteria

Assessed By:

Supervise and mentoring other design engineers and experience in applying - Design Manual for Roads and Bridges, Manual for Streets, Department for Transport's Local Transport Notes and other guidance/advice notes.	A, I, T
Extensive experience in using AutoCAD to detail design: - a complex traffic signal junctions (SCOOT/ MOVA), signalised roundabouts and pedestrian crossings.	A, I, T
Extensive experience in using the LinSig software for modelling a complex traffic signal junction and evaluating the output results into a report.	A, I,
Experience in project management of various schemes at different stages: - investigation, consultation, detail design, reporting, procurement and financial control.	A, I,
Review and undertake technical approval of third party's design.	A, I,
Experience in evaluating Transport Assessment reports.	A, I,

Section C: Working Conditions

The working conditions relate to those non-contractual elements of the job that may impact on the holder of the position, as well as those workplace-based responsibilities that are part of this job. These are not contractual but provide a guide to the working conditions and the potential hazards and risks that may be faced.

Health & Safety at Work

To take responsibility for your own health, safety and wellbeing, and undertake health and safety duties and responsibilities for your role as specified within Warwickshire County Councils Health and Safety Policy, and all other relevant health and safety policies, arrangements, procedures, systems of work as specified for the post/ role.

Potential Hazards & Risks

The potential significant hazard(s) and risk(s) for this job are identified below (those ticked). The purpose of recording this information on the job description is so that the health status of the potential and actual post-holders can be assessed with regard to the significant hazards and risks. These hazards and risks should be based on the appropriate activity, process and/or operation risk assessment whereby all of the significant risks are identified, recorded and appropriately controlled. The list below is therefore

not an exhaustive list because it is the risk assessment that details all significant risks that could arise out of or in connection with the work activity, but any others will be identified in the 'other' section.	
<input type="checkbox"/> Provision of personal care on a regular basis	<input type="checkbox"/> Driving HGV or LGV for work
<input type="checkbox"/> Regular manual handling (which includes assisting, manoeuvring, pushing and pulling) of people (including pupils) or objects	<input type="checkbox"/> Any other frequent driving or prolonged driving at work activities (e.g. long journeys driving own private vehicle or WCC vehicle for work purposes)
<input type="checkbox"/> Working at height/ using ladders on a regular/ repetitive basis	<input checked="" type="checkbox"/> Restricted postural change – prolonged sitting
<input checked="" type="checkbox"/> Lone working on a regular basis	<input type="checkbox"/> Restricted postural change – prolonged standing
<input type="checkbox"/> Night work	<input type="checkbox"/> Regular/repetitive bending/ squatting/ kneeling/crouching
<input type="checkbox"/> Rotating shift work	<input type="checkbox"/> Manual cleaning/ domestic duties
<input checked="" type="checkbox"/> Working on/ or near a road	<input checked="" type="checkbox"/> Regular work outdoors
<input checked="" type="checkbox"/> Significant use of computers (display screen equipment)	<input type="checkbox"/> Work with vulnerable children or vulnerable adults
<input checked="" type="checkbox"/> Undertaking repetitive tasks	<input type="checkbox"/> Working with challenging behaviours
<input type="checkbox"/> Continual telephone use (call centres)	<input type="checkbox"/> Regular work with skin irritants/ allergens
<input type="checkbox"/> Work requiring hearing protection (exposure to noise above action levels)	<input type="checkbox"/> Regular work with respiratory irritants/ allergens (exposure to dust, fumes, chemicals, fibres)
<input type="checkbox"/> Work requiring respirators or masks	<input type="checkbox"/> Work with vibrating tools/ machinery
<input type="checkbox"/> Work involving food handling	<input type="checkbox"/> Work with waste, refuse
<input type="checkbox"/> Potential exposure to blood or bodily fluids	<input checked="" type="checkbox"/> Face-to-face contact with members of the public
<input type="checkbox"/> Other (please specify):	