

Job Description

Job Title: Principal Engineer - Highways

POSCODE: CCC2630

Grade: P4

Overall purpose of the job

The development and delivery of new transport infrastructure is vital to the future economic wellbeing of Cambridgeshire.

The skills required to deliver such a programme are considerable and require an extensive technical background in highway design, with sound knowledge, a detailed understanding of programme management, experience in commissioning infrastructure projects, stakeholder engagement, and statutory legal processes.

Importantly, the Principal Engineer has responsibility for overseeing and leading the County Councils in house design team across a varied portfolio of projects. The role is responsible for effective and efficient, design and delivery of schemes across a wide range of transport projects.

You will collaborate with teams across the organisation to design infrastructure projects providing technical input and expertise throughout the pre-construction phase. You will lead a team of designers at different career stages and be responsible for their development and projects.

In this role you will lead a team who will design customer focussed solutions, set delivery outcomes for projects, and define service outcomes working across teams with a range of needs – e.g., innovative safe designs, maximising contract savings and achieving value for money, whilst helping us work towards the aim of being net zero by 2035.

The role supports the Head of Service and other managers within the Infrastructure & Project Delivery Directorate in delivering the Councils objectives, through joined-up service planning, community engagement and the flexible use of resources.

The individual will operate with autonomy, empowered to use their own judgement to make informed decisions around resource, budget, programme and design management.

This decision making will include what to prioritise, how to spend the design budget and who to delegate the work to along with the ability to resolve service delivery contractual disputes on a day-to-day basis and explore design innovations

Main accountabilities

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1.	<p>Design Management Expertise</p> <p>Provide leadership support within the team to ensure the effective / efficient design of projects that improve the transport infrastructure network.</p> <p>Provide advice to those within Place & Sustainability on highway design and related activities.</p> <p>Provide and prepare detailed designs / technical reports in a timely and efficient manner always ensuring, clear requirements of project details, timings, and delivery requirements.</p>

	<p>Direct, guide and manage project design to ensure that objectives are delivered for the project to a high quality, forecast delivery times and budget targets.</p> <p>Lead on key design aspects of project expertise within the Service for commissioned projects to ensure the highest levels of knowledge, experience and expertise are used in resolving issues and enquiries.</p> <p>Manage the technical approval of projects, owning the pre-construction phases of those projects assigned to you and the design team, ensuring the requirements of the principal designer role under Construction Design Management Regulations 2015 are met.</p> <p>Develop efficient and effective processes for the review of projects, reporting progress, risk, actual and forecast cost and target completion as required.</p> <p>Implement robust, appropriately resourced design programmes for all projects, with appropriate control processes and utilising suitable project management software packages to manage programme delivery, such as existing Microsoft 365 applications, MS Project, and our unique Project Management System (POWA).</p> <p>Plan, manage and lead projects, initiatives, and events, ensuring the effective co-ordination and integration of organisation and service activities and securing active engagement by identified participants to meet project goals and the Council's objectives.</p> <p>Devise, implement and manage systems for the design of projects which engage directly and appropriately with colleagues, partners, and customers and where integration and co-ordination with other services and organisations is required to achieve the desired outcomes.</p> <p>Inspire others to contribute to corporate projects to see the delivery of better outcomes.</p> <p>Actively promote low carbon design with partners to understand new concepts and low carbon products and solutions. Lead on new trials and concepts.</p> <p>Build a culture which enables constructive design challenge through design options and drive forward alternative low carbon solutions taking into consideration a triple bottom line approach including social, environmental, and financial benefit throughout the review process.</p> <p>Work in partnership with our supply chain to work up innovative solutions to design that reduce our carbon footprint both in construction phase and following implementation.</p>
2.	<p>Programme Management, Procurement and Delivery</p> <p>Actively collaborate with colleagues across the directorate, the Council, and our partners to ensure projects are delivered in the most efficient, effective, and co-ordinated manner and represent value for money.</p> <p>Provide the Head of Service with robust forward and integrated work programmes embedded with clarity in decision making, timelines, and control processes.</p> <p>Take responsibility in ensuring projects are designed to maximum effect, achieve value for money targets through the stages of scheme development either through the Highway Services Contract, Eastern Highways Alliance or NEC 3/4 contract environment and tendering process.</p>

	<p>Ensure all measures are incorporated in projects and work programmes to minimise and mitigate any risk and adverse impact on the environment, communities, and businesses.</p> <p>Ensure projects and work programmes take due regard for the needs of all users of the network, with consideration and evaluation of equality and diversity inclusivity needs.</p> <p>Advise Councillors informally, and through formal reports, on the planning and design of individual projects and the development and delivery of the work programme.</p> <p>Manage team design resource pro-actively to provide a consistent, continuous forward works programme</p>
3.	<p>Financial, Contract and Risk Management</p> <p>Take active responsibility for the control and monitoring of the capital projects within your portfolio including commitment of funding under contract. Commitment and management of contracts carry financial responsibility of award and management between c.£0.5m and £30m+</p> <p>Ensure monthly progress reports on actual and forecast expenditure are prepared and submitted in a timely way. Report any variances to the Head of Service.</p> <p>Maintain and improve the transport infrastructure network whilst ensuring expenditure is within agreed tolerances of approved budgets.</p> <p>Identify financial pressures and take action agreed with the Head of Service to manage and mitigate those pressures.</p> <p>Implement risk monitoring and management processes in accordance with corporate guidelines for each project. Ensure designs and pre-construction information reflect all highlighted risks.</p> <p>Ensure compliance with all relevant Health and Safety legislation and best practice in the planning, design and delivery of projects and work programmes.</p> <p>Ensure contractual processes are fully complied with and followed.</p> <p>Provide advice and support across the Place & Sustainability on the Construction Design and Management Regulations.</p>
4.	<p>Partnership Working & Consultancy</p> <p>Engage fully with key partners such as our highway service provider, District and Parish Councils, Department for Transport, Highways England, Network Rail, Environment Agency, Local Enterprise Partnership, Community Groups, and others as required, to design infrastructure projects that meet the Council's and partners' objectives.</p> <p>Promote, develop, and maintain effective internal and external partnerships and collaborative working with a range of stakeholders including other authorities, public bodies, voluntary and private sector organisations in Cambridgeshire, in order to ensure the appropriate level of co-ordination and integration of services that will achieve service objectives and secure optimum cost-effective joined-up working.</p>

	<p>Ensure the regular and timely exchange of relevant information with internal and external stakeholders to ensure a mutual awareness and collaboration.</p> <p>Promote best practise with regards to highways design across Highways and Transport and be the main point of contact for technical design queries.</p> <p>Lead on the adoption of a standard design and pre-construction process across H&T including dissemination of guidance and design practise / documentation to promote a standardised approach.</p> <p>Build effective working relationships with other teams within H&T, and Place & Sustainability providing design advice and guidance on a consultancy basis to bring income into the team.</p> <p>Identify new income streams for the authority, whether delivering designs on behalf of other areas within the authority, neighbouring authorities or third parties and engage with customers on a consultancy basis to meet their needs.</p>
5.	<p>Communication and Customer Focus</p> <p>Ensure that customer focus is promoted as a core value and customer care is embedded in the project.</p> <p>Ensure that service objectives align with local community and business needs to deliver outcomes that align with Council objectives.</p> <p>Ensure projects meet the needs of users and the local community by actively seeking input from local communities, businesses, Councillors, key stakeholders, and potential users, throughout the development of work, aligning fully with Council expectations and collaborating closely with other internal teams.</p> <p>Develop policies and systems to ensure that feedback from customers, partners, stakeholders, and employees can be evaluated such that appropriate action can be taken to provide continuous improvement.</p> <p>Work collaboratively with other teams across the organisation to develop and deliver designs and related pre-construction activities on their behalf to progress infrastructure projects.</p>
6.	<p>Staff Management and Development</p> <p>Inspire and motivate staff to ensure that they achieve their maximum potential, providing flexible use of resource across the team.</p> <p>Manage resource through proactive tracking and allocation of designers to meet business need, making use of forward planning software to forecast the teams work up to twelve months in advance to provide a scheduled approach to design delivery.</p> <p>Recruit, train, develop and reward staff to meet the needs of both the team and the Council.</p> <p>Support the Head of Service in creating a culture of empowerment, collaboration, openness, and transparency.</p>

	<p>Impart knowledge and expertise on specific business areas through mentoring and coaching of other staff to strengthen the skill base creating more resilience within teams by introducing broader training techniques, including but not limited to, highway design, risk management, project management, health, and safety.</p> <p>Be a proactive advocate for the apprentice programme and develop our people to ensure our service delivery of the future is resourced.</p>
7.	<p>Construction Design Management (CDM)</p> <p>Responsible for communicating and checking implementation of relevant Health & Safety regulations and how they apply to the design discipline. Lead control measures for overseeing Assistant Design Engineer and Design Technician application of the Construction Design and Management Regulation within their designs.</p> <p>Lead consultation of, and make final decisions on, design choices and explain how they will impact the outcome of projects in a construction phase. Required to pre-empt the impact that design choices will have on the construction phase and end users. Review the impact of design choices on construction operations and maintain a clear record and change log structure for the team. Make decisions on what options to proceed with based upon the teams' recommendations.</p> <p>Lead and control design commentary requirements justifying engineering/design choices whilst optioneering and communicating the benefits and constraints of solutions in relation to design options, and their impact on CDM.</p> <p>Lead on a continuous learning ethos amongst the team and review the use of change control process.</p> <p>Be the lead when managing external design consultants to provide oversight and ensure they are following the correct design processes.</p>
8.	<p>Effective challenge</p> <p>Lead by example and install a culture and environment where effective challenge within the team is embedded.</p> <p>Lead a 'safe to challenge' culture, where design solutions are evaluated within the team. Leads programme change control because of healthy challenge.</p> <p>Lead the team's Principal Designer outcomes and responsibility during design. Promote challenge on all aspects of design choices and coordinate sign off for construction ready designs.</p> <p>Lead the team to drive continual improvement of our processes and procedures, effectively challenge the way we work and contribute to improved outcomes. Lead new ways of working.</p>
9.	<p>Design Professional & Technical Understanding</p> <p>Keep up to date with changing guidance and standards, sharing new concepts with the team and promoting best practice. Lead on new initiatives through testing new concepts particularly when it comes to reducing carbon in our construction phase.</p> <p>Lead the monitoring and record change control throughout all design packages.</p>

	<p>Decide upon final design choices and champion best value solutions in terms of social, Environmental and Financial benefit.</p> <p>Proactively lead on the adoption and dissemination of new learning and innovation within the Design & Delivery area, including the arranging of Continuous Professional Development.</p> <p>Representing the D&D design team and wider authority at events promoting civil engineering through engagement with our communities, for example school career day visits.</p> <p>Be the point of contact for apprentices undertaking the Civil Engineer Degree course or similar and function as their mentor, checking, and sign off engineer, guiding them through the course, and the professional membership process and maintain effective working relationships with those organisations.</p>
10.	Demonstrate an awareness and understanding of equality, diversity, and inclusion.

Person Specification

Qualifications, knowledge, skills, and experience

Minimum level of qualifications required for this job

Qualifications Required	Subject	Essential/ Desirable
HNC or degree in Civil Engineering, or a relevant discipline, or extensive relevant experience	Civil Engineering	Essential
A relevant professional accreditation e.g., ICE/CIHT	Incorporated Engineer (IEng)	Essential

Minimum levels of knowledge, skills and experience required for this job

Identify	Describe	Essential/ Desirable
Knowledge		
Technical expertise	Extensive knowledge of the technical design related requirements relevant to scheme development, construction, and maintenance.	Essential
	Extensive knowledge of the latest guidance and practises relating to Highway design and Health & Safety	Essential
Programme expertise	A proven track record in leading the design and implementation of transport infrastructure and related projects.	Essential
	Programme / project management experience with a focus on health and safety, resourcing, and design activities.	Essential
Health & Safety	Extensive knowledge of Health and Safety laws, and the Construction Design and Management Regulations (CDM), especially in relation to the role of Principal Designer, and the requirements therein.	Essential
Skills		
Reporting	Ability to assimilate complex information and provide reports on project progress/needs to Programme Boards or Committees to achieve project solutions.	Essential
	Skilled at writing and presenting committee papers / technical appraisals and reports linked to design activities.	Essential
	Ability to create performance reports for Directors and Members and recommend improvements for financial savings. Report to Programme Boards and forward plan to meet the regular reporting requirements of the role, including meeting relevant KPI's. Respond to conflicting priorities and ensure the programme board is provided with effective information for decision making.	Essential

Software / IT	<p>Extensive knowledge of a multitude of IT systems including being -</p> <p>Fully compliant with the latest Project Management Software tools, such as ASTA or MS Project.</p> <p>Fully compliant with latest Computer Design Software including AutoCAD and Micro Drainage.</p> <p>Fully compliant with Microsoft software packages.</p>	Essential
Leadership	<p>Excellent leaderships skills, including -</p> <p>Ability to drive cultural change within the organisation relating specifically to improved design processes, health, and safety.</p> <p>Ability to work independently and to lead a team.</p> <p>Effective communication skills both written and verbal including persuading and influencing senior managers and stakeholders.</p> <p>Strong commitment to public services and local democracy.</p> <p>Ability to negotiate with key partners and businesses to build collaborative solutions that recognise the diverse needs of our communities.</p> <p>Ability to lead and build project teams to design quality projects whilst maintaining their performance and motivation.</p>	Essential
	<p>Researching and innovation in respect of modern technologies / guidance.</p>	Essential
	<p>Ability to evaluate and mould service design and delivery to respond to challenges such as increasing service pressures.</p>	Desirable
Detail focussed	<p>Ability to focus on the detail when reviewing technical reports and drawings to ensure they are fit for purpose and meet the project brief.</p>	Essential
	<p>Ability to think insightfully and innovatively, based on an underlying understanding of key principles to provide innovative and beneficial design solutions, and maintain a thorough awareness of and anticipate external and internal factors likely to affect local government and be able to find solutions to complex situations.</p>	Essential
Customer focus	<p>Well-developed customer awareness and sensitivity in consulting and dealing with the public and an awareness of political sensitivity and the ability to manage conflicting priorities.</p>	Essential

	Ability to liaise with internal and external stakeholders (15+ services across local authorities / districts / partners) and managing external contracts. Influential stakeholders from the Combined Authority, Health, District, City and County Council in additional to the governmental lead.	Essential
Strategic	Ability to develop & implement focused strategies and prioritising actions, leading to change, performance improvements and achieving VFM through innovative design solutions.	Essential
	Ability to think strategically, with knowledge and understanding, including planning over significant time scales, operational delivery, workforce development and remit for quality, improvement etc. including proactively planning for long term delivery of the service and implementing changes across Highways & Transport.	Essential
Experience		
Team management & development	Proven experience in the management and development of a highly skilled and multi-disciplinary professional workforce, managing performance and monitoring related activities.	Essential
Design Management	A proven track record in engaging and leading a team on the design of infrastructure projects to develop and deliver a varied programme of highway improvements.	Essential
Stakeholder Management	Experience of working with elected politicians and of ensuring that project and service outcomes align with broader political priorities.	Essential
	Good negotiation skills and the ability to develop effective working relationships with senior staff throughout the Authority and staff of external organisations including other Councils and Government agencies.	Essential
	Practical experience in dealing and negotiating with consultants and contractors.	Essential
Budget Management	Experience in budget (including local government finance) and tracking resource / revenue budgets related to team.	Desirable
	Experience tracking / reporting forecast spend / committed spend.	Desirable
	Working knowledge of County Council Standing Orders and Financial Regulations/Practices	Desirable

Equality, Diversity, and Inclusion (applies to all roles)	Ability to demonstrate awareness and understanding of equality, diversity, and inclusion and how this applies to this role.	Essential
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Disclosure level

What disclosure level is required for this post?	None	Standard
	Enhanced	Enhanced with barred list checks

Work type

What work type does this role fit into? (Tick one box that reflects the main work type, the default work type is hybrid)	Fixed	Hybrid	Field	Remote	Mobile
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