

Auckland Council Engineering Graduate Programme 2020

What will be the key activities of this position?

Engineering & Technical Services

Auckland Council's Engineering and Technical Services Unit is a group of engineering and technical specialists, working with the Chief Engineer to provide engineering and technical expertise and advice, including the management of Council's high risk assets.

Key engineering fields / specialist practice areas are:

- Civil and Environmental Engineering
- Engineering Design
- Geotechnical
- Coastal Engineering
- Contracts Management
- Risk Management, Safety in Design
- Landfills and Contaminated Land Engineering
- H&S and Quality Control.

Healthy Waters

The four core areas are Operations, Planning, Strategy and Delivery.

- **Operations:** Managing the existing stormwater network including issuing maintenance instructions to our contractor, investigating flooding issues and communicating with residents
- **Planning:** Preparing project briefs on options to alleviate flooding issues, renew aged assets and allow for growth, asset management as well as maintaining and preparing flood hazard models
- **Strategy:** High-level issues such as setting our levels of service, preparing our Asset Management Plan, and other initiatives such as how Auckland will fit into the National Policy Statement for Freshwater Management
- **Delivery:** Undertaking detailed design (either in house or through consultants) of Stormwater projects and managing the contractors who undertake the physical works.

Regulatory Engineering

- Assist with assessing subdivision, land use, or building consent applications for land development or building projects
 - Assist with assessing the engineering aspects of land development activities against good local codes and standards
 - Assist the team when they assess and inspect infrastructure assets such as drains or roads which ultimately, will be owned and operated by Auckland Council
 - Liaison with Council's Asset Groups, and work with applicants to ensure that the assets created by developers are fit-for-purpose and in accordance with Council's standards and the requirements of the asset group.
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What are the day-to-day duties?

Engineering & Technical Services

- Scoping and project managing the development and delivery of design and technical guidance, professional standards, technical specifications, practice notes, and engineering codes of practice for both internal and wider industry use, to ensure all infrastructure meets Council standards and requirements
- Assist subject matter experts with the new products and materials approval process
- Assist with internal and external stakeholders' engagement
- Liaise with Regulatory Engineering and Healthy Waters key engineering staff and other key stakeholders and assist senior engineers with design reviews.

Healthy Waters

- Investigating flooding issues, liaising with customers over stormwater matters (including flooded properties)
- Auditing and supervising contractors on site
- Undertaking water quality studies and catchment analyses
- Preparing options reports for small projects
- Undertaking design, reviewing design of large projects
- Project management of small physical works jobs, etc.

Regulatory Engineering

- Assessment of applicants' proposed designs and technical reports, and provide engineering input and advice to the case managers (e.g. Building Control officers and Resource Consents planners)
- Carry out site inspections
- Sign off assets destined to come into Council ownership and provide confirmation that all engineering aspects have been satisfactorily undertaken prior to issuing building and subdivision completion certificates.

What exciting projects could I potentially be involved in?

Engineering & Technical Services

- Review of existing technical publications
 - Development of new guidance documents and infrastructure standards
 - Coastal asset condition assessments
 - Closed landfill and contaminated land capital projects and asset management
 - Assist with design reviews. e.g.
 - Ports of Auckland \$25 M project
 - City Rail Link.
 - Ports of Auckland.
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Healthy Waters

- Opportunity to get involved with the stormwater component of major projects such as the City Rail Link, Ports of Auckland, Artillery Drive tunnel, etc.

Regulatory Engineering

- Projects that typically involve Development Engineers include:
 - Hobsonville, Long Bay, Flatbush, Millwater which provide housing for Aucklanders.
 - Input to the Central Rail link, America's Cup Village, Puhoi to Warkworth motorway extension
- A graduate will be able to contribute to other key projects and be part of enabling considerable regional growth for Auckland.

What skills will I develop in this programme?

Engineering & Technical Services

- Engineering design review, technical report writing, technical editing and publications
- Contract management including project and budget management, risk management, safety in design
- Communication, presentations, workshop facilitations, industry consultations
- Specialist engineering competency in landfill engineering and contaminated land management
- Coastal engineering/management
- H&S and Quality Control /Audits, Risk Management.

Healthy Waters

- Project management and options report writing
- Customer services
- Design experience
- Options analysis
- Time management and prioritisation
- Operation and maintenance of stormwater assets
- Asset management
- Hydraulic modelling.

Regulatory Engineering

- Engineering regulatory requirements
 - Communicating at the front line with customers and developers
 - Customer service
 - Review and assess the Three Waters and Roding
 - Problem solving skills
 - Networking with the major stakeholders including Auckland Transport, Watercare and the Stormwater Unit.
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Engineering & Technical Services

- Interviewing subject matter experts to establish the need for development or revision of design and technical guidance documents and/or standards
- Assisting decision makers with design reviews and hands-on application of their knowledge and work from first principles
- Assisting in gap analysis related to technical guidance and infrastructure standards and specifications
- Developing scopes for development of new technical standards
- Participate in authoring specific technical publications for Council and industry.

Healthy Waters

- Seeing a project through its full lifecycle, from identifying an issue, preparing an options' report, recommending a preferred solution, preparing a concept and detailed design, procuring a contractor to construct the solution, and managing the physical works
- In the private sector most grads would only be involved in one of two of the elements listed above for a given issue and they would be working to a client's expectation of a solution.

Regulatory Engineering

- Exposure to the different views of leading experts in the engineering fields on the Three Waters, and the opportunity to interact and learn from them
 - Be involved in creating the future of Auckland through current land development activities.
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What are the key things to know about these departments?

Engineering & Technical Services

- Working alongside a team of highly specialised engineers and scientists within ETS, across Council, Council Controlled Organisations (CCOs), suppliers and industry bodies
- A unique opportunity for a graduate engineer to influence the engineering standards and consistency, make a difference in the industry and improve infrastructure in Auckland.

Healthy Waters

- Effective stormwater management is critical to both the health of our citizens and our local environment
- Being part of the stormwater department will allow you to have a chance to get involved with making a difference to our residents who experience flooding, improving the water quality of our streams and beaches
- Develop your skills as an engineer by seeing projects from issue identification through to design of a solution and managing the delivery of a physical resolution.

Development Engineering

- There is a huge demand for land development engineers in the industry. Development Engineering provides graduates with exposure and experience into the multifaceted engineering aspects of development in Auckland.