

Patrick

Undergraduate Civil Engineer

In this edition, we wanted to show you what your internship programme could look like at McConnell-Dowell. Today, we bring you the story of Patrick, a Civil and Environmental Engineering student in his final year of university who joined MCD for two consecutive summer programmes.

What projects were you part of?

When I first joined in the summer of 2021, I was appointed to the Papakura to Pukekohe Electrification Project and then worked at the Auckland District Health Board (ADHB) project the following year.

What was a typical day like?

Starting at 7am with a pre-start meeting, we discuss the day's tasks and address any potential risks and best practices with our crew. These meetings provide an opportunity to present ideas and, more importantly, to receive guidance from senior stakeholders on project management.

Throughout the day my responsibilities include material procurement, organising deliveries, ordering materials and occasionally picking up materials for the crew. I did a lot of quality assurance, taking photos and documenting them for the designers or clients. I also assisted in conducting geotechnical analyses using cleggs and scalars on-site. Collaborating closely with site engineers, I managed various tasks and handled on-site challenges as they arose.



What was the most rewarding thing about working with your team?

While working for the P2P electrification project, a lot of planning went into the Christmas block of line, which was the biggest block of line Kiwi Rail had ever endeavoured. The whole team built the track formations for five cross overs and one scissor. I was involved in the crossover on the night shift near the Pukekohe train station. This was a 24-hour site, so the work never stopped. The Pukekohe south formation team worked nonstop for six days, as we excavated approximately 1800 meters cubed of existing formation, and installed 1600 meters cubed of new material in 200mm layers. The team managed to finish three days ahead of the program which was an impressive achievement, considering the tight timeframe.

Tell us about any new skills or knowledge you gained.

Throughout various projects, I had the opportunity to work with a range of specialised equipment that significantly enriched my engineering skill set. Specialised kit included using tools like cleggs, nuclear density meters, scalars, and Cat & Genny's. A noteworthy addition to my skill set was the operation of a rebar scanner, particularly valuable during our bridge construction, where locating rebar to avoid drilling into or through it was crucial.

Additionally, I actively participated in concrete pouring for the ADHB project. This involvement allowed me to engage in the intricate planning of how trucks would navigate the site, whether the crane would be necessary, the utilisation of a banana skip, or the decision to employ a pump and determine its required reach. These experiences provided valuable insights into on-site procedures, contributing to my growth as an engineer in project management and design considerations.



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Having completed two internships, I am thrilled to embark on my journey into the Graduate program again with MCD. The cumulative experience I've gained has not only bolstered my confidence but also positioned me to excel in my new role. I now bring heightened expertise and a solid foundation to perform exceptionally in my Graduate position.

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Were there any training sessions, workshops, or learning opportunities that you found particularly beneficial?

During my involvement in the P2P project, I had the opportunity to delve into the intricacies of tunnel and rail safety, and one aspect that stood out was the ingenious tagging and locking system.

Whenever we needed to work in the rail corridor, our vigilant supervisor would contact the communications operator. This crucial step was to ensure that no trains were on their way. Following this, our supervisor took charge of the tagging and locking system. They placed our tags on a dedicated board, acting as a real-time occupancy indicator for the rail corridor. In simpler terms, it was a “personnel occupancy board.”

The most remarkable part of this process was that no single train was allowed to pass through as long as there were tags on that board, signifying our presence within the rail corridor. It was a captivating illustration of how sufficient planning and safety measures harmonised with industrial operations, ensuring worker well-being and operational efficiency.

Do you remember your first day on site? What advice would you give others joining our programme?

Initially, it was pretty overwhelming. Taking on a new role meant much to absorb, and everyone around me was well-versed in their tasks. However, I'd like to offer three pieces of advice that helped me.

Firstly, it's crucial to approach the work with an open mind and a friendly demeanor. Don't hesitate to ask questions, even if you think they may not be the smartest. In my experience, this openness to learning is often met with patience and willingness to help from colleagues.

Secondly, one of the most invaluable pieces of advice I received was maintaining a site diary. Having a small notebook to document everything you see and hear on-site is a game-changer. What's fantastic about this practice is that you can jot down things you might not fully grasp and later seek clarification from your mentor. This reinforces your learning and ensures that you are continually improving.

Lastly, a seasoned surveyor once told me: “Assume nothing, believe nobody, check everything”, and always perform your due diligence. This principle has been my guide, emphasizing the importance of thorough verification and critical thinking in every task you undertake.

