

NDY

A TETRA TECH COMPANY

STRUCTURAL & CIVIL

Capability statement

NDY
A TETRA TECH COMPANY

WE PROVIDE SUSTAINABLE ENGINEERING SOLUTIONS THAT IMPROVE VALUE, RELIABILITY AND EFFICIENCY.

Our structural and civil team brings decades of local and international experience delivering high-profile, technically complex and economical solutions.



TANIA PERPOLI
Global Structural & Civil Leader

WHY NDY?

By combining technical knowledge with commercial insight, we aim to maximise your return over the long term.

DIVERSE CAPABILITY

Our network includes specialist teams from diverse business units in Tetra Tech, giving us deep capability to solve complex structural and civil problems. Our strength lies in combining local knowledge with global insight.

We project resource globally. This means we're able to put the right people - with the right expertise - on your project, regardless of location.

SUSTAINABLE STRUCTURES

Sustainability underpins our approach to structural design. Our specialists are experienced in timber and hybrid structures and in selecting high-performance, viable systems with lower carbon footprint.

By taking a whole-of-life view – considering lifecycle cost, environmental impact and emerging technologies – we help you make informed structural choices aligned to project priorities so you can deliver long-term value.

INTEGRATED APPROACH

Our multidisciplinary teams work as one, backed by solid leadership and clear accountability. We deliver integrated, code-compliant solutions that bring services and systems together in cohesive, code-compliant design.

This integrated approach saves time, lowers risk and improves buildability. It's also a platform for collaborative, innovative and coordinated design.

OUR STRUCTURAL SERVICES

We help you create resilient, future-ready spaces.



MASTERPLANNING, CONCEPT & FEASIBILITY DESIGN

We unlock project potential early by bringing structural and civil expertise into the masterplanning, concept and feasibility stages.

By identifying risks and opportunities upfront, we help clients navigate approval pathways, confirm feasibility, strengthen business cases and set the project on the right path before major investment.

VALUE ENGINEERING AND ALTERNATIVE TENDER DESIGN

Our team has in-depth knowledge and experience of different construction materials and construction methodologies that can help you reduce costs while maintaining performance and quality.

We consider construction complexity, buildability and sustainability opportunities to optimise structural and civil systems for the best project performance and value.

DESIGN AND DOCUMENTATION

We aim to provide technical rigour, clarity and value. Our solutions directly address project-specific design criteria while meeting relevant codes, standards and regulatory authority requirements through all phases of your project. This spans the early design stages to completion.

CONSTRUCTION PHASE SERVICES

Our services support seamless project delivery and help confirm the built asset meets the intended structural design and performance requirements.

33 Alfred Street, Sydney



EXISTING CONDITION AUDITS

We're experienced in existing building condition audits, remediation studies, capital works planning and design modifications.

INDEPENDENT CERTIFICATION, EXTERNAL PEER REVIEW, VALUE ENGINEERING

Our team carries Australian and New Zealand registrations for independent certification and external peer review, as required by the Australian Building Act and New Zealand Building Code.

We also provide value engineering to optimise design efficiency, constructability and whole-of-life performance.

ADAPTIVE REUSE, REFURBISHMENT WORKS AND SEISMIC RESTRAINT

Our team assesses existing structures and develops efficient retrofit and strengthening solutions that meet regulatory requirements while improving long-term performance.

We focus on unlocking the potential of existing and ageing assets through detailed building condition audits, compliance reviews, adaptive reuse strategies and forward-looking design approaches that maximise value, create new opportunities and support seismic upgrades.

TEMPORARY WORKS ANALYSIS

We support the rapid delivery of major construction projects through fast-track design of temporary and ancillary works that provide essential safety, stability and operational efficiency onsite.

Our temporary works' capabilities include design of interim structures, load assessments, safety-focused engineering and compliance with relevant regulations.



C6, South Perth, WA, Australia

SPECIALIST EXPERTISE

Our team delivers high-profile, technically complex and economical solutions.

FUTURE-READY DESIGN

- Cross-laminated timber (CLT) construction
- Demountable and modular structures
- Hybrid and composite building construction

ADVANCED DESIGN & CONSTRUCTION

- Construction and temporary works analysis
- Design reviews and advice on risk, construction methodology, programme and cost
- Feature pre-cast concrete design and detailing

COMPLEX STRUCTURES

- Tall towers
- Deep basement design
- Foundation design in difficult ground conditions
- Seismic analysis and strengthening of existing structures

ADVANCED MODELLING

- 4D building information modelling (BIM)
- Advanced engineering and finite element analysis
- Floor vibration and structural dynamic assessments

GEOTECHNICAL SERVICES

Our network includes specialist teams across Tetra Tech, our parent company. This includes Coffey, an industry leader in providing critical ground engineering to support structural and civil design in complex environments. This includes site investigation, geological interpretation, deep excavations, retaining systems and ground improvement.

OUR CIVIL SERVICES

We help you realise site potential with services that balance performance, cost and long-term resilience.



CONCEPT AND SCHEMATIC DESIGN

Our team provides essential design input at a project's early stages, expediting your feasibility assessment and enabling informed decision-making throughout the planning process.

COMPREHENSIVE DESIGN AND DOCUMENTATION

We offer complete design services, managing the process from initial planning to the development of 12D/Civil 3D models. This helps to deliver thorough and precise documentation.

VALUE ENGINEERING AND ALTERNATIVE DESIGNS

We present various design options and offer buildability advice to identify the most efficient approaches. This helps you meet program and budgetary constraints.

CONSTRUCTION

Our technical guidance, onsite monitoring and quality checks help you mitigate risk and maintain project schedules.Certification and approvals

We independently certify compliance with project requirements and obtain all relevant approvals from authorities to ensure your project meets regulatory standards.

DEFECT ASSESSMENT AND REMEDIAL RECOMMENDATIONS

Leveraging our expertise in pavement failure assessment and remediation, we provide recommendations that maximise the potential of your assets through effective rectification strategies.



SPECIALIST CIVIL EXPERTISE

STORMWATER MANAGEMENT PLAN REPORTS

Our team develops comprehensive stormwater management plans which adhere to current regulations and best practices. We assess site-specific characteristics and incorporate sustainable design principles to mitigate flooding and improve water quality, helping to build resilience against extreme weather events.

WATER SENSITIVE URBAN DESIGN

We integrate water sensitive urban design principles into urban development projects, promoting sustainable water management practices. Our approach focuses on harmonising built form and natural systems to enhance local ecosystems while addressing stormwater quality and quantity issues.

FLEXIBLE AND RIGID PAVEMENT DESIGN

Our expertise encompasses both flexible and rigid pavement design, including airfield and industrial pavement.

STREETSCAPE AND PUBLIC REALM DESIGN

We help to create vibrant and accessible environments that enhance community interaction. Our solutions focus on aesthetics, functionality and sustainability, transforming urban spaces into areas people want to be in.

INFRASTRUCTURE AND UTILITIES UPGRADES

Our team manages infrastructure and utilities upgrades with a commitment to quality and efficiency. We assess existing systems, identify areas for improvement and deliver practical solutions that enhance services and meet the demands of modern development.



NDY STRUCTURAL EXPERIENCE

Many of our structural & civil clients ask that we keep their projects confidential. The following pages only demonstrate projects we're able to share.

NDY website



Residential, Australia

INDI FOOTSCRAY - BUILD TO RENT DEVELOPMENT

Footscray, VIC

Services

Civil, Communications, Electrical, Fire Engineering, Fire Protection, Hydraulics, Mechanical, NDYLIGHT, Security, Structural, Vertical Transportation

Client: Investa

Architect: SJB Architects

Contractor: Roberts Co.

Value: $240 m

Completion: 2025

Indi Footscray is a new Build-to-Rent (BTR) development comprising 702 apartments located next to Footscray Train Station. The site will consist of three buildings – Buildings A, B and C. With a combined four level podium that splits into two towers, Building A comprises 20 storeys and 417 apartments whilst Building B stands at 17 storeys with 243 apartments. Building C, which is a separate building, consists of 7 storeys and 42 apartments.

NDY has been engaged for the duration of the project's timeline, from site due diligence through to defects liability period. In addition to core services, our team also provided ICN and technology design to assist in improving the overall operations of the building, providing a marketing differentiator for the development and a better user experience. Features include:

- ICN design for a cyber secure operational technology environment
- Design for integration of building systems into portfolio level analytics, data platforms and a portfolio BTR experience app
- Data focused control design and custom BMS integration solutions (e.g. to provide cost effective waste chute carousel management)
- Mobile/keyless access control solutions with integration provisions for booking integration (e.g. booked amenity space can only be accessed by the person who booked)
- Consulting on the provision of EV charging billing systems and integration with site booking systems.

Our ultimate goal for all services is to assist our client achieve project outcomes by providing technical solutions that suit the BTR model, as well as project budgets. The design team is committed to a project delivery that contributes to a sustainable future, striving to achieve formal certified ratings of 5 Star Green Star Buildings and WELL Platinum Rating.

Indi Footscray is designed to encourage social interaction with various site amenities, common areas, roof terraces and retail. The design will not only benefit the people that live there but also have a positive impact on the surrounding community.



Retail, Australia

CHATSWOOD CHASE REDEVELOPMENT

Chatswood, NSW

Read more

Services

Acoustics, Audio Visual, Communications, Electrical, Fire Protection, Mechanical, NDYLIGHT, Security, Structural, Sustainability, Vertical Transportation

Client: Vicinity Centres

Architect roles: Lower Ground: United Property Services (Designer)
Chatswood Chase: Make Architects (Design Architect) / Webber (Executive/ Delivery Architect)

Contractor: Mettle (lower ground) / TBC (upper levels: ground to level 3)

Value: circa $335 m D&C

Completion: 2025

The redevelopment of Chatswood Chase Sydney is set to rejuvenate and breathe new life into the popular retail precinct on Sydney's Lower North Shore. With a focus on modernisation and sustainability, the vision is to transform the centre into a premier destination encompassing shopping, art, culture, food, work and leisure.

Spanning 60,000 m^2 of gross floor area (GFA), including 10,000 m^2 of commercial net leasable area (NLA), the project emphasises the reuse of existing infrastructure and services.

It includes two major components. The lower ground, known as Chase Market, will enhance culinary offerings with over 40 new dining options and fresh food experiences. The upper section consists of 3 levels of retail and a proposed commercial precinct, called Chase Quarter, which is designed to accommodate up to 10,000 m^2 of modern rooftop workspace that is proposed to boast an open-air rooftop laneway, landscaped terrace, informal meeting spaces and open-plan workspaces.

A key objective of the project is maximising leasability with premium and luxury brands. With our in-depth understanding of what tenants need, NDY assisted this goal by providing flexible building services that align with tenant requirements and support future adaptation of spaces.

To optimise the facility for leasing, we centralised smoke exhaust in voids, eliminating the need for smoke risers which reduces the services costs and allows the retail area to be re-carved with ease.

NDY's engineering services aligned the shopping centre with current codes and standards while focusing on energy efficiency and enabling energy monitoring for net zero goals. The project enabled substantial enhancements to the building's fire detection and emergency alarm systems, with a compliant system designed to blend new and existing components including the latest cutting-edge fire detection panel with a lifespan of 15-20 years.

The lower ground concrete elements feature a 40% reduction in cement content, a sustainable choice that reduces carbon emissions. Collaboration with the project team during the early design stages ensured a well-integrated construction process. The concrete's engineering properties were customised to meet on-site requirements, including the use of higher flowing concrete mixes for improved workability and precise placement.

Chatswood Chase is targeting Green Star and NABERS certifications, with a range of sustainable design initiatives ranging from energy and water efficiency to sustainable materials selection and a focus on enhanced user comfort.



Residential, Australia

C6, SOUTH PERTH

Perth, WA

6 Charles Street (C6) is a 51 storey residential development proposed for South Perth. Currently in planning approval phase, the project consists of 237 apartments on the banks of the Swan River in Perth. At 188 m tall, C6 would be the tallest hybrid, carbon negative, timber structure in the world upon completion.

NDY has been engaged as the specialist high-rise structural engineering consultant for the project, given our team's experience in delivering tall slender towers across Australia.

Leveraging off this knowledge, NDY has been able to reduce the cost and extent of the building's structural elements. These changes from the original concept implemented by NDY allowed the architect to achieve larger apartments and communal spaces.

Services

Civil, Structural

Client: Grange Development

Architect: Elenberg Fraser / Fraser & Partners

The development also features a 500 m² roof top edible garden, dining and entertainment space, and 1,600 m² of communal wellness amenities for residents.

The hybrid design will potentially act as a driver to change the way construction is approached in Australia. It will be a case study for new-builds, illustrating a commercially viable, more sustainable approach to large volume construction.



Offices, Australia

33 ALFRED STREET

Sydney, NSW

Located in the heart of Sydney's CBD, 33 Alfred Street is a 26 storey heritage listed commercial tower. Known as the city's first skyscraper, it originally opened in 1962 and boasts expansive never-to-be-built-out views of Sydney Harbour.

With the goal of revitalising this historic building to align with Australia's best businesses needs and standards, AMP Capital appointed Built as the managing contractor to deliver this important redevelopment under a design and construct arrangement.

Given our team's previous work on the site and extensive experience in delivering tall towers across Australia, NDY was engaged by the contractor as the specialist high-rise structural consultant.

NDY's scope of works involves the full design and documentation of all structural refurbishment works, including performance assessments against the latest Australian Standard requirements, temporary construction works and new facade steelwork to support the replacement of existing facade panels.

Services

Structural

Client: AMP Capital

Architect: JPW

Contractor: Built

Completion: 2024

Some of the key project features include:

- 26 storeys (117 m) above ground with an additional two basement levels
- Steel-space frame with Celdek flooring system
- Extended design life for the next generation of users
- Heritage listed masonry wall strengthening
- Targeting 5.5 star NABERS energy rating and 6 star Green Star (Office Design and As Built) rating.

With sustainability a guiding principle for the project, the comprehensive refurbishment will enhance operational efficiency and the user experience of 33 Alfred Street, meeting the needs of the present without compromising future generations.



Industrial, Australia

AMAZON FULFILLMENT CENTRE

Melbourne, VIC

Services

Acoustics, Civil, Electrical, Fire Engineering, Fire Protection, Hydraulics, Mechanical, Structural, Vertical Transportation

Client: Roberts Co

Contractor: Roberts Co

Architect: SBA

Completion: 2025

NDY is the building services consultant for Amazon's Robotics Fulfillment Centre in Craigieburn, in Melbourne's north. Encompassing an impressive 210,000 m^2 over 4 levels, this centre is equivalent in size to 11 Melbourne Cricket Grounds.

Our collaboration with Roberts Co will showcase a new era of innovation and efficiency for Amazon. Their second Australian facility, the centre will be designed to accommodate up to 25 million of the smaller items available on amazon.com.au,. It marks a transformative time for the company's fulfillment and logistics.

Outfitted with cutting-edge Amazon Robotics technology, the centre aims to enhance support for employees, customer service and advancing the company's commitment to providing a seamless experience for its Australian market. Robots will collaborate with employees to facilitate the efficient movement of inventory 'pods,' cutting down time and physical effort previously needed for employees to shelve items or fulfill new customer orders.

Upon completion, this will be the largest warehouse built in Australia.

It's set to be a driving force behind regional economic expansion and when fully operational, will create approximately 2,000 local job opportunities for IT, HR, engineering and entry-level positions. The centre will provide long lasting benefits to the community that will extend far beyond its expansive walls.

OUR MARKETS

We design spaces that perform the way you need them to – spaces fit for your future. Whatever the size or complexity of your project, our global team of trusted advisors engineer integrated and sustainable solutions.



AGED CARE



CORRECTIONS & JUSTICE



DEFENCE



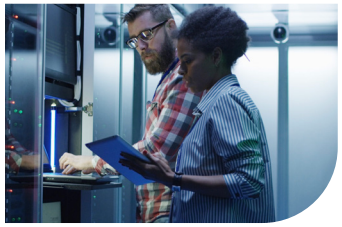
EDUCATION



HEALTH & SCIENCES



INDUSTRIAL



MISSION CRITICAL



OFFICES



RESIDENTIAL, HOTELS & MIXED-USE



RETAIL



SPORTS, ENTERTAINMENT & PUBLIC BUILDINGS



TRANSPORT

A TEAM WHO UNDERSTANDS PEOPLE

We're engineers, designers and consultants. We're also people.

Bringing our human side to our work means that we think about how occupants, visitors and the community interact with a place now and 50 years from now.

We understand the responsibility that comes with designing the infrastructure of spaces that people live, work and move through every day. The choices we make influence safety, resilience and how well a place performs over time.

By keeping people at the centre of our structural and civil design, we help create robust, adaptable spaces that deliver on safety, comfort and enjoyment for generations.

This approach may not sound ground breaking, but you'd be surprised by how many others don't start with the people. Know that we do.

YOUR LOCAL CONTACTS



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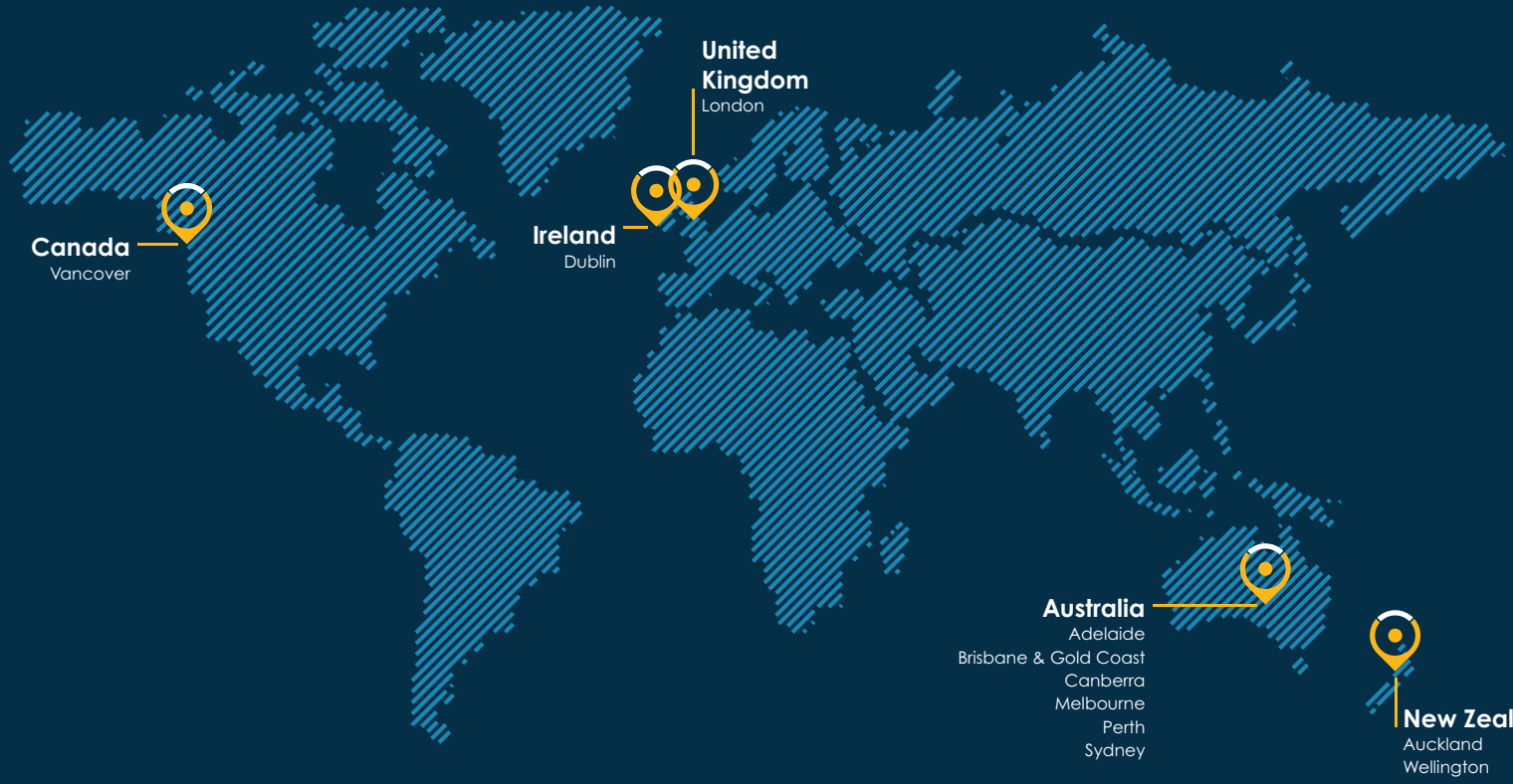
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NDY AT A GLANCE

We tap into a well-resourced network of technical specialists and consulting engineers from around the world to bring you the best project team.





MAKING SPACES WORK

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