

Norman
Disney &
Young
A TETRA TECH COMPANY

Multi-Generational Seniors Living & Aged Care

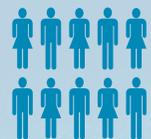
Capability Statement

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NDY by numbers

 established
1959

 **600+**
people

 **9**
key markets

12 
offices

 **5**
countries

Introduction

“ Our industry leading ICT skills are highly relevant in addressing technology based opportunities, since technology is rapidly becoming a key enabler in supporting residential and home care scenarios. ”



Hear from our thought leaders on the importance of ICT in health projects
<http://bit.ly/NDYTV-HealthICT>

Established in 1959, we have a long and proud history of offering a range of engineering services and delivering award-winning world-class projects. Our track record in the rapidly growing Aged Care sector represents an important and strategic part of our Health capability.

We understand that the ideal solution for the wellbeing of our aged is by maintaining their sense of relevance in society, ensuring that they remain an integral and active part of their community and also by promoting preventative health and an active lifestyle to ensure their longevity and sense of fulfilment.

To this end, Aged Care legislative reform and the “Living Longer Living Better” campaign in Australia, has seen a significant proportional increase in home-based care. Implementation of age-in-place

has impacted on aged care establishments by effectively reducing the need for low care places and consequently opening the way for increases in high care capacity.

Collocation of independent living & aged care facilities is a logical and increasing trend. This industry restructure has led to a range of independent living options which provide for “soft landing” retirement solutions that can then be supplemented on an “as required” basis by externally sourced care services.

It is anticipated that the 4.5 million “baby-boomers” nearing retirement will have considerably higher expectations for their prospective aged care services than their predecessors. Key priorities include: value-for-money, safety, quality, choice of options, and preservation of independence.

More significant is Australia’s growing national health budget, and the potential additional cost burden arising from “baby-boomers” retiring early around 60+. Promoting wellness in the context of keeping seniors active and healthy makes their ongoing participation in the workforce a logical and viable option. To some extent, this will also mitigate the potential cost increase associated with treating chronic disease.

Innovative and flexible aged care models will contribute significant support to this strategic goal by ensuring that seniors can actively prepare for their retirement by accommodating the needs of high dependency partners, while maintaining an active and productive life in the workforce.

Our multi-disciplinary team is keen to work with aged care service providers to develop innovative and cost effective seniors living solutions that contribute to our Clients achieving key positions in a highly competitive growth market.

For further information please do not hesitate to contact either of the following directly:

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Our **values**

Excellence

Do it once, do it well

Leadership

**Lead in our profession, industry
and the community**

Integrity

Treat others as we wish to be treated

Collaboration

Listen, share and contribute

Accountability & Ownership

**Understand the impact of our actions
and own the outcomes**

Innovation

Inspired creativity to challenge the norm

“
Our purpose
is making
spaces work
”

Our **vision**

To enhance the lives of others,
by engineering outstanding projects,
mindful that every project matters.

To sustain deep and trusting
relationships with our clients,
through solving their problems and
serving them with utmost reliability,

and

To engage our people with
meaningful, rewarding and
inspiring opportunities.

Our ethical statement

NDY has a proud tradition of upholding the highest ethical standards in the manner by which we conduct ourselves as a company. Read our ethical statement at www.ndy.com/about-us/our-ethical-statement



Masonic Village Aged Care, Masterton, NZ

What **we** do

As consulting engineers, our purpose is making spaces work. We listen to the unique requirements of each client, and tailor our services accordingly to every project.

Our collaborative approach to excellence and innovation are core values at NDY. We consistently deliver best practice sustainable solutions to achieve our clients' objectives.

Clients come to NDY because they want quality. We take ownership and provide clear recommendations while consulting with the utmost integrity.

Most of all, clients come to us because we listen. We look forward to better understanding your business and collaborating with you to achieve successful outcomes.

Our markets

- › Civic
- › Education
- › Health
- › Industrial
- › Mission Critical
- › Offices
- › Residential & Hotels
- › Retail
- › Transport

Our services

- › Acoustics
- › Asset Performance
- › Audio Visual
- › BIM (Building Information Modelling)
- › Communications
- › Controls & Integration
- › Electrical
- › Fire Engineering
- › Fire Protection
- › Hydraulics
- › ICT Consultancy
- › Interiors
- › Mechanical
- › NDYLIGHT (Lighting Design)
- › Property Consultancy
- › Security
- › Sustainability
- › Vertical Transportation

Our approach

Our aged care capability is enhanced by qualified and skilled personnel within each of our specialist disciplines, with each practitioner possessing demonstrated experience working on healthcare projects.

Our focus is on designing smarter systems that minimise whole-of-life costs and contribute positively to improving the health facility environment, without compromising safety for patients and staff. We understand the importance of aged care facilities that cater for and respect the dignity of individuals.

We are committed to providing innovative engineering design solutions for new contemporary facilities which support a welcoming, home-like environment, and promote a strong sense of community, relevance, wellbeing and personal safety.

NDY's building services design skills focus on designing systems based on minimising whole-of-life owning costs, and which incorporate commercially viable sustainability solutions.

Our industry leading ICT skills are highly relevant in addressing technology based opportunities, since technology is rapidly becoming a key enabler in supporting residential and home care scenarios.

Beyond this we see opportunities in supporting and monitoring residents' wellness programs and providing innovative, less intrusive solutions addressing the needs of dementia patients.

We embrace the need to design engineering services that optimise residents' capacity to maintain their independence, comfort, and preferred lifestyle.



Blue Care Apartment Refurbishment, New Farm, Brisbane, QLD

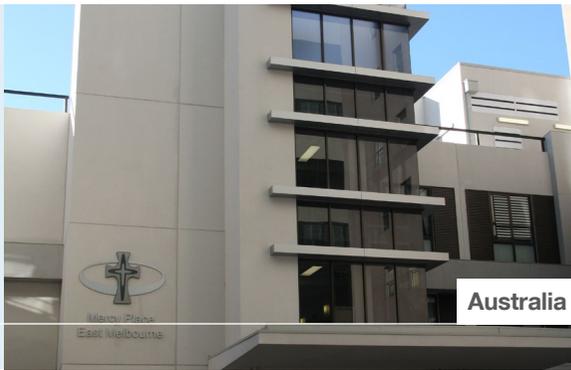
Photo: St Joseph's Home of Compassion New Dementia Unit, Wellington, NZ

NDY multi-generational seniors living & aged care experience

For more than sixty years NDY has provided consulting engineering services on strategic projects throughout Asia, Australia, Canada, Europe, New Zealand and the UK.

These award-winning projects are testament to the quality of our innovation, expertise and personnel. The following examples of our experience are a snapshot of our ability to deliver world's best practice for master planning projects of all sizes.

To view a comprehensive outline of our project experience visit our website www.ndy.com



Australia

Mercy Aged Care

East Melbourne, VIC

Services:

Communications, electrical, fire protection, hydraulics, mechanical, security and vertical transportation services.

About the project:

Mercy Aged Care is a 110 bed facility with a GFA of around 8,000 sq m. The facility is designed to support a range of conditions, including low dependency, high dependency and dementia care. The facilities include basement car parking, three levels of accommodation, landscaped courtyard, ESS club lounge, terraces, administration areas and lounges.

Features and Innovations:

- › Interfacing new and old infrastructure and validating integrity of existing infrastructure.
- › Air-conditioning to living spaces, meeting and staff rooms, offices, treatment rooms, chapel, training rooms, lounges and dining rooms. Lobbies and circulation areas were mechanically ventilated.



United Kingdom

Calderdale Manor

Halifax, UK

Services:

Communications, electrical, fire protection, hydraulics, mechanical, security and vertical transportation services.

About the project:

Calderdale Manor is a privately owned aged care facility in Halifax. The project consists of a 67 bed Aged care facility, which has been designed to the highest standards to receive hospital referral patients such as severe Alzheimer sufferers.

Features and Innovations:

The building has been designed to maintain a domestic feel whilst providing a very high level of service and includes the provision of a number of high technology systems including:

- › Full MATV and centralised film distribution system to all rooms
- › A nurse call system that audits all calls, response times and time in attendance
- › Nurse presence system that tracks the position of all staff members at all times and in real time
- › Full door access system including retina scanners to the staff entrances
- › Full covert CCTV camera system to monitor patient safety
- › Biorhythmic lighting to mimic natural skylight.



New Zealand

St Joseph's Home of Compassion New Dementia Unit

Wellington, NZ

Services:

Communications, electrical, fire protection, hydraulics, mechanical and security services.

About the project:

NDY was engaged to provide full building services for the new dementia unit at St Joseph's Home of Compassion. The unit is a 16 bed, 1000 sq m facility which connects to the existing home. The facility is specifically designed to cater for dementia patient care along with associated living, dining, courtyards and administration areas.

Features and Innovations:

- › Sustainable design initiatives included mixed mode ventilation system, heat recovery system, all-air heating/ventilation system, rainwater harvesting, solar hot water heating and advanced energy metering.
- › The building also incorporates an advanced nurse call system specially designed and catered to dementia patients.
- › An on-site emergency generator with automatic transfer facilities to provide essential power to the site during a power outage.



Australia

Blue Care Apartment Refurbishment New Farm, Brisbane, QLD

Services:

Communications, electrical, fire protection, hydraulics, mechanical, security, sustainability/ESD and vertical transportation services.

About the project:

The project involved a full refurbishment of a 51 unit strata title complex. The overall purpose was to provide a low-cost housing option for the elderly or retired whilst offering a high level of amenity to occupants of varying physical mobility. The complex itself comprised of a mix of single and two bedroom apartments, a common outdoor BBQ and entertainment area, tenant and visitor car parking, an internal recreation and function space and on-site facilities management offices. From a services perspective, the project was essentially treated as a Greenfield site with the majority of systems provided as new whilst working within the confines of an existing building structure.

Features and Innovations:

- › Electric scooter charging bays
- › Full NBN ready apartments
- › Electronic access control, audio/visual intercom and on-site security camera monitoring
- › Rainwater capture and re-use for irrigation
- › Lift modernisation for achieving increased reliability and compliance with current regulations.



Australia

South Hedland Aged Care Karlarra House

Port Hedland, WA

Services:

Automation and mechanical services.

About the project:

The South Hedland Aged Care Campus consists of four wings with a total of 56 beds. Of these, 23 are single rooms and 12 are double rooms, each with individual climate and lighting controls. The development represents one of the largest in the South Hedland district and is an oasis in what is otherwise a harsh and desolate environment.

Features and Innovations:

- › Karlarra house includes in-house kitchen facilities for both aged care and the Port Hedland District Hospital, consultant rooms, nurse stations, staff areas and offices.
- › This facility was conceived to replace the existing aged care campus in Port Hedland which suffered from aging facilities and proximity to mining-related pollution. Karlarra House is situated near to the existing South Hedland Health Care Centre and is the first stage of a two-stage development of the site as the replacement for the Port Hedland Hospital.



New Zealand

7 Saint Vincent Retirement Village Auckland, NZ

Services:

Communications, electrical, fire protection, hydraulics, mechanical, security and vertical transportation services.

About the project:

Originally a 3 storey commercial office, this building was converted and extended into an aged care development by MetLife Care. The development includes independent living apartments, reception and office areas, swimming pool, commercial kitchen, storeroom, laundry, maintenance workshop, and communal dining, recreation and reading rooms.

Features and Innovations:

- › Natural ventilation with toilet and kitchen extracts, and swimming pool heating and ventilation.
- › Mains distribution system, internal/external feature, general and emergency lighting.
- › Voice and data wiring, master antenna TV system (MATV) and nurse call system.
- › Hot/cold water reticulation and wastewater/stormwater drainage.
- › Access control and intercom system fully integrated with fire alarm system.
- › New passenger lift.
- › Fire alarm and sprinkler system.



Baptcare Lalor Community Project

Lalor, VIC

Services:

Communications, electrical, fire engineering, fire protection, hydraulics, mechanical, and vertical transportation.

About the project:

Baptcare Lalor Community Project is designed to support a range of residential options including:

- › An aged care facility with 120 bed capacity
- › 53 independent living apartments over two levels with associated undercover car parking.
- › 82 independent living villas each with its own car park.
- › A community hub area for the site, incorporating facilities for dining, kitchen, a library, gym/fitness areas, cinema and other communal conveniences.

Features and Innovations:

- › Rainwater has been captured for each ILU for use in landscape irrigation, and at the RACF for use in the laundry system, and nurse call system.



Baptcare Keilor Downs

Keilor Downs, VIC

Services:

Acoustics, communications, electrical, fire protection, hydraulics, mechanical and vertical transportation.

About the project:

The Baptistcare Keilor Downs redevelopment is a residential aged care multi-storey facility, catering to the variable needs of the aged care tenants.

Occupants with high care needs are serviced in the main multi storey facility, which has a 150 bed capacity. Independent living apartments (ILA) style retirement accommodation is also available for occupants who require less direct care.

Features and Innovations:

- › A health and wellbeing community centre
- › An integrated medical centre
- › Baptistcare office space
- › Integrated Early Learning Centre.



Baptcare Peninsula Views

Frankston South, VIC

Services:

Acoustics, communications, electrical, fire protection, hydraulics, mechanical, and vertical transportation.

About the project:

The Baptistcare Peninsula Views redevelopment project combines high-care facilities with independent living accommodation, to cater for the variable needs of the aged care occupants.

The 150 high-care bed capacity is available for occupants requiring specific assistance, while the Independent Living Unit (ILU) style retirement accommodation incorporates 50 apartment style rooms.

Features and Innovations:

- › A health and wellbeing community centre
- › Private and communal outdoor spaces and landscaping.



New Zealand

Wairarapa Masonic Village Masterton, NZ

Services:

Communication, electrical, mechanical, security, specialist lighting and sustainability services.

About the project:

NDY was appointed to design the building services for this \$6 million aged care facility constructed and operated by the Masonic Villages Trust in Masterton. The facility includes single and shared residential suites, disabled care facilities, palliative care rooms, dining and lounge areas, kitchen and laundry facilities, and various administration areas.

Features and Innovations:

- › Services included specialist lighting, security and nurse call systems, integrated communications networks, localised cooling in nominated areas, heat pump chiller selected to provide low temperature hot water, individually controlled radiators, extract ventilation and power distribution throughout.
- › Key scope items included preparation of mechanical concepts, presentations to client and architect, thermal modelling and temperature analysis, shading analysis, NZBC H1 compliance analysis and energy report, emergency generator, rainwater harvesting system, and nurse call system.



Australia

Southern Cross Aged Care Oaklands Park Adelaide, SA

Services:

Electrical, fire and life safety, hydraulics, mechanical and vertical transportation services.

About the project:

The Southern Cross Aged care facility at Oakland Park is a \$13 million project located on a brownfield site, and provides high and low level care for residents.

Features and Innovations:

- › The project involved the construction of a 70 bed, 2 level facility featuring spacious individual rooms with ensuite bathrooms.
- › Also located in the facility are dining and lounge rooms, a consulting room, hair dresser, administration areas, staff and meeting rooms.
- › The project also included the construction of 21 single level residential units and a community centre.



Australia

Villa Maria Refurbishment Brisbane, QLD

Services:

Automation, communications, electrical, fire protection, hydraulics, mechanical and security services.

About the project:

Villa Maria is a heritage listed building. It was constructed in the 1940s and subsequently extended in the 1960s. It was recently refurbished to ensure that it is comfortable for residents and in keeping with current aged care guidelines.

Stage 1 of the refurbishment will provide accommodation for 50 aged care occupants. The building has been stripped and new internal architecture has been provided. The existing structural design placed limitations on the refurbishment process. This resulted in services that are flexible and compact.

Features and Innovations:

- › To suit the needs of the occupants, the building has been designed to be fully air conditioned and fire sprinkler protected. New lifts, new wiring and modern security also feature.



New Zealand



Australia



Australia

Ilam Care Home and Apartments

Christchurch, NZ

Services:

Hydraulic services.

About the project:

Currently in the construction phase, Ilam Care Home and Apartments is a \$50 million new development that features 90 apartments and 100 care home beds.

Features and Innovations:

- › These new conjoined care home and apartment buildings are being constructed on a partial brown and greenfield site.
- › Stage 1 of the development is currently under construction. The proposed stage 2 of the development includes the addition of a further 100 apartments and a pool/recreation facility.

Emmaus Aged Care

Brisbane, QLD

Services:

Fire protection and mechanical services.

About the project:

This project involved the provision of 80 new rooms and associated central facilities for elderly residents. The rooms are arranged in four blocks with ten rooms per wing. The arrangement provides security and privacy as well as central areas for community activities.

All of the four blocks are connected to a central administration building by covered walkways. The central administration building houses a chapel, main kitchen and central office areas. The project also involved the refurbishment of a pre-existing administration building. The refurbishment includes a new laundry and activity areas.

Features and Innovations:

- › All occupied areas were provided with new air conditioning systems. The accommodation areas were air conditioned by two variable refrigerant volume (VRV) systems.
- › All areas are protected by fire sprinklers and smoke detectors. These systems are interconnected with the pre-existing building systems to provide a common alarm signal for the entire centre.

Bupa Bellarine – Residential Aged Care Facility

Moolap, VIC

Services:

Fire protection and hydraulic services.

About the project:

Bupa Care Services are providers of residential aged care facilities. NDY provided engineering services for Bupa Bellarine, a 108 bed Residential Aged Care Facility in Moolap, near Geelong.

Features and Innovations:

- › The 108 bed facility contains a mix of high dependency and low dependency care.



New Zealand



Australia



New Zealand

Tasman Care Home & Apartments

Auckland, NZ

Services:

Hydraulics services.

About the project:

The Waitakere Gardens Care Home and Apartments is a four storey building comprised of a care home on the first three levels with apartments on level 4. The \$20 million project features 10 apartments and 72 care home beds.

Features and Innovations:

- › The building is situated on a very restricted brownfield site as an addition to the existing facility.
- › A solar hot water system has been provided to service the entire development. Water is pre-heated by the solar system with supplemental additional heating requirements provided by high efficiency condensing boilers.
- › A storm water reuse system collects water from a majority of the roof areas to provide water for WC flushing on the care home floors.

Manilla Combined MPS Healthone Facility

Manilla, NSW

Services:

Electrical, Fire, Hydraulics and Mechanical.

About the project:

The new facility is located on the same site as the original hospital in Manilla, a regional township north of Tamworth. The design solution needed to facilitate the staging of the construction works to allow the progressive decanting of services from the existing hospital to the new facility.

Features and Innovations:

- › Flexible design to meet both the needs of the Hunter New England Health Service and the budget limitations for the project.
- › Detailed design of staging works for all services to suit progressive construction of new facility on the same site as the existing operating hospital.
- › Functional design of all services to provide the flexibility required to satisfy the diverse user needs expected within a multi-purpose facility.
- › Use of rainwater harvesting and energy efficient domestic hot water heating, incorporating warm water loop system.

Apollo Care Home and Apartments

Auckland, NZ

Services:

Hydraulics and acoustics services.

About the project:

This \$35 million project is currently under construction. The care home and apartments are linked via a common space with pool, dining and lounge facilities. The development includes 71 apartments and 70 care home beds.

Features and Innovations:

- › A solar hot water system has been provided to service the entire development. Water is pre-heated by the solar system with supplemental additional heating requirements provided by high efficiency condensing boilers.
- › A storm water reuse system has also been provided which collects water from a majority of the roof areas to provide water for WC flushing, irrigation and hose taps.



Southern Cross Care Holland Park – Archbishop Duhig Centre

Brisbane, QLD

Services:

Fire protection, mechanical and vertical transportation services.

About the project:

The project included the provision of 136 new individual accommodation rooms, together with associated central facilities such as meeting rooms, cafe, kitchen, theatre, hairdressing and laundry. The rooms are arranged in blocks of ten rooms per floor, providing security and privacy for each room, with central areas for community activities.

Features and Innovations:

- › All occupied areas are provided with new efficient air-conditioning systems.
- › Each wing of the accommodation areas features variable refrigerant volume (VRV) systems to provide individual and efficient operation.



Wattle Downs Care Home & Retirement Village

Auckland, NZ

Services:

Hydraulic services.

About the project:

The Acacia Care Home and Apartments feature 37 apartments and 60 care home beds. This \$25 million development is currently under construction.

Features and Innovations:

- › The care home and apartments are linked together by a common dining and lounge space.



Oxford Park Retirement Village

Brisbane, QLD

Services:

Communications, electrical, fire protection, mechanical and vertical transportation services.

About the project:

The Oxford Park Retirement Village is considered a major complex providing ongoing care and services in a Christian environment for people over 60. Oxford Park is sponsored by the Roman Catholic Archdiocese of Brisbane, and is located in Church Road, Mitchelton.

The complex contains 58 independent living units, a 56 bed frail aged hostel, a 52 bed nursing home, kitchen and laundry facilities, and a monastery. The monastery was refurbished to provide administration areas, 17 serviced apartments, a chapel, and priest's accommodation.

Features and Innovations:

- › Electrical power distribution and reticulation, standard and specialty lighting systems.
- › Master antenna television (MATV), PABX, telecommunications cabling, nurse call and radio paging.
- › Fire protection and detection, heating and ventilation, and vertical transportation services.



St Joseph's Home and Hospital Auckland, NZ

Services:

Electrical, Fire Protection, Hydraulics and Mechanical services.

About the project:

NDY provided building services design and supervision for this project. A new St Joseph's Home to be operated by the Little Sisters of the Poor as a convent and home for the aged was built on the site and constructed in two phases. During stage one, the care facility continued to operate from its existing building.

Features and Innovations:

The complex included:

- › Accommodation for 15 aged persons in independent living units. Frail care accommodation for 30 aged persons (identified as 'high dependent' or 'dependent' living areas) and day care facilities for 10 aged persons.
- › Convent accommodation for 12 sisters and 3 dependent aged sisters.
- › Two visitor rooms, a chapel and admin offices.
- › Communal facilities including dining, recreation, occupational therapy and physio facilities, TV and reading lounges.
- › Service facilities including kitchen, storeroom, laundry, maintenance and garaging.



Stretton Gardens Retirement Estate Brisbane, QLD

Services:

Mechanical services.

About the project:

The Stretton Gardens Retirement Estate includes the provision of 60 new individual accommodation rooms together with associated central facilities such as a community centre and manager residence. The rooms are arranged in blocks of ten rooms per wing. This generally provides security and privacy for each room with central areas for community activities.

Features and Innovations:

- › All of the blocks are connected by covered walkways to each other and the central facilities building. Within the central facilities building a library, main kitchen, laundry, hairdresser, coffee shop and central office areas are provided.
- › All occupied areas are provided with new efficient air conditioning systems. Generally each central area is provided with an individual packaged air conditioning unit to allow operation to suit occupied times as well as good temperature control.
- › Each wing of the accommodation areas are air conditioned by two Variable Refrigerant Volume (VRV) systems.



Calvary Aged Care Canberra, ACT

Services:

Electrical, fire protection and detection, fire safety, mechanical and vertical transportation services.

About the project:

NDY was involved in the design and construction phases of this \$32 million residential aged care facility, located in the suburb of Bruce. Owned by the Little Company of Mary, the development includes a multi-level residential aged care facility that features a dementia wing, apartment complex and independent living units.

Features and Innovations:

The facility comprises:

- › A high care nursing home with a total of 32 beds, including 16 secure dementia beds.
- › Haydon Village retirement living, with a total of 78 residents and a choice of 2 or 3 bedrooms.
- › Residential care facilities providing for a total of 100 licensed places with 25 low and 75 high care apartments servicing the needs of residents who require low, high, dementia-specific and extra service care.

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