Preliminary Business Case
Townsville Training Facility

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Executive Summary

The Townsville site is a standalone specialised training facility located at 4-28 Hartley Street, within Garbutt's industrial area, opposite Ergon Energy's major hub in Townsville. It is Ergon Energy's largest comprehensive technical training facility, located on a 15,950m^2 land parcel and comprises a large specialised training yard, a workshop and sheds located in the training yard, training rooms, office accommodation and a separate demountable building consisting of two classrooms.

The training facility was established in 1984 with the site layout reflective of Ergon Energy's workforce and training delivery in the 1980s and 1990s. A storage yard is located at the northern area of the property and is fenced off from the training facility with its own entrance.

Located in a cyclone prone area, the site has several major issues particularly within Building A which is the main office and training building. These issues include roofing and structural issues, as well as other significant issues relating to the overall poor and aged condition of the building which require investment to remediate. In 2017, approximately 1500 people visited the site to either complete a nationally accredited training course and/or to attend an industry awareness session. Some of the property issues at the site expose staff members and training participants to workplace health and safety risk. Maintenance issues at the site result in disruptions and cost which contribute to this site being identified as a high priority investment.

The major investment drivers for the Townsville site are:

- **End-of-life assets**
  The training facility is over 35 years old and the buildings are aged, in a poor state of repair and at or nearing end of life. Structural issues, due to age have been identified and include expanded cracks in concrete bond beams from corrosion (reinforcement) and cracks in cellular brick wall structures. These issues, if unresolved, impact on the structural integrity of the building. Furthermore, due to age, buildings lack alignment with modern building codes and occupancy standards such as disability access and Person With Disability (PWD) amenities. The facility is not at a standard expected of contemporary Registered Training Organisations (RTOs). A rented demountable building (Building B) was added to the site as a temporary solution approximately ten years ago.
- **Workplace Health and Safety (WH&S)**
  The main building is an exposed cellular brick wall structure, which includes external brick facades and internal brick wall training room facilities. A typical issue with this type of construction, when aged, is that thin brick cracks occur and mortar joints deteriorate. In the event of heavy rainfall, the classroom walls absorb water through the thin cracks and mould residues subsequently emerge. Despite frequent mould removal works by professionals, training participants report feeling unwell when spending time in the classrooms over a longer duration. With the site located in an area that records an average humidity level of 70% throughout the year, the accommodation at the Townsville site provides an ideal environment for bacteria and viruses to thrive.
- **Structurally inadequate for cyclone prone area**
  In 2018, a building condition assessment identified structural issues such as expanded cracks in concrete bond beams from corrosion and concluded that the condition of the main building (Building A) is inadequate for a cyclone prone location such as Townsville.

- **Disruptions to training operation**

  Maintenance activities on site are frequent due to the state of building structural dilapidation. These activities disrupt and impact the effectiveness of planned training activities as training rooms are constantly unable to be used while remediation works are carried out which reduces the efficiency of site operations. A two room demountable was added to the site to provide additional training classrooms due to the ongoing maintenance issues within the main building. Disruption to training operation also requires additional time investment by staff to implement alternative solutions when rooms and facilities are unable to be used.

- **Effectiveness of the site for training operations (fitness-for-purpose)**

  The classrooms are functionally ineffective for modern training purposes due to their configuration, layout, age and structural design. The 1984 construction is based on relatively small inflexible rooms with seating capacity below today's optimal capacity of 16 participants. Furthermore, there are excess empty spaces, such as small room for storage and empty spaces that contributed to the attractiveness of a 1980s building design. These spaces are no longer utilised and impact on the effectiveness of the site.

This business case considers the following options:

- **Base Case** – Continue existing site operations
- **Option A** – Redevelop the site (preferred)
- **Option B** – Move to a greenfield site

Each option (A and B) also includes a sensitivity analysis, which assesses the merits of each option with alternative timing scenarios.

The business case recommends Option A to redevelop the existing site, with the capital investment to begin in 2021/22. The total capital expenditure associated with this option in the 2020-25 regulatory control period is [redacted] (2018/19 real terms) with an NPV of [redacted].

The proposed investment will mitigate risks including:

- Risks to personal health due to damp walls resulting from building age
- Risks business continuity as a result of cyclone and severe weather events

This investment will support the customer and community by ensuring Ergon Energy has a safe and fit-for-purpose facility to provide critical training to maintain a skilled and competent workforce that constructs and maintains the network in a safe manner. This will enable Ergon Energy to provide a training facility that meets community expectations and the Australian Skills Quality Authority. The investment will support assessment of workforce competencies, as well as development and delivery of training programs to ensure a knowledgeable workforce that will deliver secure, affordable and sustainable energy solutions.

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1 Introduction

Ergon Energy operates as a Registered Training Organisation (RTO), ensuring its workforce is adequately trained to safely perform work on the electricity network, while also keeping our customers and the community safe.

This business case proposes investment in the Townsville Training Facility to enable safe, sustainable and efficient training operations. Renewed facilities will provide a safer, more efficient and effective operation, as well as provide greater opportunities and flexibility for cost-effective training delivery in the future.

1.1 Purpose of document

This is a preliminary business case describing the need for investment in the Townsville Training Facility and the options to address that need. As a preliminary business case, the document has been developed for the purposes of forecasting the required investment in coordination with the revised revenue proposals to the Australian Energy Regulator (AER). Prior to investment, a Gate 3 business case will be prepared with further detail to be assessed in accordance with the established Energy Queensland investment governance processes.

1.2 Scope of document

This document describes the background, scope and options for investment in the Townsville Training Facility to meet the investment needs that have been identified and are included in section 1.3 of this business case.

1.3 Identified Need

1.3.1 Background and Context

Ergon Energy's RTO provides industry courses, technical training and apprenticeship programs relevant to its workforce and the electricity industry. Its training operation ensures that the Ergon Energy's workforce is adequately skilled and competent to safely and efficiently operate and maintain the electricity network, thereby ensuring safe and reliable electricity supply for the community. Ergon Energy delivers high-quality vocational training courses and nationally accredited qualifications, as well as safety awareness sessions at the training facility in Townsville. These include:

- Certificate III in Electro-technology Electrician
- Certificate III in ESI - Power Systems - Transmission Overhead
- Certificate III in ESI - Power Systems - Distribution Overhead
- Certificate III in ESI - Power Systems - Distribution Cable Jointing
- Four year and one year apprenticeship programs
- Field Induction courses
- Statutory Training courses
- High Voltage Switching
- 28 face to face courses, primarily related to safe work practices in the electricity distribution network environment

The facility serves a significant role in educating internal staff, authorised contractors, external parties and the community on critical safety aspects when working in an environment that exposes a person to the medium and high voltage network. This includes electricians working on a switchboard at a customer's premises and network connection officers connecting new customers. As the regional

Queensland Distribution Network Service Provider (DNSP), Ergon Energy is uniquely positioned to educate staff and the community regarding the safe operation of the electricity network.

1.3.2 Property Overview

The Townsville site is a standalone specialised training facility located at 4-28 Hartley Street, within Garbutt's industrial area, almost directly opposite of Ergon Energy's major depot in Townsville.

Travel to the site from the Townsville Airport is approximately 5 minutes via vehicle, making it an ideal location for training.

The 15,950m^2 facility was established in 1984 with the site layout suitable for Ergon Energy's training delivery in the 1980s and 1990s. The northern area of the property is fenced off from the training facility and used for storage of spare parts (open yard). This section has its own street entrance and is not part of the Townsville Training Facility, however shares the same land lot.

The training site includes a training yard with two small buildings inside the yard boundaries. The training yard and its related buildings are in good condition and meet current and future requirements. As such, they are excluded from the scope of the preferred option recommended within this investment proposal.

In scope of this proposal is the training facility building (Building A) and a demountable building (Building B). The two room demountable was added to the site to provide additional training classrooms due to the ongoing maintenance issues and the training rooms located within the main building being unable to be used. Upon arrival, training participants are directed to a digital display screen outside the main building that displays training course and room details for that day.

Figure 1: Site aerial view

Hosted at the training facility (Building A) is a 65m^2 specialised training workshop and storage for training equipment and tools, five (5) training classrooms, a large lunchroom and visitors' amenities as well as office accommodation for the 13 full-time Technical Training & Development (TT&D) staff members located on-site.

Training rooms 7 and 8 are accommodated within the leased demountable building (B). The two rooms are connected via a door but lack the flexibility to open up the two rooms into a large room.

In 2017/18, approximately 1500 participants visited the site for training purposes. External participants commonly attend short duration awareness courses, accounting for only a small percentage of the total visitor hours at the site.

1.3.3 Investment Drivers

The major investment drivers for the Townsville site are:

- **End-of-life assets**

  Ergon Energy maintains and refurbishes property assets on an asset life cycle management basis. The training facility is over 35 years old and the buildings are aged, in a poor state of repair and/or nearing end of life. Structural issues due to building age have been identified and include expanded cracks in concrete bond beams from corrosion (reinforcement) and cracks in cellular wall structures. These issues impact on the structural integrity of the building, with evidence of water infiltrating the building.

  Furthermore, due to age, buildings lack alignment with modern building codes and occupancy standards such as disability access and Persons With Disability (PWD) amenities.

  Figure 2: Deteriorated and cracked bricks (external wall)

  The main building is in poor condition with major structural defects identified. Cosmetic upgrades can be completed to improve the aesthetic of the site, however structural works are required as a result of concrete bond beam cracking and movement of masonry walls which may be beyond economic repair.

  The facility is not at a standard expected of contemporary Registered Training Organisations (RTOs). A demountable building (Building B) was added to the site as a temporary solution and on a lease agreement approximately ten years ago.

- **Workplace Health and Safety (WH&S)**

  Annually, approximately 1500 people spend time at the site and 13 staff members are permanently located in the aged building. The main building is an exposed cellular brick wall structure, which includes external brick facades and internal brick wall training room facilities. A typical issue with this type of construction, when aged, is that thin brick cracks occur and mortar joints deteriorate. In the event of heavy rainfall, the classroom walls absorb water through the thin cracks and mould

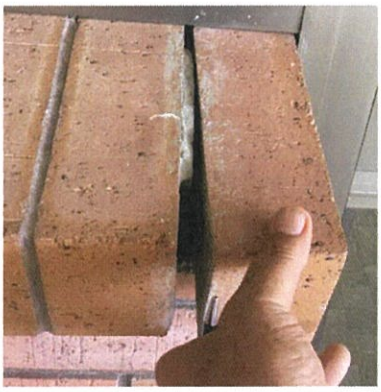


Figure 3: Deteriorated brick wall mortar joints due to age

Figure 4: Bond beam reinforcement corrosion, reducing tie down capability. Structurally inadequate for a cyclone area.

Figure 5: Edge concrete bond beam has expansion cracking from reinforcement corrosion, reducing tie down capacity. Structurally inadequate for cyclone area.

residues subsequently emerge. Despite frequent mould removal works by professionals, training participants report feeling unwell when spending time in the classrooms over a longer duration.

With the site located in an area that records an average humidity level of 70% throughout the year, the accommodation at the Townsville site provides an ideal environment for bacteria and viruses to thrive.

- **Structurally inadequate for cyclone prone area**

  A building condition assessment has identified structural issues including expanded cracks in concrete bond beams from corrosion. As such, the structural condition of Building A is inadequate for a building in a cyclone prone location such as Townsville.

- **Disruptions to training operation**

  Maintenance activities on site are frequent due to the state of building structural dilapidation. This includes regular mould removal and other works to maintain the facility at occupancy levels. These activities disrupt and impact the effectiveness of planned training activities as training rooms are unable to be used while remediation works are carried out which reduces the efficiency of site operations. A two room demountable was added to the site to provide additional training classrooms due to the ongoing maintenance issues within the main building.

- **Effectiveness of the site for training operations (fitness-for-purpose)**

  The classrooms are functionally ineffective for modern training purposes, due to their configuration, layout, age and structural design. The 1984 construction is based on relatively small inflexible rooms with seating capacity below todays optimal capacity of 16 participants. Furthermore, there are excess empty spaces, such as small room for storage and empty spaces that contributed to the attractiveness of a 1980s building design. These spaces are no longer utilised and impact on the effectiveness of the site.

- **Alignment with industry standards**

  Standards which drive the investment include the Standard for Registered Training Organisations 2015, Queensland's policy for the maintenance of Queensland Government buildings and the Disability Discrimination Act 1992.

Figure 6: Water absorbing classroom brickwork

Figure 7: Stormwater downpipe isn't connected to protect footings from movement

Figure 8: External paths moving away from wall due to excessive moisture

1.4 Energy Queensland Strategic Alignment

Table 1 below details how the Townsville Training Facility investment contributes to Ergon Energy's corporate and asset management objectives.

Strategic Objectives	Relationship of Initiative to Objectives
1. Community and customer focused Maintain and deepen our communities' trust by delivering on our promises, keeping the lights on and delivering an exceptional customer experience every time.	The Townsville Training Facility provides approximately 28 courses, diplomas and apprenticeships. It is the second most comprehensive facility of its kind in Queensland. The facility provides critical and essential skills, training, awareness and competencies to keep staff, contractors and the community safe. It is responsible for ensuring a skilled Ergon Energy workforce to safely and efficiently operate and maintain our network and provide a reliable supply to our customers with minimal outages and disruptions.
2. Operate safely as an efficient and effective organisation Continue to build a strong safety culture across the business and empower and develop our people while delivering safe, reliable and efficient operations.	The redevelopment of the Townsville Training Facility will provide a facility that aligns with modern workplace health and safety standards, through compliance with the latest National Construction Code (NCC) and the Building Code of Australia (BCA). Furthermore, it improves the quality and efficiency of the training provided to ensure the safe operation and maintenance of the network.
3. Strengthen and grow from our core Leverage our portfolio business, strive for continuous improvement and work together to shape energy use and improve the utilisation of our assets.	Ergon Energy has a social responsibility to lead by example in skilling the energy workforce of the future. The Townsville Training development will provide a renewed facility that will further strengthen regional Queensland's training capability. This facility is key to ensuring Ergon Energy maintains a skilled workforce now and into the future within regional Queensland.
4. Create value through innovation Be bold and creative, willing to try new ways of working and deliver new energy services that fulfil the unique needs of our communities and customers.	The Townsville Training development will ensure flexibility in changing training delivery needs including the provision of modern facilities that can accommodate innovative training delivery methods and a diverse workforce. A renewed facility will further motivate and inspire staff and training participants to strengthen their engagement with the industry, therefore contributing to the future of energy services and new ways of working.

Table 1: Strategic Alignment

1.5 Legislative compliance obligations

The Townsville Training Facility redevelopment must comply with a range of legislation, standards and codes of practice as indicated in Table 2 below.

Legislation, Regulation or Code	Obligations	Relevance to this investment
Standard for Registered Training Organisations (RTOs) 2015	The Standard for Registered Training Organisations (RTO)[1] form part of the Vocational Education and Training (VET) quality framework and ensures the integrity of nationally recognised qualifications. It sets out the requirements that an organisation must meet in order to qualify as an RTO.	The sections of the standard relevant to this investment include: • Adequate facilities (Standard 1.3 b). The RTO must have, for all of its scope of registration and consistent with its training and assessment strategies, sufficient facilities, whether physical or virtual, and equipment to accommodate and support the number of learners undertaking the training and assessment. • As a registered RTO, Ergon Energy has an obligation to respond to the individual needs of training participants whose age, gender, cultural or ethnic background, disability, sexuality, language skills, literacy or numeracy level or location may present a barrier to access, participation and the achievement of suitable outcomes.
Queensland Work Health and Safety Act 2011 **and Work Health and Safety Regulation 2011**	We have a duty of care, ensuring so far as is reasonably practicable, the health and safety of our staff and other parties. This includes the suitable provision and maintenance of work environments, premises, plant and structures, such that workers are not exposed to risks to health and safety.	The proposed Townsville Training Facility redevelopment must ensure that staff, service providers and visitors are not exposed to health and safety risks so far as is reasonably practicable.

[1] https://www.asqa.gov.au/about/australias-vet-sector/standards-registered-training-organisations-rtos-2015

Legislation, Regulation or Code	Obligations	Relevance to this investment
Queensland Building Act 1975 (QBA)	We must comply with development obligations as defined through the QBA. This includes obligations for development approvals, building certification and compliance with the Queensland Development Code and the Building Code of Australia.	Any new construction or redevelopment associated with the Townsville Training Facility redevelopment must be undertaken in compliance with the act, with the NCC, BCA and QDC, and with the Queensland Building Regulation. Particular considerations for the Townsville redevelopment will include: • Ensuring suitable design standards (AS4055) to resist wind likely to be expected at the site. This includes heavy winds as a result of cyclones. • Ensuring suitable access and egress standards, energy efficiency and overall safety of the Townsville site, while also increasing site effectiveness of the training site. • Ensuring suitability of fire and emergency management systems, including in training areas with energised equipment and with movement of heavy vehicles (e.g. EWPs). • Providing suitable and adequate amenities for the diverse modern workforce.
National Construction Code (NCC) and the Building Code of Australia (BCA)	The NCC and the BCA provides the minimum necessary requirements for safety, health, amenity, accessibility and sustainability in the design, construction, performance and liveability of new buildings (and new building work in existing buildings) throughout Australia. This includes provisions related to: • building structures and fire resistance • access and egress (including access for people with a disability) • services and equipment (including firefighting, smoke management, lifts, lighting) • health and amenity (including weatherproofing, sanitary facilities, ventilation, noise insulation) • energy efficiency • other (atrium construction, construction in bushfire prone areas etc)	
Queensland Development Code (QDC)	We must comply with the QDC, which complements the NCC and BCA, defining Queensland-specific obligations relating to fire safety installations and maintenance, development in flood prone areas, building sustainability and others.	
Queensland Building Regulation 2006	We must comply with additional regulations prescribed through the Queensland Building Regulation, consistent with our obligations under the Queensland Building Act. The regulations define acceptable building works, development on land liable to flooding and bush fires, water saving targets and other regulated obligations.	
The Disability Discrimination Act 1992 **and** **Disability (Access to Premises –**	We must comply with the act and the corresponding standard, to ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, facilities and services within buildings, is provided	Particular considerations for the Townsville Training Facility redevelopment include: • Maintaining suitable office accessibility and facilities for people with a disability, while also increasing effectiveness of the site as a training facility.

Legislation, Regulation or Code	Obligations	Relevance to this investment
Buildings) Standards 2010 **and** **Design for Access and Mobility AS1428.1-2009 and relevant supplements**	for people with a disability. This includes obligations related to: • signage • lighting • emergency management systems • access ways, doorways, passing areas and manoeuvring areas • stairways, handrails and grab rails • toilets and sanitary facilities • lifts and controls • tactile ground surface indicators • car parking	
Car Parking Standards AS/NZS 2890. Part 1 & 2 (2004) and Part 6 (2009)	We must comply with standards regarding the provision of car parking. We must similarly meet the car parking obligations for each site as defined through the site development approval and/or material change of use (MCU) approvals.	Particular considerations for the Townsville Training Facility redevelopment will include provision of sufficient parking.
Safe Work Australia – Managing the Work Environment and Facilities. Code of Practice – Dec 2011	Consistent with the Work Health and Safety Act, this code of practice defined specific safe work obligations relating to: • access and egress • work areas and workstations • flooring, lighting and housekeeping • ventilation, heating and cooling • provision of worker facilities • emergency planning	Particular considerations for the Townsville Training Facility redevelopment are as above.
Policy for the maintenance of Queensland Government buildings	Assets must be properly maintained such that they continue to support the delivery of a wide range of government services, which fulfil the social, economic and environmental needs of the community. When assessing the risks associated with failure of an asset, departments should take into consideration the perception of the community.	The investment in the Townsville Training Facility will have a positive impact on the perception of staff and the community by replacing aged and dilapidated structures.

Table 2: Relevant Legislation, Regulations and Codes

1.6 Limitation of existing assets

In addition to the issues identified in section 1.3 above, the following additional asset limitations are considered.

1.6.1 Stormwater infrastructure

Stormwater drainage infrastructure across the property is suboptimal, with downpipes not connected to a drainage system. Water captured through the stormwater downpipes is discharged onto the ground. This is a common infrastructure for low flows of water and was appropriate when the building was structurally sound. With the building now aged and deteriorated, internal walls frequently absorb water after heavy rainfall due to thin cracks in cellular bricks. The inadequacy of stormwater infrastructure has, over the last decades, deteriorated the property. Related issues include footings damage, movement in brickwork, movement in foundations and external tiled pathway movement away from the wall (tiled walkway adjoins the building wall) due to excessive moisture from stormwater.

1.6.2 External hydrants positioning

The Queensland Department of Fire and Emergency Services recommends "Within streets serving commercial properties, above or below ground fire hydrants should be provided at no more than 90m intervals and at each street intersection"[2]. This indicates that the closest hydrant to a property entrance may not be more than about 45 metres. Fire hoses are commonly 60 metres in length.

At the Townsville site, distances to the external street hydrants are up to 70 metres. Furthermore, in the event of fire, the rented demountable building, which is positioned at the property boundary opposite the entrance, may be challenging to reach.

1.6.3 Disability Access and Person With Disability (PWD) amenities

The main building (Building A) was compliant with the building code applicable at the time of construction in 1984. However, the code at that time did not mandate disability access and amenities and no structural changes to the building have since been made (e.g. installation of ramps for disability access etc.).

The rented demountable (Building B), which hosts training classrooms, also doesn't provide for the needs of a disabled person. Lack of disability access compromises Ergon Energy's commitment to providing equal access to employment, learning and professional development opportunities. A disabled person also cannot access Building B. In summary, the site provides no option for a disabled person to attend training or for an Ergon Energy staff member to work within the TT&D team at Townsville.

[2] Fire Hydrant Guidelines (Effective: 03/2019)

2 Counterfactual Analysis (Base Case)

The counterfactual analysis describes the Base Case scenario if the proposed investment were not to proceed.

2.1 Summary

In the Base Case, training facilities at the Townsville site would be maintained in their current configuration and layout with no material redevelopment.

In September 2019, a physical assessment of the condition of each structure was conducted, identifying major structural concerns that may be beyond economic repair. The assessment was performed by Ranbury Management Group and identified that:

> ***"The main building is in structural poor condition with major structural defects identified. The finishes are aged and worn in need of some cosmetic repairs / upgrades. The building has evidence of concrete bond beam expansion cracking / movement of masonry walls and may be beyond economical repair. There is no disabled access to the building."***

This Base Case option is therefore not recommended. However, for the purposes of the business case analysis, the Base Case costs represent the minimal defect remediation and lifecycle replacement works identified by Ranbury, for the continued operation of the facility through the 2020-25 regulatory control period. In this scenario, the rented demountable building would remain on site to provide additional classroom due to the constant and ongoing maintenance issues. Further redevelopment of the site would be deferred until the 2025-30 period.

The required near-term remediation works and lifecycle asset replacements through to 2024/25 are summarised below.

Scope	Cost
Building A	
Defect Remediations: • Replace damaged windows & sun blinds • External & internal facade • External cladding • Replace floor finishings • Refurbish toilets (make PWD compliant) • Assess & rectify operable dividing walls head & make good • Replace ceilings & soffits following rectification of water ingress & sagging issues • Replace doors & walls • Structural upgrades - replace bond beam & underpin brick walls • Replace roofing, guttering & downpipes • Provide security screens to low level louvres (front offices & store) • Structural engineer to assess condition of bond beams sagging & sub frame movement • Replace air conditioner • Install smoke/fire detectors • Replace awning roof sheeting and frame	[redacted]
Lifecycle Replacements • Air-conditioners, air handling condensers & exhaust fans • Electrical & Communications • Fire extinguishers • Sanitary Furnace • Hydraulic Pumps	[redacted]
Building B	
Defect Remediations: • Relocate training building to adjacent facilities to carpark of HV area for fire separation	[redacted]

Scope	Cost
• Provide accessible ramp to external steps • Install emergency exit lighting and fire/smoke detectors	
Lifecycle Replacements • Electrical/Communications • Hydraulic Pumps • Fire extinguishers	[redacted]
Site Grounds and Miscellaneous Structures	
Defect Remediations: • Replace linemarking to depot grounds • Install new stormwater drainage • Install drainage & reprofile asphalt surfaces • Vegetation management	[redacted]
Total (18/19 Real Terms)	

Table 3: Base Case - Remediations and Lifecycle Replacements

2.2 Assumptions

For this case, it is assumed that:

- 2020-25 capital works costs have been estimated by the external condition assessor at [redacted] (as listed in Table 3 above) based on their assessment of required near-term remediation works and lifecycle asset replacements to 2024/25.
- Operating costs have been forecast based on historical annual actuals and assumptions as follows:

[redacted]

- In the 2025-30 period, site redevelopment will remain required to address this investment needs identified in section 1.3. Costs and benefits associated with the deferred redevelopment are as described in Option A.

2.3 Benefits

As the base case, no financial benefits are attributable to the counterfactual analysis. However, the following non-financial benefits are recognised.

Area	Benefits Identified
Change Impact	• No atypical disruption to training operations at the Townsville facility during the 2020-2025 period.

Table 4: Counterfactual (Base Case) Benefits

2.4 Risks

The risks described in the table below represents the inherent risk exposure by the end of the coming regulatory period (2024/25) if the Base Case "Counterfactual" were favoured over the preferred investment option. The subsequent options analysis (section 3) describes the mitigations associated with each option and the resultant residual risk exposure.

The risk analysis has been performed based on the Energy Queensland Network Risk Framework (Appendix A).

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 1. Building damage and humidity at the Townsville Training Facility leads to workers being repeatedly exposed to mould that results in multiple serious illnesses with permanent or indefinite effects to workers. In the event of heavy rain, the brick walls of the training classrooms absorb water, resulting in damp brick walls and subsequent build-up of mould residues. This issue has escalated to a stage where training participants report feeling unwell when spending time in the site's classrooms over a longer duration. This issue is common in aged, end-of-life exposed brick wall buildings and is caused by thin cracks in the brickwork as a result of aged bricks or deteriorating mortar joints. People with respiratory problems, respiratory infections, allergies or asthma are at greatest risk of health problems as a result of airborne mould.	Safety	Pre Mitigation	4 (Major) Multiple serious illness with permanent or indefinite effects	4 (Likely) Subtropical climate and 1500 people visiting the site annually	**16** **(Moderate)**
Risk 2. Townsville Training Facility suffers significant damage because of a cyclone and severe weather events rendering the facility unusable. This results in significant impact on restoration activity >$500,000. The training facility is situated in Townsville, a location that is prone to cyclones. Cracks from corrosion due to building age have emerged and an assessment in 2018 concluded that the tie down capacity of the building is not adequate for the relevant cyclone region. Heavy rainfall which follows a cyclone, almost certainly results in damp brick walls to a significance requiring deferral of scheduled training.	Business Impact	Pre Mitigation	3 (Moderate) Significant impact on restoration activity equating to >$500,000	5 (Very Likely)	**15** **(Moderate)**

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 3. Townsville Training Facility does not have adequate facilities to cater to training participants with disabilities and is therefore at odds with external standard for registered training organisations. As a registered RTO, Ergon Energy has an obligation to respond to the individual needs of training participants whose age, gender, cultural or ethnic background, disability, sexuality, language skills, literacy or numeracy level or location may present a barrier to access, participation and the achievement of training outcomes.	Business Impact	Pre Mitigation	3 (Moderate) Compliance with training standard	5 (Very Likely)	**15** **(Moderate)**

Table 5: Counterfactual (Base Case) Risks

3 Options Analysis

This section considers the following options analysis:

- Option A – Redevelop the site (preferred)
- Option B – Move to a greenfield site

3.1 Option A: Redevelop the site (preferred)

3.1.1 Summary

The site redevelopment option involves the replacement of the structurally aged main building (Building A) to a new facility that meets Ergon Energy's current and future requirements, in accordance with modern building standards and codes.

It is proposed that the new facility maintains the overall building floor area and facilities of the existing building, ensuring continued operation at current training levels. The rented demountable is removed from site, resulting in overall improved asset utilisation and reduced BFA of about 7.8%. It will reduce on-going annual rental fees of approximately [redacted] plus associated operational and maintenance costs related to the demountable building. The building layout is redesigned to maximise floor space area, as such, storerooms and other empty spaces are consolidated and incorporated into training rooms for more flexible and practical configuration.

Asbestos removal works will occur in conjunction with the site redevelopment to minimise disturbances to the training operation. Interim office accommodation during construction, such as a temporary demountable, is not required due to the property's proximity (300m) with Ergon Energy's depot at Dalrymple Road. The existing training yard, including a workshop and shed warehouse building, which are located inside the yard, meet the business requirements and are not in the scope of this investment proposal. Practical training in the yard facility will continue its operation during construction. Figure 3 below, lists the current state details as well as the proposed target-state.

Ref.	Main purpose	BFA	Proposal
A	Office accommodation	68 m²	**New Building** Consolidate – same BFA area • Office accommodation/meeting rooms approx. 418 m² • Amenities approx. 346 m² • Training workshop area approx. 66 m²
	Workshop	66 m²	
	Reception/Foyer	73 m²	
	Storage	86 m²	
	Lunchroom/kitchen/toilets	134 m²	
	Outdoor break area	212 m²	
	Meeting/training room 1	36 m²	
	Meeting/training room 2	28 m²	
	Meeting/training room 3	28 m²	
	Meeting/training room 4	64 m²	
	Meeting/training room 5	35 m²	
	Total Building A	830 m²	
B	Meeting/training room 6 (rented)	35 m²	**Remove from site** (rented demountable)
	Meeting/training room 7 (rented)	35 m²	
	Total Building B	70 m²	
	Total A + B	**900 m²**	**830 m²**

Figure 3: Option A – Scope

Ergon Energy has assumed the selection of this preferred option, with the identified financial benefits and operating cost savings contributing to Ergon Energy's forecast opex reductions for the 2020-25 period.

3.1.2 Assumptions

For this case, it is assumed that:

- Redevelopment costs have been estimated at [redacted] by independent quantity surveyors AECOM. I.e. (Appendix C) The AECOM estimate of [redacted] (in 19/20 real terms), de-escalated 2.1% to 18/19 real terms.
- The redevelopment includes costs for asphalt and driveway repairs.
- Operating costs have been forecast based on historical actuals and assumptions as follows:

[redacted]

- The scope, inclusions, exclusions, costs and impacts of the initiative will be further detailed through the Gate 3 business case and competitive procurement processes prior to investment.
- Costs associated with hardening the property security are included in this business case as they are not included in the Ergon Energy Property Security business case.

3.1.3 Benefits

The table below summarises the benefits to be enabled through implementation of this option.

Area	Benefits Identified	Value
Operational Efficiencies	• Improved training delivery as a result of increased flexibility to configure training classrooms and supported by modern technologies. • The training yard meets the current requirement, with no investments required • Reduced training disruption resulting from site maintenance. [redacted]	[redacted]
Maintenance & Energy Costs	• Reduced maintenance and energy cost as a result of modern building standards.	Reflected in operating costs (above)
Lease Cost	• Avoided lease cost related to the demountable building.	Reflected in operating costs (above)
WH&S	• Safe workplace environment for staff and training participants. • All facilities provide disability access and PWD amenities, in accordance with modern building standard and facility requirements of an RTO. • Improve the resilience of the premises to the impact of severe wind conditions predominantly caused by a tropical cyclone.	Non-financial

Area	Benefits Identified	Value
Compliance	• Improved building sustainability as a result of alignment with the latest National Construction Code (NCC). This includes compliance with compulsory cyclone standards, such as mandatory design standards for wind loads as well as stormwater infrastructure requirements. • All statutory and technical requirements to ensure health, safety, security and reliability are met.	Non-financial
Brand	• The Ergon Energy corporate brand remains strong as a result through provision of contemporary facilities of typical industry standard.	Non-financial

Table 6: Option A - Benefits

3.1.4 Risks

The table below summarises the mitigations of 2024/25 inherent risks identified in the base case (Section 2.4). The risk analysis has been performed based on the Energy Queensland Network Risk Framework (Appendix A).

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 1. Building damage and humidity at the Townsville Training Facility leads to workers being repeatedly exposed to mould that results in multiple serious illnesses with permanent or indefinite effects to workers	Business Impact	**Pre Mitigation**	4 (Major)	4 (Likely)	**16 (Moderate)**
		Post Mitigation This option demolishes and removes the main building. By removing the aged structure, this option fully removes the risk with no residual risk remaining.	1 (Insignificant)	1 (Almost No Likelihood)	**1 Very Low**
Risk 2. Townsville Training Facility suffers significant damage because of a cyclone and severe weather events rendering the facility unusable. This results in significant impact on restoration activity equating to >$500,000.	Business Impact	**Pre Mitigation**	3 (Moderate)	5 (Very Likely)	**15 (Moderate)**
		Post Mitigation This option provides a new facility in accordance with all the latest National Construction Code (NCC) and relevant design standards. This option significantly reduces the risk related to the disruption as a result of works related to cyclone and severe weather events. Cyclone events cannot be prevented, however, this option significantly reduces the scale of damage and therefore, the likelihood of impacting business operation is "Very Unlikely". The consequence is reduced due to renewed structures.	2 (Low)	1 (Very Unlikely)	**2 Very Low**

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 3. Townsville Training Facility does not have adequate facilities to cater to training participants with disabilities and is therefore at odds with external standards for registered training organisations.	Business Impact	**Pre Mitigation**	3 (Moderate)	5 (Critical)	**15 (Moderate)**
		Post Mitigation This option provides a new facility in accordance with all the latest National Construction Code (NCC) and relevant design standards, which includes access for people with a disability.	1 (Insignificant)	1 (Almost No Likelihood)	1 Very Low

Table 7: Option A - Risks

3.2 Option B: Move to a greenfield site

3.2.1 Summary

This investment option includes the purchase of a greenfield site and subsequent construction of a new purpose-built training facility. The facilities and overall BFA requirements align with the redevelopment (Option A) proposal, which consists of:

- Office accommodation/meeting rooms approx. 418 m^2
- Amenities approx. 346 m^2
- Training workshop area approx. 66 m^2

In addition, a training yard, workshop and sheds are also established to replicate the existing facility which are required for the delivery of practical training and High Voltage switching practical applications.

On completion of the new facility, the existing Townsville site is remediated and prepared for sale. The land parcel includes an Ergon Energy open storage yard which is built on the same land parcel, fenced off and with a separate entrance and not part of the Townsville Training Facility, however it would necessarily form part of the parcel for sale. The storage yard must therefore be cleared and relocated to other Ergon Energy facilities.

The new land parcel should be a minimum of 1 hectare to meet Ergon Energy's requirements, current and future. This is a reduction of 0.6 hectare compared to the 1.6 hectare (15,950m^2) site currently used for training as well as for open yard storage purposes.

3.2.2 Assumptions

For this case, it is assumed that:

- The greenfield site acquisition cost assumption is based on a cost of [redacted], which has been informed by two relatively recent land sales in Garbutt plus cost reference related to a greenfield development in proximity of the Townsville Training Facility[3]. This results in a total cost of [redacted]
- [redacted] is forecast for greenfield site preparation.

[redacted]

- The development cost for the main building at the greenfield site has been estimated at [redacted] This is based on the AECOM cost estimates (Appendix C) for office accommodation, training classrooms, workshop, amenities, security, car parking, plus the required demolition works at the existing site. The BFA and cost unit rate align with Option A of this business case.
- The cost for the establishment of the training yard at the new site has been estimated at [redacted] for the pole training yard and [redacted] for the training workshop, which is located inside the yard.
- Costs for the relocation of specialised training equipment (workshop equipment used for practical training delivery) includes semi-trailer and small crane hire [redacted] plus 2 days labour of 4 Electrical Trade FTEs [redacted] to disassemble, relocate and reassemble equipment.
- [redacted] is forecast to remediate the existing site for sale.
- The brownfield site disposal value is [redacted] which aligns with the market rate for greenfield sites. Total disposal value of [redacted]
- Land size is reduced from 15,950m^2 to 10,000m^2. The storage yard (open storage) section of the property is no longer required with the facility consolidated with existing Ergon Energy storage premises.
- Operating costs have been forecast based on historical annual actuals and assumptions as follows:

[redacted]

- The scope, inclusions, exclusions, costs and impacts of the initiative will be further detailed through the Gate 3 business case prior to investment. This may be subject to competitive procurement processes as appropriate to ensure cost efficiency of delivery.

3.2.3 Benefits

Area	Benefits Identified	Value
Operational Efficiencies	• Improved training delivery as a result of increased flexibility to configure training classrooms. • Reduced training disruption resulting from site maintenance. [redacted]	[redacted]

[redacted]

[5] Based on historical costs. The workshop was built in 2018 with structures and layout relevant and meeting current and future requirements. The cost includes construction and internal fitouts but is exclusive of civil works and fencing costs.

Area	Benefits Identified	Value
Maintenance	• Reduced maintenance cost as a result of modern building standards.	Reflected in operating costs (above)
Lease Cost	• Avoided lease cost related to the demountable building.	Reflected in operating costs (above)
WH&S	• Safe workplace environment for staff and training participants. • All facilities provide PWD access and amenities, in accordance with modern building standard and facility requirements of an RTO. • Improve the resilience of the premises to the impact of severe wind conditions predominantly caused by a tropical cyclone.	Non-financial
Compliance	• Improved building sustainability as a result of alignment with the latest National Construction Code (NCC). This includes compliance with compulsory cyclone standards, such as mandatory design standards for wind loads as well as stormwater infrastructure requirements. • All statutory and technical requirements to ensure health, safety, security and reliability are met. All statutory and technical requirements to ensure health, safety, security and reliability are met.	Non-financial
Brand	• The Ergon Energy corporate brand remains strong as a result through provision of contemporary facilities of typical industry standard.	Non-financial

Table 8: Option B - Benefits

3.2.4 Risks

The table below summarises the mitigations of 2024/25 inherent risks identified in the Base Case (Section 2.4). The risk analysis has been performed based on the Energy Queensland Network Risk Framework (Appendix A).

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 1. Building damage and increased humidity at the Townsville Training Facility leads to workers being repeatedly exposed to mould that results in multiple serious illnesses with permanent or indefinite effects to workers.	Business Impact	**Pre Mitigation**	4 (Major)	4 (Likely)	**16 (Moderate)**
		Post Mitigation This option demolishes and removes the main building. By removing the aged structure, this option fully removes the risk with no residual risk remaining.	1 (Insignificant)	1 (Almost No Likelihood)	1 Very Low

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 2. Townsville Training Facility suffers significant damage because of a cyclone and severe weather events rendering the facility unusable. This results in significant impact on restoration activity equating to >$500,000.	Business Impact	**Pre Mitigation**	3 (Moderate)	5 (Very Likely)	**15 (Moderate)**
		Post Mitigation This option provides a new facility in accordance with all the latest National Construction Code (NCC) and relevant design standards. This option significantly reduces the risk related to the disruption as a result of works related to cyclone and severe weather events. Cyclone events cannot be prevented, however, this option significantly reduces the scale of damage, and therefore, the likelihood of impacting business operation is "Very Unlikely". The consequence is reduced due to renewed structures.	2 (Low)	1 (Very Unlikely)	2 Very Low
Risk 3. Townsville Training Facility does not have adequate facilities to cater to training participants with disabilities and is therefore at odds with external standards for registered training organisation.	Business Impact	**Pre Mitigation**	3 (Moderate)	5 (Critical)	**15 (Moderate)**
		Post Mitigation This option provides a new facility in accordance with all the latest National Construction Code (NCC) and relevant design standards, which includes access for people with a disability.	1 (Insignificant)	1 (Almost No Likelihood)	1 Very Low

Table 9: Option B - Risks

3.3 Economic analysis of identified options

3.3.1 Cost versus benefit assessment of each option

Table 10 (below) summarises the Net Present Value (NPV) of the costs and benefits of each option.

Note that avoided property cost benefits (such as avoided planned capital works) are reflected as reduced costs in comparison with the base case, rather than as direct benefits.

Table 10: Net present value of options

As indicated in the above table, Option A represents the best overall NPV

3.3.2 Cash flow forecast

Table 11 (below) summarises the forecast cashflow of capex and opex costs for Option A (preferred).

Table 11: Cash flow forecast

3.3.3 NPV Calculation Parameters

In addition to the assumptions specific to each option (listed in sections 2 and 3 above), the following parameters apply to the economic analysis as a whole:

- The NPV has been calculated based on a 20 year financial analysis period using the Energy Queensland Non-Network NPV calculation model.
- 2.42% Consumer Price Index (CPI) is used for annual cost escalation.
- 5.13% Regulated Rate of Return/WACC (Pre-tax Nominal) is applied with present values discounted to 2018/19.

3.4 Scenario Analysis

3.4.1 Cost Benefit Sensitivity Parameters

In order to validate the sensitivity of the above NPV analysis to potential variability of key parameters, a scenario analysis has been performed. Through this analysis, a "best" scenario and "worst" scenario for each option has been assessed, for comparison against the primary ("most likely") scenario as reflected in the primary NPV analysis.

Table 12 (below) summarises the cost benefit sensitivity parameters used in the scenario analysis for this business case.

Type	Element	Worst	Best	Rationale
Cost	Redevelopment Costs	+10%	-10%	Estimates have been prepared by AECOM based on proposed scope.
	Land Acquisition Costs	+15%	-15%	Estimates are based on property market research of the value of viable or equivalent target sites.
Benefits	Site Disposal Values	-15%	+15%	Estimates are based on property market research
	Operational Productivity Benefits	-15%	+15%	Based on the preliminary nature of the business benefits analysis.

Table 12: Cost Benefit Sensitivity Parameters

3.4.2 Scenario Analysis

Table 13 (below) summarises the NPV sensitivity to the above listed parameters for each of the options. This business cases recommends the "most likely" scenario associated with the "preferred" option (i.e. Option A).

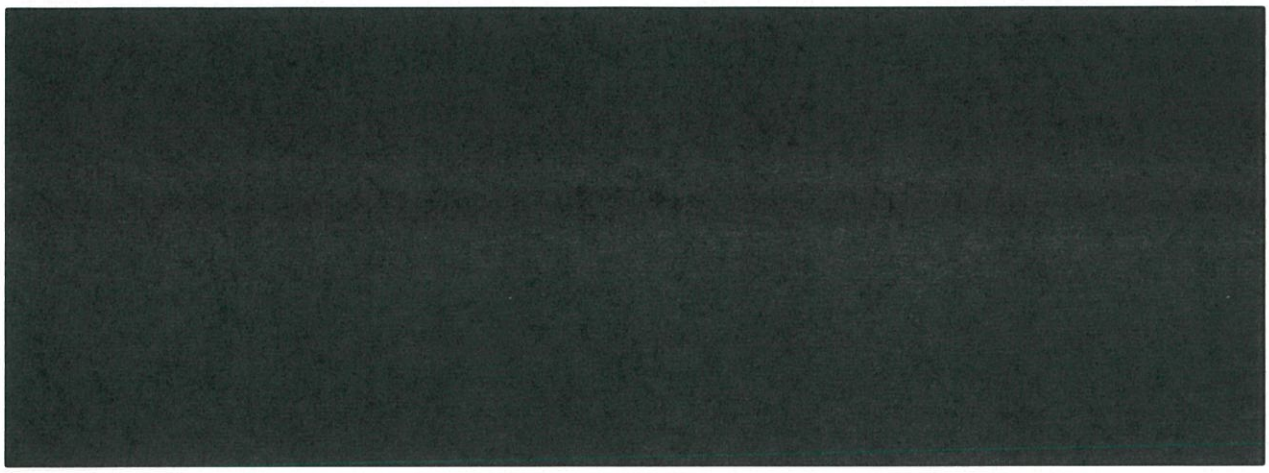


Table 13: Scenario Analysis

3.5 Qualitative comparison of identified options

Table 14 below summarises the advantages and disadvantages of each option considered.

Option	Advantages	Disadvantages
Counterfactual (Base Case)	**As the counterfactual "base case", continuing with existing facilities:** • Minimises organisational change impact on training delivery practices.	**This option does not address the identified investment needs. I.e.** • Does not renew heavily aged and dilapidated property assets for long term sustainability and efficiency. • Does not deliver a contemporary training facility that provides a safe workplace environment for staff and training participants. • Does not deliver a contemporary training facility with effective configuration, flexible layout and structural design. • Does not address existing issues related to structural soundness for buildings in a cyclone prone area. • Does not reduce the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. • Does not achieve alignment with industry standards such as Standard for Registered Training Organisation (RTO). • Does not mitigate inherent safety risk. • Does not improve or remove any of the property limitations identified in this business case (section 1.6)
Option A – Redevelop the site (preferred)	**Consistent with the identified investment need,** this option: • Renews heavily aged and dilapidated property assets for long term sustainability and efficiency. • Delivers a contemporary training facility that provides a safe workplace environment for staff and training participants. • Delivers a contemporary training facility with effective configuration, flexible layout and structural design. • Addresses existing issues related to structural soundness for buildings in a cyclone prone area. • Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. • Achieves alignment with industry standards such as Standard for Registered Training Organisation (RTO). • Mitigates inherent safety risk. • Improves or remove any of the property limitations identified in this business case (section 1.6)	**This option meets all the investment needs of the business case.**

Option	Advantages	Disadvantages
Option B – Move to a greenfield site	**Consistent with the identified investment need,** this option: • Renews heavily aged and dilapidated property assets for long term sustainability and efficiency. • Delivers a contemporary training facility that provides a safe workplace environment for staff and training participants. • Delivers a contemporary training facility with effective configuration, flexible layout and structural design. • Addresses existing issues related to structural soundness for buildings in a cyclone prone area. • Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. • Achieves alignment with industry standards such as Standard for Registered Training Organisation (RTO). • Mitigates inherent safety risk. • Improves or remove any of the property limitations identified in this business case (section 1.6)	**This option meets all the investment needs of the business case** however, it is not the preferred option because it: • Does not provide the most efficient investment option. • Results in additional change impact to staff members as a result of a new workplace location and potentially longer travel time to the office.

Table 14: Qualitative Comparison of Option

3.6 Change Impacts

This section details the potential impacts during and after implementation of this investment.

Unit / Team	Impact	Rating Low / Med / High
Training participants	• Training participants during time of site redevelopment may experience a level of inconvenience e.g. zoned off area and direction of walking path, noise.	Medium
Ergon Energy Technical Training and Development (TT&D) staff	• 13 staff members located full-time at the Townsville Training Facility will be impacted as their workplace environment undergoes change. • Temporary office accommodation at the Garbutt premises on Dalrymple Road is proposed to accommodate staff until the new development is completed, certified and made available for occupancy. • Change impact associated with staff moving to new office premises.	Medium

Table 15: Change Impact Summary

3.7 Investment Alignment with the National Electricity Rules (NER)

The table below details the alignment of the proposed solution with the NER capital expenditure requirements as regulated by the AER.

NER Capital Expenditure Requirements	Rationale
6.5.7 (a) (2) The forecast capital expenditure complies with all applicable regulatory obligations or requirements associated with the provision of standard control services	This investment supports the delivery of training in accordance with statutory training requirements and Ergon Energy's workforce needs, enabling safe and efficient operational delivery of standard control services.
6.5.7 (a) (3) The forecast capital expenditure maintains the quality, reliability and security of supply of standard control services	This investment supports ongoing education and training in relation to Queensland's electricity network and the provision of a safe, reliable network to the community. Ergon Energy's investment in training facilities ensures safe working on the electricity network and at customer premises, ensuring secure and reliable energy delivery for the community.
6.5.7 I (1) (i) The forecast capital expenditure reasonably reflects the efficient costs of achieving the capital expenditure objectives	Costs for this investment have been forecast based on knowledge of the likely property re-configuration scope, informed by quantity surveyor estimates from independent specialists AECOM and Ranbury. Energy Queensland undertakes competitive market procurement processes to ensure efficiency in project cost, capital and operational expenditure.

NER Capital Expenditure Requirements	Rationale
6.5.7 I (1) (ii) The forecast capital expenditure reasonably reflects the costs that a prudent operator would require to achieve the capital expenditure objectives	Costs for this investment have been forecast based on knowledge of the likely property re-configuration scope, informed by quantity surveyor estimates from independent specialists AECOM and Ranbury. Prior to investment, a Gate 3 business case will be prepared with further detail to be assessed in accordance with the established investment governance processes.
6.5.7 I (1) (iii) The forecast capital expenditure reasonably reflects a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objective	Cost for this investment has been forecast based on knowledge of technical training requirements and in accordance with operating and maintaining the electricity network. These estimates include a build-up with realistic input costs informed by property industry expertise. Further detailed cost build up will take place in development of the Gate 3 business case. This detailed cost build up may be subject to competitive market procurement processes, sourcing analysis and peer consultation.

Table 16: Investment alignment with NER capital expenditure requirements

4 Recommendation

"Option A: Redevelop the site (preferred)" is the recommended option as:

- It has the best overall NPV of all options. [redacted]
- It is aligned with Energy Queensland's strategic objectives;
- It meets the identified investment needs including that it:
    - Renews the heavily aged and dilapidated property assets for long term sustainability and efficiency.
    - Delivers a contemporary training facility that provides a safe workplace environment for staff and training participants.
    - Addresses existing issues related to structural soundness for buildings in a cyclone prone area.
    - Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation.
    - Delivers a contemporary training facility based effective configuration, flexible layout and structural design.
    - Achieves alignment with industry standards such as Standard for Registered Training Organisation (RTO).
    - Mitigates inherent safety risks.
    - Addresses all property limitations identified in this business case (section 1.6)
- It is consistent with Ergon Energy's capital expenditure requirements under the National Electricity Rules; and
- The identified efficiency benefits and operating cost savings contribute to Ergon Energy's forecast opex reductions for the 2020-25 period [redacted]

Total forecast capex in the 2020-25 regulatory control period for this option is [redacted] (2018/19 real terms). Prior to investment, a Gate 3 business case will be prepared with further detail to be assessed in accordance with established investment governance processes.

This is an Ergon Energy DNSP investment. The Energy Queensland Cost Allocation Model (CAM) allocates the total forecast asset cost between Standard Control Services, Alternative Control Services and Other/Unregulated, reflecting usage of the asset across the DNSP services.

Appendix A. Network Risk Framework

The Energy Queensland Network Risk Framework assesses individual risks in dimensions of Likelihood and Consequence according to a six by six risk matrix (Figure).

Risk Analysis 6x6 multiplication R=C x L	Consequence → 1	2	3	4	5	6
Likelihood ↑ 6	6	12	18	24	30	36
5	5	10	15	20	25	30
4	4	8	12	16	20	24
3	3	6	9	12	15	18
2	2	4	6	8	10	12
1	1	2	3	4	5	6

Network Risks - *Risk Tolerability Criteria and Action Requirements*

Risk Score	Risk Descriptor		Risk Tolerability Criteria and Action Requirements	
30 – 36	***Intolerable*** ***(stop exposure immediately)***			
24 – 29	***Very High Risk***	***ALARP** Risk in this range managed to As Low As Reasonably Practicable*	**Executive Approval** (required for continued risk exposure at this level)	May require a full Quantitative Risk Assessment (QRA) Introduce new or changed risk treatments to reduce level of risk Periodic review of the risk and effectiveness of the existing risk treatments
18 – 23	***High Risk***		**Divisional Manager Approval** (required for continued risk exposure at this level)	Introduce new or changed risk treatments to reduce level of risk Periodic review of the risk and effectiveness of the existing risk treatments
11 – 17	***Moderate Risk***		**Group Manager / Process Owner Approval** (required for continued risk exposure at this level)	Introduce new or changed risk controls or risk treatments as justified to further reduce risk Periodic review of the risk and effectiveness of the existing risk treatments
6 – 10	**Low Risk**			
1 to 5	***Very Low Risk***		No direct approval required but evidence of ongoing monitoring and management is required	*Periodic review of the risk and effectiveness of the existing risk treatments*

**Note: SOFAIRP to be used for Safety Risks and ALARP for Network Risks*

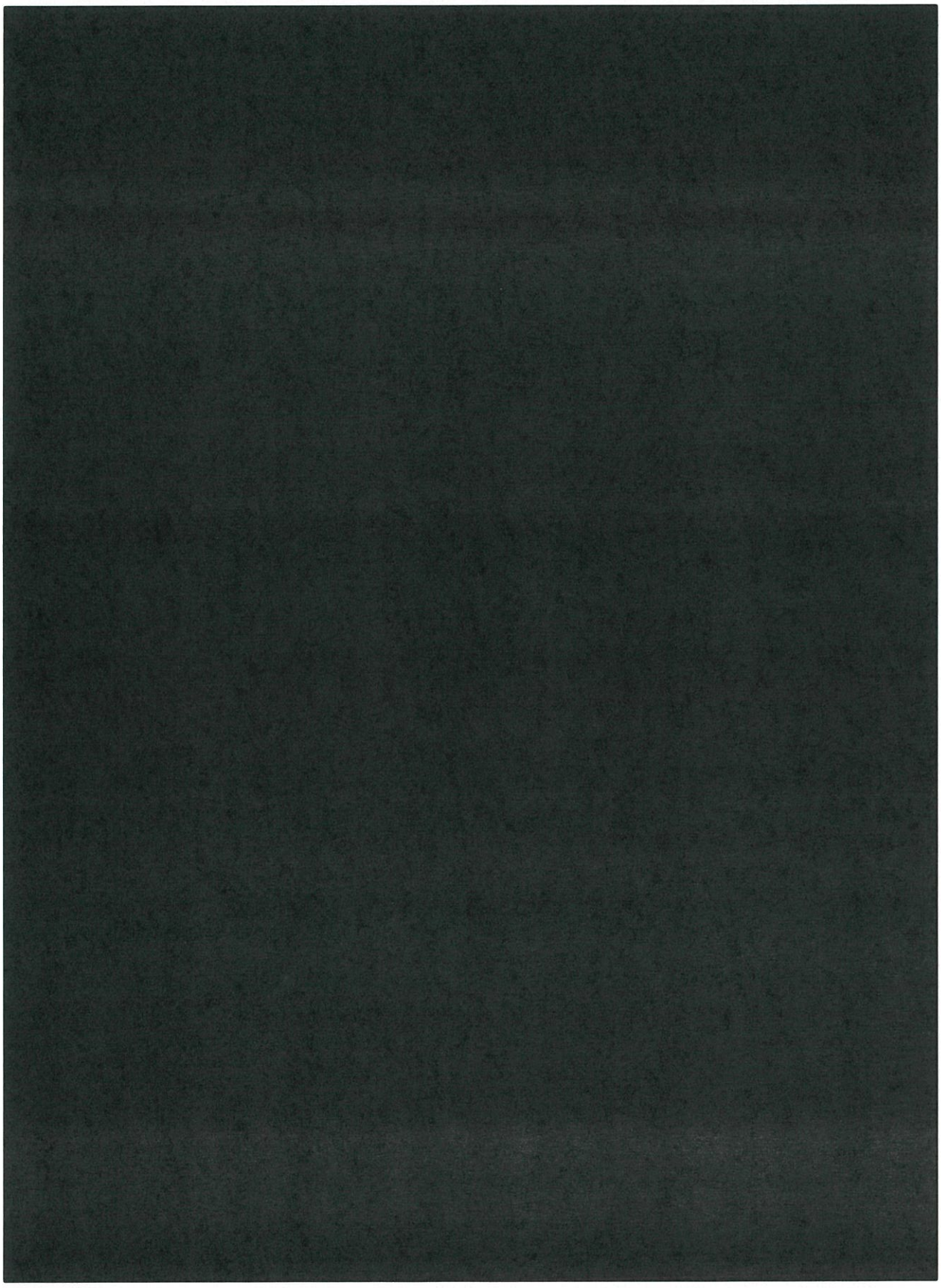
Figure 9: Network Risk Framework

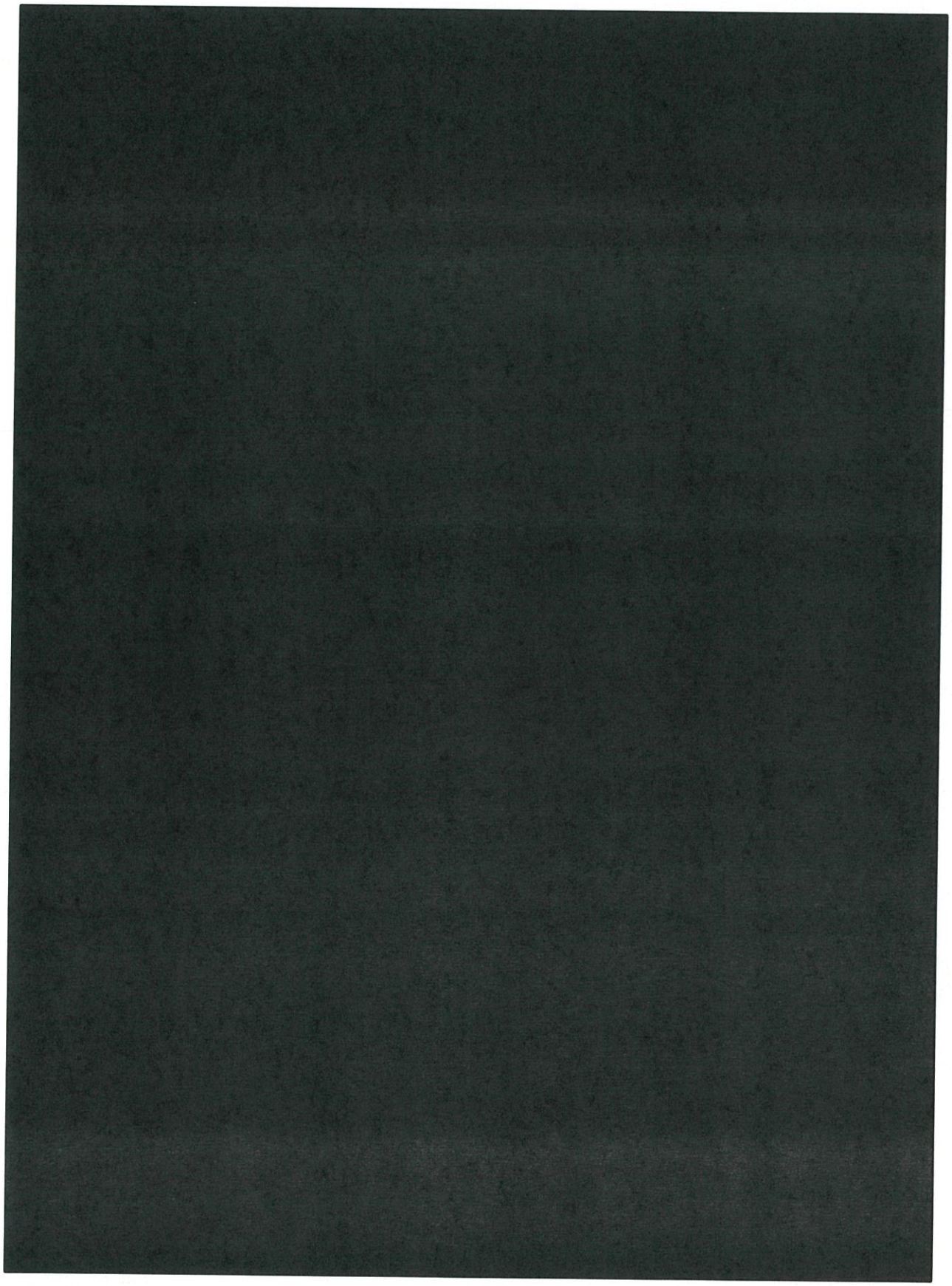
Appendix B. Acronyms and Abbreviations

The following abbreviations and acronyms appear in this business case.

Abbreviation or acronym	Definition
BFA	Building Floor Area
Capex	Capital Expenditure
DNSP	Distribution Network Service Provider
EQL	Energy Queensland Limited
NPV	Net Present Value
PWD	Person With Disability (PWD)
Opex	Operating Expenditure
RTO	Registered Training Organisation
TT&D	Technical Training and Development (TT&D) staff
WH&S	Workplace Health and Safety

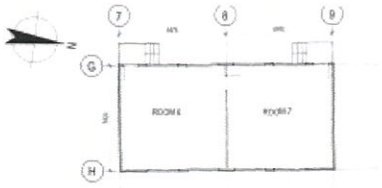
Appendix C. AECOM Cost Estimate



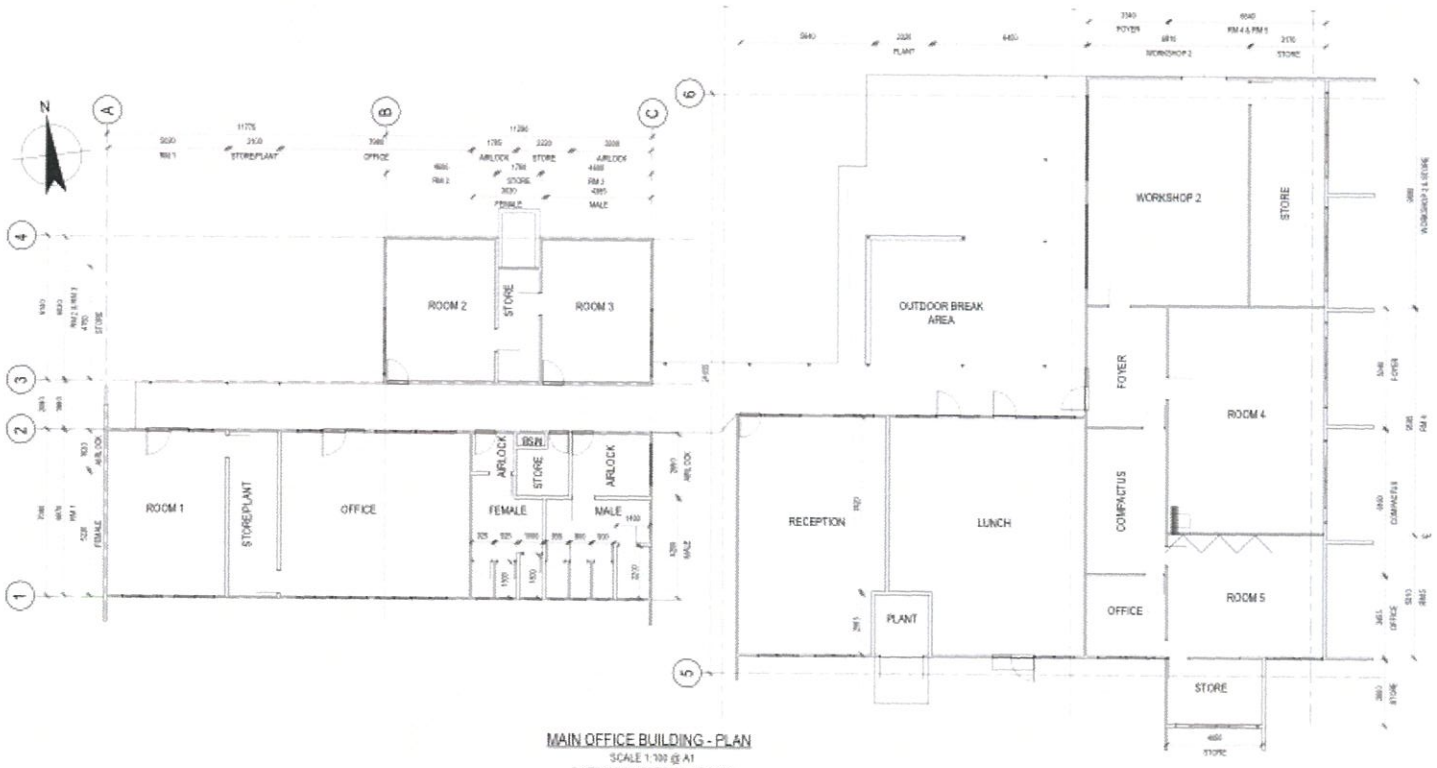


Appendix D. Townsville Training Building Plan

Depicted below is the layout and size of the different training facilities at Townsville, which was designed and constructed to meet training needs in 1984.



DEMOUNTABLE (RM 6 & 7) - PLAN
SCALE 1:100 @ A1



MAIN OFFICE BUILDING - PLAN
SCALE 1:100 @ A1
DIMENSIONS APPROXIMATE ONLY