

Preliminary Business Case Rocklea Training Facility



Executive Summary

The Rocklea site is a standalone specialised training facility and is the largest, most comprehensive technical training facility across Energex and Ergon Energy's training centre portfolio. The training facility is located at 103 Marshall Road, Rocklea on a 56,660m² land parcel and comprises a large specialised training yard, office accommodation, two large warehouses and a number of separate buildings consisting of classrooms, specialist training workshops and amenities.

The site was established in 1952 and built to accommodate depot and warehouse needs. Approximately a decade after the site was established, the site was re-purposed to serve as a training facility. Over the 68 years of the site's operation, it has never undergone a redevelopment to optimise its use as a sustainable training facility. Instead, the site grew organically with a piecemeal arrangement of fixed and demountable small buildings.

During 2017, approximately 5,600 people visited the site to either complete a nationally accredited training course and/or to attend an industry awareness session.

The major investment drivers for the Rocklea site are:

- **End-of-life assets**

In 2020, the two large warehouses used as workshop training facilities will be 68 years old and classroom buildings will be up to 49 years old. These highly aged structures are dilapidated and end-of-life.

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

The classrooms and training workshops are functionally ineffective for modern training purposes due to their configuration, layout, age and structural design. The administration building (B1) was constructed as a two-storey structure in 1984 with ground floor ceiling heights that are unsuitable for occupancy and can therefore only be used for storage, resulting in poor building utilisation.

Both of the warehouses (B2, B3) were constructed in 1952 to meet heavy vehicle access requirements at that time. However, modern Elevated Work Platforms (EWPs) are significantly larger requiring more height and width clearance, resulting in the two warehouses being unsuitable for EWP access. The construction style of the warehouses makes it difficult to manoeuvre trucks and equipment, has minimal airflow, poor lighting and corresponding safety risks, particularly highlighted in a practical training environment.

Several classrooms (B6 to B8) have seating capacity lower than the optimal level (i.e. 16 participants)

- **Higher property operational costs**

Property operational costs are higher than other modern buildings of similar floor space. In 2020, most buildings onsite will be between 35 and 68 years of age with historical expenditure directed only at maintaining the site. The age, construction type, site layout and poor condition of buildings contribute to higher property costs.

- **Disruptions to training operation**

340 maintenance jobs were undertaken in 2018/19, resulting in disruption to training operations and corresponding inefficiency.

- **Safety to staff and the community**

The high number of buildings (10), combined with the high volume of visitors to the site, makes this unique and specialised training site complex with corresponding safety risks.

- **Alignment with industry standards**

Standards which drive the investment include the Standard for Registered Training Organisations (RTOs) 2015 and Queensland's policy for the maintenance of Queensland Government buildings.

This business case considers the following four options:

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

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

The business case recommends Option C to refurbish the site. The capital investment will begin in 2021/22. [REDACTED]

The proposed investment will mitigate risks including:

- Risk 1. High people flow combined with the complexity of the site leads to incidents and accidents causing personal harm to training participants and staff working on site.
- Risk 2. The site, which was originally constructed for warehouse purpose, is inflexible and cannot adjust to changing business and training needs.
- Risk 3. The facility does not have adequate facilities to cater for training participants with disabilities and is therefore at odds with external standard for registered training organisations.

This investment will support the customer and community by ensuring Energex has a safe and fit-for-purpose facility to provide critical training in order to maintain a skilled and competent workforce that constructs and maintains the network in a safe manner. This investment will enable Energex to provide a training facility that meets community expectations and the standards of 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.

Contents

Executive Summary	1
1 Introduction	5
1.1 Purpose of document	5
1.2 Scope of document	5
1.3 Identified Need	5
1.4 Energy Queensland Strategic Alignment	9
1.5 Legislative compliance obligations	10
1.6 Limitation of existing assets	13
2 Counterfactual Analysis (Base Case)	15
2.1 Summary	15
2.2 Assumptions	18
2.3 Benefits	18
2.4 Risks	18
3 Options Analysis	20
3.1 Option A: Redevelop the site	20
3.2 Option B: Move to a greenfield site	23
3.3 Option C: Refurbish the site (preferred)	26
3.4 Economic analysis of identified options	28
3.5 Scenario Analysis	29
3.6 Qualitative comparison of identified options	30
3.7 Change Impacts	32
3.8 Investment Alignment with the National Electricity Rules (NER)	32
4 Recommendation	34
Appendix A. Network Risk Framework	35
Appendix B. Acronyms and abbreviations	36
Appendix C. Overview of buildings at the Rocklea site	37
Appendix D. Quantity Surveyor Estimate - Option A	38
Appendix E. Quantity Surveyor Estimate - Option B	40
Appendix F. Quantity Surveyor Estimate - Option C	43
Appendix G. Site effectiveness	46
Appendix H. Site Layout – Base Case	49
Appendix I. Site Layout – Option A	50
Appendix J. Site Layout – Option C	51
Appendix K. Flood Levels	52
Appendix L. Site Hazard Summary Plan	53
Appendix M. Site plan and photos	54
Appendix N. Training yard site plan	55

1 Introduction

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

This business case proposes investment in the Rocklea Training Facility to enable sustainable and efficient training operations. Renewed facilities will enable safer, more effective training operations, and 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 Rocklea 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 Rocklea 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

Energex's RTO provides industry courses, technical training and apprenticeship programs relevant to its workforce and the electricity industry. Its training operation ensures that the Energex workforce is adequately skilled and competent to safely and efficiently operate and maintain the distribution network, thereby ensuring safe and reliable electricity supply for the community.

Energex delivers high-quality vocational training courses leading to nationally accredited qualifications, as well as safety awareness sessions at the training facility in Rocklea. These courses include:

- Certificate III in Electro-technology Electrician
- 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
- Live Work and Live Work from EFM course
- 47 face to face courses, the majority of which are related to safe work practices in the distribution network environment

The facility serves a significant role in educating staff, authorised contractors, external parties and the community on critical safety aspects when working in an environment that exposes a person to the low, medium and high voltage network. This includes electricians working on switchboards at customers' premises and network connection officers connecting new customers. As the South East Queensland Distribution Network Service Provider (DNSP), Energex, is uniquely and best positioned to educate staff and the community regarding the safe operation of the distribution network.

1.3.2 Property Overview

The Rocklea site is a standalone specialised training facility located at 103 Marshall Road within Rocklea's industrial area, approximately 10km south of the Brisbane CBD, along the Ipswich Motorway corridor. The facility is set on a 56,660m² industrial land parcel owned by Energex and its predecessors since 1952.

The site was purchased by the City Electric Light Company in 1951 for use as a depot facility. In 1965 the site was commissioned by the Southern Electric Authority as a training school, which performed a state-wide function.

The two large warehouses are original structures from the site, with the addition of the office building in 1984, and the remaining temporary demountable buildings added by Energex over time. In 2020, the warehouse buildings will be 68 years old and have had no major capital investment.

The facility comprises a large specialised training yard, office accommodation, two large warehouses and a number of separate buildings consisting of classrooms, specialist training workshops and amenities. The northern area of the property, which lies outside the fenced yard, is low lying, heavily wooded and forms part of the flood-prone Stable Swamp Creek and Kookaburra Recreational Park area.

It includes a training yard with pole structures in a simulated network configuration. This yard is in good condition and satisfies the company's requirements for overhead line training. Therefore, no major investment is proposed for the yard training facility.

While overhead line training requirements have remained relatively consistent, there is an increased demand for specialised electro-technology training. This drives the need to evolve the training content, training delivery methods, technologies and equipment to educate and upskill the workforce of the future.

Electro-technology training considers the increasing complexity of the modern distribution network, including advancements in modern substation applications, batteries and solar system generators. Vocational training delivery has evolved and expanded with a larger footprint using the workshop facilities. This training cannot be delivered through online mediums.



At the Rocklea site, Energex uses two large and aged warehouse structures to deliver various practical training modules and competency assessment capabilities. In addition, numerous demountable buildings have been placed across the site to provide classroom training facilities.

During 2017, approximately 5,600 participants visited the site for training purposes. External participants commonly attend short duration awareness courses, accounting for about 4% of the total visitor hours at the site. In addition to the high number of visitors, 23 Energex training staff are permanently based in the administration building (B1).

In 2011, Brisbane had a major weather event that caused wide-spread flooding. During this event, 75% of the Rocklea facility buildings were affected and incurred various levels of water damage. As part of restoring operation of the site, a new demountable building (B9) was deployed. This demountable is used for classroom training delivery.

1.3.3 Investment Drivers

The major investment drivers for the Rocklea site are:

- **End-of-life assets**

Most of the buildings at the Rocklea Training Facility are heavily aged (Appendix C), in a poor state of repair and at or nearing end-of-life. This particularly includes the two large warehouses (B2, B3), which in 2020, will be 68 years old and the classroom building block B7, which will be 49 years old. Buildings B4 and B6 will be 56 and 42 years old respectively.

This site has not had any major capital investment and is one of the oldest sites in the Energy Queensland property portfolio. Furthermore, since the facility was developed, building construction codes have significantly changed. The proposed investment will renew the facility in alignment with modern building standards related to health and safety, sustainability, amenities and accessibility.

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

The two large warehouse buildings (B2 and B3) were originally constructed by City Electric Light Company in 1952 for depot purposes and as such have poor lighting and a lack of natural lighting, as well as poor ventilation which is not suitable for a practical training environment.

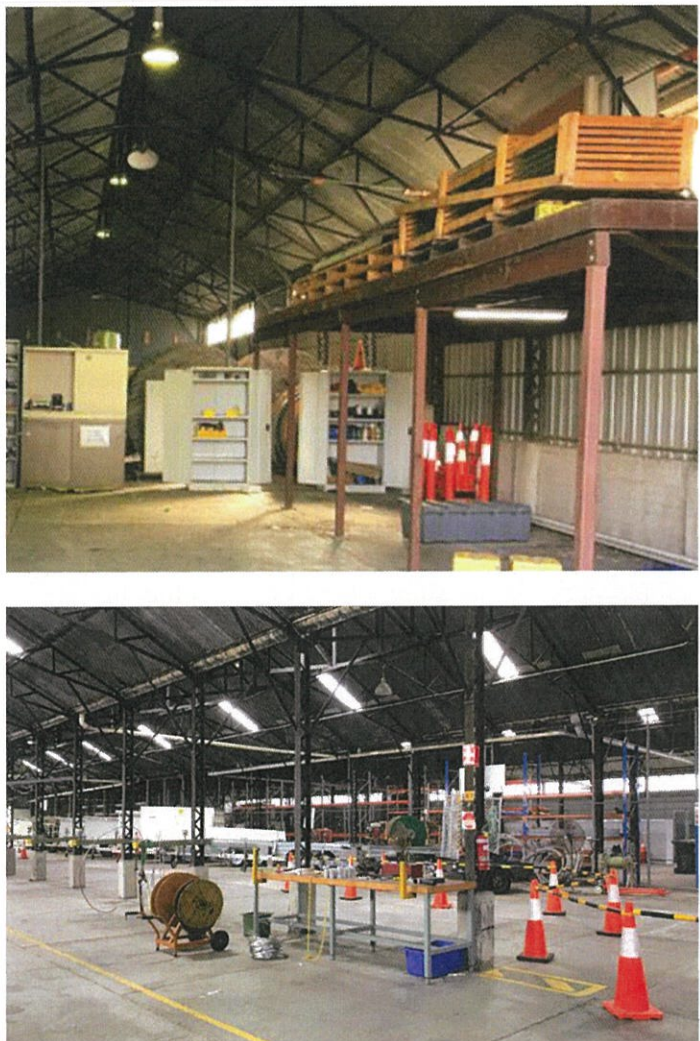


Figure 1: Aged workshop structures

Numerous demountable buildings have been added to the site in a piecemeal manner to provide necessary classroom facilities to meet the requirements at that point in time. The classrooms and training workshops are functionally ineffective for training purposes, due to their configuration, layout, age and structural design. For example, most buildings are of a demountable style and do not allow for flexible classroom training or optimal participant numbers (i.e. 16 participants).

Building B2 is also used to store training equipment such as Elevating Work Platforms (EWPs). However, the poor location of the warehouse gates makes it difficult to manoeuvre trucks and equipment, with corresponding safety risks. The roof supports within the building also restrict vehicle movements. Therefore, training conducted with EWPs cannot be relocated undercover to B2 due to the height and width restrictions of the building. Two vehicle / machinery accidents within the warehouse shed were recorded in 2014. A further accident causing damage to a vehicle as a result of difficult site manoeuvring was recorded in 2009.

The administration building (B1) was constructed as a two-storey structure in 1984 designed to meet the 1980's workforce requirements. In 2020, the building will be more than 35 years old with specific limitations including:

- Configured with narrow walkways and crammed workstations to fit the 1984 building size and shape;
- Multifunctional devices are necessarily placed in locations with poor accessibility; and
- The ground floor does not meet Building Code Australia requirements (Volume 2 part 3.8.2), rendering this space uninhabitable.

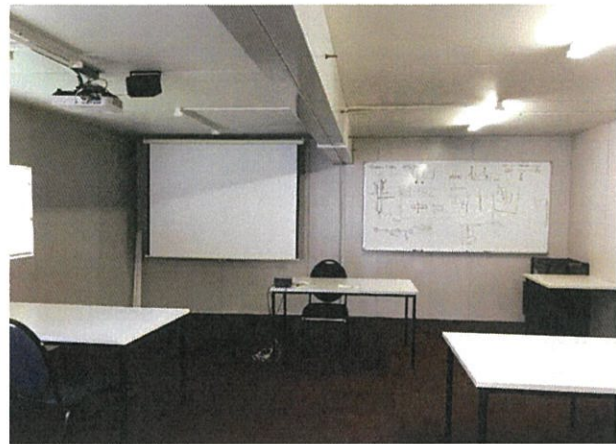


Figure 2: Classroom layout



Figure 3: Poor room configuration

- **Higher property operational costs**

Property operational costs are higher than other modern facilities of similar building floor space. Reasons for these increased costs include end-of-life dilapidated structures which require more frequent and costly maintenance. The use of multiple small demountables with low energy efficiency also contributes to elevated operational costs.

- **Disruptions to training operation**

Maintenance activities on site are frequent due to the state of building structural dilapidation. In the financial year 2018/19, 203 planned and 137 reactive maintenance jobs were undertaken. These activities disrupt or impact the effectiveness of planned training activities and reduce the efficiency of site operations.

- **Safety to staff and the community**

Approximately 5,600 visitors attend the site each year. The high number of buildings (10) makes the site complex, with corresponding safety risks. Seventeen pedestrian crossings have been established inside the property boundaries to maintain pedestrian safety in areas shared with moving vehicles and plant.

On peak days, around 200 cars arrive at the facility which cannot be accommodated on-site, resulting in risks to the community due to street congestion. In addition, there are a number of other site-specific safety hazards that have been identified.

1.4 Energy Queensland Strategic Alignment

Table 1 below details how the Rocklea Training Facility investment contributes to Energex'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 Rocklea Training Facility provides close to 50 courses, diplomas and apprenticeship programs. It is the largest, most comprehensive facility of its kind in Queensland. The facility contributes significantly to creating awareness on important industry workplace topics, thereby providing critical competencies to keep staff, contractors and the community safe and ensuring reliability of energy supply.
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 Rocklea development will consolidate numerous buildings into a fit-for-purpose facility for improved operational efficiency, reduced safety hazards and improved alignment with current and future training delivery requirements. It will further improve pedestrian flow, reduce street congestion and improve maintenance cost efficiency. Through the development, Energex can maintain and improve 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.	Energex has a social responsibility to lead by example in skilling the energy workforce of the future. The Rocklea development will provide a renewed facility that will further strengthen South East Queensland's training capability.

Strategic Objectives	Relationship of Initiative to Objectives
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 Rocklea development will ensure flexibility in changing training delivery needs including the provision of facilities that can accommodate innovative training delivery methods and a diverse workforce.

Table 1: Strategic Alignment

1.5 Legislative compliance obligations

The Rocklea 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 forms 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: <ul style="list-style-type: none"> • 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, Energex 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 Rocklea 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.	<p>Any new construction or redevelopment associated with the Rocklea Training Facility must be undertaken in compliance with the act, with the NCC, BCA and QDC, and with the Queensland Building Regulation.</p> <p>Particular considerations for the Rocklea redevelopment will include:</p> <ul style="list-style-type: none"> • Ensuring suitable access and egress standards, energy efficiency and overall safety of the Rocklea 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. • Ensuring the site is designed for resistance to future flooding as experienced in 2011.
National Construction Code (NCC) and the Building Code of Australia (BCA)	<p>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.</p> <p>This includes provisions related to:</p> <ul style="list-style-type: none"> • 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.	

Legislation, Regulation or Code	Obligations	Relevance to this investment
Queensland Building Regulation 2006	We must comply 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 – Buildings) Standards 2010 and Design for Access and Mobility AS1428.1-2009 and relevant supplements	<p>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 for people with a disability. This includes obligations related to:</p> <ul style="list-style-type: none"> • 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 	<p>Particular considerations for the Rocklea Training Facility redevelopment will include:</p> <ul style="list-style-type: none"> • Maintaining suitable disability access to all buildings and providing facilities for people with a disability, while also increasing effectiveness of the site as a training facility.
Car Parking Standards AS/NZS 2890. Part 1 & 2 (2004) and Part 6 (2009)	<p>We must comply with standards regarding the provision of car parking.</p> <p>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.</p>	<p>Particular considerations for the Rocklea Training Facility redevelopment will include provision of sufficient parking, thereby reducing safety risks to staff and the community through use of on-street parking.</p>

Legislation, Regulation or Code	Obligations	Relevance to this investment
Safe Work Australia – Managing the Work Environment and Facilities. Code of Practice – Dec 2011	<p>Consistent with the Work Health and Safety Act, this code of practice defined specific safe work obligations relating to:</p> <ul style="list-style-type: none"> • 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 Rocklea Training Facility redevelopment are as above.
Policy for the maintenance of Queensland Government buildings	<p>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.</p>	The investment in the Rocklea Training Facility will have a positive impact on the perception of the community by resolving street congestion caused by lack of car parking facilities and by replacing heavily-aged and dilapidated structures.

Table 2: Relevant Legislation, Regulations and Codes

1.6 Limitation of existing assets

1.6.1 Flood prone site

The property is vulnerable to flooding from the Brisbane River and adjacent creek waterways. The extent of the exposure to these two flooding sources is depicted in Appendix K. Any development on the site must consider the maintenance and health of the waterway corridor as approximately 13,100m² (23%) of the northern end of the property is within the “Citywide” waterway corridor. The portion of the property considered flood free is 18,633m² (33%) of the property.

1.6.2 Contaminated land

The property is listed on the Queensland Government Contaminated Land Register as it is known to contain contaminated soil due to previously having an underground fuel store. Contaminants may also be present from a pole chemical treatment area previously located on site. Soil testing has previously been conducted finding that concentrations of chemicals are below investigation levels. Relocation to a different site as explored in investment Option B, therefore, includes expenditure to remediate the contamination issues prior to the sale of the property (section 3.2).

1.6.3 Asbestos Containing Material (ACM)

The site contains 440m² of Asbestos Containing Material (ACM) as recorded in the Asbestos Register and Site Hazard Register (Appendix L). While Energy Queensland has a structured program of asbestos management and renewal, the removal of ACM at the Rocklea Training Facility is best conducted in conjunction with the redevelopment to minimise disruption to site operations. Funding for ACM removal from the Rocklea Training Facility is included in this business case and does not form part of the asbestos removal program.

1.6.4 Disability Access

The code at the time of construction of the structures and buildings did not mandate disability access and no structural changes to the building have since been undertaken (e.g. installation of ramps for disability access etc). Lack of disability access compromises Energex's commitment to providing equal access to employment, learning and professional development opportunities.

1.6.5 Electricity Infrastructure Supply

The transformer that is supplying electricity to the Rocklea Training Facility is located approximately 140 metres from the street access and connected to the Energex network via an underground cable. Such a configuration is rare. In the event of asset failure, Energex crews require access to the property, which may involve digging up the surface to access the underground cable for repair or replacement. The cable runs underneath the training facility hosted in warehouse B3, which may result in significant impact to the site's training operation in the event of asset failure.

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 Rocklea site will maintain their current site configuration and layout with no material redevelopment.

Minimal works will be performed on highly-aged buildings and structures to enable continued operation of the facility through the 2020-25 regulatory control period. Further redevelopment of the site is deferred until the 2025-30 period.

A physical inspection of the condition of each structure was conducted in October 2018. Required near-term remediation works and lifecycle asset replacements through to 2024/25 were independently identified as summarised below².

Scope	Cost
Building B1 - Administration building The office / administration building is a 2-storey walk up suspended slab building including open plan office space, meeting rooms, lunchroom, amenities and IT/server room, and carparking under one wing.	
Defect Remediations: <ul style="list-style-type: none"> • Provide accessible lift core to eastern front entry & unisex facilities • Replace roof & gutters • Fire collars to concrete carparking soffit • New pathways and repairs to spalling concrete 	
Lifecycle Replacements <ul style="list-style-type: none"> • Air handling condenser & heat exchange unit • Fire extinguishers 	
Building B2 - Training workshop/shed A large steel truss framed portal industrial shed used for vehicle parking, general storage and various training purposes.	
Defect Remediations: <ul style="list-style-type: none"> • Obtain certifiers and Queensland Fire & Emergency Services (QFES) referral • Remove and replace roller doors & exits to suit path of travel following certifiers advice • Rebuild training room & kitchen following remodel • Provide PWD unisex facilities & accessible ramps • Re-Instate special fire services & brigade radiant protection walls • Replace all safety signage to suit exits & path of travel • Provide smoke & ventilation venting to each ridge • Remove & replace wall cladding with insulated & ventilation panels • Remove & replace roofs & box gutters with new insulation & lighting panels • Prop portals, remove & replace plinth walls & columns with masonry core filled • Provide engineers designed culvert & plinth wall details on existing footings 	
Lifecycle Replacements <ul style="list-style-type: none"> • Clothes dryer • Fire extinguishers • Panasonic wall hung A/C unit 	

² Commercial Building and Asset Condition & Dilapidation Assessment performed by Homeworthy Inspection Services, October 2018.

Scope	Cost
Building B3 - Training workshop/shed	
A large steel truss framed portal industrial shed used as workshop space, general storage and various training purposes.	
Defect Remediations:	
<ul style="list-style-type: none"> Rebuild offices following remodel Provide PWD unisex facilities & accessible ramps Re-Instate special fire services & brigade radiant protection walls Replace all safety signage to suit exits & path of travel Remove and replace roller doors & exits to suit certifier's advice Remove & replace wall cladding with insulated & ventilation panels Remove & replace roofs & box gutters with new Insulation & lighting panels Prop portals, remove & replace plinth walls & columns with masonry core filled Provide engineers designed culvert & plinth wall details on existing footings 	
Lifecycle Replacements	
<ul style="list-style-type: none"> Fire extinguishers (dry chemical, CO2, foam) APAC ducted condenser unit Mitsubishi A/C units Extraction ventilation fan units 	
Building B4 - Training lunchroom	
A brick and steel portal construction and contains a lunchroom, staff amenities and a training room.	
Defect Remediations:	
<ul style="list-style-type: none"> Replace weathered & damaged door to training Exit signage Remodel female toilets to unisex accessible for launch room Provide accessible paths between building 4 & room 22 for access to recreation Replace covered link roof & flashings Replace cracked concrete patio sections & investigate downpipe drainage for leaks Provide accessible thresholds to entry doors Provide PWD unisex facilities & accessible ramps to rear training Surface upgrade including pathways Provisional sum to investigate concrete holding tank at rear Replace timber fascias Install soffits to buildings for bird & vermin proofing Remove & replace roofs & gutters with new Insulation 	
Lifecycle Replacements	
<ul style="list-style-type: none"> Fire extinguishers (dry chemical) 	
Building B5 - Training room (1)	
Single high set demountable style building, currently utilised as a training room.	
Defect Remediations:	
<ul style="list-style-type: none"> Replace carpet tiles 	
Lifecycle Replacements	
<ul style="list-style-type: none"> Mitsubishi A/C unit split Mitsubishi A/C unit Repainting access rails Exhaust fan unit 	
Building B6 - Training room (2)	
Single high set demountable style building, currently utilised as a training room.	
Defect Remediations:	
<ul style="list-style-type: none"> Upgrade drainage to direct water away from building to field gully Provision of access is afforded by building 9 colour contrasting to stair 	
Lifecycle Replacements	
<ul style="list-style-type: none"> Fire extinguishers (dry chemical) 	

Scope	Cost
Building B7 - Training rooms (3) Single high set demountable style building, currently utilised as a training room.	
Defect Remediations: <ul style="list-style-type: none"> • Install insulation to floor • Provide PWD accessible ramps to front & Rear to recreational area 	
Lifecycle Replacements <ul style="list-style-type: none"> • Fujitsu A/C units • Mitsubishi A/C units (split) • Mitsubishi A/C unit • Exhaust fan unit • Fire extinguisher 	
Building B8 - Training rooms (2) Single high set demountable style building, currently utilised as a training room.	
Defect Remediations: <ul style="list-style-type: none"> • Replace carpet tiles 	
Lifecycle Replacements <ul style="list-style-type: none"> • Shade sail structure • Fujitsu A/C units • Fujitsu A/C units (split) 	
Building B9 - Training rooms (8) Single high set demountable style building, currently utilised as a training room.	
Defect Remediations: <ul style="list-style-type: none"> • Access upgrades 	
Lifecycle Replacements <ul style="list-style-type: none"> • Teco inverter A/C units (split) • Teco inverter A/C units • Mitsubishi A/C Unit • Exhaust fan units • AV Projector equipment • Fire extinguishers • Fire hose rack (FHR) 	
Site Grounds and Miscellaneous Structure	
Defect Remediations: <ul style="list-style-type: none"> • Replace line marking • Resurface asphalt areas & carparking • Replace security fencing • Provisional sum for repairs to storage fire tanks • Repair cracked concrete crossover 	
	Total

Table 3: Base Case Site Defect Remediations and Lifecycle Replacements (2018/19 \$Real)

2.2 Assumptions

For this case, it is assumed that:

- 2020-25 capital works costs have been estimated by the external condition assessor [REDACTED] listed in Table 3 (above) based on their independent 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]

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	<ul style="list-style-type: none">• No atypical disruption to training operations at the Rocklea 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 below) 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
<p>Risk 1. High people flow combined with the complexity of the site leads to incidents and accidents causing personal harm to training participants and staff working on site.</p> <p>On site are 10 buildings and Energex has installed 17 pedestrian crossings to partially assist management of traffic between pedestrians, moving vehicles and plant.</p> <p>Vehicle access issues in building B2 which is utilised for vehicle storage and practical training delivery, combined with pole constructions and other structures</p>	Safety	Pre Mitigation	<p>3 (Moderate)</p> <p>Serious injury with potential short term hospitalisation</p>	<p>4 (Likely)</p>	<p>12 (Moderate)</p>

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
<p>used for training inside building B2, result in complex manoeuvring of vehicles. Two vehicle / machinery accidents within the warehouse shed are recorded in Energex's safety management system (2014). A further accident causing damage to a vehicle as a result of difficult site manoeuvring was recorded in 2009.</p> <p>On peak days around 200 cars arrive at the facility, which cannot be accommodated on-site, resulting in risks to the community due to street congestion.</p>					
<p>Risk 2. The site, which was originally built for warehouse purposes, is inflexible and cannot adjust to changing business and training needs.</p> <p>There is accelerating change in industry technological development requiring rapid evolution of training approaches. In recent years, this has included the growing penetration of photovoltaic solar systems, batteries and other distributed energy resources. Further emergence of new technologies and applications may require different types of facilities and space to adequately deliver training to keep staff and the community safe.</p>	Business Impact	Pre Mitigation	<p>3 (Moderate) Cost premium (>50% of estimates required to deliver the outcome)</p>	<p>4 (Likely)</p>	<p>12 (Moderate)</p>
<p>Risk 3. Rocklea 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.</p> <p>As a registered RTO, Energex 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.</p>	Business Impact	Pre Mitigation	<p>3 (Moderate) Compliance with training standard</p>	<p>5 (Very Likely)</p>	<p>15 (Moderate)</p>

Table 5: Counterfactual (Base Case) Risks

3 Options Analysis

This section considers the following options analysis:

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

3.1 Option A: Redevelop the site

3.1.1 Summary

This option will redevelop the existing site, with consolidation of training structures into a new fit-for-purpose facility above the flood level of January 2011. The consolidation reduces the total number of buildings from 10 to 3 and building floor area from 7,577m² to 5,508m² (a net reduction of 2,069m²), thereby reducing operational and maintenance costs and optimising utilisation. Safety risks are mitigated through a reduction in site complexity with a corresponding removal of safety hazards.

Two buildings remain unchanged, namely the amenities facility building B4 and the building B9. Building B9 hosts eight training and meeting rooms including three computer training rooms. These two buildings are in a good condition and align with the current and future requirements of the facility. B9 was installed following the 2011 Brisbane floods and accommodates amenities and access for persons with a disability, in accordance with modern building standards. The amenities building (B4) was recently refurbished and meets both near and long term requirements.

The existing training yard will remain in its current form. The yard is fit-for-purpose, and while it is located below the flood line the overhead nature of the structures greatly reduces the potential for flood damage. Site consolidation also allows for an increase in car parking capacity, alleviating existing and future congestion and parking pressures on the surrounding community.

Under this proposal, the asbestos removal work will occur in conjunction with the site redevelopment removing any further disturbances to site operations. The redevelopment is proposed to be completed in phases in order to minimise disruption to the operation of the facility.

The proposed site layout of Option A is included in Appendix I. The table below provides an overview of the buildings which are in scope for redevelopment in Option A.

Ref.	Main purpose	Age (at 2020)	Building BFA	Proposal
B4	Amenities - lunch room	56	334 m ²	Retain <ul style="list-style-type: none"> • B4, Amenities - 359 m² • B9, Training rooms - 560 m² Minor remediations based on condition assessment.
B4A	Amenities - toilets	1	25 m ²	
B9	Meeting / training rooms	9	560 m ²	
B1	Administration / Storage	36	317 m ² / 70 m ²	Redeveloped training facility <ul style="list-style-type: none"> • Administration - 317 m² (BFA reduction - 70 m²) • Workshop - 4075 m² (BFA reduction - 1747 m²) • Meeting/Training room - 197 m² (BFA reduction - 252 m²)
B2	Warehouse/workshop training	68	2907 m ²	
B3	Warehouse/workshop training	68	2975 m ²	
B5	Meeting / training rooms	14	69 m ²	
B6	Meeting / training rooms	42	85 m ²	
B7	Meeting / training rooms	49	143 m ²	
B8	Meeting / training rooms	12	92 m ²	
Total			7,577 m ²	5,508 m ² (reduction 2,069 m ² or 27.3%)

Table 6: Option A - Summary

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 D estimate of [REDACTED] de-escalated 2.1% to 18/19 real terms).
- Costs for the relocation of specialised training equipment (workshop equipment used for practical training delivery) includes semi-trailer and small crane hire [REDACTED] to disassemble, relocate and reassemble equipment. [REDACTED]
- Defect remediations and lifecycle replacements for buildings B4 and B9 are as per the base case. [REDACTED]
- Funding for ACM removal from the Rocklea Training Facility is included in this business case and does not form part of the asbestos removal program.
- Operating costs have been forecast based on historical actuals and assumptions as follows:

[REDACTED]	
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- 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.

3.1.3 Benefits

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

Area	Benefits Identified	Value
Operational Efficiencies	<ul style="list-style-type: none"> • Improved site efficiencies as a result of site and building layout reconfiguration, including vehicle flow efficiencies in the warehouse. • Renewed electricity supply configuration, which does not impact the training operation in the event of failure from distribution network assets (site limitation). • Less training disruption resulting from reduced site maintenance. 	[REDACTED]
	[REDACTED]	
Maintenance & Energy Costs	<ul style="list-style-type: none"> • Reduced maintenance and energy cost as a result of modern building standards. 	Reflected in operating costs (above)
WH&S	<ul style="list-style-type: none"> • Improved pedestrian flow as a result of simplified site layout, resulting in less traffic management measures such as pedestrian crossings. • Reduced number of safety hazards as a result of building and floor space consolidation (From 10 buildings to 3 buildings) and site hazard removal (see Appendix L). • All facilities provide disability access, in accordance with modern building standard and facility requirements of an RTO. 	Non-financial

Area	Benefits Identified	Value
Compliance	<ul style="list-style-type: none"> Improved building sustainability as a result of alignment with the latest National Construction Code (NCC). All statutory and technical requirements to ensure health, safety, security and reliability are met. 	Non-financial
Brand	<ul style="list-style-type: none"> The Energex corporate brand remains strong as a result of provisioning contemporary industry standard facilities. Provision of quality facilities that align with the high quality of training delivery provided at the Rocklea site. 	Non-financial

Table 7: 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. High people flow combined with the complexity of the site leads to incidents and accidents causing personal harm to training participants and staff working on site.	Safety	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option consolidates ten buildings into three, thereby reducing shared traffic flow between people and moving vehicles and plant. If incidents occur, it is expected that these would be minor such as trips and falls unrelated to collision of persons with moving vehicles. The likelihood is also reduced through the provision of adequate on-site parking mitigating the requirement for substantial use of on-street parking.	2 (Low)	2 (Very Unlikely)	4 (Very Low)
Risk 2. The site, which was originally built for warehouse purpose is inflexible and cannot adjust to changing business and training	Business Impact	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option provides modern training facilities that are flexible to industry changes. This includes flexible wall configurations to adjust training room size and strengthened workshop floors to accommodate heavy machinery.	1 (Insignificant)	3 (Unlikely)	3 (Very Low)

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 3. Rocklea 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.	Business Impact	Pre Mitigation	3 (Moderate)	5 (Very Likely)	15 (Moderate)
		Post Mitigation This option provides a new facility in accordance with all the current 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 8: Option A - Risks

3.2 Option B: Move to a greenfield site

3.2.1 Summary

This investment option will transition from the existing Rocklea Training Facility, through the purchase of a greenfield site and construction of a new modern training facility. On completion of the new facility, the existing Rocklea site would be remediated and prepared for sale.

The new land parcel would need to be approximately 44,000m² in size to meet Energex's training requirements. This is approximately 78% of the existing 56,660m² parcel (a 22% land reduction).

The new facility would be designed as a fit-for-purpose training facility subject to detailed requirements definition. The training yard at the existing Rocklea facility would need to be rebuilt at the new site.

3.2.2 Assumptions

For this case, it is assumed that:

- The greenfield site acquisition is estimated at [REDACTED], which is a mid-range value based on the Savills Research Briefing Brisbane Industrial Report (June 2019)³.
- New development costs have been estimated at [REDACTED] in 18/19 real terms. I.e. The Appendix E estimate of [REDACTED] (in 19/20 real terms), de-escalated 2.1% to 18/19 real terms. The AECOM estimate includes costs for site preparations at the new greenfield location as well as remediation of the existing site for sale.
- Costs for the relocation of specialised training equipment (workshop equipment used for practical training delivery) includes semi-trailer and small crane hire [REDACTED] to disassemble, relocate and reassemble equipment. [REDACTED]
- The existing site disposal value⁴ is estimated at [REDACTED] based on the following:
 - 32.9% of the site (18,633 m²) is above flood levels and suitable for development. This portion of the site is estimated to be valued at [REDACTED] based on recent sales of equivalent land in the area.
 - 44% of the site (24,927m²) is flood-prone and not suitable for building development and

³ Relevant Brisbane southside land values for 10,000 – 50,000 m² are \$300 (high), \$225 (low).

⁴ Recent relevant sales in the area include: [REDACTED]

would be of limited function for most potential purchasers. The training yard is currently located in this area. This portion of the site is estimated to be valued at \$60/m².

- 23% of the site (13,100m²) is low lying and heavily wooded, directly adjacent the water course and highly flood-prone. It is not suitable for building development or most other uses. Energex does not currently use this area. This portion of the site is estimated to be valued at [REDACTED]
- Costs to re-establish the training yard at the greenfield site are estimated at [REDACTED] based on the yard design provided in Appendix N, including:
 - 120 poles and pole mounted plant
 - 5 underground plant services
 - 20 underground pillars and equipment
 - Design and civil works
- Annual operating costs have been forecast based on historical actuals as follows:
 - As per Option A, except for land tax and rates which are as per the base case (and Option A) reduced by 22% in accordance with the land size reduction.
- 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.

3.2.3 Benefits

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

Area	Benefits Identified	Value
Operational Efficiencies	<ul style="list-style-type: none"> Improved site efficiencies as a result of a new purpose-designed site layout, including vehicle flow efficiencies in the warehouse. Reduced training disruption resulting from site maintenance. 	[REDACTED]
Maintenance & Energy Costs	<ul style="list-style-type: none"> Reduced maintenance and energy cost as a result of modern building standards. 	Reflected in operating costs
WH&S	<ul style="list-style-type: none"> Rocklea site exit activities, such as building demolition and asbestos removal occur after relocation to the new site. Thereby reducing the potential for exposure to workplace, health and safety hazards. All of the site hazards identified at the current site are eliminated (Appendix L). 	Non-financial
Compliance	<ul style="list-style-type: none"> Improved building sustainability as a result of alignment with the latest National Construction Code (NCC). All statutory and technical requirements to ensure health, safety, security and reliability are met. 	Non-financial
Brand	<ul style="list-style-type: none"> The Energex corporate brand remains strong as a result of provisioning contemporary industry standard facilities Provision of quality facilities that align with the high quality of training delivery provided at the Rocklea site. 	Non-financial

Table 9: 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. High people flow combined with the complexity of the site leads to incidents and accidents causing personal harm to training participants and staff working on site.	Safety	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option consolidates ten buildings into a purpose designed facility at a new site, thereby significantly reducing shared traffic flow between people and moving vehicles and plants. If incidents occur, it is expected that these would be minor such as trips and falls unrelated to collision of persons with moving vehicles. The likelihood is also reduced through the provision of adequate on-site parking mitigating the requirement for substantial use of on-street parking.	2 (Low)	2 (Very Unlikely)	4 (Very Low)
Risk 2. The site, which was originally built for warehouse purpose is inflexible and cannot adjust to changing business and training	Business Impact	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option provides modern training facilities that are flexible to industry changes. This includes flexible wall configurations to adjust training room size and strengthened workshop floors to accommodate heavy machinery.	1 (Insignificant)	3 (Unlikely)	3 (Very Low)
Risk 3. Rocklea 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.	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, which includes access for people with a disability.	1 (Insignificant)	1 (Almost No Likelihood)	1 (Very Low)

Table 10: Option B – Risks

3.3 Option C: Refurbish the site (preferred)

3.3.1 Summary

This option will refurbish the existing Rocklea site and facilities. Through this option, the existing large workshop B3 will be retained and refurbished (i.e. roofing, lighting and ventilation refurbishment). The existing Administration Building (B1) will also be internally redesigned and refurbished for sustainability. The other existing workshop B2 will be demolished and replaced with a smaller facility for the purposes of Overhead Training and the Test & Verify Unit.

The indicative site layout of Option C is included in Appendix J. The table below provides an overview of the Option C scope.

Ref.	Main purpose	Age (at 2020)	Building BFA	Proposal
B4	Amenities - lunch room	56	334 m ²	Retain (Minor remediations based on condition assessment) • B4, Amenities - 359 m ² • B9, Training rooms - 560 m ²
B4A	Amenities - toilets	1	25 m ²	
B9	Meeting / training rooms	9	560 m ²	
B3	Warehouse/workshop training	68	2975 m ²	Refurbish • B3, Workshop - 2975 m ² • B1, Administration - 387 m ²
B1	Administration / Storage	36	317 m ² / 70 m ²	
B2	Warehouse/workshop training	68	2907 m ²	Redeveloped training facility • B2 demolish and replace with smaller facility for Overhead Training and the Test & Verify Unit - 1454 m ² • Meeting/Training room - 197 m ²
B5	Meeting / training rooms	14	69 m ²	
B6	Meeting / training rooms	42	85 m ²	
B7	Meeting / training rooms	49	143 m ²	
B8	Meeting / training rooms	12	92 m ²	
Total			7,577 m ²	5,932 m ² (reduction 1,645 m ² or 21.7%)

Table 11: Option C – Summary

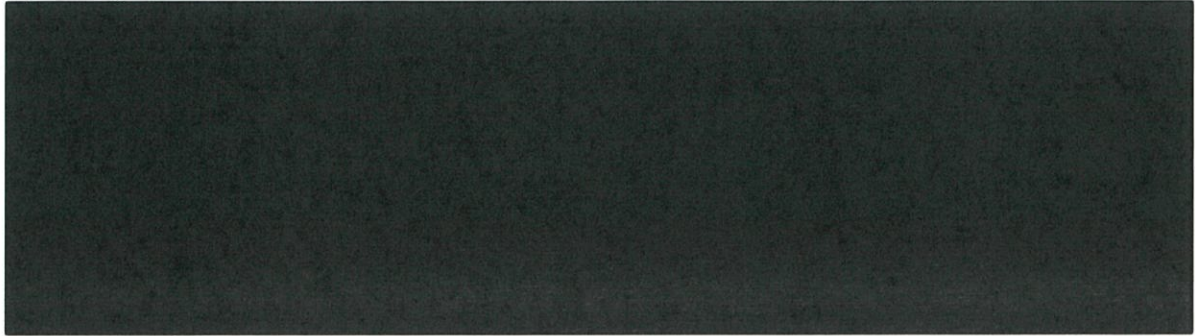
Energex has assumed the selection of this preferred option, with the identified financial benefits and operating cost savings contributing to Energex's forecast opex reductions for the 2020-25 period.

3.3.2 Assumptions

For this case, it is assumed that:

- Refurbishment costs have been estimated at [REDACTED] by independent quantity surveyors AECOM (i.e. Appendix F estimate of [REDACTED] de-escalated 2.1% to 18/19 real terms)
- Costs for the relocation of specialised training equipment (workshop equipment used for practical training delivery) includes semi-trailer and small crane hire [REDACTED] to disassemble, relocate and reassemble equipment. [REDACTED]
- Defect remediations and lifecycle replacements for buildings B4 and B9 are as per the base case. [REDACTED]
- Funding for ACM removal from the Rocklea Training Facility is included in this business case and does not form part of the asbestos removal program.
- As this option refurbishes workshop B3, it is assumed that 10-15 years later it will then need to be replaced. At that time, the workshop will be more than 80 years old. Cost for this later replacement is assumed at [REDACTED] in the 2035-40 period calculated based on 2,975m² at [REDACTED]

- Operating costs have been forecast based on historical actuals and assumptions as follows:



- 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.

3.3.3 Benefits

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

Area	Benefits Identified	Value
Operational Efficiencies	<ul style="list-style-type: none"> Improved site efficiencies as a result of site and building refurbishment as well as replacement of B2 including vehicle flow efficiencies in the warehouse. Less training disruption resulting from reduced site maintenance. 	
Maintenance & Energy Costs	<ul style="list-style-type: none"> Reduced maintenance and energy cost as a result of modern building standards. 	Reflected in operating costs
Brand	<ul style="list-style-type: none"> The Energex corporate brand remains strong as a result through provisioning of contemporary industry standard facilities. Provision of quality facilities that align with the high quality of training delivery provided at the Rocklea site. 	Non-financial

Table 12: Option C - Benefits

3.3.4 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. High people flow combined with the complexity of the site leads to incidents and accidents causing personal harm to training participants and staff working on site.	Safety	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option refurbishes key structures (workshop B3 and admin building B1) and redevelops a smaller replacement for workshop B2. Carparking is also improved. It thereby it allows some improvement to site layout, but not major change.	3 (Moderate)	3 (Unlikely)	9 (Low)

Risk Scenario	Risk Type	Mitigation Status	Consequence	Likelihood	Risk Score
Risk 2. The site, which was originally built for warehouse purpose is inflexible and cannot adjust to changing business and training	Business Impact	Pre Mitigation	3 (Moderate)	4 (Likely)	12 (Moderate)
		Post Mitigation This option refurbishes one of the workshops (B3) and replaces another (B2) with a smaller facility. It therefor partly reduces the likelihood and consequence.	2 (Low)	3 (Unlikely)	6 (Low)
Risk 3. Rocklea 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.	Business Impact	Pre Mitigation	3 (Moderate)	5 (Very Likely)	15 (Moderate)
		Post Mitigation This option updates the facility to include access for people with a disability.	1 (Insignificant)	1 (Almost No Likelihood)	1 (Very Low)

Table 13: Option C – Risks

3.4 Economic analysis of identified options

3.4.1 Cost versus benefit assessment of each option

Table 14 (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 14: Net present value of options

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

3.4.2 Cash flow forecast

Table 15 (below) summarises the forecast cashflow of capex and opex costs for Option C (preferred).

Table 15: Cash flow forecast

3.4.3 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.

3.5 Scenario Analysis

3.5.1 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 16 (below) summarises the cost benefit sensitivity parameters used in the scenario analysis for this business case.

Type	Element	Worst	Best	Rationale
Costs	Redevelopment / Development 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.
Benefit	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 16: Cost Benefit Sensitivity Parameters

3.5.2 Scenario Analysis

Table 17 (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 C).

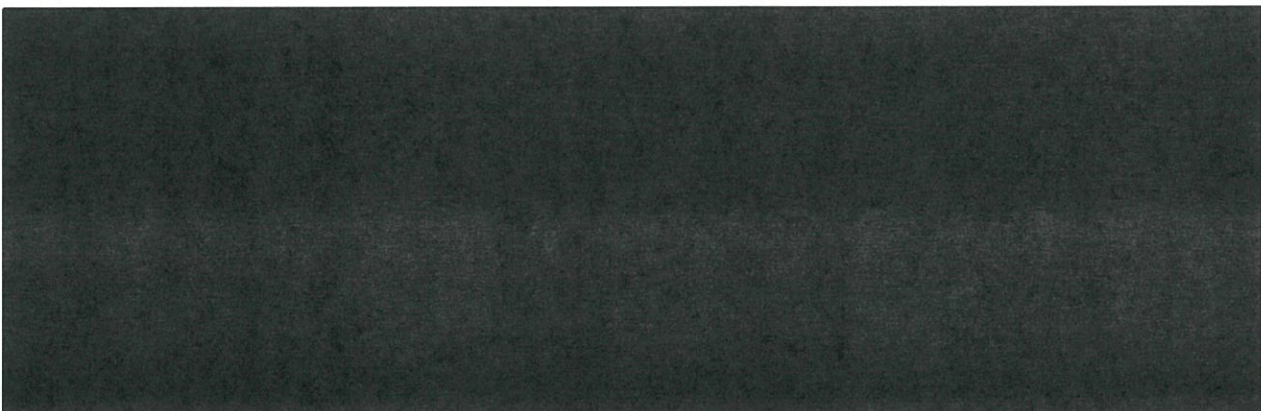


Table 17: Scenario Analysis

3.6 Qualitative comparison of identified options

Table 18 below summarises the advantages and disadvantages of each option considered.

Option	Advantages	Disadvantages
Counterfactual (Base Case)	<p>As the counterfactual “base case”, continuing with existing facilities:</p> <ul style="list-style-type: none"> Minimises organisational change impact on training delivery practices. 	<p>This option does not address the identified investment needs. I.e.</p> <ul style="list-style-type: none"> Does not renew heavily aged and dilapidated property assets for long term sustainability and efficiency. Does not deliver a contemporary training facility based on effective configuration, flexible layout and structural design. Does not address existing higher property operational costs. Does not reduce the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. 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	<p>Consistent with the identified investment need, this option:</p> <ul style="list-style-type: none"> Renews and consolidates the heavily aged and dilapidated property assets for long term sustainability and efficiency. Deliver a contemporary training facility based effective configuration, flexible layout and structural design. Address existing elevated property operational costs ensuring operational costs are aligned with comparable properties of similar type and size. Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. Mitigates inherent safety risks. Addresses all property limitations identified in this business case (section 1.6) 	<p>Nil - This option meets all the investment needs of the business case.</p>
Option B – Move to a greenfield site	<p>Consistent with the identified investment need, this option:</p> <ul style="list-style-type: none"> Renews and consolidates the heavily aged and dilapidated property assets for long term sustainability and efficiency. Deliver a contemporary training facility based effective configuration, flexible layout and structural design. Address existing higher property operational costs ensuring 	<p>This option meets all the investment needs of the business case however, it is not the preferred option because it:</p> <ul style="list-style-type: none"> Does not provide the most efficient investment option. Potential for time delay to select a new site, which may extend the interim period of elevated operating costs. Results in additional change impact to staff members as a result of

Option	Advantages	Disadvantages
	<p>operational costs are aligned with comparable properties of similar type and size.</p> <ul style="list-style-type: none"> • Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. • Mitigates inherent safety risks. • Addresses all property limitations identified in this business case (section 1.6) 	<p>a new workplace location and potentially longer travel time to the office.</p>
<p>Option C – Refurbish the site</p>	<p>Consistent with the identified investment need, this option:</p> <ul style="list-style-type: none"> • Refurbishes and partly redevelops the heavily aged and dilapidated property assets for medium term sustainability and efficiency. • Largely delivers a contemporary training facility with flexible layout and design. • Address existing elevated property operational costs ensuring operational costs are aligned with comparable properties of similar type and size. • Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation. • Mitigates inherent safety risks to a “Low” residual level. • Addresses most property limitations identified in this business case (section 1.6) • Represents the best overall NPV. 	<p>This option mostly meets all the investment needs of the business case, with some limitation due to the focus on refurbishment rather than full redevelopment.</p>

Table 18: Qualitative Comparison of Option

3.7 Change Impacts

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

Unit / Team	Impact	Rating Low / Med / High
Training participants	<ul style="list-style-type: none"> 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
Energex Technical Training and Apprentice (TT&A) staff	<ul style="list-style-type: none"> 23 staff members located full time at the Rocklea Training Facility will be impacted as their workplace environment undergoes change. Temporary office accommodation at the Rocklea premises is proposed to accommodate staff on site until the new development is completed, certified and made available for occupancy. Change impact associated with staff moving to new office premises. 	Medium

Table 19: Change Impact Summary

3.8 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 Energex'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 distribution network and the provision of a safe, reliable network to the community. Energex's investment in training facilities ensures safe working on the distribution 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 Homeworthy. Energy Queensland undertakes competitive market procurement processes to ensure efficiency in project cost, capital and operational expenditure.
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. 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.

NER Capital Expenditure Requirements	Rationale
<p>6.5.7 I (1) (iii)</p> <p>The forecast capital expenditure reasonably reflects a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objective</p>	<p>Cost for this investment has been forecast based on knowledge of technical training requirements and in accordance with operating and maintaining the distribution network.</p> <p>These estimates include a build-up with realistic input costs informed by property industry expertise.</p> <p>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.</p>

Table 20: Investment alignment with NER capital expenditure requirements

4 Recommendation

“Option C: Refurbish 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 addresses the identified investment needs including that it:
 - Refurbishes and partly redevelops the heavily aged and dilapidated property assets for medium term sustainability and efficiency.
 - Largely delivers a contemporary training facility with flexible layout and design.
 - Address existing elevated property operational costs ensuring operational costs are aligned with comparable properties of similar type and size.
 - Reduces the frequency of planned and unplanned maintenance activities, resulting in disruption to the training operation.
 - Mitigates inherent safety risks to a “Low” residual level.
- It is consistent with Energex’s capital expenditure requirements under the National Electricity Rules; and
- The identified efficiency benefits and operating cost savings contribute to Energex’s forecast opex reductions for the 2020-25 period. [REDACTED]

Total forecast capex in the 2020-25 period for this option is [REDACTED]. 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 Energex 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 4).

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 4: Network Risk Framework

Appendix B. Acronyms and abbreviations

The following abbreviations and acronyms appear in this business case.

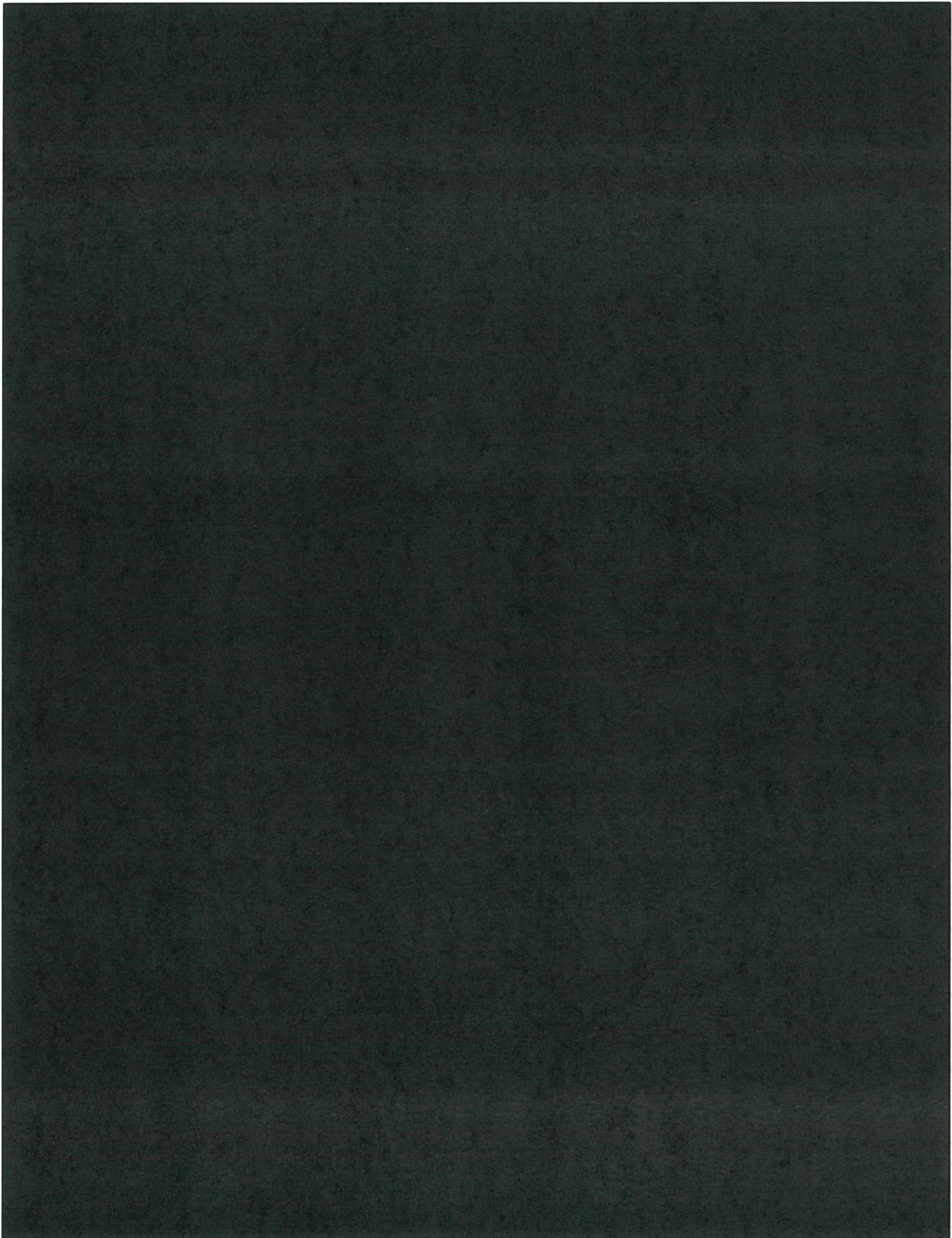
Abbreviation or acronym	Definition
ACM	Asbestos Containing Material
BFA	Building Floor Area
Capex	Capital Expenditure
DNSP	Distribution Network Service Provider
Energy Queensland	Energy Queensland Limited
EWP	Elevating Work Platforms
NPV	Net Present Value
Opex	Operating Expenditure
RTO	Registered Training Organisation
TT&A	Technical Training and Apprentice (TT&A) staff
WH&S	Workplace Health and Safety

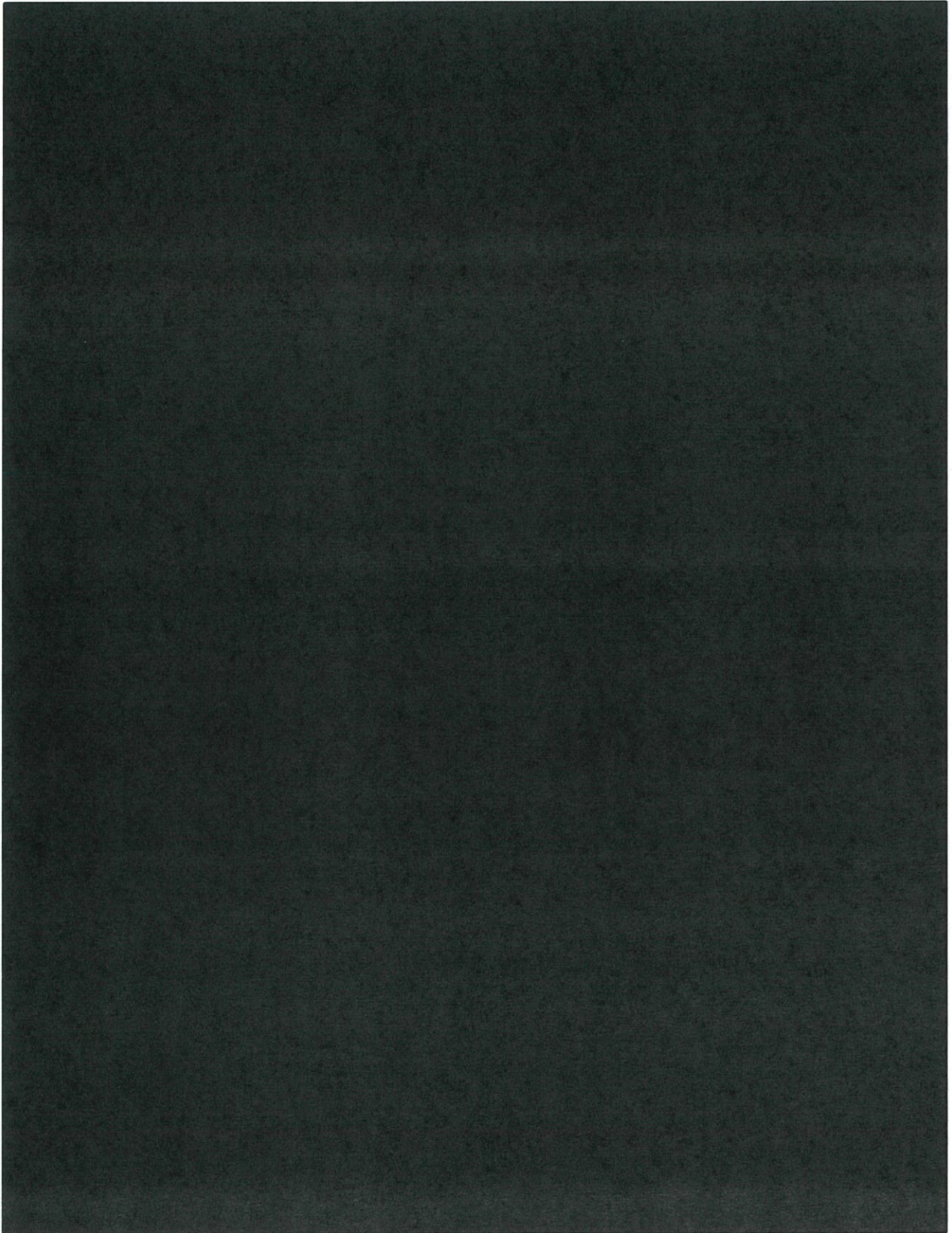
Appendix C. Overview of buildings at the Rocklea site

Ref.	Main purpose	Age (2020)	Area	Description and limitations
Yard	Training Yard	51	29,200 m ²	<ul style="list-style-type: none"> Fit-for-purpose
B1	Administration / meeting room	36	387 m ²	<ul style="list-style-type: none"> Nearing end-of-life, deteriorated & aged Low utilisation resulting from level 1 not suitable for occupancy (ceiling height not compliant for occupancy) No access for disabled persons, therefore non-compliant with the Standard for RTOs (2015) Asbestos containing construction
B2	Practical training – Overhead, Live Line, Test & Verify Training	68	2907 m ²	<ul style="list-style-type: none"> End-of-life, deteriorated RTO suitability issues (not fit-for-purpose) Warehouse construction Floor strength is unsuitable for heavy training equipment / plant Asbestos containing construction
B3	Practical training Substation and Underground Training	68	2975 m ²	<ul style="list-style-type: none"> End-of-life, deteriorated RTO suitability issues (not fit-for-purpose) Warehouse construction, floor strength is unsuitable for heavy training equipment / plant Asbestos containing construction
B4	Lunchroom and Amenities	56	334 m ²	<ul style="list-style-type: none"> Asbestos containing construction.
B4	Lunchroom and Amenities	56	334 m ²	<ul style="list-style-type: none"> Asbestos containing construction.
B5	Meeting rooms (x1) Demountable	14	105 m ²	<ul style="list-style-type: none"> Ongoing mould issues as a result of flood damage Size / layout issues
B6	Meeting rooms (x2) Demountable	42	85 m ²	<ul style="list-style-type: none"> End-of-life, deteriorated & aged Size / layout issues Asbestos containing construction
B7	Meeting room (x3) Demountable – Metering Training	49	143 m ²	<ul style="list-style-type: none"> End-of-life, deteriorated & aged Size / layout issues Asbestos containing construction
B8	Meeting room (x2) Demountable	12	92 m ²	<ul style="list-style-type: none"> Demountable
B9	Meeting room (8) – Training and computer rooms	9	560 m ²	<ul style="list-style-type: none"> Replaced in 2011 following floods

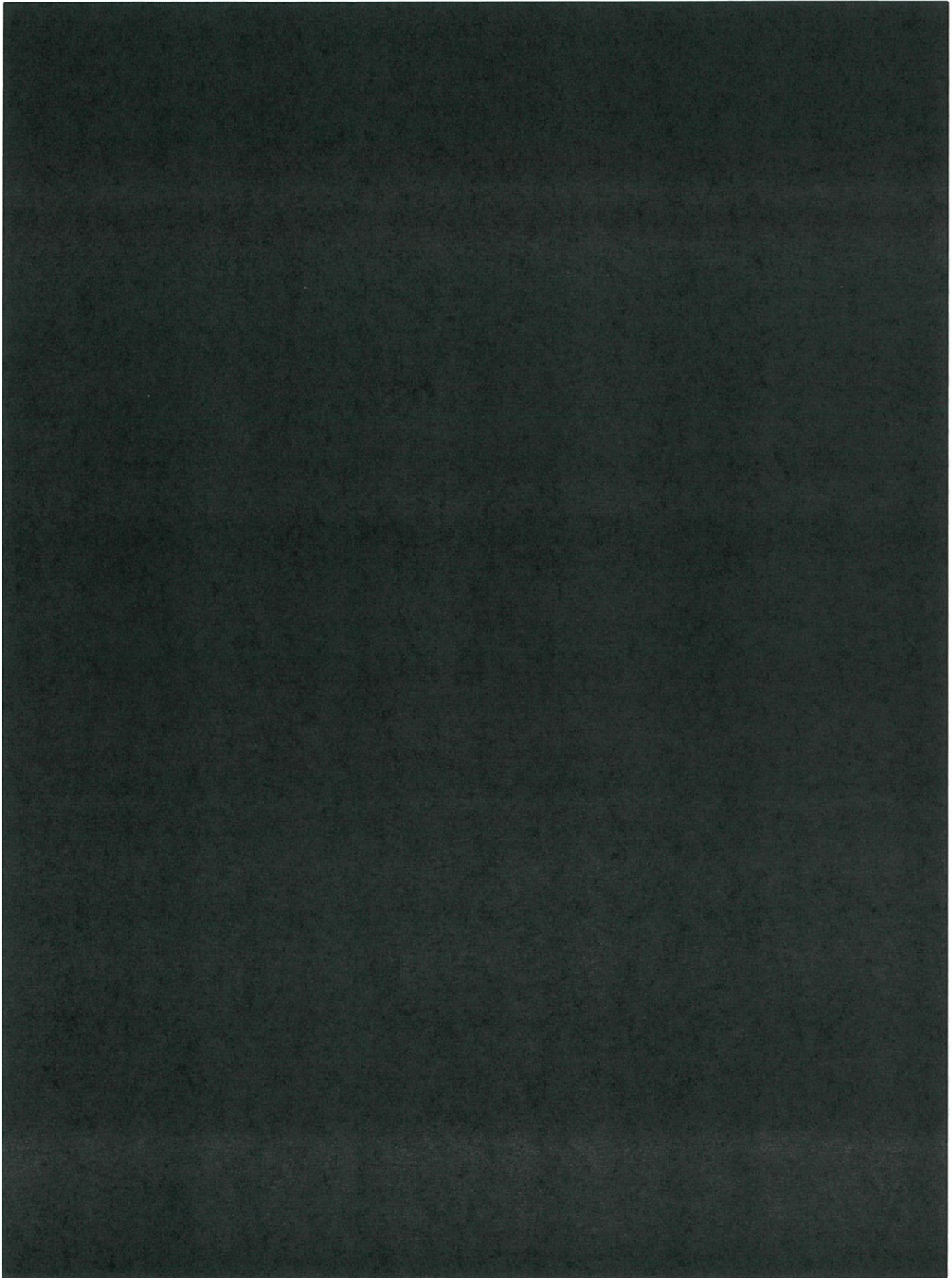
Appendix D. Quantity Surveyor Estimate - Option A

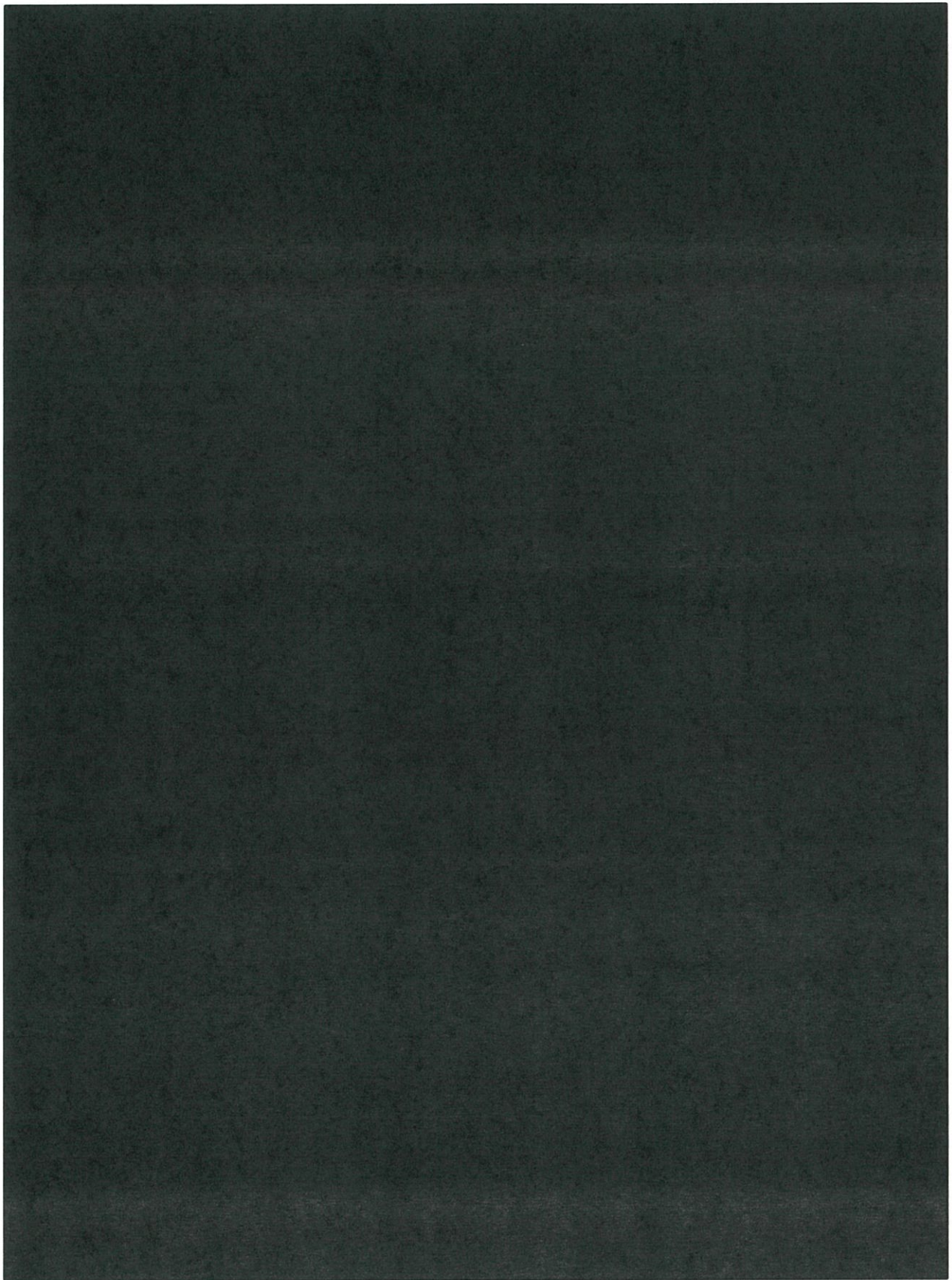
AECOM Estimate - Option A Redevelop the Site

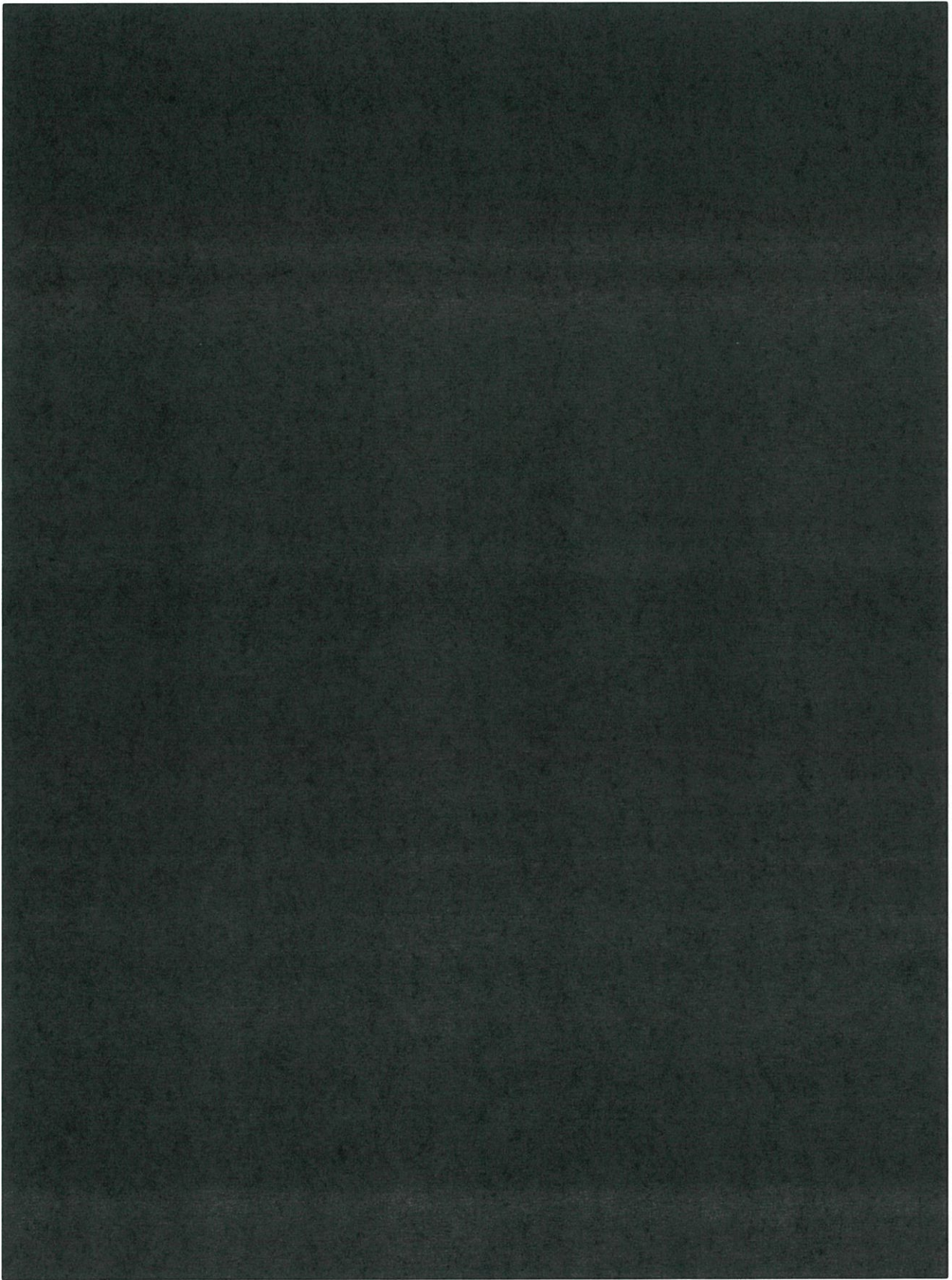




Appendix E. Quantity Surveyor Estimate - Option B

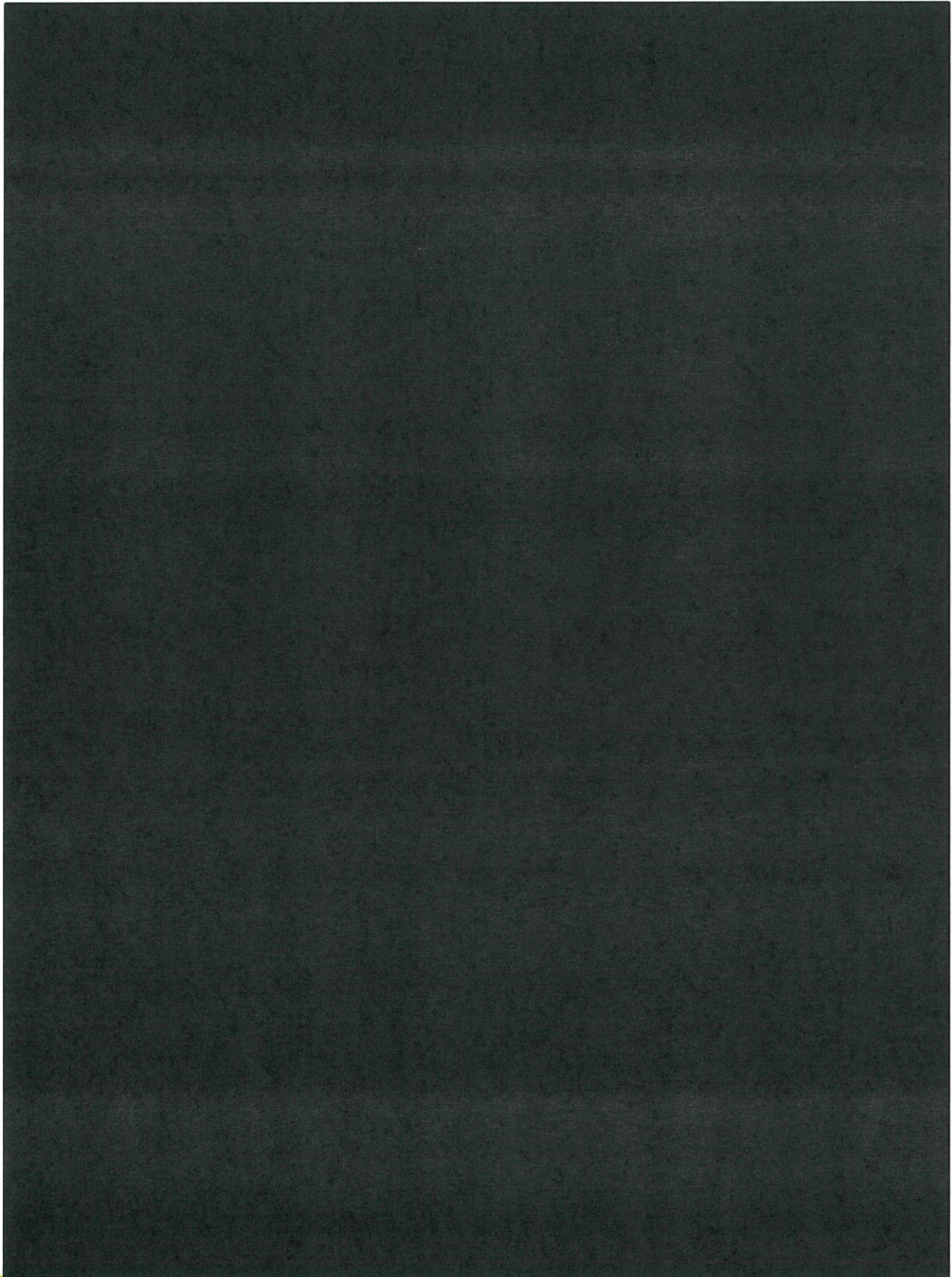


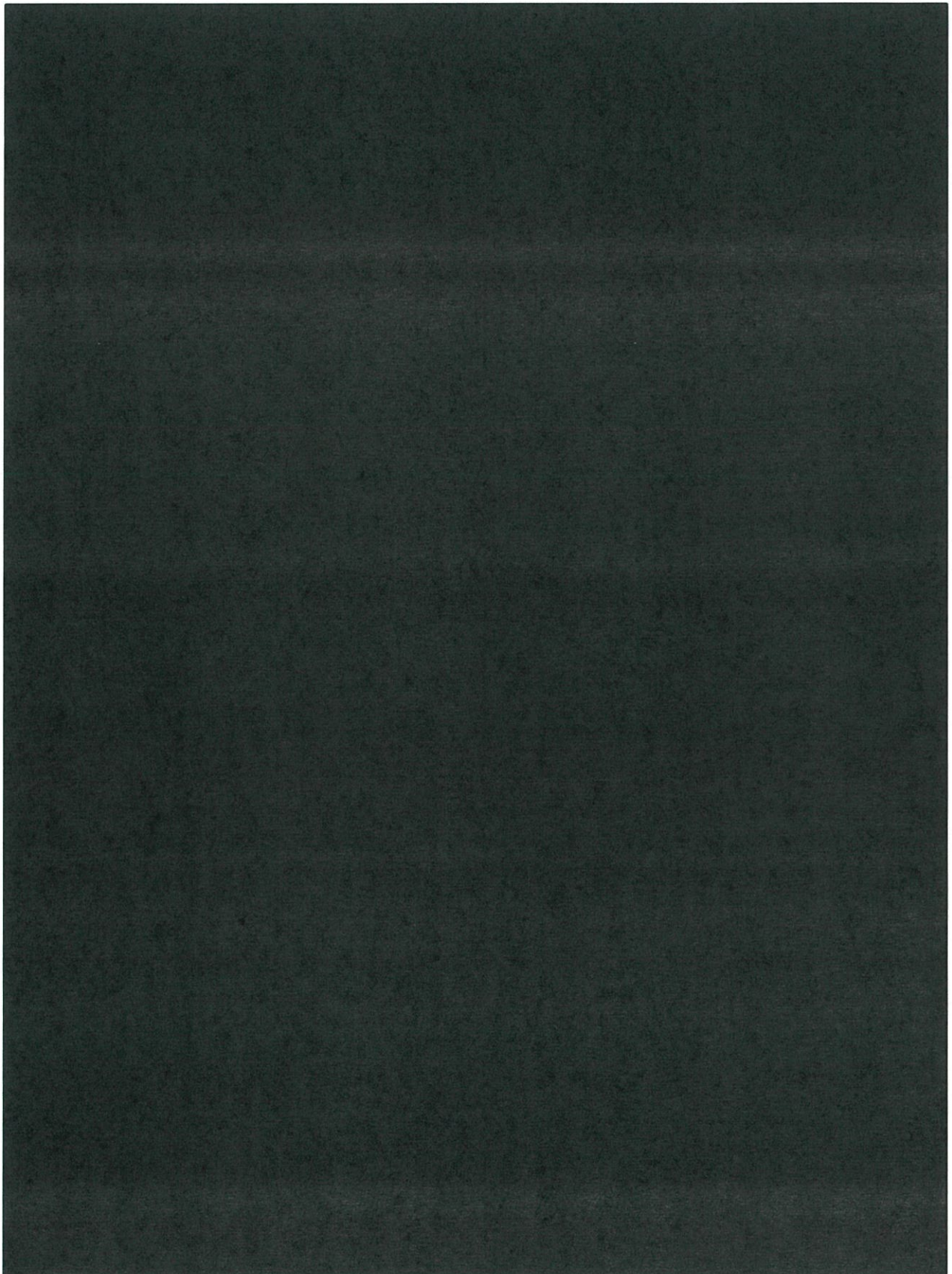


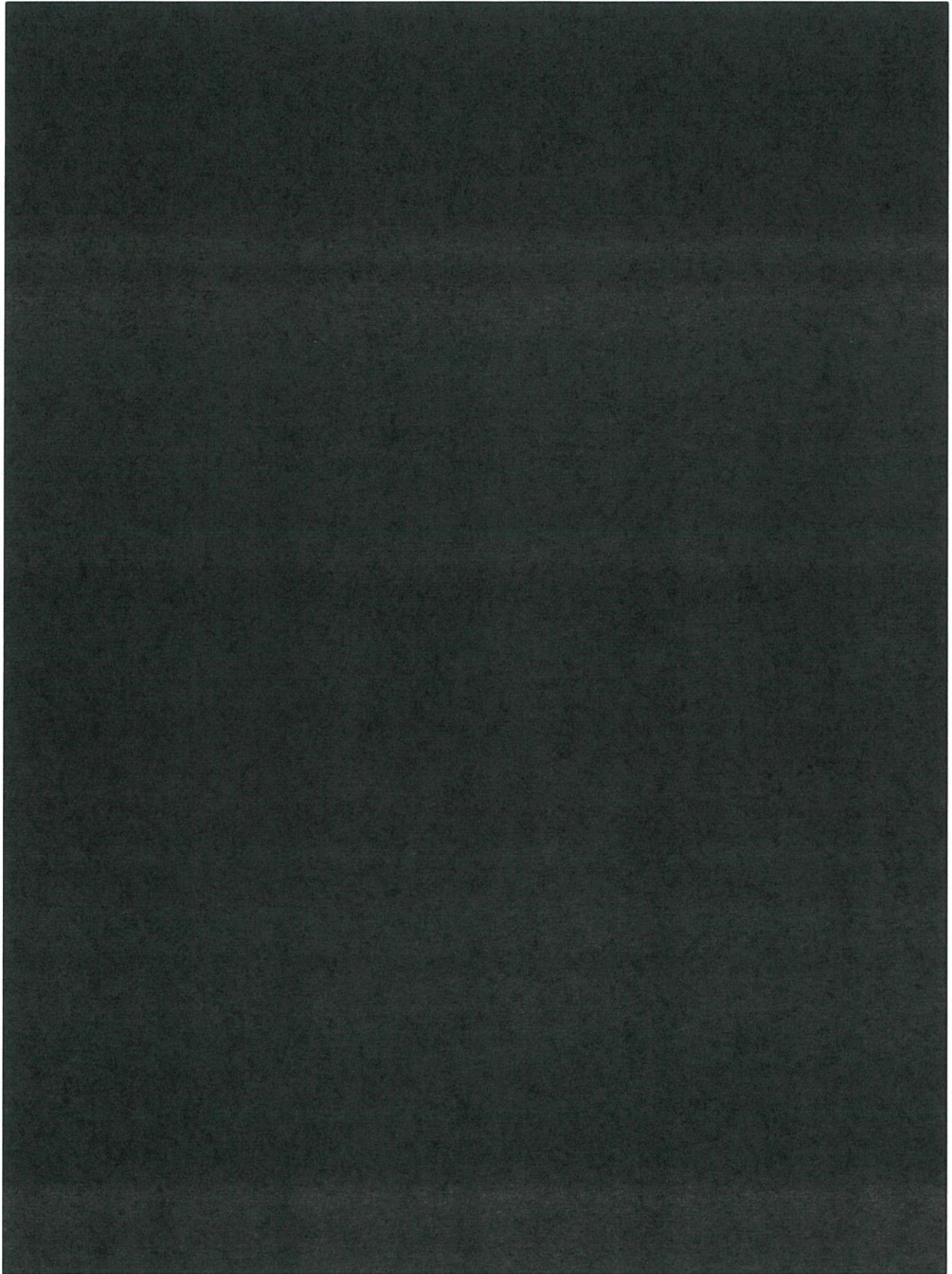


Appendix F. Quantity Surveyor Estimate - Option C

AECOM Cost Estimate: Option C - Refurbish the site








Appendix G. Site effectiveness

Training classrooms

Rocklea Training Facility	Benchmark Site
<p>Current fit-for-purpose limitations include:</p> <ul style="list-style-type: none"> Classrooms are not suitable in size with average capacity of 12. With more than 50% of classrooms having a max capacity of 8. No digital screens in most classrooms across the site. Classrooms are not ergonomic in design. Classrooms are not functional for effective training purposes. 	<p>Characteristics of a fit-for-purpose facility include:</p> <ul style="list-style-type: none"> Classrooms suitably sized with average capacity of 16-18. Appropriate technology utilised to support effective & efficient classroom training Appropriate, functional and ergonomic room design including; floor boxes for data and power, moveable desks and multiple wall mounted screens and whiteboards for improved classroom functionality.

Office accommodation

Rocklea Training Facility	Benchmark Site
	<p>Refer Toowoomba plan over page.</p>
<p>Current fit-for-purpose limitations include:</p> <ul style="list-style-type: none"> Not open plan Narrow walkways with crammed in workstations to fit 1984 building size and shape Multifunctional devices in inappropriate locations Underutilised due to ground floor not meeting Building Code Australia (Volume 2 part 3.8.2) requirements and is thus uninhabitable. For the requirement to be satisfied, the ceiling height must not be less than: in a habitable room excluding a kitchen - 2.4 m' 	<p>Characteristics of a fit-for-purpose facility includes:</p> <ul style="list-style-type: none"> Open floor plan with appropriately sized walkways Ergonomic design with separate utility room Consistent workstation size and spacing.

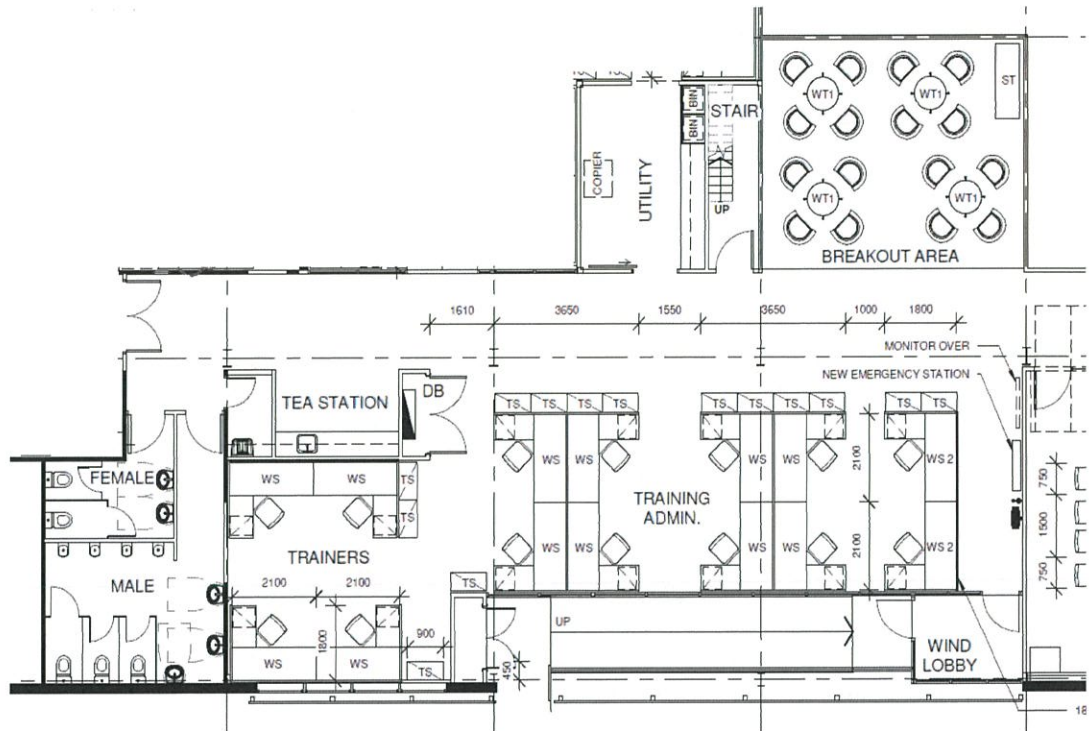


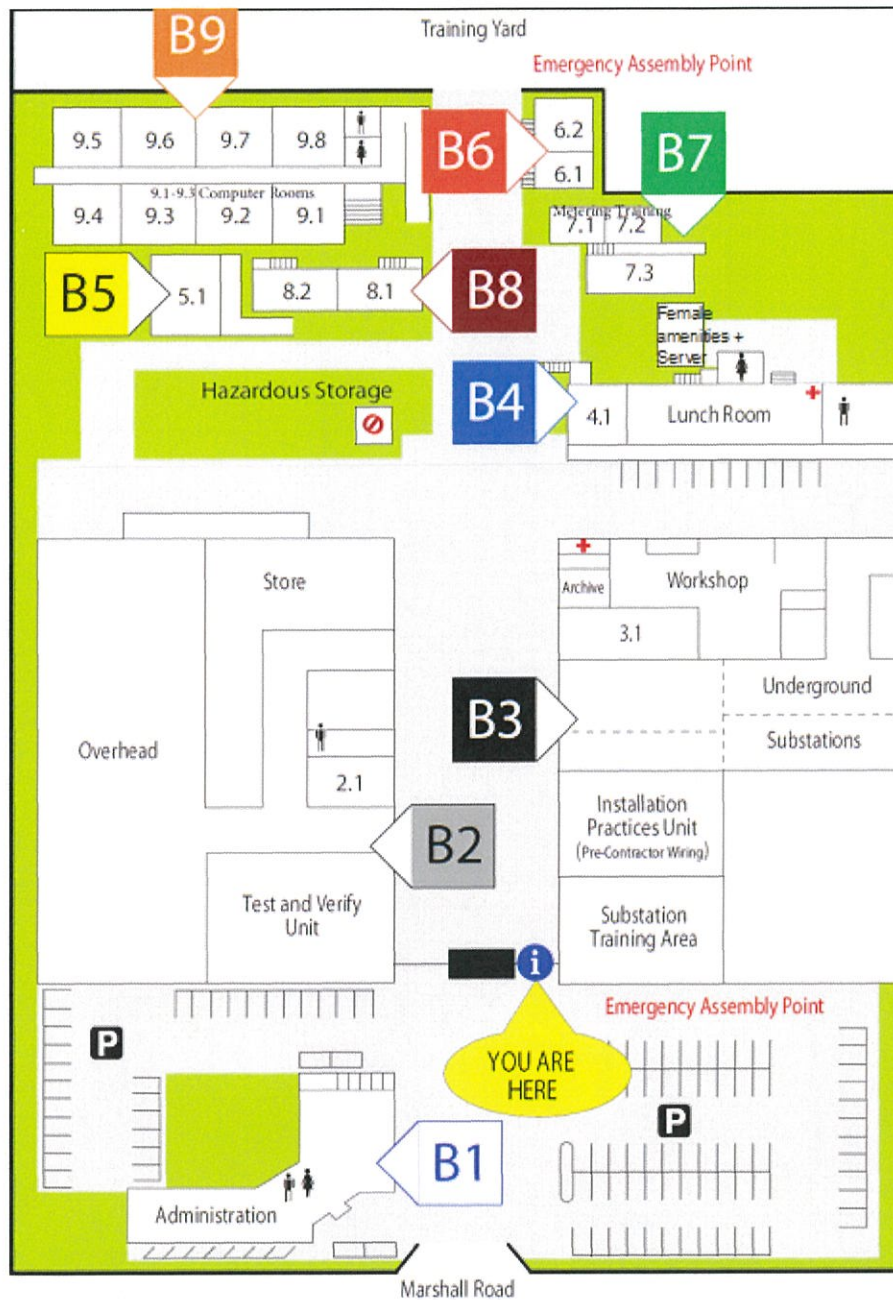
Figure 1 - Toowoomba Training Office Layout

Practical training facility (workshop)

Rocklea Training Facility	Benchmark Site
	
<p>Current fit-for-purpose limitations include:</p> <ul style="list-style-type: none">• Does not simulate real-life environment / situations• Not purpose built• Set up on an ad-hoc basis in the only available workshop space which has resulted in restricted vehicle access to B2• No temperature control• Insufficient lighting for training purposes• Minimal airflow throughout resulting in sometimes unsafe work conditions due to temperatures within warehouse.	<p>Characteristics of a fit-for-purpose facility includes:</p> <ul style="list-style-type: none">• Purpose built facility to accommodate Trade Qualification Assessment training for Apprentices• Temperature controlled• Sufficient lighting• Sufficient natural airflow

Appendix H. Site Layout – Base Case

Depicted below is the Base Case configuration. The building structures and facility locations remain unchanged.

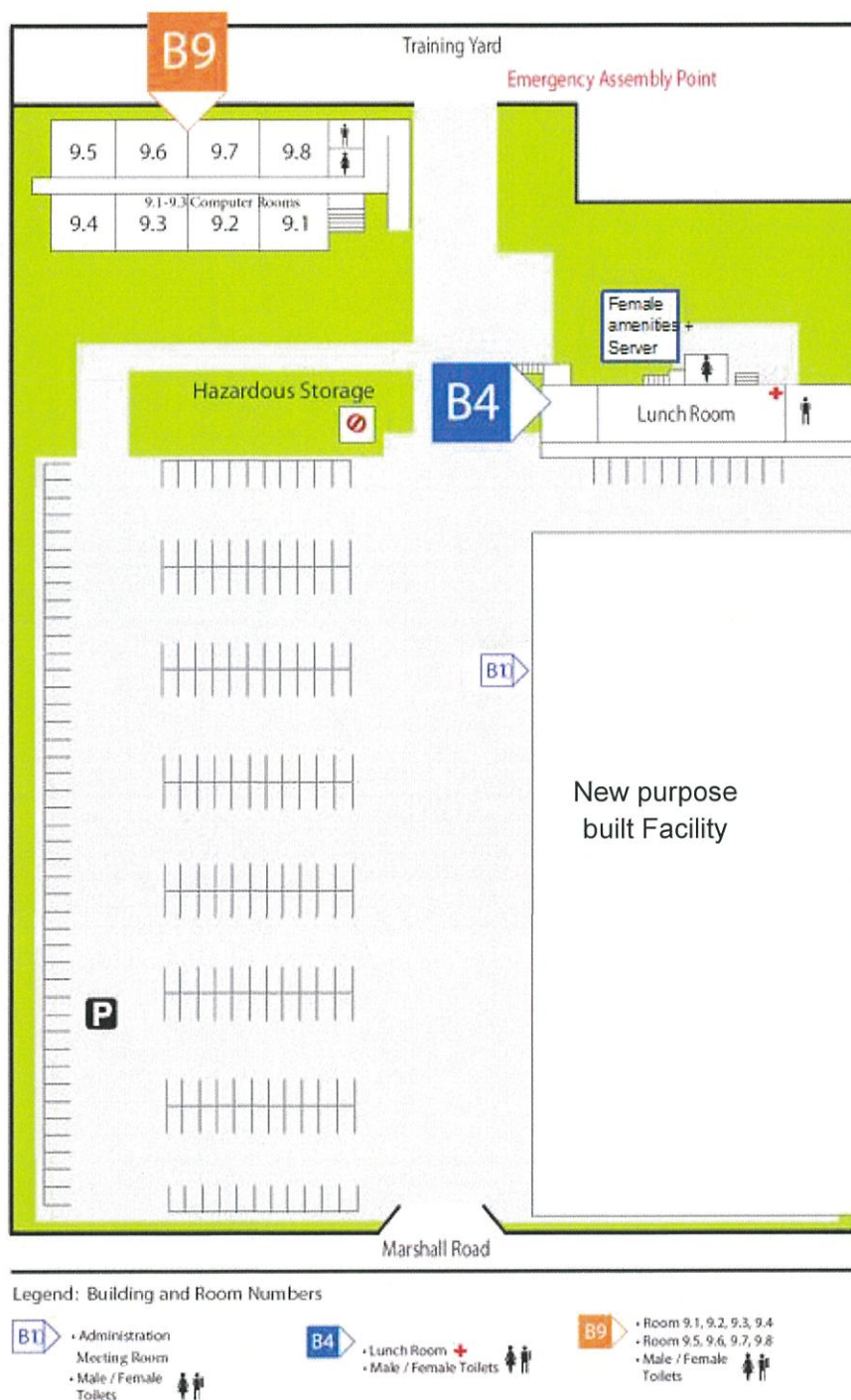


Legend: Building and Room Numbers

B1 - Administration Meeting Rooms	B3 - Room 3.1 - Workshop / Substations / Underground - Installation Practices Unit - Substation Training Area - First Aid Room +	B5 - Room 5.1	B8 - Room 8.1 - Room 8.2
B2 - Room 2.1 - Male Toilet - Test and Verify Unit	B4 - Room 4.1 - Lunch Room + - Male / Female Toilets	B6 - Room 6.1 - Room 6.2	B9 - Room 9.1, 9.2, 9.3, 9.4 - Room 9.5, 9.6, 9.7, 9.8 - Male / Female Toilets
		B7 - Room 7.1 - Room 7.2 - Room 7.3	

Appendix I. Site Layout – Option A

Depicted below is the indicative layout of Option A. Buildings B4 (lunchroom) and building B9 (classroom demountable) remain unchanged, while all other facilities are consolidated into a purpose built facility. Additional on-site car parking accommodation alleviates traffic congestion on peak training days.



Appendix J. Site Layout – Option C

Depicted below is the indicative layout of Option C. Workshop B3 and Building B1 are refurbished. Workshop B2 is demolished and replaced with a smaller facility to house Overhead Training and the Test & Verify Unit.



Legend: Building and Room Numbers

B1	• Administration Meeting Room	B3	• Room 3.1	B8	• Room 8.1
B2	• Room 2.1	• Workshop / Substations / Underground	• Installation Practices Unit	• Room 8.2	
• Male Toilet		• Substation Training Area	• First Aid Room +	B9	• Room 9.1, 9.2, 9.3, 9.4
• Test and Verify Unit				• Room 9.5, 9.6, 9.7, 9.8	
		B4	• Room 4.1	• Male / Female Toilets	
		• Lunch Room +	• Male / Female Toilets		

Appendix K. Flood Levels

The property is vulnerable to two recognised sources of flooding from the Brisbane River and adjacent creek / waterways. Both of these impose varying levels of severity with the Brisbane River source being the most severe. The extent of the severity of flooding from these two sources is shown below.

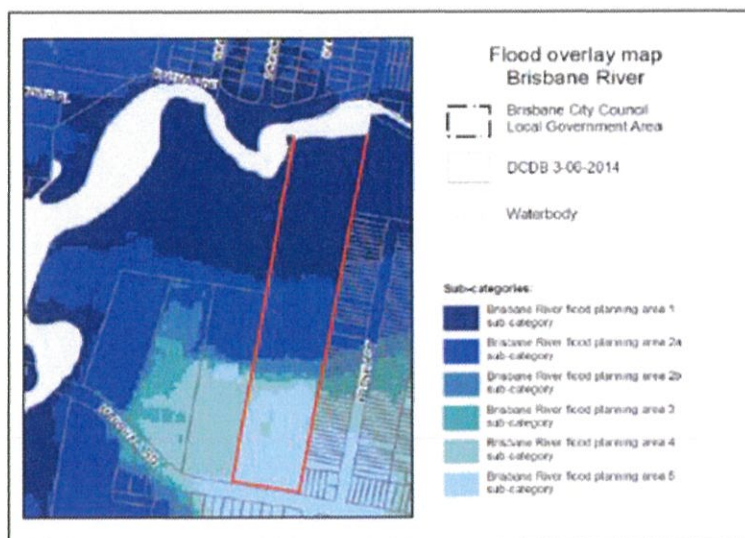


Figure 5: Brisbane City Council Flooding Overlay - River source

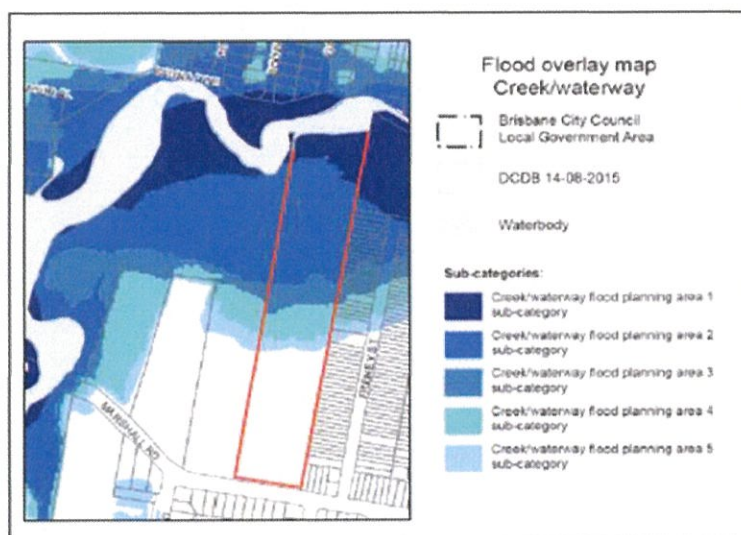


Figure 6: Brisbane City Council Flooding Overlay - Creek & Waterway source

Appendix L. Site Hazard Summary Plan

Figure 7 depicts key hazards at the Rocklea site. This includes a large transformer that supplies the site, located between building B3 and building B4, various walkways that are shared with moving vehicles, gas cylinder storage and other hazards.

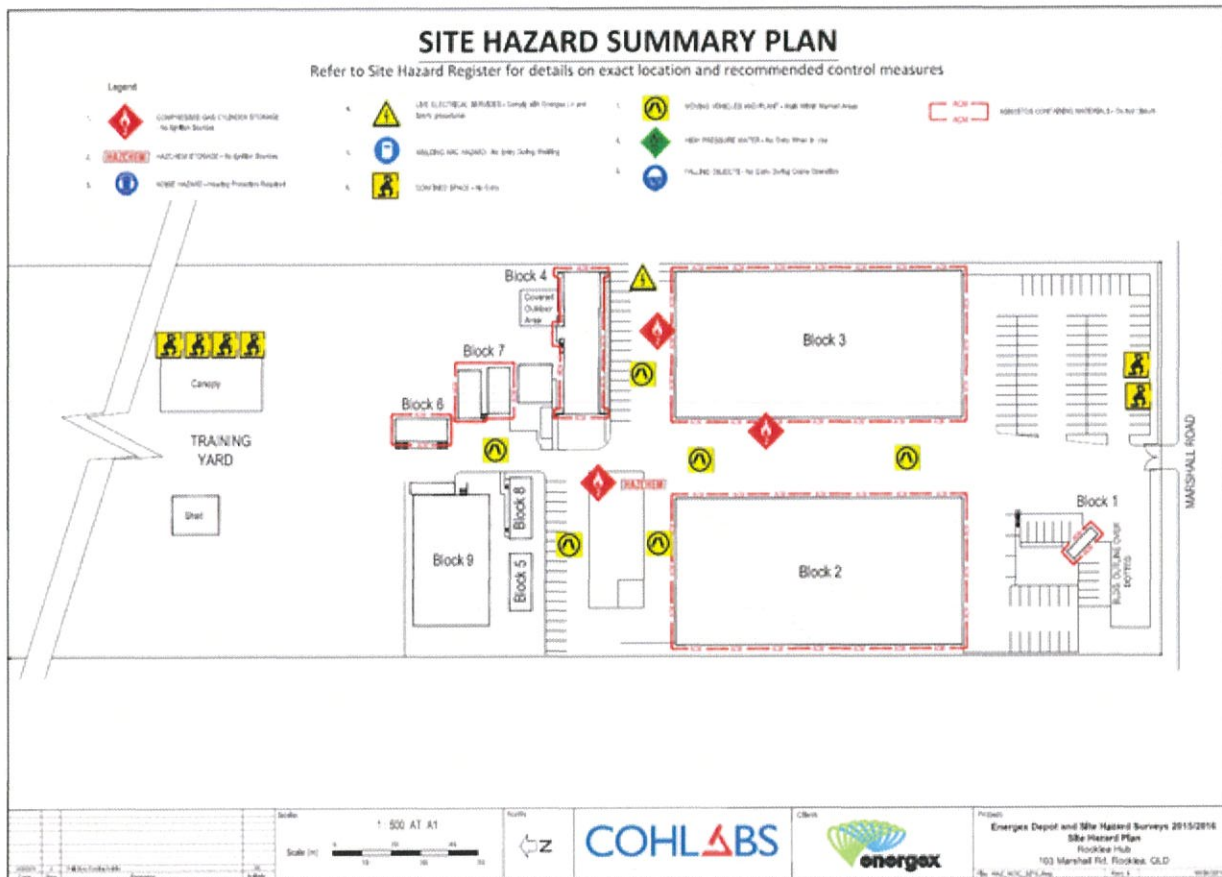
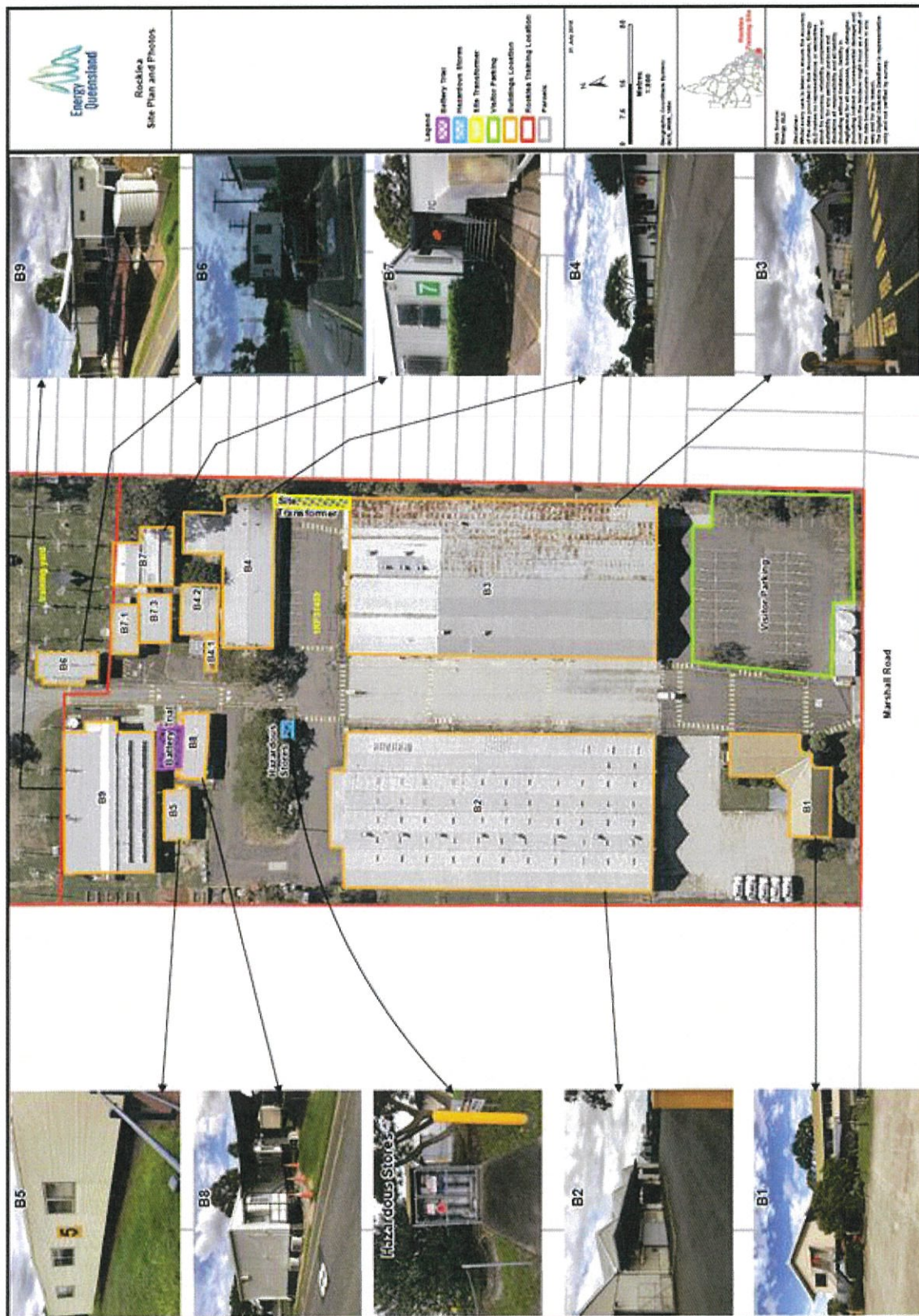


Figure 7: Site Hazard Summary Plan

Appendix M. Site plan and photos



Appendix N. Training yard site plan

