NSW GOVERNMENT | Education

Waitara Public School

Business Case

New Capital Works 2017/2018

Estimated Total Cost: $37.0 million

Completion Date: Day 1, Term 1, 2021

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Company Contact

Sam Werner
Program Manager
Program Management Office
Asset Management Directorate
Telephone: (02) 9561 8521
Email sam.werner1@det.nsw.edu.au

Document Authors(s)

Ian Guthrie/ Jade Marin
TSA Management Pty Ltd
L16, 207 Kent Street, Sydney
Telephone: (02) 9276 1400
Email: iguthrie@tsamanagement.com.au
Email: jmarin@tsamanagement.com.au

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1 EXECUTIVE SUMMARY

1.1 Project Summary

Project Title:	**Waitara Public School**
Project Description:	Major upgrade of Waitara Public School to deliver a total of 42 teaching spaces. Provide 37 new permanent teaching spaces, (being 10 net additional teaching spaces) with removal of 13 demountables & 1 MDR building and demolition of permanent buildings with the exception of Building M. Replace all core facilities and provide new to cater for 1,000 students with specific reference to Library, Hall and Canteen facilities. The capacity of the upgraded school will comprise 1000 students.
Location/address:	48-58 Myra St, Wahroonga. New South Wales. 2076
Estimated Total Project Cost:	$37,000,000
Region:	Northern Sydney
Local Government Area:	Hornsby Council
State Electorate:	Ku-ring-gai
Federal Electorate:	Bradfield
Site Status:	Site owned by the Department of Education
Site Size:	1.96 hectares
Completion Date:	Day 1, Term 1, 2021

1.2 Educational Context

The Department of Education (DOE) has prepared this Business Case in accordance with *NSW Treasury Guidelines for Capital Business Cases* (tpp 08-5 December 2008). The business case explains and demonstrates the rationale behind the proposal currently being considered for DOE's future public education facility requirements for the Waitara Public School which is part of the Hornsby Primary Schools Cluster.

Key stakeholders through a Project Reference Group (PRG) developed the following Project Educational Planning Principles aligned to DOE's over-arching responsibilities:

Principal 1 First and foremost, focus on the **needs of learners and learning**.
Waitara PS provides safe accessible, connected and flexible learning spaces that are centred on future focused learning and are adaptable for the changing needs of learners and learning.

Principal 2 Build **community and identity** and create a culture of welcome, inclusion and belonging that reflects and respects diversity within the school's community.
Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity.

Principal 3 Be aesthetically pleasing.
Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus.

Principal 4 Provide contemporary, sustainable learning environments:
Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.

Principal 5 Embed the potential for **re-configurability**, both in the present for multi-purpose use and over time for changing needs.
Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.

1.3 Strategic Context

The Metropolitan Strategy: *A Plan for Growing Sydney,* December 2014 states that subregional planning will be the initial focus for driving housing supply and choice and will seek to facilitate the delivery of an additional 664,000 dwellings in Sydney over the next 20 years.

The Hornsby Cluster falls within the Hornsby Local Government Area. Hornsby Council is one of the local government areas within the Greater Sydney Commission's North District.

Hornsby is identified in the Metropolitan Strategy as a Strategic Centre. The plan has a priority of delivering more housing through targeted urban renewal around such centres on the transport network, providing more homes closer to jobs. The aim is to have the greatest benefits to Sydney in terms of land and infrastructure costs, social infrastructure and social and environmental outcomes. The Government's policy is to prioritise strategic centres for targeted investment.

A target of 11,000 new dwellings was endorsed by Council in the Hornsby Housing Strategy 2010 in contribution to the Inner North Subregional Strategy 2007's growth target to 2031. The resulting residential growth pressures in this area are a driver for the proposed upgrade to Waitara Public School.

Hornsby Cluster schools:

Primary

- Asquith Park Public School
- Berowra Public School
- Cowan Public School
- Hornsby Heights Public School
- Hornsby North Public School
- Hornsby South Public School
- Mt Colah Public School
- Mt Ku-ring-gai Public School
- Normanhurst Public School
- Normanhurst West Public School
- Waitara Public School
- Wideview Public School

The Department of Education (DoE) has prepared the Project Scope requirements to outline the optimal asset strategy to meet the education infrastructure needs and to support the education outcomes within the cluster.

The purpose of this project is to provide new education infrastructure consistent with and designed for modern pedagogy. It is confirmed that demand for educational facilities in the cluster will increase significantly over the next 15 years.

Figure 1: Public schools located within the Hornsby Primary School Cluster.

1.4 Case for Change

The asset planning objectives within the cluster are to:

- meet future projected enrolment growth to 2031;
- meet the educational planning principles;
- improve the performance of the school assets
- achieve the best value for money by maximising functionality of existing assets.

Asset strategies for the Hornsby Cluster of schools:

- Retain schools on all existing sites in the cluster;
- Existing schools will meet anticipated demand due to the area's significant residential growth with the additional capacity planned for Waitara PS and further review of schools within the Cluster Planning process to be undertaken in 2017.

1.5 Options Analysis

This business case investigated the following options to determine the optimal solution to meet the needs outlined above and in accordance with the Project Educational Planning Principles.

Options considered are;

Base Case Option

No capital intervention - absorb growth through the continued addition of demountable teaching spaces and monitor boundary realignment.

Option 1

Capital works to increase capacity and upgrade facilities within the existing site by providing an additional 37 new permanent teaching spaces taking the total number of permanent teaching spaces to 42, with removal of 7 existing inefficient permanents, 13 demountable and 7 MDR teaching spaces. Provide new core facilities for 1,000 students.

Option 2

Acquire 5 adjoining properties, numbers 2, 4, 6, 8, & 10 Ingalara Avenue Waitara to extend the existing site area by 0.5ha to a total of 2.46ha to allow for a two stage development commencing on the new portion of site whilst the school continues to operate in its current form. Complete upgrade works to the same brief as Option 1.

The options were analysed via a sieve planning process inclusive of alignment with identified educational planning principles, value management assessment, economic appraisal and risk management assessment.

1.6 Preferred Option

Option 1 has been identified by the PRG as the preferred option due to the substantial benefits, including;

- Increases permanent capacity in proximity to anticipated residential growth under the Hornsby and Ku-ring-gai housing strategies.

- The major redevelopment will allow significant upgrade of the core facilities, some of which are significantly under entitlement currently.
- Allows for opportunities to incorporate future state-of-art designs to support modern pedagogy;
- Location relates to an established school community;
- Optimises external learning and play spaces recovering formerly lost interstitial spaces;
- Respect for and enhancement of the Local Heritage listing which applies to the site;
- New designs will align with the schools Educational Principles; and
- Achieves best value for money.

Option 1 also assists DOE to address *NSW 2021 Goal 15 – Improve education and learning outcomes for all students by providing DOE with greater flexibility in managing its need for physical assets based on enrolment demand in the future.*

1.7 Future Proposed Projects for this Cluster

No future projects currently identified.

Existing schools will meet the anticipated demand arising due to the area's significant residential growth as a result of the additional capacity planned for Waitara PS. Further review of schools within the Cluster Planning process to be undertaken in 2017.

2 BUSINESS CASE

2.1 Business Case Approach

The need to prepare a Business Case has been identified through a sieve planning process incorporating:

- Ongoing reviews of the strategic and corporate direction of the NSW DOE;
- Analysis of key planning triggers including but not limited to enrolment demands;
- Population and demographic analysis &
- Engagement of stakeholders through a Project Reference Group (PRG).

Specifically, this project has been identified as a priority project to the NSW DOE due to a number of key project drivers, namely:

- To meet future projected enrolment growth; a growing population within the Cluster area is placing pressure on placements in nearly all of the cluster schools and in particular at Waitara. Increasing enrolment capacity at Waitara Public School will take pressure off other schools in the cluster and respond to the particular local growth demand.
  The existing MDR Buildings B, D, H, I and K are to be relocated to other schools within the Cluster in order to further relieve growth pressures at those schools.
- To Meet the DoE's educational planning principals: The school was originally designed for a much smaller population and has outgrown all of the permanent facilities provided, that is teaching, administration/ Staff and support spaces, i.e. Hall, Canteen and Library. Over time the school has been expanded from 6 permanent structure teaching spaces to 32 teaching spaces and 3 program rooms using demountables and MDR's. This project will replace inefficient permanent teaching spaces, the demountables (13 off TS) and MDR's (7 off TS) and increase capacity by a further 10 teaching spaces with new permanent teaching spaces and support facilities designed to suit modern pedagogy providing a total of 42 teaching spaces and core facilities for 1000 students.
- To improve the performance of the school assets: The existing school assets are performing poorly, achieving a 'Facility Condition Index' of 7.1% compared to the required standard of around 3%. The provision of new permanent facilities designed for energy efficiency will reduce long term maintenance and running costs whilst improving comfort conditions to provide better learning environments thereby maximising value for money.
- To restore external play and learning spaces to achieve a minimum external space of 10m2 per child.

2.2 Stakeholder Engagement

Stakeholder engagement is a key element to ensuring each project meets the needs of the Department, community and the end user.

The preparation of this Business Case has been undertaken through the collaborative approach of a Project Reference Group (PRG).

The PRG consists of a range of stakeholders including, but not limited to:

• Director, Public Schools	Sharon Ford
• Principal	Amanda Connelly
• Parent Representative	TBA
• AMU Manager	Michelle Johns

- Program Manager (DOE PMO) Sam Werner
- Project Manager Ian Guthrie
- Head Design Consultant (Architect) Mike Warren

The PRG met throughout the preparation of the business case to ensure a robust approach in ensuring all key stakeholders had satisfactory input into the planning process.

2.3 Gateway Review

The business case has been prepared in accordance with NSW Treasury guidelines. The sections contained in the business case are mapped to the seven Gateway review gates.

Table 1: Gateway Process Consistency

Gateway Section	Business Case Reference
Service Delivery – how the project achieves agency service objectives and fulfil the needs, consistent with Government policy	Section 4 – Strategic context Section 5 – Case for change Section 6 – Option Identification
Affordability – are there sufficient resources to deliver the project and the expenditure of these resources will provide value for money	Section 6 – Option Identification Section 10 – Implementation of the proposal Appendix 2 – Cost estimates Section 7 - Qualitative Analysis Section 8 - Economic Assessment Section 8.4 - Value Management Appendix 7 – Economic appraisal
Sustainability – social, economic and environmental impacts of the project have been identified and plans are in place to deal with matters raised.	Section 4 – Analysis of the proposal Section 7 - Qualitative Analysis Section 8 - Economic Assessment Section 9 – Sustainability
Governance – the project has addressed the matters of resource allocation, time management and process management to ensure a successful project.	Section 10 – Implementation of the proposal Appendix 3 - Governance Structure
Risk Management – the project has identified major project and procurement risks and a risk management plan has been developed.	Section 10 – Implementation of the proposal Appendix 5 - Risk Management Register
Stakeholder Management – key stakeholders have been identified and their views have been considered in the development of the project.	Section 2 - Business Case Approach Section 10 – Implementation of the proposal Appendix 4 - Project Control Group Role Section 8.4 – Value management
Change Management – changes have been identified that are necessary to achieve the project's services outcomes and a plan is outlined to ensure their	Section 10 – Implementation of the proposal Appendix 4 - Project Control Group Role

The business case incorporates a sieve planning approach inclusive of:

- Identification of Project Educational Planning Principles
- Stakeholder engagement and management
- Option Identification and Analysis
- Value Management Assessment
- Economic Appraisal
- Risk Management Assessment
- Governance planning

3 EDUCATIONAL PLANNING

3.1 Educational Planning Principles

There are Five Principles for Educational Facilities in NSW schools which are considered as part of the planning process for all major capital works:

Principle 1	Focus on the needs of learners and learning
Principle 2	Build community and identity and create a culture of welcome, inclusion and belonging
Principle 3	Be aesthetically pleasing
Principle 4	Provide contemporary, sustainable learning environments • Promote learning for students and teachers through collaborative, social interaction and active investigation • Encourage learner self-management and self-direction • Support a full range of teaching strategies from direct explicit instruction to facilitation of inquiry and authentic project and problem based learning • Facilitate learning and connection anywhere, anytime by providing seamless access to ICT and integration of learning resources throughout the learning spaces • Be integrated into and maximise the use of the natural environment • Enable aspects of the buildings, building design and outdoor spaces to be learning tools in themselves • Are age and stage appropriate
Principle 5	Embed the potential for re-configurability for multi-purpose use and future changing needs

3.2 Project Specific Educational Principles

Applying these Principles to Waitara Public School the Educational Principles for the school are:

Principle 1 First and foremost, focus on the needs of learners and learning.
Waitara PS provides safe accessible, connected and flexible learning spaces that are centred on future focused learning and are adaptable for the changing needs of learners and learning.

- Promote spaces that encourage learning for students and teachers through collaboration, social interaction, active and creative investigation.

- Provide flexible spaces that accommodate different size groups to engage in a range of activities that encourage learner self-management and self-direction.

- Support a full range of teaching strategies from direct explicit instruction to facilitation of inquiry and authentic project and problem based learning.

- Develop Thoughtful design that reduces the impact of urban noise and congestion, with focus on safety; and

- Provide all weather access between teaching and learning spaces

Principle 2 Build community and identity and create a culture of welcome, inclusion and belonging that reflects and respects diversity within the school's community.
Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity.

- Provide contemporary facilities that enable and enhance community partnerships and link services in supporting our local community.

- Plan for the potential for the school to grow and expand whilst maintaining open green space.

- Provide school facilities that invite the local community to share and interact with the school to build a strong presence and connection with the community.

Principle 3 Be aesthetically pleasing.
Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus.

- Provide imaginative, safe and colourful student friendly environments that integrate and maximise indoor and outdoor learning space.

- Maximise the openness of the site for seamless learning and teaching between inside and outside learning spaces.

- Maximise playground space to allow the school to influence exercise and play while promoting healthy living and accommodating age appropriate areas.

- Position school buildings near the boundaries in a compact model to maximise outdoor play areas.

- Provide aesthetically pleasing spaces with a new approach to fit out and furnishings that encourage active, creative and flexible learning.

Principle 4 Provide contemporary, sustainable learning environments:
Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.

- Enable future focused learning practice by the use of online collaborative technology to ensure students can access rich global perspectives and have the ability to create for a wide authentic audience;

- Creating a stimulating teaching and learning environment where spaces support collaborative planning and learning;

- Employ passive design principles for the comfort of building minimising energy use through winter warming and summer cooling. Through sun, shade and ventilation;

- Connect with school, environmental sustainable programs such as a garden.

Principle 5 Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.
Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.

- Enable future focused learning practice by the use of online collaborative technology to ensure students can access rich global perspectives and have the ability to create for a wide authentic audience;

- Creating a stimulating teaching and learning environment where spaces support collaborative planning and learning;

- Employ passive design principles for the comfort of building minimising energy use through winter warming and summer cooling. Through sun, shade and ventilation;

The project specific educational principles were developed and endorsed by the Project Reference Group (PRG) in the concept design stage.

3.3 Design Response to the Project Specific Educational Principles

As part of the development of the master plan and preliminary concept design for Waitara Public School, the Architects considered the following design principles;

Principle 1 First and foremost, focus on the needs of learners and learning.

- The proposed planning will provide connected teaching spaces that allow collaboration and social interaction. This also allows different age groups to connect.

- The preferred location of proposed new development act as a barrier between the internal teaching spaces & surrounding urban noise sources to improve the quality of learning environment, teaching & collaboration.

Principle 2 Build community and identity and create a culture of welcome, inclusion and belonging that reflects and respects diversity within the school's community.

- During master planning studies at ground plane, careful consideration was given to place the communal hall close to the main entry. This will achieve the most efficient link between the hall, COLA and the community.

- Future growth of the school was also considered in master planning options. Utilizing a concentrated new school development in one of the corners will leave more open space for future growth. Proposing a high rise school also supports this target by minimizing the new building footprint.

Principle 3 Be aesthetically pleasing

- Current building outlines in the preferred master planning option aim at being inviting, connective & fluid. This will support the production of contemporary, modern and exciting learning spaces for both Children and staff. With the collaboration of our Education Design Specialist we will

produce high quality, 21st century, learning environments incorporating detailed space planning and modern fitouts.

Principle 4 Provide contemporary, sustainable learning environments:

- Similar to that mentioned above, master planning options aim to create collaboration. The 21st century learning environment, with the use of new technology, modern fitouts and connecting architecture, will produce diverse and dynamic teaching spaces.

- Through the best use of site, teaching spaces may face various directions including west & south. Future design stages will take these various aspects into account by solar & wind control to achieve a more sustainable building.

- Green & landscaped areas will be designed to form the base of learning to improve environmental knowledge of the students.

Principle 5 Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.

- During planning, teaching spaces are considered to open to external areas. This is to align with the site & embrace the open spaces. In some options teaching space come together in a linear fashion to open up to the landscape, while one option opens to landscape and visually connects to another rows of teaching spaces with a more formal area in between.

4 STRATEGIC CONTEXT

4.1 NSW State Plan

This project is consistent with NSW priorities for education –

- Building Infrastructure – providing additional permanent classrooms for the population;
- Improving education results – providing better facilities in schools that support future focused learning and provide facilities that support students reaching their potential; and
- Improving Government services – provide additional permanent classrooms so that the community can be proud of their school and improved satisfaction with the Department of Education.

4.2 NSW Education Act, 1990

Section 4 of the *NSW Education Act 1990* has four principles which legislate certain education outcomes in NSW:

1. Every child has the right to receive an education;
2. The education of a child is primarily the responsibility of the child's parents;
3. It is the duty of the State to ensure that every child receives an education of the highest quality; and
4. The principal responsibility of the State in the education of children is the provision of public education.

Under this Act, DOE has a responsibility to provide students with a place in a Government school if the parents desire it and provide high quality education. The Department needs to ensure there is a long term solution that will satisfy the legislative requirements of the Education Act. This project ensures that there is a strategy to provide both the required amount of accommodation in schools and suitable facilities to satisfy this requirement.

4.3 DOE Strategic Plan 2012-17

The project is consistent with and enables DOE to deliver on the 5 Year Strategic Plan 2012-2017 targets of:

- Increase the proportion of students in Years 3, 5, 7 & 9 achieving at and above the national minimum standards in reading and numeracy.
- Increase the proportion of students in Years 3, 5, 7 & 9 in the top two performance bands for reading and numeracy.
- Ensure participation of NSW students in NAPLAN tests consistently exceeds the national average for participation.
- Halve the gap between Aboriginal and non-Aboriginal students in reading and numeracy by 2018.
- Increase to 90% the proportion of 20-24 year olds who have completed
- Year 12 or attained a qualification at Certificate II or above by 2015.
- Increase to 90% the proportion of 20-24 year olds who have completed Year 12 or attained a qualification at Certificate III or above by 2020.
- Halve the gap in Year 12 or equivalent attainment for Aboriginal 20-24 year olds by 2020.
- Improve Year 12 completion rates for students in low ICSEA schools.
- Increase to 90% the proportion of 20-24 year olds in rural and regional NSW who have attained a Year 12 or AQF III qualification or above by 2020.

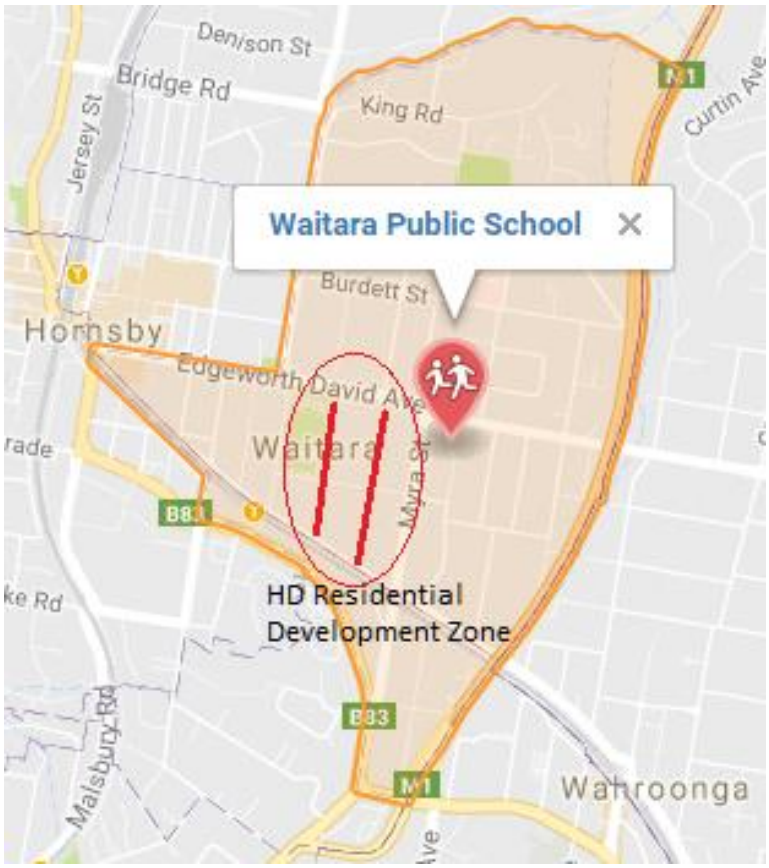
- Increase to 60% the proportion of students with a confirmed disability who have a personalised learning and support plan.
- Increase the number of teachers seeking and gaining accreditation at Accomplished and Leadership levels.
- Ensure public schools have more options for local decision making.

4.4 Regional Context

Waitara Public School is situated in the Hornsby Shire Council Local Government Area (LGA), in Sydney's North District. The school is located within a 2km radius of the Hornsby strategic centre, as identified by the Draft North District Plan (2016).
The Hornsby Local Environmental Plan (HLEP) 2013 states in Part 1, Clause 1.2.2 that the particular aims of the HLEP are to permit a mix of housing types that provide for the future housing needs of the community near employment centres, transport nodes and services.
The strategic context of Waitara Public School is defined through the following documents:

- Draft North District Plan 2016, Greater Sydney Commission.
- North District Demographic & Economic Characteristics, Department of Planning & Environment.
- A Plan for Growing Sydney 2014, Greater Sydney Commission.

Figure 2: Waitara Public School Catchment Zone



(Source: NSW Public School Finder Tool)

Currently the School is nestled amongst an established Low Density Residential zone. In 2010, however, the Hornsby Shire Council Housing Strategy investigated the area in the vicinity of the Hornsby shopping precinct, including Waitara Public School, for housing opportunity and was found to have potential for approximately 600 more dwellings. There is provision in the HLEP for High Density Residential zoning, which falls within the Schools catchment zone as shown in Figure 2.

The draft North District Plan 2016 proposes 5-year housing targets for 2016-2021, supplementing the Inner North Subregional Strategy's 2007 targets for 2031 (See Table 2). It is likely this figure will be exceeded within the 5-year target when consideration is given to the projected population growth set out in Table 3 below.

Table 2: LGA Housing targets 2007-2036.

Local Government Area	20+ year Targets set in 2007	2016 - 2021	Target for 2036*
Hornsby	11,000	4350	13,050 approx.
Ku-ring-gai	10,000	4000	12,150
Northern Beaches	17,300	3400	17,450

(Source: North District Plan 2016 (*DPE 2016 NSW LGA Household Projection and implied dwelling requirements.)

Table 3: Population growth for the North District and surrounding LGAs based on total population projections.

Local Government Area	2016	2026	2036	% Increase 2016-2036
Hornsby	149,650	164,650	178,100	16
Ku-ring-gai	123,500	138,200	154,500	20
Northern Beaches	263,700	278,000	297,950	11

(Source: 2016 NSW LGA Population and Household Projections, and implied dwelling requirements, DPE)

5 CASE FOR CHANGE

5.1 Regional Educational Context

The North District has 149 government schools, catering for the varying needs of approximately 83,250 students in 2016. These government schools comprise of:

- 102 primary schools
- 34 secondary schools
- 11 Schools for Specific Purposes (SSP); and
- 2 Environmental Education Centres (EEC).

The Hornsby Network includes the suburbs of Asquith, Berowra, Berowra Heights, Berowra Waters, Hornsby, Mt Colah, Mt Ku-ring-gai, Normanhurst, Wahroonga and Waitara.

The asset planning objectives within the cluster are to:

- meet future projected enrolment growth to 2031
- meet the educational planning principles
- improve the performance of the school assets
- achieve the best value for money by maximising functionality of existing assets.

5.2 Local Educational Context

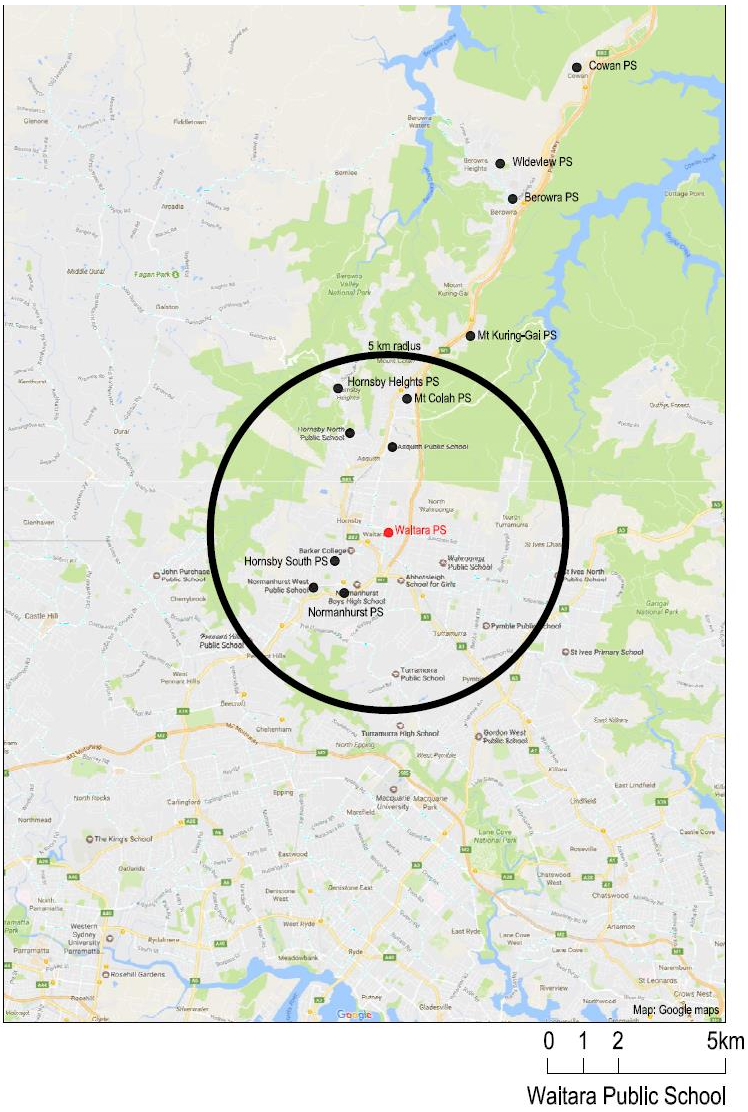
The local educational context is usually defined to include existing schools within a 5km radius of the project school. In a regional context, the definition of ‘local’ has relevance based on density, accessibility and the characteristics of the area.

Table 4: Primary Schools - Hornsby Cluster: Summary of enrolments, teaching space demand and supply and site size to 2031- current situation;

School	Students		Equivalent TS							Site Size
	Actual 2016	Projected 2031	Perm 2016	Dem 2016	Total Actual 2016	Net New	Unmet demand	Projected 2031	% Unmet Demand	ha
Government Schools										
Asquith Public School	370	435	12	5	17		4	21	19	1.93
Berowra Public School	408	465	13	4	17		2	19	11	6.53
Hornsby Heights Public School	432	465	16	2	18		1	19	5	3.61
Hornsby North Public School	826	1000	25	8	33		8	41	20	2.84
Hornsby South Public School	586	680	17	10	27		3	30	10	2.43
Mt Colah Public School	451	455	17	1	18		1	19	5	3.04
Mt Ku-ring-gai Public School	170	180	7	0	7		1	8	13	0.93
Normanhurst Public School	339	380	10	4	14		2	16	13	2.20
Normanhurst West Public School	524	520	17	6	23		0	21	0	2.36
Waitara Public School	**713**	**950**	**6**	**24**	**30**		**11**	**41**	**27**	**1.96**
Wideview Public School	393	440	15	1	16		2	18	11	2.90
Total Primary	**5212**	**5970**	**166**	**54**	**220**		**35**	**253**	**14**	
Non-Government Schools										
Barker Junior School, Waitara										
Berowra Christian School		120								
Loreto Normanhurst										
Our Lady of the Rosary C Waitara		348								
St Bernard's Catholic Primary School, Berowra Heights										
St Patrick's Catholic Primary School, Asquith		360								
Wahroonga Adventist Primary School		227								

Please note half of the schools within the Hornsby Asset Cluster fall outside the 5km radius of Waitara Public School. Berowra PS 15k; Hornsby Heights PS 5.6k; Mt Ku-ring-gai PS 7.6k; Wideview PS 16k; & Mimosa PS 18k.

Figure 3: 5km Radius Map



5.3 Existing Facilities

5.3.1 Characteristics of existing accommodation

Waitara PS is heavily developed with space-inefficient and high maintenance single story buildings and a local Heritage listing affecting the *site and its trees*, but not the buildings. The school currently relies on 13 demountables and 7 MDR' teaching spaces to provide 20 of its current 32 teaching spaces. In addition to its teaching spaces the school currently has 5 special programme rooms. The Schools key support facilities are significantly undersized for the school's population of 713 enrolments in 2016.

The site itself is relatively small compared to other schools within the Hornsby Cluster, being only 1.96ha, but it has the clusters second highest population and highest projected population growth of 25%. The size of the site, the heritage listed trees and the need to keep the school operational during construction present the greatest challenges to the development project budget and time.

Permanent buildings A, C, E, F, G, J, generally single level brick. Planning was typical of planning at that time with single depth classrooms looing out onto quadrangles providing good light and ventilation.

The buildings assessed for the Facility Condition Index have been classified as having a condition ranking as follows:

- Building A: Fair
- Building B: Fair
- Building C: Excellent
- Building D: Not ranked
- Building E: Fair
- Building F: Fair
- Building G: Poor
- Building H: Good
- Building I: Poor
- Building J: Fair
- Building K: Fair
- Building L: Fair
- Building M: Not ranked

Figure 4: AMS Site Plan (11367)

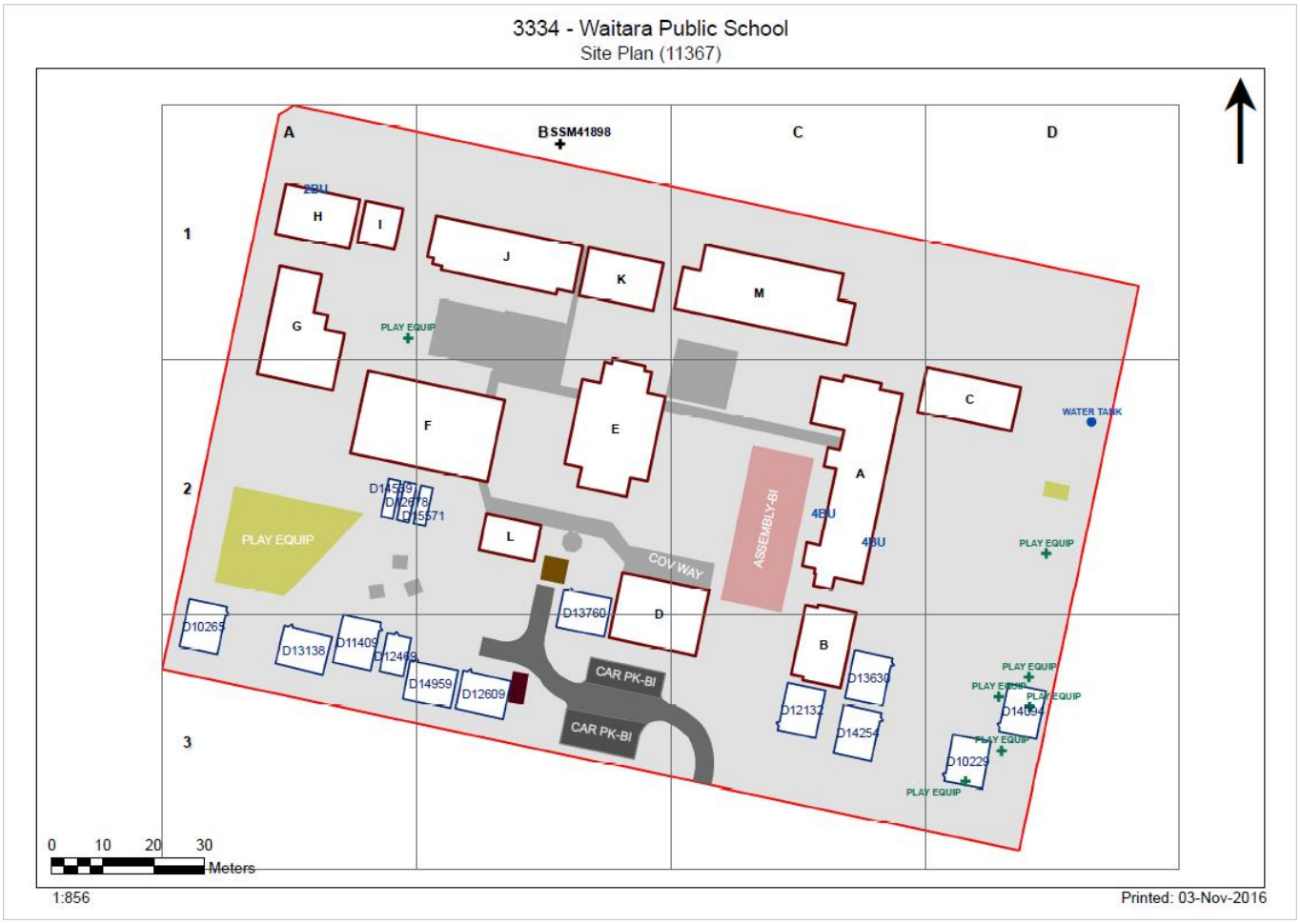


Table 5: Waitara PS – Existing Accommodation – Permanent Buildings

Building Identifier	Building affected by Project	Age of Building (Years)	General Description of current Use of Building
B00A	Yes	26	Administration/General Learning
B00B	Yes	58	General Learning - MDR
B00C	Yes	54	General Learning
B00D	Yes	11	General Learning - MDR
B00E	Yes	25	Library / General Learning
B00F	Yes	32	Hall
B00G	Yes	54	General Learning
B00H	Yes	66	Other- Regional Use - MDR
B00I	Yes	26	General Learning - MDR
B00J	Yes	26	General Learning
B00K	Yes	66	Storage / Programs - MDR
B00L	Yes	26	Pupil Facilities
B00M	No	6	General Learning / Pupil Facilities

Table 6: Waitara PS – Existing Accommodation – Demountable Buildings

Building Identifier	Building affected by Project	Age of Building (Years)	General Description of current Use of Building
D14143	Yes	42	General Learning - Demountable
D14580	Yes	41	General Learning - Demountable
D11771	Yes	48	General Learning - Demountable
D10265	Yes	51	General Learning - Demountable
D13138	Yes	44	General Learning - Demountable
D11409	Yes	48	General Learning - Demountable
D12469	Yes	46	General Learning - Demountable
D14959	Yes	40	General Learning - Demountable
D12609	Yes	46	General Learning - Demountable
D13760	Yes	43	General Learning - Demountable
D12132	Yes	47	General Learning - Demountable
D14254	Yes	42	General Learning - Demountable
D13630	Yes	43	General Learning - Demountable
D10229	Yes	51	General Learning - Demountable
D14094	Yes	42	General Learning - Demountable

Table 7: Waitara Public School - Existing Building Condition

Building	Sch/Bldg	Maintenance 2017/17 $	Replacement Value $	Facility Condition Index (FCI%)	Condition Ranking	Functionality Index (FI)
B00A	3334/ B00A	65,386	1,002,664	6.5	Fair	0.23
B00B	3334/B00B	26,455	322,575	8.2	Fair	0.28
B00E	3334/B00E	35,674	697,134	5.1	Fair	0.20
B00F	3334/ B00F	83,591	954,614	8.8	Fair	0.36
B00G	3334/ B00G	68,124	585,717	11.6	Poor	0.38
B00I	3334/B00I	14,997	132,336	11.3	Poor	0.28
B00J	3334/B00J	33,394	659,498	5.1	Fair	0.28
B00K	3334/ B00K	26,329	351,319	7.5	Fair	-
B00L	3334/B00L	13,183	204,034	6.5	Fair	0.24
B00C	3334/B00C	4,184	357,436	1.2	Excellent	0.24
B00H	3334/B00H	10,108	363,562	2.8	Good	0.29
Ground	3334/Ground	202,493	N/A	N/A	N/A	N/A
OS60111409	3334/ OS60111409	25,726	N/A	N/A	N/A	N/A
OS60112609	3334/ OS60112609	15,699	N/A	N/A	N/A	N/A
OS60113630	3334/ OS60113630	9,687	N/A	N/A	N/A	N/A
OS60113760	3334/ OS60113760	15,699	N/A	N/A	N/A	N/A
OS60114959	3334/ OS60114959	15,699	N/A	N/A	N/A	N/A
OS60213138	3334/ OS60213138	19,722	N/A	N/A	N/A	N/A
OS60214254	3334/ OS60214254	19,722	N/A	N/A	N/A	N/A
OS60214580	3334/ OS60214580	19,722	N/A	N/A	N/A	N/A
OS75012469	3334/ OS75012469	11,6269	N/A	N/A	N/A	N/A
OS84012678	3334/ OS84012678	13,932	N/A	N/A	N/A	N/A
OS84015571	3334/ OS84015571	7,155	N/A	N/A	N/A	N/A
OS84114539	3334/ OS84114539	7,155	N/A	N/A	N/A	N/A

5.3.2 Asset utilisation and capacity

Waitara PS is operating at 176% capacity over its permanent teaching spaces in 2016. The surrounding public schools within the Hornsby Cluster are currently operating at or over 100% capacity, averaging 128% for the cluster, over their teaching spaces for 2016. The site facilities are over utilised, with the demountable classrooms at Waitara representing over 75% of the accommodation in 2016.

Table 8: Hornsby Cluster expected growth and demand 2016 to 2036

School	Current Enrols	Projected Enrolments (based on 2016 actual enrolments)				Teaching Space				Teaching Space Demand					Site Size	Projected Growth 2016-2026	Utilisation 2016		In Area Enrols (2016)	
	2016	2021	2026	2031	2036	Perm	Dem	Total	Dem %	2016	2021	2026	2031	2036	Ha	%	TTS	PTS	No.	%
Asquith PS	370	405	450	485	480	12	5	17	29.41	17	20	22	24	23	1.93	22	100%	142%	217	51
Berowra PS	408	425	440	450	450	13	4	17	23.53	16	17	18	18	18	6.53	8	94%	123%	307	79
Cowan PS	55	55	55	55	55	4	0	4	0.00	3	3	3	3	3	1.13	0	75%	75%	49	70
Hornsby Hghts PS	432	460	465	470	465	16	2	18	11.11	17	19	19	19	19	3.61	8	94%	106%	394	78
Hornsby North PS	826	860	910	970	970	25	8	33	24.24	33	36	38	41	41	2.84	10	100%	132%	440	86
Hornsby South PS	586	645	685	710	705	17	10	27	37.04	25	29	31	32	32	2.43	17	93%	147%	467	60
Mount Colah PS	451	465	495	505	500	17	1	18	5.56	18	19	20	21	21	3.04	10	100%	106%	398	71
Mount K'gai PS	170	185	195	200	205	7	0	7	0.00	7	8	9	9	9	0.93	15	100%	100%	112	81
Normanhurst PS	339	355	365	375	375	10	4	14	28.57	14	15	16	16	16	2.2	8	100%	140%	230	55
Normanhurst West PS	524	515	535	550	545	17	6	23	26.09	21	21	22	23	22	2.36	2	91%	124%	332	76
Waitara PS	713	825	890	950	940	17	12	29	41.38	30	35	38	41	41	1.96	25	103%	176%	502	69
Wideview PS	393	415	420	425	420	15	1	16	6.25	16	17	18	18	18	2.9	7	100%	107%	333	77

Table 9: Waitara Public School - Teaching Space Demand

TIMEFRAME	YEAR	ENROLMENTS	TEACHING SPACE DEMAND
SHORT TERM	2016	713	30
MEDIUM-TERM	2021	825	35
	2026	890	38
LONG TERM	2031	950	41
	2036	940	41

5.3.3 Access and Equity

While the site is generally quite flat many of the spaces do not comply with current access and equity requirements. The demountable buildings and some of the permanent structures do not provide suitable access.

The accessibility status for each building is as follows:

- Building A: No provision
- Building B: No provision
- Building C: No provision
- Building D: Accessible
- Building E: Accessible
- Building F: No provision
- Building G: No provision
- Building H: No provision
- Building I: No provision
- Building J: No provision
- Building K: No provision
- Building L: Accessible
- Building M: No provision

The school celebrates and supports the Aboriginal community with active involvement in NAIDOC week including guest speakers and performances. Waitara PS has a student population representing 52 cultures. Multicultural perspectives are encouraged and developed during Harmony Day with most students arriving at school in their national dress.

5.3.4 Work Health and Safety

The existing provision of staff amenities and support facilities does not meet the requirements for a Core 35 school and poses some operational and WH&S issues.

The existing demountable GLS buildings restrict access to and observation of the interstitial outdoor play and learning spaces. As the school grows and more demountable classrooms are required the available space for continuous outdoor play space and the ability to supervise will decrease further.

The site is densely populated with large eucalypt trees which currently limits portions of the site from being available to outdoor learning and play. Recent storms witnessed many tree limb falls around the site despite a regular assessment and maintenance programme being in place.

6 OPTION IDENTIFICATION AND ANALYSIS

Through the stakeholder engagement process including the PRG and technical assessments a number of options have been developed and assessed to determine the most appropriate way forward for addressing the service delivery and facility requirements for the Waitara Public School in relation to education outcomes for students.

Contained within Appendix 1 is the Concept Master Plan for the preferred option. Contained within Appendix 2 are Cost Estimates for the respective options.

6.1 Preamble to Options

Teaching spaces:
The school has a number of permanent, demountable and MDR buildings that significantly impact on the amount and quality of open space (i.e. inefficient single storey buildings). The intent is to consider the:

- Replacement of the existing 13 demountables primarily located along the southern boundary;
- Replacement of existing permanent buildings (MDR), namely Buildings B, D, H, I and K, 9 teaching spaces in total;
- Replacement of buildings A, C, G, J, L, 7 teaching spaces and 3 special program rooms;
- Provision of an additional 10 Teaching Spaces to meet future enrolment growth to 2031.

Total new Teaching Spaces: 37
Total teaching Spaces: 42

Core facilities:
The existing core facilities are significantly under entitlement, specifically, the library, hall and canteen are extremely small for the student enrolment level. Consideration to be given to:

- Replacing Building E (library) to provide a new facility and open up the centre of the school site for open space purposes;
- Expansion of Building F (hall) to the south, or replacement to create a larger space accessible to the outdoors and increase the size of or replace the canteen facilities.

Specific site considerations:

- Moderate slope only
- Most of the outdoor areas are broken up, difficult to supervise and not suited to coordinated recreational activities, but do offer an interesting variety of intimate spaces and one large, level, sunlit synthetic grass surfaced area which occupies about one sixth of the site.
- Substantial tree canopies which provide visual amenity and shade.
- Any reconfiguration should consider retaining an equivalent to the current area near play equipment where parents meet, developing a sense of community with the range of migrant groups.

Heritage:
The Hornsby Council LEP listing refers to: "Prominent stand of indigenous trees and cultural tree planting from c1940/50s conserved within school grounds." In particular, there is a protected area in the north-east corner of the site, but other substantial vegetation will be checked for its possible contribution to the listing.

6.2 Base Case – Do Minimum

No capital intervention - absorb growth through demountable teaching spaces and monitor boundary realignment:

- Keep current Demountable Teaching Spaces (DTS) at all schools across the cluster;
- Installation of DTS also requires the installation of demountable core facilities.
- Based upon current population projections an additional demountable 11 teaching spaces and two demountable staff rooms will be required by 2031;

The estimated capital cost of the option is **$850,000**

Table 10: Base Case - Advantages and Disadvantages

Advantages	Disadvantages
• Lower capital costs	• Ongoing pressure on permanent core facilities which are not currently appropriately sized
• Flexible and staged installation of Demountable Teaching Spaces (DTS)	• Does not provide trigger to upgrade core facilities
• Minimal disruption during project delivery	• Permanent teaching space capacity of the cluster is not increased
• Shorter program when compared with options 1 and 2	• Does not respond to the schools Educational Principles
	• External learning and play spaces further reduced to less than the DOE minimum standard of 10m2 per student.
	• Local Heritage environment NOT protected
	• Current high maintenance and energy inefficient building stock retained
	• School takes on a temporary ad-hock feel which is difficult for the Community bond to as a place of importance.
	• Community concerns over long term use of DTS as not a sustainable solution for long term growth;
	• Functionality and condition issues at Epping PS are not addressed.
	• Long term maintenance burden.
	• Negative impact on learning and teaching outcomes.
	• Unable to support modern pedagogy.

6.3 Option 1 – Preferred Option

Provide new Capital works to increase capacity and upgrade facilities within existing site by providing new core facilities for 1,000 students, an additional 37 new permanent teaching spaces, taking the total number of permanent teaching spaces to 42, with removal of;

- 7 existing inefficient permanent,
- 13 demountable and
- 7 MDR teaching spaces.

The estimated capital cost of the option is **$37,000,000**

Table 11: Option 1 - Advantages and Disadvantages

Advantages	Disadvantages
• Although some residential density increase is planned around Asquith, at the northern end of the geographical sub-catchment in which Waitara is located, the highest density will remain around the Waitara PS site.	• The school is currently a small suburban site with a Local heritage listing for the Trees on site. The new school, of necessity will be denser, multi-level buildings that will inherently change the context of the site within its suburban surrounds.
• Permanent facilities with opportunities for future-focused learning, improved school asset condition and increased open space.	• This will be the second largest school in the cluster, located on one of the smallest sites. School population density will therefore be high.
• Forms part of cluster-wide strategy to meet projected enrolment demands under the Metropolitan Strategy for Sydney.	• Potential for loss of some of the Heritage listed trees as a result of staging the works whilst maintaining full school functionality.
• Provides Core facilities aligned with projected student numbers.	• Higher capital costs than Base Case option.
• Maximises site open play areas and allow for some long term future growth potential.	• Longer program compared to base option
• Reduced recurrent maintenance costs of demountables	• Reasonable disruption to school during project delivery.
• Increased community perception and support towards DoE	
• Reduces maintenance costs	
• Reduces energy costs achieved through more energy efficient building stock	
• Increases permanent teaching space capacity of the cluster	
• Eases enrolment pressures in the cluster	
• Improves the asset condition of Waitara PS	
• Improves functionality at Epping PS	
• Removal of demountables from the Cluster	
• Reduces building footprint on the site	

6.4 Option 2 – Expand Existing Site

Option 2 is to expand the existing site and allow for development and future growth in an increasingly high population density area.

A school is required to be retained in the Waitara area, since Waitara is geographically isolated from most other school catchments by the transport network – Pacific Highway, the M1 Motorway, Pennant Hills Rd and Malsbury Rd and the North Shore rail line.

It is difficult to identify remaining alternative sites, because:

- There is a lack of viable alternative sites as the school is situated one block away from the High Density Residential R4 Zone extending throughout much of Hornsby and close to the Hornsby commercial centre, Hornsby Hospital etc.
- High Lower North Shore land values.

Proposal;

Acquire 5 adjoining properties, numbers 2, 4, 6, 8, & 10 Ingalara Avenue Waitara to extend the existing site area by 0.5ha to a total of 2.46ha to allow for a two stage development commencing on the new portion of site whilst the school continues to operate in its current form. Complete upgrade works to the same brief as Option 1.

The estimated capital cost of the option is **$49,160,000**

Figure 5: Waitara Public School - Sites proposed for Acquisition

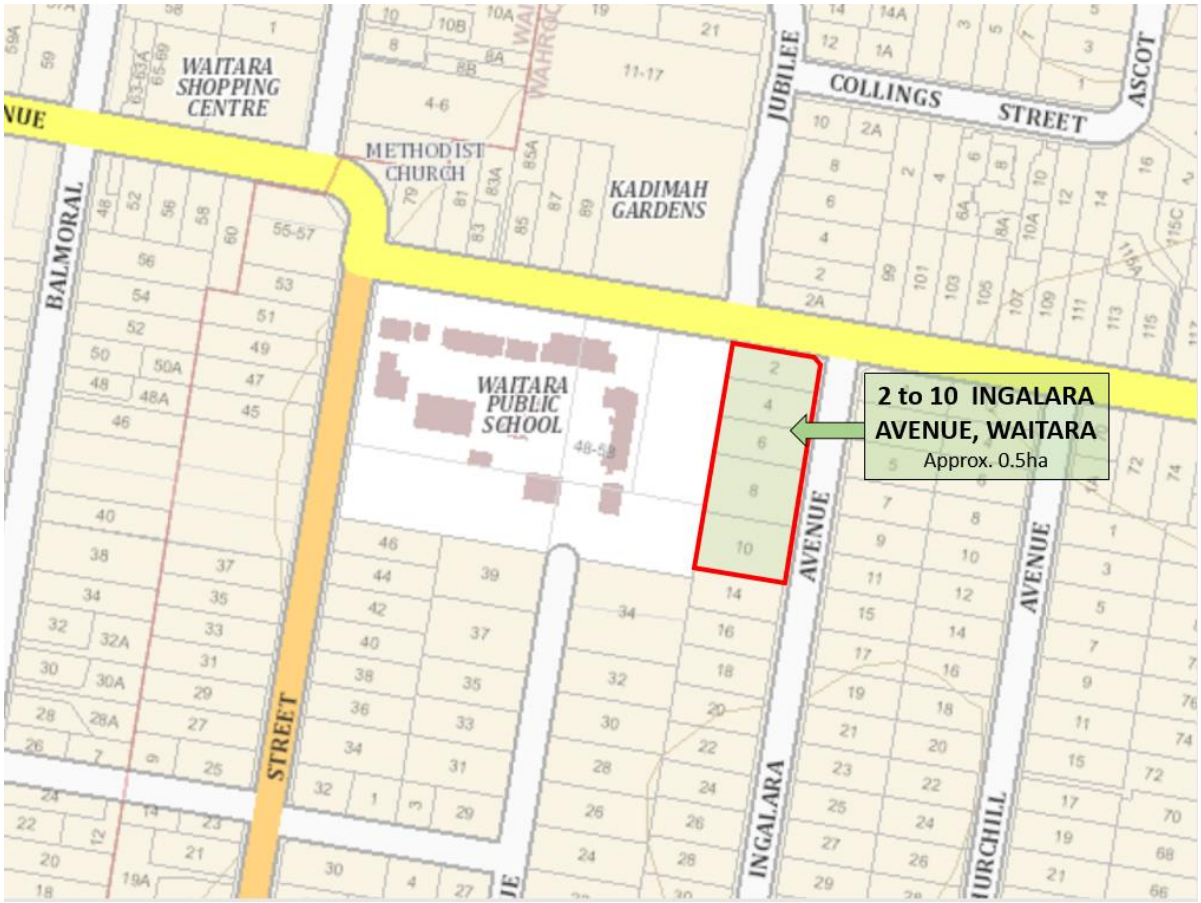


Table 12: Option 2 - Advantages and Disadvantages

Advantages	Disadvantages
• Forms part of cluster-wide strategy to meet projected enrolment demands under the Metropolitan Strategy for Sydney.	• Significantly more expensive than the current budget allowance due to the acquisition of adjoining land.
• Provides permanent facilities with opportunities for future-focused learning, improved school asset condition and increased open space.	• Longer program compared to base option
• Although some residential density increase is planned around Asquith, at the northern end of the geographical sub-catchment in which Waitara is located, the highest density will remain around the Waitara PS site.	• Reasonable but significant disruption to school during project delivery.
• Provides Core facilities aligned with projected student numbers.	• Significant loss of play space during construction due to the need to install many temporary teaching spaces to replace those being demolished to make way for the new buildings.
• New teaching spaces in multi-level buildings to maximise site open play areas and allow for some long term future growth potential.	
• The project will provide new teaching spaces which respond to new teaching philosophies and aspirations and the Schools Educational Principals.	
• Enlarged and improved Teaching support spaces, i.e. Hall Canteen and Library	
• Reduces maintenance costs	
• Reduces energy costs achieved through more energy efficient building stock	
• Increased site area more closely approximates the site areas for new schools being planned for this student capacity	
• Less extensive disruption to the school over a protracted period during construction than would be the case for other options	
• Potential for a new school drop-off point and entrance to the school in a low traffic volume street	
• Ability to optimise external play areas due to increased site area.	

6.5 Discarded Options

NIL

6.6 Capital Costs

Capital cost estimates for the 3 options have been developed by DOE and a registered and qualified Quantity Surveyor as part of the concept planning phase of the project. Table 13 provides an overview of the capital costs for each option.

Table 13: Capital Costs and Escalations

Option	Description	Est. Project cost	Escalation	Total capital cost
Base	Absorb growth through demountable teaching spaces	$844,000	$6,000	**$850,000**
1	Expand on existing site	$34,790,805	$2,209,195	**$37,000,000**
2	Acquire 5 adjoining properties and expand on new site	$46,810,221	$2,349,779	**$49,160,000**

Contained within Appendix 2 are Cost Estimates for the respective options.

6.7 Recurrent Costs

The cost benefit analysis takes into account the additional recurrent operating costs involved in operating the additional floor space requirements in the Base Case and proposed project options including:

- Additional cleaning costs for new space in all options.
- Additional maintenance costs in all options;
- Additional insurance costs in all options;
- Additional utilities costs in all options; and
- Additional security and other costs in all options.

Table 14 provides a summary of the additional recurrent costs required in all options.

Table 14: Additional Recurrent Costs

Description	Cost/m^2	Base Case	Option 1	Option 2
Additional square metres		1,035	1,725	1,725
Additional cleaning cost	$29.29	$30,315	$50,525	$50,525
Additional maintenance cost	$6.76	$6,997	$11,661	$11,661
Additional insurance cost	$5.68	$5,879	$9,798	$9,798
Additional utilities cost	$11.23	$11,623	$19,372	$19,372
Additional security costs	$0.82	$849	$1,415	$1,415
Additional Other costs	$1.19	$1,232	$2,053	$2,053
Total	**$54.97**	**$56,894**	**$94,823**	**$94,823**

7 QUALITATIVE ASSESSMENT - OPTIONS ANALYSIS

7.1 Qualitative Benefits

There are a number of benefits which contribute to the social, environmental and financial outcomes of the facility. Whilst these improvements will provide some economic benefit to the Community and Government, it is difficult to assign costs to them with any level of confidence. The table below summarises qualitative benefits identified by stakeholders for the overall project:

Table 15: Qualitative Benefits

Benefit description	Social	Environment	Economic
Students are placed in an appropriate teaching and learning environment	High	High	N/A
Students health needs can be met	High	High	Medium
Economic stimulus to local trades during construction	High	N/A	High
Reduction in the exposure of the department in media and responses to Ministerial correspondence	N/A	N/A	Medium
Improvements in student learning outcomes	High	High	Medium
New facility will meet all current building codes and standards including School Facility Standards	High	High	Medium
Infrastructure will be best practice	High	High	High
Providing a non-confronting, welcoming and safe environment for students, staff, parents and community	High	High	Medium
Provides families with confidence in the system and services being provided for their child/students reducing pressure on parents and siblings	High	High	Medium
Provide the local community with pride in the facility	Medium	Medium	Medium
More sustainable physical environment: arrangement, orientation and selection of energy efficient systems, water reuse, thermal comfort, materials with low emissions	Medium	High	Medium
The capacity of the facility has the optimal operational efficiency to deal with the complexity of staff, student and parent interactions	Medium	Medium	Medium
The selected site facilitates the fastest development for the proposed project	High	High	High
Provides opportunity for professional learning for teachers within the school and across the region – knowledge sharing	High	Low	Medium
Provides the opportunity for links with tertiary education and medical institutions.	N/A	N/A	N/A
Provides a showcase for best practice nationally and internationally	Low	Low	Low

7.2 Multi Criteria Analysis

To determine the relative economic benefit of the alternative project options, a multi criteria analysis (MCA) was undertaken. The MCA considered the performance of each project option in meeting each of the defined assessment criteria.

The methodology utilised for this assessment followed a four stage approach:

Stage 1 - Development of the Assessment Criteria:

The assessment criteria represent the benchmark that each project option is assessed against. The assessment criteria incorporate the project design principles developed by the PRG and a project value criterion developed by DoE. Some of the Assessment Criteria developed by the PRG and the DoE overlap and have been combined for the purposes of Stage 3 Scoring and Weighting.

The Assessment Criteria developed by the DoE include:

- Welcome / Entry and Community Experience;
- Enhanced Learning;
- Interconnected Landscape and Accessibility;
- Support and Staff Integration;
- Addressing Growth;
- Environment; and
- Value and Risk.

The Assessment Criteria, developed by the PRG, in the form of Project Specific Educational Principles include:

- Project Specific Educational Principle 1 - Waitara PS provides safe accessible, connected and flexible learning spaces that are centred on future focused learning and are adaptable for the changing needs of learners and learning
- Project Specific Educational Principle 2 - Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity
- Project Specific Educational Principle 3 - Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus
- Project Specific Educational Principle 4 - Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments
- Project Specific Educational Principle 5 - Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future

Stage 2 – Measurement:

An objective measurement of the impacts of alternative project options, based on the assessment criteria for the project. For this project each of the options was assessed on a qualitative basis by the project team.

Stage 3 - Scoring and Weighting:

Each of the 3 alternative project options was scored as per the measurable qualitative rating system presented below. For this assessment, an unweighted and weighted assessment was undertaken. For the weighted assessment, each of the criteria were allocated weightings (that sum to 100), as detailed below, where the most critical assessment criteria were weighted more heavily. The weightings selected reflect DoE emphasis on project design principles and are consistent with previously undertaken business cases.

Figure 6: Scoring Key

Measurable Qualitative Ratings	Score
Superior	✓✓ (+2)
Above Average	✓ (+1)
Average	– (0)
Unsatisfactory	X (-1)

Table 16: Assessment Criteria Weighting

Assessment Criteria	Weighted Assessment
Welcome / Entry and Community Experience; and Project Specific Educational Principle 3 - Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus.	16
Enhanced Learning; and Project Specific Educational Principle 1 - Waitara PS provides safe accessible, connected and flexible learning spaces that are centered on future focused learning and are adaptable for the changing needs of learners and learning.	19
Interconnected Landscape and Accessibility; and Project Specific Educational Principle 5 - Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.	15
Support and Staff Integration; and Project Specific Educational Principle 2 - Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity.	16
Addressing Growth	10
Environment; and Project Specific Educational Principle 4 - Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.	14
Value and Risk	10
Total	**100**

Stage 4 - Determination of Preferred Option:

The scoring of each alternative project option against the criteria was multiplied by the appropriate weighting to determine the weighted score. This was then summated to provide a score (out of a maximum of 100) for each option. This enabled the selection of most favourable or preferred option.

Following completion of the MCA assessment, a range of qualitative benefits associated with the preferred project option were identified and reported. These benefits primarily relate to educational outcomes but also include broader economic, social and environmental benefits of the project.

Assessment of Options

The outcome of the options assessment is the determination of a preferred project option, which is the highest scoring option in the MCA. The results indicate that upgrade

to Waitara Public School to provide 37 new permanent teaching spaces (Option 1) is the preferred project option to be progressed for further consideration.

The complete MCA results are presented in the table below.

Table 17: Multi Criteria Assessment

Assessment Criteria	Base Case	Option 1	Option 2
Welcome / Entry and Community Experience; and Project Specific Educational Principle 3 - Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus.	X	✓✓	✓✓
Enhanced Learning; and Project Specific Educational Principle 1 - Waitara PS provides safe accessible, connected and flexible learning spaces that are centered on future focused learning and are adaptable for the changing needs of learners and learning.	X	✓✓	✓✓
Interconnected Landscape and Accessibility; and Project Specific Educational Principle 5 - Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.	X	✓✓	✓✓
Support and Staff Integration; and Project Specific Educational Principle 2 - Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity.	X	✓✓	✓✓
Addressing Growth	–	✓✓	✓✓
Environment; and Project Specific Educational Principle 4 - Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.	X	✓✓	✓✓
Value and Risk	–	✓✓	X
Total (unweighted)	**7**	**61**	**48**
Total (weighted)	**7**	**87**	**72**
Ranking	**3**	**1**	**2**

The detailed qualitative analysis is included in Appendix 6.

This qualitative analysis is compared to the financial costs of the project through the Cost Effectiveness Analysis (CEA) metric in Section 8.2.

8 ECONOMIC ASSESSMENT - OPTION ANALYSIS

8.1 Cost Benefit Analysis

A cost benefit analysis of the short-listed options has been conducted in line with NSW Government Guidelines for Economic Appraisal. Costs and benefits were analysed over a 20-year timeframe and discounted at 7% with sensitivity at 4% and 10%. The full economic appraisal is attached at Appendix 7 and includes the key assumptions underpinning the analysis.

As with many projects with significant social benefits, the costs of the project in all cases outweigh the benefits, particularly when the ongoing operating costs of the facility as factored in. Education service delivery is not a high revenue activity and many of the benefits of an effective system manifest themselves in positive outcomes for the Community. Whilst some of these benefits will undoubtedly have downstream economic benefits they are difficult to quantify. Table 18 provides an overview of the key economic outcomes for the project.

Table 18: Economic Appraisal - Key Indicators[1]

Option	Description	Capital costs	Capital cost (PV)	Total costs (PV)	Benefits (PV)	NPV (7%)	BCR
Base	Absorb growth through demountable teaching spaces	$850,000	$797,336	$1,385,369	$0	-$1,385,369	0.00
1	Expand on existing site	$37,000,000	$31,226,814	$31,921,853	$1,100,090	-$30,821,762	0.03
2	Acquire 5 adjoining properties and expand on new site	$49,160,000	$43,043,525	$43,738,563	$1,100,090	-$42,638,473	0.03

8.2 Cost Effectiveness Analysis

It is difficult to quantify the benefits associated with proposed capital works in some sectors such as education, health or social welfare. The projects often provide significant infrastructure that lead to qualitative and quantitative benefits that cannot be readily expressed in monetary terms.

NSW Treasury Guidelines for Economic Appraisals encourage the use of Cost Effectiveness' Analysis (CEA) for such sectors to provide a realistic interpretation of the results and the value provided by each option. For the purposes of this appraisal, the present value of the costs has been used in conjunction with the qualitative scores for the options against the weighted qualitative performance criteria (Section 7.2)

Table 19: Cost Effectiveness Analysis

	Base Case	Option 1	Option 2
Qualitative Performance Criteria Score (A)	7	87	72
Present Value of Cost (B)	$1,385,369	$31,921,853	$43,738,563
CEA Value (B/A)	$197,910	$366,918	$607,480
RANK	2	1	3

The CEA value represents the cost of each option per score/unit of value. This is essentially the cost to deliver on the perceived value as identified in the qualitative performance criteria assessment by stakeholders. The lower the cost the better the result (i.e. an option needs a lower cost to deliver a unit of value comparatively).

In considering that the Base Case option does not achieve any of the Quality Assessment Criteria, the CEA confirms that Option 1 is the preferred option, with a significantly lower cost per unit of value delivered for the new school, the Department and the local community.

8.3 Economic Assessment

The economic appraisal is one element of the case for change being presented by the DOE as part of the business case process. Whilst the quantifiable benefits do not fully offset the capital investment requirements, there are a number of qualitative benefits which clearly support the project objectives and preferred option. Overall conclusions to be drawn from the economic appraisal are:

- Whilst the Base Case (Installation/replacement of demountables existing on the current site) is the most cost effective in terms of capital cost, it has the lowest qualitative performance criteria score and is ranked second for CEA value.

- Option 1 (Develop the Waitara PS site) has the second highest capital cost but also has high economic benefits, hence the NPV for this option was more favourable than for Option 2. This option has the highest qualitative performance criteria score and is ranked first for CEA Value.

- Option 2 (Expand the existing school site) is the most expensive in terms of capital cost and scores relatively low in the qualitative performance criteria. It has the worst NPV of the three options due to the high capital cost and minimal economic benefits. This option is ranked third for CEA value.

All of the options return a negative NPV due to the minimal quantifiable economic benefits derived from education infrastructure projects.

According to the above conclusions, Option 1 is deemed the preferred option.

8.4 Value Management

Value management is the systematic analysis of functions in order to improve value on a project. Value management analysis will be scheduled at optimal points in the project lifecycle and structured to meet the objectives relevant to the particular stage of the project.

8.4.1 Procedure

The following procedure is based upon the information described in the Australian standard AS 4183 and uses the same definitions.

- Establish the scope for the Value Management study;
- Select study group members;
- Prepare facilitation strategy and agenda;
- Brief study group members;
- Confirm objectives;
- Confirm scope;
- Build knowledge and understanding of the entity and its context (including the elements of value) and establish the success criteria;
- Generate multiple ideas to achieve best value and, where appropriate, best value for money of the entity;
- Evaluate ideas against success criteria;
- Develop options and proposals;
- Make recommendations and, where appropriate, decisions;
- Prepare action plan;
- Prepare study report; and
- Implement decisions and recommendations.

9 SUSTAINABILITY

NSW Government recognises the need for its resources to be managed in a way that is sustainable. The proposed project meets the environmental, economic and social goals of both the Department and Government as a whole, by:

- replacing inefficient, ageing facilities with modern sustainable alternatives incorporating best practice design initiatives;
- social benefits from providing facilities which meet the educational objectives and goals of NSW 2021;
- potential to stimulate regional labour markets and investment during the construction phase of the project; and
- contributing to ongoing prosperity of the region through continued investment in facilities and service delivery.

9.1 Economic Benefits

The economic benefits of the project have been analysed in the cost benefit analysis and description of qualitative and quantitative benefits (section 8).

9.2 Social Benefits

Governments are tasked with the provision of services to the community and to provide educational facilities to ensure that all students of school age are provided with access to quality educational services and pathways to maximise their potential. DOE services and facilities generally and the Waitara Public School project specifically demonstrate the NSW Government commitment to this responsibility.

As described in the case for change section and in the analysis of options, the investment in education facilities provides numerous social benefits to communities in Waitara and the surrounding region. The social benefits of education infrastructure are significant. It is well understood that communities with access to world class education infrastructure will be more diverse, tolerant and appreciative of their surroundings than those communities that do not have access to education infrastructure.

The social benefits of the project are the fundamental reason for Government investment in education infrastructure. Key social outcomes include:

- Students are placed in an appropriate teaching and learning environment;
- Students health needs can be met;
- Economic stimulus to local trades during construction;
- Improvements in student learning outcomes;
- Providing a non-confronting, welcoming and safe environment for students, staff, parents and community;
- Provides families with confidence in the system and services being provided for their child/students reducing pressure on parents and siblings;
- Provide the local community with pride in the facility; and
- Provides opportunity for professional learning for teachers within the school and across the region – knowledge sharing.

9.3 Environmental Impacts

The principles of whole of life decision-making and sustainable design will be applied to the project in accordance with NSW Government's commitment to Total Asset Management planning. Whole of life decision-making means balancing:

- the whole of life cost of the new facility;
- reducing operating and maintenance impact on existing resources;
- value for money achieved by government from the design, construction and operation of the facility; and
- the ability of the facility to achieve ESD principles and objectives.

The design and construction of the 37 new permanent teaching spaces and upgraded Core support facilities will be driven to achieve the following sustainability needs:

- flexibility to ensure the ongoing functional operation of the facility without the need for costly work to accommodate changing technological, security or procedural needs; and
- the performance of the new elements of the facility will be one of 'Best Industry Practice'. In the first instance. Compliance with Section I and J of the BCA is required.

Environmental sustainability is a key component of DOE design principles. New schools, and additions to schools, are constructed by the DOE on the basis of the School Facility Standards. The Department is committed to environmentally conscious construction and maintenance practices and these principles will be utilised in the construction of the Preferred Option. This is demonstrable through the 64 new or replacement schools constructed since 1995, along with a number of major school upgrades, which have incorporated some or all of the design elements outlined below.

The key Environmental benefits anticipated for this project are described within the endorsed project specific educational principles:

Principal 4 Provide contemporary, sustainable learning environments:
Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.

Principal 5 Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.
Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.

9.3.1 Orientation

Solar or "true" north is the desired orientation to ensure the effectiveness of sun penetration control by the use of roof overhang and other shading devices. The majority of new schools are constructed to a solar north orientation; however site-specific factors such as prevailing breezes, site levels and site area limitations can necessitate slight deviations from a True North orientation.

9.3.2 Timber Policy and Pest Control

In accordance with the Department's timber policy, no rainforest timbers are used in the construction of new buildings (with the exception of those which have been plantation grown), and timber from high conservation forests is not used. These measures have the obvious benefit of reducing the Department's contribution to deforestation.

New schools are largely constructed from plantation-grown timber, or timber from sustainable managed growth forests. Further, the use of recycled timber and engineered/glued timber composite products is encouraged in the construction of new buildings.

The use of toxic chemical barriers to prevent pest infestation is prohibited in schools, and accordingly termite resistant timbers are used for the framing of floors, walls and roofs. Further, termite and other pest prevention and control are facilitated by physical means such as termite barriers and low risk construction design choice. These measures avoid all environmental impacts associated with chemical barriers and have the added benefit of reducing maintenance and damage repair which occur as a result of pest infestations.

9.3.3 Reuse and Recycling

The construction and design of new public schools are typically modelled on a variety of environmental considerations. Wherever possible, recycled materials, in addition to re-usable materials, are utilised. This confers the benefit of being not only cost-effective, but also minimising waste due to the longevity of the materials.

For example, a 1:6 ratio (cement: lime and sand) mortar mix is specified and used for brickwork, so as to provide the opportunity to re-use the bricks after expiration of the life of the building. The bricks can then be reemployed in the construction of new facilities, a measure which is not only environmentally conscious, but also cost-effective.

9.3.4 Thermal Comfort and Energy Efficient Operation

A number of energy efficient measures and design components are utilised in the construction of new buildings by the Department. These include, but are not limited to, the following:

- Maximisation of natural light by the use of roof strip lights, which is integrated with roof ventilation so as to reduce heat penetration;
- Installation of energy efficient light fittings, with tri-phosphor fluorescent tubes;
- Solar Panels (following outcome of cost/benefits analysis)
- Control of lights by use of a switching system, which operates according to the period bell or timers;
- Purchase and use of energy efficient white goods and other electrical equipment;
- The use of natural cross ventilation, assisted by roof turbo ventilators. This is the primary means of achieving maximum air movement and comfort conditions, and its effective utilisation minimises the need for air cooling systems;
- Heating systems which are designed for optimal efficiency and safety, including:
  - The use of gas convection heaters installed with low NOx burners (super-low emission technology);
  - Minimal employment of electric heating, which is used only in small spaces within which gas appliances cannot reasonably be installed;
  - The consistent use of high rating insulation (which includes two layers of insulation material in roofs, and a single layer in walls), which are effective in controlling both summer heat gain and winter heat loss;

- The appropriate installation of building overhangs (such as eaves, covered walkways and internal blinds) so as to minimise heat gain, in addition to the restricted use of glazing to the east and west facing facades;
- Minimisation of reflective surface glare in assembly areas and adjoining roofs and walls, which is managed through design choice and suitable external surface colour selection.

These methods, in addition to ensuring the comfort of students and school staff, are extremely effective in conserving energy and resources.

9.3.5 Water Conservation

The Department's commitment to the conservation of water resources is facilitated by the use of a variety of water conservation control systems.
Water wastage is minimised by the installation of internal flow controllers in all taps, the use of dual flushing cisterns and manual flushing urinals. Waterless urinals with a hygienic flush are being trialled. Low water use landscaping is incorporated in education facility design.

A new standard was recently incorporated into the Department's facility standards stipulating that rainwater tanks totalling up to 50,000 litres be installed in all new schools and connected to the drip irrigation system of adjacent landscape or gardens.

9.3.6 Landscaping

The Landscape Standard sets out requirements to achieve a sustainable, safe and cost-effective landscape with minimal environmental impact. This is achieved by ensuring that all significant trees are retained, and by maintaining slope and surface water flow across sites, and by the preservation of the habitats of native species.

The principles of low impact landscaping are described in more detail in the "Landscape Management in NSW schools" booklet.

10 IMPLEMENTATION OF THE PROPOSAL

10.1 Implementation Strategy

DOE's Asset Management Directorate is responsible for the planning and delivery of the project utilising standard major capital works delivery program methodologies and procedures.

The DOE has engaged TSA Management for the planning and implementation of DOE capital projects. Agreed and well implemented governance and planning processes are already in existence. Implementation of the proposed project will follow the arrangements for similar DOE projects.

Appendix 3 provides an overview of the governance structure of the planning and delivery phases of the project.

10.2 Governance

The objectives of the governance arrangements are to:

- establish clear and appropriate definitions of the role and functions of stakeholders, project control and technical reference groups;
- provide a consistent project management approach;
- provide clarity in the role and accountability of each of the key stakeholders;
- define the roles, authorities, accountabilities and responsibilities; and
- define a process to ensure reporting of achievements and governance

As the procurement of the project develops through the planning, procurement and implementation phases, various changes are likely to be required to governance arrangements. The governance structure for the delivery phases of the project is provided in Appendix 3.

DOE has a consultation policy (Planning and Delivery Asset Management Directorate Public Consultation Policy – Schools) which provides a framework to actively seeking the views of the community and other stakeholders in relation to the planning of major asset related projects in schools. This policy is implemented for each project.

10.3 Project Reference Group (PRG)

A non-technical Project Reference Group (PRG) is developed for each project. The PRG's main roles are to provide feedback and local knowledge to the project team and act as a communication channel through which to feed information between the wider School community and the project team.

The PRG will be chaired by the Director, Public Schools NSW, and the core members of the PRG will typically include the School Principal, Project Manager (PM), Head Design Consultant (HDC), Asset Management Unit (AMU) Representative, Parent Representative and a DOE representative.

The PM will organise all aspects of these meetings including, taking the minutes, organising meeting times, agendas etc. Regular meetings will be held throughout the project lifecycle (usually fortnightly during the early design phase and monthly thereafter or as required). The PRG will contribute to and endorse all project designs.

The PRG will meet throughout the preparation of the Business Case to ensure all key stakeholders had satisfactory input into the planning process.

- **Director, Public Schools NSW** is the chairperson for the PRG, coordinates the meeting and liaises with other PRG members
- **School Principal** liaises with School community (students and staff) and provides feedback to the PRG
- **Parent Representative** liaises with parents and provides feedback to the PRG
- **Asset Management Unit Representative** provides a regional asset perspective and ensures that the Major Capital Works project coordinates with other works at the School
- **Program Manager** is responsible for the project meeting the Department's requirements
- **Project Manager** is responsible for managing the project throughout the project lifecycle, taking minutes, organising meeting times, agendas etc.
- **Head Design Consultant** is responsible for developing design options that reflect the PRG's input

A detailed outline of the roles and responsibilities of the PRG and supporting stakeholders is provided in Appendix 4.

10.4 Procurement

The selection of procurement methodologies utilising pre-qualified contractors requires a collaborative approach between the Department's AMD Procurement and Program Management Office. This involves establishing:

- the most appropriate delivery model for each project or program;
- a contract system for each of the contract packages; and
- how the procurement will be managed by the agency to suit the delivery system and contract system(s) selected.

The Department has experience in different models of procurement such as Developed Design (DD), Design & Construct (D&C), Design Development and Construct (DD&C), Managing Contractor (MC) and Public Private Partnerships (PPP). The procurement model under consideration for these projects is Design & Construct (D&C) using the NSW Government default procurement system for construction.

Under the Government Procurement system, a panel of Best Practice Contractors is maintained and these contractors are accessed for the procurement of these projects. Contractors are continually assessed and monitored for performance and management of statutory obligations.

The well-established procurement and implementation strategy for Capital Works within DOE will provide the model for the delivery of the project. The Design and Construct model has been selected for the procurement of this project because of the models capacity to accelerate project delivery times, based on the fact that DOE have a well-developed and detailed set of Educational Facility Standards and Guidelines.

10.5 Cost Estimates and Contingency

The Cost Estimates and Contingencies for the Waitara Public School project are provided by an external Quantity Surveyor engaged directly by the Department. These costs are based

on current industry rates and are rigorously challenged throughout the concept design phase to ensure the preferred option is buildable within the approved budget.

Each of the options identified by the PRG have been scoped and subsequently costed. The cost estimate for each project option including provision for contingencies is provided in Appendix 2.

10.6 Programme

A preliminary programme has been developed based on funding being approved as part of the 2016-2017 budget process. Table 20 provides an outline of key milestone dates.

Table 20: Programme Overview

Task	Estimated completion date
Concept Design/Business Case	28th February 2017
Funding Confirmed	March 2017
Award Design & Construction Tender	December 2017
Schematic Design	March 2018
Detailed Design	August 2018
Final Design	January 2019
Commence Construction	September 2018
All construction complete/handed over	Day 1, Term 1 2021

10.7 Funding

This business case is part of the annual budget cycle and funding bid submitted by DOE to NSW Treasury. Cashflow is spread across the 2016-2017, 2017-2018, 2018-2019, 2019-2020 and 2020-2021 financial years. A preliminary cashflow forecast for the preferred option is provided based on the indicative programme.

Table 21: Capital Cashflow - Preferred Option

2016-2017	$397,709
2017-2018	$6,024,535
2018-2019	$11,412,735
2019-2020	$11,412,735
2020-2021	$7,752,287
Total	**$37,000,000**

10.8 Stakeholder and Change Management

This section of the business case outlines the stakeholder and change management approach to be taken by DOE during the scoping, design, delivery and transitioning phases of the preferred project.

DOE will develop a stakeholder or change management plan to provide a framework for managing and coordinating the communication of change and engendering external and internal stakeholder engagement with and commitment to the success of the proposed project. The following paragraphs identify the major stakeholders affected by the project,

outline the communication and change management approach and plan, and articulate a range of strategies and events to meet the objectives of this plan.

10.8.1 Communication and Consultation

Communication is a critical part of the success of all projects, particularly those which involve changes in the way services are delivered by occupants both during and after completion.

To promote communication with the school and broader community and to ensure equitable and transparent consultation the PM has developed a communication/consultation plan.

The plan has been endorsed by the PRG.

Typical communication/consultation plans for DoE capital works projects usually include;

- Two distinct, separated streams of consultation;
    - One with the school community for existing schools or surrounding schools for new school projects and
    - One with the broader local community
- The separated two stream approach allows;
    - school-centric involvement from school communities (including Students, parents/caregivers, teachers, admin staff) unencumbered by boarder community issues and
    - Broad community involvement unencumbered by school community wants and needs. Broad community stakeholders include, local residents, neighbours, local action groups, local MP's, Councils….

Typical Tools used for communication/consultation

- Electronic Media
    - **Internet sites**. A project internet site is developed and updated monthly with the latest project information. Project internet sites typically have links from existing school internet pages or stand alone for new schools. Project internet sites can include;
        - A front page with a project description and general information about the project, a timeline displaying where the project is up to in a simple easy to understand format, a few dot points on what's happened in the last month and what is coming up in the next month and details on upcoming consultation.
        - Tabs that could house FAQs, surveys, pictures and time-lapse links and specific elements required by the project.
- Hard copy Media
    - Advertisements are always placed in local papers to alert the broader community of upcoming consultation.
    - Existing schools often have handouts that go home to parents and caregivers. These can be used to provide updates and alert school communities to upcoming consultation.

        - Letter box drops are a tool that is often used to make contact with neighbours.

- Information booths.
    - Information booths are the typically face to face consultation tool used for DoE Major Capital Works Projects. The information booths follow the two stream approach with separate information booths for the school and broad community held regularly.
    - School information booths are usually maned by the PM and HDC representatives, held at school locations at times that suit parents and caregivers. For example, 3 to 4.30 pm at an existing school, or for new school projects, these may be held at existing local surrounding schools. Usually fortnightly through early design, monthly till construction commences and as required thereafter.
    - Broader community information booths are usually held at local shopping centres, community centres and places that are easily accessed by the community. They are held at times convenient for the community like out of work hours on weekdays and Saturday afternoons for weekends. They are usually staffed by the PM and HDC. Usually monthly during design and up to construction commencing. Community information booths are always advertised in the local papers with at least more than a week's notice.
    - The information booths will have feedback sheets available for visitors to leave comments, which in turn inform feedback from the PM and HDC to the PRG and sometimes a FAQ section on the project website.
- Workshops
    - Throughout the design phases there will be a number of workshops with different stakeholders depending on the project. Workshops are managed and facilitated by the PM and HDC. Typical stakeholder workshops include:
        - Education model and design workshops with the Schools Director, Principal teachers and staff. An education specialist is often brought in by the HDC to assist the school in developing an education model;
        - Workshops with parents and caregivers if appropriate;
        - Workshops with established local action groups;
        - Workshops with other social service providers and Council social services to see if any beneficial sharing of facilities can occur;
        - Design workshops with students and teachers to find out their ideas; and
        - Other workshops as required

With the effective implementation of the plan, requirements, changes and impacts on a variety of stakeholder groups can be managed in a controlled environment where key stakeholder requirements and concerns are addressed.

10.8.2 Stakeholder Analysis

The following tables show the various stakeholders in this project and include an analysis of their expectations as they relate to the project aims.

Table 22: Stakeholder Analysis - Internal DOE Groups

Stakeholders	Subsets	Stakeholder expectations	Potential impact of project on stakeholder
Asset management directorate	Asset planners	Provided with information on the project from central planning team	Positive – provision of new facilities
	Facility management	Provided with information and specifications	Positive – provision of new facilities Negative – handover of facilities or funding to maintain is inadequate
Teachers/support staff	School	To be involved in the process and to receive compliant facilities once complete	Positive – provision of new facilities Negative – not consulted on key issues with the project
Executive	Central	Project delivered on time, on budget and to specifications	Positive – improved service delivery arising from new facilities Negative – potential budget or time impacts on project
	Regional	Project delivered on time, on budget and to specifications	Positive – improved service delivery arising from new facilities Negative – potential budget or time impacts on project
DOE corporate	Human Resources Branch	Involvement in relocation planning	Positive – staff moved to compliant facilities Negative – Potential issues with staff relocation
	Information technology Branch	Involvement in design development for IT requirements	Positive – provision of funding for state of the art IT provision

Table 23: Stakeholder Analysis - External Groups

Stakeholders	Subsets	Stakeholder expectations	Potential impact of project on stakeholder
Students	School	New, fit for purpose school	Positive – provision of new facilities
Parents	School	New, fit for purpose school Reduced travel time to school	Positive – provision of new facilities
NSW Government	Treasury	Value for money investment	Positive – Investment which aligns with State Plan goals and objectives Negative – More pressure on priorities for funding
Local Government	Council	New fit for purpose school Compliant DA submission	Positive – improved local school facilities Negative – objections from local residents to the development
Community groups		Contribution to new school activities and to student development	Positive – opportunity to be involved in new school programs
Service providers	Transport	Access to provision of school transport services	Positive – opportunity to provide services to new school
	Catering	Access to provision of school catering services	Positive – opportunity to provide services to new school.
	Maintenance	Access to provision of school maintenance services	Positive – opportunity to provide services to new school
	Cleaning	Access to provision of school cleaning services	Positive – opportunity to provide services to new school

10.8.3 Change Management Approach and Principles

A change management and communications plan will be developed during planning for the project. The following sections outline some of the key themes and principles utilised by DOE in their change management approaches to capital works projects during the design, delivery and transitioning phases of the preferred project.

10.8.4 Identifying Change

People rather than processes are the central focus of any successful change management and communication approach. The major focus of change within the project will be positive with the new facility addressing issues raised by users and staff at the current facility for many years. Communicating these positives will be a major part of the approach together with encouraging two-way communication with stakeholders in order to address user requirements where possible.

In the process of making the change there will be an effect on people and their work. Change will invariably confront many relationships especially those that require a set of new behaviours.

- A fundamental precursor to shifting people's perspectives and developing their commitment to the proposal is ensuring any new amenity; structures and approaches are a significant improvement over those existing. All locally affected stakeholders must both see and experience a higher quality in amenities than currently exist.
- Stakeholders' perceptions of quality and strength in public education provision, where it currently lies and where it will

continue to be found, are key considerations in the design, development and implementation of any proposal to upgrade a school that will impact on students, families and teachers.

- Principals –It is imperative that these key stakeholders be engaged in the consultation regarding the design, development and implementation as early as possible.
- Staff – the Waitara Public School project, incorporating 37 permanent new teaching spaces and upgraded core facilities will require extensive consultation and provision of information.
- Parents and students – the Waitara Public School project, incorporating 37 permanent new teaching spaces and upgraded core facilities will require extensive consultation and provision of information.

10.8.5 Stakeholder Communication

Regular distribution of information about proposals and developments and early engagement of stakeholders in the process of consultation and decision making will be essential to the successful promotion and stakeholder 'buy-in'.

To ensure successful communication a number of common principles should be followed. These are described in the table below.

Table 24: Change Management and Communication Principles

Principle	Reason
Consultative and open	Supports a transparent approach and stakeholder engagement with the project.
Credibility	A credible communication approach engenders the stakeholder community towards a belief that the end goal is achievable.
To involve not just inform	Supports a transformational approach and stakeholder engagement with the project.
Visible management support	An active management commitment gives credibility to communication. Support from management must be visible.
Face-to-face communication	Facilitates audience involvement and feedback.
Avoid information 'overload'	Too much information leads to confusion and irritation. Accurate and timely information is essential.
Consistent messages	Consistency enhances the professionalism and credibility of the project.
Repeat messages and vary mechanisms	The more ways a message can be communicated, the more likely it is to be internalised. Using different mechanisms ensures repetition without individuals 'switching off' and has more chance to reach a wider audience.
Respond to information demand	Ensures engagement with the change.
Tailor communication to audience needs	Makes information 'real' to the audience. The audience is more likely to listen if the information is pertinent to their current frame of reference.
Central co-ordination	Ensures consistent approach.
Manage expectations	Encourages audience to believe in what you to tell them. Need to be realistic not overly optimistic.
Listen and act on feedback	Encourages support in the approach by being responsive to the needs of the audience. Ensures approach meets changing audience needs.

Table 25: Stakeholder and Change Phases

Project phase	Stakeholder change/communication phase	Description
Business Case/concept phase	Awareness	Stakeholders develop knowledge of the change (this was also partially achieved through the tender process).
	Understanding	Stakeholders comprehend the nature and intent of the change and start to develop an understanding of what this will mean for them.
Detailed design	Positive perception	Strategies are implemented to try and engage stakeholders in developing a positive perception of the change
Construction	Pilot	The change becomes operational for a small select group of stakeholders in order to test strategies, support and systems.
Operation	Implementation	The change is fully operationalised across the institution.
Post occupancy evaluation	Adoption	The change has been operational for long enough to evaluate its worth and impact (this phase is not within the timeframe of the current project).

Some specific change processes have been mapped to the main project stages based on DOE's experience in delivering similar projects. The following table provides a preliminary assessment of key change requirements and the stakeholders involved.

Table 26: Outline Change Management Plan Requirements

Stage	Change requirements	Responsibility	Stakeholders involved
Stage 1 – Planning	Communication of funding arrangements and overview of project	DOE Asset Management Directorate	Asset Management Directorate (AMD), AMU, Schools Director, School staff, NSW Treasury, Students, Parents
	Involvement in detailed documentation and design	DOE Program Manager, Project Manager	AMD, AMU, Architect, Quantity Surveyor, School Staff, Schools Director
	Establish Project Reference Group (PRG)	DOE Program Manager, Project Manager	DOE Program Manager, Project Manager & Architect, Schools Director
	Establish stakeholder groups	DOE Program Manager, Project Manager	School, Schools Director, Students, parents, service providers, local community groups
	Development approval consultation	Project Manager	AMD, AMU, Schools Director, Local Council, Students, Parents, Service providers, Local community
Stage 2 - Construction	Agreed procedures for documenting and approving changes to project	Project Manager, AMD Program Manager	Project Control Group (PCG)
	Communication of construction activities	Building contractor, Project Manager	School staff, students, parents, service providers, local community groups
	Progress reports towards completion goals	Project Manager	School staff, students, parents, service providers, community groups
	Relocation planning and schedule	Project Manager	School staff, students, parents, service providers, community groups
Stage 3 - Occupation	Detailed relocation plan	Project Manager	AMD, Schools Director, AMU, School staff, Students, Parents, Service providers,
	Handover/commissioning procedures	Project Manager	AMD, AMU, School staff, Project Manager
Stage 4 – Post-occupancy review	Participation on post occupancy review of the facility (12 months after completion)	Asset Management Directorate (AMD)	AMD, AMU, Schools Director, School staff

10.8.6 Schedule of Events

While particular communication events and strategies will be developed to support stakeholders through these phases and in relation to their expectations, a range of regular and ongoing initiatives will be employed to monitor stakeholder expectations, feedback and attitudes. These will include:

1. Key stakeholder groups;
2. Attendance by designated project team members at a broad range of meetings involving stakeholder groups;
3. Conducting focused evaluation forums;
4. Conducting targeted information sessions for the Community;

5. Creating awareness about the project on DOE websites and the Department's Intranet;

Table 27 maps particular events that will occur during the planning and delivery of the project, targeted stakeholders and their expected outcomes of the events.

Table 27: Change Management Plan

Event/ Strategy	Timing	Stakeholders targeted	Purpose	Method
Project Educational Principles	Completed January 2017	PRG, School staff	Outline project drivers and objectives and confirm preferred option to take forward to next stage	Workshop
Risk management workshop	As Required	PRG, School staff	Outline project drivers and objectives and confirm preferred option to take forward to next stage	Workshop
Value management workshop	As Required	PRG, School staff,	Outline project drivers and objectives and confirm preferred option to take forward to next stage	Workshop
Gateway Review (if required)	As Required by DOE	Nominated members as required	Peer review of project at current stage with recommendations for improvement	Workshop/interviews
Funding Decision	March 2017	DOE, AMD, PRG	Communicate project status in terms of the current budget process	Internal communication (e-mail)
Media release	Post Business Case/ Funding Approval	External stakeholders – parents, students, service providers, community	Communicate funding of the project and timeframes for work	Local media, Internet
Start-up workshop	Held 16th Dec. 2016	PRG	Outline the process for the project to progress through planning and implementation stages. Establish communication strategy, stakeholder expectations.	Workshop
Functional brief workshop	Held 7th Feb 2017	PRG, School staff and students	Confirm functional requirements of the project including against DOE School Facility Standards	Workshop/report
Schematic design workshops	Post Business Case Approval. TBA	PRG, Technical stakeholders, School staff and students	Review concept to confirm and develop overall design intent	Workshops
Design development workshops	Post Business Case Approval. TBA	PRG, Technical stakeholders, School staff and students	Develop design to enable submission of DA and tender for construction	Workshops
Development application process	Post Business Case Approval. TBA	Council, community	Planning approval for new school	DA submission on display
Construction phase	Post Contractor Engagement	All stakeholders	Keep stakeholders updated and informed on construction progress and any service interruptions to surrounding areas	Weekly project update

10.9 Risk Management

Risk identification, assessment, response planning and monitoring is an interactive process and will form part of the routine project meetings and reviews.

DoE PMO has undertaken an initial risk assessment as part of the development of the Business Case. The risk assessment has followed the process outlined in Figure 7.

Figure 7: High-level Risk Management Procedure

10.9.1 Risk Assessment

The Risk Rating (both Initial and Residual Risk Rating) is achieved by plotting the Likelihood and Consequence ratings on the matrix below to determine the Risk Rating. This rating is performed automatically within the T Reign.

Figure 8: Determination of Risk Rating

LIKELIHOOD						
	Almost Certain – 5	Medium	Medium	High	High	High
	Likely – 4	Low	Medium	Medium	High	High
	Possible – 3	Low	Medium	Medium	Medium	High
	Unlikely – 2	Low	Low	Medium	Medium	Medium
	Rare – 1	Low	Low	Low	Medium	Medium
		Insignificant - 1	Minor - 2	Moderate - 3	Major - 4	Critical - 5
		CONSEQUENCE				

10.9.2 Risk Strategy

This element of the risk register provides guidance on the recommended strategy to be employed to treat the risk. The four risk strategies are outlined in the figure below:

Figure 9: Determination of Risk Strategy

STRATEGY	ACTION TO BE TAKEN
Mitigate	Develop actions/ options to reduce the likelihood and or consequence of the risk
Transfer	Outsource the activity causing the risk or insure the risk
Avoid	Remove the activity causing the risk and seek alternative
Tolerate	Take no further action other than to monitor or put plans in place to reduce the consequence in case the risk occurs.

10.9.3 Management Actions

The final column in the register provides a recommended action to manage the risk and mitigate against the predicted effect on the project. This is guided by a combination of the overall risk level, which indicates how much intervention will be required to mitigate a particular risk, and the strategy and timing of the risk as to when and how the risk will be mitigated.

10.9.4 Risk Management Register

The PRG has undertaken a risk management assessment as part of the preparation of the Business Case. Appendix 5 provides the initial risk register for the project. These risks have also been assessed and incorporated into a risk register for consideration and assessment of the impact on the establishment of an appropriate Project Contingency. The majority of following risks have been assessed as having no impact on capital cost and contingency amounts. The project risk register for the delivery of the project will be developed and updated throughout the life of the project.

The highest ranked risks are:

- Ineffective Stakeholder management resulting in an expectation mismatch.
- State government wants to accelerate project delivery.
- Failure to meet publicly announced schedule.
- Site investigations identify latent conditions or site limitations.
- Designs do not comply with the Education Facilities Standards Guidelines due to design errors.
- Delays to the program due to inclement weather.
- Risk that Contractor tenders are above the pre-tender estimate.
- Staging of works required due to various issues (i.e. safety, continued use of facility, HSC exams).
- Variations due to latent conditions, client requests, design errors exceed agreed project budget.

11 CONCLUSION

The business case has been prepared in accordance with NSW Treasury guidelines and DOE policies and procedures. The project has been identified due to a number of key drivers namely:

- To meet future projected enrolment growth; a growing population within the Cluster area is placing pressure on placements in nearly all of the cluster schools and in particular at Waitara. Increasing enrolment capacity at Waitara Public School will take pressure off other schools in the cluster and respond to the particular local growth demand.
- The existing MDR Buildings B, D, H, I and K are to be relocated to other schools within the Cluster in order to further relieve growth pressures at those schools.
- To meet the DoE's educational planning principals: The school was originally designed for a much smaller population and has outgrown all of the permanent facilities provided, that is teaching, administration/ Staff and support spaces, i.e. Hall and Library. Over time the school has been expanded from 6 permanent structure teaching spaces to 32 using demountables and MDR's. This project will replace the redundant permanent buildings, demountables (13 off TS) and MDR's (11 off TS) and increase capacity by a further 10 teaching spaces with new permanent teaching spaces and support facilities designed to suit modern pedagogy.
- To improve the performance of the school assets: The existing school assets are performing poorly, achieving a 'Facility Condition Index' of 7.1% compared to the required standard of around 3%. The provision of new permanent facilities designed for energy efficiency will reduce long term maintenance and running costs whilst improving comfort conditions to provide better learning environments thereby maximising value for money.

A PRG consisting of key stakeholders was established for the preparation of the business case which incorporated the following key planning tasks:

- Identification of Project Educational Planning Principles
- Stakeholder Engagement and Management
- Option Identification and Analysis
- Value Management Assessment
- Economic Appraisal
- Risk Management Assessment
- Governance Planning
- Sustainability Review

The following endorsement statement was made by the PRG based on the comprehensive planning process:

> ***This PRG endorses Option 1 as preferred for the enhancement of Waitara Public School.***

The PRG concluded that the preferred option for the project is to proceed with is Option 1 including:

- 37 new teaching spaces and upgraded Core facilities
- Removal of all MDR's, all demountable buildings and removal of permanent buildings A, C, E, F, G and J.
- Associated landscaping soft and hard
- Improvements to existing site infrastructure

Stakeholders and the Business Case identified the following benefits arising from implementing the preferred option:

- It will address the significant growth in the population that is being experienced in the Sydney West Central Region;
- This project aims to meet 8% of the required student population growth within the Hornsby Primary Schools Cluster for the next 15 years.
- It recognises the expected long term population growth within the area and accordingly replaces existing demountable teaching spaces with better suited permanent structures and suitable Teacher and Student support facilities;
- removal of existing demountable general learning spaces (GLS);
- upgrade of staff and administration facilities;
- increase of student amenities;
- reclaiming of outdoor play and learning spaces (currently occupied by demountables).
- It is cost effective and will cause minimal disruption to existing educational operations; and
- Provides families with confidence in the system and services being provided for their child/students reducing pressure on parents and siblings.

In completion of a cost effective analysis, Option 1 was identified as the best option and represented best value for money. In conclusion, DoE seeks your approval of $37 million for the upgrade of Waitara Public School.

12 Glossary of Acronyms

AMD	Asset Management Directorate
AMU	Asset Management Unit
BCA	Building Code of Australia
CBR	Cost to Benefit Ratio
CEA	Cost Effectiveness Analysis
CO	Construct Only
COLA	Covered Outdoor Learning Area
DDA	Disability Discrimination Act
DD	Developed Design
D&C	Design Construct
DD&C	Design Development and Construct
DOE	NSW Department of Education
Dem	Demountable
EA	Economic Appraisal
EFSG	Education Facilities Standards and Guidelines
ha	hectare
LGA	Local Government Area
MDR	Modular Design Range (teaching spaces)
NPV	Net Present Value
NPVI	Net Present Value to Investment
PAA	Practical Activity Area
PRG	Project Reference Group
Perm	Permanent
PPP	Public Private Partnerships
PS	Primary (Public) School
PV	Present Value
Tpp	Treasury Policy Paper
TS	Teaching Space
TSD	Teaching Space Demand
VMS	Value Management Study
WH&S	Work, Health and Safety

13 APPENDICES

13.1 Appendix 1: Concept Masterplan (Preferred Option)

Form & Teaching Spaces
This option proposes to utilize the North Western corner of the site.
It proposes to cut one of the significant trees to create a more integrated learning environment. This is achieved by locating the two building wings closer to each other.

School Entry
This option creates a new entry via Myra St which is a preferred location due to safety & traffic.

Core facilities
The new core spaces are linked to the new proposed entry at ground level. Existing library is expanded to south.

Demolition
All buildings except block M & the library are proposed to be demolished. This includes demolishing the hall.

Advantages

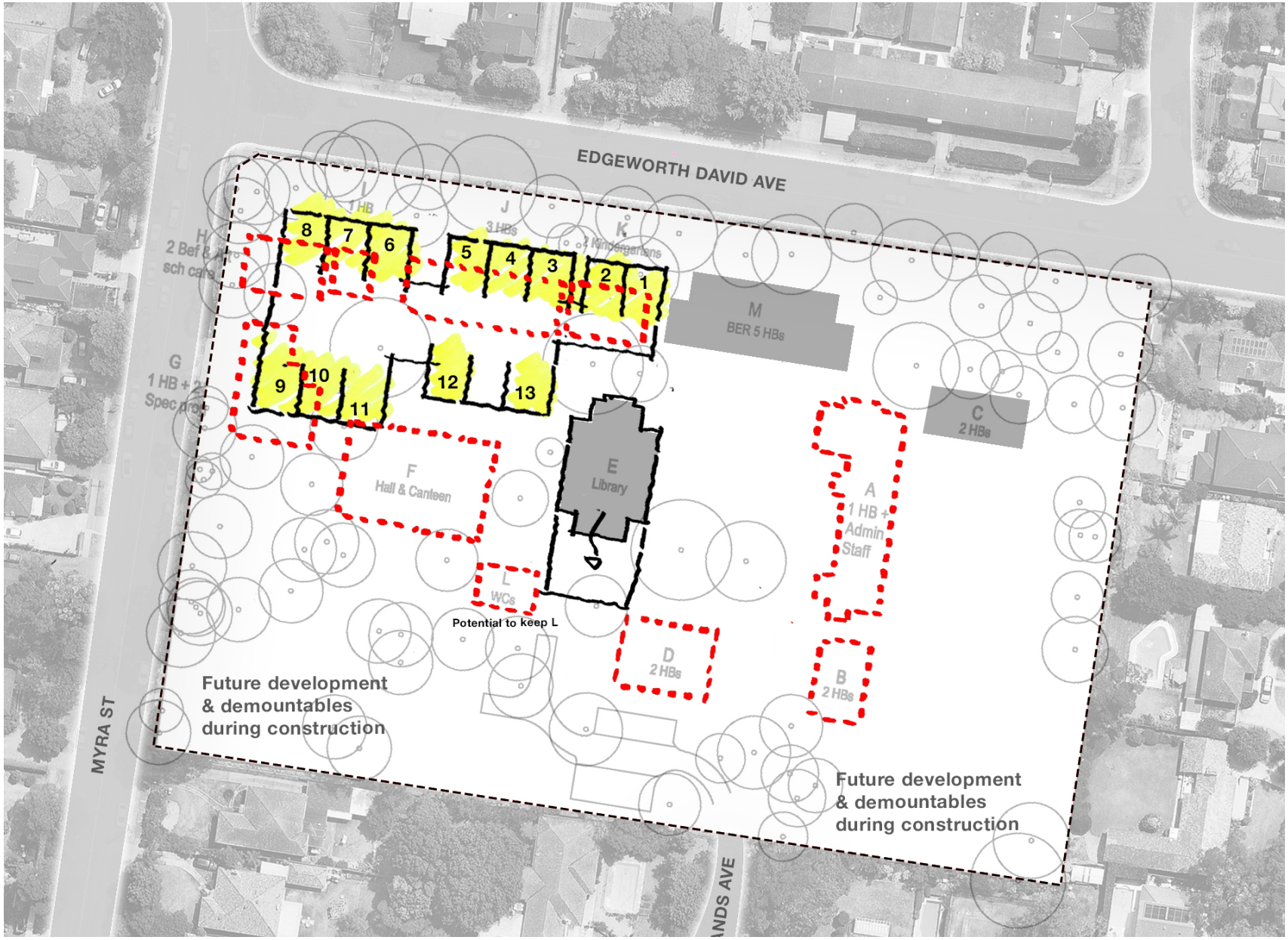
- Creates an integral open space with connected teaching spaces
- Allows for staging within the integrated floor plate.
- Minimised footprint leaves more open space for increased amenity and increased potential for future growth
- Proposes to use the existing library to reduce the project cost
- Improved solar access compared to option 4

Disadvantages

- Proposes to cut some trees including one of the significant trees in the North West corner. This is subject further site survey and investigation.
- Demolishing existing hall increases the project cost.
- Larger floor plate may result in more site levelling required.

Business Case : Option 1 - Preferred Masterplan Option

PRG Reference: Option 4&5 Masterplan - Ground Floor



Business Case: Option 1 - Preferred Masterplan Option

PRG Reference: Option 4&5 Masterplan - Upper Level

13.2 Appendix 2: Cost Estimates

NORTH AND NORTH WEST SCHOOLS

WAITARA PUBLIC SCHOOL

PRELIMINARY COST ESTIMATE REPORT FOR BUSINESS CASE SUBMISSION

FEBRUARY 2017

Prepared for: Department of Education
c/o TSA Management Pty Ltd
Level 16, 207 Kent Street
Sydney NSW 2000

Attention: Mr Ian Guthrie

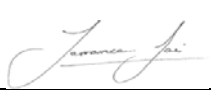
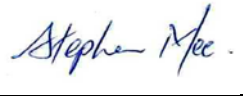
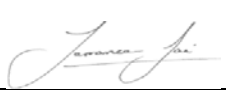
Prepared by: Rider Levett Bucknall NSW Pty Ltd
Level 19, 141 Walker Street
North Sydney NSW 2060
ABN 94 003 234 026
Tel: +61 2 9922 2277
Fax: +61 2 9957 4197
www.rlb.com

RLB | Rider Levett Bucknall

28 February 2017
North and North West Schools – Waitara Public School

REPORTS ISSUED

Report	Date	Title Description	Released By
1	28.02.2017	Preliminary Cost Estimate Report for the Business Case Submission	Director/Associate

Rider Levett Bucknall QA	Prepared by:	Reviewed by:	Released by:
Name:	Terrance Lai	Director	Associate
Signature:			

Contents

Acronyms Table

A tabulated list of the acronyms contained within this report is set out below:

D&C	Design and Construct
DoE	Department of Education
EFSG	Education Facilities Standard Guidelines
ESD	Ecological Sustainable Development
FFC	Forecast Final Cost
GFA	Gross Floor Area
HDC	Head Design Consultant
ISO	International Organisation for Standardisation
PM	Project Manager
PMS	Programme Management System
PPR	Principals Project Requirements
PRG	Project Reference Group
PS	Public School
PSC	Professional Services Contract
QA	Quality Assurance
QMS	Quality Management System
QS	Quantity Surveyor
RLB	Rider Levett Bucknall NSW Pty Ltd
SDP	Service Delivery Plan
TQ	Technical Query Sheet
TSA	Tohey Smart Associates
WH&S	Work, Health and Safety

1.0 Executive Summary

1.1 Introduction

This report provides preliminary estimated costs for the proposed development comprising the construction of thirty-seven (37) new permanent teaching spaces including new core facilities to cater for the new expansion located at Waitara Public School. RLB Pty Ltd has prepared preliminary cost estimates for three options as described in the business case document. This report refers to Option 1 of the three options.

1.2 Cost Summary

The costs can be summarised as follows:

Description	Base	Option 1	Option 2
Authority and Consultant Fees	$60,000	$2,942,765	$2,964,681
Construction Cost	$100,000	$22,959,924	$24,420,999
Supply and installation of Demountables	$600,000	-	-
Escalation	$6,000	$2,209,195	$2,349,779
Furniture & Equipment	-	$2,521,450	$2,681,616
Internal Costs – PMO Fees	-	$200,000	$200,000
Contingency Allowance	$84,000	$6,166,667	$6,542,926
Land Acquisition	-	-	$10,000,000
Total Forecast Final Cost (Excl. OSI) – Excluding GST	$850,000	$37,000,000	$49,160,000
Offsite Infrastructure Costs - Separate Funding Source	-	$190,000	$190,000
Total Project Costs (Incl. OSI) – Excluding GST	$850,000	$37,190,000	$49,350,000

Base Option – No capital intervention. Provide ten (10) demountables which includes demountable core facilities to the site.

Option 1 – Construction of thirty-seven (37) permanent teaching spaces at Waitara Public School including new core facilities to cater for the expansion. (via GHDWoodhead Scheme).

Option 2 – Construction of thirty-seven (37) permanent teaching spaces at Waitara Public School including new core facilities to cater for the expansion including site acquisition of five (5) adjoining properties including demolition of existing houses and site clearance.

Please refer to Appendix A for Detail Estimates for the 3 options.

1.3 Major Assumptions

This preliminary cost estimate report is based on a number of assumptions, as per Section 3.3 further within this report.

The following assumptions are of particular note:

- The preliminary cost estimates are 'high level' only.
- Areas for the new core and teaching spaces are as per GHDWoodhead areas provided.
- Allowance of 30% for travelling and engineering included in areas as per GHDWoodhead schedules.
- Escalation allowance based on the preliminary programmes provided by TSA Management.

1.4 Statement of Reliance

This report is prepared for the reliance for the party/parties for whom it is prepared. Rider Levett Bucknall accepts neither responsibility nor liability to any third party who might use or rely upon this report, or any portion of this report, without our prior written consent and approval.

2.0 Project Information

2.1 Project Team

Client:	Department of Education (DoE)
Project Management:	TSA Management Pty Ltd
Quantity Surveyor:	Rider Levett Bucknall Pty Ltd
Head Design Consultant:	GHDWoodhead

2.2 Project Description

The proposed project is for the construction of thirty-seven (37) new permanent teaching spaces including new core facilities to cater for the new expansion.

3.0 Basis of Report

3.1 Purpose and Status of Report

This cost report has been prepared to forecast the total cost of the project as currently detailed. It has been based on very preliminary information.

As the project progresses, the developing design should be reviewed against the allowances made within this report. The costs should be considered in the context of the current stage of the design.

3.2 Basis of Procurement

The costs assume that a competitive lump sum D&C tender will be obtained.

3.3 Programme

Anticipated construction programme is as per TSA Management Pty key milestone dates:

Construction start date	1 January 2018
Construction completion date	18 December 2020
Ready for occupation	1 February 2021

3.4 Forecast Escalation

Escalation forecasts included in the preliminary cost estimates are based on the RLB published tender indexes and are based on the above anticipated start dates given above.

3.5 Information Used

The costs in this report are based upon rates applied to given areas and are current as at February 2017.

* Area schedules provided by GHDWoodhead as per GHD e-mail dated 16 February 2017.

3.6 Principal Assumptions

Due to the stage of the project, much of the report is based on assumptions rather than outline design. These assumptions should be tested as the project progresses.

3.7 Inclusions

The estimate includes the following allowances:

- Contingencies
- Escalation
- Design and management fees
- PMO Fees
- Fees and charges levied by local government for Development Plan applications, Development Approval, Construction Certification and the like
- Long Service Leave levies
- Plan First fee
- Public utilities' charges, contributions and levies
- FF&E & IT
- Off-site infrastructure allowance
- Demolition and site clearance

3.8 Exclusions

The current preliminary cost estimates include a project contingency allowance of 20%. The project contingency allowance includes for design and construction contingency and other risk items which cannot be priced at this point in time. We have reviewed the risk register and we are of the opinion that the current allowance of 20% for project contingency is adequate to cover the unforeseen risk at this stage of the project. We expect that the project contingency allowance would also be able to cover the costs associated with some of the items listed below should they be realized, but will be subject to the final extent of the works.

- Diverting existing services
- Environmental impact study costs
- Prototypes
- Removal of asbestos and other hazardous materials over and above the allowance included in the cost estimates
- Site decontamination
- Site investigation and test bores
- Special acoustic costs

In addition, we note the specific exclusion of the following items:

- Land and legal costs
- Goods and Services Tax
- Work outside site boundaries
- Transport Infrastructure levies
- Artworks
- Any special or additional contributions sought by authorities for public or other facilities as a condition of development approval
- Any costs and fees as a result of any development approval resubmissions

Appendix A

Detailed Cost Estimate

RLB | Rider Levett Bucknall

NORTH AND NORTH WEST PUBLIC SCHOOLS PROGRAMME

PROJECT DESCRIPTION
Waitara Public School
SUBMISSION STATUS
Business Case
PROGRAMME AND DELIVERY ASSUMPTION Proposed Contract Type
TBA
Cost Plan Date
24/02/2017
Proposed Contract Date
TBC
Proposed Hand Over Date
TBC
Procurement Method
Design and Construct (D&C)

Project Cost Summary Description	Base Option (Excl. GST)	Option 1 (excl. GST)	Option 2 (excl. GST)
Authority and Consultant Fees			
1.01 Authorities	$ -	$ 344,399	$ 366,315
2.01 Consultants	$ 60,000	$ 2,598,366	$ 2,598,366
Total Authority and Consultant Fees	$ 60,000	$ 2,942,765	$ 2,964,681
Construction			
3.10 New Build Cost	$ -	$ 13,421,297	$ 13,421,297
3.20 Refurbishment Cost	$ -	$ 304,500	$ 304,500
3.30 Building Specific Cost	$ -	$ 270,000	$ 270,000
Site Specifics			
3.40 Demolition, Alteration & Site Preparartion	$ 50,000	$ 2,195,000	$ 2,645,000
3.50 External Works and Landscaping	$ 50,000	$ 543,900	$ 1,193,900
3.60 Site Services	$ -	$ 250,000	$ 250,000
Total Construction Cost (NET) - NCG	$ 100,000	$ 16,984,697	$ 18,084,697
Preliminaries, Overhead Margins and Allowances			
3.70 Preliminaries, Overhead Margins and Allowances	$ -	$ 5,975,227	$ 6,336,302
Total Preliminaries, Overhead Margins and Allowances	$ -	$ 5,975,227	$ 6,336,302
Total Construction Cost (GROSS) - GCC	$ 100,000	$ 22,959,924	$ 24,420,999
Rate/m2 of Construction Only	*$ -*	*$ 3,486*	*$ 3,708*
Demountables			
3.71 Supply and install Demountables	$ 600,000	$ -	$ -
Total Demountable Cost	$ 600,000	$ -	$ -
Escalation Allowance			
3.75 Escalation Allowance	$ 6,000	$ 2,209,195	$ 2,349,779
Total Escalation Allowance	$ 6,000	$ 2,209,195	$ 2,349,779
Furniture & Equipment			
3.80 FF&E & IT	$ -	$ 2,521,450	$ 2,681,616
4.01 Furniture & Equipment	$ -	Incl.	Incl.
Total Furniture and Equipment	$ -	$ 2,521,450	$ 2,681,616
Internal Costs			
5.01 PMO Fees	$ -	$ 200,000	$ 200,000
Total PMO Fees	$ -	$ 200,000	$ 200,000
Contingency Allowance			
6.03 Project Contingency Allowance	$ 84,000	$ 6,166,667	$ 6,542,926
Total Contingency Allowance	$ 84,000	$ 6,166,667	$ 6,542,926
Land Acquisition Costs			
8.01 Acquisition of 5 neighbouring properties	$ -	$ -	$ 10,000,000
Total Land Acquisition Costs	$ -	$ -	$ 10,000,000
TOTAL FORECAST FINAL COST -EXCL OSI	$ 850,000	$ 37,000,000	$ 49,160,000
Overall Rate/m2	N/A	$ 5,618	$ 7,465
Offsite Infrastructure Costs - Separate Funding Source			
7.01 Infrastructure Costs	$ -	$ 190,000	$ 190,000
Total Infrastructure Costs	$ -	$ 190,000	$ 190,000
TOTAL FORECAST FINAL COST - INCL OSI	$ 850,000	$ 37,190,000	$ 49,350,000

NORTH AND NORTH WEST PUBLIC SCHOOLS PROGRAMME

PRELIMINARY COST ESTIMATE FOR BUSINESS CASE SUBMISSION

SCHOOL: WAITARA PUBLIC SCHOOL

Base Option

	Description	Quantity	Unit	Rate	Total
1. AUTHORITIES					
	Authority Fees and Charges				
1.01	DA Application Fee (1.5%)				$ -
1.02	Other				$ -
	SUB-TOTAL AUTHORITIES				$ -
2. CONSULTANTS					
	Consultant Fees and Charges				
2.01	Consultant Fees				$ 60,000
2.02	Allowance for Disbursements				$ -
	SUB-TOTAL CONSULTANTS				$ 60,000
3. CONTRACTORS					
3.10	*New Build*				
3.11	Home Base Unit - 4 Storey Building	-	m2	-	$ -
3.12	Library	-	m2	-	$ -
3.13	Special Education Unit	-	m2	-	$ -
3.14	Special Programmes	-	m2	-	$ -
3.15	Communal Hall	-	m2	-	$ -
3.16	Kiln	-	m2	-	$ -
3.17	Administration (new build component)	-	m2	-	$ -
3.18	Staff	-	m2	-	$ -
3.19	Student Amenities	-	m2	-	$ -
3.20	Canteen	-	m2	-	$ -
	Allowance for Equipment to Canteen	-	Item	-	$ -
3.21	Storage	-	m2	-	$ -
3.22	Oosh Office and Storage	-	m2	-	$ -
3.22	***Sub-Total***				$ -
3.23	Travel and Engineering including covered walkway (30%)	-	m2	-	$ -
	SUB-TOTAL NEW BUILD COST	-			$ -
3.20	*Refurbishment*				
3.21	Library	-	m2	-	$ -
3.22	Special Programes	-	m2	-	$ -
3.23	Special Education Unit	-	m2	-	$ -
3.24	Administration	-	m2	-	$ -
3.25	Communal Hall	-	m2	-	$ -
3.26	Canteen	-	m2	-	$ -
	Staff	-	m2	-	$ -
	SUB-TOTAL REFURBISHMENT COST	**-**			**$ -**
3.30	*Building Specifics*				
3.31	Lift to Homebase (rising 4 levels)	-	No	-	$ -
3.32	Covered walkway down spine of school - Allowance only as discussed with GHD	-	m2	-	$ -
3.33	Allowance for additional acoustic to new building	-	m2	-	$ -
	SUB-TOTAL BUILDING SPECIFIC COST				**$ -**
	TOTAL BUILDING WORKS COST	-	m2	-	$ -
	SITE SPECIFICS				
3.40	*Demolition, Alterations and Site Preparartion*				
3.41	Allowance for internal demolition	-	m2	-	$ -
3.42	Allowance to demolish buildings	-	Item	-	$ -
3.43	Allowance for asbestos removal (Provisional Only)	-	Item	-	$ -
3.44	Allowance for Demountable relocation on / off site	-	No.	-	$ -
	Allowance for Demountable relocation on site during constructionon	-	No	-	$ -
3.45	Allowance for 1 x MDR relocation to alternative MDR Site	-	Item	-	$ -
	Site Preparartion	1	Item	50,000	$ 50,000
	SUB-TOTAL DEMOLITION, ALTERATION & SITE PREPARARTION COST				**$ 50,000**
3.50	*External Works and Landscaping*				
3.51	**Hard Landscaping**				
3.52	Allowance for general hard landscaping	-	m2	-	$ -
3.53	COLA	-	m2	-	$ -
3.54	Hall Expansion	-	m2	-	$ -
3.55	Extra over for steps and handrails	-	m2	-	$ -
3.56	Extra over for bi-fold doors	-	m2	-	$ -
3.57	Games Court	-	m2	-	$ -
3.58	Assembly Court	-	m2	-	$ -
3.59	Kiss and Drop off Adjustment / Realignment	-	m2	-	$ -
3.60	Play Ground	-	m2	-	$ -
3.61	Parking	-	m2	-	$ -
	Others eg: perimeter fencing, make good existing, etc.	1	Item	50,000	$ 50,000
3.61	**Soft Landscaping**				
3.62	Allowance for general soft landscaping	-	m2	-	$ -
3.63	Allowance for grass	-	m2	-	$ -
	SUB-TOTAL EXTERNAL WORKS AND LANDSCAPING COST				**$ 50,000**

	Description	Quantity	Unit	Rate	Total
3.60	Allowance for site services (water, sewer, gas, comms, stormwater and fire) - Excl HV substation	-	Item	-	$ -
	SUB-TOTAL SITE SERVICES				**$ -**
	TOTAL SITE SPECIFICS				**$ 100,000**
	NET CONSTRUCTION COST (NCC)	-	m2	-	**$ 100,000**
3.70	*Preliminaries, Overheads and Margins, Allowances*				
3.71	Main Contractor Preliminaries (15%)				$ -
3.72	Main Contractor Overhead and Profits (5%)				$ -
3.73	Allowance for relocation costs and staging (10%)				$ -
3.74	D&C Consultant Fees	-	Item	-	$ -
	SUB-TOTAL PRELIMINARIES, OVERHEADS AND MARGIN, ALLOWANCES				**$ -**
	GROSS CONSTRUCTION COST (GCC) - EXCL. ESCALATION	-	m2	-	$ 100,000
3.71	Demountables (Provided by DOE)				
(i)	Supply and installation of Demountables to be provided by DOE from existing pool of demountables to Carlingford PS	10.00	No.	35,000	$ 350,000
(ii)	Allowance for FF&E to DTS and Admin space	8.00	No.	10,000	$ 80,000
(iii)	Allowance to upgrade existing services dor the new demountable	1.00	No.	50,000	$ 50,000
(iv)	Allowance to remove existing Demountables	10.00	No.	12,000	$ 120,000
	SUB-TOTAL DEMOUNTABLES				**$ 600,000**
3.75	*Escalation*				
3.76	Escalation to Start of Construction (March 2017 - December 2017) 3.3%				$ -
3.77	Escalation During Construction (January 2018 - December 2020) 6.12%				$ 6,000
	SUB-TOTAL ESCALATION				**$ 6,000**
	GROSS CONSTRUCTION COST (GCC) - INCL. ESCALATION	-	m2	-	$ 606,000
3.80					
3.81	FF&E & IT				$ -
3.82	Allowance for Active Equipment	-	Item		$ -
	SUB-TOTAL FF&E & IT COST				**$ -**
4. FURNITURE, FITOUT AND EQUIPMENT					
4.01	Furniture, fitout and Equipment - Included in CONTRACTORS				$ -
	SUB-TOTAL FURNITURE, FITOUT AND EQUIPMENT				$ -
5. INTERNAL COSTS					
5.01	PMO Fees				$ -
	SUB-TOTAL INTERNAL COSTS				**$ -**
	OVERALL PROJECT TOTAL	-	m2	-	$ 766,000
6. CONTINGENCY					
6.01	Design Contingency (included)				$ -
6.02	Construction Contingency (included)				$ -
6.03	Project Contingency (10%)				$ 84,000
	Rounding				$ -
	SUB-TOTAL CONTINGENCY				**$ 84,000**
	TOTAL FORECAST FINAL COST EXCL. OSI	**-**	**m2**	**-**	**$ 850,000**

7. OFF SITE INFRASTRUCTURE - SEPARATE FUNDING SOURCE					
7.01	OSI Allowance - New electircal substation kiosk incl. HV cabling	-	No	-	$ -
7.02	Allowance for stormwater connection	-	Item	-	$ -
7.03	Allowance for sewer connection	-	Item	-	$ -
7.04	Allowance for water connection	-	Item	-	$ -
7.05	Allowance forcomms connection	-	Item	-	$ -
7.06	Allowance for fire connection	-	Item	-	$ -
7.07	Allowance for gas connection	-	Item	-	$ -
	SUB-TOTAL OSI				**$ -**
TOTAL FORECAST FINAL COST - INCL OSI		**-**	**m2**	**-**	**$ 850,000**

NORTH AND NORTH WEST PUBLIC SCHOOLS PROGRAMME

PRELIMINARY COST ESTIMATE FOR BUSINESS CASE SUBMISSION

SCHOOL: WAITARA PUBLIC SCHOOL

OPTION 1 - (GHD OPTION 5)

	Description	Quantity	Unit	Rate	Total
1. AUTHORITIES					
	Authority Fees and Charges				
1.01	DA Application Fee (1.5%)				$ 344,399
1.02	Other				$ -
	SUB-TOTAL AUTHORITIES				$ 344,399
2. CONSULTANTS					
	Consultant Fees and Charges				
2.01	Consultant Fees				$ 2,598,366
2.02	Allowance for Disbursements				Incl.
	SUB-TOTAL CONSULTANTS				$ 2,598,366
3. CONTRACTORS					
3.10	*New Build*				
3.11	Home Base Unit - 4 Storey Building	3,515.00	m2	2,100	$ 7,381,500
3.12	Library	159.00	m2	2,100	$ 333,900
3.13	Special Education Unit	-	m2	-	$ -
3.14	Special Programmes	76.00	m2	2,100	$ 159,600
3.15	Communal Hall	448.00	m2	2,100	$ 940,800
3.16	Kiln	6.00	m2	2,100	$ 12,600
3.17	Administration (new build component)	218.00	m2	2,100	$ 457,800
3.18	Staff	164.00	m2	2,100	$ 344,400
3.19	Student Amenities	220.90	m2	2,100	$ 463,890
3.20	Canteen	67.00	m2	2,100	$ 140,700
	Allowance for Equipment to Canteen	1.00	Item	20,000	$ 20,000
3.21	Storage	35.00	m2	2,100	$ 73,500
3.22	Oosh Office and Storage	-	m2	-	$ -
3.22	***Sub-Total***				$ -
3.23	Travel and Engineering including covered walkway (30%)	1,472.67	m2	2,100	$ 3,092,607
	SUB-TOTAL NEW BUILD COST	6,382.57			$ 13,421,297
3.20	*Refurbishment*				
3.21	Library	203.00	m2	1,500	$ 304,500
3.22	Special Programes	-	m2	-	$ -
3.23	Special Education Unit	-	m2	-	$ -
3.24	Administration	-	m2	-	$ -
3.25	Communal Hall	-	m2	-	$ -
3.26	Canteen	-	m2	-	$ -
	Staff	-	m2	-	$ -
	SUB-TOTAL REFURBISHMENT COST	**203.00**			**$ 304,500**
3.30	*Building Specifics*				
3.31	Lift to Homebase (rising 4 levels)	1.00	No	150,000	$ 150,000
3.32	Covered walkway down spine of school - Allowance only as discussed with GHD	240.00	m2	500	$ 120,000
3.33	Allowance for additional acoustic to new building	-	m2	-	$ -
	SUB-TOTAL BUILDING SPECIFIC COST				**$ 270,000**
	TOTAL BUILDING WORKS COST	6,585.57	m2	2,125	$ 13,995,797
	SITE SPECIFICS				
3.40	*Demolition, Alterations and Site Preparartion*				
3.41	Allowance for internal demolition	-	m2	-	$ -
3.42	Allowance to demolish buildings	1	Item	300,000	$ 300,000
3.43	Allowance for asbestos removal (Provisional Only)	1	Item	50,000	$ 50,000
3.44	Allowance for Demountable relocation on / off site	5.00	No.	12,000	$ 60,000
	Allowance for Demountable relocation on site during constructionon	21.00	No	35,000	$ 735,000
3.45	Allowance for 1 x MDR relocation to alternative MDR Site	1.00	Item	300,000	$ 300,000
	Site Preparartion	1	Item	750,000	$ 750,000
	SUB-TOTAL DEMOLITION, ALTERATION & SITE PREPARARTION COST				**$ 2,195,000**
3.50	*External Works and Landscaping*				
3.51	**Hard Landscaping**				
3.52	Allowance for general hard landscaping	-	m2	-	$ -
3.53	COLA	-	m2	500	$ -
3.54	Hall Expansion	-	m2	-	$ -
3.55	Extra over for steps and handrails	-	m2	-	$ -
3.56	Extra over for bi-fold doors	-	m2	-	$ -
3.57	Games Court	-	m2	150	$ -
3.58	Assembly Court	632.00	m2	200	$ 126,400
3.59	Kiss and Drop off Adjustment / Realignment	450.00	m2	150	$ 67,500
3.60	Play Ground	-	m2	100	$ -
3.61	Parking	-	m2	-	$ -
	Others eg: perimeter fencing, make good existing, etc.	1	Item	300,000	$ 350,000
3.61	**Soft Landscaping**				
3.62	Allowance for general soft landscaping	-	m2	50	$ -
3.63	Allowance for grass	-	m2	10	$ -
	SUB-TOTAL EXTERNAL WORKS AND LANDSCAPING COST				**$ 543,900**

	Description	Quantity	Unit	Rate	Total
3.60	Allowance for site services (water, sewer, gas, comms, stormwater and fire) - Excl HV substation	1	Item	250,000	$ 250,000
	SUB-TOTAL SITE SERVICES				**$ 250,000**
	TOTAL SITE SPECIFICS				**$ 2,988,900**
	NET CONSTRUCTION COST (NCC)	6,585.57	m2	2,579	**$ 16,984,697**
3.70	*Preliminaries, Overheads and Margins, Allowances*				
3.71	Main Contractor Preliminaries (15%)				$ 2,547,705
3.72	Main Contractor Overhead and Profits (5%)				$ 976,620
3.73	Allowance for relocation costs and staging (10%)				$ 2,050,902
3.74	D&C Consultant Fees	1	Item	400,000	$ 400,000
	SUB-TOTAL PRELIMINARIES, OVERHEADS AND MARGIN, ALLOWANCES				**$ 5,975,227**
	GROSS CONSTRUCTION COST (GCC) - EXCL. ESCALATION	6,585.57	m2	3,486	$ 22,959,924
3.75	*Escalation*				
3.76	Escalation to Start of Construction (March 2017 - December 2017) 3.3%				$ 757,677
3.77	Escalation During Construction (January 2018 - December 2020) 6.12%				$ 1,451,517
	SUB-TOTAL ESCALATION				**$ 2,209,195**
	GROSS CONSTRUCTION COST (GCC) - INCL. ESCALATION	6,585.57	m2	3,822	$ 25,169,118
3.80	FF&E & IT				
3.81	FF&E & IT				$ 2,516,912
3.82	Allowance for Active Equipment	1	Item		$ 4,538
	SUB-TOTAL FF&E & IT COST				**$ 2,521,450**
4. FURNITURE, FITOUT AND EQUIPMENT					
4.01	Furniture, fitout and Equipment - Included in CONTRACTORS				$ -
	SUB-TOTAL FURNITURE, FITOUT AND EQUIPMENT				$ -
5. INTERNAL COSTS					
5.01	PMO Fees				$ 200,000
	SUB-TOTAL INTERNAL COSTS				**$ 200,000**
	OVERALL PROJECT TOTAL	6,585.57	m2	4,682	$ 30,833,333
6. CONTINGENCY					
6.01	Design Contingency (included)				$ -
6.02	Construction Contingency (included)				$ -
6.03	Project Contingency (20%)				$ 6,166,667
	SUB-TOTAL CONTINGENCY				**$ 6,166,667**
	TOTAL FORECAST FINAL COST EXCL. OSI	**6,585.57**	**m2**	**5,618**	**$ 37,000,000**
7. OFF SITE INFRASTRUCTURE - SEPARATE FUNDING SOURCE					
7.01	OSI Allowance - New electircal substation kiosk incl. HV cabling	1	No	125,000	$ 125,000
7.02	Allowance for stormwater connection	1	Item	15,000	$ 15,000
7.03	Allowance for sewer connection	1	Item	15,000	$ 15,000
7.04	Allowance for water connection	1	Item	15,000	$ 15,000
7.05	Allowance forcomms connection	1	Item	5,000	$ 5,000
7.06	Allowance for fire connection	1	Item	5,000	$ 5,000
7.07	Allowance for gas connection	1	Item	5,000	$ 10,000
	SUB-TOTAL OSI				**$ 190,000**
TOTAL FORECAST FINAL COST - INCL OSI		**6,585.57**	**m2**	**5,647**	**$ 37,190,000**

NORTH AND NORTH WEST PUBLIC SCHOOLS PROGRAMME

PRELIMINARY COST ESTIMATE FOR BUSINESS CASE SUBMISSION

SCHOOL: WAITARA PUBLIC SCHOOL

OPTION 2 - (ACQUISITION OF 5 NEIGHBOURING PROPERTIES)

	Description	Quantity	Unit	Rate	Total
1. AUTHORITIES					
	Authority Fees and Charges				
1.01	DA Application Fee (1.5%)				$ 366,315
1.02	Other				$ -
	SUB-TOTAL AUTHORITIES				$ 366,315
2. CONSULTANTS					
	Consultant Fees and Charges				
2.01	Consultant Fees				$ 2,598,366
2.02	Allowance for Disbursements				Incl.
	SUB-TOTAL CONSULTANTS				$ 2,598,366
3. CONTRACTORS					
3.10	*New Build*				
3.11	Home Base Unit - 4 Storey Building	3,515.00	m2	2,100	$ 7,381,500
3.12	Library	159.00	m2	2,100	$ 333,900
3.13	Special Education Unit	-	m2	-	$ -
3.14	Special Programmes	76.00	m2	2,100	$ 159,600
3.15	Communal Hall	448.00	m2	2,100	$ 940,800
3.16	Kiln	6.00	m2	2,100	$ 12,600
3.17	Administration (new build component)	218.00	m2	2,100	$ 457,800
3.18	Staff	164.00	m2	2,100	$ 344,400
3.19	Student Amenities	220.90	m2	2,100	$ 463,890
3.20	Canteen	67.00	m2	2,100	$ 140,700
	Allowance for Equipment to Canteen	1.00	Item	20,000	$ 20,000
3.21	Storage	35.00	m2	2,100	$ 73,500
3.22	Oosh Office and Storage	-	m2	-	$ -
3.22	***Sub-Total***				$ -
3.23	Travel and Engineering including covered walkway (30%)	1,472.67	m2	2,100	$ 3,092,607
	SUB-TOTAL NEW BUILD COST	6,382.57			$ 13,421,297
3.20	*Refurbishment*				
3.21	Library	203.00	m2	1,500	$ 304,500
3.22	Special Programes	-	m2	-	$ -
3.23	Special Education Unit	-	m2	-	$ -
3.24	Administration	-	m2	-	$ -
3.25	Communal Hall	-	m2	-	$ -
3.26	Canteen	-	m2	-	$ -
	Staff	-	m2	-	$ -
	SUB-TOTAL REFURBISHMENT COST	**203.00**			**$ 304,500**
3.30	*Building Specifics*				
3.31	Lift to Homebase (rising 4 levels)	1.00	No	150,000	$ 150,000
3.32	Covered walkway down spine of school - Allowance only as discussed with GHD	240.00	m2	500	$ 120,000
3.33	Allowance for additional acoustic to new building	-	m2	-	$ -
	SUB-TOTAL BUILDING SPECIFIC COST				**$ 270,000**
	TOTAL BUILDING WORKS COST	6,585.57	m2	2,125	$ 13,995,797
	SITE SPECIFICS				
3.40	*Demolition, Alterations and Site Preparartion*				
3.41	Allowance for internal demolition	-	m2	-	$ -
3.42	Allowance to demolish buildings	1	Item	500,000	$ 500,000
3.43	Allowance for asbestos removal (Provisional Only)	1	Item	50,000	$ 50,000
3.44	Allowance for Demountable relocation on / off site	5.00	No.	12,000	$ 60,000
	Allowance for Demountable relocation on site during constructionon	21.00	No	35,000	$ 735,000
3.45	Allowance for 1 x MDR relocation to alternative MDR Site	1.00	Item	300,000	$ 300,000
	Site Preparartion	1	Item	1,000,000	$ 1,000,000
	SUB-TOTAL DEMOLITION, ALTERATION & SITE PREPARARTION COST				**$ 2,645,000**
3.50	*External Works and Landscaping*				
3.51	**Hard Landscaping**				
3.52	Allowance for general hard landscaping	-	m2	-	$ -
3.53	COLA	-	m2	500	$ -
3.54	Hall Expansion	-	m2	-	$ -
3.55	Extra over for steps and handrails	-	m2	-	$ -
3.56	Extra over for bi-fold doors	-	m2	-	$ -
3.57	Games Court	-	m2	150	$ -
3.58	Assembly Court	632.00	m2	200	$ 126,400
3.59	Kiss and Drop off Adjustment / Realignment	450.00	m2	150	$ 67,500
3.60	Play Ground	-	m2	100	$ -
3.61	Parking	-	m2	-	$ -
	Others eg: perimeter fencing, make good existing, etc.	1	Item	1,000,000	$ 1,000,000
3.61	**Soft Landscaping**				
3.62	Allowance for general soft landscaping	-	m2	50	$ -
3.63	Allowance for grass	-	m2	10	$ -
	SUB-TOTAL EXTERNAL WORKS AND LANDSCAPING COST				**$ 1,193,900**

	Description	Quantity	Unit	Rate	Total
3.60	Allowance for site services (water, sewer, gas, comms, stormwater and fire) - Excl HV substation	1	Item	250,000	$ 250,000
	SUB-TOTAL SITE SERVICES				**$ 250,000**
	TOTAL SITE SPECIFICS				**$ 4,088,900**
	NET CONSTRUCTION COST (NCC)	6,585.57	m2	2,746	**$ 18,084,697**
3.70	*Preliminaries, Overheads and Margins, Allowances*				
3.71	Main Contractor Preliminaries (15%)				$ 2,712,705
3.72	Main Contractor Overhead and Profits (5%)				$ 1,039,870
3.73	Allowance for relocation costs and staging (10%)				$ 2,183,727
3.74	D&C Consultant Fees	1	Item	400,000	$ 400,000
	SUB-TOTAL PRELIMINARIES, OVERHEADS AND MARGIN, ALLOWANCES				**$ 6,336,302**
	GROSS CONSTRUCTION COST (GCC) - EXCL. ESCALATION	6,585.57	m2	3,708	$ 24,420,999
3.75	*Escalation*				
3.76	Escalation to Start of Construction (March 2017 - December 2017) 3.3%				$ 805,893
3.77	Escalation During Construction (January 2018 - December 2020) 6.12%				$ 1,543,886
	SUB-TOTAL ESCALATION				**$ 2,349,779**
	GROSS CONSTRUCTION COST (GCC) - INCL. ESCALATION	6,585.57	m2	4,065	$ 26,770,778
3.80	FF&E IT				
3.81	FF&E & IT				$ 2,677,078
3.82	Allowance for Active Equipment	1	Item		$ 4,538
	SUB-TOTAL FF&E & IT COST				**$ 2,681,616**
4. FURNITURE, FITOUT AND EQUIPMENT					
4.01	Furniture, fitout and Equipment - Included in CONTRACTORS				$ -
	SUB-TOTAL FURNITURE, FITOUT AND EQUIPMENT				$ -
5. INTERNAL COSTS					
5.01	PMO Fees				$ 200,000
	SUB-TOTAL INTERNAL COSTS				**$ 200,000**
	OVERALL PROJECT TOTAL	6,585.57	m2	4,953	$ 32,617,074
6. CONTINGENCY					
6.01	Design Contingency (included)				$ -
6.02	Construction Contingency (included)				$ -
6.03	Project Contingency (20%)				$ 6,542,926
	SUB-TOTAL CONTINGENCY				**$ 6,542,926**
8. LAND ACQUISITION					
8.01	Acquisition of 5 sites next to the school (Price based on mediun sales price of houses in Wahroonga as published in Realestate.com of $1,750,000 + $250,000 for transfer fees, legal, fees, rezoning fees, etc.)	5.00	No.	2,000,000	$ 10,000,000
	SUB-TOTAL LAND ACQUISITION				**$ 10,000,000**
	TOTAL FORECAST FINAL COST EXCL. OSI	**6,585.57**	**m2**	**7,465**	**$ 49,160,000**
7. OFF SITE INFRASTRUCTURE -SEPARATE FUNDING SOURCE					
7.01	OSI Allowance - New electircal substation kiosk incl. HV cabling	1	No	125,000	$ 125,000
7.02	Allowance for stormwater connection	1	Item	15,000	$ 15,000
7.03	Allowance for sewer connection	1	Item	15,000	$ 15,000
7.04	Allowance for water connection	1	Item	15,000	$ 15,000
7.05	Allowance forcomms connection	1	Item	5,000	$ 5,000
7.06	Allowance for fire connection	1	Item	5,000	$ 5,000
7.07	Allowance for gas connection	1	Item	5,000	$ 10,000
	SUB-TOTAL OSI				**$ 190,000**
TOTAL FORECAST FINAL COST - INCL OSI					**$ 49,350,000**

NORTH AND NORTH WEST SCHOOLS PROGRAMME

PROJECT DESCRIPTION
Waitara Public School
SUBMISSION STATUS
Business Case
PROGRAMME AND DELIVERY ASSUMPTION
Proposed Contract Type
TBA
Cost Plan Date
24/02/2017
Proposed Contract Date
TBC
Proposed Hand Over Date
TBC
Procurement Method
Design and Construct (D&C)

Capital Costs and Escalation

Option	Description	Estimated Project Cost	Escalation Allowance	Total Capital Cost
Base	Provide demountables	844,000	6,000	850,000
1	New four storey option with refurbishment of existing Hall and Library. Majority of existing building demolished.	$ 34,790,805	$ 2,209,195	$ 37,000,000
2	New four storey option + acquisition of adjoining properties.	$ 46,810,221	$ 2,349,779	$ 49,160,000

Oceania

t. +61 2 9922 2277
e. enquiries@oceania.rlb.com

Asia

t. +852 2823 1823
e. enquiries@emea.rlb.com

EMEA

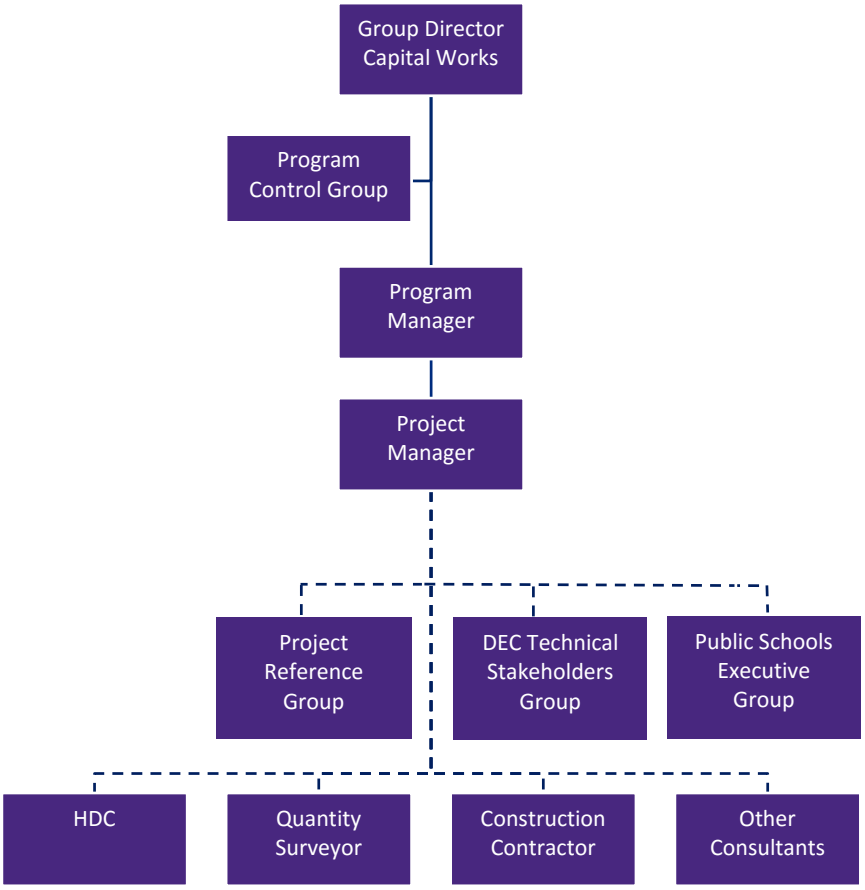
t. +44 20 7398 8300
e. enquiries@emea.rlb.com

Americas

t. +1 602 443 4848
e. enquiries@americas.rlb.com

13.3 Appendix 3: Governance Structure

Project Governance Structure
(Concept Design and Delivery)



----- Administration / Management Relationship

—— Contractual Relationship to Program Manager

13.4 Appendix 4: Project Reference Group Role

Project Reference Group Role

Role	Responsibilities
Project Reference Group (Planning Phase) Project Control Group (Delivery Phase)	During the Planning Phase: • Provides guidance, advice and governance in planning possible future capital works projects • Decision making body for the project • Coordinates stakeholder input and issues • Attend regular meetings • Determine the preferred option • Keep confidentiality of that information that is not able to be released to the public • Refrain from speaking to the media During the Delivery Phase: • Responsible for ensuring the timely performance of the project • Ensures that the project meets the required outcomes • Facilitating decision-making
Assets Planners	During the Planning Phase: • Chairperson of PRG for planning stage • Coordinates planning meetings • Planning of project • Put together business case for Treasury • Liaise with other PRG members During the Delivery Phase: • Assists in transitioning the project from the planning phase to delivery phase • Ensures continuity of the progress of the project • Ensures that all relevant information is provided to the Program Manager and Project Manager • Provides advice as required on scope as the project progresses
Principal	• Assists in determining the school's requirements • Liaises with school communities (students, staff and parents) • Present project to community when required and asks for input • May choose to be chairperson of the PCG
Director, Public Schools NSW	• Assist and supports Principal in determining the school's requirements • Ensures the plan supports the regional plans and directions • Presents project to community when required and asks for input
Asset Management Unit Representative	• Provides advice in regards to the existing facilities • Ensures that the MCW project coordinates with other works at the school
Project Manager (PM)	During the Planning Phase a PM may be engaged and if so, their role includes: • Advise on buildability • Engage specialist consultants and manage those consultancies • Take and distribute the minutes During the Delivery Phase the PMs roles and responsibilities are:

Role	Responsibilities
	• Management and coordination of all development aspects of the Project during the design, documentation, construction, equipping, commissioning and staff relocation stages. • Provision of all reports, agenda and minutes from regular project and adhoc meetings.
Architect	During the Planning Phase: • Engaged by Planning to analyse the site, interpret the brief and develop master planning options • If no PM involved may engage subcontractors to provide specialist information • Translates the ideas of the PCG members into the design During the Construction Phase: • Prepare proposals, plans, designs and reports appropriate to the project • Development of clear and coordinated construction documentation to allow the contractor to efficiently implement the work • Initiate and recommend design and construction variations to the project.
P&C, Community & Council Representatives	• Represent their community or user group • Provide advice, concerns and ideas • Provides feedback to their community or user group

The roles below are not part of the PCG but are important to the project.

Role	Responsibilities
Project Sponsor	• Overall responsibility for project success • Assigns responsibility for management and implementation of the project
Program Manager	During the Planning Phase: • Provides advice to the Asset Planner on matters relating to the project budget, specialist consultants, reports, etc. • Discuss the project so that they understand the proposal During the Delivery Phase: • Appoints the Project Manager and Head Design Consultant and briefs them on the project • Monitors all aspects of the project to ensure the project comes in on time and budget • Approves variations for the project
Quantity Surveyor	During the Planning Phase the QS: • Provides an early form 1 costing based on a brief, accommodation summary and on plans and investigations where master planning has been undertaken During the construction phase the QS will: • Establish and maintain a cost planning and management service • providing regular updates of the project estimate and budget to reflect the evolution of design and construction documents • prepare accurate cash flow forecasts • attend meetings of the Project Team, with Consultants to report and advise on all aspects of the project budget effected by functional, quality and time aspects

13.5 Appendix 5: Risk Management Register

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
1	All	Ineffective Stakeholder management resulting in an expectation mismatch.	42	Time	Possible	5 - Critical	**High**	Mitigate	PM to develop and follow a Consultation Plan approved by the PMO and in accordance with DEC Media Policy.	2.3	Unlikely	2 - Minor	**Low**	Update approved Consultation Plan on a monthly basis and update as required. Conduct PRG Meetings on a regular basis. Conduct meetings with other stakeholders as required.	TSA
2	All	Labour industrial relations problems resulting in reputational impacts to DEC.	42	Benefits	Unlikely	4 - Major	**Medium**	Mitigate	PM to review and approve Contractor industrial relations plans.	5.1	Unlikely	2 - Minor	**Low**	Monitor with contractor on a monthly basis as part of the regular contractor reporting to identify any potential industrial any potential industrial relations problem.	TSA
3	All	Changes in Legislative and Government policy.	42	Time	Rare	3 - Moderate	**Low**	Tolerate	Qualify impact of change and work with (Finance / Procurement / Legal) to implement required changes.	2.3	Rare	3 - Moderate	**Low**	DoE to advise PM as to any relevant upcoming changes	DoE PMO
4	All	Project results in negative media attention with potential DEC reputational impacts.	42	Benefits	Unlikely	3 - Moderate	**Medium**	Mitigate	PM to develop and follow a Consultation Plan approved by the PMO and in accordance with DEC Media Policy.	2.3	Rare	3 - Moderate	**Low**	Consult with stakeholders and community in accordance with the Consultation Plan. Notify PMO of potential media attention to project	TSA
5	All	Community Action Groups and / or Media opposition.	42	Benefits	Possible	3 - Moderate	**Medium**	Mitigate	PM to develop and follow a Consultation Plan approved by the PMO and in accordance with DEC Media Policy.	5.1	Rare	3 - Moderate	**Low**	Consult with stakeholders and community in accordance with Consultation Plan.	TSA
6	All	Contractor / Consultant insurance expires and an incident occurs during the project.	42	Cost	Rare	5 - Critical	**Medium**	Mitigate	PM to monitor Contractor / Consultant insurance validity.	5.1	Rare	5 - Critical	**Medium**	Monitor insurance validity with each Contractor / Consultant progress claim.	TSA
7	All	State government wants to accelerate project delivery.	42	Time	Possible	5 - Critical	**High**	Tolerate	Flag issues as required to the PCG.	5.1	Rare	3 - Moderate	**Low**	DoE to advise when/ if program acceleration is required	DoE PMO
8	All	Failure to meet publicly announced schedule.	42	Time	Possible	5 - Critical	**High**	Mitigate	PM to build contingency into the project program and PM to update PMO during the monthly coordination meeting or as soon as a significant event arises on progress against Handover date.	5.1	Rare	3 - Moderate	**Low**	Continue to monitor the Approved Project Program on a monthly basis. Identify program slippage as soon as possible and implement strategies to mitigate slippage of critical path.	TSA
9	All	Uncontrolled disclosures of sensitive information to other parties (internal as well as external).	42	Benefits	Unlikely	4 - Major	**Medium**	Mitigate	PM to develop and follow a Consultation Plan approved by the PMO.	5.1	Rare	3 - Moderate	**Low**	PM to follow consultation plan	TSA
10	All	Unrealistic schedules.	42	Time	Unlikely	3 - Moderate	**Medium**	Mitigate	PM to develop and follow a detailed programme with contingency and raise concerns with PMO.	2.3	Unlikely	2 - Minor	**Low**	Monitor Approved Project Program on a monthly basis or as required.	TSA
11	Design	Scope creep due to design changes requested (i.e. externally by the Planning Authority).	42	Quality	Possible	3 - Moderate	**Medium**	Mitigate	Early consultation with authorities, significant scope changes to be flagged early by the PM for decision by the PCG.	3	Possible	3 - Moderate	**Medium**	Raise all relevant design issues with DoE if/ when they arise	TSA

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
13	Design	Design / Scope changes result in the project no longer being aligned to the Treasury approved Business Case.	42	Quality	Possible	3 - Moderate	**Medium**	Mitigate	PM to ensure that the design phase outcomes are aligned to the business case.	3	Unlikely	4 - Major	**Medium**	Monitor design progression against the approved business case Concept Designs.	TSA
14	Design	Required educational needs not met.	42	Benefits	Unlikely	3 - Moderate	**Medium**	Mitigate	PM to ensure that the design phase outcomes are aligned to the business case.	3	Rare	3 - Moderate	**Low**	HDC to design concept in accordance with the approved business case. PM to monitor HDC design progression.	TSA
15	Design	Site investigations identify latent conditions or site limitations.	42	Time	Likely	4 - Major	**High**	Mitigate	PM to review site investigations and take appropriate actions during the Concept Design phase.	3	Possible	3 - Moderate	**Medium**	Review preliminary information from site investigations and perform further investigations as required to provide a higher degree of certainty around latent conditions risk for tender package.	TSA
16	Design	Unreasonable / unacceptable conditions of development consent provided by Planning Authority.	42	Time	Possible	3 - Moderate	**Medium**	Mitigate	PM to consult with Planning Authority early in the design phase and incorporate their feedback as required.	3	Unlikely	2 - Minor	**Low**	PM/ HDC to conduct early consultation with Local Council and relevant authorities. Conduct case studies of similar projects for precedence.	TSA
17	Design	Pre-existing building maintenance issues.	42	Cost	Possible	3 - Moderate	**Medium**	Mitigate	Several existing buildings may have significant maintenance issues. PM/ HDC to inspect buildings affected by new development to identify outstanding maintenance works and hold discussions with AMU.	2	Possible	2 - Minor	**Medium**	Continue to liaise with AMU representative and identify potential pre-existing maintenance issues. Maintenance issues related to proposed works will be addressed where appropriate.	TSA
18	Design	Designs do not meet Stakeholder requirements and / or not endorsed by the required Stakeholder.	42	Benefits	Unlikely	4 - Major	**Medium**	Mitigate	Stakeholders are consulted through workshops during the design phase.	3	Unlikely	3 - Moderate	**Medium**	PM to conduct regular stakeholder consultation and provide relevant updates as required. HDC to ensure design reflects approved business case concept.	TSA
19	Design	Designs do not comply with the Education Facilities Standards Guidelines due to design errors.	42	Quality	Possible	5 - Critical	**High**	Mitigate	Head Design Consultants to review designs for errors and designs to be completed to advanced concept design prior to D&C Tender. Monitor D&C Contractor instructions to the HDC affecting approved Concept Designs.	3	Unlikely	3 - Moderate	**Medium**	HDC to review designs and consult with EFSG (where required) to ensure requirements are achieved. HDC to alert PM to contrary instructions by the D&C Contractor.	HDC
20	Design	Change in PRG members.	42	Time	Almost Certain	3 - Moderate	**High**	Tolerate	Acting Principal becomes Deputy Principal and retains a place on the PRG with the New Principal. Brief new PRG member on project and current project status.	2.4	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
21	Design	Environmental requirements, rare and endangered species, archaeological, heritage, landscape or aboriginal factors.	42	Time	Unlikely	3 - Moderate	**Medium**	Mitigate	Endangered Species known to be on the School site. Carry out site investigations to define extent. Create and implement protective actions report. PM to ensure Head Design Consultant complies with all environmental requirements. Consult with relevant authorities.	2.4	Rare	3 - Moderate	**Low**	Monitor Design and Construction Progress to ensure preservation actions are implemented.	TSA
22	Design	Failure to comply with Planning Authority / DA conditions of approval.	42	Quality	Possible	3 - Moderate	**Medium**	Transfer	HDC meets with Planning Authority to discuss conditions. HDC signs off on compliance with all standards, policies, designs.	5.1	Unlikely	3 - Moderate	**Medium**	Monitor throughout design and construction process to ensure compliance	TSA
23	Design	Inadequate existing infrastructure services (electrical, stormwater, sewer, water, and gas).	42	Cost	Possible	4 - Major	**Medium**	Mitigate	PM to ensure HDC site investigations are carried out during the Concept Design phase to identify inadequate infrastructure services.	5.1	Unlikely	3 - Moderate	**Medium**	Conduct additional site investigations as required during design. HDC to confirm adequate infrastructure for construction of project.	HDC
24	Design	Design changes required due to incorrect / outdated utilities information.	42	Time	Possible	3 - Moderate	**Medium**	Mitigate	PM to ensure HDC site investigations are carried out during the Master planning & Concept Design phase to ensure correct infrastructure services information.	3	Unlikely	2 - Minor	**Low**	No further action required at this stage	TSA
25	Design	Delays to the program due to inclement weather.	42	Time	Likely	4 - Major	**High**	Mitigate	PM to build contingency into the project program.	3	Unlikely	3 - Moderate	**Medium**	Monitor total inclement weather during construction contract.	TSA
26	Design	Delays in Stakeholder and / or Planning Authority approvals impact on project program.	42	Time	Possible	3 - Moderate	**Medium**	Mitigate	PM to consult with Planning Authority / Stakeholders early in the design phase and incorporate their feedback as required.	5.1	Unlikely	5 - Critical	**Medium**	Keep all relevant stakeholders informed of project program and timing for key document review periods. Keep close contact with the authorities to ensure a timely approval.	TSA
27	Construction Contractor Procurement	Risk that Contractor tenders are above the pre-tender estimate.	42	Time	Possible	5 - Critical	**High**	Tolerate	PM / HDC to ensure that the QS has competent information for cost planning process. QS to monitor project cost estimates and risk profile through the design phase and provide project team advice accordingly. Where necessary negotiate with D&C Tenderers to seek to match cost / scope expectations with Tender price.	4	Unlikely	5 - Critical	**Medium**	Review cost plans and project scope against D&C Tenders to ensure matching deliverables expectations. Continue to monitor design process to ensure Design deliverables achieved. Include cost review against tender prior to commencement of construction.	TSA
28	Construction Contractor Procurement	Failure to comply with procurement process (e-tendering) and / or NSW Procurement Guidelines for any procurement on the project.	42	Benefits	Rare	5 - Critical	**Medium**	Mitigate	PMO and PM to follow procurement process maps and accompanying policies.	4	Rare	3 - Moderate	**Low**	No further action required at this stage	TSA

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
29	Construction Contractor Procurement	Non-conforming and / or substandard tenders received.	42	Time	Unlikely	4 - Major	**Medium**	Mitigate	PMO and PM to follow procurement process maps and accompanying policies. PM to include contingency in program during procurement.	4	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
30	Construction Contractor Procurement	Insufficient tender responses received.	42	Time	Unlikely	3 - Moderate	**Medium**	Tolerate	PMO and PM to follow procurement process maps and accompanying policies. PM to include contingency in program during procurement.	4	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
31	Construction Contractor Procurement	Insufficient and / or incorrect RFT documentation.	42	Time	Possible	3 - Moderate	**Medium**	Mitigate	PMO and PM to review RFT prior to issue.	4	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
32	Construction Contractor Procurement	Contractor / Consultant does not have the required insurance cover.	42	Time	Possible	2 - Minor	**Medium**	Mitigate	PM to monitor Contractor insurance extent of cover and validity.	4	Rare	3 - Moderate	**Low**	No further action required at this stage	TSA
33	Construction Contractor Procurement	Late tenders accepted without sufficient justification.	42	Time	Rare	3 - Moderate	**Low**	Mitigate	PMO and PM to follow procurement process maps and accompanying policies.	4	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
34	Construction	Staging of works required due to various issues (i.e. safety, continued use of facility, HSC exams).	42	Time	Likely	4 - Major	**High**	Mitigate	PM to programme based on a pre-agreed staging and access plan and build contingency into the project program. PM to hold consultation sessions with PRG to identify staging requirements. Consider possible off-site locations to relocate some students during the Construction phase.	5.1	Possible	4 - Major	**Medium**	No further action required at this stage	TSA
35	Construction	Site security is inadequate.	42	Safety	Possible	4 - Major	**Medium**	Mitigate	PM to review and approve Contractor site security plan and monitor compliance against the plan.	5.1	Unlikely	4 - Major	**Medium**	Monitor site security with regular site visits	TSA
36	Construction	The contractor fails to complete the contract i.e. contractor goes into liquidation.	42	Time	Rare	5 - Critical	**Medium**	Tolerate	Salvage all possible Project Knowledge, Documentation and materials and flag issue to Finance and Legal. Ensure correctness of Progress Payments certified.	5.1	Rare	5 - Critical	**Medium**	No further action required at this stage.	TSA
37	Construction	The contractor causes damage to DEC or third party property.	42	Time	Unlikely	3 - Moderate	**Medium**	Transfer	Contractor RFT documents stipulate that Contractor is responsible for damages.	5.1	Unlikely	2 - Minor	**Low**	No further action required at this stage.	TSA
38	Construction	Substandard construction quality from the Contractor.	42	Quality	Possible	4 - Major	**Medium**	Mitigate	HDC and PM to monitor quality during construction. PM to conduct regular site visits to inspect construction progress and identify substandard construction to be rectified. PM to call upon HDC to review where required.	5.1	Unlikely	2 - Minor	**Low**	Continue to inspect works throughout construction and flag sub-par works with contractor.	TSA

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
39	Construction	Delays in the variation approval process.	42	Time	Unlikely	4 - Major	**Medium**	Transfer	PM to follow the Variations Management Process. Variations to be raised to the PCG proactively.	5.1	Unlikely	4 - Major	**Medium**	PM to follow the Variations Management Process. Variations to be raised to the PCG proactively	TSA
40	Construction	Variations due to latent conditions, client requests, design errors exceed agreed project budget.	42	Cost	Likely	4 - Major	**High**	Tolerate	Significant scope changes to be flagged early by the PM for decision by the PCG.	5.1	Likely	4 - Major	**High**	No further action required at this stage.	TSA
41	Construction	Risk of injury to construction workers, third parties and / or occupants.	42, 44	Safety	Unlikely	4 - Major	**Medium**	Mitigate	PM to ensure Head Contractor has and follows a Safety Management Plan. PM to monitor Contractor compliance to Safety Management Plan.	5.1	Unlikely	4 - Major	**Medium**	Conduct regular site and safety management plan reviews.	Contractor
42	Construction	Compliance breaches (environmental, rare and endangered species, archaeological, heritage, landscape or aboriginal factors, contamination).	42	Time	Unlikely	2 - Minor	**Low**	Mitigate	Carry out site investigation works to establish the presence of any compliance issues	5.1	Unlikely	2 - Minor	**Low**	No further action required at this stage.	TSA
43	Construction	Traffic management may impact site access to contractors.	42	Time	Possible	3 - Moderate	**Medium**	Mitigate	HDC & D&C Contractor to identify traffic management activities prior to Construction and PM to review contractor's traffic management plan.	5.1	Unlikely	2 - Minor	**Low**	Conduct regular reviews of traffic management plans	Contractor
44	Construction	Not all commissioning and handover activities planned.	42	Quality	Possible	2 - Minor	**Medium**	Mitigate	Contractor to detail all Commissioning activities in a detailed program and submit to PM. PM assurance plan covers commissioning.	5.1	Unlikely	2 - Minor	**Low**	No further action required at this stage	Contractor
45	Project Handover	Constructed facility is not fit for purpose (i.e. ongoing significant defects, does not meet educational needs, too expensive to run / maintain, etc.).	42, 44	Benefits	Rare	5 - Critical	**Medium**	Mitigate	PM to develop and follow a Consultation Plan approved by the PMO and in accordance with DEC Media Policy and HDC to monitor quality during construction.	6	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
46	Project Handover	Occupants may be exposed to real or perceived health and safety risks.	42, 44	Safety	Unlikely	4 - Major	**Medium**	Mitigate	PM to ensure Contractor has and follows a Safety Management Plan. PM to develop and implement an assurance plan.	6	Rare	3 - Moderate	**Low**	No further action required at this stage.	TSA
47	Project Handover	Inadequate Handover documentation (drawings, operating manuals).	42, 44	Cost	Rare	2 - Minor	**Low**	Mitigate	PM to review Handover documents and comply with PMO Handover requirements.	6	Rare	2 - Minor	**Low**	No further action required at this stage.	TSA
48	All	Inadequate construction budget	-	Cost	Possible	4 - Major	**Medium**	Mitigate	Investigate opportunities for greater flexibility in teaching spaces and flexible timetabling options.	All	Rare	2 - Minor	**Low**	No further action required at this stage.	TSA
49	Construction Contractor Procurement	The Construction industry is currently very busy, risk of lack of interest in tendering.	-	Cost	Possible	4 - Major	**Medium**	Mitigate	PM to approach market early to generate interest in the project(s) and attract a range of suitable and interested Contractors to short list to tender.	4	Unlikely	4 - Major	**Medium**	PM to monitor project interest and attractiveness to the market.	TSA

RISK REGISTER - WAITARA PS

ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	INHERENT Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	RESIDUAL Likelihood	Consequence	Rating	Action	Action Owner
50	Design	Heritage Site Constraints - Limitation to planning options and efficient site and space use	-	Benefits	Likely	2 - Minor	**Medium**	Mitigate	Maintain a flexible approach to master planning and space allocation.	3	Unlikely	2 - Minor	**Low**	PM / HDC to monitor master planning options and schedules of accommodation to ensure full functionality.	TSA
51	Design	Reduced duration to successfully submit 6 Business Cases before the 28 February 2017.	-	Time	Likely	3 - Moderate	**Medium**	Tolerate	PM to monitor and allocate resources as required to achieve business case submission date.	3.2	Possible	3 - Moderate	**Medium**		
52	Design	The HDC not having enough of the necessary available resources to sufficiently perform their contractual tasks to enable the 6 Business Cases to be lodged by the nominated milestone date.	-	Time	Likely	3 - Moderate	**Medium**	Tolerate	PM to monitor and allocate resources as required to achieve business case submission date.	3.2	Possible	3 - Moderate	**Medium**		
53	Design	The PM drafting Business Case documents without the HDC and QS input, as well as having limited background advice from the DoE Asset Planners on the Blue Paper scoping documents and with the Director Capital Works not signing all.	-	Time	Likely	3 - Moderate	**Medium**	Tolerate	PM to monitor and allocate resources as required to achieve business case submission date. PM to liaise with DoE Planners to obtain additional information required.	3.2	Possible	3 - Moderate	**Medium**		
54	All	DoE resource availability to respond to Project Team needs / RFI's.	-	Time	Possible	3 - Moderate	**Medium**	Tolerate	PM to ensure RFI's to DoE are issue in a timely manner with as much information as possible and where possible recommend solutions.	All	Unlikely	3 - Moderate	**Medium**	PM to pursue urgent issues in regular project meetings	TSA
55	All	Government requested delays to the Project	-	Time	Possible	3 - Moderate	**Medium**	Tolerate	Take no further action	All	Possible	3 - Moderate	**Medium**		
56	All	Lack of timely allocation of project funding	-	Cost	Possible	3 - Moderate	**Medium**	Tolerate	Take no further action	All	Possible	3 - Moderate	**Medium**		
57	All	Force Majeure (Act of God)	-	Cost	Rare	4 - Major	**Medium**	Tolerate	Take no further action	All	Rare	4 - Major	**Medium**		
58	All	Existing structures - unknown structural design - limits potential design response	-	Cost	Unlikely	3 - Moderate	**Medium**	Mitigate	Identify possible risk sites as the design develops and conduct details structural analysis of existing structures.	All	Rare	1 - Insignificant	**Low**	Monitor all alterations to existing structures during construction for possible signs of failure. Implement appropriate safety measures	TSA
59	All	D&C Contractor's capabilities, i.e. Design Process Management	-	Time	Unlikely	3 - Moderate	**Medium**	Mitigate	Preselect Contractors for experience and current available resources, suitable to complete tasks	All	Rare	1 - Insignificant	**Low**	Monitor Contractors performance and delegated specialist staff involvement. Require regular reporting of progress against Time, Cost, Quality parameters and Educational Principles	TSA
60	All	Existing buildings, ongoing serviceability, cost to repair or replace beyond current brief scope	-	Cost	Likely	3 - Moderate	**Medium**	Mitigate	Conduct a detailed condition and value assessment, plan for replacement or refurbishment early in the planning process	All	Unlikely	2 - Minor	**Low**		
61	All	Climate Change / ESD - Potential for extreme weather conditions	-	Cost	Possible	3 - Moderate	**Medium**	Mitigate	Take no further action	All	Possible	3 - Moderate	**Medium**		

RISK REGISTER - WAITARA PS					INHERENT						RESIDUAL				
ID	Project Phase	Risk Description	Reference to Enterprise Register	Risk Grading Category	Likelihood	Consequence	Rating	Risk Strategy	Mitigation Control	Reference to process maps	Likelihood	Consequence	Rating	Action	Action Owner
62	All	Technology miss-matches (old to new)	-	Cost	Possible	3 - Moderate	**Medium**	Mitigate	Conduct detailed existing services and equipment audit during the early design phase, report all findings and match against expected new development needs. Plan to replace incompatible equipment.	All	Rare	1 - Insignificant	**Low**	Monitor all alterations to existing IT services during construction for possible signs of failure. Conduct detailed testing of cabling and equipment as part of commissioning routine	TSA
CLOSED RISK REGISTER															
12	Design	Delays to construction due to delays in site acquisition.	42	Time	Possible	5 - Critical	**High**	Mitigate	PM to liaise with DEC Property to ensure property is acquired as early as possible.	5.1	Rare	1 - Insignificant	**Low**	Site already acquired by DoE	Travis Harkness

13.6 Appendix 6: Qualitative Appraisal

BUSINESS CASE - CONCEPT OPTION MULTI CRITERIA ASSESSMENT

Site: WAITARA PS

	DETAILED EVALUATION		Base Case		Option 1		Option 2	
	OPTION PERFORMANCE CRITERIA (Weighted Scoring %)	**Weight**	*Score*	*Weighted*	*Score*	*Weighted*	*Score*	*Weighted*
1	Welcome / Entry and Community Experience; and Project Specific Educational Principle 3 - Waitara PS seeks to create an environmentally, aesthetically pleasing flexible space that embraces historical and environmental challenges while maintaining and developing community focus.	**16**	X		✓✓		✓✓	
			0	-	9	14	8	13
2	Enhanced Learning; and Project Specific Educational Principle 1 - Waitara PS provides safe accessible, connected and flexible learning spaces that are centred on future focused learning and are adaptable for the changing needs of learners and learning.	**19**	X		✓✓		✓✓	
			0	-	9	17	8	15
3	Interconnected Landscape and Accessibility; and Project Specific Educational Principle 5 - Waitara PS offers a flexible learning environment that transitions between indoor and outdoor learning spaces that are aligned with the site and embrace a vision for the future.	**15**	X		✓✓		✓✓	
			0	-	9	14	8	12
4	Support and Staff Integration; and Project Specific Educational Principle 2 - Waitara PS is a community that creates and celebrates a culture of welcome, inclusion and belonging that reflects and respects diversity.	**16**	X		✓✓		✓✓	
			0	-	8	13	8	13
5	Addressing Growth (10)	**10**	–		✓✓		✓✓	
			3	3	9	9	8	8
6	Environment; and Project Specific Educational Principle 4 - Waitara PS offers diversity of indoor and outdoor spaces which manifests sustainability while enabling quality future focused technological learning environments.	**14**	X		✓✓		✓✓	
			1	1	8	11	8	11
7	Value and Risk (10)	**10**	–		✓✓		X	
			3	3	9	9	0	-
	Total Weighted Score	**100.00**	7	7	61	87	48	72
	% Success with DoE Criteria / Project Specific Educational Principles			7.40%		87.00%		72.00%
	Ranking			**3**		**1**		**2**

Base Case	Additional Demountables to address growth	**Score**	**0**	Doesn't meet any criteria
Option 1	Expand Waitara PS		**5**	Meets some criteria
Option 2	Expand alternative site		**10**	Meets all criteria

Measurable Qualitative Ratings	Score	Min	Max
Superior	✓✓	8	10
Above Average	✓	5	7
Average	–	2	4
Unsatisfactory	X	0	1

13.7 Appendix 7: Economic Appraisal

Waitara PS - Economic appraisal summary

Option	Description	Capital costs	Capital cost (PV)	Total costs (PV)	Benefits (PV)	NPV (7%)	BCR
Base	Do Minimum	-$ 850,000	-$ 797,336	-$ 1,385,369	$ -	-$ 1,385,369	0.00
1	Preferred Option	-$37,000,001	-$ 31,226,814	-$31,921,853	$ 1,100,090	-$30,821,762	0.03
2	Option 2	-$49,160,001	-$ 43,043,525	-$43,738,563	$ 1,100,090	-$42,638,473	0.03

Base Case -

Capital and Recurrent Costs

Description	Type	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Project Budget	$ 37,000,000.00																					
Construction Cost (incl fees, DA, contingency)	Capital	-$ 45,000	-$ 805,000	$ -	$ -																	-$ 850,000
FF&E		$ -	$ -	$ -	$ -																	$ -
Land acquisition		$ -	$ -	$ -	$ -																	$ -
Offsite infrastructure excluded (separate funding)																						$ -
Total Capital Costs		**-$ 45,000**	**-$ 805,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**-$ 850,000**
Additional operating costs -	Recurrent		-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 1,080,985
Total Costs		**-$ 45,000**	**-$ 861,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 1,930,985**

Benefits

Description	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Option 1 - Reduced cost for the provision of Dept Transport	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Base Case - Residual Value of improvements to DoE infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Benefits	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Undiscounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 45,000	-$ 805,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 850,000
Recurrent costs	$ -	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 1,080,985
Total costs	-$ 45,000	-$ 861,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 56,894	-$ 1,930,985
Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Cashflow	**-$ 45,000**	**-$ 861,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 56,894**	**-$ 1,930,985**

Discount Factors																				
Discount rate	7%																			
Base year	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36
Year index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Discount factor	1.000000000	0.934579439	0.873438728	0.816297877	0.762895212	0.712986179	0.666342224	0.622749742	0.582009105	0.543933743	0.508349292	0.475092796	0.444011959	0.414964448	0.387817241	0.362446020	0.338734598	0.316574390	0.295863916	0.276508333

Discounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 45,000	-$ 752,336	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 797,336
Recurrent costs	$ -	-$ 53,172	-$ 49,693	-$ 46,442	-$ 43,404	-$ 40,565	-$ 37,911	-$ 35,431	-$ 33,113	-$ 30,947	-$ 28,922	-$ 27,030	-$ 25,262	-$ 23,609	-$ 22,064	-$ 20,621	-$ 19,272	-$ 18,011	-$ 16,833	-$ 15,732	-$ 588,033
Total costs	-$ 45,000	-$ 805,508	-$ 49,693	-$ 46,442	-$ 43,404	-$ 40,565	-$ 37,911	-$ 35,431	-$ 33,113	-$ 30,947	-$ 28,922	-$ 27,030	-$ 25,262	-$ 23,609	-$ 22,064	-$ 20,621	-$ 19,272	-$ 18,011	-$ 16,833	-$ 15,732	-$ 1,385,369
Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Discounted cashflow	**-$ 45,000**	**-$ 805,508**	**-$ 49,693**	**-$ 46,442**	**-$ 43,404**	**-$ 40,565**	**-$ 37,911**	**-$ 35,431**	**-$ 33,113**	**-$ 30,947**	**-$ 28,922**	**-$ 27,030**	**-$ 25,262**	**-$ 23,609**	**-$ 22,064**	**-$ 20,621**	**-$ 19,272**	**-$ 18,011**	**-$ 16,833**	**-$ 15,732**	**-$ 1,385,369**
Cumulative	-$ 45,000	-$ 850,508	-$ 900,202	-$ 946,644	-$ 990,048	-$ 1,030,613	-$ 1,068,524	-$ 1,103,954	-$ 1,137,067	-$ 1,168,014	-$ 1,196,936	-$ 1,223,966	-$ 1,249,227	-$ 1,272,836	-$ 1,294,901	-$ 1,315,522	-$ 1,334,794	-$ 1,352,805	-$ 1,369,638	-$ 1,385,369	

Discount rate		7%
Net present value		-$ 1,385,369
Benefit Cost Ratio (BCR)		0.00

Option 1

Capital and Recurrent Costs

Description	Type	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Project Budget	$37,000,000.00																					
Construction Cost (incl fees, DA, contingency)	Capital	-$ 397,709	-$ 6,024,535	-$ 11,412,735	-$ 11,412,735	-$ 5,230,837																-$ 34,478,551
FF&E	Capital	$ -	$ -	$ -	$ -	-$ 2,521,450																-$ 2,521,450
Land acquisition		$ -	$ -	$ -	$ -																	$ -
Offiste infrastructure exlcuded (separate funding)																						$ -
Total Capital Costs		**-$ 397,709**	**-$ 6,024,535**	**-$ 11,412,735**	**-$ 11,412,735**	**-$ 7,752,287**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**-$ 37,000,001**
Additional operating costs -	Recurrent					-$ 47,412	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 1,469,760
Total Costs		**-$ 397,709**	**-$ 6,024,535**	**-$ 11,412,735**	**-$ 11,412,735**	**-$ 7,799,699**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 38,469,761**

Benefits

Description	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Reduced incidences of downtime/sick leave due to improved working conditions for teachers and support staff	$ -	$ -	$ -	$ -	$ 47,757	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 1,480,452
Saving on electrical costs due to PV system	$ -	$ -	$ -	$ -	$ 27,286	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 845,851
Total Benefits	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,042**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 2,326,302**

Undiscounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 397,709	-$ 6,024,535	-$ 11,412,735	-$ 11,412,735	-$ 7,752,287	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 37,000,001
Recurrent costs	$ -	$ -	$ -	$ -	-$ 47,412	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 1,469,760
Total costs	-$ 397,709	-$ 6,024,535	-$ 11,412,735	-$ 11,412,735	-$ 7,799,699	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 38,469,761
Benefits	$ -	$ -	$ -	$ -	$ 75,042	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 2,326,302
Net Cashflow	**-$ 397,709**	**-$ 6,024,535**	**-$ 11,412,735**	**-$ 11,412,735**	**-$ 7,724,657**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**-$ 36,143,459**

Discount Factors																					
Discount rate	7%																				
Base year	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	
Year index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Discount factor	1.000000000	0.934579439	0.873438728	0.816297877	0.762895212	0.712986179	0.666342224	0.622749742	0.582009105	0.543933743	0.508349292	0.475092796	0.444011959	0.414964448	0.387817241	0.362446020	0.338734598	0.316574390	0.295863916	0.276508333	

Discounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 397,709	-$ 5,630,406	-$ 9,968,325	-$ 9,316,191	-$ 5,914,183	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 31,226,814
Recurrent costs	$ -	$ -	$ -	$ -	-$ 36,170	-$ 67,608	-$ 63,185	-$ 59,051	-$ 55,188	-$ 51,578	-$ 48,203	-$ 45,050	-$ 42,103	-$ 39,348	-$ 36,774	-$ 34,368	-$ 32,120	-$ 30,019	-$ 28,055	-$ 26,219	-$ 695,038
Total costs	-$ 397,709	-$ 5,630,406	-$ 9,968,325	-$ 9,316,191	-$ 5,950,353	-$ 67,608	-$ 63,185	-$ 59,051	-$ 55,188	-$ 51,578	-$ 48,203	-$ 45,050	-$ 42,103	-$ 39,348	-$ 36,774	-$ 34,368	-$ 32,120	-$ 30,019	-$ 28,055	-$ 26,219	-$ 31,921,853
Benefits	$ -	$ -	$ -	$ -	$ 57,249	$ 107,008	$ 100,007	$ 93,465	$ 87,350	$ 81,636	$ 76,295	$ 71,304	$ 66,639	$ 62,280	$ 58,205	$ 54,397	$ 50,839	$ 47,513	$ 44,404	$ 41,499	$ 1,100,090
Discounted cashflow	**-$ 397,709**	**-$ 5,630,406**	**-$ 9,968,325**	**-$ 9,316,191**	**-$ 5,893,103**	**$ 39,400**	**$ 36,823**	**$ 34,414**	**$ 32,162**	**$ 30,058**	**$ 28,092**	**$ 26,254**	**$ 24,536**	**$ 22,931**	**$ 21,431**	**$ 20,029**	**$ 18,719**	**$ 17,494**	**$ 16,350**	**$ 15,280**	**-$ 30,821,762**
Cumulative	-$ 397,709	-$ 6,028,115	-$ 15,996,440	-$ 25,312,632	-$ 31,205,735	-$ 31,166,335	-$ 31,129,512	-$ 31,095,099	-$ 31,062,937	-$ 31,032,878	-$ 31,004,787	-$ 30,978,533	-$ 30,953,996	-$ 30,931,065	-$ 30,909,634	-$ 30,889,605	-$ 30,870,886	-$ 30,853,392	-$ 30,837,042	-$ 30,821,762	

Discount rate		7%
Net present value		-$ 30,821,762
Benefit Cost Ratio (BCR)		0.03

Option 2 - New school, New Build

Capital and Recurrent Costs

Description	Type	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Project Budget	$ 37,000,000.00																					
Construction Cost (incl fees, DA, contingency)	Capital	-$ 397,709	-$ 6,362,535	-$ 12,088,735	-$ 12,088,735	-$ 5,540,670																-$ 36,478,385
FF&E		$ -	$ -	$ -	$ -	-$ 2,681,616																
Land acquisition		-$ 10,000,000	$ -	$ -	$ -																	-$ 10,000,000
Offsite infrastructure exlcuded (separate funding)			-																			$ -
Total Capital Costs		**-$ 10,397,709**	**-$ 6,362,535**	**-$ 12,088,735**	**-$ 12,088,735**	**-$ 8,222,286**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**-$ 49,160,001**
Additional operating costs -	Recurrent					-$ 47,412	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 1,469,760
Total Costs		**-$ 10,397,709**	**-$ 6,362,535**	**-$ 12,088,735**	**-$ 12,088,735**	**-$ 8,269,698**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 94,823**	**-$ 50,629,761**

Benefits

Description	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Reduced incidences of downtime/sick leave due to improved working conditions for teachers and support staff					$ 47,757	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 95,513	$ 1,480,452
Saving on electrical costs due to PV system					$ 27,286	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 54,571	$ 845,851
Total Benefits	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,042**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 150,084**	**$ 2,326,302**

Undiscounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 10,397,709	-$ 6,362,535	-$ 12,088,735	-$ 12,088,735	-$ 8,222,286	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 49,160,001
Recurrent costs	$ -	$ -	$ -	$ -	-$ 47,412	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 1,469,760
Total costs	-$ 10,397,709	-$ 6,362,535	-$ 12,088,735	-$ 12,088,735	-$ 8,269,698	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 94,823	-$ 50,629,761
Benefits	$ -	$ -	$ -	$ -	$ 75,042	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 150,084	$ 2,326,302
Net Cashflow	**-$ 10,397,709**	**-$ 6,362,535**	**-$ 12,088,735**	**-$ 12,088,735**	**-$ 8,194,656**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**$ 55,261**	**-$ 48,303,459**

Discount Factors																					
Discount rate	7%																				
Base year	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	
Year index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Discount factor	1.000000000	0.934579439	0.873438728	0.816297877	0.762895212	0.712986179	0.666342224	0.622749742	0.582009105	0.543933743	0.508349292	0.475092796	0.444011959	0.414964448	0.387817241	0.362446020	0.338734598	0.316574390	0.295863916	0.276508333	

Discounted Cashflows	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total
Capital costs	-$ 10,397,709	-$ 5,946,294	-$ 10,558,770	-$ 9,868,009	-$ 6,272,743	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-$ 43,043,525
Recurrent costs	$ -	$ -	$ -	$ -	-$ 36,170	-$ 67,608	-$ 63,185	-$ 59,051	-$ 55,188	-$ 51,578	-$ 48,203	-$ 45,050	-$ 42,103	-$ 39,348	-$ 36,774	-$ 34,368	-$ 32,120	-$ 30,019	-$ 28,055	-$ 26,219	-$ 695,038
Total costs	-$ 10,397,709	-$ 5,946,294	-$ 10,558,770	-$ 9,868,009	-$ 6,308,913	-$ 67,608	-$ 63,185	-$ 59,051	-$ 55,188	-$ 51,578	-$ 48,203	-$ 45,050	-$ 42,103	-$ 39,348	-$ 36,774	-$ 34,368	-$ 32,120	-$ 30,019	-$ 28,055	-$ 26,219	-$ 43,738,563
Benefits	$ -	$ -	$ -	$ -	$ 57,249	$ 107,008	$ 100,007	$ 93,465	$ 87,350	$ 81,636	$ 76,295	$ 71,304	$ 66,639	$ 62,280	$ 58,205	$ 54,397	$ 50,839	$ 47,513	$ 44,404	$ 41,499	$ 1,100,090
Discounted cashflow	**-$ 10,397,709**	**-$ 5,946,294**	**-$ 10,558,770**	**-$ 9,868,009**	**-$ 6,251,664**	**$ 39,400**	**$ 36,823**	**$ 34,414**	**$ 32,162**	**$ 30,058**	**$ 28,092**	**$ 26,254**	**$ 24,536**	**$ 22,931**	**$ 21,431**	**$ 20,029**	**$ 18,719**	**$ 17,494**	**$ 16,350**	**$ 15,280**	**-$ 42,638,473**
Cumulative	-$ 10,397,709	-$ 16,344,003	-$ 26,902,773	-$ 36,770,782	-$ 43,022,446	-$ 42,983,046	-$ 42,946,223	-$ 42,911,809	-$ 42,879,647	-$ 42,849,589	-$ 42,821,497	-$ 42,795,243	-$ 42,770,707	-$ 42,747,776	-$ 42,726,345	-$ 42,706,315	-$ 42,687,597	-$ 42,670,103	-$ 42,653,753	-$ 42,638,473	

Discount rate		7%
Net present value (NPV)		-$ 42,638,473
Benefit Cost Ratio (BCR)		0.03

Recurrent costs as confirmed by DoE Planning/AMU (see email from Rachel 09.02.17)

Description	Cost/m^2(1)	Base Case	Option 1	Option 2
Additional square metres		1,035	1,725	1,725
Cleaning cost	$29.29	$30,315	$50,525	$50,525
Maintenance cost	$6.76	$6,997	$11,661	$11,661
Insurance cost	$5.68	$5,879	$9,798	$9,798
Utilities cost	$11.23	$11,623	$19,372	$19,372
Security costs	$0.82	$849	$1,415	$1,415
Essential urgent repairs	N/A	N/A	N/A	N/A
Additional Other costs	$1.19	$1,232	$2,053	$2,053
Total	**$54.97**	**$56,894**	**$94,823**	**$94,823**

Cost estimates as provided by RLB I Rider Levett Bucknall

	Base Case	Option 1	Option 2
DA	-	344,399	366,315
Total Construction	700,000	22,959,924	24,420,999
Total Consultant	60,000	2,598,366	2,598,366
Total Department Cost	-	200,000	200,000
Total FF&E	-	2,521,450	2,681,616
Total Contingency	84,000	6,166,667	6,542,926
Escalation	6,000	2,209,195	2,349,779
Land Acquisition	-	-	10,000,000
Total Forecast End cost excl OSI	850,000	37,000,001	49,160,001
Total Offsite Infrastructure	-	190,000	190,000
Total Forecast End cost incl OSI	850,000	37,190,001	49,350,001

Cashflow calculation

		Total duration	2016/17	$/FY	2017/18	$/FY	2018/19	$/FY	2019/20	$/FY	2020/21	$/FY	Total	Total costs
Base case	Fee	4	3	$45,000	1	$15,000	0	$0		$0		$0	4	$60,000
	Construction	2	0	$0	2	$790,000	0	$0		$0		$0	2	$790,000
	FF&E			$0		$0		$0		$0		$0		$0
	Land acqu.			$0		$0		$0		$0		$0		$0
													Total	$850,000
			2016/17	$/FY	2017/18	$/FY	2018/19	$/FY	2019/20	$/FY	2019/20	$/FY	Total	total costs
Option 1	Fee	49	7.5	$397,709	12	$636,335	12	$636,335	12	$636,335	5.5	$291,653	49	$2,598,366
	Construction	35.5	0.0	$0	6	$5,388,200	12	$10,776,401	12	$10,776,401	5.5	$4,939,184	35.5	$31,880,185
	FF&E			$0		$0		$0		$0		$2,521,450		$2,521,450
	Land acqu.			$0		$0		$0		$0		$0		$0
													Total	$37,000,001
			2016/17	$/FY	2017/18	$/FY	2018/19	$/FY	2019/20	$/FY	2019/20	$/FY	Total	total costs
Option 2	Fee	49	7.5	$397,709	12	$636,335	12	$636,335	12	$636,335	5.5	$291,653	49	$2,598,366
	Construction	35.5	0	$0	6	$5,726,200	12	$11,452,401	12	$11,452,401	5.5	$5,249,017	35.5	$33,880,019
	FF&E			$0		$0		$0		$0		$2,681,616		$2,681,616
	Land acqu.			$10,000,000		$0		$0		$0		$0		$10,000,000
													Total	$49,160,001

Benefits

Downtime due to sickness/etc for teachers

say 50% reduction in sick leave due to better facilities
salary average of $80k
Number of teachers / staff 58 full time

	457	sick days in 2016		(actual sick days in 2016)	
	$418	cost per sick day=$418		(working days = 365d - 104 weekends - 67 school holidays - 3 public holidays)	
Benefit	457	50%	73	**$95,513**	per year

Saving on electricity costs

Yearly saving Option 1*	$54,571	*Based on the yearly saving through the instalation of a PV system.
Yearly saving Option 2*	$54,571	Detailed breakdown of saving in "DoE-Northern Suburbs GFA and electrical costs-rev.C