Item 14.1

OPTIONS REPORT

KYOGLE AQUATIC CENTRE
Wyangarie Street
Kyogle, NSW 2474

Prepared for

Kyogle Council

Contract No: RFT-10014831



Project No. CP1818-K

7th Nov 2018

To: Mr. Matt Sorenson

Urban & Assets Engineer
Kyogle Council
1 Stratheden Street
KYOGLE NSW 2474

This report has been prepared by:
Chris Pritchett - Architect
ABN 36 408 597 850
PO Box 4349, Gumdale,
QLD 4154
Telephone: (07) 3348 9491
chris@cp-architect.com.au

Issue	Reason For Issue	Dated	Approved by
1	Issued to KC for Review	5th Nov 2018	CCP
2	Re-issued for KC Feedback	6th Nov 2018	CCP
3	Final Issue	7th Nov 2018	CCP

Table of Contents

1.1 BACKGROUND

The Kyogle Council (KC), as owners of the Aquatic Centre, aspires to provide a modern, flood free gymnasium, enclosed sporting arena and upgraded pool facilities at their existing Aquatic centre located on the corner of Wyangarie Street and Summerland Way.

Due to funding constraints, the project is to be delivered in two stages.

Stage 1:

- A new enclosure for the existing medium pool, including a solid roof
- A new heating system to the medium pool
- Modifying the existing medium pool to allow for equitable access into the pool for persons with disabilities
- New gymnasium, change rooms, toilets, office and child friendly area

Stage 2:

- Construction of an enclosed building to house a sports arena with multipurpose courts (basketball, tennis, volleyball, netball)
- Grandstand areas to seat 300 - 500 people

Chris Pritchett - Architects have been engaged to deliver the professional design and technical construction drawings for this project, all of which will be compliant with the Building Code of Australia and the Disability Discrimination Act.

Following a series of public and user-group consultations, backed up with on-line polls and Internet exposure through Kyogle Council's website, five original design options for the Aquatic Centre development have been reduced to two preferred options.

These two preferred options were developed further by the design team and were presented to a public forum for further feedback. The drawings were refined further following public and user-group feedback and those developed designs are presented here, in this report.

1.2 PURPOSE

The primary purpose of this report is to assist Kyogle Council with determining which is the preferred option.

This report will:

1. Explain the process undertaken so far (public consultations, site investigations etc.)
2. Provide design drawings of the two options being considered in this report
3. Provide a list of pros and cons for each of the two options.

Once chosen, the one preferred option can then be developed further by the design team.

1.3 METHODOLOGY

A visual site inspection was carried out on Monday 21st June 2018 by Christopher Pritchett – Architect, followed by an inception meeting with Kyogle Council for briefing purposes.

A measured survey of the site and buildings was carried out by a registered land surveyor to determine the area of the site, confirm boundaries and building positions and provide height information to the design team.

Kyogle Council have been pro-active with ensuring the community and user-groups are fully engaged in the design process so far. This has been driven by the Strategic Initiatives Coordinator at Kyogle Council.
The public were encouraged to put forward their ideas via Facebook, through the council's website. Polls have also been carried out using Facebook.
The Strategic Initiatives Coordinator has also met with user-groups and affected parties, to gather information and feedback. An on-site meeting was also held with stakeholders. The information gathered was passed to the design team prior to the first public consultation.

Kyogle Council have also investigated the use of other sites for these developments including the purchase of existing buildings in the centre of Kyogle. One of the main issues is developing a facility that sits in a flood-free zone and ideally on land owned by the council.[1]

Following the site inspection and meeting with Kyogle Council, and with feedback from the community consultations, five sketch design options were prepared, investigating how the proposed development would sit on the site. Due to the constraints of the site, Bloore Park, which sits adjacent to the subject site, was also investigated as a possible site for development, in Option Two.

The five initial sketch design options were displayed during the day for public comment on 26th September 2018. This was followed by a formal presentation by the architect in the evening where stakeholder groups were invited to attend.
The PowerPoint presentation from the evening session was posted to the council's website and remained open for comment for one week. [2]

Two preferred options were then selected for further investigation and development. Adjoining landholders were sent invitations and letterbox drops were conducted to invite comment on the two options.

A second open public forum was held on 18th October 2018 and followed the format of the first round of consultation. The two options, showing their staged construction, were placed on public display during the day. The architect then delivered a formal presentation to stakeholder groups using a PowerPoint display.[3]

Following feedback from the public and user-groups, the design team then applied minor design changes to the two options to reflect the information gathered by the public and user-group feedback. The resulting designs are now shown here in this report.
Council can therefore have confidence that the two options presented here are a result of open, robust and extensive public and user-group consultation.

[1] A 'Property Option Analysis' report is attached to this report for reference.
[2] This first PowerPoint document is available from Kyogle Council, on request.
[3] This second PowerPoint document is available from Kyogle Council, on request.

1.4 OPTION REPORT STRUCTURE

Each option is shown as follows, in a staged process. This allows Kyogle Council to see how the development may progress over time, as funding allows.

- **Existing Layout:** For reference to existing facilities
- **Stage 1:** Gym & enclosure to medium sized pool
- **Stage 2:** Sports Hall
- **Stage 3:** Future development for 25m lap pool

Although not part of the original scope of work, options regarding Stage Three work which incorporate a 25m lap pool and major re-configuration of the medium sized pool area, were developed. This was to ensure that adequate space provision was made in the current design options to ensure development of the first two stages would not compromise any future Stage Three proposals.

This report provides a design summary of each option, moves on to list a series of advantages and disadvantages for each option and then summarises the technical issues, likely costs and community response.

1.5 OPTION ONE – DESIGN SUMMARY

Option One places the gym building immediately to the west of the Tom Dodd Grandstand. This would be a single storey building with a mono-pitch roof at approximately five degrees, with the eaves gutter adjacent to the grandstand. The roof is designed this way to allow easier connection to the sports hall in the next stage.
The roof void created to the west (at the highest point of the roof) would be used to run services through. This would be useful for accommodating air-conditioning ducts, which are the bulkiest items, and will keep them hidden from view.
An open grid ceiling is proposed, with squares some 50 x 50mm in size. This allows air to escape quickly into the roof void – making the void act as a plenum (negative pressure) chamber. Air will be extracted this way – an important consideration in a gym where greater air change rates are needed, due to the activity in the gym. Using an open grid will keep the building costs down initially by not requiring a full ceiling system straight away. If desired, a full ceiling system could be installed later. Services above the suspended ceiling will be painted black, so will be less obvious.

The footprint of the gym has deliberately been chosen as a long rectangular shape. This reduces the length of the span which will reduce the cost of construction. Due to limited funding in Stage One the design team is looking to almost provide an agricultural shed, and there may be cost savings achieved by purchasing an off-the-shelf, pre-engineered item such as this. This shed would of course be retro-fitted with a high level of insulation in both the roof and walls and be provided with a services fit-out, mainly air-conditioning, ensuring conditions are suitable for gym operations.

There is a height difference of 1.4m between the level of the gym and the open grassed area to the west. The proposed design allows for an earthed and grassed bank to be constructed. With windows placed in the west side of the gym, (and access doors) users of the gym will be able to use this outdoor space. When the sports hall is constructed during Stage Two the windows will remain, giving a visual connection between the gym and the sports hall.

The gym is located at the same height as the medium sized pool. This means access to the pool for gym users will be straightforward and equitable.

A dedicated entrance to the north will be provided to the gym. Access on a 24-hour basis, seven days a week is proposed, with the use of swipe cards. Placing the entrance in this position facilitates that and gym users do not have to enter the gym via the pool entrance.

A strategy is being adopted in Stage One to 'forward plan' to provide enough amenities in support of Stage Two, when the sports hall is constructed. Therefore, an appropriate number of toilets and showers have been calculated, based on 300 visitor numbers in the sports hall, 30 participants (players) and 30 gym users. Using the Building Code of Australia (Table F2.3), the toilet and shower provisions were determined, including toilet and shower facilities for persons with disabilities. These facilities would be constructed in Stage One, ensuring there would be no major plumbing works required in Stage Two when the sports hall was constructed.

Stage One work also includes the enclosing of the medium sized pool and providing heating to the pool. The provision of a ramp for equitable access into the pool is also to be provided. Preliminary investigations show that an accessible ramp, at 1 in 14 slope which meets the requirements of the Discrimination Disability Act (DDA) is just possible, as long as the ramp runs along the long edge of the pool.
Due to limited funding in Stage One, it may not be possible to fully enclose and seal the medium sized pool. Options that will be investigated further during the developed design stage include an enclosure only, (with limited thermal capacity), but working in combination with a pool blanket. This will retain the pool temperature and keep heating bills down. The pool is small enough to warrant a pool blanket, subject to being compliant with Pool Safety Regulations, and it should not require two persons to operate the pool cover.

Stage One work will also include for a retaining wall which is required between the (future) sports hall and the medium sized pool, due to a 1.4m height difference. This will avoid demolition of any previous work that was carried out in Stage One to accommodate the sports hall in Stage Two.

Stage Two work allows for the construction of the sports hall. A small retaining wall will be required between the sports hall and the gym but this is not significant.
It will be easy to link the gym roof to the sports hall building, sealing up the building. Refer to sections on drawing A1131 for further details.

The sports hall should be relatively simple to construct, essentially being a 'large simple structure'. All the toilet and shower amenities and services would have been installed during Stage One.

Due to being placed close to the boundaries of the site, it is envisioned that the sports hall would be constructed with concrete tilt panels, mainly to achieve the required fire ratings to comply with the building code.
Using tilt panels is a quick and efficient way to build. The panels can be cast on site once the floor of the sports hall is laid, and lifted directly into place, saving on transportation costs and negating the difficulty of accessing a difficult site with large heavy panels.

A ramp and a stair will be required to provide equitable access to the sports hall. This is shown to the north of the building. Locating the ramp and stairs here avoids placing the buildings close to the existing Youth Centre and this arrangement allows the Youth Centre to

retain natural light and some views through their southern windows. Landscaping would be provided around the ramp to soften the impact of the new building work near the Youth Centre.

Stage Three allows for the removal of the medium sized pool and the incorporation of three individual pools. These would include a 25m lap pool, a therapy pool and a 'Learn-to-swim' pool. Three separate pools are required due to the different functions of each pool and specifically the different temperatures needed to be maintained for each pool.
This arrangement was looked at now, mainly for future planning purposes. It is important to look at the site as a whole and well into the future, to ensure that a master-planned approach is taken to the whole development.
Due to the presence of the small pool, it was found that the proposed lap pool would be 'narrowed' and possibly only 2.5 swimming lanes would be provided. Half a lane would be required to provide an accessible ramp.

1.6 OPTION ONE – PROS & CONS

Advantages:

- Keeps the gym and pool facilities on the same level. Gym users can therefore access the pool area on an equitable basis
- Basic rectangular shape of the gym and short spans across the building help reduce building costs
- Single storey construction of the gym avoids need to strengthen floors for heavy gym equipment and avoids the needs for lifts and long ramps
- Access to the open area to the west will be available for outdoor gym activities, if this is found to be desirable and the weather allows
- Dedicated access provided from the north of the site, so no need to interrupt pool users. Access can be at any time (24/7) with swipe card access
- Building is less than 500m^2 in area so no requirement for fire hydrants or fire hose reels in Stage One
- Once all stages are complete, the site is used to its maximum potential, creating a compact sports and aquatic centre complex
- The sports hall connects to the gym facility, via stairs and a ramp, allowing good connectivity and synergy between the two buildings

Disadvantages:

- The BBQ area is effectively ‘cut off’ from the open area to the west of the proposed gym.
  Visibility is harder from the BBQ area and pool area, so parental supervision is made harder for pool users. This may lead to the open area being fenced off for safety reasons

- The sports hall, due to the tight site, must be located on the western boundary and close to the northern boundary. Fire proofing will be required, and windows and ventilation opens will have to be fire-rated.
  Due to this, blank facades may be needed and may look poor visually, particularly from the Seniors Centre side. The effect of this could be reduced with surface treatments and motifs. Refer to elevations on drawings A1131 & A1132

- The construction site will be hard for the main contractor to access. It may not be possible to deliver pre-cast concrete tilt-panels to site and these will have to be cast on site. This will take longer to build

- The site may appear to be crowded, with little open space

1.7 OPTION TWO – DESIGN SUMMARY

Option Two places the Stage One gym building to the north-west of the site in the (lower) open area. This would be a single storey building with a roof at approximately ten degrees. The roof could be a mono-pitch or a trussed arrangement.

The roof void would be used to run services through. This would be useful for accommodating air-conditioning ducts, which are the bulkiest items, and will keep them hidden from view.
An open grid ceiling is proposed, with squares some 50 x 50mm in size. This allows air to escape into the roof void – making the void act as a plenum (negative pressure) chamber. Air will be extracted this way – an important consideration in a gym where greater air change rates are needed, due to the activity in the gym. Using an open grid will keep the building costs down initially. If desired, a full ceiling system could be installed later. Services above the suspended ceiling will be painted black, so will be less obvious.

The footprint of the gym has deliberately been chosen as a long rectangular shape, similar to Option One. This reduces the length of the span which will reduce the cost of construction. Due to limited funding in Stage One the design team is looking to almost provide an agricultural shed, and there may be cost savings achieved by purchasing an off-the-shelf, pre-engineered item such as this. This shed would of course be retro-fitted with a high level of insulation in both the roof and walls and be provided with a services fit-out, mainly air-conditioning, ensuring conditions are suitable for gym operations.

There is a height difference of 1.4m between the level of the gym and the existing pool area. The main access point will also have to be from Bloore Street and not directly from Summerland Way to provide equitable access, although access will be available from Summerland Way by walking past and behind the Youth Centre. This will mean that stairs

and ramps will have to be constructed in Stage One to provide equitable access between the gym and the pool, if this is required.

There is open grassed area to the east of the proposed gym. With windows placed in the east side of the gym, (and access doors) users of the gym will be able to use this outdoor space.

A dedicated entrance to the north will be provided. Access on a 24-hour basis, seven days a week is proposed, with the use of swipe cards. Placing the entrance in this position facilitates that and gym users do not have to walk through the pool entrance.

Toilets and showers would only be provided and calculated for 30 gym users using the Building Code of Australia (Table F2.3), so the cost is reduced during Stage One works.

Stage One work also includes the enclosing of the medium sized pool and provides heating to the pool. The provision of a ramp for equitable access into the pool is also to be provided. Preliminary investigations show that an accessible ramp, at 1 in 14 slope which meets the requirements of the Discrimination Disability Act (DDA), is just possible, as long as the ramp runs along the long edge of the pool.
Due to limited funding in Stage One, it may not be possible to fully ‘seal’ the medium sized pool. Options that will be investigated further during developed design include an enclosure only, with limited thermal capacity, but working in combination with a pool blanket. This will retain the pool temperature and keep heating bills down. The pool is small enough to warrant a pool blanket, subject to being compliant with Pool Safety Regulations, and should not require two persons to operate the pool cover.

Stage One work will also include for a retaining wall which is required between the gym and the medium sized pool, due to a 1.4m height difference.

Stage Two work includes the construction of the sports hall. It is proposed this facility is built in Bloore Park. This would require the removal of the existing mature trees and picnic tables. It would also require the re-location (or lining) of the existing council sewer that runs under Bloore Park.

The sports hall should be relatively simple to construct, essentially being a ‘large simple structure’. All the toilet and shower amenities and services would be provided by converting the existing changing room and amenities currently associated with the pool. The changing rooms are quite large in area and these could be modified to meet the requirements of the Building Code of Australia. Refer to Drawing A1220 showing a likely layout. The existing female toilets would be converted to male and female facilities with access directly from the entry lobby associated with the sports hall. Therefore, persons would not have to leave the sports hall building to use the amenities. The existing male toilets serving the pool would be converted to provide both male and female facilities, exclusively for the pool users.

Due to being placed close to the boundaries of the site, it is envisioned that the sports hall would be constructed with tilt panels, mainly to achieve the required fire ratings to comply with the building code.
Using tilt panels is a quick and efficient way to build. The panels can be cast on site once the floor of the sports hall is laid, and lifted directly into place, or cast off-site and delivered to site, due to good access to the site.

A ramp and a stair will be required to provide equitable access between the sports hall and the pool level, (and the amenities). Due to the 2.9m height difference between the pool level and Bloore Park, it was found that a ramp was quite long – totalling 40 metres in length. Therefore, a hydraulic lift would have to be installed to make the building equitable for use by persons with disabilities. Additionally, the stairs would require 17 steps, which is not ideal.

Stage Three allows for the removal of the medium sized pool and the incorporation of two pools in this position. This would include a therapy pool and a 'Learn-to-swim' pool. A 25m lap pool would also be built to the west of the Tom Dodd Grandstand, providing 3.5 lanes. Half a lane would be required to provide an accessible ramp into the lap pool. Three separate pools are required due to the different functions of each pool and specifically the different temperatures needed for each pool.

1.8 OPTION TWO – PROS & CONS

Advantages:

- Maintains some open space in the Aquatic Centre
- External doors allow gym users access to open space for outdoor activities
- Basic rectangular shape and short spans across the gym building help reduce building costs in Stage One
- Single storey construction of the gym avoids need to strengthen upper floors for heavy gym equipment and avoids the needs for access lifts, ramps and stairs
- Dedicated access from the north of the site for the gym, so no need to interrupt pool users. Access can be at any time (24/7) with swipe card access
- Gym building is less than 500m^2 in area so no requirement for fire hydrants or fire hose reels in Stage One
- Single storey construction does not overshadow Seniors Centre as much as a large building would (such as a sports hall)
- Less toilet and shower facilities are provided during the Stage One works, (when compared to Option One). Funds are limited in Stage One so this is an advantage
- The sports hall will be easier to build in Bloore Park due to better access to the site for the main contractor. Tilt panels can be cast off-site

Disadvantages:

- The gym is not on the same level as the pool complex. Stairs and ramps will be required to give equitable access. These will have to be provided during Stage One where funding is limited
- Additional fencing may be required to separate gym users from pool users
- Two ramps may be required for equitable access, adding to the cost
- Loss of mature trees and park area
- Large height difference results in requirement to provide a hydraulic lift. This will need to comply with AS1428.1 and will need regular servicing, testing and certification
- Large height difference means a ramp is not feasible
- Sports Hall users may not feel to be part of the overall Aquatic Complex
- Loss of 50% of changing facilities for pool users to allow for conversion of female toilets to provide amenities to sports hall users
- Stage Three pools are not combined buildings, so additional pipework and heating may be required
- Separate nature of buildings (not linked) means more external walls and greater building costs and heating and cooling costs
- Existing sewer line running through the centre of Bloore Park may have to be diverted or structurally lined, adding to the cost of construction
- The subsidence issues seen to the west of the existing changing rooms will have to be addressed when the sports hall is constructed, adding to the cost of construction

1.9 EXECUTIVE SUMMARY – COMPARISON OF BOTH OPTIONS

a. Siting:

Option One strives to make the maximum use of the site, although this does come at a loss of open space. Option Two maintains some open space within the Aquatic Centre but results in the loss of Bloore Park.
Following feedback from the consultation process, public opinion is divided on this issue with some people preferring the open space in the pool area, while others would like to retain Bloore Park. The overwhelming feeling from public feedback was that retaining Bloore Park was preferred.

Option One is the most efficient building in terms of access and connectivity and appears to meet the needs of council and the community.

b. Cost and Technical Issues:

Option One build costs will be less than Option Two.
Consolidating the buildings under Option One reduces the number of external walls required and reduces service runs. In Option One, the gym building connects directly to the Sports Hall. In Option Two, the Sports Hall is a stand-alone structure.

Additional costs associated with Option Two include the requirement for a hydraulic lift to provide equitable access between the sports hall and the changing facilities due to the greater height difference. This will also be an on-going maintenance cost to service the lift during the lifetime of the building.
Ramps and stairs will also be required during Option Two - Stage One works in the gym, bringing the capital cost forward into the first stage, where limited funds are available.

Extra costs will also be incurred to divert or structurally re-line the sewer running through the middle of Bloore Park. The proposed site for Option One is relatively free of in-ground services.

The additional cost of repairing the subsidence to the existing changing room (west side) will have to be absorbed into the Option Two - Stage Two work, prior to the sports hall being built, to prevent new work being compromised.

The cost of renovating the existing changing rooms will also have to be considered and factored into Option Two works. Because the existing male toilet will also have to be converted to provide both female and male facilities for pool users, the cost of converting the changing rooms effectively doubles the cost, when compared to a new-build facility.

Therefore, Option One will be the most cost effective of the two options and council will have less technical issues to deal with.

c. Community:

While supporting the provision of a gym and sports hall facility at this site the community appear to be less enthusiastic about losing Bloore Park to future development. Although not a prominent or over-busy park, it is well established, has mature trees, and is well liked by local residents.