

Cr Suzette Tayler left the meeting at 8.16pm

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment

(TB Communities)

Council Decision

Moved: Councillor Asker

Seconded: Councillor Hill

That Council:

1. Notes that planning for an expanded basketball facility originally commenced in 2014 but the project was put on hold in 2017 and resources were diverted to the subsequent construction of Jubilee Park Stadium. In May 2020 Council approved for a feasibility study to be undertaken to investigate redevelopment options for an expanded basketball and gymnastics facility at Bardia Avenue, Seaford;
2. Notes that in 2018, Council advocated for the development of a Regional Tennis and Gymnastics Centre at Centenary Park with a pledge of \$11.5M towards its construction. This project did not receive the necessary additional funding from the State and Federal governments and did not proceed. In 2020 Bayside Gymnastics Club was identified by Council as a priority tenant in the re-purposing of Linen House, however subsequent investigations determined that it was not possible to include them due to the physical limitations associated with the infrastructure at the site;
3. Notes that at its meeting on the 15 November 2021, Council unanimously endorsed the Frankston Indoor Gymnastics and Basketball Feasibility Study that recommended an eight (8) basketball court stadium, incorporating a dedicated community gymnastics hall with a nominal floor area of 1,000 square metres (m²). At the time of endorsement, the total estimated project cost was \$45 million, with the assumption that the project be built in one (1) stage and that construction commenced in the financial year 2024/25 (given changed market conditions, the costing for this design revised in May 2023 was \$53.5M);
4. Notes that following further engagement with project stakeholders, a revised scope (SK05) was developed that increases the basketball court provision from eight (8) to ten (10). (See Attachment A). This scope expansion, coupled with significant market changes occurring within the construction sector resulted in the estimated cost of construction increasing to \$60 million;
5. Notes that the State and Federal governments along with Council have committed \$15 million respectively (a total \$45 million) to the project, and that the State Government contribution is for the basketball expansion only. Council have been advised no additional funds will be available from the State and Federal governments and therefore if Council is to proceed with the revised \$60 million project, the \$15 million shortfall would need to be borne by Council;
6. Notes that the Frankston District Basketball Association (FDBA) have stated they are unable to commit funds towards the capital project cost;
7. Notes that Bayside Gymnastics Club has notionally committed \$50K-\$70K towards the capital project costs associated with the purchase of gymnastics equipment;
8. Notes that key project stakeholders including the Frankston and District Basketball Association and the Bayside Gymnastics Club have confirmed their support to proceed with the 10-court Frankston Basketball and Gymnastics Stadium concept (SK05).
9. Approves the revised Frankston Basketball and Gymnastics Stadium concept marked SK05 as per Attachment A, for a ten (10) basketball court and a

Chairperson's initials.....

community standard gymnastics facility and approves commencement of design development this financial year 2023/24 and progress to tendering to the construction market in early 2025 and if practical sooner (noting the release of tender is subject to the successful completion of lease/licence and service agreements);

10. Commits additional funding of \$15M to the project in 2026/27 on the basis of the funding strategy outlined in this report, which will be included in the next review of the Long-Term Infrastructure Plan & Financial Plan;
11. Supports future exploration of cost management options and acknowledges such options will be refined and considered during the next design phase; and
12. Notes that the current basketball stadium is subject to a lease agreement between Council and Frankston District Basketball Association (FDBA) that expires in June 2026. Officers will commence with the development of appropriate occupancy agreement(s), noting that the FDBA will be required to surrender their current lease to allow construction of the new stadium.

Extension of Time

Moved: Councillor Bolam

Seconded: Councillor Harvey

That Cr Asker be granted an extension of time.

Carried Unanimously

Cr Suzette Tayler was not present at the time of voting

Extension of Time

Moved: Councillor Bolam

Seconded: Councillor Harvey

That Cr Baker be granted an extension of time.

Carried Unanimously

Cr Suzette Tayler was not present at the time of voting

Extension of Time

Moved: Councillor Harvey

Seconded: Councillor Asker

That Cr Bolam be granted an extension of time.

Carried Unanimously

Cr Suzette Tayler was not present at the time of voting

Councillor Suzette Tayler returned to the chamber at 8.33 pm.

Extension of Time

Moved: Councillor Liam Hughes

Seconded: Councillor Harvey

That Cr Conroy be granted an extension of time.

Carried Unanimously

Extension of Time

Moved: Councillor Harvey

Seconded: Councillor Bolam

That Cr Hill be granted an extension of time.

Carried Unanimously

The Motion was Carried

Chairperson's initials

For the Motion: Crs Asker, Bolam, Conroy and Tayler (4)
Against the Motion: Crs Harvey and Hill (2)
Abstain: Crs L. Hughes and Baker (2)

*In accordance with Council's Governance Rules 69.1,
the Chair exercised the right of a casting vote*

Casting Vote: Cr Conroy For the motion
Meeting was adjourned at 8.54 pm

Executive Summary**12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**

*Enquiries: (Tim Bearup: Communities)
(Byron Douglas: Communities)
(Simone Bonella: Communities)
(Bradley Sly: Communities)
(Luke Ure: Infrastructure and Operations)*

Council Plan

Level 1: 1. Healthy and Safe Communities
Level 2: 1.3 Encourage active and healthy lifestyles for people of all ages and abilities

Purpose

To present the updated Frankston Basketball and Gymnastics Stadium concept, associated cost adjustments and seek support from Council to proceed with detailed design.

Recommendation (Director Communities)

That Council:

1. Notes that planning for an expanded basketball facility originally commenced in 2014 but the project was put on hold in 2017 and resources were diverted to the subsequent construction of Jubilee Park Stadium. In May 2020 Council approved for a feasibility study to be undertaken to investigate redevelopment options for an expanded basketball and gymnastics facility at Bardia Avenue, Seaford;
2. Notes that in 2018, Council advocated for the development of a Regional Tennis and Gymnastics Centre at Centenary Park with a pledge of \$11.5M towards its construction. This project did not receive the necessary additional funding from the State and Federal governments and did not proceed. In 2020 Bayside Gymnastics Club was identified by Council as a priority tenant in the re-purposing of Linen House, however subsequent investigations determined that it was not possible to include them due to the physical limitations associated with the infrastructure at the site;
3. Notes that at its meeting on the 15 November 2021, Council unanimously endorsed the Frankston Indoor Gymnastics and Basketball Feasibility Study that recommended an eight (8) basketball court stadium, incorporating a dedicated community gymnastics hall with a nominal floor area of 1,000 square metres (m²). At the time of endorsement, the total estimated project cost was \$45 million, with the assumption that the project be built in one (1) stage and that construction commenced in the financial year 2024/25 (given changed market conditions, the costing for this design revised in May 2023 was \$53.5M);
4. Notes that following further engagement with project stakeholders, a revised scope (SK05) was developed that increases the basketball court provision from eight (8) to ten (10). (See Attachment A). This scope expansion, coupled with significant market changes occurring within the construction sector resulted in the estimated cost of construction increasing to \$60 million;
5. Notes that the State and Federal governments along with Council have committed \$15 million respectively (a total \$45 million) to the project, and that the State Government contribution is for the basketball expansion only. Council have been advised no additional funds will be available from the State and Federal governments and therefore if Council is to proceed with the revised \$60 million project, the \$15 million shortfall would need to be borne by Council;

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

6. Notes that the Frankston District Basketball Association (FDBA) have stated they are unable to commit funds towards the capital project cost;
7. Notes that Bayside Gymnastics Club has notionally committed \$50K-\$70K towards the capital project costs associated with the purchase of gymnastics equipment;
8. Notes that key project stakeholders including the Frankston and District Basketball Association and the Bayside Gymnastics Club have confirmed their support to proceed with the 10-court Frankston Basketball and Gymnastics Stadium concept (SK05).
9. Approves the revised Frankston Basketball and Gymnastics Stadium concept marked SK05 as per Attachment A, for a ten (10) basketball court and a community standard gymnastics facility and approves commencement of design development this financial year 2023/24 and progress to tendering to the construction market in early 2025 and if practical sooner (noting the release of tender is subject to the successful completion of lease/licence and service agreements);
10. Commits additional funding of \$15M to the project in 2026/27 on the basis of the funding strategy outlined in this report, which will be included in the next review of the Long-Term Infrastructure Plan & Financial Plan;
11. Supports future exploration of cost management options and acknowledges such options will be refined and considered during the next design phase; and
12. Notes that the current basketball stadium is subject to a lease agreement between Council and Frankston District Basketball Association (FDBA) that expires in June 2026. Officers will commence with the development of appropriate occupancy agreement(s), noting that the FDBA will be required to surrender their current lease to allow construction of the new stadium.

Key Points / Issues

- At its meeting on the 11 May 2020, Council noted the opportunity for a gymnastics facility at the current site of the Frankston and District Basketball Association (FDBA) Centre, and approved undertaking a high-level feasibility study of the site with the stakeholders at an estimated cost of \$50,000 (funded from the \$250,000 included in the 2020/21 capital budget for the Belvedere Precinct Facility).
- At its meeting on the 15 November 2021, Council unanimously endorsed the Frankston Indoor Gymnastics and Basketball Feasibility Study, along with the flagship advocacy priorities for the 2022 Federal and State elections. It recommended an eight (8) basketball court stadium, incorporating a dedicated community gymnastics hall with a nominal floor area of 1,000 square metres (m²). At the time of endorsement, the total estimated project cost was \$45 million, with the assumption that the project be built in one (1) stage and that construction commenced in the financial year 2024/25.
- Equal funding contributions of \$15 million was sought from State and Federal Candidates, and were confirmed throughout the 2022 election cycle.
- There was a strong preference from State and Federal local members for additional basketball courts to be provided beyond the original project scope.

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

- Subsequent investigations have been undertaken by Council Officers to determine the viability and cost implications of alternative concepts.

Redevelopment Considerations

- Floor plans, site investigations and cost estimates were undertaken for 12 different alternate concepts to determine the most cost effective and suitable response.
- The concept option identified as best meeting cost effectiveness, site suitability, balancing stakeholder requirements and offering maximum community value is a 10 x basketball court and gymnastic hall facility redevelopment, referred as SK05 (see Attachment D for architectural concept design review) with an estimated project cost of \$60 million.
- This concept expands the original feasibility concept from eight courts to a total of 10 courts suitable for competition (of which 6 will be fully new / rebuilt courts), and a 1,000 m² gymnastics hall (community standard) within the design.
- It is recognised that the expansion to a 10-court facility presents some challenges given the physical constraints of the site. However the advice received from the expert consultants to date is that although the SK05 is making maximum use of the space capacity at the site, it can achieve compliance with the various construction requirements such as traffic/parking provisions and compliance with fire-management obligations (provision of fire walls etc). It will not impinge on the Kananook Reserve Oval, and will be complemented by the commuter car park under construction on the adjoining site. If approved, the next phase of detailed design will address these matters further.
- Both the Frankston District Basketball Association (FDBA) (see Attachment B) and the Bayside Gymnastics Club (BGC) (see Attachment C) have provided written responses regarding the revised plan marked SK05. Having being considered by their respective boards/committees, both FDBA and BCG have confirmed that the plan marked SK05 is supported for the facility's redevelopment.
- Quantity Surveyors have developed indicative capital cost estimates for the redevelopment option.

Options Explored

As part of several options explored, a basketball only facility was investigated to curtail costs. This had some interest from FDBA, who want to see the site maximised for basketball only. The basketball only venue was estimated to cost \$49 million.

However the disadvantages associated with excluding gymnastics from the development, include:

- Council would need to instead consider other options for the provision of a fit for purpose gymnastics facility. A stand-alone gymnastics facility at an alternative location is estimated to be at least double the cost of incorporating their facility within the combined stadium complex (this does not include any land purchasing considerations).
- Council has been working since 2018 with Bayside Gymnastics on establishing a purpose-built gymnastics facility within the municipality with multiple 'false starts'. This would further delay the provision of facilities for this sport and club.

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

- There is a reputational risk for Council in rescinding a 2021 Council decision to incorporate gymnastics within this project at this late stage.
- This solution would not remove the need for FDDB's reliance on other satellite locations for their basketball programs. The use of other school and community courts is a standard operational model within the industry that is considered a positive symbiotic relationship that supports maximising use and value from community infrastructure and improving local access to the sport.
- Both Council's and the Federal Government's funding commitment that was announced to the public included provision of a gymnastics facility.
- Bayside Gymnastics would be required to remain operating in its current location for the foreseeable future which imposes a range of diminished outcomes for the club, the sport and the community such as:
 - Poor existing facilities impeding speciality equipment provision (sprung floor and floor pits) that limit programming and athlete pathway opportunities.
 - Inability to host inter-club competition events and can only provide limited internal competitions.
 - Local community members particularly women and girls participating in gymnastics, will either have to train in sub-standard facilities or travel long distances.
- Feasibility investigations indicate that facilities which are designed and operated to be 'multi-use' are generally operated at higher levels of usage capacity and have greater financial performance than single sport/specialist facilities.
- Provision of multi-purpose facilities is advocated for by Sport and Recreation Victoria and is preferred by Council's Asset Management Policy given that it enables greater asset utilisation, provides a greater level of service to the community, and results in better lifecycle costings for Council.

Officers have progressed the project planning to date on the basis of Council's existing resolved position to deliver a combined basketball and gymnastics facility. Given the disadvantages associated with excluding gymnastics from the development, this has not been recommended.

Financial Impact

A funding strategy has been developed by officers and was presented to Councillors at a Briefing on 17 July 2023. The funding strategy was predicated on the preferred concept option for a ten (10) court basketball facility, with gymnastics also incorporated into the redeveloped facility.

To accommodate the preferred option, an additional \$15M would be required for construction in 2026/27 to increase the total project budget from \$45M to \$60M in the Long-Term Infrastructure Plan (LTIP), adopted by Council at its Council Meeting on 12 December 2022.

To maintain Council's long-term financial sustainability, officers recommend funding the budget shortfall via a combination of borrowings and rate funding derived from re-prioritisation of the LTIP.

Accordingly, additional funding of \$15M has been earmarked to the project in 2026/27 of the draft LTIP, comprising \$6M in additional borrowings (within existing 10 year loan borrowing strategy) and \$9M of rate funding derived from the rebalanced LTIP.

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment

Executive Summary

As a result, the following table details the more significant budget adjustments required to be processed in the draft LTIP subject to annual review:

Project Title	Amount (\$'000)	Scheduled Year	Revised Year
Projects scheduled for 2026/27			
Baxter Park, Frankston South Master Plan Implementation	1,000	26/27	25/26
George Pentland Botanic Gardens Master Plan Implementation	800	26/27	25/26
Street Light Renewal Program on Minor Roads	300	26/27	25/26
Frankston South Drainage Strategy - Drainage Upgrade - Cooinda Catchment Stage 2	850	26/27	25/26
Frankston South Drainage Strategy - Drainage Upgrade - Cooinda Catchment Stage 3	850	26/27	29/30
Local Area Traffic Management - Nepean Precinct	460 238	26/27 27/28	28/29 29/30
Local Area Traffic Management - Skye Precinct	400	26/27	25/26
Belvedere Tennis Club Redevelopment of courts 1, 2-5, fencing & universal access	650	26/27	25/26
Croquet Club Infrastructure	700	26/27	28/29
Frankston South Drainage Strategy - Drainage Upgrade - Cooinda Catchment Stage 5	50 550	26/27 27/28	27/28 28/29
Projects scheduled in other LTIP financial years			
Street Lighting Efficiency Upgrade on Major Roads	900	25/26	27/28
Yamala Tennis Club - construction of multipurpose pavilion (modular design)	1,850	27/28	31/32
Archery Club Infrastructure	650	27/28	31/32
Lighting and synthetic greens for Lawn Bowls	650	27/28	29/30

Significantly, the changes tabled above are not exclusively deferrals of projects and project funding. Opportunities to bring projects forward in the LTIP have arisen through additional grant funding announcements that have transpired since the adoption of the LTIP on 12 December 2022.

Some major projects have been expedited and brought forward in the forward schedule of the LTIP, including upgrades to Baxter Park and George Pentland Botanical Gardens, drainage improvements in Frankston South and Council's LED street lighting conversion program.

Conversely, some major project expenditure has been re-profiled in the LTIP to latter financial years. These changes have been processed to accommodate the additional funding required in 2026/27 for the Frankston Basketball and Gymnastics Centre but are still anticipated to be delivered in the current 10 Year Plan.

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment
Executive Summary**Consultation****1. External Stakeholders**

Please note the following external stakeholders have been consulted regarding the revised Frankston Basketball and Gymnastics Stadium scope:

- Frankston District Basketball Association;
- Bayside Gymnastics Club;
- Sport and Recreation Victoria (SRV);
- Paul Edbrooke MP
- Peta Murphy MP

The key stakeholders support in principle the revised 10-court basketball and gymnastics design marked SK05 (refer to Attachments B and C).

Following Council's approval of a preferred concept and associated funding requirements, work will commence with funding partners and SRV to enable the project to progress to Detailed Design.

More broadly, in addition to the above stakeholders, the following groups were consulted during the development of the Frankston Indoor Gymnastics and Basketball Feasibility Study:

- Basketball Victoria
- National Basketball League
- Gymnastics Victoria
- Disability Sport and Recreation

Community Consultation and Advocacy

- The Frankston Basketball Stadium redevelopment as a basketball and gymnastics facility has had strong community support, with 73% of responses to Council's Draft Advocacy Priorities being recorded as satisfied or very satisfied with the project listing.
- The community has asked for increased basketball facilities and improved recreational facilities for all ages, abilities and interests throughout the Council Plan and Community Plan development.
- 21% of respondents identified access to sport, recreation facilities and open space as a community priority in response to the Community Vision 2040.
- Feedback from the community has also been received through the Community Vision, Council Plan and Advocacy Priorities Identification process.

2. Other Stakeholders

- Open Space
- Urban Design & Planning
- Capital Works
- Sustainable Assets
- Building & Facilities
- Engineering Services

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

- Statutory Planning
- Strategic Planning
- Commercial Services

Analysis (Environmental / Economic / Social Implications)**Social Impacts**

- This redevelopment will meet the needs of growing basketball and gymnastics participation that is higher than the State participation rate average and is being fuelled by a young, active and growing population.
- The existing indoor sports stadium in Frankston is at capacity and is now showing its age. The existing Frankston Basketball Stadium is near full capacity during peak operating hours for indoor courts and the Frankston and District Basketball Association (FDBA) competitions. The stadium doesn't provide for the contemporary sport industry design standards.
- The additional courts will consolidate more courts at the one site as preferred by the FDBA reducing some reliance on satellite court use for both programming and financial sustainability.
- BGC currently operate from a short-term arrangement on school land in a surplus school hall that is not fit for purpose and does not support the growth of programming or participant development pathways.
- The construction of a purpose-built facility for the Bayside Gymnastics Club (BGC) will provide secure tenure for the club and support the growth of its programs and participation. The provision of new purpose-built gymnastic facilities in other areas such as in Mornington and Casey has consistently demonstrated growth in participation rates of between 34% and 56% within 2 years of opening. Gymnastics is the third highest participation sport in Australia for children aged under 14 years (following swimming and soccer - Ausplay)
- Bayside Gymnastics anticipates that a larger facility will enable them to provide gymnastics classes 6 to 7 days a week with 10 classes running per day. This will provide classes for up to 1,000 members. A venue of this size would increase full time and part time employment opportunities for administration and coaching staff from 12 to over 25, and allow for the clubs expanded program offerings.
- This development builds on the suite of major sporting facilities in Frankston that enables high quality, diverse, multi-use and flexible participation options and that underpin an active Frankston community and a desirable place to live. This stadium will compliment Frankston's other regional facilities, such as Jubilee Park Stadium, Peninsula Aquatic Recreation Reserve and Frankston Park and ensure Frankston remains a destination City.
- The stadium will provide for an annual average visitation of 312,640, servicing the growing population in the local / regional catchment area. It will be used for competitive team sports and training, school programs and a range of fitness and recreational programs.
- Secondary "intangible" benefits including health benefits, productivity benefits, human capital uplift and criminal and social benefits have also been measured. These benefits, measure the reduction in negative effects of poor health,

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

productivity and effects of crime. Secondary benefits are estimates at \$20.745M in year one (1) of operations to \$22.227M in year ten (10) of operations.

- There are several additional social and productivity benefits, including:
 - Lower workforce absentee rates from a fitter and more active workforce;
 - Career and training opportunities in the sports and recreational services; and
 - Volunteering benefits and urban consolidation benefits (including transport benefits) associated with the clustering of sports facilities in proximity to community services, schools, and major residential and activity centres.

Economic Impacts

- Economic modelling for the project shows that a total of 331 jobs (131 direct jobs and 135 indirect jobs) are estimated to be generated during the construction period for a \$60M redevelopment.
- From a direct increase in output of \$60 million the corresponding increase in direct value-added is estimated at \$17.806 million. From this direct expansion in the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in a further increase to value-added of \$17.496 million. This represents a Type 1 Value-added multiplier of 1.983.
- The increase in direct and indirect output and the corresponding boost to jobs in the economy are expected to result in an increase in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are expected to further boost value added by \$9.916 million. Total value-added, including all direct, supply-chain and consumption effects is estimated to increase by up to \$45.217 million. This represents a Type 2 Value-added multiplier of 2.540.
- Drawn from the Frankston Indoor Gymnastics and Basketball Feasibility Study and based on an 8 sports court and gymnastic facility, the operation of the stadium is anticipated to generate a total of 7.14 full time equivalent jobs during operations. This does not include jobs in businesses using the stadium for the delivery of exercise or recreation programs (e.g. personal trainers and instructors). The new facility and continued population expansions will see a growth in these programs and an increase in employment in these external businesses. These numbers would increase with the addition of two courts (total of 10).
- The total increase in regional income generated annually by the operation of the stadium and users/day visitor spending totals \$0.552 million during operations. This is anticipated to increase further with the inclusion of a further two courts.

Legal / Policy / Council Plan Impact**Charter of Human Rights and Responsibilities**

All matters relevant to the Charter of Human Rights and Responsibilities have been considered in the preparation of this report and are consistent with the standards set by the Charter.

12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**Legal

There are no legal implications with this report.

Policy Impacts

There are no policy impacts with this report.

Officer's Declaration of Interests

Council officers involved in the preparation of this report have no Conflict of Interest in this matter.

Risk Mitigation

Technical advice from secondary design consultants as relevant to the proposed redevelopment and project site has been sought to support the review and help inform building opportunities. Such assessments included:

- Quantity Surveyor (QS) costings
- Independent QS peer review
- Fire Engineers advice
- Building Surveyors advice
- Traffic Engineers impact assessment
- Planning advice
- Sports floor condition report

Kananook Reserve is important open space for the local community and is noted within the Frankston City Open Space Strategy as a destination space for the surrounding community. Whilst the revised concept attempts to minimise disruption to the open space amenities, the loss of the Kananook Reserve Junior Pavilion is inevitable given the stadiums expanded footprint, however this building does not have a regular user group.

Furthermore, whilst the Frankston Basketball and Gymnastics Stadium Redevelopment was identified as a priority project through community feedback throughout August 2020 to June 2021, local residents and local community groups are yet to be informed about the proposed expansion to the stadium's footprint and the extent of car parking. This can be addressed in the next design phase.

It should be noted that Council through the support of a \$22 million Federal grant is currently constructing a 320+ space multi-level commuter car park at 39 Wells Road adjacent the existing basketball stadium & adjacent Kananook Reserve. To meet the increased car parking demand this car park will be available for free on weekdays for commuters using nearby railway and bus public transport routes and then could be available for stadium users to park after weekday peak commuter parking and predominately available weekends during peak stadium utilisation. This car park facility is due for completion in mid-2024.

Safer accessibility to the stadium and multilevel car park from Wells Road will be improved with the installation of traffic signals at the Bardia Avenue intersection. This will further aid the expanded stadium to cater for the projected increased traffic movements and car parking demands.

Conclusion

The Frankston Indoor Gymnastics and Basketball Feasibility Study was endorsed by Council in November 2021.

The original concept plan from the feasibility study that incorporates infrastructure provision for basketball and gymnastics, has since been expanded to include a further

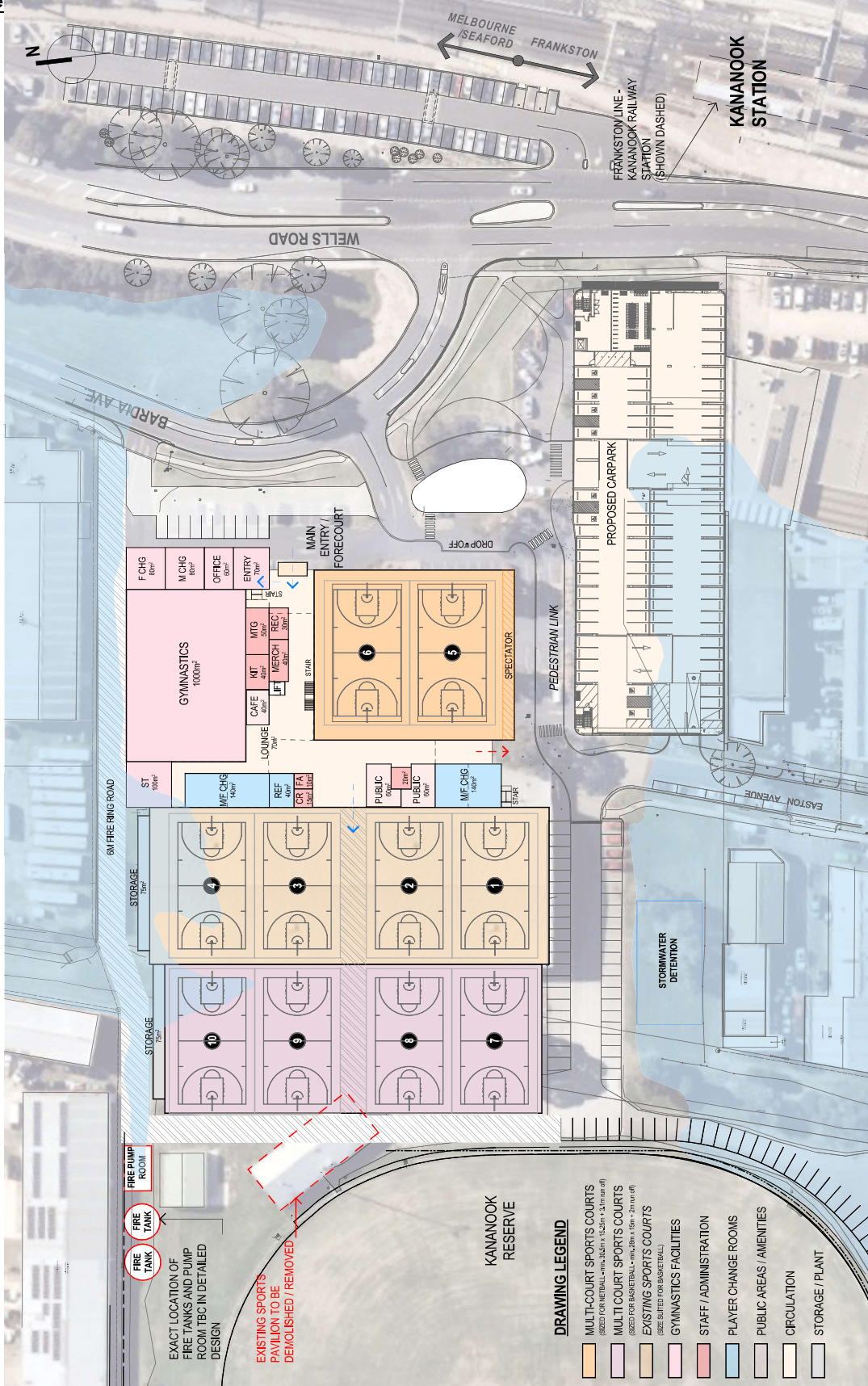
12.6 Frankston Basketball & Gymnastics Stadium Redevelopment**Executive Summary**

two (2) basketball courts, totalling ten (10) courts. Support is now sought from Council to approve the revised concept and the additional funding allocation of \$15 million that is required (as per the funding strategy outlined) in order to proceed with detailed design.

ATTACHMENTS

- Attachment A: [↓](#) Basketball and Gymnastics Concept Plan (SK05)
- Attachment B: [↓](#) Frankston District Basketball Association - response to Concept Option SK05 (10 courts + Gymnastics)
- Attachment C: [↓](#) Bayside Gymnastics Club - response to Concept Option SK05 (10 courts + Gymnastics)
- Attachment D: [↓](#) Basketball and Gymnastics Architectural Concept Design Review (SK05)

Basketball and Gymnastics Concept Plan (SK05)



Frankston Basketball & Gymnastics Stadium

Redevelopment Options Study
OPTION 1
Preferred Stadium Concept - 10 Courts

Client: Frankston City Council
Scale: 1:750
30/08/2023
Rev R

SK05(i)

email@hbarch.com.au

HB architecture & planning

Except as allowed under copyright act, no part of this drawing may be reproduced or otherwise dealt with without written permission of HB Arch.

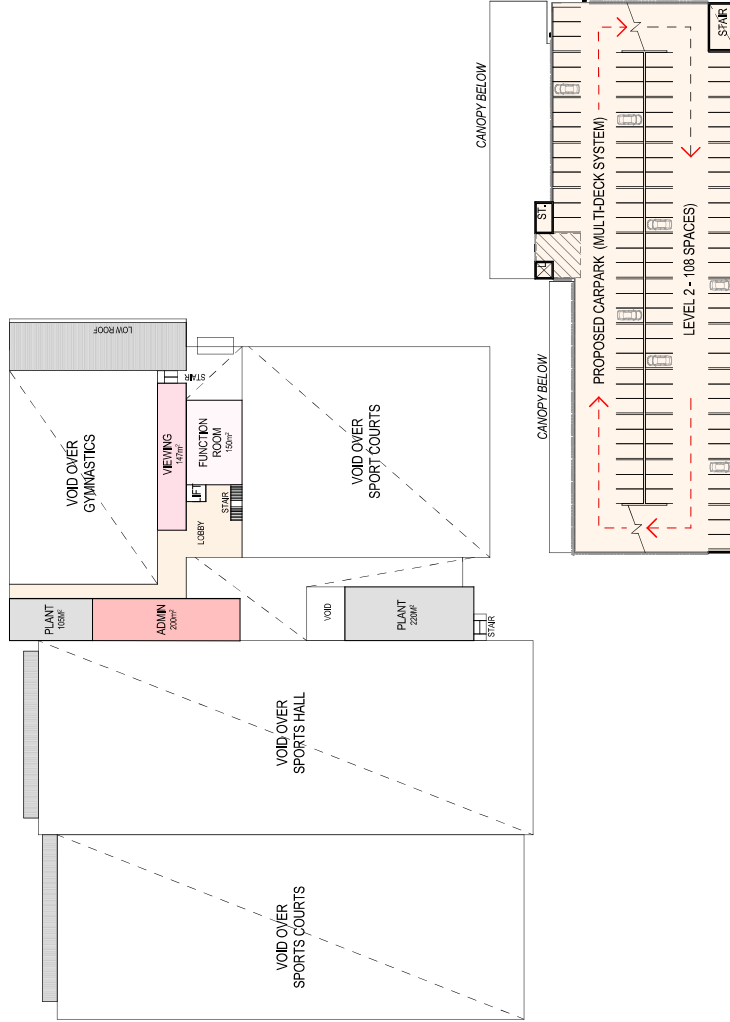
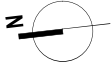
DRAWING LEGEND

- MULTI-COURT SPORTS COURTS
(SIZED FOR NETBALL - 15.25m x 15.25m - 1.4m net off)
- MULTI-COURT SPORTS COURTS
(SIZED FOR BASKETBALL - 15m x 28m - 1.5m - 2.1m net off)
- EXISTING SPORTS COURTS
(SIZED FOR BASKETBALL)
- GYMNASISTICS FACILITIES
- STAFF / ADMINISTRATION
- PLAYER CHANGE ROOMS
- PUBLIC AREAS / AMENITIES
- CIRCULATION
- STORAGE / PLANT

EXACT LOCATION OF
FIRE TANKS AND PUMP
ROOM TBC IN DETAILED
DESIGN

EXISTING SPORTS
PAVILION TO BE
DEMOLISHED / REMOVED

KANAPOOK
RESERVE



DRAWING LEGEND

- MULTI-COURT SPORTS COURTS
(SIZED FOR NETBALL - 40m x 20m x 1.50m + 1.4m net off)
- MULTI-COURT SPORTS COURTS
(SIZED FOR BASKETBALL - 28m x 15m x 2.0m net off)
- EXISTING SPORTS COURTS
(SIZED FOR BASKETBALL)
- GYMNASISTICS FACILITIES
- STAFF / ADMINISTRATION
- PLAYER CHANGE ROOMS
- PUBLIC AREAS / AMENITIES
- CIRCULATION
- STORAGE / PLANT



HB Arch architecture & planning
 Except as allowed under copyright act, no part of this drawing
 may be reproduced or otherwise dealt with without written
 permission of HB Arch.

Frankston Basketball & Gymnastics Stadium

Redevelopment Options Study
OPTION 1
 Preferred Stadium Concept - 10 Courts - Upper Floor

Client
 Scale
 30/08/2023

Frankston City Council
 1:750
 Rev R

SK05(ii)

email@hbarch.com.au



30TH June 2023

Angela Hughes
Director Communities
Frankston City Council

Dear Angela,

Thank you so very much to you and your team for providing such a comprehensive update on the development plans for the Frankston Basketball stadium.

The FDBA Board met formally on the 29th of June 2023 with the information that you have provided forming the basis of the discussion with the development being the only agenda item.

We wish to respectfully offer you the following regarding our feedback on the Basketball stadium development.

In summary, it has always been our preferred option to have as many additional basketball courts built as possible, along with a refurbishment of the exterior, entrance, and amenities, particularly the bathrooms.

1. The option depicted by the Alternate Stadium Concept – 8 courts SK6(i) is not supported by the FDBA as it does not provide enough additional basketball courts to accommodate our ever-growing basketball participation.
2. The option depicted by the Alternate Stadium Concept – 10 courts (SK5(i)) is our preferred option as it provides the FDBA with 6 additional courts built once existing courts 5 & 6 are demolished. Whilst it is our preference for the facility to remain a basketball-specific complex, we do understand the council's desire to incorporate the Bayside Gymnastics Club into the development.
3. We also accept that the facility requires to be brought up to the many building standards and additionally and importantly meet the expectations of the end users. On reflection and in discussion amongst the Board at length the FDBA Board supports the plan illustrated in SK5 (i) in its entirety and considers all components of the plan to be essential.

FDBA Contribution

Angela, you asked the FDBA to consider what our contribution could be to the overall project, and we have the following to offer at this early stage.

By way of background, the FDBA had been saving to ensure a contribution to the redevelopment pre Covid but throughout Covid 2020 and 2021 and being one of the last sports to be able to reactivate as it is played inside, we have suffered a considerable negative impact to our reserves (savings). The Board took the responsible step of supporting its staff throughout Covid even though revenue had dried up across all streams. Whilst we will be forever indebted to the Frankston Council for waiving the lease payments for a period throughout Covid there were other fixed costs associated with managing the building that we could not renegotiate.

As part of the FDDB Board's risk management strategy, particularly with our experience through the pandemic our Board unanimously committed to maintaining a minimum level of \$1 million in cash reserves for any future unforeseen circumstances.

Our preferred method of contribution would be to respectfully suggest the FDDB be responsible for ensuring the member's experience meets their expectations. Investing in items relating to the operation of the sport and associated operations would be our suggested way of contributing.

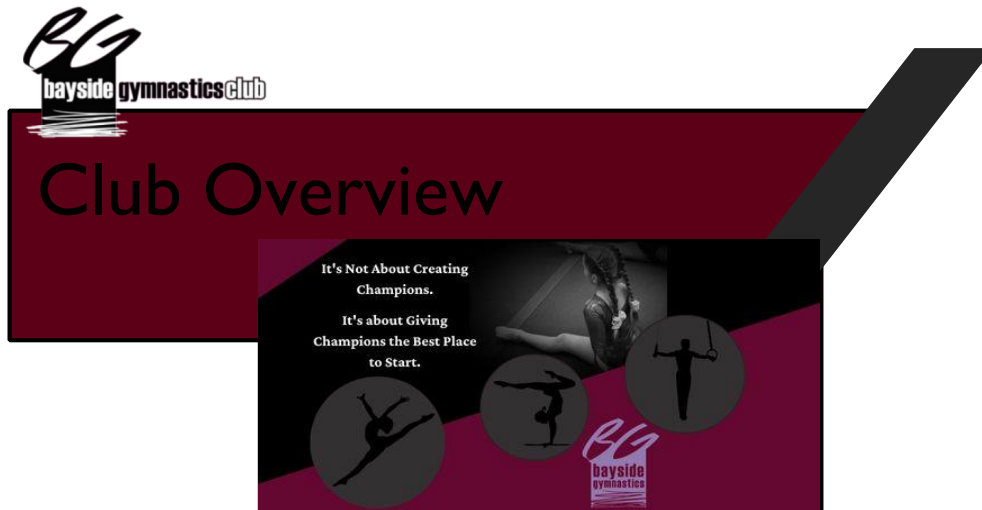
Whilst not asked to provide feedback on the future lease and understandably the future lease will be dealt with in due course, we would however like to suggest that a scaled lease amount be agreed to, particularly in the building stage which will have a significant impact on our financial resources due to the impact on revenue.

Yours sincerely

Wayne Holdsworth

FDDB

Chief Executive Officer



Executive Summary

Bayside Gymnastics Club Inc. is a Not-for-Profit recreational sporting club currently operating from a surplus hall at Monterey Secondary College (MSC). Previously operating as a set up/pack down gymnastics club from a primary school shared facility, Bayside was offered use of the college's aged hall pending Frankston City Council's advocacy for state and federal funding for a much-needed dedicated gymnastics facility for Frankston.

Following a 13-month forced operational shut-down due to the Covid-19 pandemic response, the club relaunched 3 days/week at MSC in April 2021, with a total 82 members, down from a 200+ membership pre-covid, its lowest since its founding years. Indoor recreational sports were amongst the first organisations impacted by Covid-19 restrictions and the last to have restrictions lifted. Gymnastics member families eager to return their children to normality, moved to activities & sports opening up under lifting restrictions, resulting in an average loss of 50% membership numbers across all gymnastic clubs. Further complicating matters for Bayside Gymnastics Club, were the additional layers of restrictions which applied to organisations operating from, and sharing use of, school facilities. When the club finally opened, it did so with its lowest membership numbers since the club's foundation.

Fast forward to May 2023, membership numbers have returned to pre-covid levels, trial bookings remain strong and membership conversion rates sit above 75%. The club runs an average of 2 Sporting School Sessions per term.

Club Personnel

2023 Committee of Management

President: Joyce Stocker

Vice President: Emily Bauer-Jones

Secretary: Priscilla Martorella

Treasurer: Vacant

General Committee: Joan Morgan

Admin Staff

Membership Services/Reception

Accounts Officer

Coaching Staff

Head Coach

Coaches

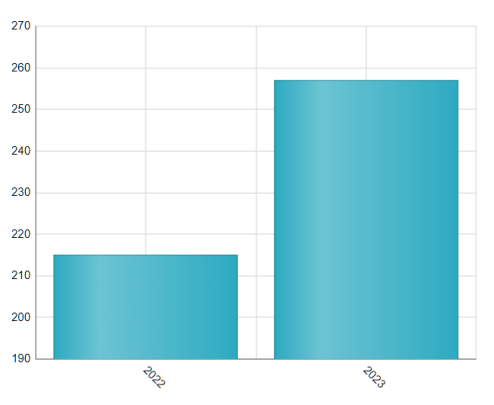


Club Statistics

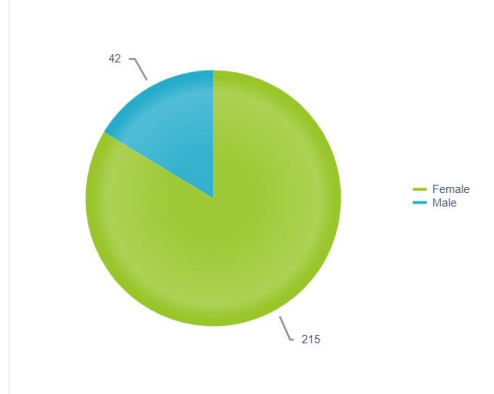
2023 Registered Athletes
257
 Athletes

2022 Registered Athletes
215
 Athletes

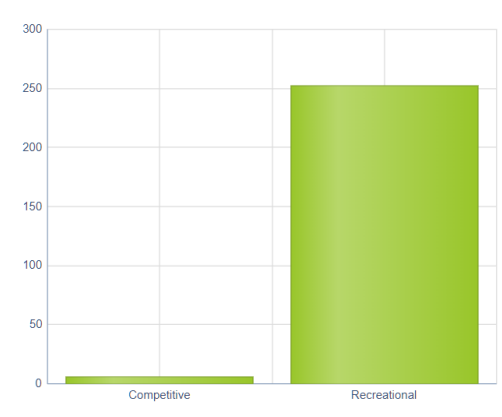
Current Year vs Previous Year Athlete Registrations



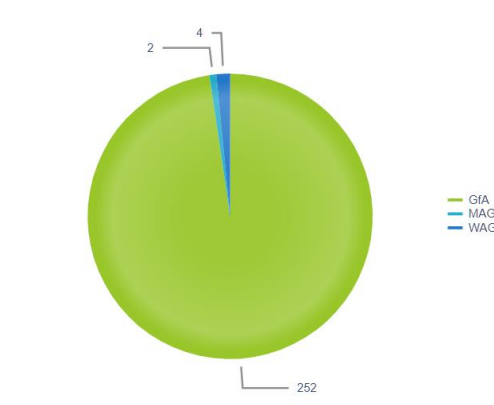
Current Athlete Gender

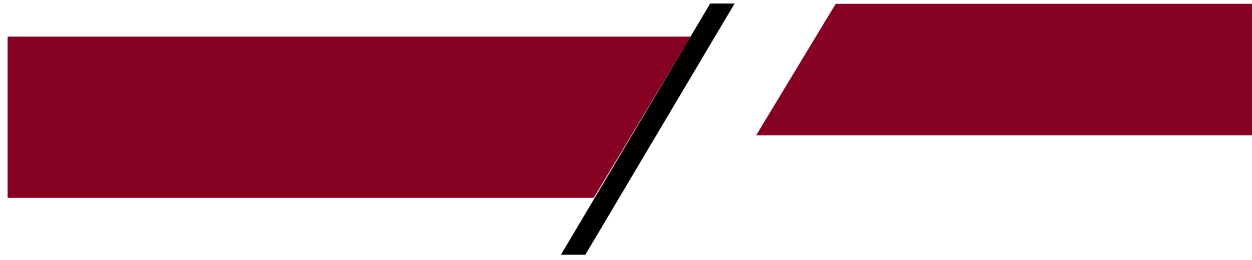


Recreational vs Competitive Gymnsport Statistics



Current Athlete Gymnsports





Frankston Basketball Stadium Redevelopment

Revised Concept Designs

In light of state government's stance requiring its funding be specifically directed towards the portion of the stadium redevelopment designated for basketball use, including a reworking of council's original advocacy project scope from 8 basketball courts plus a gymnastics hall, to 10 basketball courts, Bayside acknowledges the additional pressures being placed on council to meet its commitment to Bayside and the sport of gymnastics in supporting the growth of the sport via a council owned dedicated facility. After reviewing the two concept plans, Bayside does not believe that the revised concept disadvantages the desired outcomes for our members and more importantly, the needs of the sport of gymnastics. Although we anticipate additional difficulties in hosting competition events, the concept plans as is proposed for the gymnastics hall and supporting amenities is preferred over the alternate option of being removed from the redevelopment entirely.

Facility Funding Contributions

In preparation for a move into a dedicated facility, Bayside Gymnastics Club earmarked all fundraising efforts for the purpose of contributing towards the fit out of equipment. Maintaining pilot light operations during the period of Covid-19 shut-downs, combined with the club's decision to part subsidise expenses during the first 12-month period following the re-launch in support of maintaining pre-covid membership fees, has eaten into set-aside equipment contribution funds. Depending on the delivery time of a new facility, the club expects to be able to contribute an amount in the order of \$50,000 - \$70,000. Yet to be agreed with Frankston City Council is which component of the project these funds will contribute. As has been the Club's expressed wish with each project in the past, the preference for use of Bayside's financial contribution would be towards the equipment fit out of the gymnastics hall. With additional costs being created as a result of the state government's position, which clearly displays non-support of the sport of gymnastics, it is our position that whatever financial contribution our club is able to make, small as it, should be of direct benefit to gymnastics.

Lease Considerations

Regarding the rental model for the Frankston Basketball Stadium Redevelopment, Bayside Gymnastics Club has not received a lease fee proposal for this specific project other than a management model, and has held limited lease fee discussions with respect to the failed Tennis & Gymnastics Centenary Park Mark II project. Lease fee proposals were tentatively agreed for the Centenary Park Mark I (Golf, Golf Operations, Tennis & Gymnastics) project. This fee proposal was agreed in the context of

1. having grown membership numbers from 200 to 400+, within a space of 12months, following news that a dedicated gymnastics facility was proposed,

2. only 2 gymnastics clubs being available in the area extending from clubs in Cheltenham to Dandenong, across the Mornington Peninsula and outwards to a club in Mornington. In the time since then, there are an additional 4 clubs in the suburbs of Somerville, Hastings, Cranbourne & Patterson Lakes.

With both factors no longer applicable, coupled with the impact of the pandemic on the club's operations, initial membership growth rates are expected to be significantly lower than in 2015. This will impact the club's ability to fund lease fees comparable to that of the Centenary Park Mark I project fee model in the medium term.

We look forward to having further discussions regarding lease structure & fees. We would hope that in the short to medium term, fees would be considerate of the challenges the club has faced in gaining access to a council facility and the impact that these challenges have had on the operations and viability of the club, but also with consideration to the fact that gymnastics as a sport has not sought or required the support of council facilities and ongoing council expenses until now.





Frankston Basketball Stadium Redevelopment Concept Design Review Option SK05

Bardia Avenue and Kananook Reserve – 90 Bardia Ave, Seaford VIC
Prepared by: HB Arch and secondary consultants
Proprietor: Frankston City Council
Date: AUG 2023
Issue: FINAL (Issue C)
Project No.: 2105



Table of Contents

1	Executive Summary.....	4
1.1	Executive Summary	4
1.2	Key Design decisions moving forward to inform Budget vs Scope	4
1.3	Concept Option Summary schedule	5
1.4	Design benefit	6
1.5	Key design risks to be addressed	6
1.6	Concept Recommendations – Option SK05	6
2	Concept Design Review.....	8
2.1	Key Design Principles - Overarching Facility Design Philosophy.....	8
2.2	Functionality.....	8
2.3	Accessibility	8
2.4	Permeability and connectivity.....	9
2.5	Vehicle, bicycle and pedestrian access, and Circulation.....	9
2.6	Environmental Sustainability	9
2.7	Material Performance and Lifecycle.....	9
3	Concept Design Review; Secondary Consultants	11
3.1	Secondary Consultant Review	11
3.2	Preliminary planning review and Advice – by Milner Planning Group	11
3.2.1	Zone and Overlays.....	11
3.2.2	Key site constraints and potential issues	11
3.2.3	Summary and next steps	12
3.3	Traffic and Car Parking review – Transport Impact Assessment by One Mile Grid Traffic Engineers	13
3.3.1	Peak parking demand	13
3.3.2	Parking provision for 10 court development – Option SK05	13
3.3.3	Traffic generation.....	14
3.4	Potential flooding related matters / considerations – high level summary by Engeny.....	14
3.4.1	SBO	14
3.4.2	Building levels	15
3.4.3	Flood plain storage	15
3.4.4	Site safety & access.....	15
3.5	BCA review – National Construction Code 2022 – by Philip Chun & Assoc	15
3.5.1	BCA Regulation 233.....	16
3.5.2	Fire resisting construction	16
3.5.3	Possible Fire Safety Engineering items:	16
3.6	Fire Safety Engineering Review – by JP Fire (Fire Engineers).....	16
3.6.1	Fire Compartments	16
3.6.2	Perimeter Access road	16
3.6.3	Egress	17
3.6.4	Fire Services (hydrants and sprinklers)	17



3.6.5	Smoke exhaust.....	17
3.7	Existing Building Review of Courts 1-4 – Structure by Creo Consulting (Structural Engineers)	17
3.8	Existing Building Review of Courts 1-4 – Sports floor by Nellakir (Sports Floor Contractor).....	18
4	Appendix 1 - Concept Design Option Plans – SK05 - Rev R.....	19
5	Appendix 2 - Traffic and Car Parking review – Transport Impact Assessment.....	20

© Copyright 2023 HB Arch Pty Ltd



1 Executive Summary

1.1 Executive Summary

HB Arch in consultation with Council's internal and external project stakeholders have undertaken a project Concept Design review process to consider several redevelopment options and the needs for the Frankston Basketball Stadium. Consideration has been given to the 'best fit' in terms of site and building redevelopment opportunities and constraints across several concept design options as directed by Council Officers including 8, 10 and 12 court options.

The review, which includes secondary consultant commentary as relevant to the proposed site and building redevelopment, also identifies key questions and decisions to be considered by Council in progressing to the next project phase and full schematic design.

Key Project Design Principles - to be considered in the Functional & technical Design Brief;

- a) Cost v Scope
- b) Functionality
- c) Accessibility
- d) Connectivity
- e) Sustainability
- f) Material performance and lifespan

1.2 Key Design decisions moving forward to inform Budget vs Scope

- a) 10 courts or 12 courts
 - Additional cost of two additional courts from 10 to 12.
 - Physical limitation of available site area and space – requiring fire walls to be used in lieu of 6m access road which in turn results in additional cost.
 - 12 courts have greater restriction on circulation and milling areas.
 - 12 courts have increased peak parking demand
- b) Basketball or Netball size courts
 - Physical limitation of available site area and space
 - Netball adding 2m width and 4m length compared to basketball
 - Functional demand
- c) Reuse (or not) of courts 1 – 4
 - Cost or retention compared to full replacement with all new
 - Retention and lifespan of 35-40 year old building components (refer secondary consultant review)
 - BCA Reg 233 compliance upgrade required if retained
- d) 6m access road or Fire walls
 - Increased cost of fire walls and sprinkler protection to openings in the fire wall.
 - Physical restriction on openings to fire walls including windows in courts
- e) Car parking – 10 v 12 courts
 - 12 courts results in higher peak demand numbers for parking – significantly beyond the number of spaces that can be provided. Requires consideration of adding an additional level of parking to the adjacent multi-deck car park.
 - 10 courts provide greater scope for more parking on site.
- f) Separate entries for Gymnastics and Court use, or single combined entry.
 - Flexibility and independent operation of separate entries.
 - More efficient staffing and control of building entry & security - one entry.



1.3 Concept Option Summary schedule

Option	SK05
Project Cost Estimate (mil)	\$59.98
No. of courts	10
Gymnastics	Included
Courts 1-4 ext	Retain
Court size	
1	B'ball
2	B'ball
3	B'ball
4	B'ball
5	Netball
6	Netball
7	B'ball
8	B'ball
9	B'ball
10	B'ball
Fire access road	yes
4.00pm	471 / 597
5.30pm	514 / 627
7.00pm	437 / 672
Central circ area – grd floor (m2)	730
Court circ (m2)	390
Functional Efficiency	High
Negative Impact to Kananook Reserve	Moderate Nth-east pavilion removed



1.4 Design benefit

Option	Design benefit to be enhanced with detailed design
SK05	Single Main entry addressing Bardia Ave Larger entry forecourt for user milling on arrival and leaving the site. Intuitive user experience from Arrival to circulation through the building. Gymnastics entry immediately adjacent to the Main Entry 10 court development creates less parking demand at a more balanced level for the site.

1.5 Key design risks to be addressed

Option	Risk	Mitigation
Common to all concept options	SBO – Flood overlay - Melbourne Water approval required for proposed building footprint within the flood water storage area to the north-west corner of the site.	Minimising the extent of the encroachment into the flood overall – consulting with Melbourne Water to reach acceptable proposal.
	Provision of adequate car parking numbers – both in terms of statutory planning approval and practical operation on site.	Project direction to reduce demand (no. of courts) – and/or increase no. of spaces to be supplied
	Fire Engineering – risk of obtaining FRV Reg 129 approval required for BCA non-compliances	Minimising the extent of the BCA non-compliances through full detailed design process – and provision of Fire Engineered solutions to offset
	Fire protection (sprinklers & hydrants)- cost of and site area required – adequate water mains pressure and flow to be confirmed.	Fire pumps and tanks to be provided if inadequate pressure and flow to existing water mains.
	Location of Fire pumps and tanks if required to consider impact upon existing site facilities	Possible location to north-west of site to consider avoiding the existing Rotary shed.
	Ground conditions - contamination and asbestos	Detailed design to consider high span floor structure and screw piles for less in ground excavation and soil removal.
SK05	Retention of existing structure and sports floor for courts 1-4 – cost of latent conditions and upgrade of building structure to meet BCA Reg 233 compliance	Detailed design to include early investigation of existing structure and structural capacity to meet current load requirements (earthquake)

1.6 Concept Recommendations – Option SK05

Option SK05 has been assessed by the Consultant team and Council Officers, and is recommended for Council's consideration for the site and building redevelopment.

Key reasons supporting Option SK05;

- a) Single Main building entry addressing Bardia Ave – common to all Sports Courts and Gymnastics users.



- b) Larger entry forecourt for user milling on arrival and leaving the site.
- c) Intuitive user experience from Arrival to circulation through the building.
- d) Gymnastics area entry immediately adjacent to the Main Entry.
- e) 10 indoor sports courts provides a net gain of 4 sports to the existing building, also includes a separate show-court area to accommodate for approximately 750-800 spectators as required for the NBL1 competition
- f) 10 court development creates a well-balanced site development in terms of car parking supply and demand both on-site and in to the nearby street parking.
- g) Utilising the existing building value of the steel structural wall and roof frame and sprung timber sports floor of existing courts 1-4 as nominated to be retained.
Noting the potential for the retention of the steel structural wall and roof frame and sprung timber sports floor of existing courts 5-6 remains an option to be investigated during detailed design.



2 Concept Design Review

2.1 Key Design Principles - Overarching Facility Design Philosophy

Contemporary Community Sports and Recreation Architecture with a considered and highly resolved approach to achieving the following high-level design aspirations;

- a) Considered Civic presence,
- b) Building addressing key community precincts and / or transport corridors leading to the building(s),
- c) To identify as a key Community Service Provider and Asset,
- d) Balance of distinctive imagery/identity and contextual referencing,
- e) Urban design creating the sense of arrival and a social hub,
- f) Functional efficiency and clarity,
- g) A balance of program spaces that not only provide for a diversity of user needs but also celebrate participation and delight users of all ages and backgrounds,
- h) 'Universal Design' accessibility and inclusion for all users of all abilities,
- i) Providing best practice access and user amenity for all users across a full range of impaired abilities,
- j) Provide sustainable and energy efficient initiatives integral to the building design and function, reducing the ecological impact of buildings and their consumption of energy through targeted design strategies and analysis,
- k) Long-term environmental and ecological sustainability,
- l) To acknowledge and recognise the First Nations Indigenous cultural heritage of the site and the contribution of First Nation Peoples to the site,
- m) Provide for the long-term feasibility and viability of the facility and the site through increased social and commercial opportunities and capacity to host sporting and social events and programs,
- n) Providing a welcoming inclusive and equitable environment that promotes greater participation in all aspects of the user programs and casual services offered,
- o) Quality of facilities and workplace for staff, participants, spectators and users in general.

All design options as proposed will be capable of achieving these principles as the preferred design progresses into full schematic and detailed design – these are provided as context in considering the Design Brief going forward into full Design and documentation.

2.2 Functionality

Facilities are to provide a full range of program functions, social spaces and spaces catering for and promoting increased use by all people in the community.

Diverse functionality makes the facility more financially sustainable but also ensures broad community needs are met through dedicated functions.

2.3 Accessibility

Facilities must be accessible to a wide range of users, including those with disabilities and impaired abilities (mobility, sight and hearing). Facility Users with disabilities may have permanent or short-term impairments (injuries), be participants, spectators and/or facility employees.

The Facilities must be designed and constructed to meet the spirit and intent of the Disability Discrimination Act (DDA) as the higher standard over the BCA and Australian Standards



AS1428 parts 1 to 4 inclusive. Provision for persons with disabilities shall not be less than as described in the Building Code of Australia (BCA).

Wherever possible the building should achieve best practice principles of Universal Design – equal access and amenity for all users regardless of an individual's ability.

The concept of Universal Design is to provide for the needs and requirements of all users regardless of their age, cultural background, mobility and physical and mental limitations and capacities.

The aim is not only meet the minimum standards of the relevant design codes but to exceed these minimums where these are socially and economically sustainable.

The design of new Facilities is also required to comply with the federal 'Access to Premises Code'. Provision for disability access must recognise that there are a wide range of different disabilities, ranging from numerous types of physical, intellectual, cognitive, visual, auditory and perceptual disabilities.

2.4 Permeability and connectivity

Contemporary public Sports and Recreation architecture is typically highly articulated with large areas of visual connectivity and transparency to the building edge – not only to maximise the benefits of natural daylight, but also to display and promote the activities within and draw more users into the building.

To connect the activity of the indoor active and social spaces with people and spaces outside the building and create active permeable edge to the building (noting the need for careful consideration to exclude direct sunlight from indoor sports court playing floor areas).

2.5 Vehicle, bicycle and pedestrian access, and Circulation

Analysis of site-specific transports options to minimize private vehicle use, promoting bicycle and pedestrian patronage through the investigation of transport, traffic, parking and access.

2.6 Environmental Sustainability

Environmentally sustainable design to be integral to the building fabric and operating systems to minimise energy and water consumption, minimise embodied energy in the building fabric, promote waste minimisation and material re-cycling.

Contemporary buildings are required to be designed in accordance with the minimum energy efficiency requirements under BCA NCC 2019 Volume 1. This includes efficient building sealing and material junctions and openings, and building fabric such as wall, roof, and floor insulation and glazing performance.

Indoor Sports Facilities are subject to significant summer heat loads and are required to maintain maximum indoor temperatures below limits that cause reduced playing time or suspend play completely due to health and safety risk of participants. Hence buildings are required to be constructed with well sealed and highly efficient building enclosure fabric in combination with efficient smart Ventilation and Conditioning systems.

2.7 Material Performance and Lifecycle

Subject to the provision of periodic maintenance where reasonable steps are taken to clean and service the buildings plant and equipment, interior and exterior finishes, operable parts, and



where reasonable wear and tear is controlled, the projected design life of the buildings materials, components and systems Design Life is typically as follows;

- Building structures – 50 years minimum
- External finishes – Applied finishes: 10-15 years (e.g. paint) - 15 years (e.g. acrylic render); Integral materials – 20 – 25 years
- Roof cladding – 15 – 25 years as per manufacturer's warranty
- Building services – design life of plant & infrastructure:
 - mechanical plant 15 – 25 years
 - electrical equipment 25 years
- Hydraulic pipe work – 50 years
- Floor surfaces:
 - Public areas – 20 years (e.g. stone, ceramic tile, polished concrete, carpet excluded).
 - Common areas – treatment, lockers, etc. (safety vinyl, rubber sports floor) – 5 - 8 years
 - Office / Meeting Rooms – 5 - 8 years (e.g. carpet)
 - Toilet amenities – 20+ years (e.g. ceramic tile)
 - Sports court floor – sprung in accord with standard FIBA requirement – 20+ years.
- Internal fit out (walls, partitions, joinery) – 20 years
- Kitchen / server joinery – 5-10 years (laminates) / 20+years (stainless steel).
- Plant & equipment for building service systems shall typically be 15 years, other than Sanitary at 20 years.



3 Concept Design Review; Secondary Consultants

3.1 Secondary Consultant Review

Review of the Concept Design options from secondary design consultants as relevant to the proposed redevelopment and project site has been sought to inform Council and the ongoing design development into full Schematic Design.

3.2 Preliminary planning review and Advice – by Milner Planning Group

3.2.1 Zone and Overlays

The existing site has a strategic location, nestled within Frankston's designated industrial area and forming part of an existing focus for open space and integrated sporting facilities with Kananook Reserve.

The site is principally included in the Public Park and Recreation Zone (PPRZ), but is also (partially) subject to the following zone and overlay provisions of the Frankston Planning Scheme:

Public Park and Recreation Zone (PPRZ);
Industrial 1 Zone (IN1Z);
Public Use Zone – Local government (PUZ6); and
Special Building Overlay (SBO).

In addition, the Site is located within an identified area of Aboriginal Cultural Heritage sensitivity.

3.2.2 Key site constraints and potential issues

To be understood and or resolved for the purpose of project feasibility relate to:

- h) The impact and acceptability of substantial development and buildings and works within the adjoining drainage reserve (RES1 on PS22224), noting that save for the construction of roads, the pattern of existing land use and development has significantly protected the reserve corridor to the north and the south of the Site relatively free from development.
- i) The views and requirements of the relevant authority(s) (Council and Melbourne Water) with respect to development in the Special Building Overlay and Flooding Interest Area, and any associated implications on a built form outcome and or site layout.
- j) The access, circulation and car parking considerations associated with the expanded use and development of the Site and its integrated use with the neighboring existing and proposed facilities, including the Kananook Reserve and the future multi-deck commuter car park.
- k) The protection and management of any relevant Aboriginal Cultural Heritage considerations present on the Site.
- l) The removal existing native vegetation.
- m) The implications of a landfill gas site assessment on the Site's future use and development, noting Council is understood to hold a recent assessment prepared via its Environmental Consultant.



The proposed redevelopment should be directed to protect and enhance the existing amenity, experience and safety of the adjoining open space, and appropriate setbacks, opportunities for landscaping and potentially an activated frontage and or integrated access should be provided to integrate the proposed development at the western interface and enhance passive surveillance of the adjoining public open space.

3.2.3 Summary and next steps

- a) As it applies to the approved multi deck car commuter car park at 39 Wells Road, Planning Permit no. 760/2022/P does not of itself contain any restriction on use by basketball stadium users, however, requires the preparation of a car park management plan (Conditions 1 and 30).
- b) Preliminary discussions with Frankston's statutory planning unit confirm that the proposed use and development would be likely to benefit from certain permit exemptions under the Public Park and Recreation Zone and Public Use Zone.
- c) Separate permit triggers and related considerations would however apply in relation to buildings and works in the Special Building Overlay, car parking, removal of native vegetation, and advertising signage.
- d) Given the proposed buildings and works will, in any scenario, trigger the requirement for approval under the SBO and that the Site is located within a Flooding Area of Interest, the views of the relevant authority (including Council and Melbourne Water) should be sought as appropriate and as a priority to inform project feasibility and detailed design.
- e) Advice about the acceptability of potential development within the Council owned drainage reserve (RES1 PS22224) should at the same time be sought as a matter of priority with potentially significant implications for project feasibility and the western extent of any proposed building envelope.
- f) Advice and confirmation should be sought regarding the requirement for a Cultural Heritage Management Plan (CHMP) to be prepared prior to any planning permission be issued, noting:
 - while parts of the Site have previously been extensively developed and potentially subject to 'significant ground disturbance', other parts of the Site, including the western portion / drainage reserve, do not appear to have been previously extensively disturbed; and
 - the preparation of a CHMP (if required) can be timely, hence early advice and understanding about a potential requirement should be prioritised.
- g) Arboricultural advice should be sought in relation to the existing trees and vegetation on the Site, including native vegetation, and the requirement for permits to remove and or protect trees impacted by future development.
- h) The landfill gas site assessment understood to be held by Council should be reviewed to understand any implications on the future use and development of the land.
- i) The final resolution and implementation of the draft industrial strategy and a Master Plan for Kananook Reserve should inform and influence the resolution of the land use and development concept, including with respect to the strategic objectives for the development of the Kananook industrial sub-precinct and integrated and well resolved land use and development of public facilities.
- j) Detailed preliminary feedback from Council should be sought via a preapplication meeting process, including about the concept design options and to confirm the optimal strategy for planning approval (i.e., an application pursuant to section 72 of the Act to amend the existing planning permit, or a fresh permit application).



3.3 Traffic and Car Parking review – Transport Impact Assessment by One Mile Grid Traffic Engineers

Refer full Assessment Report by One Mile Grid as appended to this report.
Traffic and parking volume has been assessed for the 10 court with gymnastics options, as well as so for a 12 court development option, based upon both projected user numbers and recent site use survey. 12 court option was not pursued further due to site constraints, costs and traffic and parking requirements.

Traffic enters the site from Bardia Ave and parking is a combination of existing on-site parking adjacent to the building, more broadly within Kananook Reserve and new parking within the proposed Multi-deck car park. To meet projected parking demand, supplementary parking provision is also available from;

- Kananook Station
- McCulloch Avenue and Easton Avenue on-street parking.
- Bardia Avenue on-street parking

Refer full Assessment Report by One Mile Grid as appended to this report.

3.3.1 Peak parking demand

Is expected to occur mid-week late afternoon and early evening when scheduled court use is high and coincides with the end of day train commuter parking.

Peak demand for the 10 courts is forecast at 471 spaces (4.00pm), 514 (5.30pm) and 437 (7.00pm).

3.3.2 Parking provision for 10 court development – Option SK05

Parking provisions for the 10 court facility, where parking supply meets or exceeds the demand, there are several approaches to consider in addressing the forecast shortfall on-site when considering on-site parking provision only;

- a) Utilising existing street parking to the south of the Stadium site (McCulloch Ave and Easter Ave) where the parking survey suggested 29-35 spaces to be available.
- b) Increased parking provision from the area South of the Kananook Reserve oval – 54 spaces.
- c) Bardia Ave street parking – 52 spaces.
- d) Spare capacity within Kananook Station parking adjacent to the site – 16-85 spaces.



Option SK05	4.00pm	5.30pm	7.00pm
Adj Bardi AVE - onsite at grade	10	10	10
Multi deck – incl. commuter	325	325	325
STH of building – onsite	43	43	43
Oval STH	68	68	68
Oval STH add	54	54	54
Kananook Station	16	44	85
McCulloch Ave / Eastern Ave	29	31	35
Bardia Ave	52	52	52
Total supply	597	627	672
10 court demand	471	514	437
Extra over supply	126	113	235

In consideration of both the on-site and additional street parking options the 10 court option(s) achieve an acceptable balance and excess of park supply that supports a flexible, functional and practical parking provision for the use of the site.

3.3.3 Traffic generation

Assessment of traffic to and from the site has concluded that whilst the 10 court options would ultimately be accommodated, queuing on the Bardia Avenue west leg of the Wells Road / Bardia Avenue intersection would be significant. Providing a short designated left turn lane out of Bardia Ave onto Wells Road would substantially improve operations of the intersection and reduce this problematic queuing and this is recommended to be included with forthcoming Intersection works.

3.4 Potential flooding related matters / considerations – high level summary by Engeny

Melbourne Water is the nominated floodplain management authority given the site is situated in an SBO. As such, the site triggers flooding related planning controls. Formal Melbourne Water pre-development advice will stipulate specific criteria / factors that will need to be met / factored in to gain Melbourne Water approval. This could take in excess of 3 months to obtain due to their existing workload.

3.4.1 SBO

The extent of the SBO across the site is limited to the north-west and south-west corner. We understand the south-west portion is within an existing Council drainage reserve which may be modified into a formalized storage to offset the storage lost due to the Kananook Carpark project nearby. We would assume this area is of less concern with respect to the re-development project.

Engeny is of the opinion the extent of SBO at the north-west corner is likely to be of more concern to the project.



3.4.2 Building levels

Melbourne Water is likely to nominate a 1 % AEP flood level whereby new buildings will be required to be built above this level with an allowance for 300 mm of freeboard (typical freeboard in an SBO based on our experience).

Engeny assume the existing courts impacted by the SBO are being retained at existing ground levels and therefore are unlikely to be subject to SBO planning controls. If existing buildings are being modified it is likely these would be subject to flooding controls also. It is considered highly likely any new courts / development would be subject to SBO planning controls.

Melbourne Water are typically most concerned with the following:

- a) Limiting increases in flood levels to the subject site (i.e. no increases in flood levels on neighboring properties).
- b) Ensuring existing flood storage on site is not compromised to the detriment of other properties
- c) Ensuring site safety & access in a flood event and directing users on site away from flood prone areas (in this case, areas of existing SBO)

Melbourne Water could request a detailed hydraulic modelling assessment to confirm impacts are limited to the subject site however, based on our experience, this could likely be avoided by proving loss of floodplain storage can be balanced by allowing provisions for floodwaters to store / be conveyed beneath the new court development (i.e. courts 9 & 10).

3.4.3 Flood plain storage

Engeny understands existing floodplain storage may be compromised by positioning of the new courts (i.e. 9 & 10) in the existing SBO extent. Provided they are constructed above the nominated 1 % AEP flood level (plus 300mm freeboard), managing / balancing existing flood storage could be achieved by allowing floodwaters to temporarily store beneath the new buildings (i.e. via grates or similar). We understand the site grades north from the north-west corner and so floodwaters would not be conveyed south.

3.4.4 Site safety & access

Engeny are of the opinion provision of a detailed Flood Risk Management Plan (FRMP) could be avoided however we note the following:

Users of the new courts / development may be able to exit via the existing courts or to the south of new courts (i.e. 9 & 10). In a flood event, users could not be evacuated north towards the area of existing SBO.

Evacuation of the new courts is likely to be on foot (instead of via vehicles) which can be directed by staff.

However, given the proposed re-development is increasing the numbers of people on a site already subject to flood risk Melbourne Water could view this as a trigger to implement a formal FRMP procedural document (due to the fact the population at risk would be increasing compared to the current situation on site).

3.5 BCA review – National Construction Code 2022 – by Philip Chun & Assoc

Primary classification is Class 9b Public Assembly, with Class 5 Office parts, to be used as a sporting venue.

Total spectator numbers less than 1,000 people.



3.5.1 **BCA Regulation 233**

Applies to existing building areas where retained requiring upgrade to meet NCC 2022 compliance with regard to structural adequacy, safety, health and amenity. Input on the regulation 233 may need to be provided from the structural engineer, services engineers, and fire safety engineer to assist with justification of any request for partial compliance.

3.5.2 **Fire resisting construction**

All options (without Fire walls) exceed Type A limits for floor area (10,800m²) and total volume (48,000m³) – hence the building is determined to be a 'Large Isolated Building' requiring sprinkler protection and 6m wide perimeter vehicle access road.

Options with fire walls are required to limit any one fire compartment to less than Type A limits for floor area (10,800m²) and total volume (48,000m³) and are required to achieve 2 hour (120mins) fire rating to the full extent of the wall including all openings through the fire wall (protected doors and windows).

3.5.3 **Possible Fire Safety Engineering items:**

- a) Large isolated buildings require sprinkler protection and perimeter vehicle access. Partial sprinkler protection of a large isolated building would be a performance solution and subject to FRV approval.
- b) Arrangement/Size of the fire compartments to reduce determination of construction type.
- c) Possible oversized volume of fire compartments due to the large roof height.
- d) Travel distances to exits.
- e) Number of required exits.
- f) Egress widths and discharge of exits.
- g) Exposure of openings between fire compartments

3.6 **Fire Safety Engineering Review – by JP Fire (Fire Engineers)**

All design options are considered to be feasible in terms of achieving building approval, however all options require a number of Performance Solutions and FRV Reg129 consents.

3.6.1 **Fire Compartments**

A single fire compartment (no fire walls) is determined to be a large isolated building (requiring sprinkler protection and perimeter access road), or alternatively multiple fire compartments separated with 2 hour fire walls (as noted above). Any fire compartment exceeding the Type A construction limit (as above) would require Building Surveyor approval of a Performance Solution (low to moderate risk of non-approval) and sprinkler to protection.

Fire walls typically are precast concrete walls with independent steel structures on both side of the precast concrete walls. The only openings allowed in a fire wall by the BCA provisions are for 2 hour fire doors. Any other openings such as glazing or openings protected by fire shutters and/or fire sprinklers would require a Performance Solution (low to moderate risk of non-approval).

3.6.2 **Perimeter Access road**

6m wide unobstructed road required for all options (without a fire wall) - variations to compliance with these requirements can only be approved via FRV Reg 129 consent (low to moderate risk) rather than via a Performance Solution.



3.6.3 Egress

For all options, due to the size of the building, a Performance Solutions will be required to allow the travel distance to an exit to exceed 40m, and to allow the distance between exits to exceed 60m.

3.6.4 Fire Services (hydrants and sprinklers)

FRV consent (moderate risk) required for any variations to BCA compliant fire services including as applicable to proposed options;

- a) Booster location
- b) Shortfalls in hydrant coverage
- c) Use of internal hydrants

Performance Solutions (moderate risk) are required to permit partial sprinkler protection with no sprinklers to sports courts (required to show court and gymnastics).

3.6.5 Smoke exhaust

Performance solutions (moderate risk) are required to permit partial smoke exhaust (required to show court and gymnastics).

3.7 Existing Building Review of Courts 1-4 – Structure by Creo Consulting (Structural Engineers)

Based upon a visual inspection of the existing building Creo have noted;

- a) floor structure consists of a timber sub-floor supported on concrete stumps and it appears the floor structure is in reasonable condition - there are no signs of the floor structure moving under live load nor any issues noted from the basketball association.
- b) The primary superstructure consists of a structural steel portal frame - we note the existing structure appears to be in reasonable condition. There were (at the time of the inspection) signs of minor corrosion, particularly to the western side of the courts. The corrosion was apparent at the change in wall construction between the wall girts and the precast panels. The corrosion was of no significant structural concern, however, will still require minor remedial works.
- c) Cold formed wall girts support approximately the upper two thirds of the wall cladding whilst the lower third consisted of a precast concrete wall panel. Similar to the primary structure, the wall girts showed signs of corrosion where the wall structure switches to precast, particularly to the west side of the structure. The corrosion was more significant to that compared of the primary structure and will require replacement in certain spots.
- d) Retention of the existing primary portal frame is subject to a review of the 'Structural Adequacy' of the existing structure as required by BCA reg 233 and may require the structure to be certified against current Australian Standards (in relation Earthquake codes introduced in 2021). To undertake a check of the existing structure, all existing structural drawings are required or a contactor would need to be engaged to undertake a full measurement of the existing structural elements. Coupled with this a geotechnical engineer would need to be engaged to undertake investigation of the existing foundations to determine their size and founding conditions.

Creo Consulting have detailed and recommended several remedial works items be undertaken by Council to several areas within the building within the next 12 months to address areas of material degradation and corrosion.



3.8 Existing Building Review of Courts 1-4 – Sports floor by Nellakir (Sports Floor Contractor)

To review the existing condition and longevity of the Court 1-4 sports floor Nellakir have inspected the floor and taken core samples to assess the depth of floor board remaining in terms of its serviceable life.

Taking the age of the flooring system into account, the overall condition is considered to be very good. Some minor repair work and aesthetic works such as re-sanding will enhance and revitalise the building

The boards are 40mm wide, surface nailed direct to the joists and appear to be a Spotted Gum.

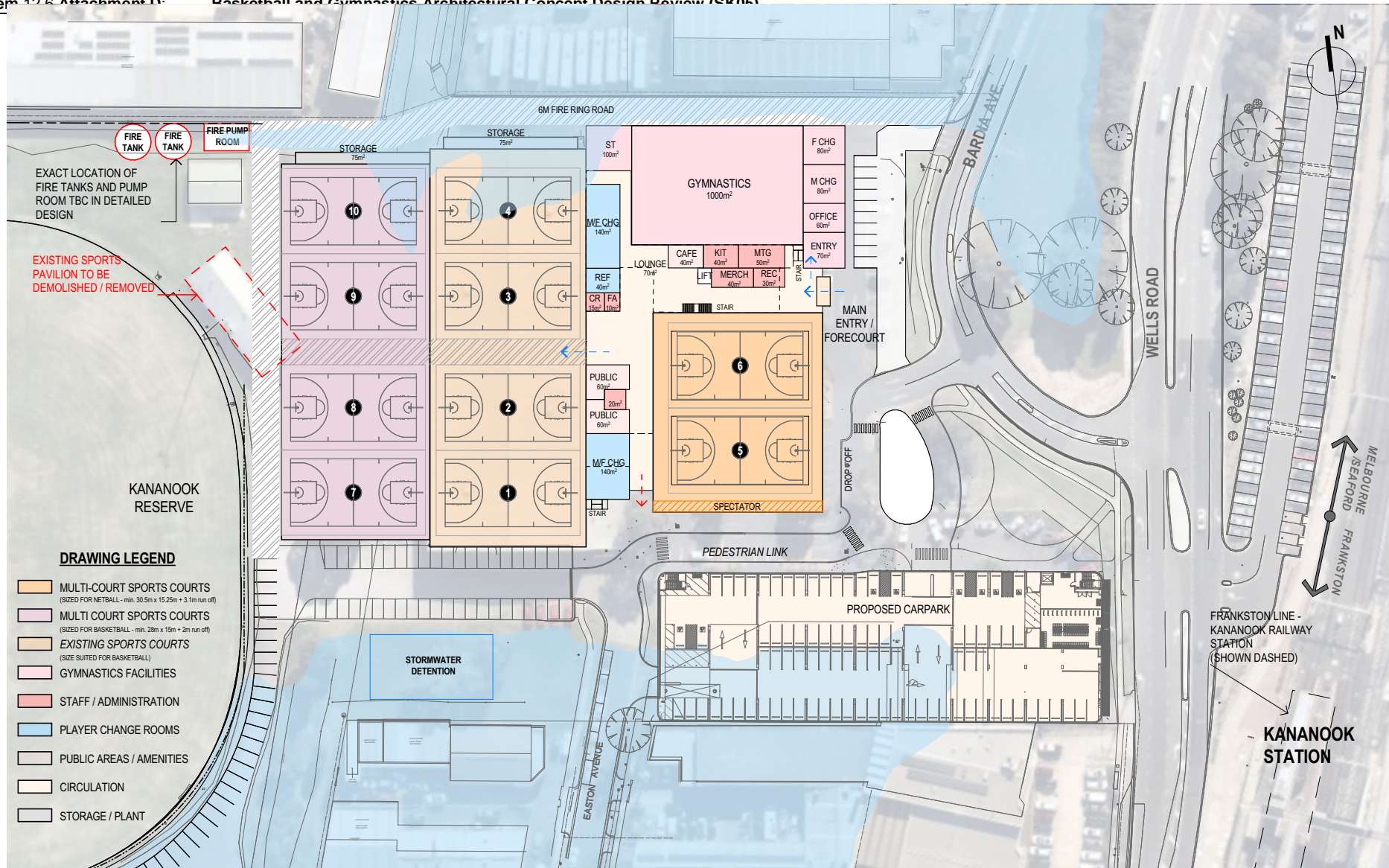
A core sample was taken in the centre of the West side behind the middle doors. The sample showed that there is an 11mm wear layer left above the tongue which confirms considerable life left in the floor. Approximately 5-6 resands are left in it creating a lifespan of approximately 60-72 years based on 12 year intervals of sanding.

Moisture tests were taken across the floor and were consistent. Upon walking the floor, no damaged boards could be found, although delamination of the coating is evident across the courts due to age and water based coating being used for the surface.



4 Appendix 1 -
Concept Design Option Plans – SK05 - Rev R

by HB Arch



DRAWING LEGEND

- MULTI-COURT SPORTS COURTS
(SIZED FOR NETBALL - min. 30.5m x 15.25m + 3.1m run off)
- MULTI COURT SPORTS COURTS
(SIZED FOR BASKETBALL - min. 28m x 15m + 2m run off)
- EXISTING SPORTS COURTS
(SIZE SUITED FOR BASKETBALL)
- GYMNASTICS FACILITIES
- STAFF / ADMINISTRATION
- PLAYER CHANGE ROOMS
- PUBLIC AREAS / AMENITIES
- CIRCULATION
- STORAGE / PLANT



HB Arch architecture & planning
Except as allowed under copyright act, no part of this drawing may be reproduced or otherwise dealt with without written permission of HB Arch.

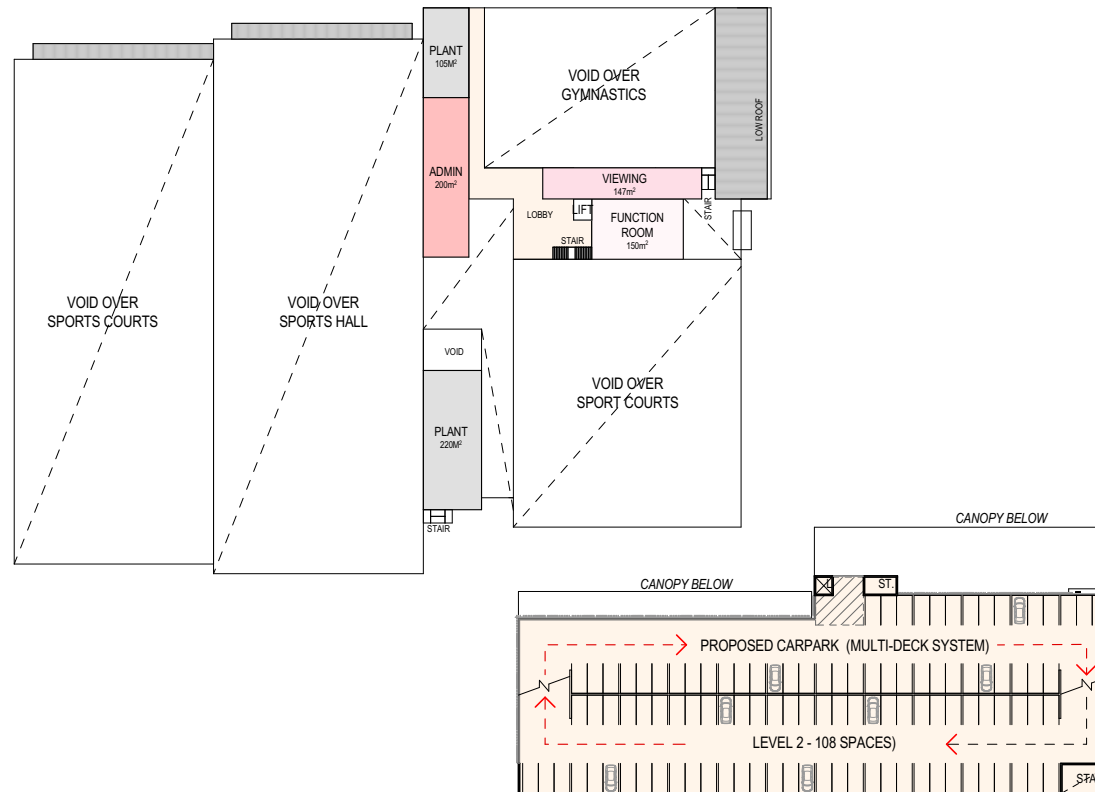
Frankston Basketball & Gymnastics Stadium

Redevelopment Options Study
OPTION 1
Preferred Stadium Concept - 10 Courts

Client Frankston City Council
Scale 1:750
30/08/2023 Rev R

SK05(i)

email@hbarch.com.au



DRAWING LEGEND

- MULTI-COURT SPORTS COURTS
(SIZED FOR NETBALL - min. 30.5m x 15.25m + 3.1m run off)
- MULTI COURT SPORTS COURTS
(SIZED FOR BASKETBALL - min. 28m x 15m + 2m run off)
- EXISTING SPORTS COURTS
(SIZE SUITED FOR BASKETBALL)
- GYMNASISTICS FACILITIES
- STAFF / ADMINISTRATION
- PLAYER CHANGE ROOMS
- PUBLIC AREAS / AMENITIES
- CIRCULATION
- STORAGE / PLANT



HB Arch architecture & planning
 Except as allowed under copyright act, no part of this drawing
 may be reproduced or otherwise dealt with without written
 permission of HB Arch.

Frankston Basketball & Gymnastics Stadium

Redevelopment Options Study

OPTION 1

Preferred Stadium Concept - 10 Courts - Upper Floor

Client Frankston City Council

Scale 1:750

30/08/2023 Rev R

email@hbarch.com.au

SK05(ii)



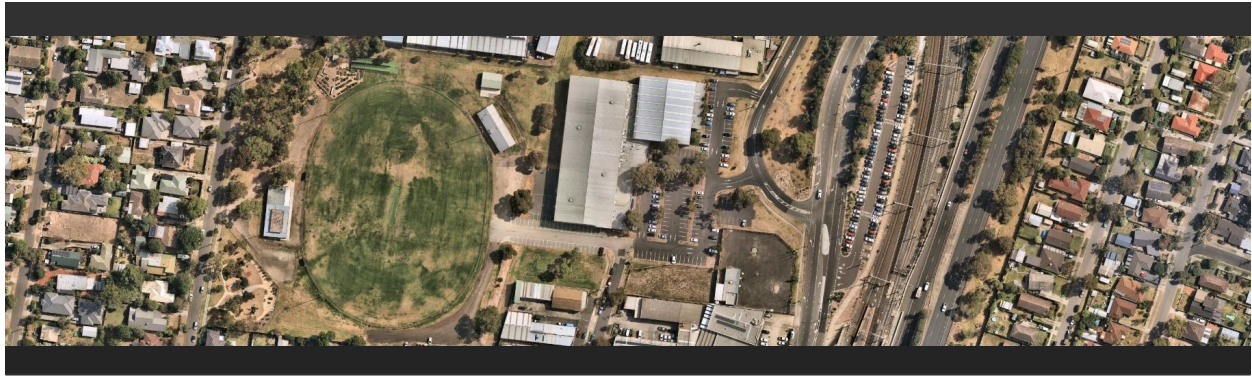
5 Appendix 2 -
Traffic and Car Parking review – Transport Impact Assessment

by One Mile Grid Traffic Engineers – 10 AUG 2023 – rev F



Frankston Basketball Stadium

Traffic and Car Parking Feasibility Study



230184TIA001G-F.docx

16 August 2023



onemilegrid

ABN: 79 168 115 679

(03) 9939 8250
Wurundjeri Woiworung Country
56 Down Street
COLLINGWOOD, VIC 3066
www.onemilegrid.com.au

DOCUMENT INFORMATION

Prepared for	H B Architecture	Report Date	16 August 2023
File Name	230184TIA001G-F.docx	Reviewed by	SV
Prepared by	NT		

onemilegrid operates from Wurundjeri Woiworung Country of the Kulin nation. We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land. We pay our respects to leaders and Elders past, present and emerging for they hold the memories, the traditions, the culture, and the hopes of all Wurundjeri Peoples.

© One Mile Grid Pty Ltd. This document has been prepared by onemilegrid for the client as per the terms of engagement. It may not be modified or altered, copied, reproduced, sold or transferred in whole or in part in any format to any person other than by agreement. onemilegrid does not assume responsibility or liability to any third party arising out of misuse of this document.



EXECUTIVE SUMMARY

Overview

This report contemplates options to expand the Frankston Basketball Stadium (which currently comprises 6 basketball courts) to provide up to 6 additional basketball courts and a 1,000 m² gymnastics space. Modifications to the stadium car park will result in a reduction in the at-grade car parking provisions around the site, however prior to the stadium upgrade being delivered with a capacity of 325 parking spaces.

Several options for the basketball complex are in consideration with varying court numbers and car parking arrangements, however the preferred options are SK05 and SK05C. A summary of these options and the associated parking is provided in the table below. It should be recognised that the car parking numbers are precinct wide, and as such the total parking provision cannot be used solely by stadium users, but will be shared between users of the stadium, reserve, and commuters.

Preferred Options Summary

Component		Option SK05	Option SK05C
Facilities	Basketball Courts	10 courts	10 courts
	Gymnastics	1,000 m ²	N/A
Car Parking	Stadium Car Park	53	73
	Kananook Reserve Car Park (east)	68	68
	Kananook Reserve Car Park (west)	35	35
	Multi-Deck	325	325
	Total Parking Provision	481	501

Car Parking Considerations

Car parking occupancy surveys were undertaken on all on-site parking and several on-street parking areas. The surveys identified a maximum of 298 occupied spaces, of which 193 have been attributed to the stadium demands, equating to an average parking demand of 32 spaces per court.

Various options to increase the car parking supply in the precinct have been considered, however it was identified that it would be impractical to provide a suitable car parking supply to accommodate demands anticipated to be generated by an additional 6 basketball courts (12 courts total) and a gymnastics facility. As such the options comprising 10 courts in total, such as option SK05 and option SK05C, are considered to be more suitable from a car parking supply perspective.

With consideration of the above, the peak site-wide parking demands and resulting surplus/shortfall is provided below. It is shown that the parking demands for option SK05 cannot be met by the proposed parking with a shortfall of 41 spaces, while the demands for option SK05C can be met with a surplus of 15 spaces.

Peak Parking Demands

Component	Option SK05	Option SK05C
Parking Provision	481	501
Peak Parking Demand (including all stadium, reserve and commuter demands)	512	486
Surplus (+) / Shortfall (-)	-41	+15



There is potential to provide additional car parking to the precinct to meet the parking demands for the stadium expansion, as summarised in the table below.

It is acknowledged that there may be constraints that affect the feasibility of these measures, however it should be recognised that not all measures would be needed to meet the expected demand, and as such measures can be selected based on feasibility and preference.

Additional Parking Opportunities Summary

Additional Parking Opportunity	Additional Spaces Provided
At-grade parking (option SK05C only)	27 additional spaces compared to the existing arrangement
Formalised Kananook Reserve Parking (south)	54 additional spaces compared to the existing arrangement
Additional multi-deck level	90 spaces
Additional on-street parking on Bardia Avenue	52 spaces
Reliance on the Kananook Station Car Park	Up to 85 spaces (depending on time of day)
Reliance on on-street parking on McCulloch Avenue and Easton Avenue	Up to 35 spaces (depending on time of day)

It is recommended that the car parking supply for the precinct should ultimately exceed the supply by around 10%, to limit the need for people to circulate while searching for spaces at peak times.

Traffic Considerations

As part of the Kananook multi-deck car park works, it is proposed to signalise the Wells Road / Bardia Avenue intersection. An assessment of the future traffic volumes of this intersection has been undertaken, which conservatively adopts the design option which generates the highest levels of traffic (12 courts + gymnastics). The SIDRA analysis indicates the intersection is expected to operate under good conditions, with manageable queuing and delays. Given the intersection has capacity to accommodate volumes anticipated for a 12 court + gymnastics option, traffic volumes associated with a lesser 10 court option with or without gymnastics could be readily accommodated.



CONTENTS

EXECUTIVE SUMMARY 3

1 INTRODUCTION..... 8

2 EXISTING CONDITIONS 8

2.1 Site Location 8

2.2 Planning Zones and Overlays..... 10

2.3 Road Network..... 11

2.3.1 Wells Road 11

2.3.2 Bardia Avenue 12

2.3.3 Easton Avenue 13

2.3.4 McCulloch Avenue 14

2.4 Sustainable Transport 15

2.4.1 Public Transport 15

2.4.2 Bicycle Facilities 16

2.5 Existing Car Parking Conditions 17

2.5.1 Survey Location 17

2.5.2 Survey Results 18

2.5.3 Discussion 21

2.6 Existing Traffic Conditions 23

2.6.1 Site Access Traffic Volumes 23

2.6.2 Wells Road Traffic Volumes..... 26

3 KANANOOK MULTI-DECK COMMUTER CAR PARK..... 27

3.1 Approved Works 27

3.2 Wells Road / Bardia Avenue Intersection Signalisation 28

4 FRANKSTON STADIUM EXPANSION 31

5 BICYCLE PARKING 32

6 CAR PARKING 33

6.1 Accessible Parking Provision..... 33

6.2 Statutory Car Parking Requirements..... 33

6.2.1 Car Parking Requirements – Clause 52.06..... 33

6.3 Car Parking Demand Assessment 33

6.3.1 General..... 33

6.3.2 Basketball Stadium & Gymnastics Hall..... 34

6.3.3 Multi Deck Car Park..... 34

6.3.4 Kananook Reserve 34

6.3.5 Anticipated Parking Demand 35

6.4 Additional Parking Opportunities..... 37

6.4.1 On-Site..... 37

6.4.2 Off-Site..... 39

6.4.3 Summary of Additional Car Parking Opportunities 41

7 PARKING IMPLICATIONS FOR PREFERRED OPTIONS..... 42

7.1 Overview..... 42

7.2 SK05 (10 Courts + Gymnastics) 42

7.3 SK05C (10 Courts – No Gymnastics)..... 44

8 TRAFFIC..... 46

8.1 Traffic Generation 46

8.1.1 General 46

8.1.2 Basketball Stadium 46

8.1.3 Multi-Deck Car Park..... 46

8.1.4 Total 47

8.2 Traffic Distribution 47

8.3 Future Traffic Volumes 48

8.4 Traffic Impact 50

8.4.1 Intersection Capacity Assessment – Proposed Signals 50



8.4.2	Accommodation of Traffic Volume Growth	52
9	CONCLUSIONS.....	54

TABLES

Table 1	Public Transport Provision	15
Table 2	Parking Occupancy Survey Results Summary	20
Table 3	SIDRA Intersection Parameters.....	29
Table 4	Wells Road / Bardia Avenue – Signalised Intersection – Post Car Park Conditions	30
Table 5	Clause 52.34 – Bicycle Parking Requirements	32
Table 6	Clause 52.34 – Bicycle Facility Requirements	32
Table 7	Peak Parking Demands.....	35
Table 8	Parking Demands	36
Table 9	Additional Parking Opportunities.....	41
Table 10	Additional Parking Opportunities – SK05.....	43
Table 11	Additional Parking Opportunities – SK05C	45
Table 12	Kananook Station – Traffic Generation Rates	46
Table 13	Total Traffic Generation – PM Peak	47
Table 14	Adopted Directional Traffic Distribution – Site Access	47
Table 15	Adopted Directional Traffic Distribution – External Road Network	47
Table 16	Wells Road / Bardia Avenue – Existing/Future Conditions	50
Table 17	Wells Road / Bardia Avenue Future Conditions – Additional Turn Lane	51
Table 18	Wells Road / Bardia Avenue – Signalised Intersection – 10 Year Horizon	52

FIGURES

Figure 1	Site Location.....	8
Figure 2	Site Context (15 February 2023)	9
Figure 3	Planning Scheme Zones.....	10
Figure 4	Principal Public Transport Network Area Map	10
Figure 5	Wells Road looking South adjacent to the Subject Site.....	11
Figure 6	Wells Road looking North from the Bardia Avenue Intersection.....	11
Figure 7	Bardia Avenue looking North in the vicinity of the Subject Site.....	12
Figure 8	McCulloch Avenue looking North towards the Basketball Stadium	13
Figure 9	McCulloch Avenue looking West from the Wells Road Intersection	14
Figure 10	Public Transport Provision.....	15
Figure 11	Strategic Cycling Corridors.....	16
Figure 12	Parking Occupancy Survey Locations.....	17
Figure 13	Parking Occupancy Survey Results – Stadium Car Park - March	18
Figure 14	Parking Occupancy Survey Results – Stadium Car Park - May.....	18
Figure 15	Parking Occupancy Survey Results – Reserve Parking East - March	19
Figure 16	Parking Occupancy Survey Results – Kananook Reserve Parking East - May	19
Figure 17	Parking Occupancy Survey Results – On-Street Parking - March	19
Figure 18	Parking Occupancy Survey Results – On-Street Parking - May.....	20
Figure 19	Parking Occupancy Survey Results – Kananook Reserve Parking West - May	20
Figure 20	Site Access Traffic Survey Locations	23
Figure 21	Peak Hour Traffic Survey Results – 5:30pm – 6:30pm.....	24
Figure 22	Site Access Vehicle Movements.....	24
Figure 23	Site Access Vehicle Distribution – 5:30pm - 6:30pm	25
Figure 24	Existing Traffic Volumes – AM Peak Hour – 26 May 2022	26
Figure 25	Existing Traffic Volumes – PM Peak Hour – 26 May 2022.....	26
Figure 26	Kananook Multi-Deck Commuter Car Park.....	27
Figure 27	Wells Road / Bardia Avenue Post Car Park Traffic Volumes – AM Peak	28
Figure 28	Wells Road / Bardia Avenue Post Car Park Traffic Volumes – PM Peak.....	28



Figure 29	Site Plan (12 Court Option)	31
Figure 30	Commuter Parking Occupancy	34
Figure 31	Parking Profile – 12 Court Option	35
Figure 32	Car Park Concept Plan	37
Figure 33	2016 Stadium Expansion Car Park Works	38
Figure 34	Kananook Station Parking Occupancy	39
Figure 35	Bardia Avenue On-Street Parking Concept Plan	40
Figure 36	SK05 (10 Courts & Gymnastics)	42
Figure 37	SK05C (10 Courts)	44
Figure 38	Future PM Traffic Volumes – 5:30pm – 6:30pm	48
Figure 39	Wells Road / Bardia Avenue Future PM Traffic Volumes – 4:00pm – 5:00pm	49
Figure 40	Intersection Works With Additional Lane on Bardia Avenue.....	51
Figure 41	10 Year Design Horizon – PM Peak Traffic Volumes	52

APPENDICES

APPENDIX A CONCEPT LAYOUT PLAN



1 INTRODUCTION

onemilegrid has been requested by H B Architecture to undertake a Traffic and Car parking Feasibility Study for the expansion of the Frankston Basketball Stadium at 90 Bardia Avenue, Seaford.

It is understood Council is investigating opportunities to expand the existing Basketball Stadium to provide additional courts and facilities. Several design options are in consideration with varying number of courts, with options SK05 and SK05C currently the preferred variants.

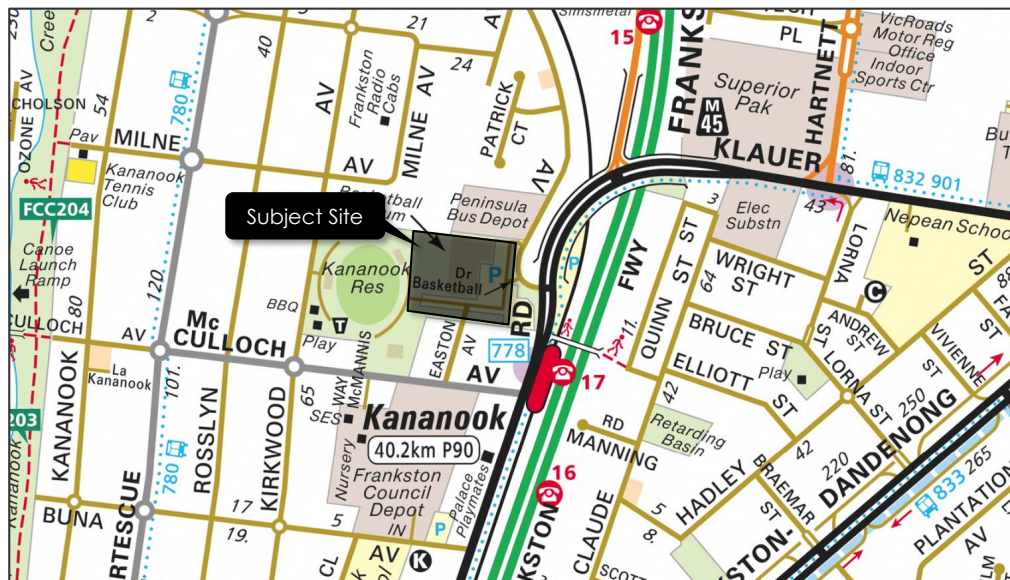
As part of this assessment the subject site has been inspected with due consideration of the development proposal, traffic and parking data has been sourced and relevant background reports have been reviewed.

2 EXISTING CONDITIONS

2.1 Site Location

The subject site is located at Frankston Basketball Stadium, as shown in Figure 1.

Figure 1 Site Location



Copyright Melway Publishing

The site has frontage to Bardia Avenue to the east and abuts Easton Avenue to the south. The site is currently occupied by Frankston Basketball Stadium, which comprises 6 indoor basketball/sports courts.

Main site access is currently provided in two locations on Bardia Avenue to the east, which lead directly to the main car park. Secondary access is provided from Easton Avenue to the south and



via a connection the Kananook Reserve oval to the west, which can be accessed from McCulloch Avenue. All site accesses allow two-way movements in and out of the site.

The stadium is currently served by a public car park internal to the site providing 172 parking spaces, restricted to 3-hour parking between 8:00 am and 4:00 pm, Monday to Friday.

Additional informal parking is located along the eastern boundary of the Kananook Reserve Oval to the west of the site, with a connection between this area and the basketball stadium car park. This informal parking area is generally utilised for training sessions and events at the reserve oval, and for overflow parking for the stadium. This parking area is restricted to 3-hour parking between 8:00 am and 4:00 pm, Monday to Friday in line with the stadium parking restrictions.

Land use in the immediate vicinity of the site is mixed in nature, and includes Kananook Reserve to the west, Kananook Railway Station to the east, and several commercial and industrial uses to the north and south. Residential land is located further afield to the west.

An aerial view of the subject site is provided in Figure 2, noting the existing road network, parking areas and site access points.

Figure 2 Site Context (15 February 2023)



Copyright Nearmap



2.2 Planning Zones and Overlays

It is shown in Figure 3 that the site is located within a Public Park and Recreation Zone (PPRZ). A small portion of the site abuts a Public Use Zone (PUZ6).

Additionally, the site falls within the Principal Public Transport Network Area, as shown in Figure 4.

Figure 3 Planning Scheme Zones



Figure 4 Principal Public Transport Network Area Map





2.3 Road Network

2.3.1 Wells Road

Wells Road is an arterial road under the control of The Department of Transport and Planning (VicRoads) and generally aligned north-south, running between Young Street in the south and transitioning into Klauer Street in the north as it passes over the railway line. Wells Road provides a single traffic lane in each direction adjacent to the site, with a shared pedestrian/bicycle path located on the east side of the road. A left turning lane from Wells Road into Bardia Avenue is located along the entirety of the Wells Road site frontage. A 60 km/h speed limit applies to Wells Road in the vicinity of the site.

The cross-section of Wells Road at the frontage of the site is shown in Figure 5 and Figure 6.

Figure 5 Wells Road looking South adjacent to the Subject Site



Figure 6 Wells Road looking North from the Bardia Avenue Intersection





2.3.2 Bardia Avenue

Bardia Avenue is a local road generally aligned north-south, running between Wells Road in the south and running parallel to the railway line in the north for approximately 1.2 km. Bardia Avenue provides a single traffic lane in each direction adjacent to the site. Kerbside parking is prohibited in the immediate vicinity of the site, but provided further north in the form of indented parking on the east side of the road, and standard kerbside parking on the west side of the road, both of which have no time restrictions in place.

A 50 km/h speed limit applies to Bardia Avenue in the vicinity of the site.

The cross-section of Bardia Avenue at the frontage of the site is shown in Figure 7.

Figure 7 Bardia Avenue looking North in the vicinity of the Subject Site





2.3.3 Easton Avenue

Easton Avenue is a local road aligned north-south, running for approximately 125 m between McCulloch Avenue in the south and the Basketball Stadium accessways in the north. McCulloch Avenue facilitates two-way traffic movements, with unrestricted kerbside parking permitted on the western side of the road.

The default 50 km/h speed limit applies to McCulloch Avenue.

The cross-section of McCulloch Avenue at the frontage of the site is shown in Figure 9.

Figure 8 McCulloch Avenue looking North towards the Basketball Stadium





2.3.4 McCulloch Avenue

McCulloch Avenue is a local road generally aligned east-west, running between Wells Road in the east, and terminating approximately 750 metres to the west where it meets Kananook Creek. McCulloch Avenue provides a single traffic lane in each direction adjacent to the site.

Kerbside parking is permitted on both sides of the road, generally restricted to 2-hour parking between 8:00 am and 5:00 pm, Monday to Friday on the north side of the road, and unrestricted on the south side. The default 50 km/h speed limit applies to McCulloch Avenue.

The cross-section of McCulloch Avenue in the vicinity of the site is shown in Figure 9.

Figure 9 McCulloch Avenue looking West from the Wells Road Intersection





2.4 Sustainable Transport

2.4.1 Public Transport

The full public transport provision in the site vicinity is shown in Figure 10 and detailed in Table 1.

As shown, Kananook Station is located directly opposite the site on the eastern side of Wells Road. A number of bus services also operate on Wells Road, with the closest stop located south of the site between the Bardia Avenue and McCulloch Avenue intersection.

Figure 10 Public Transport Provision

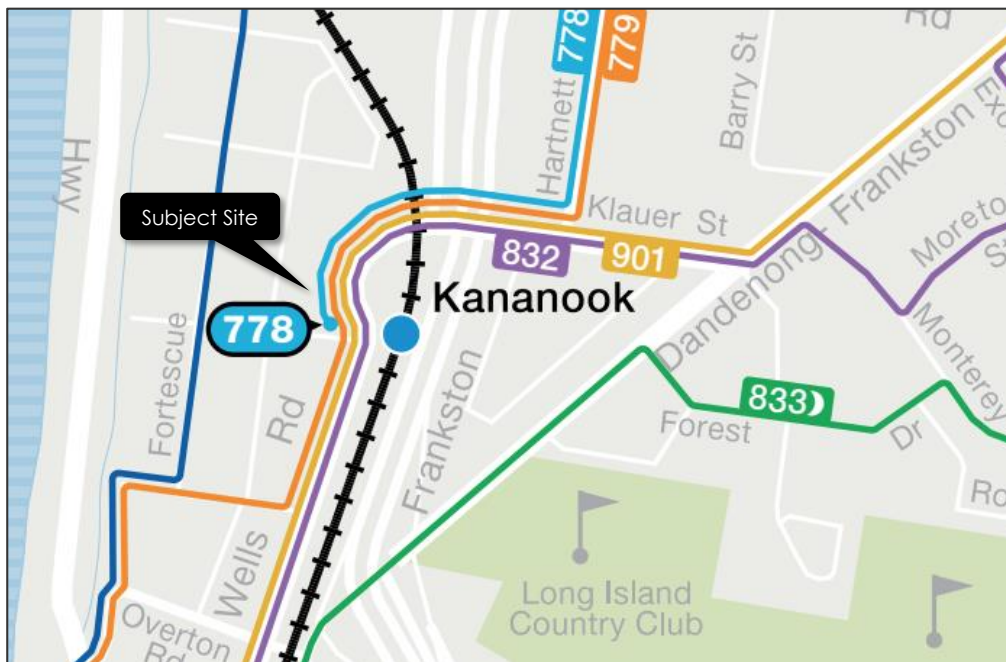


Table 1 Public Transport Provision

Mode	Route No.	Route Description	Nearest Stop/Station
Train		Frankston Line	Kananook Station
Bus	778	Kananook - Carrum Downs via Lathams Rd	Kananook Station / Wells Road
	779	Frankston - Belvedere via Kananook	
	832	Frankston - Carrum Downs via Kananook & McCormicks Road	
	901	Frankston - Melbourne Airport (SMARTBUS Service)	



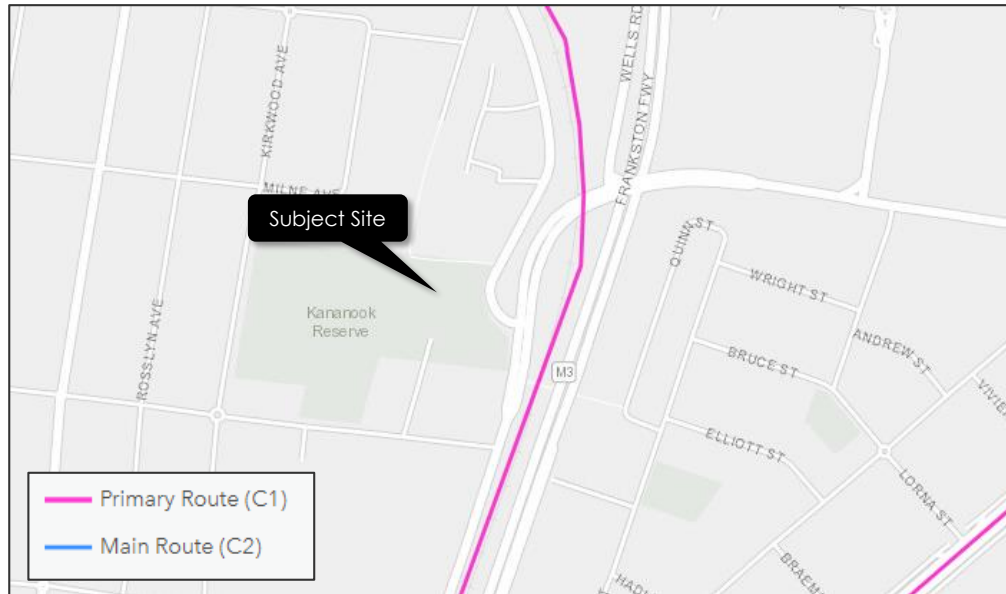
2.4.2 Bicycle Facilities

"Strategic Cycling Corridors are important routes for cycling for transport and link up important destinations including the Central City, National Employment and Innovations Clusters, Metropolitan Activity Centres and other destinations of metropolitan and regional significance".

Strategic Cycling Corridors (SCC) are considered to be the arterials for bicycles, and have been designed to provide connected, low stress and safe routes, intended primarily for the use of cyclists for transport (rather than recreation).

The SCCs in the vicinity of the site are shown in Figure 11.

Figure 11 Strategic Cycling Corridors



It is shown that the shared path running along Wells Road in the site vicinity is classified as a Primary Route, with connections to the Frankston Activity Centre in the south and residential areas in the north and south.



2.5 Existing Car Parking Conditions

2.5.1 Survey Location

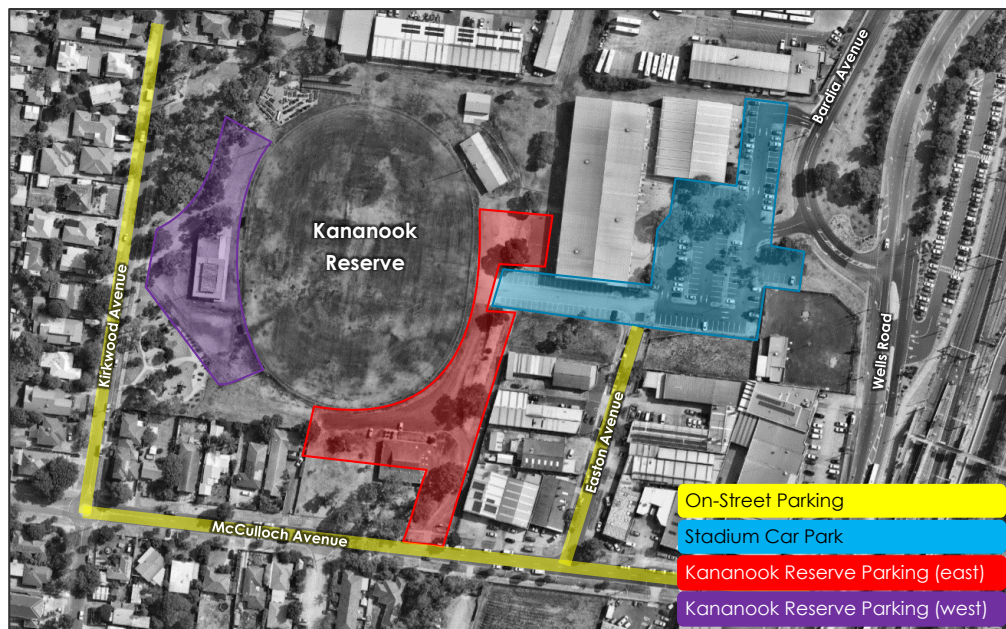
In order to understand the existing parking conditions on the site, car parking occupancy surveys were undertaken by TransTraffic Surveys on behalf of **onemilegrid**. The surveys were undertaken on Wednesday 22nd March 2023 and Wednesday 17th May 2023, between 2:00 pm and 8:00 pm at the following locations:

- The on-site stadium car park;
- The Kananook Reserve informal parking area (east);
- The Kananook Reserve informal parking area (west - May surveys only); and
- The on-street car parking on Easton Avenue, McCulloch Avenue and Kirkwood Avenue in the vicinity of the site.

Based on information provided by the stadium operator, 4 of the 6 courts were occupied by community groups between 12:00 pm and 3:00 pm, and all courts were occupied by junior games between 3:00 pm and 7:00 pm, and by senior games between 7:00 pm and 10:00 pm. Additionally, the Kananook Reserve oval was occupied by the Southern Umpires Association, who were holding a training session in the evening of the survey period (the exact time period is not known).

The car parking survey area is shown below in Figure 12.

Figure 12 Parking Occupancy Survey Locations





2.5.2 Survey Results

The survey results are shown in Figure 13 to Figure 17 below, and summarised in Table 2.

All bus zones, staff parking spaces and council only parking spaces have been excluded from the results.

Figure 13 Parking Occupancy Survey Results – Stadium Car Park - March

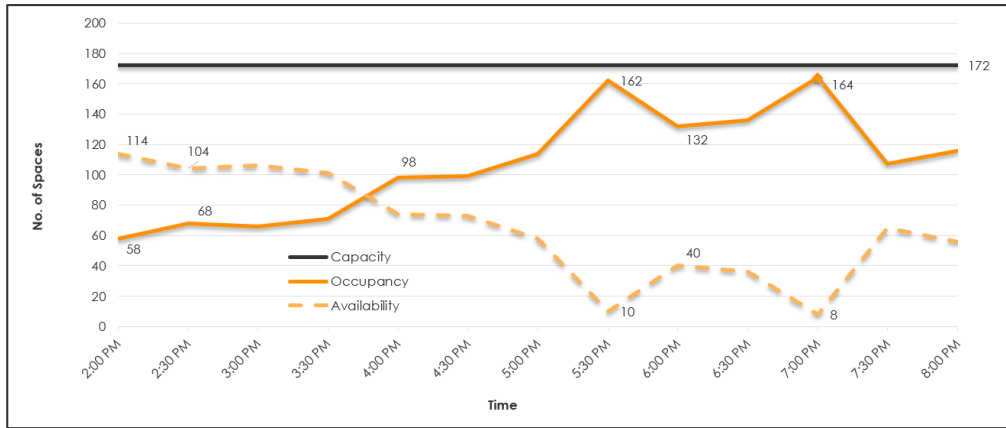


Figure 14 Parking Occupancy Survey Results – Stadium Car Park - May

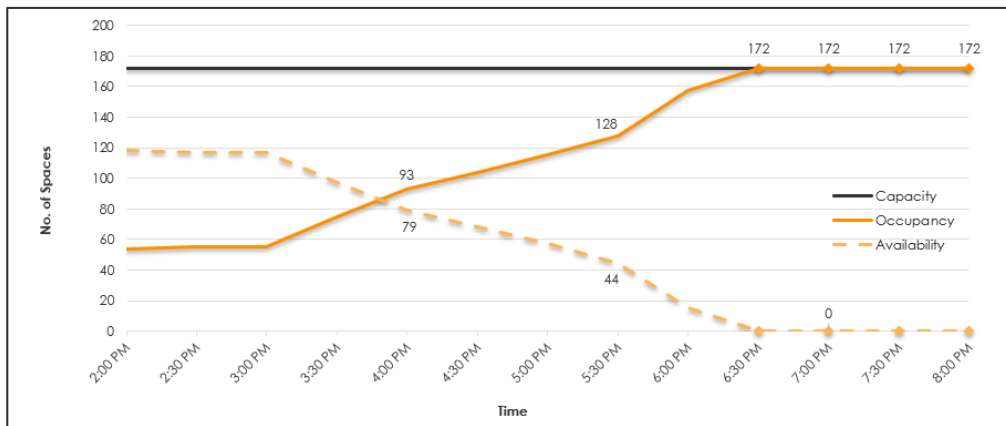




Figure 15 Parking Occupancy Survey Results – Reserve Parking East - March

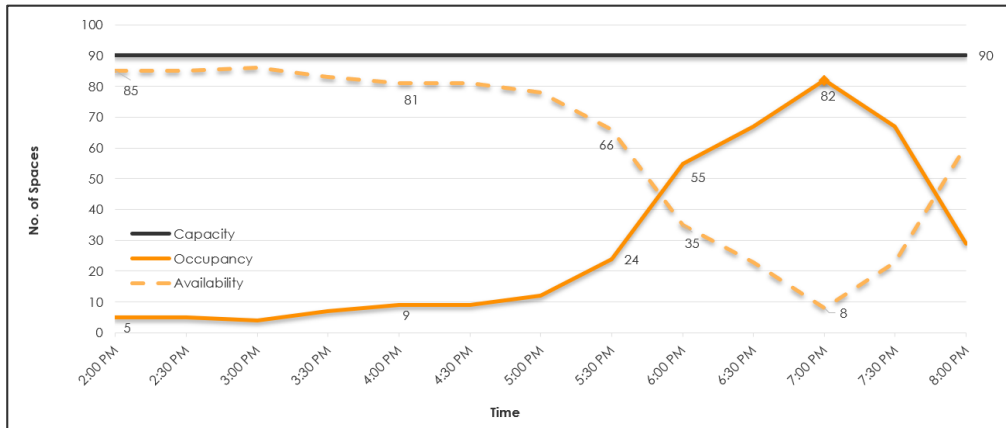


Figure 16 Parking Occupancy Survey Results – Kanook Reserve Parking East - May

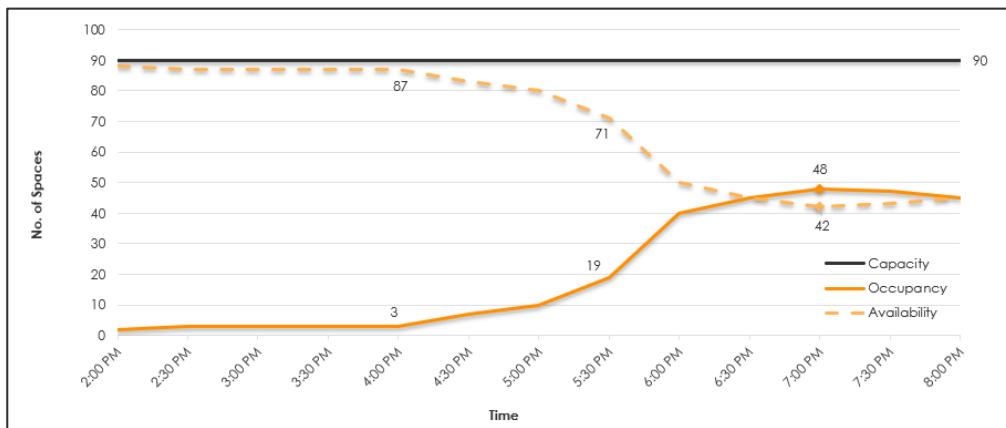


Figure 17 Parking Occupancy Survey Results – On-Street Parking - March

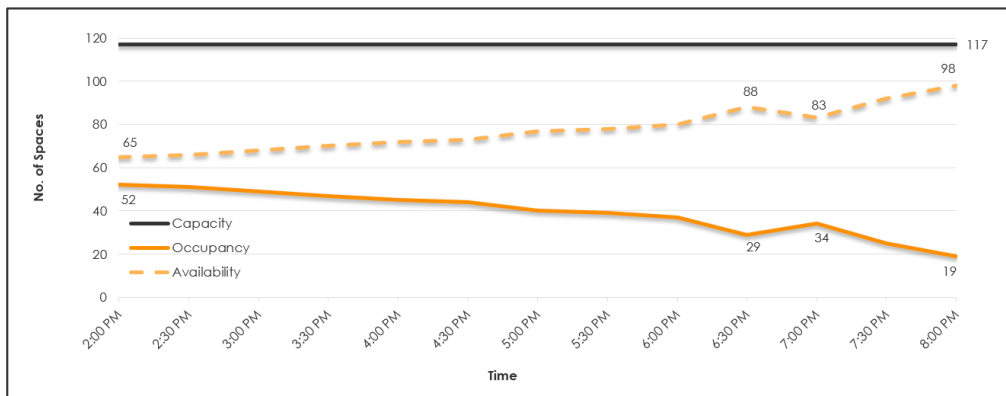




Figure 18 Parking Occupancy Survey Results – On-Street Parking - May

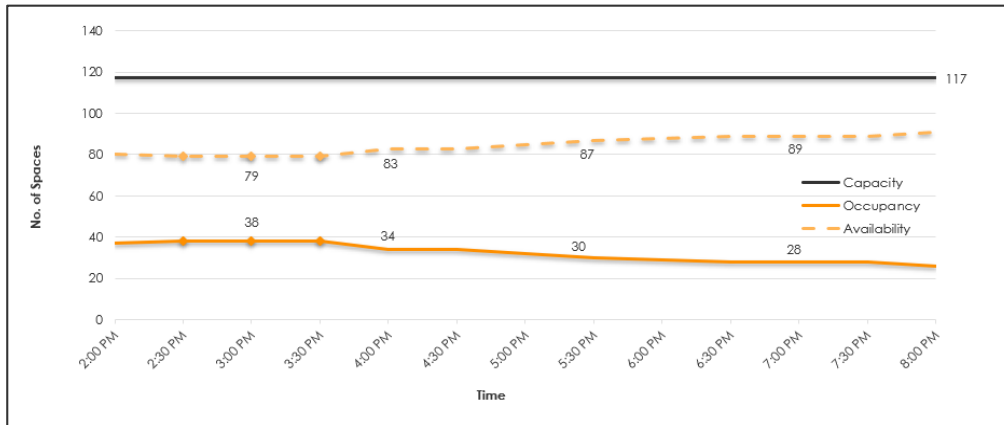


Figure 19 Parking Occupancy Survey Results – Kananook Reserve Parking West - May

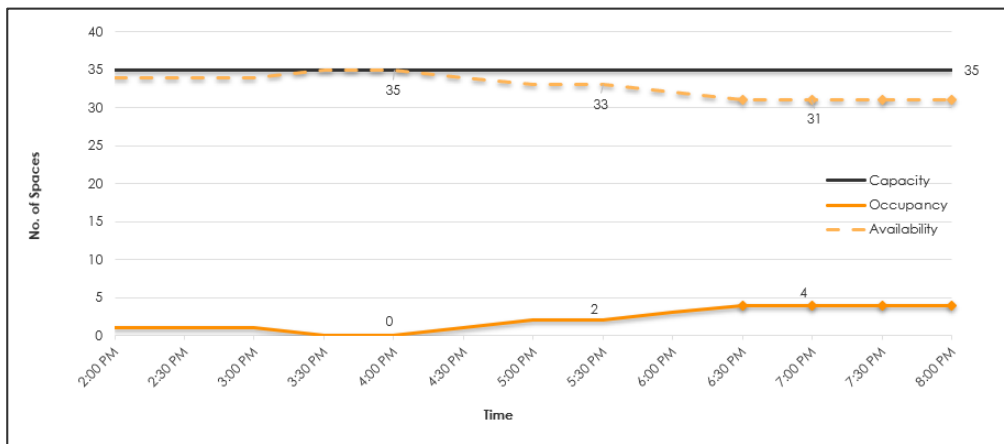


Table 2 Parking Occupancy Survey Results Summary

Parking Area	Supply	March Surveys		May Surveys		Average Utilisation (%)
		Max Occupancy	Min Availability	Max Occupancy	Min Availability	
Stadium Car Park	172	164 (7:00pm)	8	172 (7:00pm)	0	65%
Kananook Reserve Car Park (east)	90	82 (7:00pm)	8	48 (7:00pm)	42	28%
Kananook Reserve Car Park (west)	35	N/A	N/A	4 (7:00pm)	31	6%
On-Street Parking	117	52 (2:00pm)	65	38 (3:00pm)	79	31%
Total	414	298*	81*	262	152	44%

*Does not include the west reserve area as surveys were not undertaken for this area in March



The surveys identified a total supply of 414 parking spaces, comprising 172 spaces within the on-site stadium car park, 90 spaces within the eastern Kananook Reserve car park, 35 spaces within the western Kananook Reserve car park and 117 spaces within the on-street parking areas. It is of note that due to the informal nature of the reserve parking areas the supply is an approximate value and can vary based on the parking behaviour of users.

Parking was highly utilised within the stadium car park during both surveys. During the March Surveys, peak occupancy occurred at 7:00 pm when 164 spaces were occupied, leaving 8 spaces available for use. During the May surveys, all 172 spaces were occupied at 7:00pm. Parking occupancy ranged from 34% to 100%.

Within the eastern reserve parking area, a maximum of 82 spaces were occupied at 7:00 pm during the March Surveys, leaving approximately 8 spaces available for use. Within the western reserve parking area, a maximum of 4 spaces were occupied at 7:00 pm, leaving approximately 31 spaces available for use.

The on-street parking saw a maximum occupancy of 52 spaces, occurring at 2:00 pm during the March Surveys, leaving 65 spaces available for use. Specifically, parking on Easton Avenue was 70% occupied on average throughout the survey period, and parking on McCulloch Avenue (between Easton Avenue and Wells Road) was also highly utilised. All other on-street parking area saw low occupancy throughout the survey period.

The surveyed on-street parking is generally unrestricted in nature, with the exception of the north side of McCulloch Avenue (20 spaces), which is restricted to 2-hour parking between 8:00 am and 5:00 pm, Monday to Friday.

2.5.3 Discussion

With regard to the above survey results, the precinct-wide occupancy was higher during the March Surveys (298 spaces occupied) compared to those undertaken in May (262 spaces occupied). Therefore, the discussion below and the resultant parking demands will be based on the March surveys results, to provide a more conservative assessment.

As previously mentioned, all 6 courts were in use during the peak survey period, and the reserve was in use by the Southern Umpires Association. As such, there was a crossover in parking between the stadium and reserve, with vehicles associated with both uses parked within both parking areas.

With regard to parking for the stadium, it is noted that demands generated can be attributed to players/spectators driving to the site themselves and parking on-site for the duration of the game, as well as those getting dropped off and picked up by others. In the latter case, the drop-off may not contribute to additional parking demands, as people will be dropped off in front of the building entrance without occupying a parking space. During pick-up however, vehicles may arrive early and wait in a parking space until the game ends. Therefore, people getting picked up after a game may contribute to a spike in parking demands at the end of a game. Additionally, the changeover in games (a game ending and another starting immediately after) will result in a crossover in parking demands for both games.

The surveys within the stadium car park identify 2 noticeable peaks occurring at 5:30 pm and at 7:00 pm, with a lower parking occupancy recorded between these 2 periods. It is expected that these two peaks correlate to the changeover period from one timeslot to the next.

The parking occupancy of 164 spaces during the second, larger peak will assumed to be all stadium users.

With regard to the eastern reserve parking area, the peak of 82 vehicles occurred at 7:00 pm in line with the peak of the stadium. At 5:30 pm when the first stadium peak occurred, only 24 spaces were occupied in the reserve parking area. Therefore, the increase in parking (from 24 to 82) between 5:30 pm and 7:00 pm can be attributed to the Southern Umpires Association session (58 spaces), and the initial occupancy of 24 spaces at 5:30 will be attributed to stadium parking.



The on-street parking peaked at the start of the survey period and decreased throughout the day. At 7:00pm when the stadium parking peaks, there is a slight increase in occupancy (from 29 to 34) of the on-street spaces compared to the occupancy 30 minutes prior. This increase occurred on Easton Avenue and is likely associated with the stadium users. Therefore, an additional 5 spaces will be attributed to the basketball stadium parking demands.

Further to the above, a portion of parking may be utilised as commuter parking due to its proximity to Kananook Station. As the Kananook Station car park generally fills early, commuters may park on-site and walk to the station. Given all on-site parking is restricted to 3-hours, and in order to provide a conservative assessment, it will be assumed that no commuters park on-site. Regardless, commuter parking demands would be very low in the evening when the stadium parking peaks.

Finally, although no surveys were undertaken in March for the west reserve area, it will be assumed that any parking spaces occupied in this area would be associated with the umpires training session (maximum occupancy of 4 spaces).

To summarise the above, it is assumed that peak parking demands for the basketball stadium comprise the following:

- 164 spaces within the stadium car park;
- 24 spaces within the east reserve parking area;
- 0 spaces within the west reserve parking area;
- 5 spaces within the surrounding on-street parking area; and
- A total parking demand of 193 spaces, occurring at 7:00 pm.

The maximum demand for 193 spaces across all 6 courts equates to an average **parking demand for 32 spaces per court**. This rate is in line with case study data for similar sporting facilities.



2.6 Existing Traffic Conditions

2.6.1 Site Access Traffic Volumes

Traffic volume surveys were undertaken by Trans Traffic Survey on behalf of **onemilegrid** at all 4 site access locations on Wednesday 22nd March 2023 between 2:00 pm and 8:00 pm.

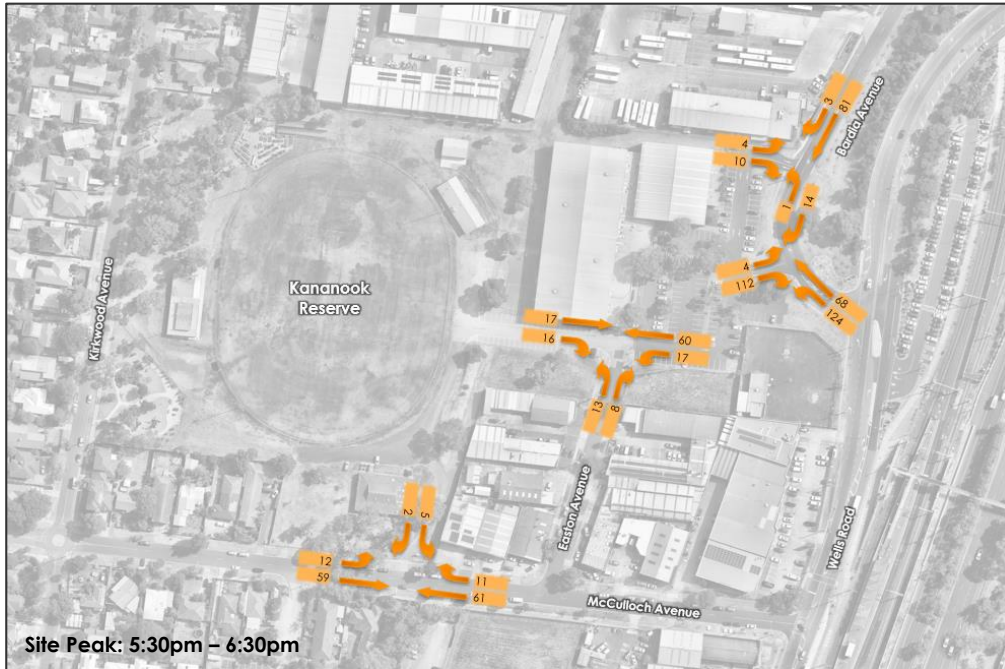
The survey locations are shown in Figure 20, and the peak hour results are provided in Figure 21. The peak hour results shown relate to the maximum traffic volumes in and out of the site only (5:30 pm – 6:30 pm), noting the peak hour for the entire road network (including through movements not relating to vehicles accessing the site) occurred between 4:00 pm and 5:00 pm.

Figure 20 Site Access Traffic Survey Locations





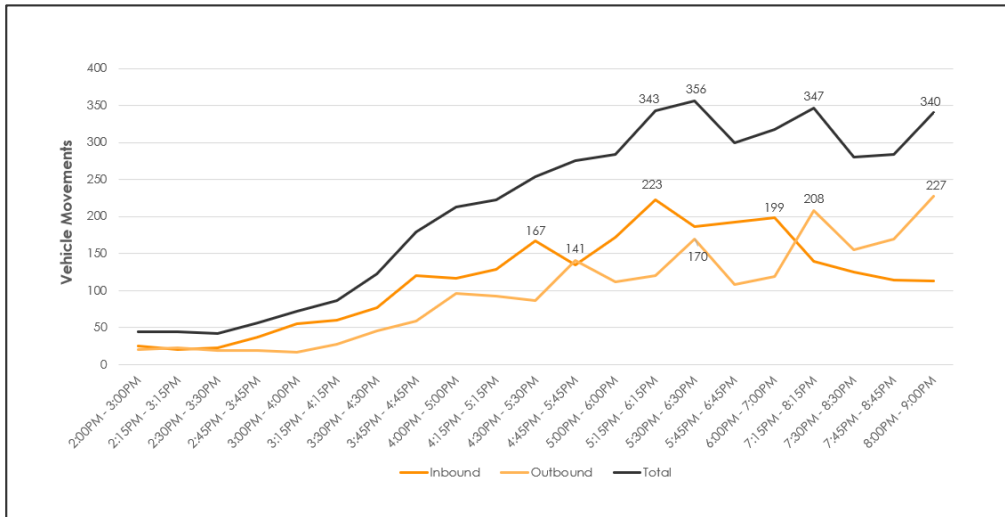
Figure 21 Peak Hour Traffic Survey Results – 5:30pm – 6:30pm



Based on the above peak hour traffic volumes, a maximum of 356 movements were observed in and out of the site during the 1-hour peak period.

Further to the above, the profile of vehicles accessing the site across all 4 site entry points is shown in Figure 22, noting that the vehicle movements refer to the total movements over a 1-hour period, starting at the corresponding time on the axis.

Figure 22 Site Access Vehicle Movements

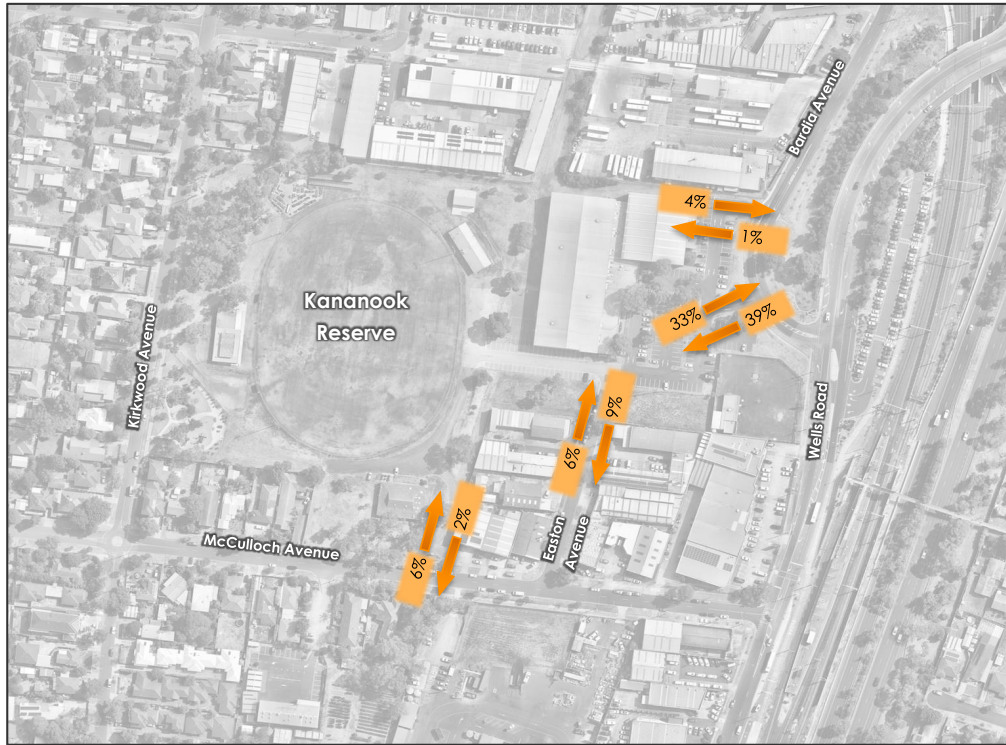




The figure above outlines discernible inbound and outbound peak periods, with the outbound peaks generally occurred 15 minutes after the inbound peaks.

Furthermore, the distribution of vehicle inbound and outbound movements across the 4 site access during the peak hour is shown in Figure 23.

Figure 23 Site Access Vehicle Distribution – 5:30pm - 6:30pm



It is shown that vehicle movements were generally split evenly between inbound and outbound movements, with 52% of the traffic heading into the site. Majority of vehicle movements (72%) were generated at the Bardia Avenue south intersection, with the remaining traffic spread between the other 3 access points.



2.6.2 Wells Road Traffic Volumes

As part of previous work undertaken by **onemilegrid** in the site vicinity, traffic volume surveys were undertaken at the Wells Road / Bardia Avenue intersection and the Wells Road / Kananook Station Access intersection.

The surveys were undertaken by Trans Traffic Survey on behalf of **onemilegrid** on Thursday 26th May 2022, between 6:30 am and 9:30 am, and between 2:30 pm and 7:00 pm.

The peak hour results of the surveys are shown in Figure 24 and Figure 25.

Figure 24 Existing Traffic Volumes – AM Peak Hour – 26 May 2022

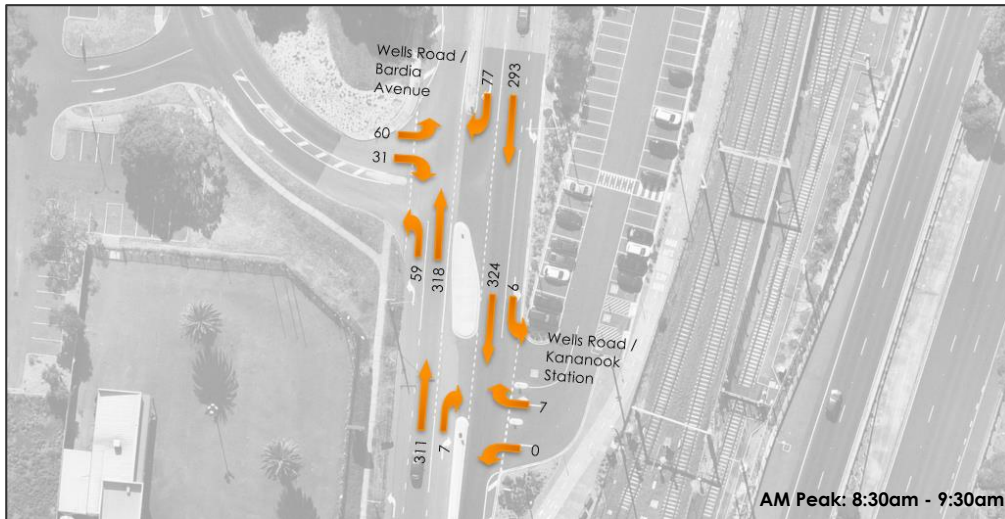
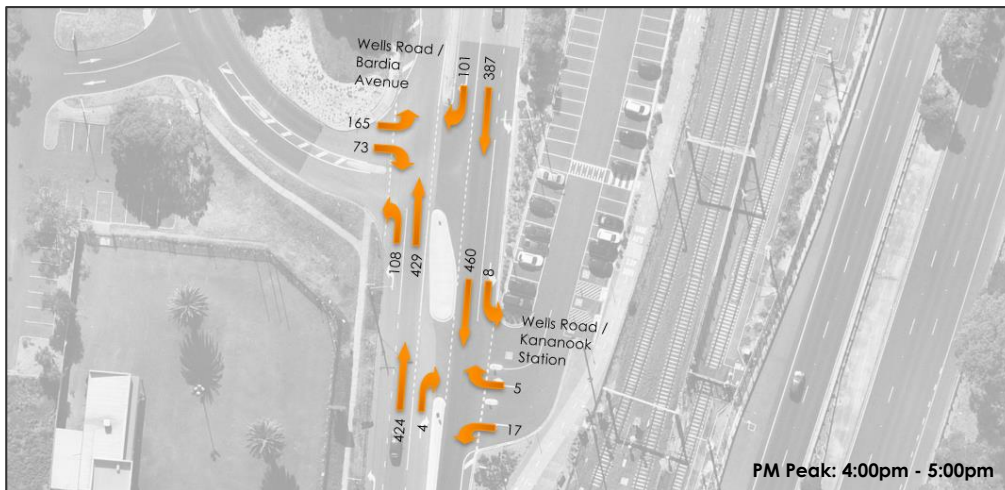


Figure 25 Existing Traffic Volumes – PM Peak Hour – 26 May 2022





3 KANANOOK MULTI-DECK COMMUTER CAR PARK

3.1 Approved Works

A separate planning permit has been granted for the development of a multi-deck commuter car park at 39 Wells Road adjacent the site, providing 325 car parking spaces and 86 bicycle spaces.

The public car park's primary use is for all-day parking for commuters using Kananook Railway Station, with secondary use as parking for the Basketball Stadium and Kananook Reserve. It is understood construction will be completed in early 2024.

Primary access is provided from a two-way entrance along the northern boundary leading to the internal accessways of the Basketball Stadium. Secondary access will be provided to the southwest leading directly to the Easton Avenue.

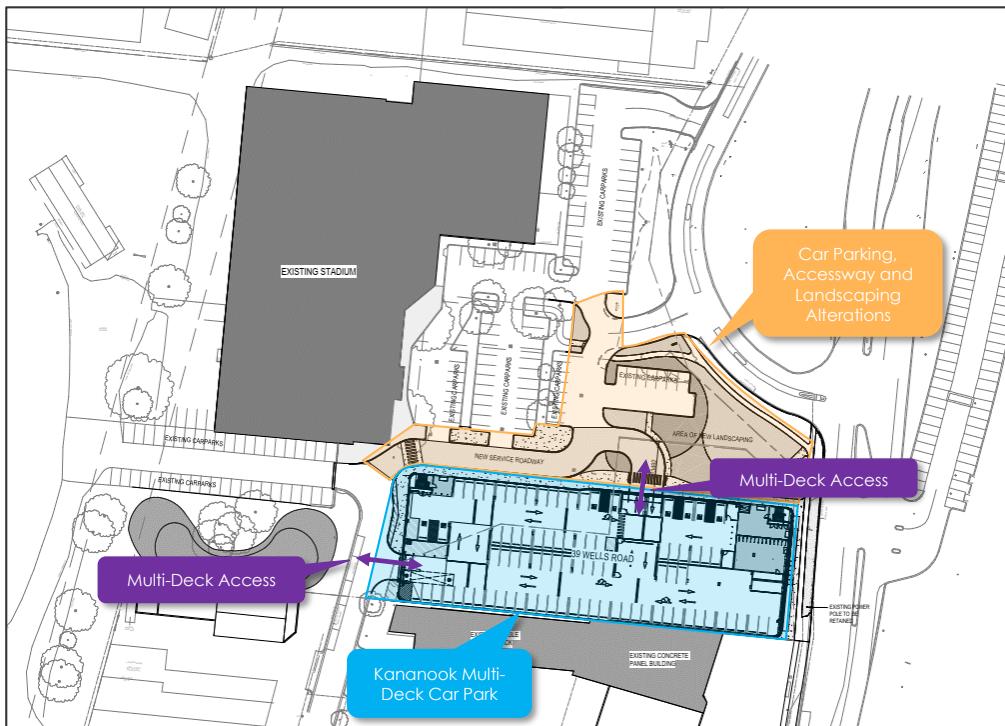
As part of the works, modifications to the existing basketball stadium car park will be undertaken. Circulation roadways will be provided between the multi-deck car park and the basketball stadium, with crossing points to facilitate pedestrian access between the two.

The modifications will result in a reduction of 45 car parking spaces within the stadium car park, resulting in 127 spaces remaining.

The multi-deck car park therefore results in a net increase of 280 spaces.

The multi-deck car park and the changes to the stadium car park are shown below in Figure 26.

Figure 26 Kananook Multi-Deck Commuter Car Park





3.2 Wells Road / Bardia Avenue Intersection Signalisation

As part of the development of the multi-deck car park, the intersection of Wells Road and Bardia Avenue will be signalised with the existing Kananook Station car park on the eastern side of Wells Road also forming part of the intersection.

The traffic volumes after the development of the multi-deck car park at this intersection is provided below.

Figure 27 Wells Road / Bardia Avenue Post Car Park Traffic Volumes – AM Peak



Figure 28 Wells Road / Bardia Avenue Post Car Park Traffic Volumes – PM Peak





To assess the operation of the intersection the traffic volumes have been input into SIDRA Intersection, a traffic modelling software package.

The SIDRA Intersection software package has been developed to provide information on the capacity of an intersection with regard to a number of parameters. Those parameters considered relevant are, Degree of Saturation (DoS), 95th Percentile Queue, and Average Delay as described below.

Table 3 SIDRA Intersection Parameters

Parameter	Description	
Degree of Saturation (DoS)	The DoS represents the ratio of the traffic volume making a particular movement compared to the maximum capacity for that particular movement. The value of the DoS has a corresponding rating depending on the ratio as shown below.	
	Degree of Saturation	Rating
	Up to 0.60	Excellent
	0.61 – 0.70	Very Good
	0.71 – 0.80	Good
	0.81 – 0.90	Fair
	0.91 – 1.00	Poor
Above 1.00	Very Poor	
	It is noted that whilst the range of 0.91 – 1.00 is rated as 'poor', it is acceptable for critical movements at an intersection to be operating within this range during high peak periods, reflecting actual conditions in a significant number of suburban signalised intersections.	
Average Delay (seconds)	Average delay is the time delay that can be expected for all vehicles undertaking a particular movement in seconds. This includes time taken to accelerate or decelerate, time taken to undertake the manoeuvre, and delay at a hold line or stop line.	
95th Percentile (95thile) Queue	95thile queue represents the maximum queue length in metres that can be expected in 95% of observed queue lengths in the peak hour.	
Level of Service (LoS)	A qualitative measure of sign-controlled intersection performance, based on the average delay experienced by a driver. A LoS of A, B, C or D suggests acceptable intersection performance. A LoS of E or F suggests mitigation measures or upgrades may be warranted.	

The results of the SIDRA analysis for this intersection using the expected traffic volumes after the development of the multi-deck car park is provided in Table 4.



Table 4 Wells Road / Bardia Avenue – Signalised Intersection – Post Car Park Conditions

<i>Approach</i>	<i>Movement</i>	<i>DoS</i>	<i>Avg. Delay (sec)</i>	<i>Queue (m)</i>	<i>Level of Service (LoS)</i>
AM Peak Hour					
Wells Road (South)	Left	0.082	12.2	10.2	LOS A
	Through	0.395	24.1	93.4	LOS A
	Right	0.027	52.4	2.7	LOS A
Kananook Station (East)	Left	0.003	32.1	0.3	LOS A
	Through	0.091	61.6	3.5	LOS A
	Right	0.091	67.2	3.5	LOS A
Wells Road (North)	Left	0.007	20.2	1.3	LOS A
	Through	0.371	23.8	86.9	LOS A
	Right	0.384	56.1	40.7	LOS A
Bardia Avenue (West)	Left	0.390	53.6	45.1	LOS A
	Through	0.390	48.0	45.1	LOS A
	Right	0.390	53.6	45.1	LOS A
PM Peak Hour					
Wells Road (South)	Left	0.123	11.2	14.8	LOS A
	Through	0.649	33.8	157.6	LOS B
	Right	0.020	56.4	1.6	LOS A
Kananook Station (East)	Left	0.069	32.1	4.1	LOS A
	Through	0.068	61.4	2.6	LOS A
	Right	0.068	66.9	2.6	LOS A
Wells Road (North)	Left	0.011	25.2	2.0	LOS A
	Through	0.594	32.9	140.0	LOS A
	Right	0.604	61.8	53.3	LOS B
Bardia Avenue (West)	Left	0.633	46.2	118.3	LOS B
	Through	0.633	40.6	118.3	LOS B
	Right	0.633	46.2	118.3	LOS B

It is shown above that the intersection is expected to operate under very good conditions during the AM and PM peak hour periods, with the critical movements associated with vehicles exiting Bardia Avenue during the PM peak hour.



4 FRANKSTON STADIUM EXPANSION

Council is investigating opportunities to expand the existing Basketball Stadium to provide additional courts and facilities. Several design options are in consideration with varying number of additional courts (maximum of 6 additional courts). The additional courts have a total floor area of approximately 700 m² each. Additionally, a 1,000 m² gymnastics space is being considered, located in the northeast of the site.

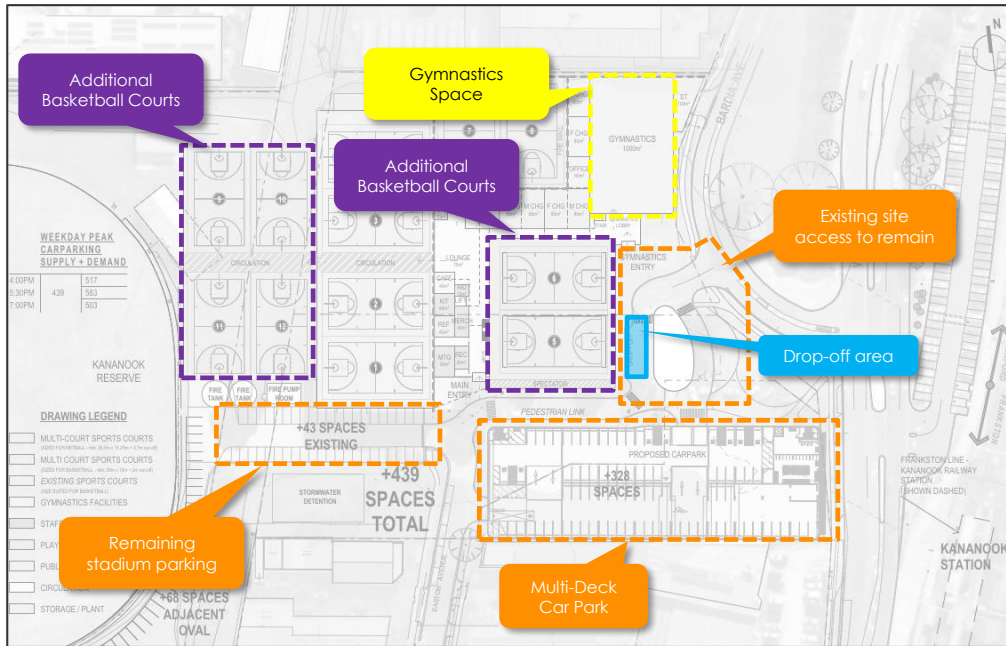
As part of the expansion, modifications to the stadium car park will be required resulting in a reduction in parking compared to existing conditions. Based on the latest concept plans a total of 43 formal car parking spaces will remain adjacent to the stadium. Furthermore, approximately 20 spaces may be removed from the informal parking within the reserve adjacent to the oval (depending on the chosen design option), resulting in a new supply of 68 spaces for the reserve. Therefore, the works may result in a minimum future supply of 111 spaces.

The southern access to Bardia Avenue will remain, with modifications to accommodate the internal accessway changes.

Additionally, modifications to internal accessways will provide a drop-off area and several pedestrian links between the building entrances and the multi deck car park.

The concept plan for one of the 12 court options is shown below in Figure 29. It is of note that the multiple options in consideration provide varying provisions of parking and internal road configurations. The option shown below generally proposes the greatest reduction in car parking.

Figure 29 Site Plan (12 Court Option)





5 BICYCLE PARKING

No bicycle parking is currently shown on the concept plans. It is recommended to provide bicycle parking in accordance with the Clause 52.34 of the Frankston Planning Scheme, which specifies requirements for the different components of the development.

Clause 52.34 states "Where the floor area occupied by an existing use is increased, the requirement for bicycle facilities only applies to the increased floor area of the use." The bicycle parking requirements therefore only apply to the increase in floor area (up to 6 courts and 1,000 m² gymnastics area) as summarised in Table 5 below.

Table 5 Clause 52.34 – Bicycle Parking Requirements

Component	No/Area	Requirement	Total
Basketball Courts (Minor sports and recreation facility)	12 employees*	1 space per 4 employees for employees	3
	3,800 m ²	1 space per 200 m ² for visitors	19
Gymnastics (Minor sports and recreation facility)	8 employees	1 space per 4 employees for employees	2
	1,000 m ²	1 space per 200 m ² for visitors	5
Total		Employees	5
		Visitors	24

*Estimation based on a typical operation including 2 umpires per court. Additional staff such as admin or food & drink attendees have been accounted for within the existing operation of the site.

Furthermore, where 5 or more employee bicycle spaces are required, employee facilities are required in accordance with Clause 52.34 of the Frankston Planning Scheme, as identified below.

Table 6 Clause 52.34 – Bicycle Facility Requirements

Facility	Employee Bicycle Spaces	Requirement	Total
Showers	5 spaces	1 shower for the first 5 employee bicycle spaces; plus 1 to each 10 employee bicycle spaces thereafter	1

Showers must have access to a communal change room, or combined shower and change room

Employee bicycle parking and end-of-trip facilities (showers) should be located in a secure area separated from public access. Visitor bicycle spaces should be located in the public realm near the building entrances.



6 CAR PARKING

6.1 Accessible Parking Provision

It is recommended to provide accessible parking in line with the National Construction Code (NCC) requirements.

A basketball stadium (minor sports and recreation facility), classified as a Class 9B building, requires provision of one accessible car space for every 50 car parking spaces or part thereof for the first 1,000 spaces, and then 1 space per 100 car parking spaces or part thereof in excess of 1,000 spaces.

6.2 Statutory Car Parking Requirements

6.2.1 Car Parking Requirements – Clause 52.06

To determine the appropriateness of the provision of car parking currently in consideration, an assessment of the car parking requirements has been undertaken.

Clause 52.06 of the Frankston Planning Scheme typically sets out the car parking requirements for various land uses, however a sporting facility such as this is not one of the uses defined in the table for calculating a requirement. In such cases, Clause 52.06-6 states that:

'Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.'

As such, an empirical assessment of the car parking demands generated by the use has been undertaken below, with consideration given to:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- The variation of car parking demand likely to be generated by the proposed use over time.
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.

6.3 Car Parking Demand Assessment

6.3.1 General

In order to provide a robust assessment, and due to the fact that the expansion of the basketball stadium will result in the removal of some existing car parking spaces, the parking demands of the entire site and all users of the on-site and nearby car parking will be considered. This includes the parking demands of the Basketball Stadium, commuters, and any training sessions occurring at Kananook Reserve.

To provide a conservative assessment, the maximum number of additional basketball courts being considered (6 courts) has been assumed resulting in a total provision of 12 courts plus the gymnastics space, all in operation simultaneously.



6.3.2 Basketball Stadium & Gymnastics Hall

Based on the parking surveys and discussions in Section 2.5.3, the existing stadium generates a maximum parking demand for 192 spaces, which equates to 32 spaces per court. Applying this rate to the additional 6 courts results in an expected demand for 192 extra spaces.

With regard to the gymnastics use, information provided suggests it will operate with up to 32 people (2 classes of 16 people or 4 classes of 6 people). Adopting a rate of 1.2 occupants per vehicle equates to a parking demand of 26 spaces.

The above results in a total parking demand for 218 spaces for the additional stadium components.

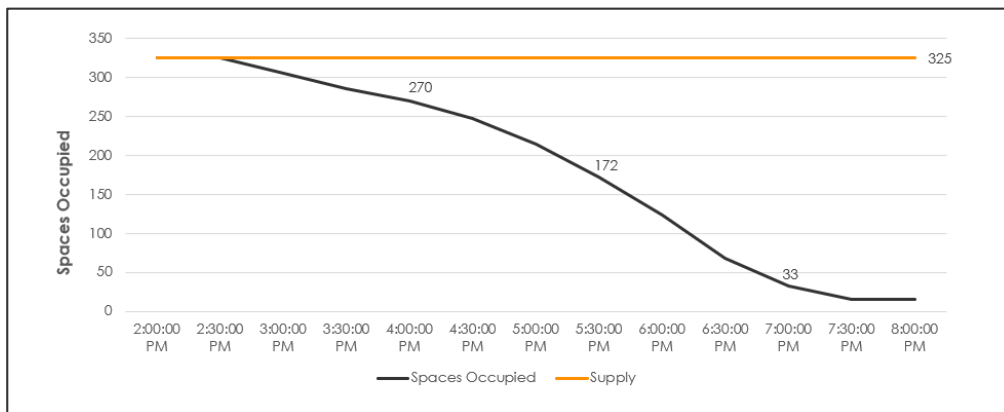
6.3.3 Multi Deck Car Park

As part of **onemilegrid's** work with the Kananook Multi-deck car park, traffic surveys were commissioned at the Wells Road / Bardia Avenue / Kananook Station Car park intersection. The vehicle movements in and out of the existing station car park on the eastern side of Wells Road can be isolated to provide an indication of when commuters begin to leave the car park.

To assess this, the traffic volume data was assessed for each 15 minute interval of the survey period to determine whether there was a net increase or decrease in the number of vehicles in the commuter car park for that particular interval. The data identifies that after 2:30 pm, the number of vehicles in the car park steadily decreases.

Assuming the commuter car park is 100% occupied during the day and then applying the same departure profile gives the commuter parking occupancy profile shown in Figure 30.

Figure 30 Commuter Parking Occupancy



During the peak stadium periods of 5:30 pm and 7:00 pm, approximately 172 spaces and 33 spaces respectively are anticipated to be occupied by commuters within the multi-deck car park.

6.3.4 Kananook Reserve

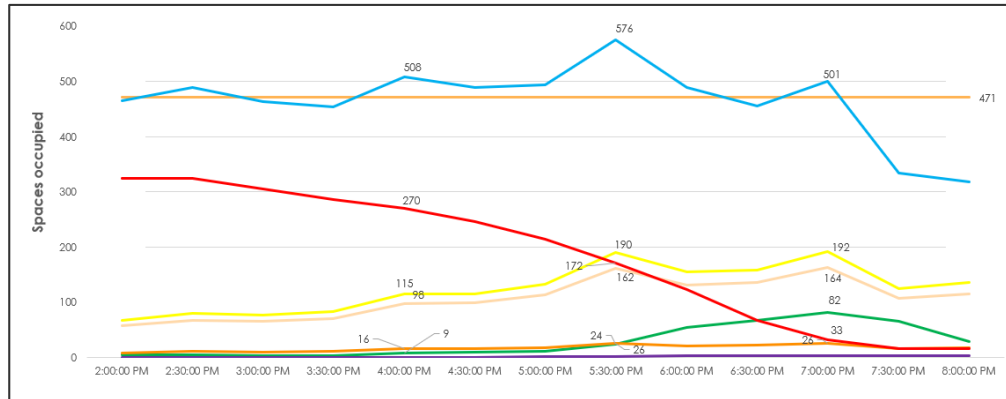
As discussed in Section 2.5.3, a maximum of 62 of the occupied spaces within the reserve parking areas will be attributed to the Kananook Reserve parking demands, occurring at 7:00 pm comprising 58 spaces in the east parking area and 4 spaces in the west area. Based on the survey results, it will be assumed that a demand for 2 spaces is generated during the earlier peak period at 5:30 pm, and no spaces at 4:00 pm.



6.3.5 Anticipated Parking Demand

Based on the above assessment, a summary of the parking demands of all uses is shown below in Figure 31.

Figure 31 Parking Profile – 12 Court Option



The above profile identifies 3 major peak periods, as summarised in Table 7 below.

Table 7 Peak Parking Demands

Component	Maximum Parking Demand	Parking Demand During Peak Period (4:00 pm)	Parking Demand During Peak Period (5:30 pm)	Parking Demand During Peak Period (7:00 pm)
Existing Demands				
Basketball Stadium Car Park (Existing Occupancy)	164	98	162	164
Kananook Reserve Car Park (east) (Existing Occupancy)	82	9	24	82
Kananook Reserve Car Park (west) (Existing Occupancy)	4	0	2	4
Future Demands				
Basketball Stadium (additional demands, including courts and gymnastics)	224	131	216	218
Commuter Parking (Future Demands)	325	270	172	33
Total				
Total (Existing + Future Demands)	-	508	576	501
Total Supply (12 court option – precinct wide)	-	471	471	471
Surplus (+) / Shortfall (-)	-	- 37	- 105	- 27



As shown above, the total car parking supply across the precinct is not sufficient to accommodate the car parking demands anticipated to be generated. It is anticipated that at 4:00 pm there would be shortfall of 37 spaces, increasing to a 105 space shortfall at 5:30 pm.

Therefore, the future demand for 6 additional courts cannot be accommodated by the future supply of 471 parking spaces across the precinct, with a shortfall of 105 spaces.

For comparison purposes, the additional parking demands created for each additional court and the resulting site demands is provided below. These demands include the commuter parking demands within the multi-deck car park.

Table 8 Parking Demands

Additional Courts	Courts Total	Total Parking Supply	Additional Courts Demand (Peak)	Gymnastics Demand	Total Stadium Demand (Peak)	Total Site Demand (4:00pm)	Total Site Demand (5:30pm)	Total Site Demand (7:00pm)	Max Surplus (+) / Shortfall (-)
1	7	471	32	26	250	412	418	341	53
2	8	471	64	26	282	431	449	373	22
3	9	471	96	26	314	450	481	405	-10
4	10	471	128	26	346	469	512	437	-41
5	11	471	160	26	378	489	544	469	-73
6	12	471	192	26	410	508	576	501	-105



6.4 Additional Parking Opportunities

6.4.1 On-Site

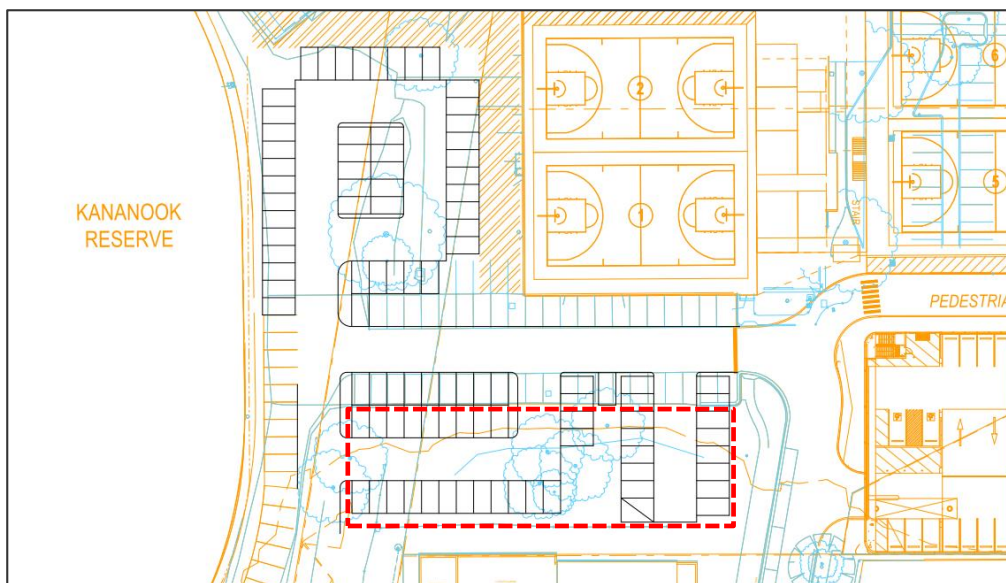
6.4.1.1 Additional At-Grade Parking

There is potential to provide additional car parking within the precinct to meet the parking demands for the additional courts. In particular, there is space in the open area to the south of the stadium car park, and part of the reserve car park can be formalised to provide additional parking.

Note the formalised reserve car park shown cannot be provided for several options in consideration as the building footprint extends into this space.

A concept plan of these areas is shown in Figure 32 below.

Figure 32 Car Park Concept Plan



The concept plan shows 41 spaces in the southern area and 47 spaces in the formalised reserve area. However, it is understood the area of land to the south (outlined in red) is located within an overland flood zone, and therefore cannot be used for parking. Consequently, only the formalised reserve parking can be relied upon, which results in a net increase of 27 spaces compared to the existing informal parking in this area.



6.4.1.2 Formalised Kananook Reserve Parking (west)

Frankston Council has previously considered paving and formalising the car park to the west of the Kananook Reserve Oval. Based on the construction works plans prepared by Pro Civil, the car park would result in a supply of 29 parking spaces. Therefore, these works may result in a reduction in car parking in this area, as it is expected that up to 35 vehicles could currently be accommodated in the existing informal configuration.

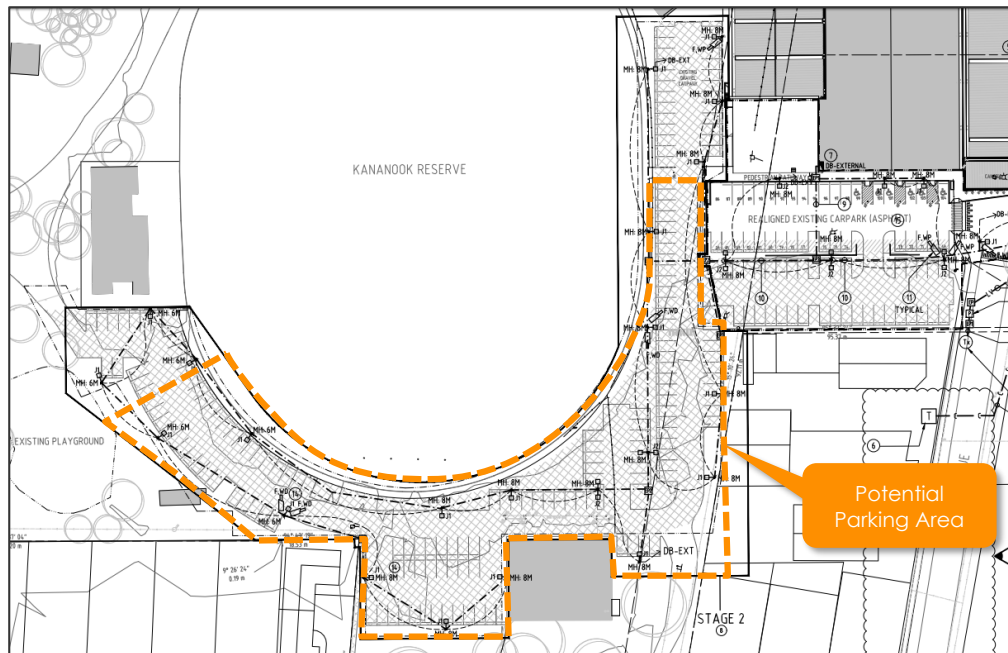
6.4.1.3 Formalised Kananook Reserve Parking (south/east)

The proposed 2016 Basketball Complex expansion (which was ultimately abandoned) included the provision of formal car parking around the southern end of the Kananook Reserve oval which extended to the eastern parking area, as well as additional parking within the overland floor zone.

An extract of the site plan for these works is provided in Figure 33 below. Of particular note, there is some overlap in parking on the west side of the oval with the car park discussed above in section 6.4.1.2.

Based on the above, the parking spaces that could realistically provide are shown outlined in the figure below, which equates to approximately 120 spaces. Note that several spaces in this area may need to be removed to retain existing vegetation, however for assessment purposes, the full 120 space provision will be assumed. With 68 spaces currently provided in this area, an increase in 54 parking spaces results as part of these works.

Figure 33 2016 Stadium Expansion Car Park Works





6.4.1.4 Additional Multi-Deck Level

It is understood the design of the commuter multi-deck has structural capacity for an additional level. Based on the approved design for the multi-deck, it will be assumed the extra level will have capacity for approximately 90 spaces.

For assessment purposes, it will be assumed that the entire level is allocated to stadium users only, with restrictions in place to ensure it is not used by commuters (3P restrictions for example). Therefore, all 90 spaces could be available for stadium users at all times.

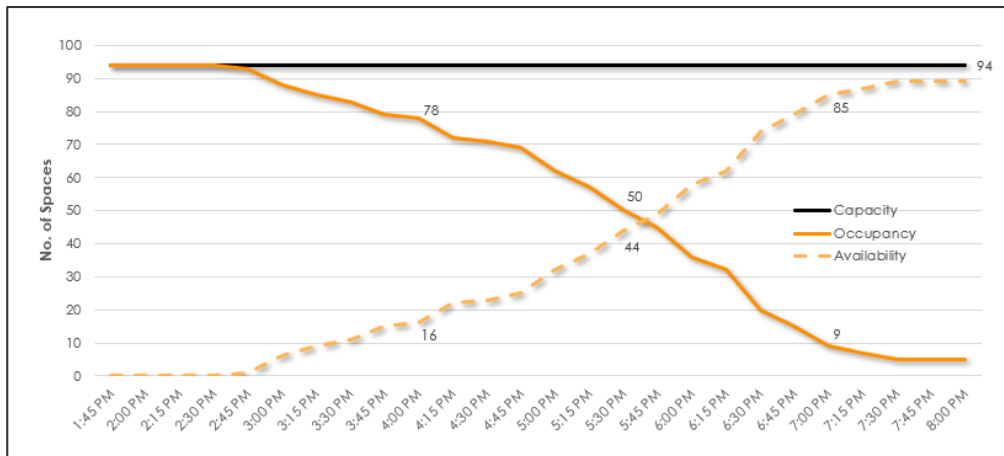
6.4.2 Off-Site

6.4.2.1 Kananook Station Car Park

There is scope to rely on the Kananook Station car park to accommodate some of the parking demands of the stadium. As previously mentioned, traffic surveys were commissioned at the Wells Road / Bardia Avenue / Kananook Station Car park intersection. The vehicle movements in and out of the existing station car park on the eastern side of Wells Road can be isolated to provide an indication of when commuters begin to leave the car park.

The data identifies that after 2:30 pm, the number of vehicles in the car park steadily decreases. The parking occupancy of the car park is provided below. Surveys were not undertaken between 7:00pm and 8:00pm therefore the parking occupancy during this period has been extrapolated from the earlier data.

Figure 34 Kananook Station Parking Occupancy



It is shown above there is approximately 16, 44, and 85 spaces available for use during the 4:00pm, 5:30pm and 7:00pm peaks respectively that could theoretically be used to accommodate a portion of the stadium parking demands.



6.4.2.2 McCulloch Avenue and Easton Avenue On-Street Parking

There is potential to rely on the on-street parking in the site vicinity for additional car parking. This includes kerbside parking on McCulloch Avenue and Easton Avenue to the south.

Based on the car parking occupancy surveys, parking availability is quite high on McCulloch Avenue and Easton Avenue during the stadium peak periods. Specifically, 29, 31 and 35 spaces were available for use during the 4:00pm, 5:30pm and 7:00pm respectively.

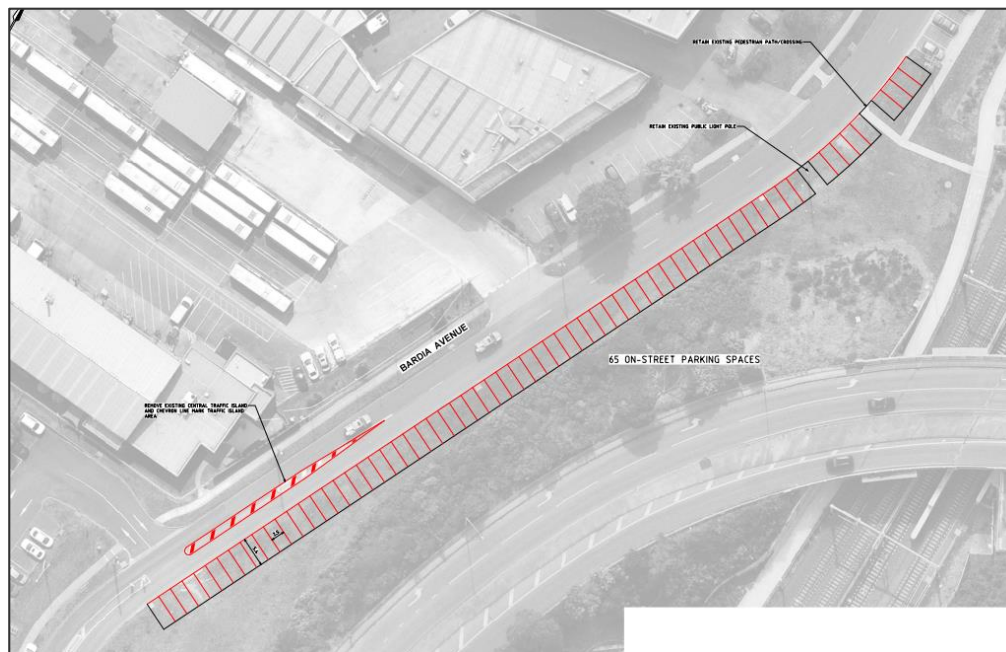
6.4.2.3 Bardia Avenue On-Street Parking

With regard to parking on Bardia Avenue, the existing on-street parking provided north of the site provides approximately 60 spaces. It is assumed these spaces would be largely occupied during weekdays by the adjacent industrial precinct, but would become more available in the evening after business hours, and on weekends. These spaces are theoretically available for stadium users, however are located a significant distance from the stadium (between 200 m and 750 m), and therefore should not be relied upon for parking for the site.

There is potential to provide additional on-street parking on Bardia Avenue, south of the existing parking (opposite the Bardia Avenue site access). A concept plan of the parking spaces is provided in Appendix A, with an extract shown below which indicates that up to 65 spaces can be provided.

As these spaces would be located on Council land and available to the general public, the full provision of spaces cannot be realistically relied upon for use by the site. For assessment purposes, it will be assumed 52 spaces (80%) would be occupied and available for use during the peak periods.

Figure 35 Bardia Avenue On-Street Parking Concept Plan





6.4.3 Summary of Additional Car Parking Opportunities

A summary of the above parking opportunities is provided below.

Table 9 Additional Parking Opportunities

Components	Potential Additional Parking Spaces		
	4:00pm	5:30pm	7:00pm
On-Site At-Grade Parking*	27	27	27
Formalised Kananook Reserve Parking (west)	0	0	0
Formalised Kananook Reserve Parking (south/east)	54	54	54
Additional Multi-deck Level	90	90	90
Kananook Station Car Park	16	44	85
McCulloch Avenue and Easton Avenue On-Street Parking	29	31	35
Bardia Avenue On-Street Parking	52	52	52

*These values relate to the extra spaces over the existing supply in this area. Additionally, the stadium building for several options extends into this area and therefore cannot be relied on for additional parking for those respective options.



7 PARKING IMPLICATIONS FOR PREFERRED OPTIONS

7.1 Overview

It is understood that Council has narrowed the initial options provided to the following:

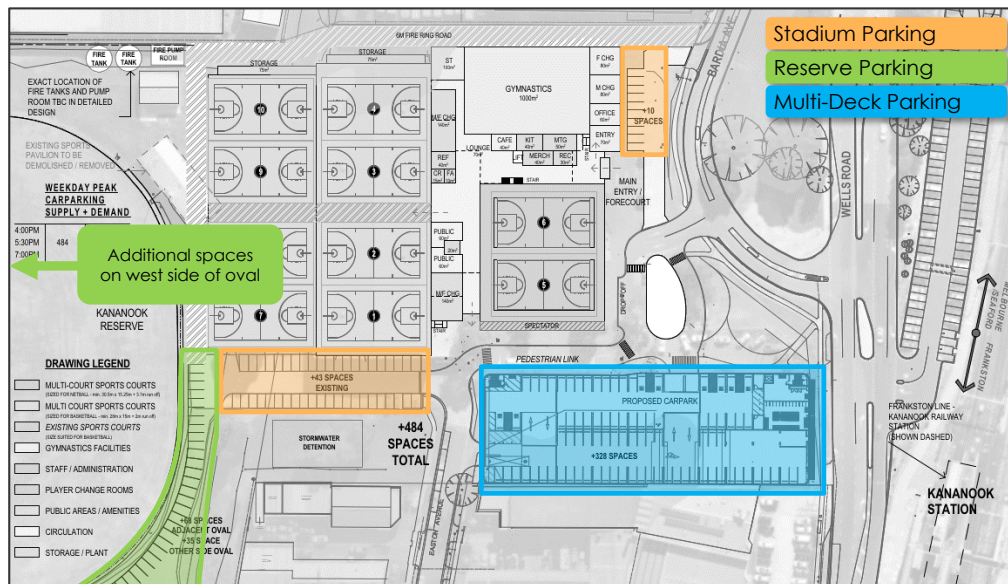
- SK05 (10 Courts + Gymnastics); and
- SK05C (10 Courts – no Gymnastics)

An assessment of the parking demands and provision for these options has been undertaken in the sections below, taking into consideration the additional car parking opportunities mentioned above.

7.2 SK05 (10 Courts + Gymnastics)

SK05 provides a total of 481 spaces comprising 53 stadium spaces, 103 reserve spaces, and 325 multi-deck spaces, as shown below in Figure 36.

Figure 36 SK05 (10 Courts & Gymnastics)



As stated in Table 8, this option results in an expected parking demand for 154 additional spaces for the stadium and gymnastics, and a peak demand 512 spaces for the entire precinct.

An overview of the additional parking opportunities and parking demands for this option is provided in Table 10. It can be seen that any of the options for additional car parking would accommodate the peak demands for this option. Nevertheless, it is recommended that from an operational perspective a slight 'over supply' of parking is provided, to limit users needing to circulate the entire precinct to find one of the last available parking spaces at peak times.



Table 10 Additional Parking Opportunities – SK05

Component	Parking Spaces		
	4:00pm	5:30pm	7:00pm
Option SK05 Parking Supply*	481	481	481
Precinct Parking Demand (including 10 Courts + Gymnastics, reserve and commuters)	469	512	437
Surplus (+) / Shortfall (-)	+12	-31	+44
On-site At-grade Parking**	N/A	N/A	N/A
Formalised Kananook Reserve Parking (east)	0	0	0
Formalised Kananook Reserve Parking (south)	54	54	54
Additional Multi-deck Level	90	90	90
Kananook Station Car Park	16	44	85
McCulloch Avenue and Easton Avenue On-Street Parking	29	31	35
Bardia Avenue On-Street Parking	52	52	52

*Includes 35 spaces in the western Kananook Reserve informal parking area.

**The Option 5 stadium building extends into this area and therefore cannot be relied on for additional parking.



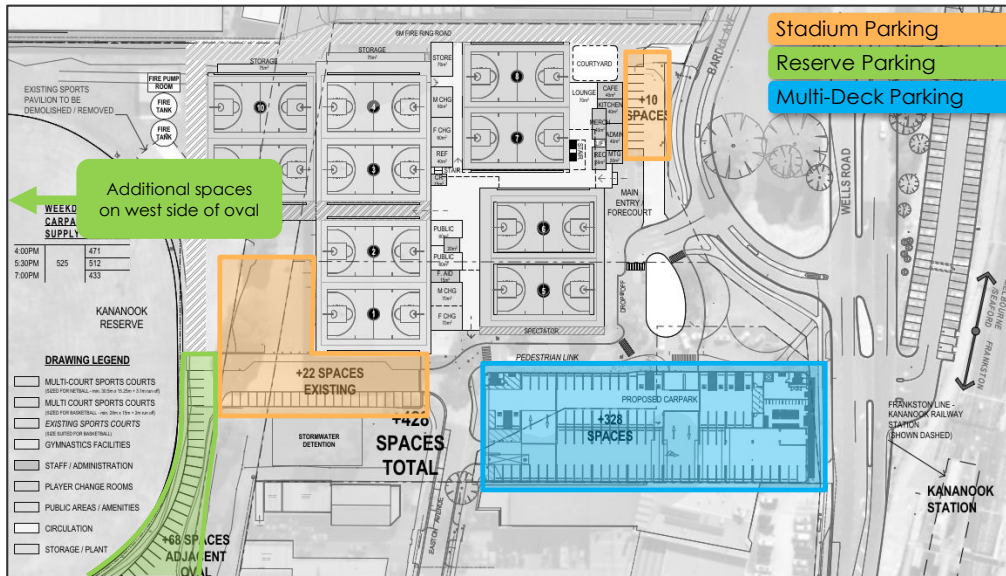
7.3 SK05C (10 Courts – No Gymnastics)

SK05C provides a total of 10 courts as per the previous option, but does not include the gymnastics space, therefore reducing the sitewide parking demand to 486 spaces (26 space reduction).

Additionally, the 'on-site at-grade parking' which could not be used previously due to the building position will remain with this option. This area currently provided 20 parking spaces.

As such, Option 2-SK05C provides a total of 501 parking spaces comprising 73 stadium spaces, 103 reserve spaces, and 325 multi-deck spaces. The layout is shown in Figure 37 below.

Figure 37 SK05C (10 Courts)



An overview of the additional parking opportunities and parking demands for this option is provided in Table 11. It is shown that the provision of parking is exceeds the anticipated demand at all times. As mentioned above for option SK05, it is recommended that the provision should exceed the supply by around 10% to make it easier for people to find a parking space at peak times, and reduce instances of vehicles circulating to find the remaining vacant spaces.



Table 11 Additional Parking Opportunities – SK05C

Component	Parking Spaces		
	4:00pm	5:30pm	7:00pm
Option SK05C Parking Supply*	501	501	501
Precinct Parking Demand (including 10 Courts, reserve and commuters)	453	486	411
Surplus (+) / Shortfall (-)	+48	+15	+90
On-site At-grade Parking**	27	27	27
Formalised Kananook Reserve Parking (east)	0	0	0
Formalised Kananook Reserve Parking (south)	54	54	54
Additional Multi-deck Level	90	90	90
Kananook Station Car Park	16	44	85
McCulloch Avenue and Easton Avenue On-Street Parking	29	31	35
Bardia Avenue On-Street Parking	52	52	52

*Includes 35 spaces in the western Kananook Reserve informal parking area.

**These values relate to the extra spaces over the existing supply in this area.



8 TRAFFIC

8.1 Traffic Generation

8.1.1 General

As established in the parking section above, peak occupancy is expected to occur at 5:30pm when a large portion of commuters occupy the multi-deck car park, and all basketball courts are in use. Therefore, the following section will assess the traffic volumes during this period, between 5:30pm and 6:30pm. This coincides with the existing peak period on site as established in section 2.6.1.

Furthermore, it will be assumed that 6 additional courts are being provided (and the gymnastics use) for the purposes of a conservative assessment.

8.1.2 Basketball Stadium

Case study data from other consultants for various basketball facilities indicates a traffic generation rate of 50 movements per court. Applying this rate to the 6 additional courts equates to 300 vehicle movements.

Applying the same rate to the gymnastics use equates to 50 additional vehicle movements and 350 movements total (additional courts + gymnastics use).

As per the existing traffic distribution on the site, 52% of the traffic volumes will be directed inbound and 48% outbound, equating to the following traffic volumes.

- 182 inbound movements
- 168 outbound movements.

8.1.3 Multi-Deck Car Park

Previous work undertaken by **onemilegrid** for the multi-deck car park produced the following PM peak hour traffic generation rates.

Table 12 Kananook Station – Traffic Generation Rates

<i>Period</i>	<i>Inbound (movements/space)</i>	<i>Outbound (movements/space)</i>
PM Peak	0.13	0.23

Applying this to the 325 spaces within the multi-deck car park results in the following vehicle movements.

- 42 inbound movements
- 75 outbound movements.



8.1.4 Total

A summary of the above traffic generation during the PM peak hour is provided below. The AM peak hour traffic volumes will be significantly lower as the stadium will be operating at a reduced capacity (or not at all). Therefore, only the PM peak hour has been assessed.

Table 13 Total Traffic Generation – PM Peak

<i>Component</i>	<i>Inbound</i>	<i>Outbound</i>	<i>Total</i>
Additional Stadium	182	168	350
Multi Deck Car Park	42	75	117
Total	224	243	467

8.2 Traffic Distribution

The distribution of vehicles at each of the site accesses will be adopted based on the existing distribution from the traffic surveys. As visitors/patrons will no longer be able to use the northern site access from Bardia Avenue, all of the existing traffic at this access will be shifted to the southern Bardia Avenue access.

The adopted site access distribution is shown below in Table 14.

Table 14 Adopted Directional Traffic Distribution – Site Access

<i>Origin/Destination</i>	<i>Percentage</i>
Bardia Avenue – South	77%
McCulloch Avenue	8%
Easton Avenue	15%

Additionally, the below external traffic distribution has been adopted, based on the location of the site in relation to the arterial road network, schools, recreation, retail precincts and residential areas.

Table 15 Adopted Directional Traffic Distribution – External Road Network

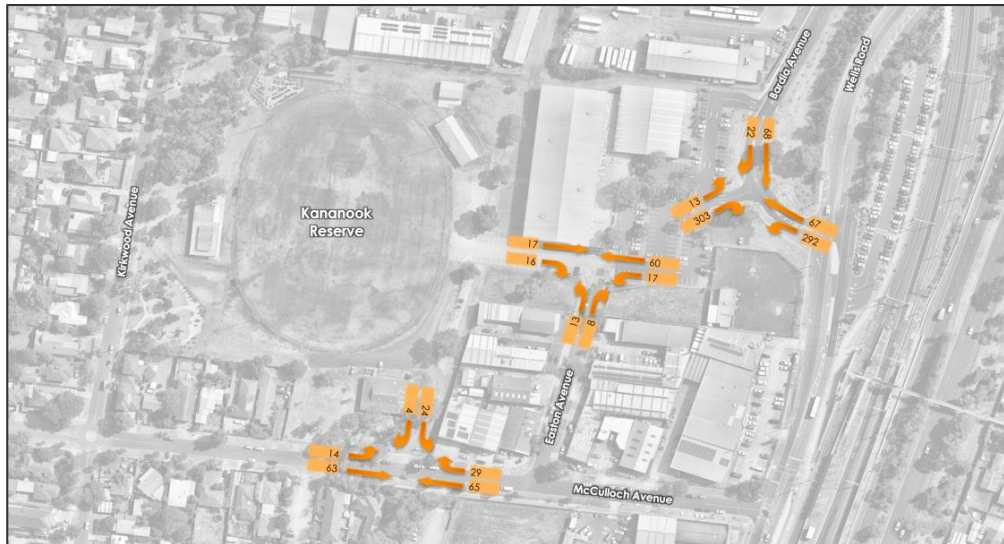
<i>Origin/Destination</i>	<i>Percentage</i>
Bardia Avenue – North	2%
McCulloch Avenue – West	2%
Wells Road – North	48%
Wells Road – South	48%



8.3 Future Traffic Volumes

Based on the above, the future traffic volumes for the site access points are shown in Figure 38 below.

Figure 38 Future PM Traffic Volumes – 5:30pm – 6:30pm



Furthermore, the additional stadium volumes have been superimposed onto the future traffic volumes at the Wells Road / Bardia Avenue intersection, as previously assessed as part of the multi-deck works, and as discussed in Section 3.2. The traffic volumes previously shown have already accounted for the commuter parking movements for the multi-deck.

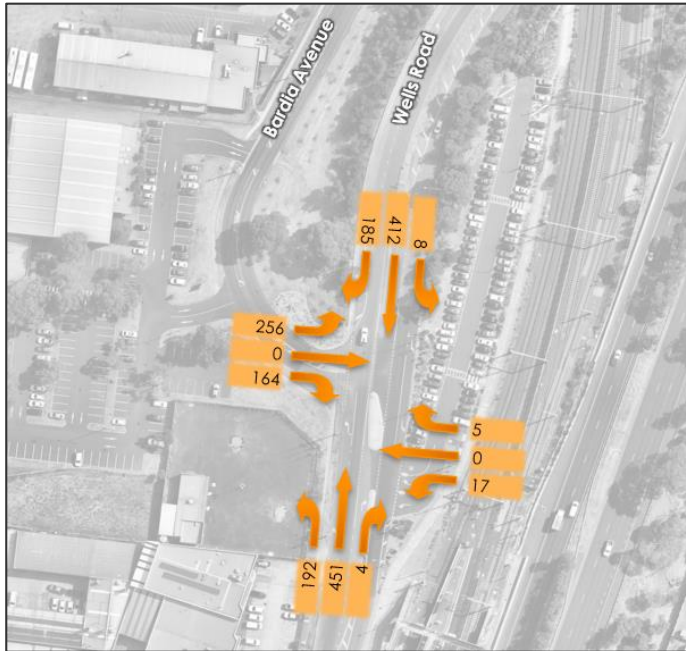
The peak hour volumes at this intersection (4:00pm – 5:00pm) differs from the site access peak (5:30pm – 6:30pm). During the Wells Road / Bardia Avenue intersection peak, the stadium volumes will be lower, and conversely when the stadium traffic volumes peak, the Wells Road / Bardia Avenue intersection volumes will be lower.

For the purposes of a conservative assessment, it will be assumed that all uses peak during the same 1-hour road network peak period (4:00 pm – 5:00 pm). Therefore, the peak stadium volumes have been superimposed onto the intersection volumes shown in Section 3.2, which occurs during the road network peak hour.

The future volumes at the Wells Road / Bardia Avenue intersection are shown below in Figure 39. The intersection has been modelled with traffic signals as per the future intersection upgrade works.



Figure 39 Wells Road / Bardia Avenue Future PM Traffic Volumes – 4:00pm – 5:00pm





8.4 Traffic Impact

8.4.1 Intersection Capacity Assessment – Proposed Signals

To assess the operation of the intersection the traffic volumes have been input into SIDRA Intersection, a traffic modelling software package. The results of the SIDRA analysis for this intersection are provided in Table 4.

The 'post multi-deck' columns refer to the traffic volumes after the construction of the multi-deck car park (before the stadium expansion, as shown in Section 3.2), and the 'post stadium' columns refer to the volumes after both the multi-deck construction and the stadium expansion works.

Table 16 Wells Road / Bardia Avenue – Existing/Future Conditions

Approach	Movement	DoS		Avg. Delay (sec)		Queue (m)	
		Post Multi-Deck	Post Stadium	Post Multi-Deck	Post Stadium	Post Multi-Deck	Post Stadium
PM Peak							
Wells Road (South)	Left	0.123	0.193	11.2	12.4	14.8	26.0
	Through	0.649	0.778	33.8	41.0	157.6	188.2
	Right	0.020	0.017	56.4	53.0	1.6	1.5
Kananook Station (East)	Left	0.069	0.059	32.1	30.0	4.1	3.8
	Through	0.068	0.068	61.4	61.4	2.6	2.6
	Right	0.068	0.068	66.9	66.9	2.6	2.6
Wells Road (North)	Left	0.011	0.011	25.2	26.5	2.0	2.0
	Through	0.594	0.710	32.9	38.2	140.0	162.4
	Right	0.604	0.767	61.8	63.3	53.3	85.8
Bardia Avenue (West)	Left	0.633	0.784	46.2	48.1	118.3	175.1
	Through	0.633	0.784	40.6	42.6	118.3	175.1
	Right	0.633	0.784	46.2	48.1	118.3	175.1

It is shown above that the intersection is expected to operate under good conditions during the PM peak hour period, with the critical movements associated with vehicles exiting Bardia Avenue. Nevertheless, it is noted the queue lengths on Bardia Avenue would be expected to increase to 175.1 metres which would extend back into the Bardia Avenue site access point.

An opportunity to mitigate these extensive queues is to introduce an additional 30 metre long turn lane on the Bardia Avenue leg to provide dedicated left and right turn lanes, as shown in Figure 40. The SIDRA analysis has been updated with this change implemented, with the results provided in Table 17.



Figure 40 Intersection Works With Additional Lane on Bardia Avenue

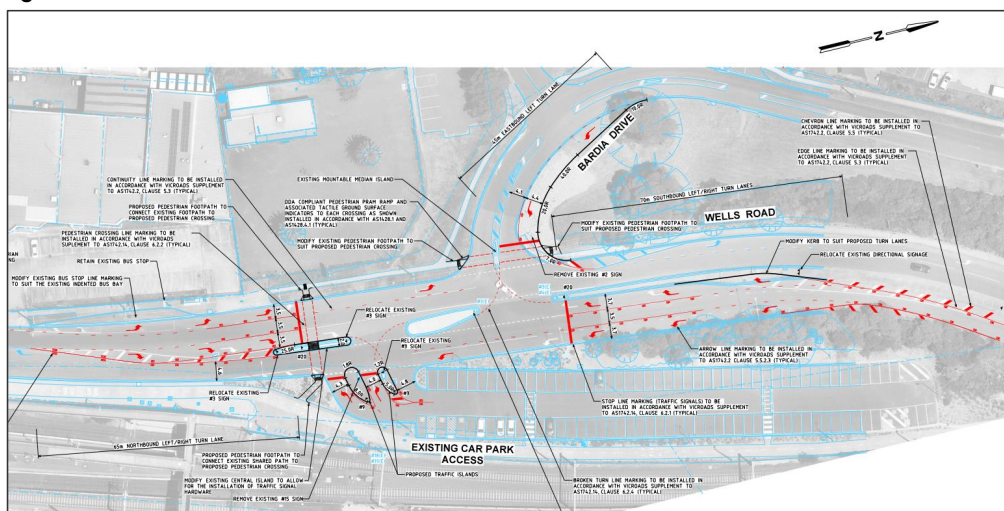


Table 17 Wells Road / Bardia Avenue Future Conditions – Additional Turn Lane

Approach	Movement	DoS		Avg. Delay (sec)		Queue (m)	
		Existing Geometry	Additional Turn Lane	Existing Geometry	Additional Turn Lane	Existing Geometry	Additional Turn Lane
PM Peak							
Wells Road (South)	Left	0.193	0.202	12.4	13.4	26.0	28.2
	Through	0.778	0.674	41.0	33.6	188.2	168.7
	Right	0.017	0.014	53.0	50.2	1.5	1.5
Kananook Station (East)	Left	0.059	0.051	30.0	30.0	3.8	4.2
	Through	0.068	0.068	61.4	61.4	2.6	2.6
	Right	0.068	0.068	66.9	66.9	2.6	2.6
Wells Road (North)	Left	0.011	0.010	26.5	22.9	2.0	1.8
	Through	0.710	0.615	38.2	32.6	162.4	149.7
	Right	0.767	0.652	63.3	57.3	85.8	79.9
Bardia Avenue (West)	Left	0.784	0.439	48.1	30.3	175.1	74.9
	Through	0.784	0.649	42.6	45.6	175.1	64.6
	Right	0.784	0.649	48.1	51.2	175.1	64.6

As shown above, the introduction of a dedicated left turn lane has significantly reduced the queue lengths on Bardia Avenue, and improved the overall performance of the intersection.

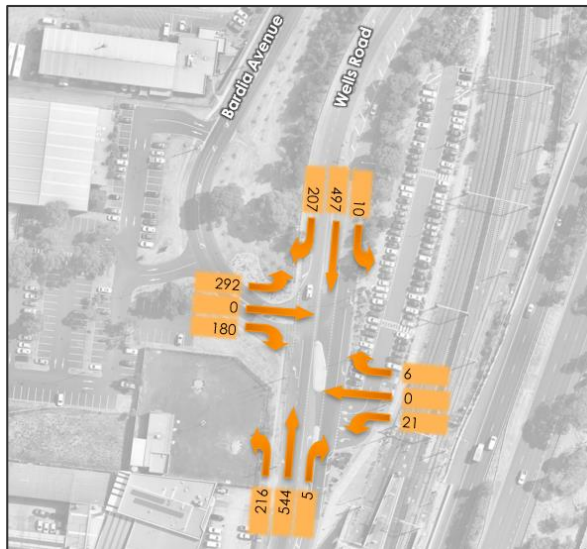


8.4.2 Accommodation of Traffic Volume Growth

To ensure that the intersection will operate appropriately into the future, an assessment incorporating traffic volume growth has been undertaken.

Growth rates of 2% per year (compound) have been applied to the existing traffic volumes over a 10-year period, equivalent to a 22% increase in traffic volumes. The traffic volumes anticipated to be generated by the stadium expansion and the multi-deck car park were then added to give the traffic volumes at the 10 year design horizon as shown in Figure 41.

Figure 41 10 Year Design Horizon – PM Peak Traffic Volumes



The results of the SIDRA analysis of the future growth volumes have been provided in Table 18. Both the existing intersection geometry and the option with the additional turn lane has been assessed.

Table 18 Wells Road / Bardia Avenue – Signalised Intersection – 10 Year Horizon

Approach	Movement	Dos		Avg. Delay (sec)		Queue (m)	
		Existing Geometry	Additional Turn Lane	Existing Geometry	Additional Turn Lane	Existing Geometry	Additional Turn Lane
PM Peak							
Wells Road (south)	Left	0.214	0.231	12.2	13.9	28.7	33.1
	Through	0.892	0.718	52.1	30.4	269.4	200.5
	Right	0.022	0.017	54.3	49.3	2.0	1.8
Kananook Station (east)	Left	0.076	0.060	30.9	31.9	4.9	5.8
	Through	0.080	0.080	61.5	61.5	3.1	3.1
Wells Road (north)	Right	0.080	0.080	67.1	67.1	3.1	3.1
	Left	0.013	0.011	25.3	19.8	2.5	2.1
Bardia Avenue (west)	Through	0.818	0.656	42.4	29.3	215.7	176.5
	Right	0.911	0.694	76.7	57.5	109.6	90.6
Bardia Avenue (west)	Left	0.902	0.448	63.1	35.7	237.6	95.7
	Through	0.902	0.694	57.5	54.4	237.6	78.5
	Right	0.902	0.694	63.1	60.0	237.6	78.5



As shown above, the intersection is expected to operate under poor conditions with the existing intersection configuration, with increases in delays and queue lengths experienced compared to the post development operation. Specifically, the movements in and out of Bardia Avenue operate with the worst performance. The additional turn lane on Bardia Avenue will improve this performance and reduce queue lengths significantly.

It is reiterated that the intersection volumes are considered conservative as it has assumed the stadium volumes will peak during the multi-deck peak and road network peak period. In practice, the stadium traffic will likely be the highest in the evening when fewer vehicles are on the road network. Additionally, the stadium traffic volumes adopted have assumed that 6 additional courts will be provided, which is yet to be confirmed. Intersection operations would naturally be improved if fewer courts were provided.



9 CONCLUSIONS

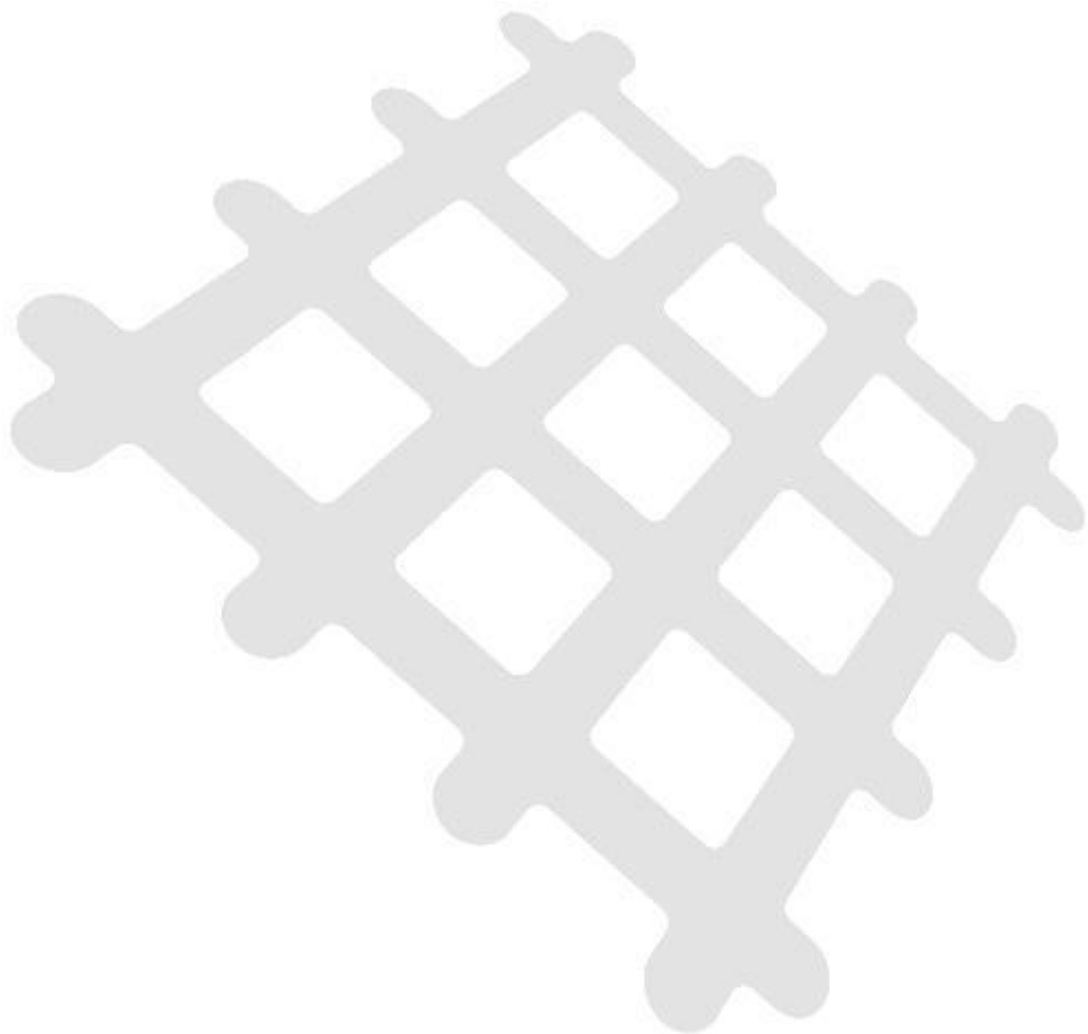
Council are seeking opportunities to expand the existing basketball centre to provide up to 6 additional courts. The internal accessways and car parking will be modified to provide 43 stadium car parking spaces, with an additional 325 spaces within the multi-deck commuter car park and 103 spaces within the Kananook Reserve parking areas.

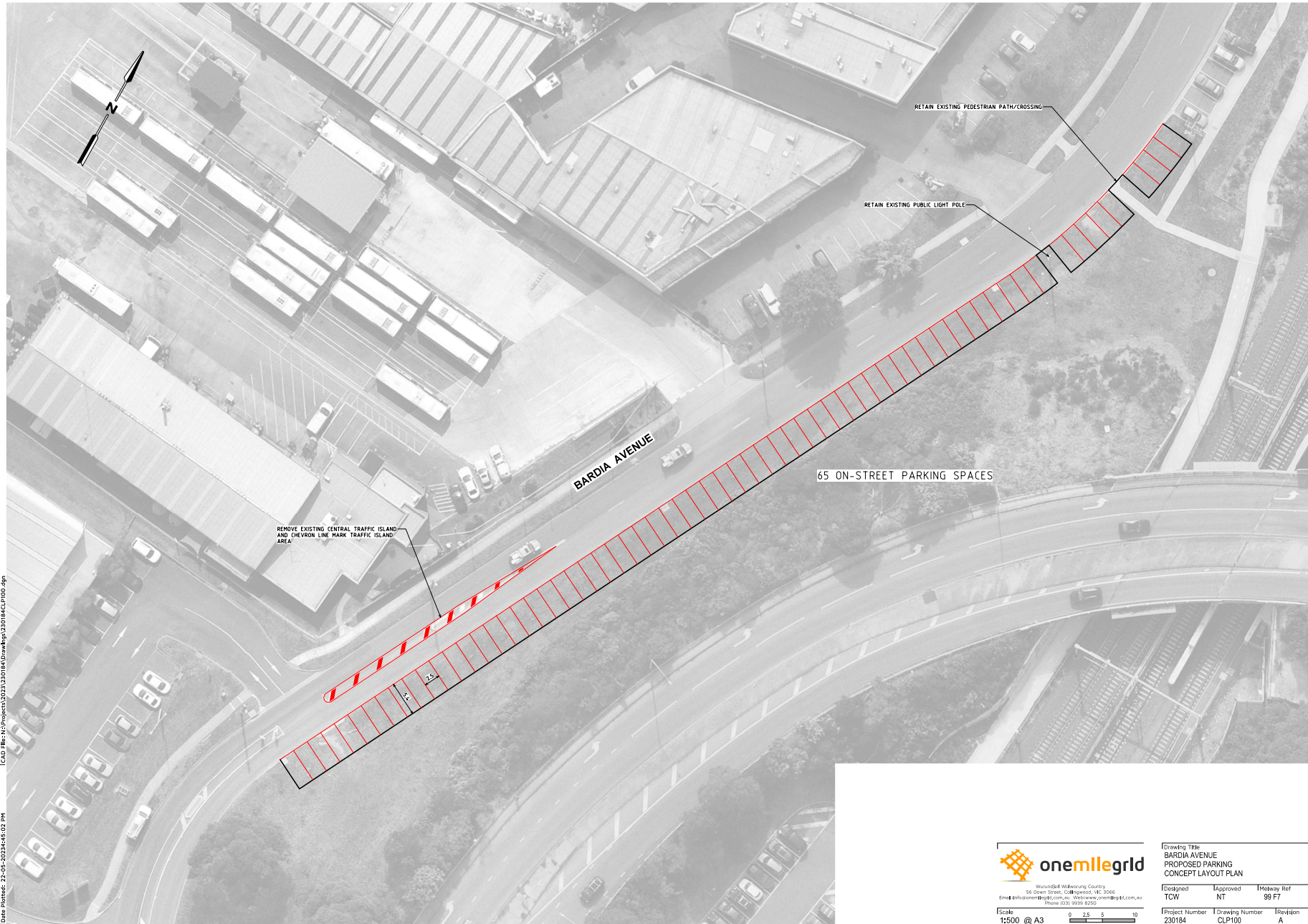
Considering the analysis presented above, it is concluded that:

- It is recommended to provide bicycle parking in line with the Planning Scheme Requirements;
- Peak parking demands are expected to occur at 5:30 pm when there is a crossover in parking demands between the stadium, the reserve and commuters using the multi-deck car park;
- After the stadium expansion and the construction of the multi-deck car park, the precinct will comprise between 481 and 501 spaces (depending on design option);
- The stadium car park, multi-deck car park and Kananook Reserve car park must all be relied upon to accommodate the peak parking demands for the stadium;
- There is potential to provide additional car parking (above and beyond the development requirements) within and outside the precinct, including:
 - + The formalised reserve parking area;
 - + An additional level to the commuter multi-deck car park;
 - + Reliance on the Kananook Station car park; and
 - + Reliance on nearby on-street car parking.
- The suitability of car parking for the site is dependent on the number of additional courts provided and additional parking opportunities pursued.
- It is proposed to signalise the Wells Road / Bardia Avenue intersection as part of previously approved works for the multi-deck car park;
- The additional traffic generated by the stadium is expected to be accommodated by the signalised intersection, both immediately after construction and over a 10-year period; and
- The introduction of a separate left-turn lane on the western leg of the Bardia Avenue / Wells Road intersection will increase the overall intersection performance and reduce delays on Bardia Avenue.



Appendix A Concept Layout Plan





CAD File: \Projects\2023\30184\Drawings\30184_CLP100.dwg

Date Plotted: 22-09-2023 4:45:02 PM

Copyright:
This document may only be used for the commissioned purpose. No part of this document may be reproduced, modified or transmitted without the written authority of onemilegrid. Unauthorised use of this document in any form is prohibited.

Copyright © 2023 onemilegrid, a subsidiary of Wurundjeri Woiwurrup, Country of the Aboriginal People.
We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land, who care and respect its history and culture, and are proud and emerging for they hold the memories, the traditions, the culture, and the hopes of all Wurundjeri People.

Aerial Photography
Aerial photography provided by Neamair



Wurundjeri Woiwurrup Country
56 Swan Street, Melbourne, VIC 3066
Email: info@onemilegrid.com.au | Web: www.onemilegrid.com.au
Phone: 0311 9999 8200

Scale: 1:500 @ A3
0 2.5 5 10

Drawing Title
BARDIA AVENUE
PROPOSED PARKING
CONCEPT LAYOUT PLAN

Designed TCW	Approved NT	Highway Ref 99 F7
-----------------	----------------	----------------------

Project Number 230184	Drawing Number CLP100	Revision A
--------------------------	--------------------------	---------------