GENG5505 (Sem1, 2023) - Major Group Project Marking Guide

Group Name:	Wednesday 5pm Group E		
Project Name:	Walyalup Civic Centre		
Tutorial class attended:	Wednesday 5pm		
Student Name	Aneena Sebastian	**Student ID**	23843815
Student Name	Marco Sham	**Student ID**	22707671
Student Name	Nikhil Sunil Kumar	**Student ID**	23664979
Student Name	Shubo Sun	**Student ID**	22179939
Student Name	Yazhen Tian	**Student ID**	22942152
Student Name		**Student ID**	
Student Name		**Student ID**	

CONTENT ASSESSMENT CRITERIA

Marking	**Very Poor**		**Fair**		**Good**		**Excellent**	
Executive Summary (Maximum 1 page)								
Clarity & conciseness	0-1.5	2	2.5	3	3.5	4	5	
Executive Summary - Total								**/5**
Section A: Case study writing (Approx. 1,500 words)								
Clarity & conciseness of project background	0	4	5	6	7	8	10	
Quality & relevance of research material (i.e. info/facts)	0	4	5	6	7	8	10	
Total Section A								**/20**
Section B: Case Study Analysis (Approx. 2,500 words)								
Introduction (clarity of purpose & conciseness)	0-1.5	2	2.5	3	3.5	4	5	
Use & relevance of theories, models & frameworks	0	4	5	6	7	8	10	
Depth of analysis, clear & logical argument	0	4	5	6	7	8	10	
Total Section B								**/25**
Section C: Recommendations to the case (Approx. 2,000 words)								
Use & relevance of theories, models & frameworks	0	4	5	6	7	8	10	
Relevance & justification of recommendations	0-2.5	3	3.5	4	5	6	7.5	
Insight & synthesis, clear & logical argument	0-2.5	3	3.5	4	5	6	7.5	
Total Section C								**/25**
Conclusion (Maximum 1 page)								
Logical summary	0-1.5	2	2.5	3	3.5	4	5	
Conclusion - Total								**/5**
Table of contents (compulsory), references & appendices								
Appropriate table of contents, appendices & references	0-1.5	2	2.5	3	3.5	4	5	
Table of contents, references & appendices – Total								**/5**
Group meetings (agenda & minutes)								
Relevance & consistency of issues & outcome	0	4	5	6	7	8	10	
Clarity, conciseness, team reflections and leadership	0-1.5	2	2.5	3	3.5	4	5	
Group meetings (agenda & minutes) - Total								**/15**

TOTAL GROUP MARK /100 _____**%**

Additional comments (if required):

Walyalup Civic Centre Project

UNIT COORDINATOR: PROF. COSIMO FAIELLO

GENG5505: PROJECT MANAGEMENT AND ENGINEERING PRACTICE

WEDNESDAY 5PM GROUP E

ANEENA SEBASTIAN	23843815
MARCO SHAM	22707671
NIKHIL SUNIL KUMAR	23664979
SHUBO SUN	22179939
YAZHEN TIAN	22942152

Table of Contents

Report Section	Recommended	Actual
Executive summary	-	406
Section A: Case Study	1,500 ± 75	1447
Section B: Case Study Analysis	2,500 ± 125	2539
Section C: Recommendations	2,000 ± 100	2007
Conclusion	-	248
Total	6,000 ± 300	5993

List of Abbreviations

Abbreviations	Full Name
CEO	Chief Executive Officer
EOI	Expression of Interest
KHA	KHA Kerry Hill Architects
LED	Light Emitting Diode
OSH	Occupational Safety and Health
PBA	Project Bank Account
PCG	Project Control Group
PMBOK	Project Management Body of Knowledge
PSG	Partnership Steering Group
RACI	Responsible Hence the Acronym
RFT	Request For Tender
TBL	Heritage Impact Statement
WBS	Work Breakdown Structure
WCC	Walyalup Civic Centre

Executive Summary

The Walyalup Civic Centre (WCC) construction project is part of the Kings Square Renewal Project approved by the Fremantle Council. This report provides a detailed analysis of the WCC project management. The project was designed by Kerry Hill Architects and managed by Pindan Construction in the initial phases and later by the CDI Group. The WCC was designed to reduce the operational and maintenance costs and to improve the efficiency of the old administration building but without affecting the integrity of the nearby cultural heritage sites. The newly constructed building has an award-winning design which aims to provide sustainability, economic integrity, and social benefits to the community.

We have done a thorough investigation on the project and identified several issues regarding its project management and suggested several recommendations that could have helped mitigate those issues. The critical analysis and recommendations were made with reference to the project management concepts and frameworks. In section A, we provide the project background with a major focus on its justification, overall budget, key stakeholders and several issues and competencies.

In Section B we have done the critical analysis of the project management. Initially all the separate phases of the project lifecycle were defined and then we identified all the effectiveness and shortcomings of the management with reference to Project Management Body of Knowledge (PMBOK) competencies. The project started off with the conceptualisation phase and during this phase an appropriate site was identified for the project and studies were carried out to understand its economic feasibility. It was followed by the Planning phase in which we addressed the importance of stakeholder management. A key issue in the planning phase was not accurately assessing the financial risk, which resulted in the project going over budget. Execution of the project had some issues that led to fire pump failure and flooding

inside the building. The finalisation phase addressed drawbacks of Work Breakdown Structure and how they tried to solve the issues identified in planning and execution stage.

While some problems were handled correctly, others may have been solved by using better approaches. Section C presents these recommendations or changes that could be applied to the project lifecycle components from appropriate theories and conceptual frameworks from the course. Although the WCC project became successful in providing a sustainable and community-focused infrastructure, even better outcomes have been possible with stronger project management strategies in the areas of stakeholder, communication, time, cost, procurement management.

1 Section A: Case Study

1.1 Introduction

The Walyalup Civic Centre (WCC) was designed by Kerry Hill Architects (KHA) and is located in Walyalup Koort (formerly Kings Square) - the central square in Fremantle, Western Australia (*Figure 1*). The project was physically completed at the end of October 2021 and subsequently opened to the public with services commencing on 22 November 2021. The WCC project includes offices for the Fremantle City Council, the Fremantle Library and a visitor centre with meeting rooms, art galleries and exhibition spaces for public use. The spaces are intended to provide cultural, social and recreational activities for local residents and visitors, as well as a venue for various meetings and events for Fremantle City Council and other organisations. Importantly, the design of the WCC embraces not only the importance of the site as a historic town centre, but also its thousands of years of indigenous history. The WCC project is one of the largest infrastructure projects in Fremantle's history and is one of the most iconic cultural and arts centres in the Perth region.

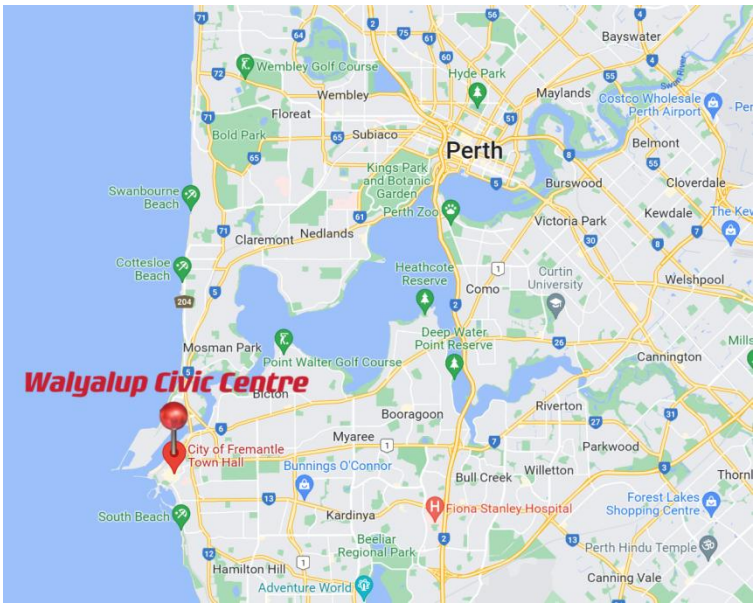


Figure 1 - Location of the Walyalup Civic Centre

1.2 WCC Project & Context

Walyalup Koort, where the WCC project is located, has been the civic and geographical centre of Fremantle since the town hall was built in the 1880s. Walyalup is the traditional Aboriginal name for Fremantle, while Koort means heart. In recent years, its status as the centre of Fremantle's central business district has been declining. The urban design strategy for King's Square was to assess the function and form of the square and the surrounding area and to develop a strategy to revitalise its position as the true urban centre of Fremantle, Walyalup Koort is a space that has been extensively used by the community for market and public events, entertainment and council business. The urban design strategy sees the square as a civic centre and a key business hub for the regeneration of Fremantle.Walyalup Koort responds and connects to everything Fremantle has to offer.

Figure 2 - Kings Square in 1971

Figure 3 - Walyalup Koort (formerly Kings Square) in 2021

The WCC is essentially a part of the 230 million AUD Kings Square renewal project. It all started off in 2004 when the Fremantle council developed the civic area redevelopment project after they found out that the that the old administration building was inefficient from both an environmental and operating cost perspective. The building was suffering from suffering from concrete cancer, severe asbestos contamination and it was also unable to meet the legal disability requirements and all these issues meant that it needed large amounts of money annually for the maintenance costs (City of Fremantle n.d.).

The Kings Square renewal project's main aim was to redevelop the region within the Kings Square which included the city owned buildings as well as privately owned Myer building. However, the project was put on a hold until 2011 when the council was forced to look into the subject as there was a considerable decline in the economy of Fremantle. The situation became even worse when Hoyts cinemas one of the major tenants in the Qeensgate complex decided not to renew their lease in 2012 due to the failing structural standards of the building and Myer, one of the large retail stores was forced to close down their store in 2013 due to a decline in the importance of department stores. Therefore, to rebuild the economy of Fremantle, the council was forced to establish new economic development and planning strategies to attract more investments which in turn will generate jobs and will encourage people to come and work in the region. The redevelopment of the Kings Square and upgrading the public spaces surrounding the square was one of the major steps in achieving that. And to keep the project running the Fremantle council signed a commercial agreement with Sirona Capital to fund the project which includes the redevelopment of the old Myer building and Qeensgate which formed a broader part of the Kings Square. However, Sirona Capital would not have invested in the project unless and until Fremantle city would commit to redeveloping the civic and community facilities in the square.

Finally, a total budget of 41.3 million AUD was approved for rebuilding the civic centre but to allow the installation of a new fire protection system and include several

other improvements the budget amount was further increased to 42.6 million AUD. The approval for a new civic centre meant that it would get new looks, with better functioning, less maintenance costs and it will also reduce the need for costly extensions and technology upgrades in the future (City of Fremantle n.d.).

1.3 Human Resources

The Partnership Steering Group (PSC) plays a key role in a project or partnership. The PCG is made up of at least one member from each partner organisation and is designed to jointly lead and oversee the implementation of a project or partnership. The PSG for the WCC project is made up of members of the City of Fremantle, KHA and Pindan teams. Each member of the PSC provides a letter of support before the project Each member of the PSC provides a letter of support prior to the start of the project. The PSC helps to ensure that the project or partnership runs smoothly and ultimately achieves its objectives.

In parallel, the city proposed an internal Project Control Group (PCG) process, outsourced project management, a robust governance framework and dedicated (external) development management resources to support the project.

1.4 Key Stakeholder

"Stakeholders can come from all levels of the organization, and if they are involved in your project, they are important" (Martins, 2023). WCC as a public project has a very broad stakeholder. The public areas of the WCC project can be used throughout the week and during the day, from early morning to late evening to attract visitors from a variety of key stakeholders, including elementary and high school children, university students, families, empty nesters, retirees, day trippers and tourists. The data shows (Table 1) that families and young adults are the most popular key stakeholders for WCC projects. Stakeholders in the conference room, on the other hand, mainly include government, companies and many community groups. Table 2 shows the main stakeholders involved in the WCC project.

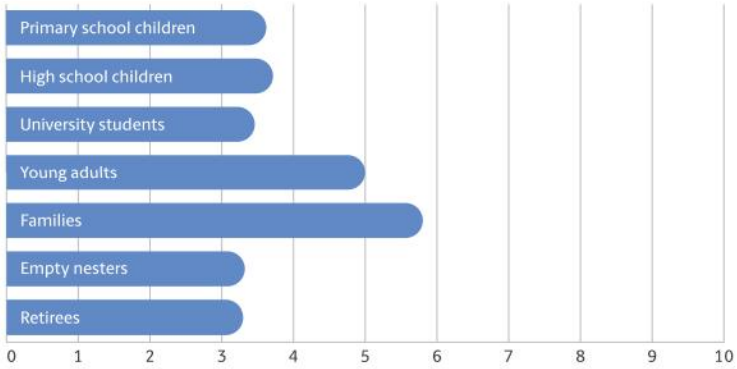


Table 1 - Key Stakeholders in Public Areas

Architectural design	➢ **Kerry Hill Architects** – Architects based in Singapore and Western Australia (Vivian, 2023)
Consultants	➢ **Acoustic Consultant** – Marshall Day Acoustics ➢ **Building surveyor** – Resolve Group ➢ **Electrical engineering, vertical transport** – BEST Consultants ➢ **Civil and fire consultant** – Stantec Australia ➢ **Façade engineer** – Inhabit Group ➢ **Heritage Consultant** – Hocking Heritage ➢ **Lighting commissioning** – Firefly Point of View ➢ **Traffic Consultant** – Edge Transport Solution ➢ **Waste Consultant**

	– Encycle Consulting
Government Agencies	➢ **City of Fremantle**
Service	➢ **Customers** – The library user ➢ **Renter** – The meeting room renter
Contractor	➢ **Pindan Constructions** ➢ **CDI Group**
Other	➢ **property owners** ➢ **Community groups** ➢ **Fremantle business community** ➢ **Department of Communities (Martins, 2023)** ➢ **General public** ➢ **City of Fremantle Elected Members** ➢ **Fremantle Council** – Concerning the finances of the Walyalup Civic Centre (Loopers, 2020)

Table 2 - Key Stakeholders

1.5 Issues/Competencies Relevant to Further Discussion

Throughout the lifespan of the WCC project, unexpected and unforecastable problems had arisen such as the liquidation Pindan, the main contractor with the construction of the civic centre and the introduction of the Covid lockdowns restrictions. These are problems that required quick action and a better understanding of the risk factors to determine the most effective control and treatment strategy.

At the beginning of the project, an audit and risk management committee were formed and had discussions of possible problems arising for the duration of the project. The

discussion is all documented in a risk register summary. Which has outlined the risk event, the estimation of the possibility of the risk occurring, an estimation of the importance of the risk and a mitigation strategy. These assessments are then assigned to individuals responsible for the risk with target date to action the mitigation strategy. The outcomes from the mitigation and evidence supporting the outcome to produce must be documented after which produces accountability.

COVID-19 has impacted Pindan's supply chain due to delays in importing some materials, but the team has worked together very well to reschedule the work and ensure that the building is completed on time (Centre, 2022). The city maintenance workers protested the council to remove clause 19.3.2 of the contract which allows the council to force workers into unpaid leave if they do not have enough holidays to get them through a partial shutdown. The deputy mayor Andrew Sullivan handled the situation by explaining the rules and by pointing out that the clause has been in place since 2011 (Herald, 2021).

2 Section B: Case Study Analysis

2.1 Introduction

The lifecycle of the WCC project consists of four main phases. These are the conceptualisation, planning, execution, and finalisation phase. The significance of analyzing the project lifecycle is to help project managers understand the phases from inception to completion, and the work and resources required for each phase. This helps managers to plan and budget appropriately to ensure that projects are completed on time and remain efficient and effective throughout the process. This section unpacks the project-related deficiencies presented in Section A through the four stages of the project lifecycle, analyses the root causes behind these events, and discusses their impact on the project.

2.2 Conceptualization

2.21 Appropriate Site Management

As one of the most important projects in the Kings Square Renewal project, the WWC project is highly valued by the City of Fremantle. Although there are sufficient arguments to demonstrate the WWC project's rationality, it is still necessary to conduct research and protection on issues such as the environment, cultural heritage, traffic, and land use, before the establishment of the project scope.

Fremantle has very distinctive cultural characteristics and a lot of historical background, so this brings up the problem of whether such a large area of construction will destroy the historical heritage and the original environment of this region, or whether it will affect the life and migration of some endangered animals (City of Fremantle, CEO Application Pack, 2022).

Doing research on the local historical heritage and environment and consulting relevant departments can also be a problem, which definitely takes a lot of time and

money, especially under financial pressure. However, good communication with these stakeholders can prove the reasonability of the site selection, and it is a good foundation for follow-up construction work.

2.22 Economic Feasibility Management

Economic feasibility is an important research indicator of whether this project can be approved. Energy consumption is a big problem for a building of this size. If the project team just relies on traditional power supply and energy usage, more wires and pipes are required and water a lot of energy, but using LED and solar energy systems will greatly save operating costs (Tverberg, 2016). WWC project should be under the assessment of the reasonably economic feasibility because of the high operating cost of traditional energy using.

2.23 Scope Management

As the most important guiding direction of the entire project, scope management clearly gives the scope of a project at the beginning of the project (PMBOK, 2013). To meet the needs of people at different stages, WWC project's initial design needs to include government offices, conference rooms that can be rented, public libraries and entertainment facilities, etc. This makes the approval process of the entire project complex and detailed. The advantage is that the scope of the project is better controlled to prevent excessive sprawl. However, a few problems arose that affected the initially set schedule and budget targets, which resulted in changes in the scope.

Figure 4 – WCC Project Concept Drawing

Although the Fremantle government wanted to keep the project going, there were financial disputes during the construction process. Potential problems need to be anticipated in the conceptual stage and corresponding measures must be proposed (Hartley, 2014). However, from the project team's perspective at the time, such potential problems within the scope were unpredictable.

2.3 Planning

After the concept phase, the schedule and work of the whole project is planned. The project team define and assign all the objectives, resources and timelines for the project and other administrative requirements.

2.31 Stakeholder and Communication Management

Stakeholder and communication management are crucial aspects of the planning phase for a WCC project. During this stage, it is necessary to identify, validate, and understand the needs, expectations, and interests of project stakeholders. This approach ensures that the project caters to the needs and expectations of all involved parties, while also helping to prevent conflicts and issues from arising. The WCC project, a public initiative aimed at the general population, involves a diverse and complex array of stakeholders. To accommodate this, the planning stage should address the needs of various stakeholders, considering the unique circumstances of each population group and usage environment.

The primary shortcoming of the WCC project in the planning phase lies in its lack of transparency toward stakeholders. This problem can be attributed to the insufficient identification and analysis of stakeholders, who are diverse in nature. Neglecting to thoroughly identify and analyze all key stakeholders during the planning stage may lead to unmet needs during project implementation. Additionally, it could give rise to unforeseen issues or needs. These factors might contribute to potential problems or conflicts, causing delays, increased costs, or unattained project objectives—ultimately

affecting the project's overall quality and success.

2.32 Procurement Management

Project procurement planning involves decisions made to acquire necessary resources. An assessment is required to determine if the needs are 'best satisfied in the open market.' Procurement management can add value to the project, and planning for procurement is necessary for the project's supply chain strategy (Hartley, 2018).

The city's assessment for choosing a suitable contractor for the WCC was primarily influenced by the cost quoted by the contractor. Inadequate evaluation during the tendering process resulted in a poor choice of contractor. In this case study, Pindan quoted 10 million AUD less than the next contractor (HERALD, Y., 2021). The choice of a fixed-price contract led to significant quality control issues in the project.

The contract's poor quality was also an issue during the planning phase, as it did not accommodate changing project conditions, such as the Covid-19 pandemic and Pindan's liquidation.

Covid-19 forced contractors and suppliers to increase costs and delivery timeframes, placing pressure on work programs and deliveries (Fremantle, 2022). To address this issue, the project team actively liaised with contractors and suppliers, rechecking programs or delivery lead times during the execution phase. This effectively extended the time and cost of the execution phase, resulting in delays to the finalization phase. The pandemic's problems could have been mitigated during the planning phase with better procurement management. More precise contracts would have resulted in fewer delays.

The Pindan liquidation event posed a risk, as the site project team from Pindan had significant knowledge and contractor relationship management in the WCC project. Losing the site project team could have led to considerable risks, costs, and delays

(Fremantle, 2022). The city mitigated this by immediately engaging key Pindan site project team members; however, staff retention remained a risk. Furthermore, materials left by Pindan after the liquidation were untouched due to uncertainties of ownership, causing time delays in the execution phase (Fremantle, 2022). Like with Covid-19, procurement management during the planning phase could have reduced the impact, uncertainties, and delays caused by the liquidation event.

2.33 Risk Management

Risk management during the planning phase allows the project management team to identify most project aspects before the project commences. The city created a risk assessment matrix (*Appendix 4*) in the business plan, identifying several issues:

1) Lack of detailed mitigation strategy:

In the risk mitigation matrix, the risks and mitigation strategies were not defined in detail, resulting in poor execution of mitigation strategies. Poorly defined/planned mitigation strategies are equivalent to having no plan at all, which will result in project delays and increased costs. For instance, unsupervised work by Pindan led to quality issues where welding was misaligned, and there was no proper mitigation strategy for this issue, resulting in lengthy delays for Pindan to correct their mistakes (Loopers, 2021).

2) Identification of only simple risks:

The project team identified and mapped risks but failed to be more comprehensive with risk identification during the planning stage. This resulted in unidentified risks being automatically excluded from further analysis. The project team also failed to consider that risks evolve throughout the project's lifecycle. As a result, no instant approaches could be actioned to address the evolving risks. The lack of risk identification was evident with the liquidation of the main contractor. The loosely defined risk resulted in no specific mitigations planned before the project's execution phase. This issue halted the project as the city

struggled to maintain construction operations.

3) Poor execution of mitigation strategies:

When Pindan faced liquidation, the city had already made strong provisions in their contract with Pindan. This allowed the city to engage with all existing novation deed contractors, who agreed to complete the remaining scope of work (Fremantle, 2021). The issue was that the planning team failed to ensure that the contract fully protected the city from budget repercussions and did not make explicit decisions to commit more resources or budget before the execution phase. Consequently, when the city had to change the main contractor during the project, it resulted in increased project costs and an extended execution phase.

2.4 Executions

2.41 Risk Management

The WCC in Fremantle reached practical completion in late October 2021 and opened to the public for service delivery on November 22, 2021. However, during construction, the building experienced issues, including a flooding incident on November 25th caused by a fire pump failure in the lower ground plant room area (Fremantle, 2022). The problem originated from a valve failure in the basement fire pump plant room, resulting in the room flooding. Water damage was confined to the fire pump room, control panels, and a small area of carpet tiles in the library's rear section. The consequences were severe, necessitating the closure of the facility for employees and the public until December 6, 2021. Rectification work was completed, and the building resumed its original function on December 20, 2021 (Fremantle, 2021). This failure resulted from inadequate implementation of plans established during the planning phase and insufficient fire management measures. The incident could have caused damage to the building's furnishings and equipment.

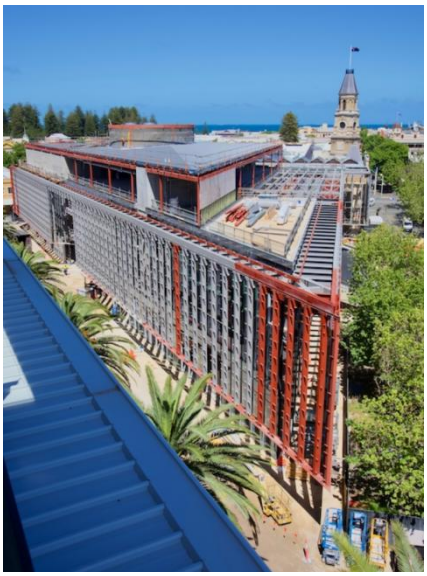


Figure 5 - WCC Project Under Construction

2.42 Procurement Management

During the construction of the building, there were serious concerns regarding violations of the Occupational Health and Safety Act and substandard welding practices. John Dowson, the president of the Fremantle Society, reported that the structural steel frame forming the canopy showed significant sagging, and many bolts failed to align with their intended positions as per the engineering plan. Although initially denying knowledge of these issues, Pindan later admitted to using a mobile crane to lift the sagging canopy structure into its correct position and welding the structure (Loopers, 2021). Furthermore, concerns arose about the rusted surface on the steel framing that supports the alloy façade on the complex's eastern side. Visible rust on the steel framing (Robinson, 2022) may require annual repainting of the frame.

Additional concerns stemmed from the steel being manufactured and fabricated in Vietnam before being imported to Australia. This choice raises questions about the poor-quality welding and camber resulting from the overseas fabrication process. The decision to use Vietnamese steel over Australian steel contradicts the city council's sustainability claims (Loopers, 2021). The WCC project operated under a fixed-price contract model. Although these contracts necessitate a detailed scope or requirements,

internal management problems at Pindan, along with inflation in material costs due to supply chain disruptions caused by the Covid-19 pandemic, led to changes in the project scope during its execution. These changes resulted in the quality issues mentioned above.

2.43 Scope Management

The execution phase also encountered scope management challenges. A lack of detail in the specifications caused confusion regarding contractor responsibilities, leading to incomplete or neglected intended features during construction. Smaller deliverables were not prioritized during construction, particularly when the pandemic caused a shift in organizational culture, enabling scope creep. The combination of scope creep and insufficient detail led to the elimination of agreed-upon aspects of the project due to budget constraints. For example, Ryan from KHA stated in an interview that a miniature pond was initially planned for construction next to the library area. However, due to increased material and labor costs resulting from the pandemic, the pond was abandoned in favor of a more cost-effective alternative, such as a study area.

2.5 Finalisation

The finalisation phase is essentially when the project is being handed over to the client after its completion. During the initial stages of this phase all the contracts are closed, and the resources are either disposed of or reassigned. Final detailed reports are prepared and presented before the project administration is dismissed.

Since Fremantle council wanted to open the WCC to the public before Christmas the Finalisation phase was executed in stages and it started when the construction work was just partially completed. In late October 2021, the building was partially completed and after running preliminary tests the building was opened to the staff and public on 22 November 2021.

The City of Fremantle (the client) was following a Work Breakdown Structure (WBS) for managing the costs associated with the delivery and reconciliation of the project. Since the entire project was nearly 3 years long and involved the contribution of different trades, the City had a staggered retention payment method. This ensured that the first 2.5% would be released once the contractor completes the work, and the second 2.5% would only be released after a period of 12 months, which is considered the defects liability stage (City of Fremantle 2022a). By early June 2022, most of the contractors got their final account, and they had received their first 2.5% retention payments. However, they would get the second 2.5% only after the 12-month defect liability stage has been served (City of Fremantle 2022b).

2.5.1 Risk management

The WCC was opened to the public on 22 November 2021. However, in just 3 days, the lower plant area of the building was flooded and was forced into a shutdown to complete the rectification works. The flooding event had significant financial implications and the estimated total cost for the maintenance works was around 175,000 AUD. The mishap was due to a malfunctioning valve in the fire pump plant room situated in the basement room of the building. This caused the entire room to flood and inflicted severe damage to the control panels placed inside the room and since the library is also situated near the basement, the water leaked into the room and damaged several carpet tiles installed.

This event was a result of poor risk management by the project management as they failed to identify the risk and assess its implications. In the initial approved design and budget, there was no plan to install a fire pump system, the decision to install the pump system was taken later commissioned for an additional amount of 1.3 million AUD This fast-tracked decision is one of the major underlying reasons that led to the mishap because in the small time frame the project management group did not have adequate time to identify and assess the risks related with its installation. Additionally, after all the delays caused during the project, the city of Fremantle

wanted to open the building to the public and staff before the 2021 Christmas season, so the project management team was forced to open it when it was just partially completed. This decision meant that the management team had to do all the preliminary tests and quality checks while the management team had to do all the preliminary tests and quality checks within a small-time frame.

3 Section C: Recommendations

3.1 Introduction

Section C of this report will present some key recommendations for the life cycle of this project, designed to help address the issues facing the project more effectively. These recommendations will apply the appropriate conceptual framework and theory to address the challenges identified in the previous section. These recommendations should be carefully considered and implemented in order to improve the final outcome of the project.

3.2 Stakeholder and Communication Management

3.21 Conduct a Stakeholder Analysis

As mentioned before, a Stakeholder analysis is to have a better risk management and grasp the development direction of WCC. For this reason, city of Fremantle has recorded all the key stakeholder, such as, designer, builder, the social community, etc. However, to make WCC have a sustained appeal to the public, the subsequent analysis of the key stakeholder should focus on “the users of WCC”. It is strongly recommended to set up the specific team to investigate at different levels of society, such as the student stage, working stage, retirement stage, etc. Especially in this network-developed society, maintaining the use of traditional libraries and the rental of meeting rooms can maintain the continuous mark attractiveness to key stakeholders in the competition with the online model, which requires managers to construct a complete stakeholder analysis.

3.22 Improve the Communication Plan

There is an argument between South Fremantle Councillor Marija Vujcic and the City of Fremantle administration about the real cost for WCC (Loopers, 2022), which approves that there are still have some problems on the communication. It is

recommended that the city of Fremantle should create a more effective and transparent communication platform so that the government, builders and citizens (or Fremantle ratepayers), the three most important stakeholders will have a better communication. On this platform, citizens can know where the money is spent for this project, contractors can make new announcements if some facilities are being repaired or expanded, the project leader can also know more opinions and needs from stakeholders and strive to reach agreements and resolve conflicts with all stakeholders through such a platform.

3.23 Mapping Stakeholders Power and Interests

Mapping a stakeholder power and interest matrix (Figure 6) is the most beneficial way to meet stakeholders' expectations and to effectively reduce future conflicts with stakeholders.

Figure 6- Power and Interest Matrix

This matrix will more clearly show the position of stakeholders, so that managers can make corresponding targeted strategies for different stakeholders (Hartley, 2014), therefore, the more important things from the stakeholders get prioritized.

	Stakeholders			
TASK	***City of Fremantle***	***KAH***	***Pindan***	**Business Community**
Constraction	*A*	*C*	*R*	*I*
Design	*A*	*R*	*C*	*I*

Land Asset Planning	*A*	*R*	*C*	*I*
Vendor	*R*	*C*	*A*	*I*

Table 3 - RACI Matrix Legend (Hartley, 2018)

Index	***Responsibility***	***Description***
R	*Responsible*	*Activity owner*
A	*Approve*	required with approving the undertaken activity
C	*Consult*	required to be consulted with during or after activity
I	*Inform*	required to be informed of activity

Table 4 – Definition for RACI

The RACI matrix portrayed above as table 3 is a tool that assists with defining the responsibilities of key stakeholders. The matrix appoints required actions to stakeholders, actions consist of requiring the stakeholder to approve, consult, inform or be responsible hence the acronym (RACI) for certain tasks (portrayed above). The RACI matrix ensures that the stakeholders agree to abide by the recorded activities and also allows them to understand their responsibilities regarding the task. If RACI was deployed in the WCC project, corner cuttings and quality control of the construction by Pindan would have been avoided. Furthermore, the matrix would be used as a reference to see which party in the project is responsible if an issue has occurred.

3.3 Risk Management

One of the major risks that occurred in the project was the flooding that occurred due to a faulty valve in the fire pump system. As mentioned earlier it was a result of the

above-mentioned reasons have played a major role in the mishap that occurred on the eve of 25 November 2021, just 3 days after the building was opened.

The project management team could have prevented or at least mitigated the impact of such an event if they had efficiently followed a six-step model which involves:

- Developing a proper plan for risk management with a proper structure. And it should be done with direct and continuous involvement of the key stakeholders.
- Identification of the risks involved by involving all the key stakeholders, the project manager, the experts and clients. The risk that had occurred in this project is because the management team were unable to identify a "known unknown" type of risk event, because in a fire pump installation the chance of flooding is really high, but we cannot predict when that is going to happen.
- Perform a qualitative and quantitative risk analysis to assess the probability, impact and priority of the risk. For this the project manager could have generated a risk matrix which could have given the stakeholders the chance to understand the type of risk, its probability, impact and even its priority.
- Planning proper Risk response strategies with the help of risk response matrix.

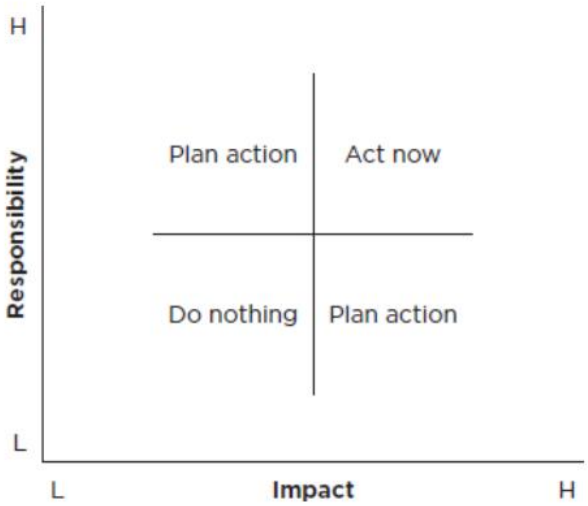


Figure 7 - Risk Response Matrix

- Monitor continuously for the effectiveness of risk processes and
- Continuously evaluate the effectiveness of the risk processes in order to control it.

Following all these steps could have helped them identify the risk in the initial stages and given them sufficient time to conduct the necessary quality check tests to confirm the proper functioning of the fire pump system. Additionally, they could have also installed some small bunds or water drainage systems in the room to mitigate the impact of any such incident in the far future.

3.4 Procurement Management

We recommend several methods to be taken to improve procurement management with following methods as suggested:

1) Regular performance reviews.

Performance reviews are specified in the contract but often is poorly enforced and communicated. Regular performance reviews provide the benefits of allowing the

comparison of performance against plan, accurately and timely reporting of problems and enhances the timely implementation of any corrective action required (Hartley, 2018). Performance reviews are clearly not reinforced in the WCC project as analysed in section 2.42, where the city and Pindan faced scrutiny and unpleased the stakeholders through occupational Safety and Health (OSH) violations and underperforming materials which was not corrected in a timely manner. We recommended that project as big as WCC with many stakeholders should perform performance reviews more occasionally than standard practice which allows the constant monitoring of the contractor. The constant monitoring of the contractor ensures that the contractor enforces and deliver quality specified in the contract therefore, preventing contractors cutting corners.

2) Preparation of more concise and detailed contract documentation which ensures performance by participating parties met expectations.

Contracts are the underlying legal framework for the project. It is legally binding and will need to be appreciated, enforced and complied with by the organisation, project manager, key stakeholders and team members (Hartley, 2018). We recommend that the contract should be subdivided into smaller sections that scrutinise each part of the project. By placing more details into each part of the project it ensures that problems caused by contractors are more easily to handle and project would be easier to control. Time delaying events discussed in section 2.42 would have been easier to mitigate and handle by including possible events that negatively impact the project into the contract which will make the contractor or responsible party liable to the damages and costs.

3.5 Time Management

As mentioned in Section B, the time management issues resulted in unforeseen additional costs in the project budget, with each cost increasing due to the extension of time. Figure 4 shows an example of a graphical WBS that captures the project

activities for a property refurbishment project. We recommend that WCC projects create a similar WBS to capture project activities, either in the form of a table or a graph, before creating a network diagram and Gantt chart (Hartley, 2018).

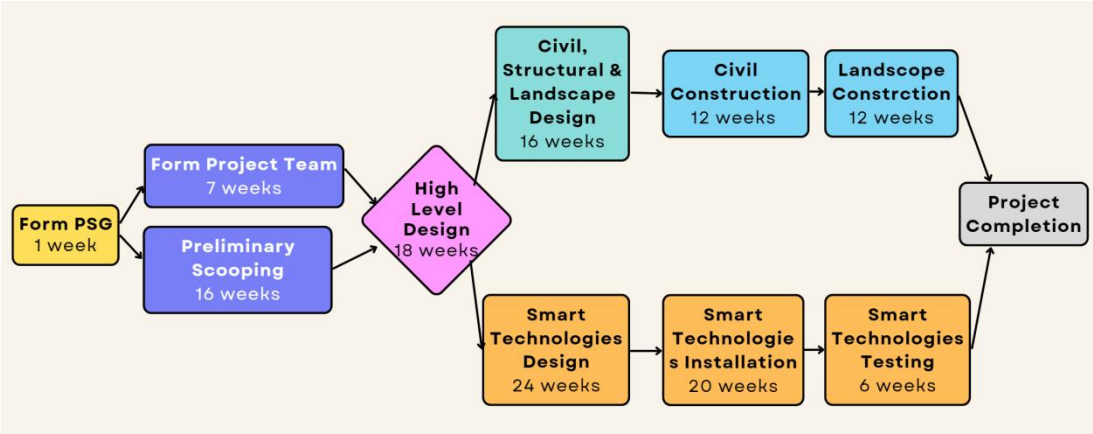


Figure 8 - WSB WCC Project Network Diagram

These charts can provide a clear visual representation of the events that must occur sequentially throughout the lifecycle of a WCC project. They can also be used to test the logic and accuracy of the WBS and help to identify the critical path and predict the time required for each task, as well as any activities that may cause bottlenecks. These tests will increase the flexibility of the project and help to avoid delays.

The critical path for the WCC project is the longest path in the overall schedule. By conducting a critical path analysis of the project, we identified the activities to install and test the smart technology as key project activities. Some aspects of incompleteness could be mitigated by conducting a critical path analysis. It is recommended that KHA adopt a similar rigorous critical path analysis methodology for future projects.

The project experienced delays due to a new builder but the project end date was not adjusted accordingly. For this issue, we recommend re-evaluating the project's time schedule. Consider the impact of the change of builder on the project schedule and

re-evaluate the project's time plan. You may need to adjust the duration or period of each task to reflect the impact of project delays. If necessary, consider additional resources or timely adjustments to the project plan to expedite the project.

3.6 Cost Management

Cost management is the process of planning, estimating, budgeting, financing, funding, managing, and controlling costs to enable the project to be completed within budget (PMBOK, 2013).

Budget management was an issue in the project. As discussed in Section 2.32, liquidation of Pindan, supply chain issues due to Covid-19, scope changes during the project execution resulted in increase in budget. The City of Fremantle failed in delivering on its financial risk management strategy, where it clearly stated that all cost over-runs would be managed via a fixed price contract for the building construction, where the contractor would be liable for cost overruns (Loopers, 2020).

While creating a financial plan, it is important to consider several factors such as the source of funds, reporting formats, internal finance protocols, and accounting system. It is also crucial to identify percentage variation thresholds that may require action and have provisions for contingency funding. Approval procedures must be established and a certain level of accuracy in determining cost estimates should be maintained. Known units of measurement should be defined for each resource, and the required degree of precision should be specified. Additionally, a performance measurement technique must be selected (Hartley, 2018).

To finalize the budget for a project, various cost estimation techniques can be employed. These techniques include;

- Pre-determined estimates that are announced by senior management in isolation from other variables.
- Expert judgment that relies on specialized knowledge or training.

- Analogous estimates derived from historical data of similar activities.
- Group decision-making through interactive sessions with team members.
- Unit rates based on accurately defined discrete units of work.
- Published commercial data obtained through subscription services providing access to current costs of labour, materials, and equipment.
- Parametric estimating that combines historical information and project variables statistically (such as per square meter, per litre, per hour, etc.).
- Value engineering, which focuses on reducing project costs, saving time, increasing profits, and improving quality.
- Life-cycle costing, which considers both the creation costs of the project and its usefulness over time.
- Vendor bid analysis, which involves market research and invitations such as expression of interest (EOI) and request for tender (RFT).
- Reserve analysis which considers schedule uncertainty and risk by allocating a contingency reserve for 'known unknowns'.
- Three-point estimation, a technique that calculates an expected duration range based on optimistic, pessimistic, and most likely estimates (Hartley, 2018).
-

3.7 Scope Management

As section B mentioned, the scope has changed due to the potential impact on scope and accurate estimates of the budget. When face to the potential impact on scope changes, such as the large-scale epidemic caused the progress of the project to stagnate, it is recommended that if Pindan finds that its operating capacity has been maxed out, it should cooperate with other construction companies or partners to jointly carry out projects and share resources and experience to improve efficiency and reduce costs.

4 Conclusion

WWC project is a successful and inventive renewal project, which ingeniously combines modernist architectural style and historic architecture style. While protecting the local historical heritage of Fremantle, it provides a current and comprehensive public place for the government and citizens and other stakeholders. It solves the problem of insufficient operating capacity of the original Fremantle library and traffic issues in the previous narrow land place. WWC is a milestone for the entire king square renewal project, which makes the king square a fully functional public service area. It not only provides more jobs for the society, but also attracts more investment to drive the economic development of the entire region.

Even though the project was a success, there are issues throughout the project that made it more difficult than it should have been to achieve the same outcome. These issues were identified, and we have provided recommendations from the perspective of the city's management team to mitigate these issues. The main issues identified was liquidation of the main contractor which resulted in expensive delays, usage of underperforming materials and contractors, lack of quality control resulting in an underperforming product, insufficient engagement to stakeholder resulting in negative perceptions to the project and incomplete time management planning resulting delays of the execution and finalisation phases. Our recommendation to mitigate these issues are preparation of high-quality contracts, inclusion of more effect cost estimation techniques, utilisation of a WBS, take inconsideration of critical path of project and risk breakdown structure.

5 References

CENTRE, W. C. (2022). *Walyalup Koort renewal project achieves its goal*. [Online]. City of Fremantle. Available: https://www.fremantle.wa.gov.au/news-and-media/walyalup-koort-renewal-project-achieves-its-goal [Accessed 13 March 2023].

City of Fremantle. (2022). *Agenda – Audit and Risk Management Committee.* [Online]. Available: https://www.fremantle.wa.gov.au/sites/default/files/Agenda%20-%20ARMC%20-%2015%20June%202022%20%28ID%205423815%29.pdf [Accessed 17 March 2023].

City of Fremantle. (2022). *Meeting Attachments – Audit and Risk Management Committee.* [Online]. Available: https://www.fremantle.wa.gov.au/sites/default/files/Meeting%20attachments%20-%20ARMC%20-%2015%20June%202022%20%28ID%205423818%29.pdf [Accessed 17 March 2023].

City of Fremantle. (2012). *Kings Square Project Business Plan.* [Online]. Available: https://adelecarles.com/wp-content/uploads/2021/09/2012-11-Kings-Square-Business-Plan.pdf [Accessed 20 March 2023].

City of Fremantle n.d. (2021). *Why is the city investing in Walyalup Koort?* [online]. Available at: https://www.fremantle.wa.gov.au/why-city-investing-walyalup-koort. [Accessed 20 March 2023].

FREMANTLE, C. O. (2022). *Agenda Audit and Risk Management Committee.*

FREMANTLE, C. O. (2021). *Walyalup Civic Centre Update.* [Online]. Walyalup

Koort: City of Fremantle. Available: http://www.walyalupkoort.com/news-and-updates/walyalup-civic-centre-update [Accessed 09 April 2023].

Hartley, S. (2018). *Project Management.* Sydney: Allen & Unwin.

HERALD, Y. (2021). *Union ramping up strike action* [Online]. Fremantle Herald Interactive. Available: https://heraldonlinejournal.com/2021/03/25/union-ramping-up-strike-action/ [Accessed 18 March 2023].

HERALD, Y. (2021). *Square 'in good shape' despite pindan collapse.* [Online]. Fremantle Herald Interactive. Available: https://heraldonlinejournal.com/2021/05/21/square-in-good-shape-despite-pindan-collapse/[Accessed 18 March 2023].

LOOPERS, R. (2020). *DETAILS OF WALYALUP CIVIC CENTRE FINANCES* [online]. Available: https://freoview.wordpress.com/2020/07/04/details-of-walyalup-civic-centre-finances/ [Accessed 14 April 2023].

LOOPERS, R. (2021). *IS FREO'S NEW CIVIC CENTRE A DUD?* [online]. Available: https://freoview.wordpress.com/2021/05/09/is-freos-new-civic-centre-a-dud/ [Accessed 09 April 2023].

Loopers, R. (2020). *Details of Walyalup Civic Centre Finances.* [online]. Freo's View. Available: https://freoview.wordpress.com/2020/07/04/details-of-walyalup-civic-centre-finances/ [Accessed 24 March 2023].

Martins. (2023). *What is stakeholder analysis and why is it important?* [online]. Available: https://asana.com/resources/project-stakeholder [Accessed 18 March 2023].

Project Management Institute. (2013). *PMBOK Guide.* 5th ed. s.l.:Wiley Online Library.

ROBINSON, D. (2022). *Rusting on their laurels.* [online]. Fremantle Herald Interactive. Available: https://heraldonlinejournal.com/2022/10/07/letters-8-10-22/ [Accessed 09 April 2023].

Tverberg. G. (2016). Intermittent Renewables Can't Favorably Transform Grid Electricity. [Online]. Available: https://ourfiniteworld.com/2016/08/31/intermittent-renewables-cant-favorably-transform-grid-electricity/ [Accessed 10 April 2023].

Vivian, P. (2023). *Walyalup Civic Centre by Kerry Hill Architects.* [online] Available at: https://architectureau.com/articles/walyalup-civic-centre/ [Accessed 25 March 2023].

Walyalup Koort. (2021). Managing Contractor to Oversee Completion of Walyalup Civic Centre. [online]. Available: http://www.walyalupkoort.com/news-and-updates/managing-contractor-to-oversee-completion-of-walyalup-civic-centre [Accessed 19 March 2023].

6 Agenda and Meeting Minutes

Meeting 1: 6 March 2023

Location	Online (Teams Call)
Date	6 March 2022
Time	7:00pm-7:38pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	N/A
Minutes Taken By	Yazhen Tian (YT)
Chair	Yazhen Tian (YT)

Agenda Items

1. Each person introduces himself/herself
2. Determine the weekly meeting time
3. Develop a time plan and create a timeline
4. Each group member shares the items found

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last meeting	N/A as this is first meeting	
Introductions	- Group members introduce each other (names, majors studied) - Determine the time and format of weekly meetings. - Exchange of searched projects	N/A
Presenting Ideas	- Prior to the meeting YT set up a schedule through the When2meet website where everyone	

	could put their free time on the schedule. Determine the best time for the group meeting. **YT -** created a shared word doc on Teams to support group members in putting items and specific information they found worth studying in the doc. - Each person took turns presenting the project they had found and explaining why they had picked it.	
	AS - presents the Queen Victoria Street- Swan River Crossing Project - The project was proposed by Main Roads Western Australia, and it includes the construction of new roads and rail bridges, upgradation of existing rail bridges and demolition of existing traffic bridge in Fremantle. The reasons: 1. It is a government project and a lot of free information and project reports are available online. 2. The project is at the delivery stage right now with forecasted cost less than 5% over the current approved budget and forecasted delivery less than 3 months over the approved time.	
	MS - Brookton Highway project -The Highway project was proposed by main roads Australia as a strategy to make Brookton highway safer and smoother. The road shoulders	

	along Brookton Highway were widened to 10 metres between Karragullen and Brookton. The reasons: 1. It is a government project and a lot of free information and project reports are available online.	
	NSK - presents the Onslow power project - It is Australia's most extensive Distributed Energy Resources Management System (DERMS), and it is world's first achievement.	
	SS - presents the project of Chevron Australia - It is a newly finished project in Perth which just finish the constraction.	
	YT - presents The Walyalup Civic Centre & Arrowsmith Hydrogen Project - The Walyalup Civic Centre, designed by Fremantle firm Kerry Hill Architects, is a landmark in Fremantle. The Walyalup Civic Centre is a government-funded community public service community that combines a library, information and customer service centre, meeting rooms and an exhibition hall. The reasons: 1. The Walyalup Civic Centre is a government project and much of the information is available to the public. It can provide us with a lot of valuable data and information, which will facilitate our further research. 2. The architecture of The Walyalup Civic Centre	YT to investigate the Walyalup Civic Centre project in more detail to determine if there is enough information to conduct assignment

	is very distinctive. It mixes history and modernity very well. 3. During our investigation, we found that this building was changed to different construction companies during the construction process. There should be a lot of points worthy of our research in this.	
Decide on top Five projects	Based on the information available and the interest of the group members, the following five projects were selected (ranked in order of priority) **- The Walyalup Civic Centre** - Arrowsmith Hydrogen Project - Brookton Highway project - Chevron Tower project - Onslow Power Project - Queen Victoria Street-Swan River Crossing Project	
Discussion of regular team meetings	- Regular team meetings will be held every **Monday at 8pm**. - YT develop the time plan and timeline - Minutes will be taken by team members on a rotating basis, in alphabetical order.	

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
Further investigate the Walyalup Civic Centre project	All	9 March 2023	In Progress
Set timetable and weekly meeting time	All	6 March 2023	Complete
Continue to search for projects suitable	All	9 March 2023	In Progress

as research subjects			

Post-Meeting Reflections

1. Did the meeting achieve its objectives?
Yes.
2. Was it successful in all aspects?
Yes, we made a schedule and a time plan.
3. Were there any matters which could have been handled better?
We would like the group members to be able to respond to messages from the group.

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	9 March 2023
Venue	Online (Teams Call)
Start Time	8:00 pm
Minutes Writer	Shubo Sun

Meeting 2: 9 March 2023

Location	Online (Teams Call)
Date	9 March 2023
Time	8:00pm-9:17pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	N/A
Minutes Taken By	Shubo Sun (SS)
Chair	Marco Sham (MS)

Agenda Items

1. Discuss together the parts of Section A that need attention.
2. Identify the content of meeting minutes.

Previous Action Items

Action Items	Owner(s)	Deadline	Status
Further investigate the Walyalup Civic Centre project	All	9 March 2023	Compeleted
Continue to search for projects suitable as research subjects	All	9 March 2023	Compeleted

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last	Accepted by all.	
Discuss what need include in Section A	- We think that Section A should contain mainly an introduction to the project. The following sections are needed: – Introduction – Project background – Key Stakeholders – Issues/Competencies Relevant to Further Discussion	
Identify the content of meeting minutes.	- Identify the need for a fixed number of minutes to be filled in for each meeting minutesx. Make sure each member knows what the meeting minutes need to contain.	
	- Minutes need to contain information about each meeting, agenda items, previous action items,	

	meeting specifics, action item summaries, post-meeting reflections and details of the next meeting.	
	YT - A template for meeting minutes was created. All subsequent meeting minutes are filled in according to the template.	

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
A template for meeting minutes	YT	9 March 2023	Compeleted
Gather as much information as you can about the WCC project	All	13 March 2023	In process

Post-Meeting Reflections

1. Did the meeting achieve its objectives?
Yes.
2. Was it successful in all aspects?
All previous tasks were completed.
3. Were there any matters which could have been handled better?
We could only see a small number of group members struggling to complete the tasks set. Some panelists allocated too little time to this report.

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	13 March 2023

Venue	Face2Face
Start Time	5:00 pm
Minutes Writer	Yazhen Tian

Meeting 3: 15 March 2023

Location	Face2Face
Date	15 March 2023
Time	5:40pm-6:30pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	Aneena Sebastian (AS)
Minutes Taken By	Yazhen Tian (YT)
Chair	Marco Sham (MS)

Agenda Items

1. Share what information we have found about the WCC project.
2. Organise a list of questions to ask in meetings with Ryan.
3. Assign tasks to the content of Section A.

Previous Action Items

Action Items	Owner(s)	Deadline	Status
Gather as much information as you can about the WCC project	All	15 March 2023	Completed

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last	Accepted by all.	

Share what information about the WCC project	- MS and YT found information about the city of Fremantle's meetings. There is a lot of information in there about the WCC projected.	
Organise a list of questions to ask Ryan	**YT -** Collated a word document. Put together a list of questions to ask Ryan, the KHA manager, for the meeting afterwards.	
	YT - Email Ryan a list of questions in advance so that Ryan knows what we want to ask in advance. – Set up a time and place for the meeting with Ryan and make sure Ryan and the group are available at the time of the meeting.	
Assign tasks to the content of Section A	We take your own choice of sections of interest on a first-come, first-served basis. – Introduction: YT – Project background: YT & NSK – Key Stakeholders: SS – Issues/Competencies Relevant to Further Discussion: MS & AS	

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
A list of questions to ask Ryan	All	15 March 2023	Compeleted
Finish draft section of Section A	All	20 March 2023	In Process
Determine the time and place of the meeting	YT	15 March 2023	Compeleted

Post-Meeting Reflections

1. Did the meeting achieve its objectives?

Yes.
2. Was it successful in all aspects?
We were able to deepen our understanding of the WCC project by collating the questions we needed to ask Ryan.
3. Were there any matters which could have been handled better?
The group members were not very motivated and needed to be supervised to complete their tasks.

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	20 March 2023
Venue	Face2Face
Start Time	12:00 pm
Minutes Writer	Marco Sham

Meeting 4: 20 March 2023

Location	Face2Face - Ezone meeting pod
Date	20 March 2023
Time	12:00 pm – 2:00 pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	N/A
Minutes Taken By	Marco Sham (MS)
Chair	Marco Sham (MS)

Agenda Items

1. Determine the meeting with Ryan from Kerry Hill Architects

2. Finish draft section of Part A by Wednesday/Thurs
3. Write questions for Ryan regarding the construction project of the WCC

Previous Action Items

Action Items	Owner(s)	Deadline	Status
Question with Ryan	All	22 March 2023	Completed
Finish draft section of Section A	All	24 March 2023	Incomplete
Determine meeting with Ryan	All	20 March 2023	Completed

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last	Accepted by all.	
Discussion on project timeline	**MS -** has compiled the questions discussed at the meeting with Ryan, the manager of KHA, and posted them to the group. The questions that Ryan answered were explained to those who were not at the meeting.	Completed
	- Members are occupy with other units and will require more time to complete Section A. - More time is approved to finish section A.	

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
Split up section B	All	25 March 2023	Completed
Finish section A	All	3 April 2023	Completed
Writing Section B	All	9 April 2023	In progress

Post-Meeting Reflections

1. Did the meeting achieve its objectives?
Yes.

2. Was it successful in all aspects?
We had a successful meeting with KHA's project manager and a tour of the WCC project. Having done the preliminary research was the start of a successful report.
3. Were there any matters which could have been handled better?
Only three members met with the KHA manager and also needed to individually tell the two members who did not attend what our meeting was about. This delayed a lot of effective time.

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	27 March 2023
Venue	Face2Face
Start Time	1:00 pm
Minutes Writer	Aneena Sebastian

Meeting 5: 27 March 2023

Location	Face2Face - Ezone meeting pod
Date	27 March 2023
Time	1:00 pm - 3:00 pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	N/A
Minutes Taken By	Aneena Sebastian (AS)
Chair	Marco Sham (MS)

Agenda Items

1. Finish draft section of section A by Monday
2. Start writing section B next week
3. Discuss on the Answers given by Ryan in the meeting

Previous Action Items

Action Items	Owner(s)	Deadline	Status
Meeting with Ryan	All	27 March 2023	Complete
Finish section A	All	27 March2023	In progress
Write questions before meeting Ryan	All	26 March 2023	Complete

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last	Accepted by all	
	YT - produced the report cover and table of contents.	Completed
	- Since some could not finish section A as previously decided, a new deadline was set, and all team members decided that we should complete the final draft of section A by 3rd April. - Once section A is done, we should start writing section B. - Decided on the split up of section B. Introduction - YT Conceptualization - SS Planning - MS & YT Execution – AS Finalization-NSK	
Discussion on answers given by	**- YT, MS, SS** explained the answers given by Ryan in the meeting to NSK and AS who could not join them.	N/A

Ryan	**MS -** prepared a file and put down the answers there for everyone to refer.	

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
Split up section B	All	25 March 2023	Complete
Finish section A	All	3 April 2023	Complete
Writing Section B	All	9 April 2023	In progress

Post-Meeting Reflections

1. Did the meeting achieve its objectives?
Yes
2. Was it successful in all aspects?
No, we couldn't complete section B as planned
3. Were there any matters which could have been handled better?
We need to ensure that we are meeting the deadlines

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	9 April 2023
Venue	Online (Teams Call)
Start Time	8:00 pm
Minutes Writer	Yazhen Tian

Meeting 6: 9 April 2023

Location	Online (Teams Call)

Date	9 April 2023
Time	8:00 pm - 8:50 pm
Attendance	Aneena Sebastian (AS), Marco Sham (MS), Nikhil Sunil Kumar (NSK), Shubo Sun (SS), Yazhen Tian (YT)
Absent	N/A
Minutes Taken By	Yazhen Tian (YZ)
Chair	Marco Sham (MS)

Agenda Items

1. Check the status of section A, section B and meeting minutes records
2. Share the information you have found about the project
3. Discuss the problems encountered in writing the report

Previous Action Items

Action Items	Owner(s)	Deadline	Status
Finish section B	All	27 March 2023	Complete
Finish Meeting Minutes	All	27 March2023	In progress

Meeting minutes

Activity	Notes	Action Items
Accept minutes from last	Accepted by all	
Check the status of section A, section B and meeting minutes	Most of the group completed these parts, but two did not complete the meeting minutes.	All previous meeting minutes must be completed before the next meeting.
Share the	**NSK -** He found the publicly available News &	

information found about the project	Update for the WCC project. This public information clearly illustrates the project's expenditure. We have found that many places have different prices in terms of project expenditure. the official information published by the WCC should be the most authoritative.	
	MS - He found the City of Fremantle's public agenda for the WCC project: Agenda-Audit and Risk Management Committee.	
Discuss the problems encountered in writing the report	As everyone had not yet sorted out the problems they had encountered, MS decided to have another meeting the next day where we could all focus on presenting the problems and solve them together.	The meeting takes place again the following day.

Summary of Action Items

Action Items	Owner(s)	Deadline	Status
Finish Meeting Minutes	All	13 April 2023	In progress
Finish section C	All	13 April 2023	In progress
Refinement of section A and B	All	12 April 2023	In progress

Post-Meeting Reflections

1. Did the meeting achieve its objectives?
Yes.
2. Was it successful in all aspects?
Yes. We made a lot of progress with our report.
3. Were there any matters which could have been handled better?
We still need to step up the pace. Set aside 4 days in advance to refine the draft.

Meeting Approval	Aneena Sebastian, Marco Sham, Nikhil Sunil Kumar, Shubo Sun, Yazhen Tian

Next Meeting Details

Date	13 April 2023
Venue	Online (Teams Call)
Start Time	8:00 pm
Minutes Writer	Shubo Sun

7 Team Reflection

This time our group's report is based on the project lifecycle of the WCC project, which is the first time we have conducted research and studies on a real project. This section describes the difficulties and challenges we encountered in this process and how we resolved them step by step.

The biggest difficulty we encountered was the lack of motivation of the team members during the first half of the report. The first half of our report was difficult to unfold. Firstly, the group members' schedules were so full that it was difficult to coordinate the participation of all members in the group's meetings and reports. Our solution was to set a strict schedule and monitor each other's progress towards completion. We followed up on each member's completion in a timely manner. Secondly, none of the members of our group had any experience with real-life projects and no one knew where to start. So we started by unfolding the report separately, with each member responsible for one section. This made the work much less difficult. We went on field trips to the Walyalup Civic Centre and met with the project manager to consult him about the project. Through these methods, many of the initial problems were solved as we got to know the project better. Thirdly, the team members were all introverted and we needed to get to know each other slowly, which took some time. These were the reasons for the slow progress of our initial collaboration. Through our joint efforts, the final project report was presented to the satisfaction of the team members.

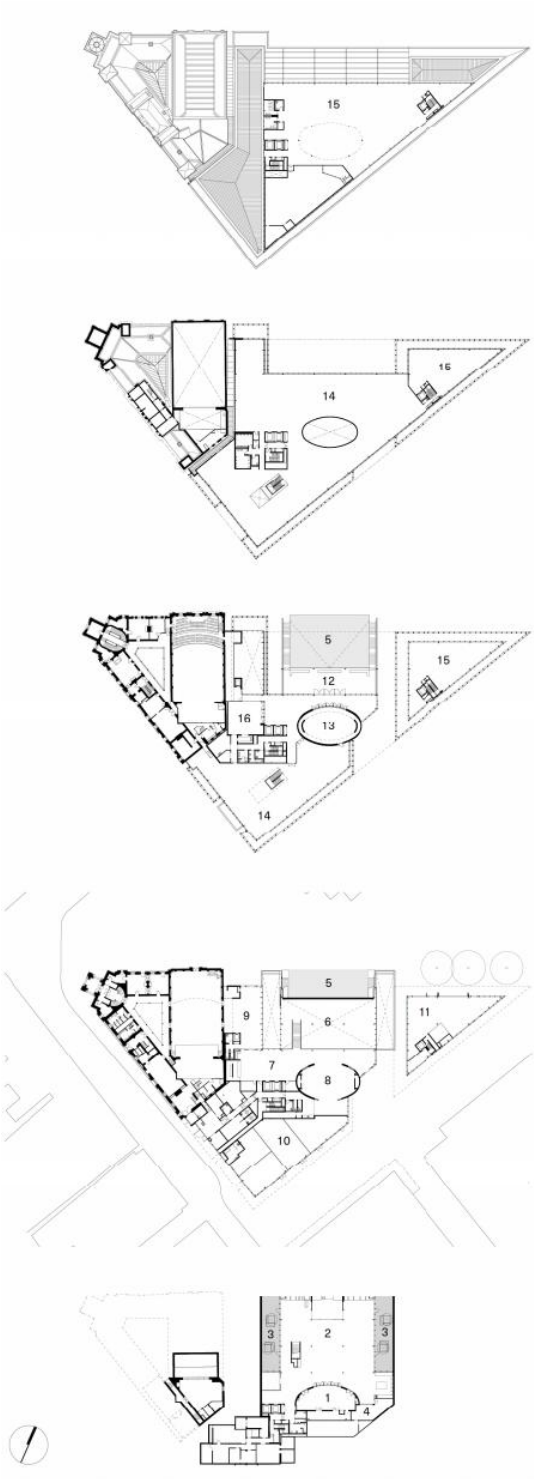
Another difficulty was the difficulty in accessing information about the project; the WCC project was a government project and much of the information was confidential. If we needed access to this information, we had to apply to the government and go through various levels of approval. This is very difficult. So, we have been able to obtain this information side-by-side by researching the government's public minutes,

Fremantle news reports and other sources. Everyone in our group worked hard to gather as much information as possible and posted it all to our group share file so that every member of the group could share the information.

We have learnt a lot through the completion of this report. Firstly, group members need to help and encourage each other when they are having difficulties. It is important to remind members when they have not completed a task and to follow up on progress. However, we should not forget that we are a team and the end result requires the efforts of everyone in the team. Secondly, when faced with a task we are not familiar with, ask for advice from someone with experience. Break down a big task into smaller tasks. This makes it easier to achieve one small goal at a time and ultimately complete the big task. Thirdly, when you encounter a problem with your project, you need to reflect on the cause of the problem, find it and solve it. Don't let the problem continue to develop. I believe that if we work together again with the team members, we will be able to work more smoothly.

8 Appendices

Appendices 1 WCC Plans with Legends

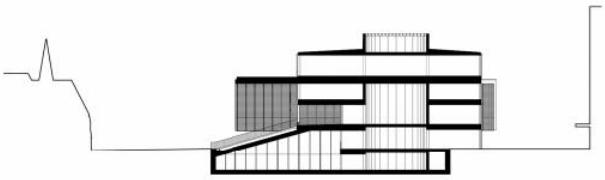


Left, from bottom. Floor plans of Lower Ground; Ground; Level 1; Level 2; Level 3.

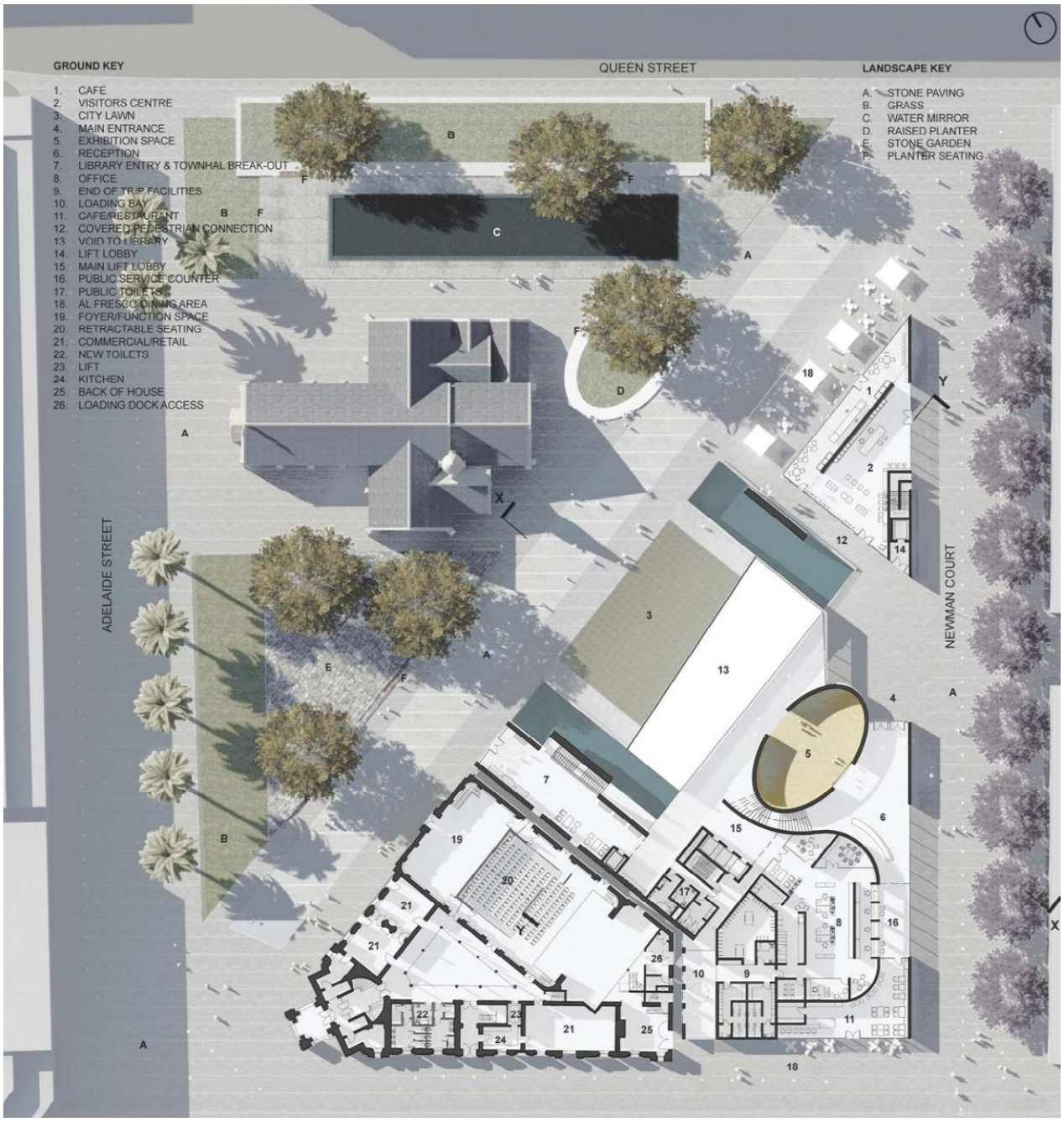
1) Multi-function
2) Library
3) Landscape courtyard
4) Workroom
5) Lawn
6) Void to library below
7) Customer service
8) Library/Lounge
9) Foyer
10) Retail
11) Cafe/Restaurant
12) Terrace
13) Council Chambers
14) Council Offices
15) Offices
16) Meeting Room

Below. Cross section through the library, verandah and lawn.

Bottom. A double-height balcony defines the south-western elevation.



Appendices 2 WCC Project Site Plan



Appendices 3: Timeline of WCC Project

Timeline:

August 2017

Kings Square renewal begins.

December

City of Fremantle relocated to Freo Oval.

January 2018

Demolition of Myer/Queensgate building.

February

Newman Court closes.

March

Council approved plans to upgrade public spaces in Kings Square.

April

Queensgate carpark refurbishment began (carpark closed for five months).

May/June

Relocation of London Plane trees

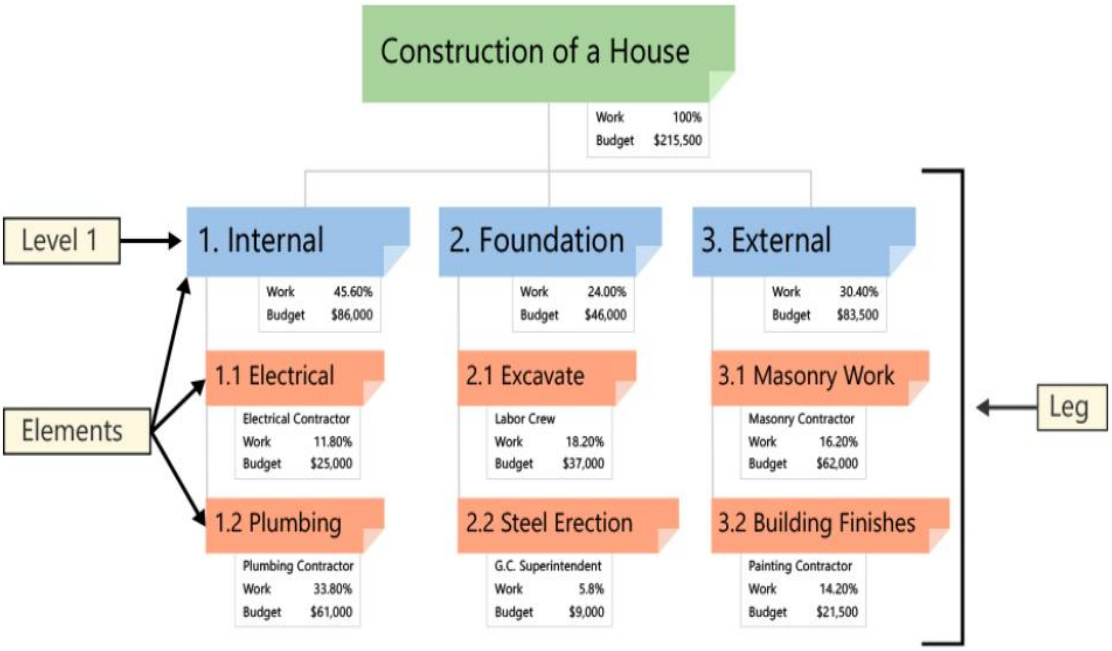
Mid 2018

Construction begins on FOMO and new commercial offices.

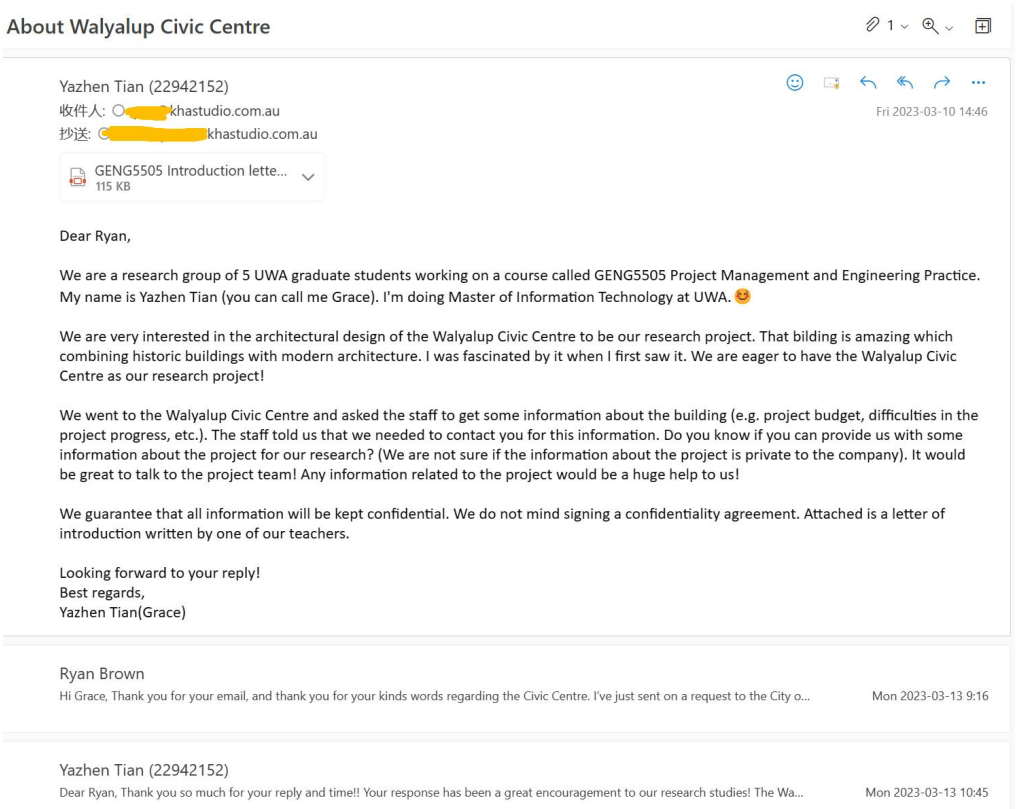
Appendices 4: Risk Management Matrix

				INITIAL RISK									RESIDUAL RISK					
ITEM	RISK / OPPORTUNITY EVENT	RISK / ISSUE	DATE RAISED	Consequence (1,2,3,4,5)	Likelihood (1,2,3,4,5)	Assessment	Initial Risk Rating (E,H,M,L)	MITIGATION STRATEGY	OWNER	RESPONSIBLE	TARGET DATE	STATUS	Control Effectiveness (1,2,3,4,5)	Percentage Reduction	Assessment	Residual Risk Rating (E,H,M,L)	FURTHER NOTES / OUTCOMES (red text = updated from previous register)	EVIDENCE
MAY / JUNE 2021 - LIQUIDATION EVENT (LE) - Summary Level Only																		
	BUILDING / PHYSICAL																	
1	Building (Unmanned) Security and protection	Site unmanaged - building and materials left unsecure	24-May-21	4	4	16	E	Increased security on site. Also added additional CCTV and requested daily site presence.	CoF	PD, PT	25-May-21	closed	1	80%	3.2	L	Normal site management / security arrangements implemented, includes motion detection and temp security cameras.	Ongoing site security precautions in place - process & procedures documented as part of the site management plan.
2	Work Stoppage	Works abruptly stopped / Contractors left site - uncertaincy on ownership materials and equipment	24-May-21	3	4	12	E	CoF actively engaged Lawyers and liaised with EY. CoF assessed progress documentation / materials paid for, custanding / in transit and on site. City to take possession of site.	CoF	PD, PT	asap	closed	1	80%	2.4	L	CoF formally taken possession of site 21 May 21, new contractor CDI Group taken posion of site as of 19 July 21.	Works progressing.
3	Site Impacts / adjacent works	Site overlaps and interfaces with MG group - Newman Court / William St and High Street works - ongoing.	24-May-21	2	3	6	M	CoF liaised with MG and agreed work site boundaries and interim management arrangements.	CoF	PD, PT	25-May-21	closed	1	80%	1.2	L	Site boundaries defined and overlaps / control measures agreed / actively monitored by Project Team.	Updated Site Management Plan / project meeting minutes.
4	Contractors - work continuity	Key personnel and contractors left mid-works, project progress, detail and knowledge unavailable.	24-May-21	4	4	16	E	CoF actively engaged with the Pindan project team, all relevant documents collated from site - including contractor deeds / T&C's, warranties and progress claims.	CoF	PD, PT	28-May-21	closed	1	80%	3.2	L	Key personnel secured / retained by CoF.	Project team on site - leading works.
5	Contractors - work continuity	Contractors move to other works - CoF unable to re-engage or face delays or cost increases / amended T&C's.	24-May-21	4	4	16	E	CoF immediately emloyed the main Pindan project team, the team actively engaged with contractors and maintained dialogue. Follow up correspondance from the City and a meeting provided to provide assurance and CoF commitment to complete works. Contractor Novation deeds passed to CoF and novation foramlly effected (15 June 21).	CoF	PD, PT	15-Jun-21	closed	1	80%	3.2	L	All deeds / T&C's,, warranties log of claims secured.	All contractors re-engaged and active where remaining works.
6	Building open to weather damage	Building open with key elevations not complete - façade not installed.	25-May-21	4	5	20	E	Officers seek Council approval to engage project subcontractors as sole suppliers via novation deeds and individual agreements and tender for a Managing Contractor to progress the works asap. NOTE: Some early works commenced (as PUBLIC WORKS) to address immediate building risk.	CoF	PD, PT	31-Aug-21	closed	1	90%	2	L	Building now wind and weather tight.	Roofing finished, all key windows and facades installed and pressure tested.
	HEALTH & SAFETY																	
7	OSH Management - daily	No immediate or interim site arrangements in place	24-May-21	4	4	16	E	Site unoccupied - interim management arrangements and security implemented until project team established and onsite with updated / agreed plan.	CoF	PD, OSH TL, PT	1-Nov-21	closed	1	80%	3.2	L	PC/Occupancy Certificate achieved - Building occupied.	Building Managed through FM, service leads and Opertaional Management plans.
8	Health & Safety Management Plan	No formal / adopted H&S Management in place	24-May-21	4	4	16	E	CoF and project Team reviewed the Pindan OSH management plan and updated / intergrated with CoF requirements. Consultant site / plan review conducted. Worksafe inspection (routine) taken place - no issues or concerns raised. Documents reviewed by CoF OSH Team Leader.	CoF	PD, OSH TL, PT	16-Jun-21	closed	1	80%	3.2	L	see above.	Project OSH Management Plan.
	FINANCIAL																	
9	Insurance	Works Insurance covered as part of the Pindan contracted work. Cover cease at liquidation. Building uninsured.	24-May-21	5	4	20	E	Agreement reached with EY (via LGIS) that the existing insurance provisions shall remain in place until 30 June 21. CoF liaising with LGIS and brokers 'Chase' to establish appropriate new cover for the remainder of works in progress. FY 21/22.	CoF	PD, PT.	30-Jun-21	closed	1	90%	2	L	Project Works Cover / Building and 3rd party cover, works compensation in place.	Policies in place - CDI policies (copies) provided.
10	Project Bank Account (PBA)	Administrators (EY) frozen the PBA - CoF / Contractors access to funds and payments, retention monies and April payment pending.	24-May-21	4	3	12	E	CoF liaising with EY and CBA re lifting the suspension of the PBA. All contractors paid to date - March. Retentiion monies held in the PBA. April claim certified but not processed through the PBA for payment - only $200 allocated to Pindan in the April claim.. CoF to consider direct payment to contractors for April.	CoF	PD, PT.	31-Aug-21	closed	1	80%	2.4	L	PBA suspension lifted by EY. CoF now have access to main account and the the retention account.	Accounts accessed and monitored.
11	Project Budgets / Contingencies	CoF budget remains against the contracted works (@ circa $3.6m) remaining contingency available (@ circa $500k). Unsure of actual cost to complete.	24-May-21	4	4	16	E	Project team reviewing works and costs to complete. Full cost review exercise underway. All cost implications to be held against the insurance bonds.	CoF	PD, PT.	1-Dec-22	ongoing	1	80%	3.2	L	Cost to complete actively monitored through project team QS and project Managers - Admin team dedicated to tracking costs and commitments (inc weekly review). Current estimated construction outturn cost is $46,812,343 (ex GST). NB. Bonds cashed @ $3.6m.	TechOne - WBS in place with WO's for specific post liquidation events. All costs/commitments and contractor payments tracked and certified. Remaining draw-down schedule produced - final accounts being collected and reviewed.
12	Bonds	Bond security, access and ability to draw - Bonds are in place for - performance @ 5% contract value, façade bonds @ $1.6m for material supply. Other for significant materials / works (Lifts)?	24-May-21	4	3	12	E	CoF immediately moved to cash in all relevant insurance bonds to protect against works performance and materials.	CoF	PD, PT.	28-May-21	closed	1	80%	2.4	L	All bonds secured by the CoF 28-May-21	payment remittance received for all performance and Material (façade) bonds.
13	Increased Contractor costs	The hold in work activity and delays resulting from the LE may lead to contractors or suppliers applying additional charges (eg, storage or mob/de-mob).	24-May-21	3	4	12	E	Active liaison with contractors ongoing. Novation deeds have secured - the majority of costs under existing Pindan T&C's, (batch one contractors). Batch two are unsecure agreements - see below.	CoF	PD, PT.	1-Nov-21	closed	1	80%	2.4	L	The project team have secured all contractors to complete the contracted works (on original Pindan costs). continuity and price security.	TechOne - New WBS in place with WO's for specific post liquidation events. All costs/commitments and contractor payments tracked and certified.
14	Increased Contractor costs	The LE with Pindan may break the existing contract / T&C's with batch two subcontractors / suppliers - the CoF may face delays or revised costs from contractors with new terms.	24-May-21	3	3	9	H	Active liaison with contractors ongoing. Batch two areas are low risk - mainly supply and rates for agreed works.	CoF	PD, PT.	1-Nov-21	closed	1	80%	1.8	L	As above - all Batch 2 contractors are secured and active.	TechOne - New WBS in place with WO's for specific post liquidation events. All costs/commitments and contractor payments tracked and certified.
15	NEW: COVID Supply chain delays, labour shortages.	Suppliers and contractors costs are increasing and works / delivery timeframes are increasing . This is putting pressure on works program and PC delivery.	13-Oct-21	2	3	6	M	Project team actively liaising with contractors and suppliers and rechecking programs / delivery lead times etc.	CoF	PD, PT.	1-Dec-22	ongoing	2	60%	2.4	L	Regular proactive liaison underway across all areas. Some delays are occuring for contractor availability for defect rectification. (minor items).	CDI Group Maintenance (and defects) system capuring all issues / potentional outstanding works - retention/payment held against completion of all works.
16	Prolongation Costs	The LE will prolong the works on site, this will lengthen consultant engagement and extend fees on a pro-rata basis.	24-May-21	3	4	12	E	The CoF have engaged with the relevant consultants re prolongation costs. These are agreed to be applied on a pro-rata basis but will reflect activity / work level fluctuations.	CoF	PD, PT.	1-Nov-21	closed	1	80%	2.4	L	Costs locked against PC - achieved November 2021.	TechOne - New WBS in place with WO's for specific post liquidation events. All costs/commitments and contractor payments tracked and certified.
17	Tenancy delays	Disruptipon and delays may impact availability of tenancy space and or may jeopordise executing / attracting new tenants.	24-May-21	3	3	9	H	CoF are actively laisssing with the prospective tenants. These areas of the building will be prioritised for clearing and access to minimise potential tenancy delay.	CoF	PD, PT.	1-Dec-22	ongoing	2	60%	3.6	L	Newman Court tenancies agreed - fit out staged in consultation with tenants. Other areas under negotiation/seeking proposals. (Separate fit-out budget for tenancies).	No additional project costs or provisions (relating to LE) included.
	RESOURCING								CoF									
18	CoF Staff availability	CoF staff and internal workforce planning had not anticipated active delivery involvement in the project beyond August 21.	24-May-21	2	3	6	M	Infrastructure Managers have reviewed workload and updated their respective workforce planning (and FY works programming).	CoF	PD, PT.	1-Nov-21	closed	1	80%	1.2	L	Construction works complete - defects managed through FM.	Defects logged and managed through FM and CDI 'procure' system.
19	Project Team / knowledge and experience	Loss of the site project team (Pindan) will create a significnat void in project knoeledge and contractor realtionship management / continuity. Significant risks, costs and delays inevitable.	24-May-21	4	5	20	E	CoF to immediate move to enagage the key Pindan site project team. Risks remains in terms of staff retention - construction market running very hot - numerous approaches for staff occuring.	CoF	PD, PT.	1-Nov-21	closed	1	80%	1	L	Construction works complete - project team finished.	FM team now manage the building (in-house).

Appendices 5: Work Breakdown Structure



Appendices 6: Evidence of Email Correspondence with KHA Project Manager



About Walyalup Civic Centre

Yazhen Tian (22942152)
收件人: [redacted]khastudio.com.au
抄送: [redacted]khastudio.com.au
Fri 2023-03-10 14:46

GENG5505 Introduction lette...
115 KB

Dear Ryan,

We are a research group of 5 UWA graduate students working on a course called GENG5505 Project Management and Engineering Practice. My name is Yazhen Tian (you can call me Grace). I'm doing Master of Information Technology at UWA.

We are very interested in the architectural design of the Walyalup Civic Centre to be our research project. That bilding is amazing which combining historic buildings with modern architecture. I was fascinated by it when I first saw it. We are eager to have the Walyalup Civic Centre as our research project!

We went to the Walyalup Civic Centre and asked the staff to get some information about the building (e.g. project budget, difficulties in the project progress, etc.). The staff told us that we needed to contact you for this information. Do you know if you can provide us with some information about the project for our research? (We are not sure if the information about the project is private to the company). It would be great to talk to the project team! Any information related to the project would be a huge help to us!

We guarantee that all information will be kept confidential. We do not mind signing a confidentiality agreement. Attached is a letter of introduction written by one of our teachers.

Looking forward to your reply!
Best regards,
Yazhen Tian(Grace)

Ryan Brown
Hi Grace, Thank you for your email, and thank you for your kinds words regarding the Civic Centre. I've just sent on a request to the City o... Mon 2023-03-13 9:16

Yazhen Tian (22942152)
Dear Ryan, Thank you so much for your reply and time!! Your response has been a great encouragement to our research studies! The Wa... Mon 2023-03-13 10:45

Appendices 7: Final Cost of the WCC Project

WCC Forecast to Complete (*whole)	$46,127,340.29
PSUM Deductions & Variation Adjustments	-$199,304.40
William Street Verge Works (Carriageway kerbs/drainage)	-$30,552.50
Town Hall basement – waterproof tanking (Western Power Area)	-$47,486.86
Tenancy Works (Visitor Centre)	-$239,864.41
Total Forecast (WCC – contract scope)	**$45,610,132.12**

Appendices 8 Interview Questions

1. **What difficulties did you encounter while working on this project?**

   i. Bilder issue.

Because Pindan went bankrupt, a new builder had to be replaced. This delayed the process.

   ii. The Covid problem.

Supply chain issues: many building materials come from overseas or Brisbane. The Covid caused delays in the arrival of materials. So they had no choice but to do the interior renovation first. This also led to increased costs. Contractors need to follow covid rules. Was allowed to continue construction.

Worker issues: The Covid has resulted in many workers needing to be isolated at home, which has severely impacted on the work schedule.

2. **What is the timeline of the WCC project? Can you please tell us the time use lifecycle (conceptualisation, planning, development, and finalisation)?**

Conceptualisation stage started at 2014.

Planning stage started at 2016.

Development stage started at 2018.

Finalisation stage started at 2020 and finished in November 2021.

3. Are there any memorable things in each stage?

Designing stage: need to obtain from the city (the client).

1) A demolition permits

2) A building permits. Both are obtained through the presentation.

4. Project Benefits and Goals

Reviving Kings Square as the centre of Fremantle.

5. How were the construction and design issues handled?

Contracts:

Contracts are drafted and purposed by a third-party company called TPM (Total Project Management) company acts as a communication between the building contractor.

Design:

Design issues are inspected by the design team and the contractor and is discussed in a fortnight meeting?

6. Risk Management

Risks are asessed throughout the project and reported by all contributing parties that were onsite. Mitigation actions are often done by the main contractor of the project (Pindan). Mitigation actions are often not reported in the performance review of the project.

7. Budget and Cost Management

Cost of Budget is 45 million: not over budget.

8. The Heritage consultant, protection of cultural heritage.

Design trouble:

Preserving the lime wall in the lobby of the civil centre while updating and following the building restrictions and safety laws, such as fire codes.

Engineering:

The contractor does the engineering work making the design buildable.