

BEFORE THE INVERCARGILL CITY COUNCIL

IN THE MATTER OF

the Resource Management Act 1991

AND

an application to the Invercargill City Council by HWCP Management Ltd for resource consent to demolish, alter and redevelop land and buildings in the Central Business District on a block bound by the east side of Dee Street, the south side of Esk Street, the west side of Kelvin Street and the north side of Tay Street

**STATEMENT OF EVIDENCE OF GEOFFREY COTTON
ON BEHALF OF HWCP MANAGEMENT LTD**

PROJECT MANAGEMENT / CONSTRUCTION METHODOLOGY

11 MARCH 2019

Introduction

1. My name is Geoffrey Cotton and I am a Director of MPM Projects Limited and the appointed Project Director for the HWCP development. This evidence is in support of the resource consent application by HWCP Management Ltd to redevelop the central city block bound by Dee, Esk, Kelvin and Tay Streets.
2. By way of background, I am an experienced Project Manager who has delivered many construction projects throughout New Zealand and internationally. My professional background is Quantity Surveying and I am a Fellow of the Australian Institute of Quantity Surveyors. I have been managing projects since 1987.
3. Of particular relevance to this application for resource consent I have been involved with developments with similar aspects to this development including;
 - (a) Post Office Development and Courthouse, Queenstown (new offices, retail and renovation of heritage structures; management of heritage archaeology process, traffic management, management/consultation with local business and management of impact of construction process)
 - (b) Swan & Edgar Department Store, Piccadilly Circus, London UK (renovation and reconstruction of heritage building into retail and commercial; heritage façade retention, traffic management, management/consultation with local business and impact of construction process)
 - c) Ikea Mall Wuhan, China (480,000m² shopping mall constructed in central China, management of impact of large-scale construction process, traffic management, environmental impact)

- d) Birkenhead Shopping Centre, Drummoyne, Sydney (reconstruction and renovation of existing shopping mall and construction of 300 apartments and 900 car parks; demolition in operating business environment, heritage building management during construction, management/consultation with local business and impact of construction process, large scale construction in operating shopping and commercial mall).
4. I was appointed as Project Director in January 2019 by HWCP to prepare and plan the project for commencement. This includes the planning of the asbestos removal, demolition and construction including completing design, managing budgets, procuring Contractors and Suppliers and establishing protocols and systems for the ongoing management of the Project.

Code of Conduct for Expert Witnesses

5. I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the hearing Commissioners. Except where I state that I am relying on evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

Scope of evidence

6. My evidence will cover:
- (a) An overview of the planned process of construction and demolition.
 - (b) A discussion on the issues raised by the submitters.

- (c) A discussion on the conditions proposed in the Section 42A Report (“Officer’s report”) in so far as they relate to construction and demolition matters.
7. I have been to the site on many occasions and reviewed the access available, the adjacent buildings and services, the adjacent owners and businesses. I am familiar with the design of the new buildings and the proposed method of construction.
8. I have reviewed the Officer’s Report prepared on behalf of the Council who considers that subject to the imposition of conditions, effects on the environment will be appropriately managed and mitigated, and the consent should therefore be granted.

Executive summary

9. The demolition and construction of the project can, in my view and experience, be constructed with the minimum amount of disturbance and disruption to the surrounding businesses and the general public, by carrying out detailed and extensive planning, utilising skilled and experienced contractors, experienced professional design consultants, continuous consultation and interaction with the neighbours and general public, and compliance with the proposed conditions of consent.

Construction overview and methodology

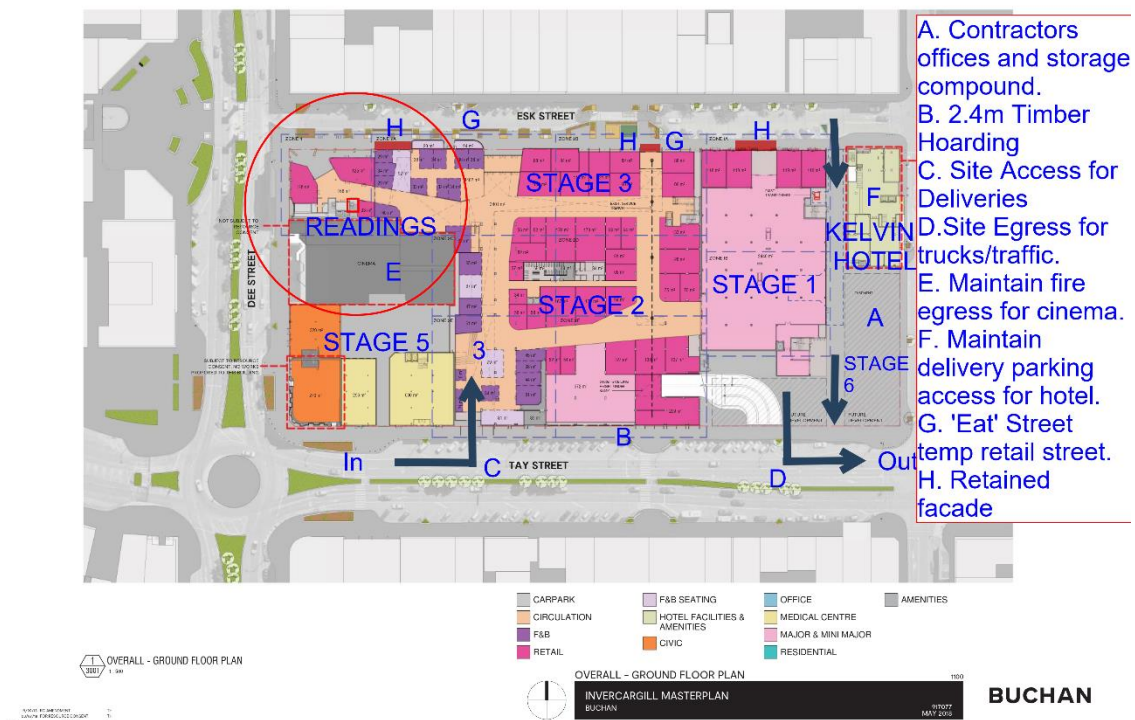
10. A draft Demolition and Construction Management Plan has been commenced. This is attached to this statement of evidence as Appendix A and a portion of this is detailed below. The completed Demolition Management Plan (DMP) and Construction Management Plan (CMP)¹ will require significant Contractor input to ensure the information contained is accurate to the method of

¹ Required by proposed conditions 8 and 15 in the Officer’s Report respectively.

delivery. The selection of these contractors has not occurred at this stage but the following details and overview of the initial planning has been completed. These details should be considered as draft at this stage, however they will give the Commissioners and submitters a feel for the planning around demolition and construction.

Method

11. The project will be divided into the following construction stages:
 - Asbestos removal
 - Heritage reporting
 - Demolition
 - Archaeological investigation
 - DSI Investigation
 - Piling
 - Stage 1 – Anchor Tenant Building
 - Stage 2 – Car Park Structure
 - Stage 3 – Fashion Retail and Food court Building including fitting out
 - Stage 4 – Office Building corner of Dee and Esk
 - Stage 5 – Civic and Medical Centre corner of Dee and Tay
 - Stage 6 – Hotel/ Commercial Building corner of Kelvin and Tay
12. The plan below identifies these stages and the planned access routes for the development during the construction process.



13. The site will be secured by a 2.4m high perimeter timber Class B hoarding on all external boundaries along all street frontages and site boundaries and will be accessed via inward-opening gates which will be fitted with chains and locks. The hoardings will be maintained throughout the construction period.
14. A full and complete dilapidation survey and report will be carried out. This will be a series of photographs and annotations depicting the carriageway, the kerb and channel and the footpath both adjacent to the site will be submitted. Buildings on the site that are not part of the redevelopment or owned by HWCP will similarly be surveyed in conjunction with owners to record the status of these buildings at the outset.
15. Adjacent building structures including the retained facades on Esk Street, the Troopers Heritage listed building on Dee Street, and the Readings Cinema and Kelvin ILT Hotel will be inspected and detailed dilapidation reports prepared. Specialist identification tags will be placed on the retained heritage structures and monitored continuously during the demolition and piling stages to ensure

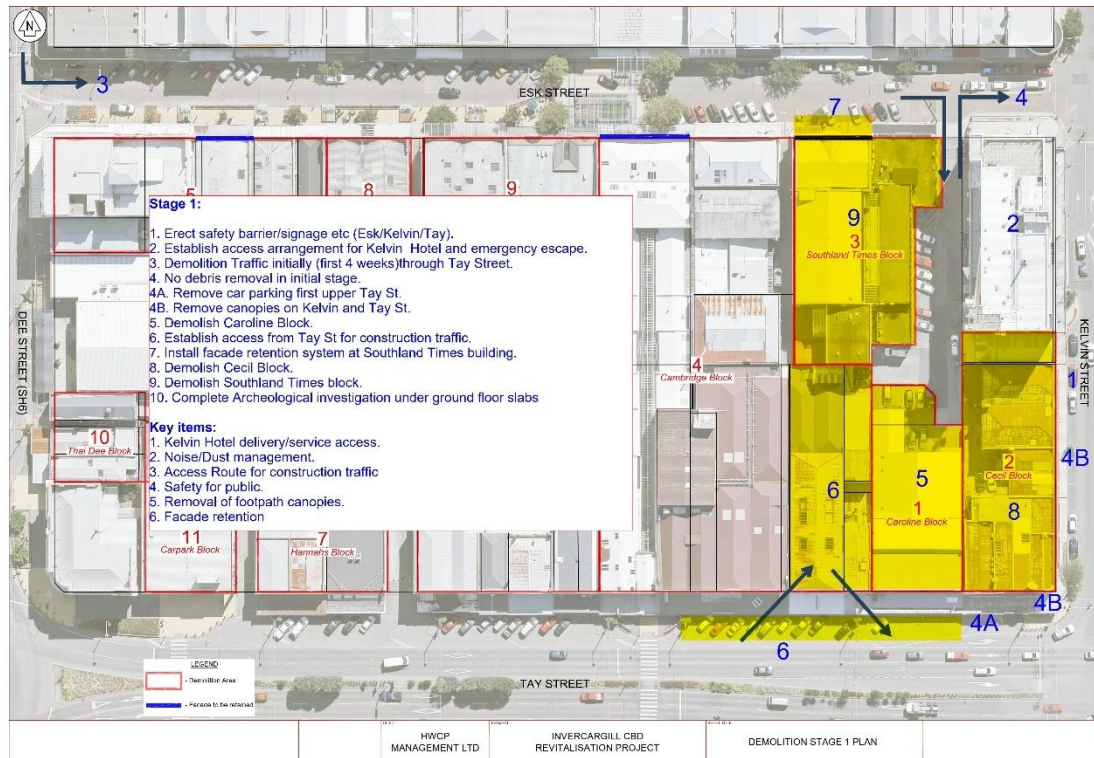
movement does not occur. Compliance with the resource and building consents and the heritage reports will be managed by the contractor and the Project Manager.

16. Works Zones / Construction Hoisting Zones will be identified and will only be utilized on Dee Street during construction of the Commercial building on that corner. All other hoisting and crane lifting will occur within the site boundaries as defined on the construction phasing plans. Craneage will be contained within the site for all lifting and be of a crawler/mobile type. The Corner building at Dee and Esk Streets will likely be served by a fixed Tower crane due to the access difficulties for larger machines.
17. The construction methodology provides a narrative to be read in conjunction with the detailed programme and includes, but is not limited to the following.

Demolition

18. The project contains a substantial amount of demolition and heritage inspection/archaeological review of the site. The period from occupation, asbestos stripping, demolition and archaeological review will be 11-12 months. The planning of the overall demolition strategy will eventually become the responsibility of the demolition contractor when appointed but the basis for the plan has been reviewed and confirmed by HWCP and the project team.
19. It is paramount that the impact of the demolition aspect of the project (and thence the construction) is minimised with respect to the surrounding businesses, the general public and the adjacent property owners on the same site. To achieve this, I have reviewed all aspects of the site and liaised with experienced contractors and have formulated an overall plan and staging for the demolition of the buildings.

Stage 1

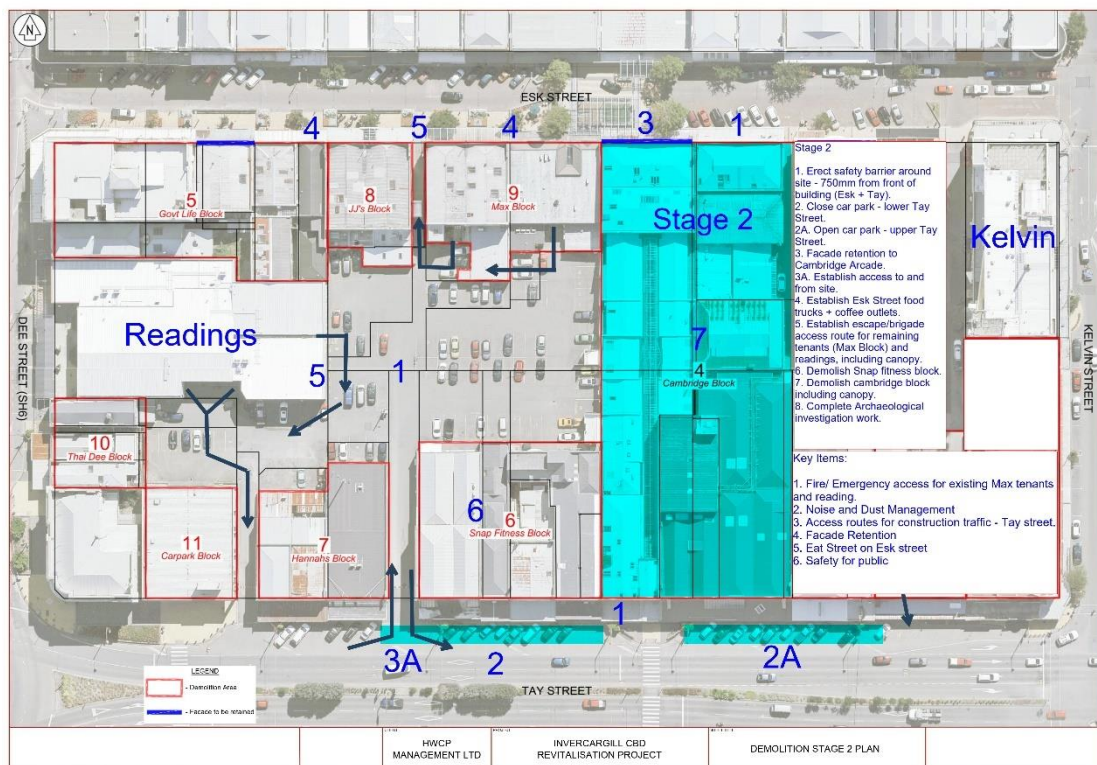


20. During the initial stage of demolition it will be necessary to access the site from Esk Street using the service lane between the Southland Times and The Kelvin Hotel.. This access will be for delivery of the initial machinery and scaffold. Demolition will commence on the lower half of the site first (noted as the Caroline Block) to form a construction traffic new access/egress from Tay Street. Once formed along with the necessary road crossings no further access will be required from Esk Street. It would be necessary to close some of the car parks on Esk Street during Stage 1.
21. Safety barriers will be erected wherever there is an interface between the demolition site and the public and will ensure separation. Sound and dust barriers will be installed where necessary. This applies to all stages so I have not repeated this when discussing subsequent stages.
22. The first of the façade retention systems will be installed at the Southland Times during this stage and prior to the demolition of the building. Due to the structure of the façade this retention system will need to be placed onto Esk

Street. Pedestrian access will be maintained and the retention system will be suitably treated as to not be unpleasant to the eye. Once installed the demolition of the Southland Times building will commence.

23. This stage will take approximately 10 weeks.

Stage 2

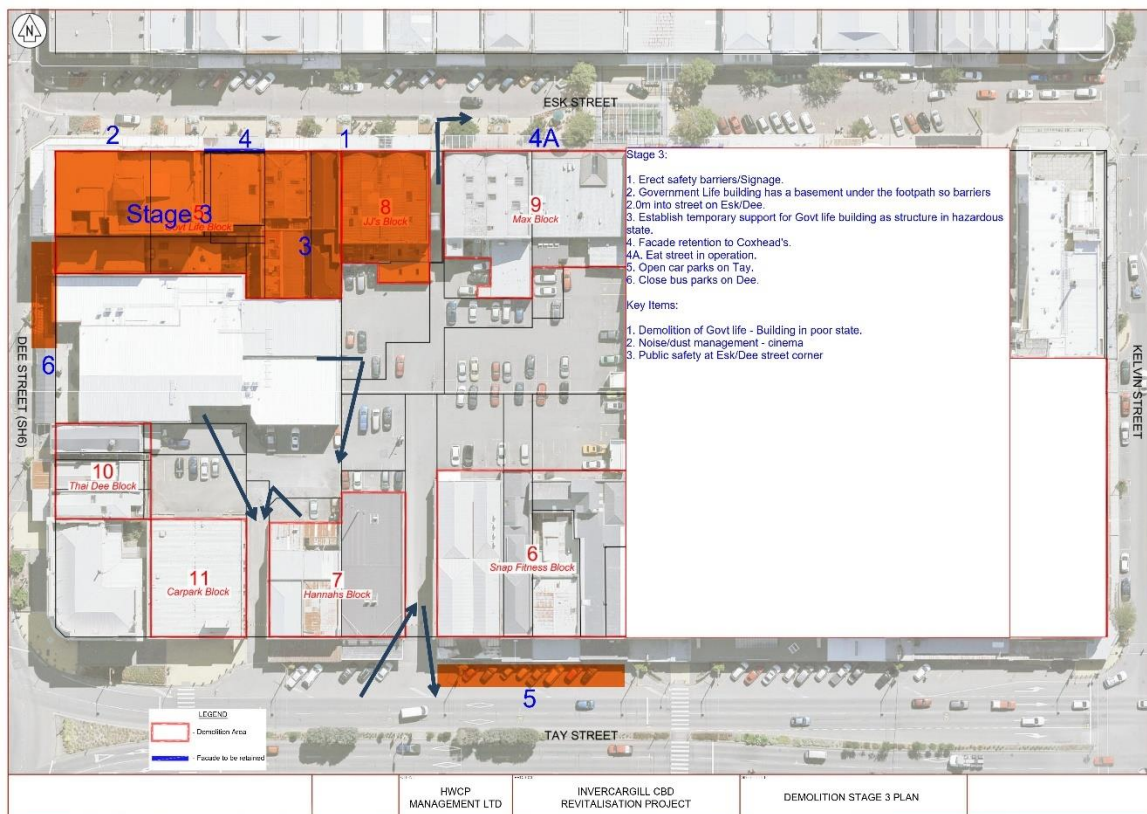


24. During the Stage 2 demolition the centre block of buildings will be demolished. The second of the façade retention systems will be installed at the Cambridge Arcade façade on Esk Street. This system will be a similar design to the Southland Times façade. Pedestrian access will be maintained and the retention system will be suitably treated as to not be unpleasant to the eye.
25. Demolition traffic access will be provided through what is now the car park entrance on Tay Street. Again some car parking will need to be adjusted to ensure turning circles for the larger trucks are provided for. Fire egress and

emergency access for the fire brigade will be maintained for the existing tenants remaining on Esk Street and the Cinema.

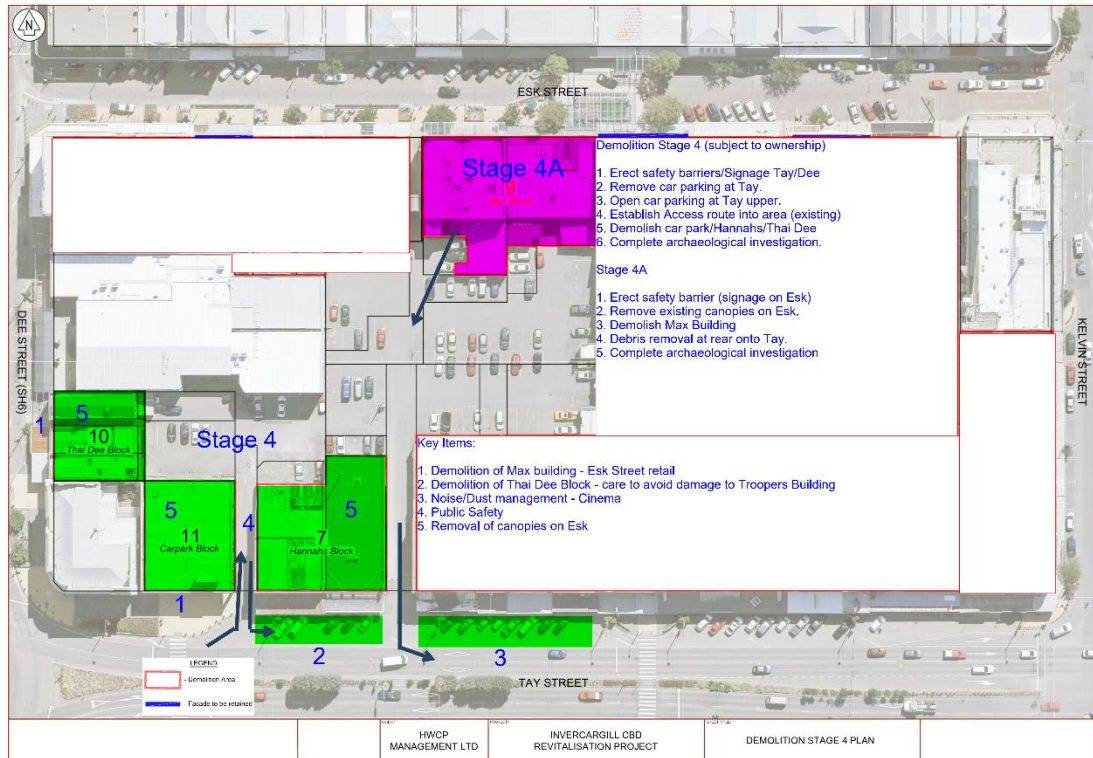
26. Temporary food outlets will be established on Esk Street during this stage serving coffee, tacos, burgers and the like to ensure that the retail component of the South side of Esk Street remains. This facility will remain in place until the completion of the project. Suitable canopies and suchlike will be erected to ensure these can be used during inclement weather.
27. During this stage the archaeological investigation will take place on the stage 1 area.
28. This stage will take approximately 8 weeks and will be overlapped with Stage 1.

Stage 3



29. During Stage 3 the more complex demolition of the Government Life and Coxheads building will commence. These buildings are in poor shape and will require a specific method of demolition. The Coxheads building façade is to be retained and a structure will need to be erected to facilitate this. The Government Life building will likely require a secondary structure erected within to stabilise the current weak building prior to any demolition being carried out. The eventual method will be determined by a specialist demolition contractor and will be subject to a separate method statement.
30. The Government Life building contains a basement which protrudes under the footpath of Esk and Dee Streets. This will require the safety barriers to be placed further into the pavement to provide a safe access path for the contractors and the public.
31. During this stage the archaeological investigation will take place on the stage 2 area.
32. This stage will take a minimum of 12 weeks.

Stage 4



33. Stage 4 and 4a is the final stage of demolition and involves the demolition of the remaining buildings on Esk Street and the car park building and a few smaller buildings on the corner of Dee and Tay Streets. The Esk Street buildings are being left until the final stage to ensure street life is maintained until the Christmas period of 2019.
34. Fire egress and brigade access will be maintained for the Kelvin Hotel and the Cinema together with the necessary access for deliveries and servicing. This access will remain throughout the redevelopment.
35. During this stage the archaeological investigation will take place on the stage 3 area.
36. On completion of this stage the archaeological investigation will be completed to the car park area and the remaining premises following demolition. Once concluded artefacts and the like will be stored and reviewed and selected for reuse or display in the completed development.

37. Site Constraints - Due to the size of the site plenty of space is available within its confines for lay down areas, site offices, amenities and ablutions. The entrances and exits from the site will be fully controlled and secured with particular reference to pedestrians crossing the footpaths adjacent to the site on Tay Street where the majority of construction traffic will be contained.
38. Construction Access and Traffic Management - Due to the location of the site we are planning to ensure that little or no construction traffic utilises Esk Street or Kelvin Street throughout the development. At certain times this will not be possible and specific management plans and method statements will be provided prior to these works being carried out. We are aware of the fact that Esk and Kelvin Streets are trading business streets within the centre of Invercargill and we will ensure that the minimal disruption possible will occur on these streets. In addition, the site contains two specific users in the Kelvin Hotel and the Reading Cinema complex, both accessed at varying times by the general public, service vehicles and various suppliers. We will ensure throughout the redevelopment that these properties are unaffected by the traffic generation of the construction.

Construction

Site Mobilisation and Establishment

39. This stage is about securing and establishing the site to start core construction activities and making sure everything is in place, so trades can hit the ground running with the correct infrastructure, controls and procedures. The following items are to be in position before commencement on site:
- (a) Site Set Up - as detailed on the plans the site will be secured initially with a 2.4m high perimeter Class B timber hoarding on all external boundaries along all street frontages. The site will be accessed via inward-opening gates which will be fitted with chains, locks and signage

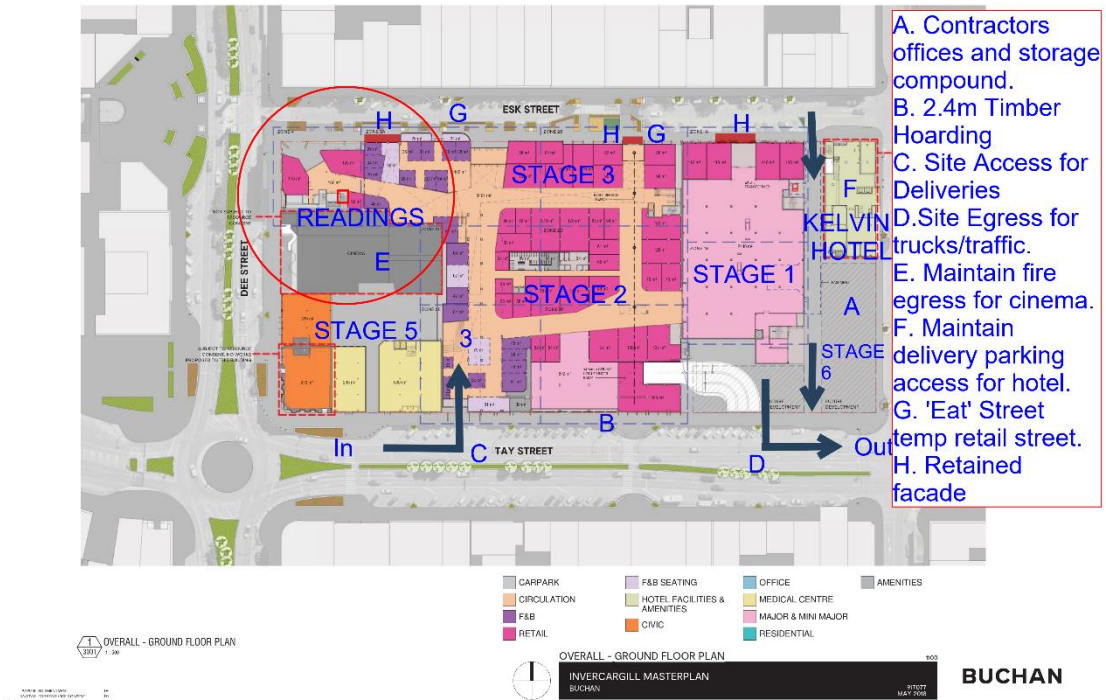
for site safety and to notify the public of the on-going works. The gates and hoardings will be maintained during construction period.

- (b) Site Compound Set Up - we propose to establish the site offices and storage containers at the site on the corner of Kelvin and Tay Streets. This would be a large compound suitable for all offices, first aid, and subcontractor's storage and provides direct access onto Tay Street. The compound would remain in place until completion or the start of stage 6.
- (c) Scaffold – scaffolding will be required to most faces of the development and sufficient room will be required behind the hoarding (1m) to erect and access this hoarding. Some of the façade will be full height shopfront or curtain waling and this can be installed without scaffolding.

Traffic Management Strategy

- 40. Our approach will be for construction traffic to access the site only from Tay Street. Tay Street is a wide thoroughfare with considerable access points into the site. These would be formed correctly for the type of vehicle and the proper road crossings installed onto the footpaths to ensure safe traffic for vehicles and pedestrians alike. Because all of the businesses will have been closed on Tay Street pedestrian through traffic will have reduced considerably and the likelihood of any significant issues reduced accordingly.
- 41. Full traffic management safety measures and signage will be employed throughout the project. A detailed traffic management plan for the demolition stages will be provided in due course and prior to construction commencing.
- 42. The drawing below outlines the major traffic paths and access/exits into the site noting construction traffic only entering from Tay Street and the only

access via Esk Street being the traffic required for the servicing of the Kelvin Hotel.



Construction sequence

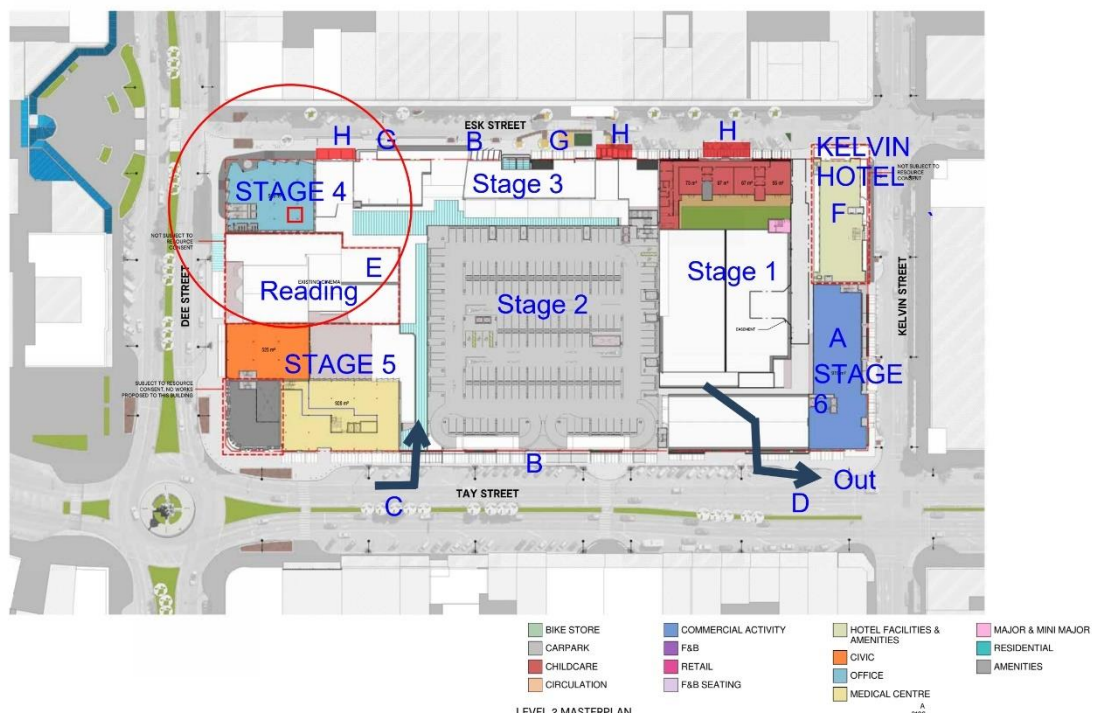
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Piling and Slab Installation

43. The Contractor will sequence the piling works and consequently the concrete slab works working from the East (Kelvin Street) of the site to the West (Dee Street). The piling will commence first at the new anchor tenant building located in Stage 1 of the project and this will then move to the west into the Stage 2 car park zone.
44. The piling works will commence when building consent has been received and the archaeological investigation into the Stage 2 demolition area has been completed.

Structure

Level 2



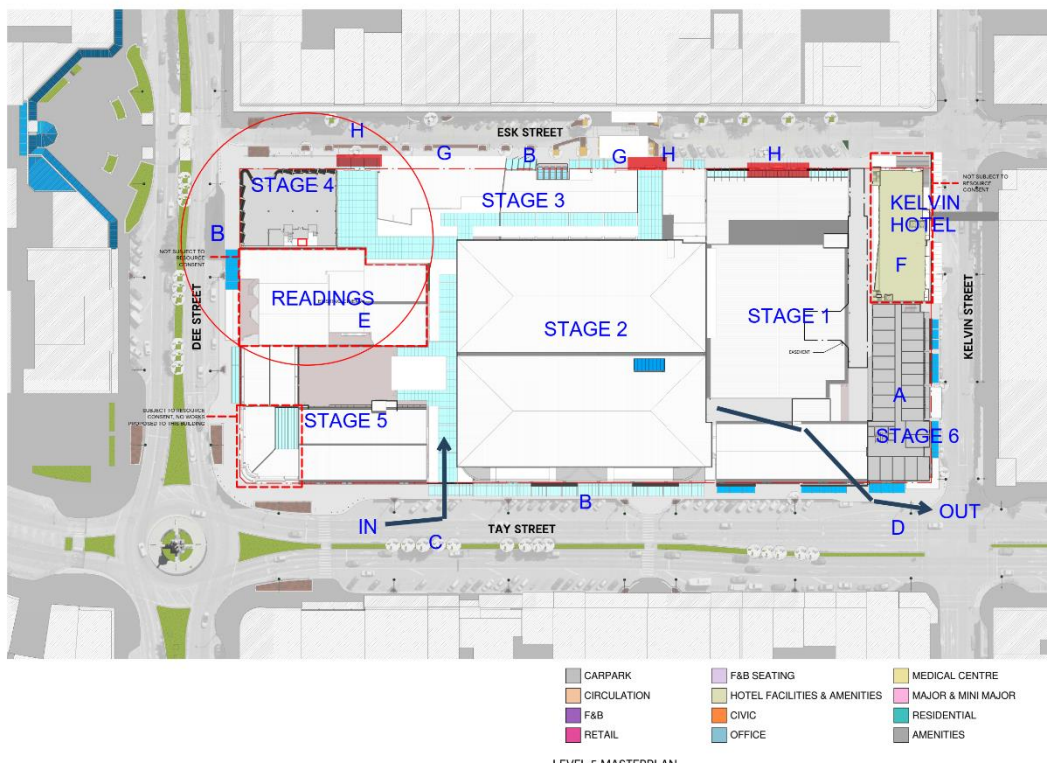
45. The superstructure stage of the building will follow the same sequencing although is likely to be in two different zones. Stage 1 of the anchor tenant will be constructed mostly as a steel framework with concrete floors and a lightweight roof. The car park being stage 2 of the project is largely precast and

in situ concrete. Both buildings will rise rapidly once the concrete floor slabs and piling has been completed. The retained facade of the Southland Times building will be incorporated into the structure of the anchor tenant (forming the new main entrance) and the temporary structure removed.

46. The car park building (Stage 2) is considerably larger in area and floors than the anchor tenant and therefore will take considerably longer to complete. The enclosing of the anchor tenant building will be required at the earliest time to ensure successful completion and opening of this building which is scheduled to be completed first and the store opened. The target date for this is in the third quarter of 2021. Part of the car park will need to be completed for this together with some of the retail on Esk Street.
47. These structures will be erected using mobile cranes due to their versatility and lifting capacity– they do not over sail adjacent properties and are easier to put into operation than tower cranes.
48. Stage 3 will be commenced once the car park structure is largely completed. This stage provides the “wrap around” area of the mall and food court and is a low-level structure. During this stage the retained facades of Coxhead’s and the Cambridge arcade will be incorporated into the final design and the temporary retaining system removed from Esk Street.
49. Stage 4 is the new office/ commercial building which whilst likely to have a separate owner will need to be constructed at the same time as Stage 3 of the main development. This is because of access into this difficult corner and the need to have this access way into the new development opened at the same time. The access to this building is complex because of its location and the basement. It is proposed that a tower crane would be erected to facilitate the erection of this steel structure. The tower crane can lift for internally and externally (from Dee Street) thereby providing minimal impact on businesses in the zone. Construction traffic would not access Esk Street.

50. The final stages (5 and 6) are on the periphery of the project and access can be made available from Tay Street for construction. These would be constructed at the end of the project and timed to completion at the same time as the opening of the final stage of the core shopping mall development. The occupation of the medical centre and the hotel will be predicated by suitable tenants and operators.

Level 5



External Cladding

51. The external cladding of the project is all relatively low rise and generally of a shop front type nature. This is easier to install than complex masonry or timber facades.
52. Great care will be taken to ensure that the heritage facades are correctly incorporated into the new structure and thence adapted to suit the approved

plans and heritage requirements. Essential renovation and restoration will occur to ensure the facades longevity is guaranteed.

53. On completion of the façade to Esk Street, the first area to be constructed, the hoarding will be removed, and the street footpaths reinstated. It would remain closed until the formal opening of the anchor store in late 2021. The remaining development facing Esk Street would open progressively from that point, being completed by the middle of 2022.

Completion

54. The project will be completed in stages. The first section to open will be the anchor tenant together with some Esk Street retail stores and associated car parking. The balance of the car parking will be open thereafter. The shopping zones will be opened in phases with fashion retail and cafeterias nearest the anchor tenant opening approximately 3 months after the anchor tenancy and then the balance within 6 months. The food court operations will start to come on line after 4-6 months and be completed within 10 months. The stages are detailed in the appended programme of works.

Submissions

55. A number of submissions were received from parties expressing their general support but noting concerns relating to:
 - (a) Disruption to existing businesses;
 - (b) Significant noise, dust, traffic, and access affects;
 - (c) Environmental health effects of asbestos removal;
 - (d) The timeframe and sequence/staging of the works.
56. The conditions presented in the Section 42A report specifically address these issues and provide a specific method for consultation, communication,

planning, approval, management, and monitoring of the development during its various stages.

57. These conditions relating specifically to the development process (8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 31 and 32) are applied to most projects constructed in the urban environment and provide safeguards for Council and affected parties to ensure that the best endeavours are always used to mitigate the impact of development projects.

58. Specific responses to submitters' queries are:

(a) Disruption to existing businesses

- (i) The site is surrounded mostly by retail tenancies with those located on Esk Street the closest and likely to be the most affected by the demolition/construction processes.
- (ii) The developer has committed to providing food and beverage caravans and containers on the South side of Esk Street to ensure continuing activation of the street.
- (iii) The key requirement for reducing the impact, apart from complying with the conditions of consent, will be to ensure continual communication, consultation and interaction with the adjacent affected businesses and the general public. A tenants group has been formed during the consent process and we would propose that this group continues throughout the demolition and construction process, the project team led by the Project Manager will meet on a regular basis to update, review and discuss the demolition and construction sequences and to advise in advance of any likely potential issues.

- (iv) Condition 8g and 15a provides for a specific communication plan which will be provided but this must be considered a minimum. The Project Manager will ensure a regular newsletter is produced and issues to all affected parties providing updates on the project. We would provide vision panels within the site boundary hoarding to allow viewing of the demolition and construction. The information provided would keep the tenants and the general public fully informed of progress and the project status and keep them engaged in the process. Should issues occur an open communication will allow these to be reviewed and resolved.

(b) Significant dust, noise, vibration, traffic and access affects

- (i) The proposed conditions deal with the management of these affects specifically 8b, 8c, 8f, 8h, 8i, 8j, 8l, 8n, 15b, 15c, 15d, 15f, 15h, 16, 17, 18, 19.
- (ii) The construction and demolition contracts will be synchronised with these conditions to ensure compliance is a contractual requirement for the contractors.
- (iii) The contractor will prepare a comprehensive environmental project plan as required under the conditions noted above detailing noise mitigation measures during demolition and construction using NZS 6803:1999 as the minimum baseline. The specific elements that will require noisy work to remove (existing concrete floor slabs for instance) will be planned to occur during the periods when the least disturbance will occur to the adjacent businesses and public.

- (iv) Dust control through the stages of demolition and construction will be assessed and specific measures used to ensure no dust emanates from the site utilising spraying techniques and ensuring dry ground is covered or dampened during high winds. These will involve sprinkler systems and site watering.
- (v) Vibration effects on the surrounding businesses, the heritage facades and the Troopers building will be carefully assessed and where possible construction and demolition techniques will be specified to ensure vibration is minimised. An example of this is the design of the foundation system which has been designed as a bored pile basis. Bored piling is virtually vibration free and has low noise. This system will be incorporated throughout the foundations of the entire project. The Heritage buildings and facades together with the Cinema will be monitored throughout the demolition and construction process to record the vibration and then assess its effects if any.
- (vi) Traffic management plans will be prepared and issued and will form part of the DMP (8h) and CMP (15b) alike. The consent documentation submitted identified some large scale and lengthy road closures to Esk Street to facilitate demolition works. Following further discussion with experienced demolition contractors these long term road closures will not now be required. In addition there will be very limited access onto Esk Street for any of the construction traffic as access will be maintained from the Tay Street side. Any interruption to road and pedestrian traffic will be minimised to all streets but particularly Esk Street due to its importance as a retail street. The demolition contract is currently out to tender and on selection of the contractor a detailed period of establishing

methods and traffic flows will be prepared, submitted and approved under the conditions of consent.

- (vii) Street car parking will be largely unaffected throughout the development with localised shut downs for specific works only. There will be some impacts on the South side of Esk Street through the retained façade structures and the temporary food caravans/containers located there but these will be minimised through discussions with Council. We are lobbying Council at present to provide some additional spaces on Dee Street to improve the numbers provided. None of the car parking on the north side of Esk Street, Kelvin Street, Dee Street and the majority of Tay Street will be affected, (note we have some new access ways proposed on Tay Street which will remove certain car parking). The central Council car park will close for the development from an early stage.
- (viii) Considering the proposed conditions included in the consent, the level of control that will be exercised through the contracts awarded, the experience and skill of the proposed contractors and the requirements of the owners, the impact of the demolition and subsequent construction will in our view be minimal.

(c) Environmental effects of Asbestos removal

- (i) The removal of asbestos identified in the buildings at the site will be carried out strictly in accordance with the Code of Practice Management and Removal of Asbestos 2016 and the Health and Safety at Work (Asbestos) Regulations 2016.

- (ii) Full independent surveys have been carried out on all vacant properties and will be completed on all of the development site when all are vacant. The amount of asbestos identified will be removed with the appointed contractor. It should be noted that this work has commenced.
 - (iii) All asbestos removal is carried out in a controlled and secure manner using the Code of Practice and HWCP has appointed a competent and experienced contractor to carry out the work strictly in line with WorkSafe requirements. There will be no asbestos contamination emanating from the site during the demolition stages.
- (d) Timeframe and sequence/staging of the works
- (i) Method statements for the demolition and the construction will be incorporated into the CMP and DMP required under the conditions. The requirement of the developer will be that wherever practical, access for the construction project will not occur from Esk or Kelvin Streets ensuring that disruption is minimised in these areas. It is a condition of our tender to the demolition contractors that Esk Street access is to be maintained throughout except where specific elements require access (removal of canopies for instance).
 - (ii) The core project (nchor, Retail, Food and Beverage, Car Park) is designed to be constructed in one stage. These components take up 80% of the site and therefore the demolition of all of the buildings and the heritage/archaeological assessment will need to be carried out in one stage. Various other stages will occur within the project at a time to be determined, specifically

the Medical Centre and the commercial buildings planned for the corner of Tay and Dee Streets and Kelvin and Tay Streets.

- (iii) Importantly since the original consent documentation has been submitted a thorough review of the development programme has been completed. This includes the design, consenting, asbestos removal, demolition, heritage and archaeology assessments, contamination surveys and the construction sequence and timing. The programme for works is now planned to commence in earnest in the middle of 2019 and be completed by the end of 2022, a period of 3 and half years. The first retail openings will occur with the anchor tenant and associated retail in November 2021 and phased openings will occur from that point. The core project will be completed before the end of 2022.
- (iv) This reduced period represents a significant reduction in the period of disruption for the affected parties from what was originally proposed.

Summary

- 59. HWCP, with my assistance, has during the period between lodging the resource consent and receiving submitters' comments looked at the direct construction and demolition processes, timing, sequencing and planning. Many of the submitters' queries related to the disruption during the demolition and subsequent construction of the development and I have endeavoured to address these specifically in this evidence.
- 60. The project construction and design team will be experienced and competent consultants and contractors utilising the latest technology for construction and demolition purposes and ensuring that the designed buildings are not

complicated or difficult to construct. This will allow HWCP to confirm, with some confidence, that it is able to deliver the project with the minimal disruption to business, traffic and the public.

61. Comprehensive DMPs and CMPs will be prepared and issued when we have awarded contracts for the demolition and construction and these will, as a minimum, meet the requirements of the proposed conditions of consent. We will ensure that when tendering construction packages that the conditions of the resource consent will form part of the contractual terms and this will provide certainty that concise and complete documents will be provided by these contractors with the necessary assistance from the Project Manager.
62. I have been in consultation with various contractors and suppliers to assess resource availability and experience for the demolition and construction. This includes methods of fast tracking the project by manufacturing componentry in advance (precast concrete) of its required delivery to ensure site time is much reduced.
63. The communication and consultation will ensure that at all times the affected parties are aware of the project's status, when specific complex activities may take place and how the team will be addressing them (the Government Life building demolition for instance). This open communication has in my past projects worked extremely well and ensured that projects have progressed smoothly even when some things do not go according to plan.

Officer's Report / conditions

64. I have read the submitted section 42A report prepared by Jonathan Cleese. I have made some specific comments in relation to the conditions proposed in the following paragraphs but have no further comments to add.

65. Condition 11 and Condition 18 restrict the working hours for the site activities which exceed the noise limits. I would like to amend these working hours when noise can be generated in excess of the noise limits.
66. The reason for this is that the site is placed in an inner city environment and the users of the adjacent properties are varied. They include a cinema, retail shops, offices, services, hotels and food and beverage facilities. There are limited permanent residents surrounding the site (a few properties on Tay Street).
67. These users all have differing hours of operation and core periods of trade or use. Considering this the operation of the site strictly within the hours mentioned, unfairly in my view, requires all “noisy” works to be completed within the core hours of the closest neighbours, the retail stores on Esk Street. By allowing a longer operating time (7.30am to 9.00pm Monday to Saturday and 9.00am to 5.00pm Sunday) the time between 5.00pm and 9.00pm can be utilised during week days which provides some opportunities to complete works when the retailers are not operating and hotel guests are not sleeping. The Sunday work is a necessity to allow activities that impact at street level, such as removal of existing canopies, erection of façade retaining systems, carrying out services connections when Esk, Dee and Tay Streets are at the quietest. Increasing the hours will improve the timing for the project and thereby reduce the impact.

Geoff Cotton

11 March 2019

Demolition and Construction Management Plan

HWCP Development Invercargill

Quality Information

Document	
Date	
Prepared by	Reviewed by

Revision History

			Authorised	
Revision	Revision Date	Details		Signature

Contents

1.	Introduction to Project, objectives and aspirations.....	4
1.1	Introduction.....	4
1.2	Project Objectives and Aspirations.....	4
1.4	The Development	5
1.5	Project Team Structure and Communication Channels	5
1.6	Project Director	6
	Project Manager	7
	Commercial Manager	9
	Health, Safety & Environmental Manager.....	10
	Senior Site Manager	13
	Site Manager	14
1.7	Roles & Responsibilities concerning Health & Safety; Client, Engineer to Contract & Contractor	16
1.8	Stakeholder Engagement and Community Liaison.....	18
1.9	Project Phasing Methodology	19
2.	CONSTRUCTION METHOD AND STAGES	20
2.1.	RESOURCES.....	20
2.2.	Site Security.....	20
2.3.	Dilapidation Report	21
2.4.	Works Zone / Construction Hoisting Zone	21
2.5.	Environmental Issues	21
2.6.	Methodology	23
2.7	Detail of Construction	28
	Site Mobilisation and Establishment.....	28
	Traffic Management Strategy.....	29
	Tower Cranes.....	30
	Truck Access/Egress & Deliveries	30
	Temporary Fire Protection	31

Piling and Sl;an Installation	32
Structure.....	33
External Cladding.....	35
Fitting Out.....	35
Landscaping	36
3. Project Risk Register	37
3.1. Risk Management Plan	37
3.2. Introduction.....	37
3.3. Strategy and goals	37
3.4. Organisational	37
3.5. Risk	38
Senior Level (Including Project Director)	39
Expected Project Specific Risks – To be addressed with construction site team prior to construction commencing	41
Risk Matrix – (Form-16)	44
3.6. Risk Response	46
3.7. Roles and responsibilities	46
3.8. Monitoring and review	47
4. Health & Safety Plan & Requirements of Contractor	48
4.1. Legal requirements.....	48
4.2. Project Objectives and Health & Safety Mission Statement	48
4.3. MPM (Client) Health & Safety Standards, Requirements and Policies.....	50
4.4. Proposed Team Structure for Management Operations and Health & Safety	50
4.5. Understanding and Interpretation of the Scope of Works.....	50
4.6. Health & Safety, Risk Analysis and Management.....	51
4.7. Specific Hazards and Health Issues.....	52
4.9. Erosion and Sediment Control Plan.....	52
4.10. Special Control Measures and Management Strategy	53

4.11. Emergency Plan	54
5. Archaeological and Heritage Protocols.....	55
5.1. KOIWI accidental discovery	55
5.2. TAONGA or artefact discovery	55
5.3. POUNAMU discovery.....	55
6. Waste Management, Site Waste Management Plan.....	56
7. Quality Control and Management Plan:	56

1. Introduction to Project, objectives and aspirations

1.1 Introduction

The Construction Management Plan is a document prepared by the project management team with a simplistic purpose to convey the brief, scope, expectations, parameters and contractual obligations of the Contractor towards delivering the construction works of The HWCP Development.

The construction management plan will define the management requirements of the contractor, stipulate the Clients, Projects and Legislative requirements expected and outline the full and detailed management parameters of the project in terms of Health & Safety, Quality, Programme, Risk, and contractual Roles and Responsibilities between the team members.

1.2 Project Objectives and Aspirations

The project centres around the redevelopment of one block in the town centre of Invercargill the redevelopment will ensure that the inner-city block will become a place full of vibrance, bringing new life to Invercargill's CBD.

This is a once in a lifetime opportunity to give Invercargill a bright and bustling city centre where all manner of business and interaction can take place. No one's ever done an entire block redevelopment on an already-established site and HWCP is excited to take on the challenge.

The development takes up the rectangular block of buildings between Esk Street and Tay Street, bordered by Dee Street and Kelvin Street.

Because of the scale of the project, the redevelopment will provide many positive flow-on economic effects. A labour spend of \$80 million and 400-500 new jobs are projected to be required during the development phase. Once completed, the centre is expected to bring more visitors to the region and give them a reason to stay longer, as well as increasing local spend.

We all feel a great connection to Invercargill, but we need to acknowledge that it's lost its heart. This project is designed to give Invercargill its heart back.

We already know regional New Zealand is suffering, and we're determined not to let Invercargill become a casualty. The city is a goldmine for a diverse range of activities, business and culture. We want to bring that to the forefront and celebrate what Invercargill has to offer.

This block redevelopment comes at a time when Invercargill needs it most, and the central block is the ideal development site. It already contains a hotel and cinema, so it makes perfect sense to build on this foundation and expand the city's central offering.

1.3 The Development

Features of the redevelopment being looked at by HWCP are:

- A covered carpark for 850 cars. Split over five levels, the top level of the carpark will be able to be used for events such as farmers markets and car shows and is to be fully roofed.
- A boutique eatery combining a diverse range of cuisines and businesses. The dining area will be a communal wide, open space with a variety of seating options. Split over two levels, there will be both indoor and outdoor dining space, opening out north-facing to Esk Street.
- Retail shops, ranging from a large anchor retailer to small boutique stores.
- Open-air laneways that connect the food and retail precincts to the offices and medical centre. The wide laneways breathe life into the complex but still provide enough shelter from the elements for shoppers.
- A central medical centre with scope to include an ambulance bay.
- An outdoor courtyard for working professionals and families, providing a space for people to enjoy lunch outside.
- Offices and apartments overlooking the Invercargill CBD.

1.4 Project Team Structure and Communication Channels

To be added

1.5 Position Descriptions

Project Director

Job Title	Construction Manager
Reports To	Chief Executive Officer
Purpose	Control and co-ordinate construction activities to ensure the project is completed to the client's satisfaction and to meet safety, environmental, quality, program and profit objectives.
Responsibilities	<ul style="list-style-type: none">• Procure necessary resources for assigned projects.• Establish and develop effective project teams, foster an inclusive team culture.• Establish industrial relations strategy to support project objectives and monitor implementation.• Ensure that safety and environmental considerations are an integral component of all construction planning and processes.• Confer with supervisory personnel, owners, contractors, and design professionals to discuss and resolve matters such as work procedures, complaints, and construction problems.• Plan, organise, and direct activities concerned with the construction and maintenance of structures, facilities, and systems.• Schedule the project in logical steps and budget time required to meet deadlines.• Conduct regular site safety inspections whenever attending an active project.• Approval of specific Project Management Plans for contracts awarded.• Inspect and review projects to monitor compliance with building and safety codes, and other regulations.• Interpret and explain plans and contract terms to administrative staff, workers, and clients, representing the owner or developer.• Prepare contracts and negotiate revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors.• Promote and work in accordance with the company EEO and other policies, and in a manner that maintains the workplace free from harassing, discriminatory, offensive and bullying behaviours.

	<ul style="list-style-type: none"> Overall corporate responsibility for OH&S, Environmental and Quality commitment, policy and procedures as well as promoting a safe working environment and environmentally responsible work practices
Position Requirements	Relevant degree and 10 years' experience in construction project management

Project Manager

Job Title	Project Manager
Reports To	Project Director
Purpose	Plan, co-ordinate and control the design, procurement and construction phases of allocated projects to ensure completion in accordance with all project and policy requirements.
Responsibilities	<ul style="list-style-type: none"> Manage and provide leadership to the project, developing annual and short-term business plans and strategies to maximise the returns on the contract, and work plans to optimise the utilisation of personnel, equipment and materials resources. Review project performance against plans on a regular basis and make continuous improvements, as necessary, to resource allocations, processes, procedures (including safety) and equipment, etc., to optimise contract performance. Achieve budget (expense and revenue) as measured against gross margin targets (pre-tax profit). Achieve operational performance targets as measured against agreed key performance indicators (KPIs). Manage contracts to ensure the company receives full entitlements for work completed. Liaison with the Project Director and involvement in the preparation of tender documentation, technical review of tenders and technical and commercial negotiations with tenderers. Oversee the coordination and management of design activities to ensure the issue of all design deliverables in accordance with the project management system requirements and the project program. Definition of project cost structures based upon the contract or tender documentation. Prime point of contact for subcontractors. Overseeing the administration and monitoring of subcontractor performance to ensure that the subcontractor's technical, program,

quality, environmental, industrial, safety and commercial obligations are achieved and maintained.

- Review and approval of sub-contractor progress claims.
- Assisting the Project Quantity Surveyor with the preparation and submission of monthly progress payment claims.
- Assisting the Commercial Manager with the preparation of regular project forecasts
- Liaison and coordination with the designers to ensure that all civil, structural, building and electrical/mechanical program and technical interface requirements are effectively managed and achieved.
- Ensure that design changes within the construction phase are reviewed, assessed and documented and site documentation (incl. SWMS) are updated and communicated accordingly.
- Liaison with all relevant statutory authorities as required.
- Regularly update programs and networks with respect to the timing, accuracy and progress of activities.
- Prepare and implement the Project specific Management Plan incorporating OH&S, Environmental and Quality requirements.
- Ensure relevant parts of Project Management Plan are issued to subcontractors for review.
- Submit Project Report Packs by the 15th of each month, as required in the IMS
- Review of Subcontractors' safe work method statements, risk assessments and Site-Specific Management Plans for review before they commence work.
- Ensure that ABL receive relevant information from the development team (where applicable) so that SSP's and risk assessments can be developed and submitted back to the development team for review before ABL commence work.
- To ensure that the duty to consult with employees is met to enable the employees to contribute to the making of decisions affecting their health, safety and welfare at work.
- Where required, provide the Project OHS&E Committee with the relevant safety information for review in committee meetings.
- Achieve agreed safety targets as measured by key safety performance indicators, e.g., frequency and timeliness of workplace inspections, audits, JSAs, risk assessments, SAOs, , hazard and incident reporting,

	<p>close out of incident investigations, emergency response drills, training, safety initiatives, etc., audit compliance, and successful resolution of non-compliance reports (NCRs).</p> <ul style="list-style-type: none"> • Actively promote safe work practices. • To provide each work site with a notice board (where appropriate). • To ensure signage for all to see displaying the ABL name and a 24hr contact number. • Achieve agreed environmental targets as measured by key performance indicators including compliance to site based environment plans, audit compliance, and successful resolution of non-compliance reports (NCRs). • Actively promote environmentally responsible work practices. • Ensure site compliance with all aspects of the Quality Assurance System and site Quality Plan as measured by audit compliance and successful resolution of non-conformance reports (NCRs). • Identification, control and disposition approval of nonconforming product in accordance with the Management of Non-conformance procedure. • Promote and work in accordance with the company EEO and other policies, and in a manner that maintains the workplace free from harassing, discriminatory, offensive and bullying behaviours. • Work in accordance with company OH&S, Environmental and Quality policy and procedures and promote a safe working environment, environmentally responsible work practices within the office environment by recycling and waste minimisation and conformance to quality procedures.
Position Requirements	10+ years post graduate experience in construction.

Commercial Manager

Job Title	Commercial Manager
Reports To	Project Director
Purpose	To provide assistance and advice to Senior Management on commercial and contractual matters across the organisation.
Responsibilities	<ul style="list-style-type: none"> • Reviews solicitations and prepare response for proposals, bids, and

	<p>contract modifications.</p> <ul style="list-style-type: none"> • Assist in the preparation of complex requests for proposals. • Analyse significant, and/or unique contract requirements, special provisions, terms and conditions to ensure compliance with appropriate laws, regulations, and corporate policies and business unit procedures. • Provide contractual guidance to senior management for appropriate Statements of Work. • Manage contract change control process. • Develop negotiation strategies and lead negotiation teams on complex contractual issues. • Analyse new laws, regulations and contract trends for potential impact on business goals and objectives. • Provide authoritative guidance to senior management on corporate goals and objectives relating to contract activity. • Focal point for all communication with law, finance and business team disciplines for resolution of contract issues and disputes. • Assist in new business pursuit and associated contract strategies. • Assists in identification, development and implementation of new contract policies and processes. • Participate in development of business alliances and partnering agreements. • Have a general understanding of the business case and an appreciation of financial/analytical issues and profit and loss implications. • Draft moderate to complex, non-routine contractual instruments.
Position Requirements	Degree plus 10+ years' business or related experience. Advanced degree highly desirable.

Health, Safety & Environmental Manager

Job Title	Health, Safety & Environmental Manager
Reports To	Project Director
Purpose	Assist in the development, management and implementation of company-wide and Project specific Occupational Health Safety, Rehabilitation and Environmental (OHSR&E) Systems, and in ensuring that site activities are carried

	out in a safe, environmentally sound manner on visited and assigned Projects.
Responsibilities	<p>Generally:</p> <ul style="list-style-type: none"> • Assist with review and updating of existing Company and Project safety documentation and assist with the development of safety & environmental documentation for new Projects. • Attend Project sites as required by the Construction Manager to monitor safety & environmental performance and assist Project Managers with management and implementation of Company and Project safety & environmental systems. • Liaise with and keep the Chief Executive Officer, Construction Manager, Systems Manager and Project Managers informed of all important OHSR&E matters and assist with developing strategies for the effective management and control of such matters. • Prepare reports on safety & environmental performance as required by the Company Integrated Management System (IMS) and Project Management Plans (PMPs) for assigned projects. • Analyse statistical data and trends as result of safety performance at company and project level. • Issue regular Safety Alerts to all sites and offices as and when required. • Coordinate and manage Return to Work process for injured employees. Including coordination with Service Providers. • Develop Safety Training Documentation and deliver as and when required (toolbox talks, specialist safety training, etc.) • Involvement in internal and third-party audit process in conjunction with the company Systems Manager. • Collate and maintain consultation records and disseminate best practice, lessons learnt, etc. where relevant • Liaise with third parties and authorities (WorkCover, Medical Practitioners, Rehabilitation Providers, etc.). • Manage and maintain OHS Strategic Action Plan for continual improvement of business systems and practices. • Ensure that all MSDS are available for all hazardous materials in Head Office, ensure that no MSDS is older than five years, and that copies of all MSDS are available at Head Office. • Ensure that First Aid Kits, Fire Extinguishers, etc. in Head Office and Records of Injuries are maintained.

- At Project Level:
- Maintain on site workers compensation information, folders and forms, assist the Project Manager with administration of workers compensation claims and rehabilitation of injured workers and Return to Work coordination, all in accordance with IMS policies and programs.
- Provide advice and assistance to the Project Manager for ensuring compliance by all with the terms of Project safety and environmental requirements.
- Provide advice and assistance to the Project Managers to assist with ensuring compliance with OHS & Environment Legislation, regulations, standards and codes by all and with IMS HSE policies and safe work practices.
- Ensure that the duty to consult with employees is met to enable them to contribute to the making of decisions affecting their health, safety and welfare at work.
- Monitor safety performance and maintain safety records and statistics.
- Provide for display at workplaces the Company safety policy, safety rules and safety minutes/notes /safety posters etc.
- Assist the work site team to develop their emergency response plan/map that has the contact numbers, assembly points etc. and it is displayed in lunch rooms and on notice boards.
- Ensure Safety Inspections are carried out and records kept and where required follow up the Inspection comments for close out.
- Review site safety performance and statistics.
- Liaise with the Systems Manager to ensure effective coordination and implementation of the IMS.
- Review Safety Components of Project Management Plans written by Project Team
- Review Safe Work Method Statements written and developed by Project Team.
- Ensure Safety Inspections/Observations are carried out and records kept and where required follow up the Inspection comments for close out.
- Ensure that regular inspections and audits on Subcontractors performance and process at site level are carried out.
- Provide ongoing support to projects regarding risk management (incl. Plant & Equipment)

	<ul style="list-style-type: none"> • Provide support to and participate in workplace consultative activities (specialist advice) • Ensure OHS&E requirements are communicated, understood and adhered to • Promote environmental awareness amongst staff through leading by example and integration of policy and procedural requirements into Safe Work Method Statements, Risk Assessments and PMP development. • Comply with all aspects of the Company's EEO, Harassment and Discrimination Policies and procedures to ensure the workplace is free from harassing, discriminatory, offensive and bullying behaviours.
Position Requirements	Tertiary qualifications in OH&S system development, implementation and management, and minimum 10 years' experience in assisting with workplace safety co-ordination in a site environment.

Senior Site Manager

Job Title	Senior Site Manager
Reports To	Project Manager
Purpose	Control and co-ordinate construction activities to ensure assigned projects are completed to the client's satisfaction and to meet safety, environmental, quality, program and profit objectives.
Responsibilities	<ul style="list-style-type: none"> • Procure necessary resources for assigned projects. • Establish and develop effective project teams. • Establish industrial relations strategy to support project objectives and monitor implementation. • Ensure that safety and environmental considerations are an integral component of all construction planning and processes. • Confer with supervisory personnel, owners, contractors, and design professionals to discuss and resolve matters such as work procedures, complaints, and construction problems. • Plan, organise, and direct activities concerned with the construction and maintenance of structures, facilities, and systems. • Schedule the project in logical steps and budget time required to meet

	<p>deadlines.</p> <ul style="list-style-type: none"> • Conduct regular site safety inspections whenever attending the project. • Inspect and review projects to monitor compliance with building and safety codes, and other regulations. • Interpret and explain plans and contract terms to administrative staff, workers, and clients, representing the owner or developer. • Prepare contracts and negotiate revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors. • Promote and work in accordance with the company EEO and other policies, and in a manner that maintains the workplace free from harassing, discriminatory, offensive and bullying behaviours. • Overall corporate responsibility for OH&S, Environmental and Quality commitment, policy and procedures as well as promoting a safe working environment and environmentally responsible work practices
Position Requirements	Relevant trade/degree and 10 years' experience in construction management

Site Manager

Job Title	Site Manager
Reports To	Senior Site Manager/Project Manager
Purpose	Co-ordinate supervisors, employees, plant resource and subcontract teams to achieve effective performance in accordance with programs and schedules.
Responsibilities	<ul style="list-style-type: none"> • Supervises and coordinates activities of employees and sub-contractors. • Contribute to the development of work methods and short term construction programs and plan daily/weekly production schedules. • Ensure all operations are performed in accordance with agreed safe methods of work. • Maintain effective consultation with worker's representatives on industrial, safety and consultative committees. • Direct and lead workers engaged in construction activities.

	<ul style="list-style-type: none"> • Assign work to employees, using material and worker requirements data. • Conduct survey and set out tasks required. • Liaising with Clients, consultants or third parties to resolve specification queries and anomalies. • Confer with staff and labour to ensure production and personnel problems are resolved. • Handle work-force related issues as they arise. Refer major issues to the Project Manager. • Analyse and resolve labour problems and recommended solutions. • Examine and inspect work progress, equipment and construction sites to verify safety and ensure that specifications are met. • Assist the Project Manager to review design changes within the construction phase and ensure site documentation (incl. SSP's) is updated and communicated accordingly. • Ensure all activities undertaken by employees and subcontractors are carried out in accordance with the Project Management Plan. • Estimate material and workforce requirements to complete the job. • Read the construction documentation to determine construction requirements. • Maintain effective consultation with worker's representatives on industrial, safety and consultative committees. • Select train and develop supervisors and leading hands and ensure the implementation of safety, environmental and other work standards and fair and reasonable application of industrial agreements. • Report regularly to the Project Manager on production and employee matters. • Work in accordance with the company EEO and other policies, and in a manner that maintains the workplace free from harassing, discriminatory, offensive and bullying behaviours. • Work in accordance with company OH&S, Environmental and Quality policy and procedures and promote a safe working environment, environmentally responsible work practices within the office environment by recycling and waste minimisation and conformance to quality procedures.
Position Requirements	Trade qualifications and 15 years construction experience

1.6 Roles & Responsibilities concerning Health & Safety; Client, Engineer to Contract & Contractor

Duty Holder	Duty
Clients (assisted and advised by Project Manager)	<ul style="list-style-type: none">• Check competence and resources of all appointees.• Ensure there are suitable management arrangements for the project welfare facilities.• Allow sufficient time and resources for all stages• Provide pre-construction information to designers and contractors.• Appoint Principal Contractor• Ensure construction does not commence until a satisfactory construction phase health and safety plan is in place.

	<ul style="list-style-type: none"> • Provide all information pertaining to client requirements, standards and project information to the contractor for inclusion within the health and safety plan.
Project Manager, Engineer to Contract	<ul style="list-style-type: none"> • Advise and assist the client with his/her duties. • Ensure design team are coordinating health and safety aspects of the design. • Facilitate good communication between client, designers and contractors. • Liaise with principal contractor regarding on-going design. • Compile and set the health and safety parameters of the project, bringing together client, design, logistical, legislative and cultural risk, hazard and general awareness issues prior to tender stage for issue to the contractor as Pre-Construction Health and Safety Plan. • Identify, collect and pass-on pre-construction information. • Monitor, review and report on Health & Safety identifying risk profiling, compliance with health and safety plan, incidents, injuries and overall statistics. Ensure and monitor corrective actions as implemented as applicable.
Designers	<ul style="list-style-type: none"> • Eliminate Hazards and reduce risks during design. • Provide information about remaining risks. • Check client is aware of duties and responsibilities. • Provide any information needed for the health and safety plan.
Principal Contractor	<ul style="list-style-type: none"> • Plan, manage and monitor construction phase in liaison with sub-contractors as applicable. • Prepare, develop and implement a written plan and site rules (initial plan completed before construction begins) • Ensure all sub-contractors are aware of relevant aspects of the plan, their duties and responsibilities as defined within the plan. • Make sure suitable welfare facilities are provided from start and maintained throughout the construction phase. • Check competence and continue to maintain through appropriate training the competence of all workers/ employees. • Ensure all workers have site inductions and receive any and all information and training needed for the work. • Consult with all workers and sub-contractors. • Liaise with designers and project management regarding on-going design. • Secure the site. • Compile, maintain and monitor the Health and Safety incident tracking and recording system, ensuring that all incidents are reported, and details notified as appropriate to the client and legislative bodies as applicable.
Workers/ everyone	<ul style="list-style-type: none"> • Check own competence and request training if deemed needed to fulfil the work task. • Co-operate with others and co-ordinate work so as to ensure the health and safety of construction workers and others who may be affected by the work. • Report obvious risks and hazards.

1.7 Stakeholder Engagement, Business and Community Liaison

The Contractor(s) have an established record of relationship building and forthright communications via public meetings, stakeholder relationships, elected member briefings and the media. xxxx will continue to work to build on key relationships and credibility, engaging with audiences in a range of ways, aiming to:

- be inclusive;
- act with integrity;
- build good relationships and earn respect;
- communicate in an honest, sensitive and timely fashion;
- be clear and accountable

In developing the HWCP, existing feedback from a range of previous consultations has been considered. This includes the discussions held with existing businesses prior to the development and includes the methods outlined during these processes. During the currency of this project we will ensure that constant liaison and consultation takes place with all of the affected parties be they Public, local Businesses or stakeholders. This would be by establishing prior to commencement a specific consultation platform, meeting on a regular (fortnightly) basis to discuss issues arising, mitigation affects, progress and any specific task needing to be undertaken outside of the normal day to day working. This process would commence prior to demolition and right through to the opening stages.

This group would include the Contractors, Project Managers and the Client together with nominated representatives of the immediate retailers, the Hotel, the Cinema and the Council. This will provide a two-way platform for discussing the project and to ensure engagement at all times. This group would also ensure that the wider public were fully aware of the progress and status of the project and allow them to interact with the development by perhaps viewing the site at certain times, arranging early display of any artefacts found and viewing design information and leasing highlights.

Our experience to date, suggests the most effective marketing communications and engagement approaches are to:

- engage face-to-face where possible, or at least by telephone with local businesses and the Community
- ensure messaging and engagement is focused on helping people (where possible) so they can move forward
- provide information through a variety of channels to ensure maximum reach – these include online, print, community meetings, etc
- ensure a consistent and clear message is delivered by all channels and partners involved so that there is no confusion or mixed messages

- keep the messaging simple and easy to understand – avoid jargon and people having to search for further information where possible
- promote the places and services people can use to access support/information if the need or want it
- work with partners to co-brand and deliver messages where it is possible and helps the audience to engage.

Esk Street

From the outset of the project it is intended by the client to ensure that the impact on the Esk Street retail offering is minimised. To achieve this, it is proposed that 5-6 temporary food and beverage outlets are set up on the street with some appropriate covering to allow coffee, snacks, lunches to be purchased. This will alleviate the impact of closing of some of the retailers on the south side of Esk Street and Tay/Kelvin and provide a hub for gathering and socialising during the course of the project. Provision of power water and the like will be arranged by HWCP and installation of temporary coverings to shield from the weather. A number of F&B retailers have been identified who are keen to be involved and the final set up and design will be provided in due course.

In addition, the programming for demolition of the buildings has been structured to allow some of the Esk Street retailers to be the last to be relocated from their premises keeping activity on the street up to the end of 2019 critical trading period.

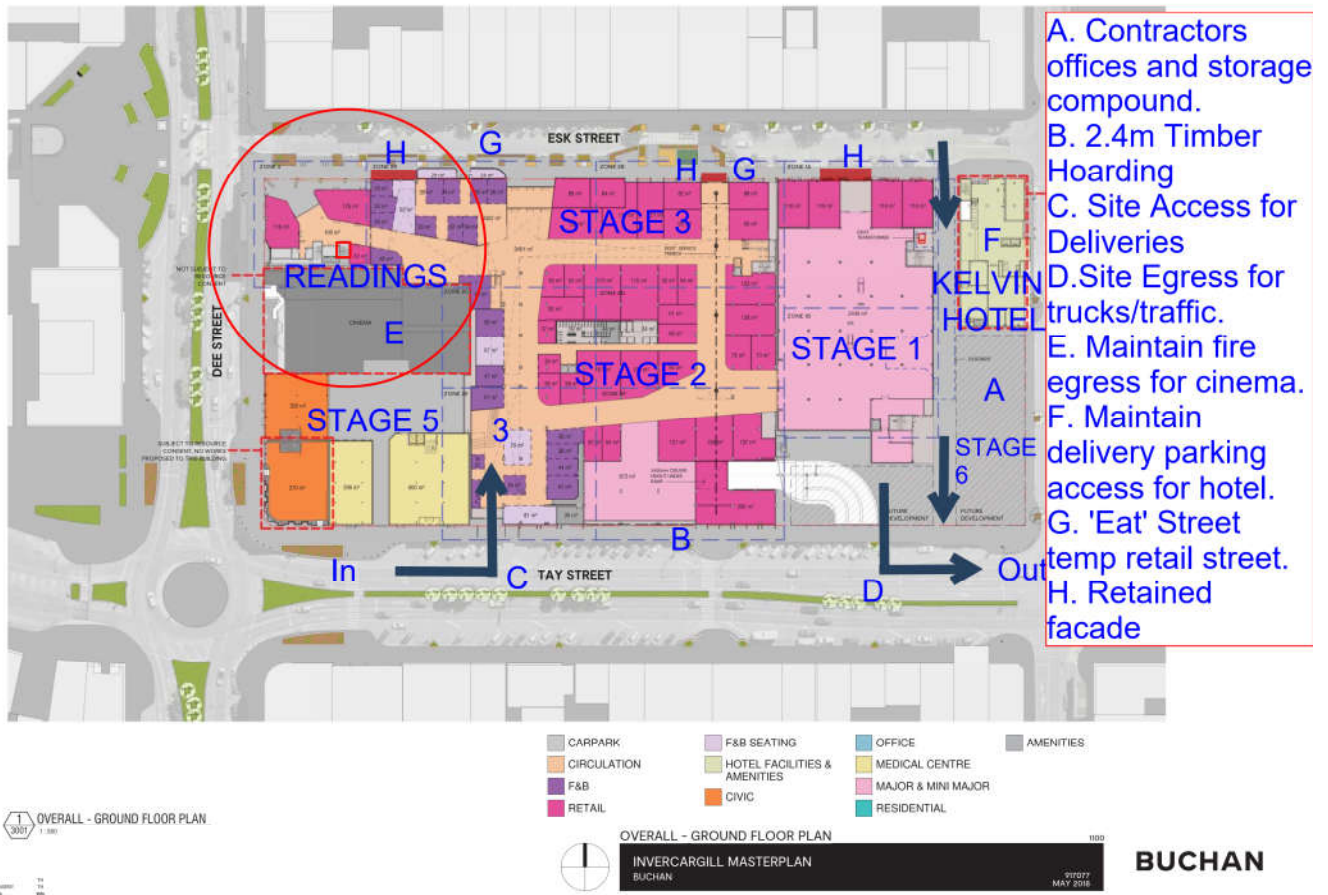
In addition, the street facing hoarding will be of high quality and likely painted with artwork from local communities, schools, colleges and such like to ensure a bright and vibrant space exists whilst the street is redeveloped. It is not intended to relocate new street furniture installed in 2018 nor affect the lighting of the street during the course of the development.

1.8 Project Packages and Phasing Methodology

The project is currently divided into the following construction stages:

- Asbestos removal
- Heritage reporting
- Demolition
- Archaeological investigation
- Piling
- Stage 1 – Anchor Tenant Building
- Stage 2 – Car Park Structure
- Stage 3 – Fashion Retail and Food court Building including fitting out
- Stage 4 – Office Building corner of Dee and Esk

- Stage 5 – Civic and Medical Centre corner of Dee and Tay
- Stage 6 – Hotel/ Commercial Building corner of Kelvin and Tay



2. CONSTRUCTION METHOD AND STAGES

2.1 Resources

To be confirmed

2.2 Site Security

The site will be secured by a 2.4m high perimeter timber Class B hoarding on all external boundaries along all street frontages and site boundaries and will be accessed via inward-opening gates which will be fitted with chains and locks. The Hoardings will be maintained throughout the construction period.

2.3 Dilapidation Report

A full and complete dilapidation survey and report will be carried out and issued. This will be a series of photographs and annotations depicting the carriageway, the kerb & channel and the footpath both adjacent to the site will be submitted. Council to advise of existing damage to assets.

Adjacent Building structures including the retained facades on Esk Street the Troopers Heritage listed building on Dee Street and the Readings Cinema and Kelvin ILT Hotel will be inspected and detailed dilapidation reports prepared. Specialist identification tags will be placed on the retained heritage structures and monitored continuously during the demolition and piling stages to ensure movement does not occur. Compliance with the Resource and Building Consents and the Heritage reports will be managed by the Contractor and the Project Manager.

2.4 Works Zone / Construction Hoisting Zone

Works Zones / Construction Hoisting Zones will be identified and will only be utilized on Dee street during construction of the Commercial building on that corner. All other hoisting and crane lifting will occur within the site boundaries as defined on the Construction phasing plans. Craneage will be contained within the site for all lifting and be of a crawler/mobile type. The Corner building at Dee and Esk will likely be served by a fixed Tower crane due to the access difficulties for larger machines.

2.5 Environmental Issues

Dirt, Dust & Debris Control/Street Cleaning

Sufficient controls will be in place to ensure external roads and footpaths are kept clean and safe for vehicular and pedestrian traffic. All precautions are to be taken to minimise debris being trailed onto the road. There will be concrete ramp at entry and exit point(s) of the site and a dedicated person will see to it that each vehicle that leaves the site has their wheels adequately cleaned to the satisfaction of Council and / or NZTA. Cleaning of such vehicles may include an on-site shaker grid.

All carriageways around the site will be inspected daily and if possible to be cleaned as required. Conditions of the roads will be monitored and a street sweeper will be employed to sweep or wash down as required.

At no time will debris be left on the road. The road(s) will be cleaned up to the stage where it is left safe for motorists.

During the excavation stage the use of a truck cleaning / tyre washing / rumble strip type cleansing treatments are to be deployed. Water spray may be utilized if the zone becomes dry although there is limited large scale earthworks on this project so any dust created during this phase will; be kept to a minimum.

Dust arising during the normal construction process will be retained wherever practicable on the site via scrim or dust netting on the hoarding. If the weather is hot and dry water will be applied to the scrim.

Stormwater/ Control

All stormwater/drainage pits are to be protected from the possibility of any solids being washed into them. This will be via means of screens, mesh and other physical filtering items. The site is large enough to contain site soil / debris run-offs, and shall include a sediment fence around the perimeter.

It is not proposed to emit any construction site water onto the adjoining roads and footpaths. Measures such as the above are to be deployed to ensure all excess construction site run-off materials / water are contained within the site. This item is further dealt with in section 4.9.

Noise & Vibration

To ensure that nuisance from noise and vibration does not occur the following control measures will apply:-

- Working hours to be in keeping with the local laws as prescribed by the Resource Consent
- Vibration will be monitored at all times and specifically on the heritage facades and structures whereby specific heritage requirements/conditions will be met.
- Limit activities which may cause loud noise to the hours & limitations as specified in the EPA Guidelines.
- Advise local residents when unavoidable out of hours work should occur.
- Fit and maintain appropriate mufflers on plant & equipment on site as required.

Skips/Bins

Skips/bins and rubbish collection will be located within the proposed construction site, and will be maintained by the contractor. Recycling shall occur whenever possible. A waste management plan shall be provided to the client prior to construction commencing.

Litter

Garbage bins with lids will be located within the site for all litter including items such as cement bags, food packaging and plastic strapping.

2.6 Methodology

The construction methodology provides a narrative to be read in conjunction with the detailed programme and includes, but is not limited to the following:

- Site constraints and solutions.
- Site compound set up.
- Traffic management plan.
- Managing the public interface.
- Identifying and controlling noise and dust.
- Supply chain management.
- Construction phasing.
- Detailed methodology on construction phases.
- Programme.

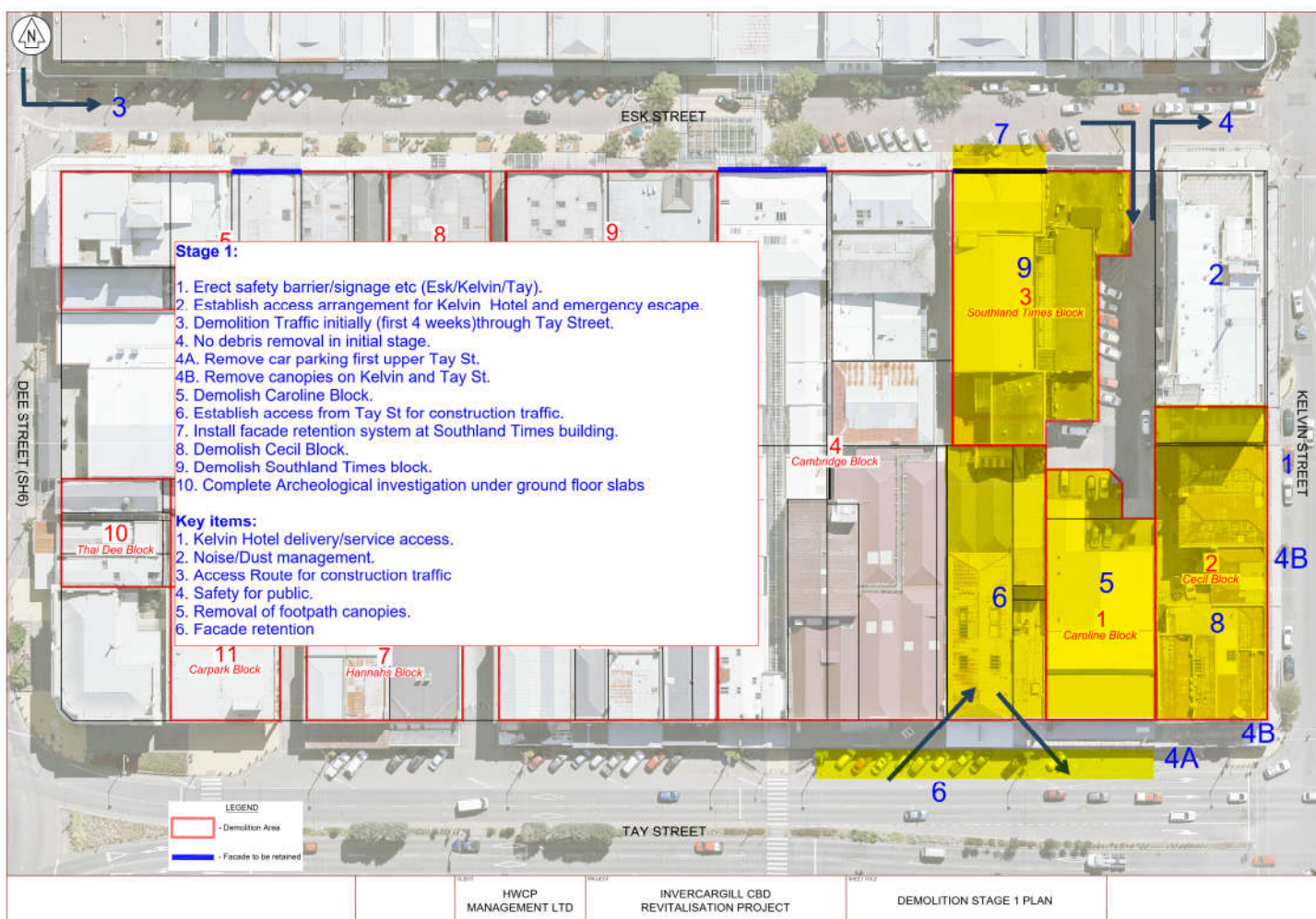
Through analysing each section of information provided, key focus areas have been identified by ABL that are critical to programme. xxxxx will plan and maximise construction efficiency to deliver the project on time, in budget and to exceed the quality standard of workmanship required for a high-end development in a city site.

Identified constraints and solutions:

- **Demolition** – the project contains a substantial amount of demolition and heritage inspection/ archaeological review of the site. The period from occupation, asbestos stripping, demolition and archaeological review will be 11-12 months. The planning of the overall demolition strategy will eventually be the responsibility of the Demolition contractor when appointed but the basis for the plan has been reviewed and confirmed by HWCP and the project team.

It is paramount that the impact, as noted before in this plan, of the demolition aspect of the project (and thence the construction) is minimised with respect to the surrounding businesses, the general public and the adjacent property owner on the same site. Considering this we have reviewed all aspects of the site and liaised with experienced contractors and have formulated an overall plan and staging for the demolition of the buildings.

Stage 1



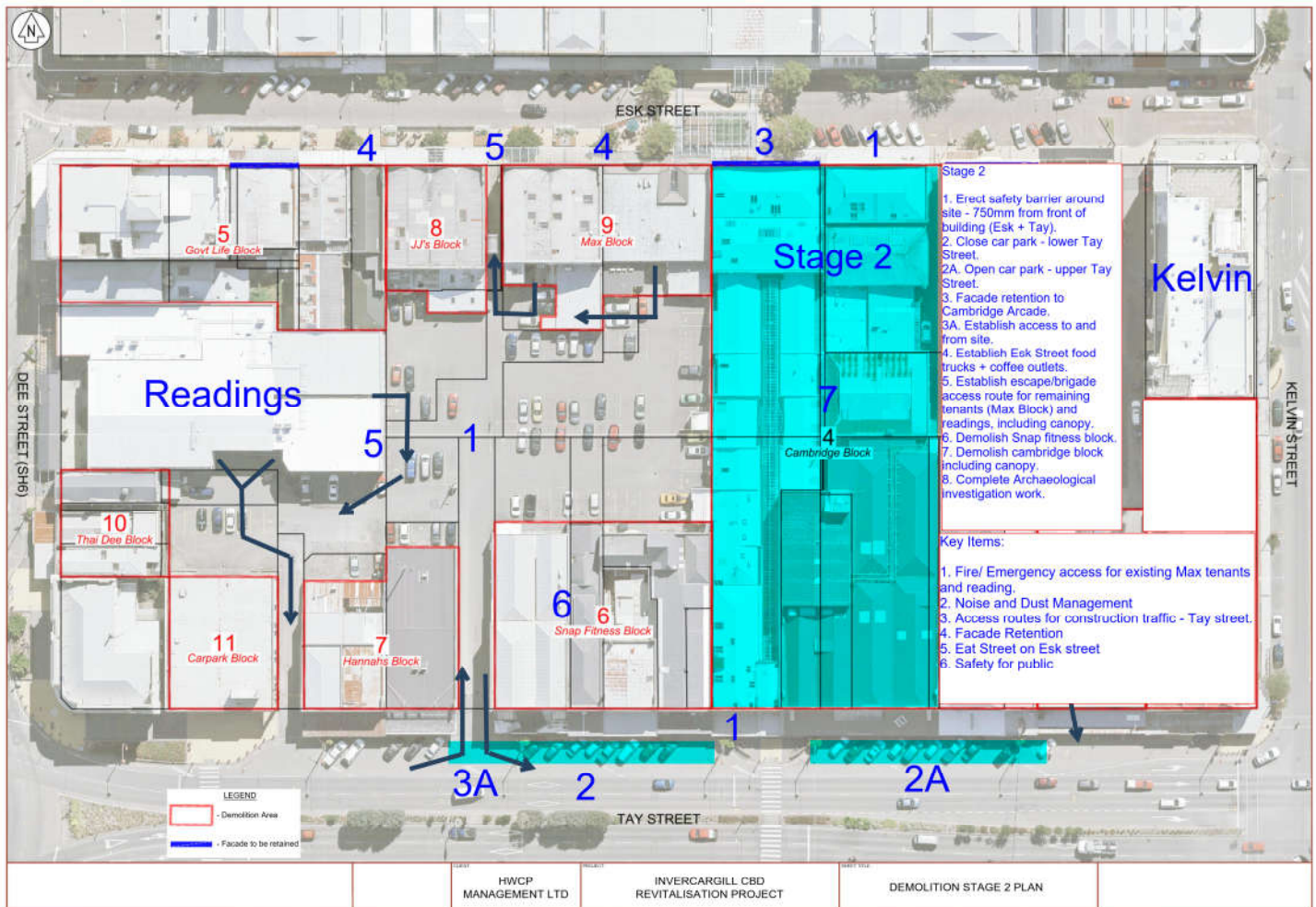
During the initial stage of demolition it will be necessary to access the site from Esk street using the service lane between the Southland Times and The Kelvin to provide this. This access will be for delivery of the initial machinery and scaffold. Demolition will commence in the lower half of the site first (noted as the Caroline Block) to form a construction traffic new access route from Tay Street. Once formed along with the necessary road crossings no further access will be required from Esk Street. It would be necessary to close some of the car parks on Esk during Stage 1.

Safety barriers will be erected wherever there is an interface between the demolition site and the public and will ensure separation. Sound and dust barriers will be installed where necessary.

The first of the facade retention systems will be installed at the Southland Times during this stage and prior to the demolition of the building. Due to the structure of the facade this retention system will need to be placed onto Esk Street. Pedestrian access will be maintained and the retention system will be suitably treated as to not be unpleasant to the eye. Once installed the demolition of the Southland Times building will commence.

This stage will take approximately 10 weeks.

Stage 2



During the Stage 2 demolition the centre block of buildings will be demolished. The second of the façade retention systems will be installed at the Cambridge Arcade façade on Esk. This system will be a similar design to the Southland Times façade. Pedestrian access will be maintained and the retention system will be suitably treated as to not be unpleasant to the eye.

Safety barriers will be erected wherever there is an interface between the demolition site and the public and will ensure separation. Sound and dust barriers will be installed where necessary.

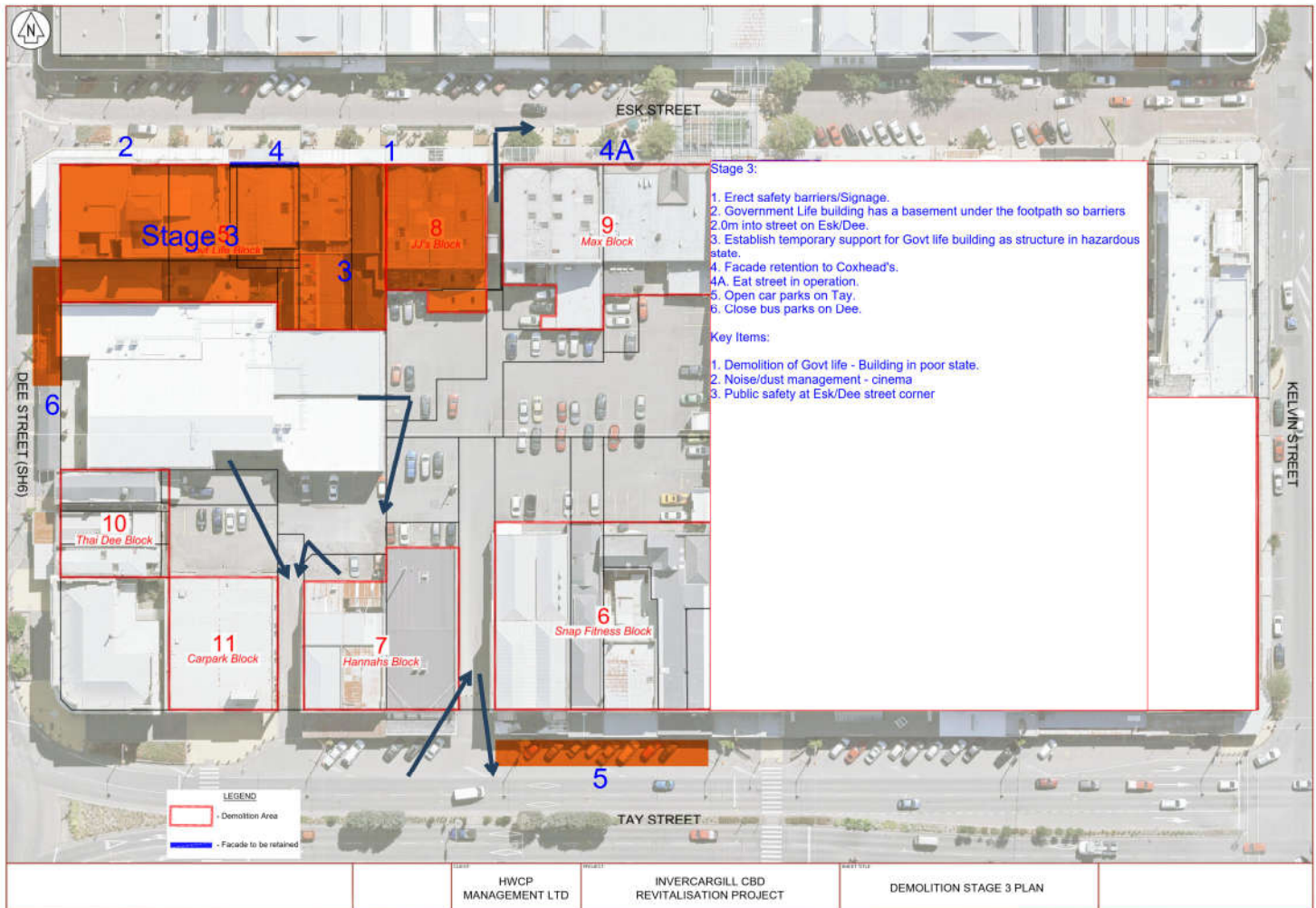
Demolition traffic access will now be provided through what is now the car park entrance on Tay Street. Again some car parking will need to be adjusted to ensure turning circles for the larger trucks are provided for. Fire egress and emergency access for the fire brigade will be maintained for the existing tenants remaining on Esk and the Cinema.

Temporary food outlets will be established on Esk Street during this stage serving coffee, Tacos, burgers and the like to ensure that the retail component of the South side of Esk remains. This facility will remain in place until the completion of the project. Suitable canopies and suchlike will be erected to ensure these can be used during inclement weather.

During this stage the archaeological investigation will take place on the stage 1 area

This stage will take approximately 8 weeks and will be overlapped with Stage 1

Stage 3



During Stage 3 the more complex demolition of the Government Life and Coxheads building will commence. These buildings are in poor shape and will require a specific method of demolition. The Coxheads building facade is to be retained and the structure will need to be erected to facilitate this. The Government Life building will likely require a secondary structure erected within to stabilise the current weak building prior to any demolition being carried out. The eventual method will be determined by a specialist demolition contractor and subject to a separate method statement.

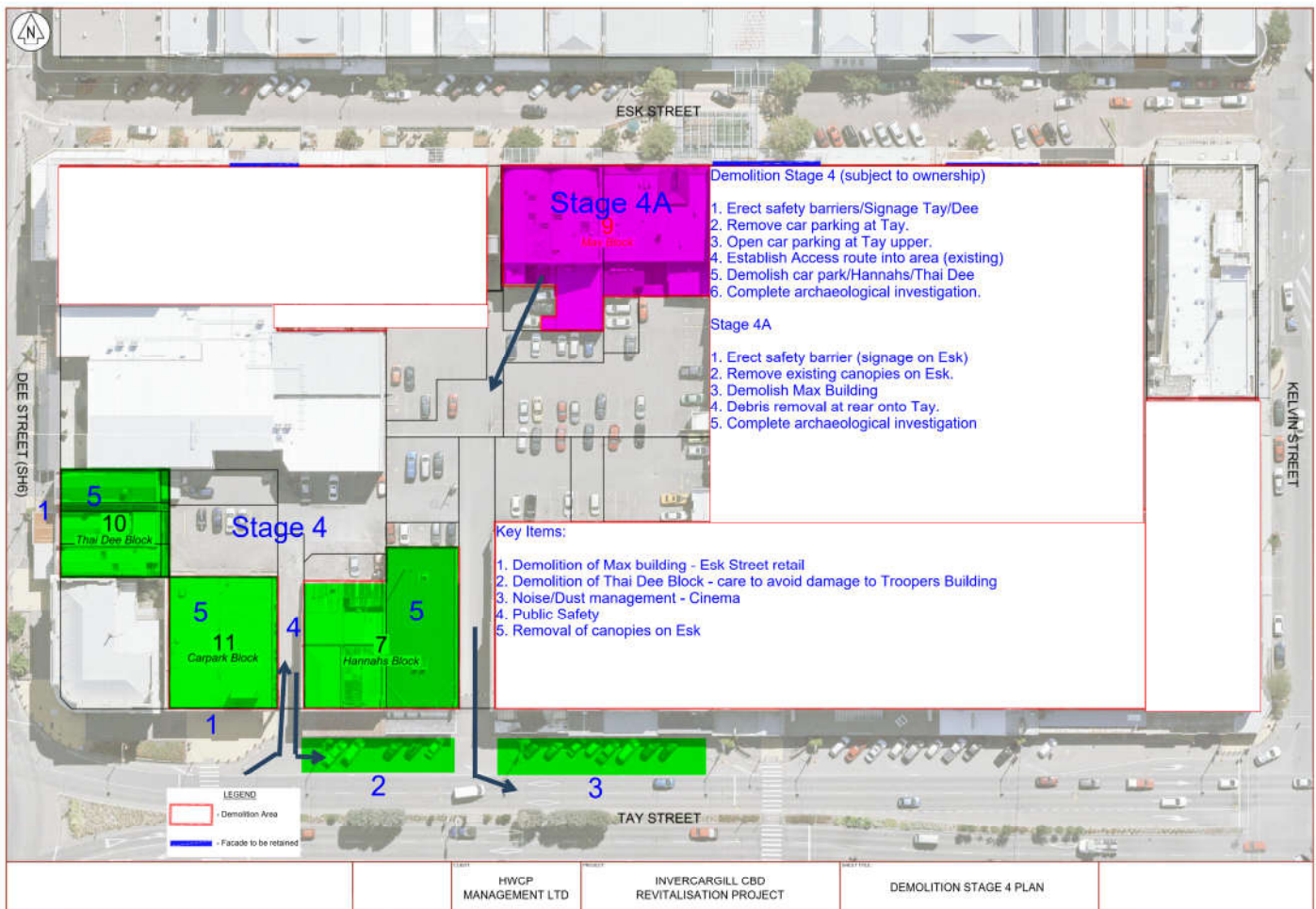
The Government life building contains a basement which protrudes under the footpath of Esk and Dee Streets. This will require the safety barriers to be placed further into the pavement to provide a safe access path for the contractors and the public.

Safety barriers will also be erected wherever there is an interface between the demolition site and the public and will ensure separation. Sound and dust barriers will be installed where necessary.

During this stage the archaeological investigation will take place on the stage 2 area.

This stage will take a minimum of 10 weeks to complete and will commence when Stage 1 has been completed.

Stage 4



Stage 4 and 4a is the final stage of demolition and involves the demolition of the remaining buildings on Esk Street and the car park building and a few smaller buildings on the corner of Dee and Tay. The Esk Street buildings are being left until the final stage to ensure street life is maintained until the Christmas period of 2019.

Fire Egress and Brigade access will be maintained for the Kelvin Hotel and the Cinema together with the necessary access for deliveries and servicing. This access will remain throughout the redevelopment.

During this stage the archaeological investigation will take place on the stage 3 area

On completion of this stage the archaeological investigation will be completed to the car park area and the remaining premises following demolition. Once concluded artefacts and the like will be stored and reviewed and selected for reuse or display in the completed development.

- **Site Constraints-** Due to the size if the site plenty of space is available within its confines for lay down areas, site offices, amenities and ablutions. The entrances and exits from the site will be fully controlled and secured with particular reference to pedestrians crossing the footpaths adjacent to the site on Tay Street where the majority of construction traffic will be contained.
- **Services-** water, power and Telecommunications connections will be required to be carried out in the street or pavements. Full coordination with ICC and the local bodies will be completed prior to any of this work being completed
- **Construction Access and Traffic Management-** Due to the location of the site we are planning to ensure that little or no construction traffic utilises Esk Street or Kelvin Street throughout the development. At certain times this will not be possible and specific management plans and method statements will be provided prior to these works being carried out. We are aware of the fact that Esk Street and Kelvin streets are trading business streets within the centre of Invercargill and we will ensure that the minimal disruption will occur on these streets. In addition, the site contains two specific users in the Kelvin Hotel and the Reading Cinema complex both accessed at varying times by the general public, service vehicles and various suppliers. We will ensure throughout the redevelopment that these properties are unaffected by the traffic generation of the construction.

Contractors cars will not be parked on the site and will be required to park elsewhere in the town at their cost.

2.7 Detail of Construction

Site Mobilisation and Establishment

This stage is about securing and establishing the site to start core construction activities and making sure everything is in place, so trades can hit the ground running with the correct infrastructure, controls and procedures. The following items are to be in position before commencement on site:

- **Site Set Up-** As per the appended site drawings the site will be secured initially with a 2.4m-high perimeter Class B timber hoarding on all external boundaries along all street frontages. The site will be accessed via inward-opening gates which will be fitted with chains, locks and signage for site safety and to notify the public of the on-going works. The gates and hoardings will be maintained during construction period.
- **Site Compound Set Up-** We propose to establish our site offices and storage containers at the site on the corner of Kelvin and Tay Streets. This would be a large compound suitable for all offices, first aid, subcontractor's storage and provides direct access onto Tay street. The compound would remain in place until completion or the start of stage 6.
- **Scaffold –** Scaffolding will be required to most faces of the development and sufficient room will be required behind the hoarding (1m) to erect and access this hoarding. Some of the façade will be full height shopfront or curtain waling and this can be installed without scaffolding. Impact on Esk and Tay streets will be managed and minimised.
- **Temporary Power-** Early planning and communication is required with the electrical provider and infrastructure contractor, so that we can get a temporary power supply into the site boundary and to the compound at the early stages of the contract. This is likely to be supplied via the existing transformer behind the Southland Times building.

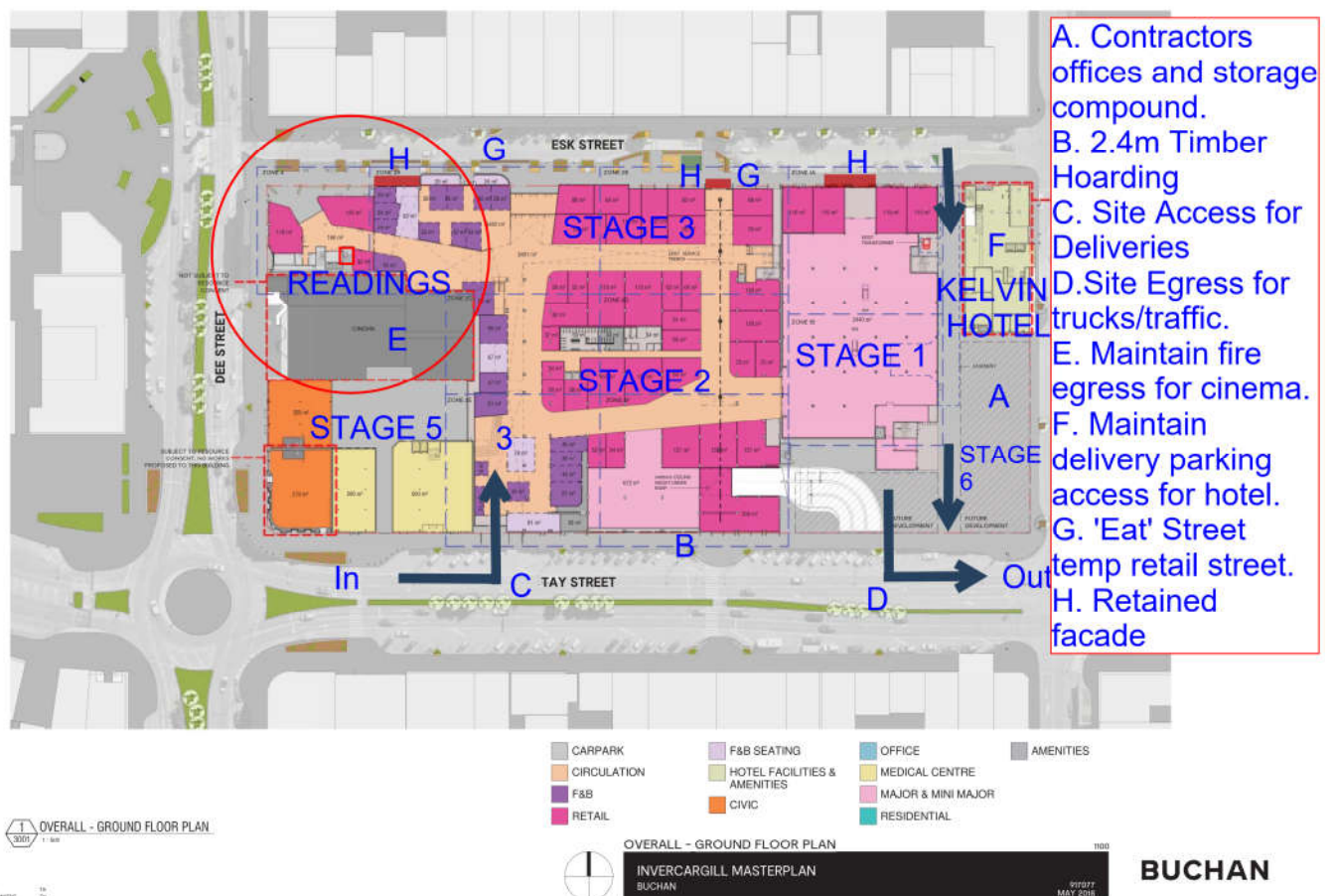
- **Water Supply-** Water will be supplied for two points from Esk and Tay streets and distributed around the site.

Traffic Management Strategy

Our approach will be for construction traffic to access the site only from Tay Street. Tay Street is a wide thoroughfare with considerable access points into the site. These would be formed correctly for the type of vehicle and the proper road crossings installed onto the footpaths to ensure safe traffic for vehicles and pedestrians alike. Because all of the businesses will have been closed on Tay Street pedestrian through traffic will have reduced considerably and the likelihood of any significant issues reduced accordingly.

Full traffic management safety measures and signage will be employed throughout the project. A detailed traffic management plan will be provided in due course and prior to construction commencing.

The drawing below and attached outline the major traffic paths and access/exits into the site noting Construction traffic only entering from Tay Street and the only access via Esk Street being the traffic required for the servicing of the Kelvin Hotel.



Tower Cranes

Tower cranes will be used on this site. One will be installed to construct the corner of the site that is least accessible at the corner of Esk and Dee Streets. This will enable the corner to be constructed utilising materials access from Dee street if required or from internal delivery. This will enable the construction of the 6 storey building in this location to be completed without impacting any of the business on Esk streets. The crane will likely be a luffing jib (a jib capable of bending in the middle) type crane so that oversailing of adjacent properties is negated. The crane's reach is shown on the drawing above.

The balance of the structure will be erected using crawler cranes – some large, from inside the site compound working from the eastern corner towards the western corner.

Truck Access/Egress & Deliveries

No construction vehicles are to stand or operate in such a way as to impede pedestrian or vehicular traffic. Adequate staging areas are proposed. There is to be no propping or stopping for more than 2 minutes on any footpath and no construction vehicles are to prop or stop on any roadway at any time.

All construction vehicles are to enter from Tay Street and exit onto Tay Street throughout most of the project construction as shown on the plan embedded above.

It is anticipated that there will be approximately 30 - 40 vehicle movements per working day.

Requirements

- Traffic Barriers
- Gates Traffic
- Signage
- Hoarding brackets
- Hoarding
- Intercom Outstation

Vehicle Crossings

Various temporary vehicle crossings are to be used for construction purposes only and at the end of the works the crossings will be redundant and replaced with footpath and kerb & channel to Council / NZTA satisfaction.

These crossings will be constructed using suitable materials (concrete/kerb) to ensure safe paths for pedestrians. The crossings will be controlled at the street to ensure safety. All temporary crossings will be on Tay Street and will be fully reinstated on completion.

Temporary Fire Protection

Requirements

- Extinguishers
- Temp Power Fire Hose Reels
- Temporary Risers
- Detection Systems

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Construction sequence

- Piling
- Stage 1 – Anchor Tenant Building
- Stage 2 – Car Park Structure
- Stage 3 – Fashion Retail and Food court Building including fitting out
- Stage 4 – Office Building corner of Dee and Esk
- Stage 5 – Civic and Medical Centre corner of Dee and Tay
- Stage 6 – Hotel/ Commercial Building corner of Kelvin and Tay

Ground Level



Piling and Slab Installation

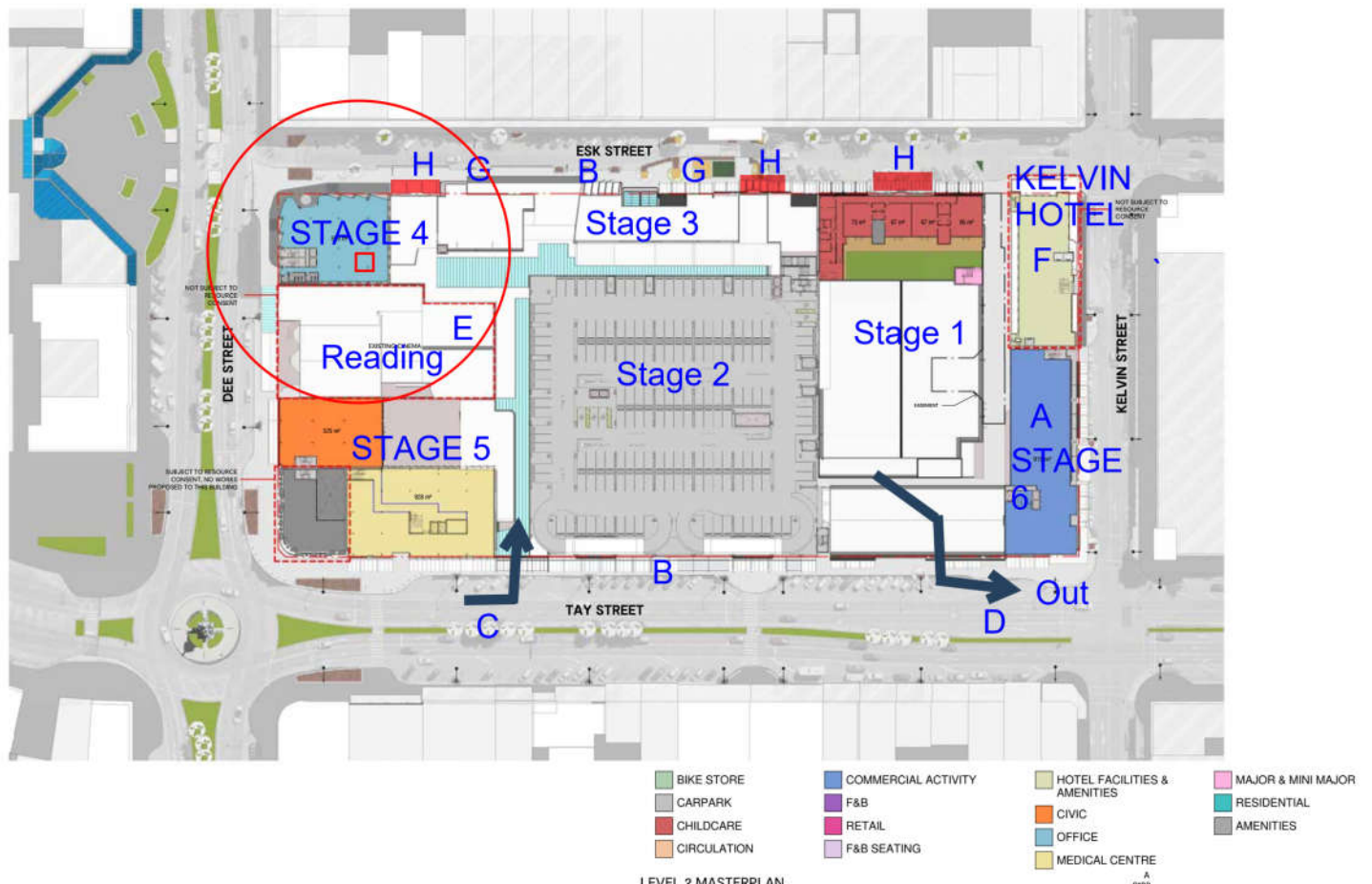
The Contractor will sequence the piling works and consequently the concrete slab works working from the East (Kelvin Street) of the site to the West (Dee Street). The piling will commence first at

the new Anchor tenant building located in Stage 1 of the project this will then move to the West into the Stage 2 car park zone.

The piling works will commence when Building consent has been received and the Archaeological investigation into the Stage 2 demolition area has been completed.

Structure

Level 2



The superstructure stage of the building will follow the same sequencing although likely to be in two different zones. Stage 1 of the Anchor tenant will be constructed mostly as a steel framework with concrete floors and a lightweight roof. The car park being stage 2 of the project is largely precast and in situ concrete. Both buildings will rise rapidly once the concrete floor slabs and piling has been completed. The retained facade of the Southland Times building will be incorporated into the structure of the Anchor tenant (forming the new main entrance) and the temporary structure removed.

The car park building (Stage 2) is considerably larger in area and floors than the Anchor tenant and therefore will take considerably longer to complete. The enclosing of the Anchor Tenant building will be required at the earliest time to ensure successful completion and opening of this building which is scheduled to be completed first and the store opened. The target date for this is in the third quarter of 2021. Part of the car park will need to be completed for this together with some of the retail on Esk Street.

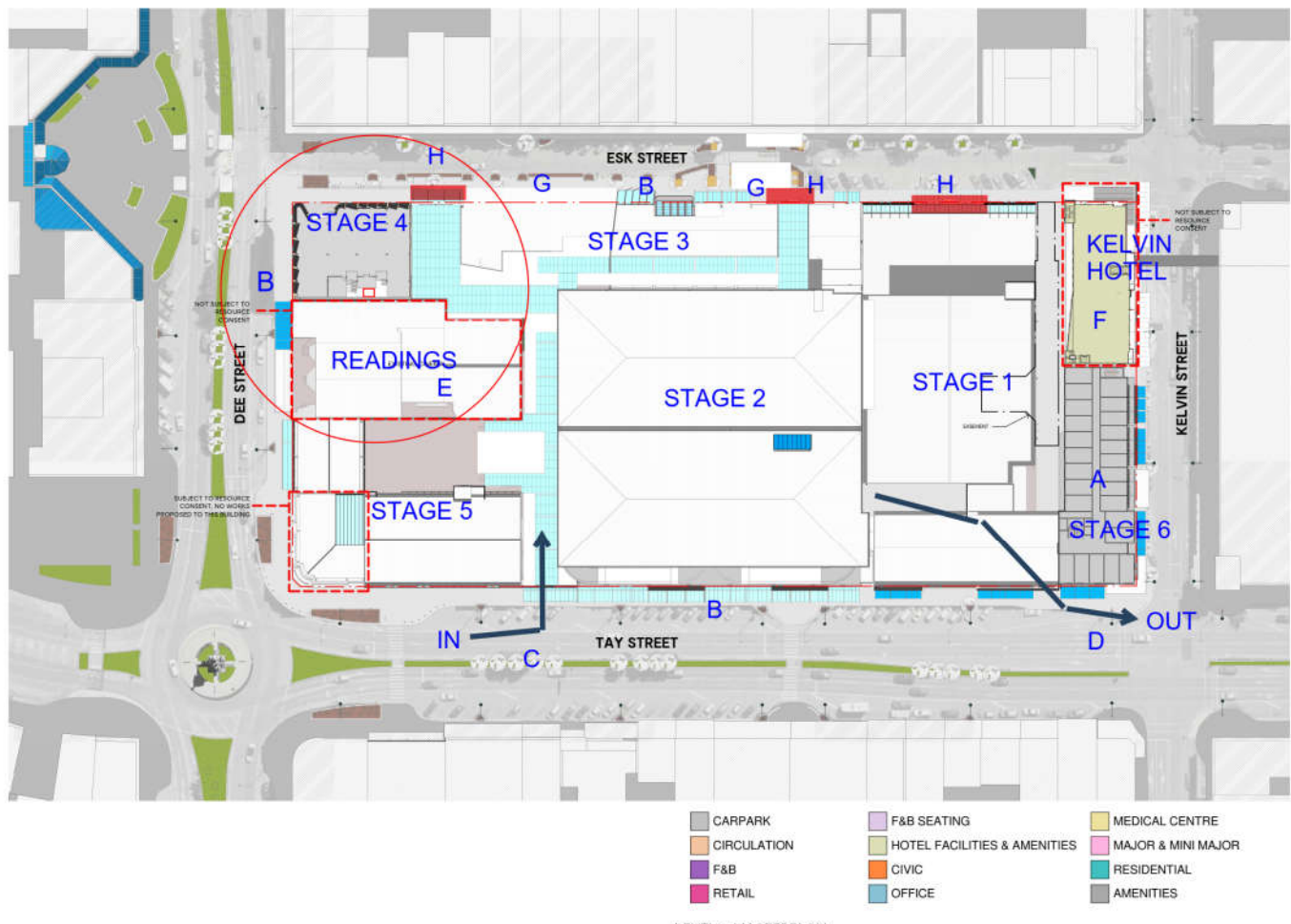
These structures will be erected using mobile cranes due to their versatility and lifting capacity, they do not over sail adjacent properties and are easier to put into operation than tower cranes.

Stage 3 will be commenced once the car park structure is largely completed. This stage provides the “wrap around” area of the mall and Food Court and is a low-level structure. During this stage the retained facades of Coxhead’s and the Cambridge arcade will be incorporated into the final design and the temporary retaining system removed from Esk Street.

Stage 4 is the new office/ commercial building which whilst likely to have a separate owner will need to be constructed at the same time as Stage 3 of the main development. This is because of access into this difficult corner and the need to have this accessway into the new development opened at the same time. The access to this building is complex because of its location and the basement. It is proposed that a Tower crane would be erected to facilitate the erection of this steel structure. The tower crane can lift for internally and externally (from Dee Street) thereby providing the minimal impact on businesses in the zone. Construction traffic would not access Esk Street.

The final stages (5 and 6) are on the periphery of the project and access can be made available from Tay Street for construction. These would be constructed at the end of the project and timed to completion at the same time as the opening of the final stage of the core shopping mall development. The occupation of the medical central and the hotel will be predicated by suitable tenants and Operators.

Level 5

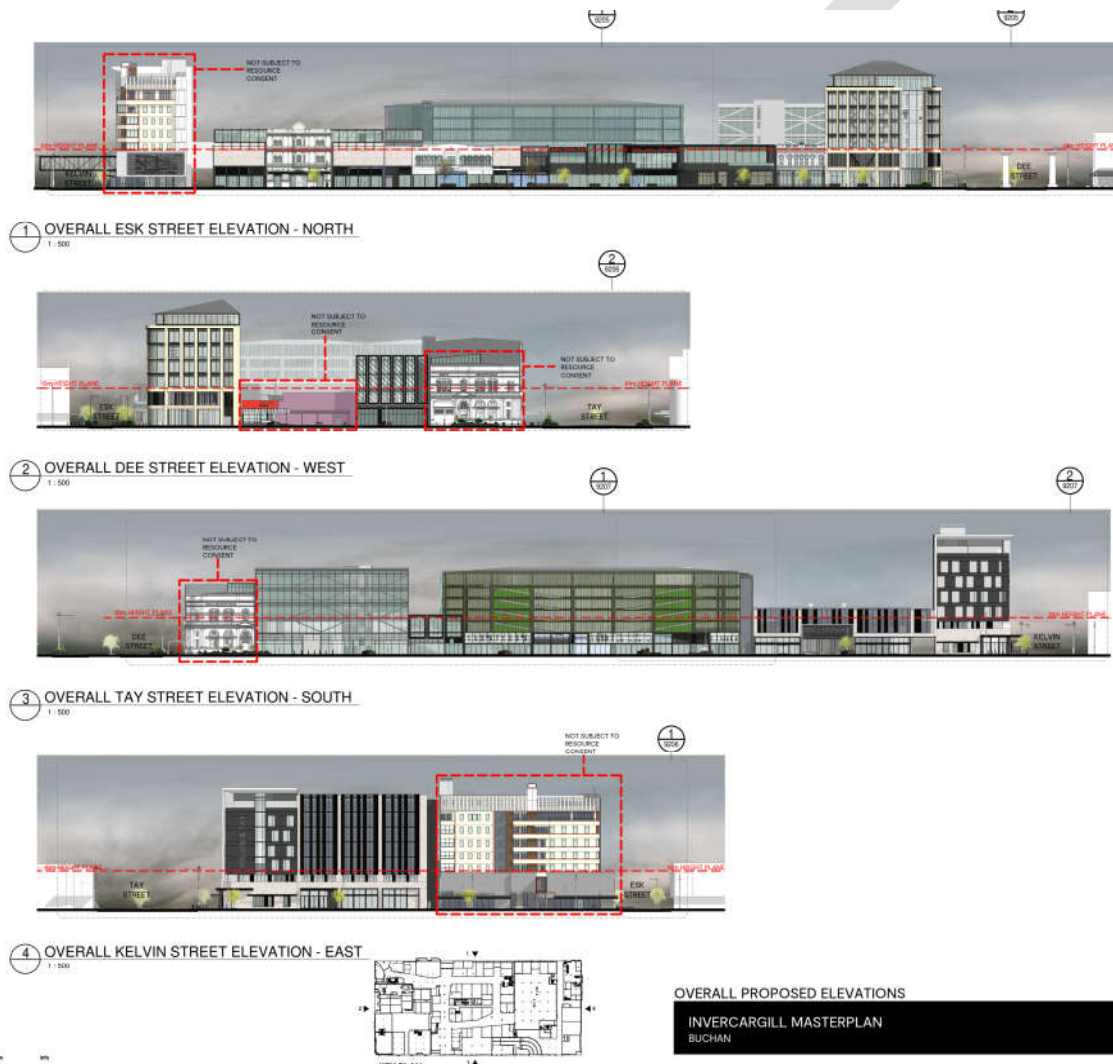


External Cladding

The external cladding of the project is all relatively low rise and generally of a shop front type nature. This is easier to install than complex masonry or timber facades.

Great care will be taken to ensure that the heritage facades are correctly incorporated into the new structure and thence adapted to suit the approved plans and heritage requirements. Essential renovation and restoration will occur to ensure the facades longevity is guaranteed.

On completion of the façade to Esk Street – the first area- the hoarding will be removed, and the street footpaths reinstated. It would remain closed until the formal opening of the Anchor store in late 2021. The faced to Esk would open progressively from that point being completed by the middle of 2022.



Fit out

The fitting out stage of the build will include mechanical, electrical, Plumbing, tiling, wall linings, ceilings roof lights, lighting, painting and decoration to allow the mall to be opened. Access will be granted in stages to tenants who have secured leases to commence their fitting out of their stores to ensure that as many stores can be completed when the mall opens for business.

The careful coordination of the trades both for the base building and the shop fitting will be a key responsibility of the Contractor. Coordination, Access, Health and Safety, Quality and time will be managed to ensure a successful conclusion.

The resourcing of this stage of the project is critical to the outcome and timing for completion and will be a focus for the Contractors.

Landscaping

The replacement of the pavement finishes, and any removed seating or lighting will be completed in conjunction with the removal of Hoardings and opening of the mall. There is limited landscaping as such on the project.

Completion

The project will be completed in stages. The first section to open will be the Anchor tenant together with some Esk Street retail stores and associated car parking. The balance of the car parking will be open thereafter. The shopping zones will be opened in phases with fashion retail and cafeterias nearest the Anchor tenant opening approximately 3 months after the Anchor tenancy and then the balance within 6 months. The food court operations will start to come on line after 4-6 months and be completed within 10 months. The stages are detailed in the appended programme of works.

3. Project Risk Register

3.1 Risk Management Plan

3.2 Introduction

This Risk Management Plan has been developed specifically by xxxx for the Building Construction of Projects over 2 million dollars. It involves particular emphasis on Safety and Quality procedures, risks and management.

This plan is referenced at a senior level, and can be used in addition to the PMP to manage risks on projects.

This QOHS Risk Register lists the core business operations and activities conducted by Hamilton Marino senior level. This information is used as a guide for the Contract / Client / Project scope of works, and review of any documentation, such as Safe Work Method Statement, Project Management Plan, QOHS procedures etc.

3.3 Strategy and goals

- increase the likelihood of the project achieving its objectives
- encourage proactive management
- be aware of the need to identify and treat risk throughout the organization
- improve the identification of opportunities and threats
- achieve compatible risk management practices between organisations and nations
- comply with relevant legal and regulatory requirements and international norms
- improve financial reporting
- improve governance
- improve stakeholder confidence and trust
- establish a reliable basis for decision making and planning
- improve controls
- effectively allocate and use resources for risk treatment
- improve operational effectiveness and efficiency
- enhance health and safety performance
- improve loss prevention and incident management
- minimize losses
- improve organizational learning
- ensure continuous improvement

3.4 Organisational

The intention of this Risk Management Plan is to ensure that all risks are clearly identified and appropriate treatment plans can be developed.

3.5 Risk

Takes into consideration the following

- Financial
- Occupational Health and Safety
- Liability Public & Professional
- Reputation
- Quality & Standards
- Supply Chain Management
- Point to Point QA and integrated QC across border

Senior Level (Including Project Director)

Id	Description of Risk Identify consequences	Risk Rank	Mitigation Actions	Responsible Entity	Cost Impact High Med Low
1	Failure to secure adequate funding for entire project	A	Preparation of sound and accurate application Compliance with aims and objectives of program	Directors	H
2	Inadequate funding to complete the project or sections of the project	A	Re-scope project, focusing on time and resourcing Regular review of budgets & expenditure	Directors	H
3	Misappropriation or inaccurate reimbursement of funding	A	Ensure governance by all staff/stakeholders involved in project Regular auditing	Directors Project Director	H
4	Inaccurate capital costs estimates –contingencies. This refers to price increases if funding allocation is not used within the set timeframe	A	Ensure accurate budgets are prepared and subsequently managed by qualified staff Ensure allocated funds are utilised in a timely & cost-effective manner.	Director Project Director Commercial Manager	H
5	Delayed delivery of design & construction component, therefore, delays in progress of project	A	Ensure policy and programme is followed and contractors advised to follow timeframes to ensure payment and continuing business	Superintendent Director Project Director	H
6	Client formally resolves to withdraw support for the project	A	Seek legal advice, ensure there are contractual agreements to protect against this.	Director	H

7	Contractor non-compliant with legislation	A	Periodic audit of contractor's project plan Contractor documentation fully verified prior to commencement Implementation of project control group/team	Director Project Director	H
8	Project Control Group becomes dysfunctional	A	Maintain collaborative approach through regular & frequent meetings	Director Project Director	H
9	Safety of staff and the people whom are engaged in the project at all stages Principal Contractors not adhering to Safety standards	A	Ensure OHS MS guidelines in place Identify all risk at all stages of the project Manage and mitigate the risks identified – risk register to be updated and controlled by Project Manager Provide advice, procedures and site risk assessments	Director Project Director	H
10	Non-compliance with Act and Regulations.	A	Provide advice on safety, accountabilities and actions Progressively monitor safety performance	Director Project Director	H
11	Non-compliance with legislation	A	Ensure current legislation available Use only approved contractors Review legislative changes as required	Director Project Director QOHS Manager	H
12	Risk of litigation, public liability and professional negligence	A	Insurances provided by all subcontractors. HMB insurance required.		H
13	Inadequate resources, funding, people, quality of resources	A	Engage additional resources for program as identified by project manager or project control group		H
14	Project unable to source adequate equipment	A	Manage the progress of program and timeline – extend if required to finalise installations	Superintendent Client Project Director	H

15	Operational Management change/issues	A	Project plan to satisfy continuous improvement.	Director	H
16	Oversight of a critical design and construction stage	A	Risk assessment on individual components Core business analysis of project and stages	Director Design Manager	H
17	Loss of Architect & Interior Designer	A	Maintain professional relationship and compliance with contract	Director Project Control Team	M
18	Extreme weather conditions	A	Include contingencies for inclement and/dangerous work conditions Ensure appropriate safety equipment provided & used	Director Superintendent Project Director	H
19	Public safety and worker safety identified	A	Site risk assessment undertaken and identified actions implemented progressively	Project Director QOHS Manager Director	H

Expected Project Specific Risks – To be addressed with construction site team prior to construction commencing

Id	Description of Risk Identify consequences	Risk Rank	Mitigation Actions	Responsible Entity	Cost Impact High Med
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					Low
1	Trenches more than 1.5 m deep				
2	Confined spaces				
3	Hazardous substances, e.g. fuel, epoxies, chemicals				
4	Work at height more than 2.0m (Vic)				
5	Work near traffic				
6	Work near mobile plant				
7	Work near electrical installations				
8	Work near gas installations				
9	Work near or over water where there is a risk of drowning				
10	Work that requires temporary structural support				
11	Work in a tunnel				
12	Demolition (prescribed activity)				
13	Scaffolding over 4m (prescribed occupation)				
	General Health and Safety				
14	Access / Egress to site				
15	Public / pedestrians				
16	Cranes / lifting equipment				
17	Lasers				
18	Compressed air				
19	Underground services (electrical, gas, communications, fuel, oil, compressed air, etc.)				
20	Overhead services (electrical, communication, etc)				
21	Excavations				

22	Caissons and cofferdams				
23	Welding				
24	Oxy-acetylene use				
25	Fires/burning off				
26	Other hot work				
27	Noise - health aspects				
28	Vibration - health aspects				
29	Dust - health aspects				
30	Storage in compound				
31	Storage on site				
32	Manual handling				
33	Solar radiation (U.V.)				
34	Heat stress				
35	Amenities in compound				
36	Amenities on site				
37	Portable tools, e.g. electric saws, quick cut saws, chain saws, drills, grinders				
38	Unguarded machinery				
39	Compressed gas cylinders				
40	Mulching				
41	Pit burning				
42	Falling trees				
43	Other falling objects				
44	Lead				
45	Poorly lit work areas - compound				
46	Poorly lit work areas - site				
47	Poor ventilation - compound				
48	Poor ventilation - site				
49	Mobile elevating work platforms				
	Other People on Site / Interfaces				
50	Subcontractors				
51	Other contractors (BMD one of several contractors)				

52	Sales reps for land sales and potential buyers				
53	Members of the public				
54	Sewer authority				
55	Water authority				
56	Power authority				
57	Gas authority				
58	Telstra/communication authority				
59	Other local council works				
60	Council interface				
61	Other (please specify)				

Risk Matrix – (Form-16)

Consequence	Likelihood / Probability				
	Almost Certain (Certain to occur regularly)	Likely (To be expected. Has occurred several times before)	Possible (Unusual, but possible)	Unlikely (May only occur under exceptional circumstances)	Rare (Highly unlikely under any circumstances)
Catastrophic (Multiple fatalities or permanent disabilities, notification, fine, community issues)	A	A	B	B	C
Major (Fatality / Permanent Disability / Severe-long term injuries, potential fine, many complaints)	A	B	B	C	C
Moderate (Medical Treatment / Lost time Injury /	B	B	C	C	D

Hospitalisation, notification may be required)					
Minor (First Aid / Medical Treatment,)	B	C	C	D	D
Trivial (Short term injury, no treatment)	C	C	D	D	D
Class/Ranking	Description / Requirements / Actions				
A Extreme	Hazard or work practice should be eliminated . If not reasonably practicable, use Hierarchy of Control options below to reduce the risk.				
B High	Needs specific additional controls and actions to reduce level of risk (refer Hierarchy of Control below)				
C Medium	Will require operational planning for project / site.				
D Low	Monitor and may require reviewing of control measures and procedures.				
Hierarchy of Control					
1. Elimination / Avoidance	Hazard or work practice should be eliminated . If not reasonably practicable, use from Hierarchy of Control options below (and consider a combination of these to reduce the risk)				
2. Substitution	Purchase or use a less hazardous activity / plant / substance / tool or process.				
3. Isolation	Isolate plant / equipment from employees / subcontractors. Isolate plant / equipment / activity from others.				
4. Engineering	Use mechanical aid (eg. plant / equipment), machine guarding, ventilation.				
5. Administration	Policies, OHSE procedures, SWMS, signs, training, monitoring or supervision, or a combination of methods, to control risk. Appropriately trained, skilled, competent and experienced employees / subcontractors. Dispose of products in accordance with EPA, MSDS and local Council requirements.				
6. PPE&C	PPE&C is selected as the last option. Wear mandatory PPE&C – eg. safety boots and visibility vest/clothing (depending on site requirements) and other as identified.				

3.6 Risk Response

There are four things xxxx will do about an identified risk. The strategies are:

- **Avoid the risk.** Do something to remove it. Use another supplier for example.
- **Transfer the risk.** Make someone else responsible.
- **Mitigate the risk.** Take actions to lessen the impact or chance of the risk occurring. If the risk relates to availability of resources, draw up an agreement and get sign-off for the resource to be available.
- **Accept the risk.** The risk might be so small the effort to do anything is not worthwhile.

3.7 Roles and responsibilities

Directors

- Ensure the preparation of the Risk Management Plan
- Co-ordinate the implementation of the Risk Management Plan
- Encourage a management climate which is aware of and supports risk management through the adoption of the QOHS Management system
- Oversee development of processes to deal with new risk management issues through the adoption of the QOHS Management system

Project Director

- Undertake practices and procedures to identify new risk management issues
- Oversee development of processes to deal with new risk management issues
- Ensure Project adherence to the QOHS Management system

Project Team

- Ensure risk management controls and processes are built into strategic planning processes
- Monitor and review the risk management process throughout the life of the project by auditing
- Adhere to the QOHS Management system

HSE Manager

- Ensure company adherence to the QOHS Management system in Southland
- Formalise and continuously improve the Quality and Safety process

3.8 Monitoring and review

The Risk Register will be reviewed as required by the Directors, Project managers and QOHS Manager with a re-evaluation of the risks occurring.

Risk status will be reported to the Director as required.

Final evaluation at the completion of the project will be the responsibility of the Project Team

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4. Health & Safety Plan & Requirements of Contractor

4.1 Legal requirements

The Health and Safety in Employment Act requires Principals and Contractors to take all practical steps to prevent harm to the public and employees in or about the workplace.

The contractor and Sub-Contractors shall be fully familiar with the above Act and ensure that all contract works are carried out to the requirements of the Act.

In particular the following requirements shall apply:

- The contractor shall provide a copy of the company's occupational health and safety policy or statement.
- The Contractor shall nominate a person who will supervise and be responsible and accountable for the occupational health and safety.
- Where required the Contractor shall provide a contractor specific hazard management plan prior to receipt of any contract payments. The plan shall include a hazard register and means of control.
- The Contractor must be able to prove that all site employees have been adequately trained and have adequate knowledge and experience of the kind of work, plant or substances they may be required to perform and use.
- The Architect shall have the right to inspect the Contractor's provisions for occupational health and safety on the job.
- The Architect may order the Contractor to stop work immediately if the Contractor does not comply with the requirements of the Act.
- The Contractor shall provide first aid facilities and adequately trained first aid givers.
- The Contractor shall supply contingency plans for any emergency.
- The Contractor shall report all incidents/ accidents to the Engineer to Contract in writing within 48hours of occurrence.
- The Contractor shall provide all employees with safety equipment to an approved New Zealand standard and ensure that this equipment is used or work as required.
- Where specialist equipment has to be used (e.g. breathing apparatus, harnesses etc.) the Contractor shall provide proof that relevant training has been given in its correct use.
- The Contractor has a duty to protect the public from harm at all times.
- The Contractor shall identify all above and below ground services in the area of the contract works and in particular potential hazards such as electricity and gas lines

4.2 Project Objectives and Health & Safety Mission Statement

The Health and Safety of tradesmen's, project staff and members of the public is of paramount importance. Everyone deserves the right to return safely to their home and family after a day's work on the project and it is the mission of the project to provide a safe, professionally managed work environment throughout the duration of the project. Ensuring the ability of effective health and safety management during construction begins during the early design stages of a project.

The design team appointed to the project will consider at the forefront of their endeavours the potential implication or affect a specific element, specification or construction method will have upon the health and safety of the persons constructing and/or utilising the completed facility.

The design team will be required to build and maintain a designer risk assessment log which captures the developing risks to the holistic project including:

- Health & Safety – Construction
- Health & Safety – Occupation/ Use
- Programme
- Cost
- Quality

The pre-construction activities and due-diligence performed by the consultancy team in defining the health and safety policy, protocols, standards and risks for the forgoing project will be included within the construction contract procurement documentation. This is of paramount importance to ensure that the contractor has an adequate opportunity to capture the level of management, training and required tools, equipment and plant/ machinery to mitigate the risk of harm and injury during the construction stages.

The contractor will be required to compile a construction stage health and safety plan which will respond to the requirements and standards as herewith defined and outline the intentions and management procedures proposed by the contractor for the successful and safe delivery of the contract. The Construction stage health and safety plan will be evaluated during the tender review period by the Engineer to contract and assessed with weightings affecting the overall score and rank of the bid against its peers.

The HWCP Project will operate an absolute zero tolerance policy concerning matters that affect or infringe on a person and their neighbours health and safety whilst in and around the project site.

The construction stage health and safety plan will be expected to address as a minimum the procedural plans and process as well as initiatives and incentives to be deployed during the construction stage to ensure compliance and on-going commitment to the safety standards.

The responsibility for the Health and Safety of persons and their neighbours lies with every individual involved in the project. Each worker has the responsibility to ensure that they have read, understand and will at all times abide by the task method statement, likewise all are responsible for ensuring that they and their peers are equipped with the correct PPE, that the necessary platforms, scaffolds, plant, tools and equipment have been provided, tagged and tested prior to starting work.

It is the responsibility of the General Contractor to provide the necessary tools, plant, equipment and training to ensure a safe, clean, and healthy working environment. Responsibility for a person's health and safety starts with the individual then expands to their peers. No operative, consultant or manager will be permitted to enter site until they have been inducted, attained the required training pertinent to the hazards they may encounter and have read and accepted the terms and conditions of the H&S policy.

No operative, consultant or manager will be permitted to return to site if they fail to comply with the policy, method statement or code of practice. Importantly, should any operative, manager consultant or visitor fail to notify a colleague, peer, manager or other of an infringement, risk, hazard or policy infringement then at the time it is noticed then they too will not be permitted to return to site as well as the responsible party for the infringement.

The following sections will stipulate the requirements of the client concerning health and safety and outline the minimum expectations and management practices that are required of the contractor to be detailed within their construction stage health and safety plan. No work will be permitted to proceed without the health and safety plan being in place and agreed by all parties.

4.3 Client Health & Safety Standards, Requirements and Policies.

To be provided.

4.4 Proposed Team Structure for Management Operations and Health & Safety

Organisation chart identifying the composition of the site management and supervisory team for the site operations to include:

- Co-ordinator roles for first aid, fire Marshall, appointed persons etc.
- Clearly defined management roles and responsibilities and communication channels.
- Summary CV's for the key managers, H&S managers, supervisors and consultants to include
 - Experience, and notable relevant experience to similar projects
 - Relevant qualifications
 - Necessary training and qualifications for operating plant and working by hand within water.
 - Completed safety training

Provide a project specific training register/matrix which identifies

- Operations/activities requiring specific training certification for work personnel
- Copies of relevant training certification held on site

4.5 Understanding and Interpretation of the Scope of Works

- Clearly defined comprehensive step-by-step description of the work required and intended to complete the project (must be detailed)
- Understanding of the site location and specific observations/ requirements arising due to the location (in detail referring back to logistics plan)
 - a) What arrangements for their transportation, delivery, storage and disposal are planned and how will they be managed?
 - b) How will materials and plant be moved around site?
- Explanation to the proposed project schedule and work task sequencing/ durations – identification of construction delivery critical path.
- Strategy for Maintenance and inspection and reporting

- Strategy for testing and commissioning strategy
- Strategy for initiating, undertaking and executing utility in coordination with service providers:
 - Electric
 - Water
 - Sewerage
- How will Occupational Health and Safety monitoring be undertaken and controlled for risky project work tasks including but not limited to:
 - Air & Water sampling
 - Health surveillance
 - Noise / vibration sampling

4.6 Health & Safety, Risk Analysis and Management

- Provide a safety risk register identifying
 - The key work elements/activities in respect to your overall scope of works
 - The key risks to health and safety associated with those work elements/activities
 - The key safety control measures and precautions to be implemented to control the H&S risks
- Reference to H&S risk assessments specific for the works being carried out
- Explanation as to how the following elements will be carried and out and managed:
 - Work Task Hazard identification
 - Work Task risk assessments
 - Ensuring identified specific work task hazards and risks are captured within each work task/ package method statement and channelled back to the master project risk register and method statement owned by the Main Contractor.
- Interface and Coordination strategy with trade contractors and third-party site operatives
- Interface and Coordination strategy with the public
- Identification of all operations that may have an environmental impact:
 - Noise
 - Air omissions (e.g. dust fume)
 - Aqueous/effluent discharges
 - Waste generation and removal (recyclable materials)
 - 3rd parties/ neighbours
- Strategy detailing adequate arrangements to eliminate / control such impacts

- Mode(s) of communications to be used in and around site by management, supervisors and tradesman:
 - Radio
 - Telephone
 - Verbal
 - Visual (hand signals)

- Strategy and Policy for reporting incidents and details of which incidents are categorized and notified in compliance with New Zealand Law.

- Provide a hazardous materials and substances initial template register which identifies how the management of such materials and substances will be executed for the project:
 - Materials/substances to be used which are hazardous to health
 - The key risk(s) to health associated with the materials/substances
 - The key control measures and precaution to be implemented to control the risks to health
 - Manufacturers safety data sheet for the products used

4.7 Specific Hazards and Health Issues

To be completed prior to construction.

4.8 Erosion and Sediment Control Plan

- Some of the erosion and sediment control practices will be necessary during construction activities only, while others will be required throughout the life of the project. The required life-span for particular erosion and sediment control measures will be determined during the detailed design phase by the landscape architect and civil engineering teams, who will prepare an erosion and sediment control plan which is relevant to the phasing strategy, longevity of erosion risk and in context of the nature of the works.
- The construction team will use best practice methods to minimize or avoid erosion and sediment mobilization along the route. These will be aimed at protecting the environment from contamination and may include excluding surface flow from the works area as much as possible or collection of sediment at the extent of the site. The protective works will generally be in accordance with the Invercargill City Council's stipulated requirements and relevant department of conservation standards and may include the following features.
 - a) Minimizing areas of disturbance at any one time. This includes areas of bare soli, and where possible these will be mulched or planted as soon as is practicable after clearance.
 - b) Diversion of clean runoff and lakes around the construction site.
 - c) Use of energy dissipaters on any drop structures on steep sections of lake and drainage channels.
 - d) Cut all batters to stable slope.
 - e) Provide toe drains and cut off drains to excavated batters.
 - f) Provide sediment traps within drain channels.

- g) Silt fencing at the downslope extent of the site. Hay bales will not be used because of their potential to introduce weeds.
 - h) Containment of runoff from the worked site in a pond to settle sediment before discharge to the receiving lake or water.
 - i) Where practicable, the discharge from sediment ponds will be passed over a vegetated swale to further reduce the sediment load.
 - j) Protection against erosion will be provided at the discharge points.
 - k) Rehabilitation of the natural drainage patterns after construction and rehabilitation of batters and slopes with planting to minimize sediment generation after construction is complete.
- The specific location of the soil protection features will be identified as the project progresses through the detailed design phase, which will include a thorough and detailed assessment of the most suitable construction methods.
 - Wherever practicable, clean water will be kept separate from that which has suspended sediment. This clean water will be conveyed along channels and discharged to the existing watercourses that are closest to the excavation or diversion point.
 - The sediment control works will be in place prior to any significant earthworks, other than establishing access routes which will enable the works. The first step will be to excavate the contour drains at the slope edge of the site. These will be shallow channels and will immediately be stabilized. Where grades in the channel are steep or expected flows are high, armouring may be established in specific areas to avoid erosion during use. The diversion channels will discharge to the natural water courses that fall closest or within the project site area.
 - Sediment control works will then be set-up at the downslope extent of the works. This will consist of another series of contour drains and/or silt fences that filter sediment discharge locally, or direct sediment laden flow towards sediment traps and possibly sediment ponds where the solids can be settled out. These traps or ponds will be specifically sized depending on their catchment size area and will be maintained following storm events to ensure that they remain functional at all times. The settled sediment will be excavated and disposed of within the works area after drying out as appropriate. The catchment areas for individual sediment traps or ponds will be minimized as far as practicable with a preference towards discharging lower volumes at more locations.

4.9 Special Control Measures and Management Strategy

- Identify any work activities which will require special control measures that will need to be authorised through a Permit to work system, including:
 - ✓ Hot works (welding, cutting, soldering anything that generates heat and poses a fire risk)
 - ✓ Live Utility tie-ins/ connections (all work in and around live utility services including electrical, gas, water, sewerage)
 - ✓ Crane & Lifting Operations
 - ✓ Excavation, Trench work, backfilling and grading.
 - ✓ Ladders, platforms, scaffolds all work at height.
 - ✓ Specialist training such as Appointed person and First Aiders

- Specialist equipment such as
 - Lifting equipment
 - Forced Ventilation systems
 - Cutting, Welding etc.
 - Formwork, False work, Temporary Works and Shoring
- Are arrangements stated for dealing with foreseeable emergencies, i.e.:
 - First aid treatment (ambulance)
 - Fire
 - Exposure to hazardous substances
 - Oxygen enriched/deficient atmosphere
- Adverse weather conditions
- Equipment management, storage and maintenance
- Spillage
- Method by which others will be protected who are not immediately involved.
- Strategy for implementing:
 - Covered walking routes, safe pedestrian routes across and in site
 - FANS / crash decks etc.
 - Segregation / isolation

4.10 Emergency Plan

To be completed prior to construction.

5. Archaeological and Heritage Protocols

The project will at all times maintain the heritage protocols established during the Consenting stage with Heritage NZ and the Consultant Heritage Properties Limited. These protocols will form the backbone of the processes for heritage reporting of pre-1900 buildings prior to demolition and archaeological review of the site after the demolitions stages.

5.1 KOIWI accidental discovery

If Koiwi (human skeletal remains) are discovered whilst undertaking construction work, then the following shall be exercised:

- Construction work within a 50m radius of the site shall cease immediately and indefinitely until Te Ao Marama Inc and/or New Zealand Police advise that IT CAN RECOMMENCE.
- Advice of the discovery shall be reported, as soon as is practicable, to Te Ao Marama Inc (Ngai Tahu Murihiku Resource management Consultants), the New Zealand Police, the Project Liaison Advisor and the Grantor.
- No work shall recommence until an agreement has been reached between the parties regarding appropriate protection measures for the artefact or material found.

5.2 TAONGA or artefact discovery

Taonga or artefact material (with the exception of pounamu which is outlined below) other than Koiwi will be treated in a similar manner so that their importance can be determined, and the environment recorded by qualified archaeologists alongside the appropriate Tangata Whenua

5.3 POUNAMU discovery

If during construction and pounamu is accidentally discovered, the following shall be undertaken:

- Any artefact made of pounamu discovered or found within the project area on land administered by DoC should be left untouched and notified immediately to both the local department of conservation officer and Te Runanga o Ngai Tahu. If the artefact happens to be collected it should be handed directly to the local department of conservation officer along with all information about the find and Te Runanga o Ngai Tahu is to be notified.
- Any artefact made of pounamu discovered or found on all other land within the project area should be left untouched and notified immediately to the local regional museum and Te Runanga o Ngai Tahu. If the artefact happened to be collected it should be handed directly to the local regional museum along with all information pertaining to the find and Te Runanga o Ngai Tahu is to be notified.
- All pounamu discovered, other than through authorized or accidental collection, cannot be removed without consultation with Te Runanga o Ngai Tahu.

6. Waste Management, Site Waste Management Plan

We will compile a detailed methodology against which site waste will be managed on site, items to consider should include:

- Clearly define arrangements for controlling waste products at the workplace
- Keeping the workplace clean and tidy
- Minimizing the volume of waste created by your work activities
- Segregation, hazardous waste (i.e. special waste) from non-hazardous wastes, for final disposal from site
- Who is providing the waste management system?
- Provide details of waste management company
- Arrangements have been made for the on-going removal of scrap and waste
 - What resources for this purpose identified?
 - What frequency will house keeping occur?
 - What are the storage arrangements (should be shown on logistics plan)?

7. Quality Control and Management Plan:

Subcontractor's should review the below list of Quality Management tasks that are expected to be addressed in the Construction Stage Quality Management Plan, that details the intended method of how quality management will be undertaken for the project:

- Subcontractor's Quality Policy Statement
- Scope of Works and dates
- Organization and Responsibilities
- Specification and Contract Review
- Quality Management System and tools
- Document Control, Distribution and Archiving
- Contractor's Design Responsibilities
- Purchasing materials and components
- Product identification
- Fabrication/ manufacturers
- Packaging, delivery and storage
- Construction/ installation
- Training and Supervision
- Inspection and testing
- Handover
- Records and as-built surveys
- Protection
- Calibration
- Mock-ups/ Samples
- Internal Audit and Corrective Action
- Company Standard QA forms, process maps and procedures