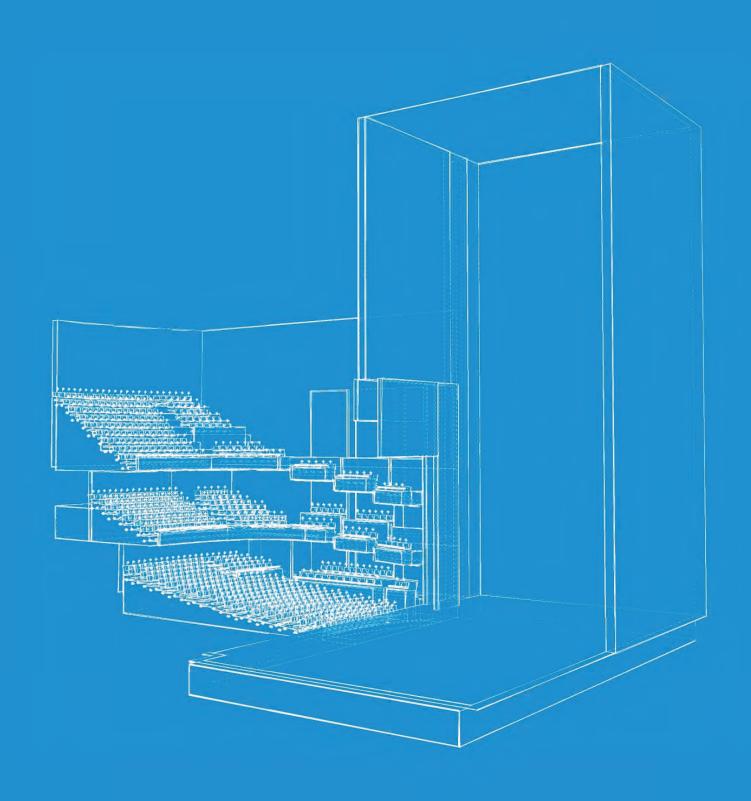
WAIKATO REGIONAL THEATRE CONCEPT DESIGN REPORT

MARCH 2018





PROJECT VISION

WORLD CLASS

DELIVER AN ICONIC WORLD CLASS THEATRE FACILITY THAT WE IN THE WAIKATO CAN ALL BE PROUD OF

TRANSFORMATIONAL

A PROJECT THAT HAS THE OPPORTUNITY TO BRING TRANSFORMATIONAL BENEFITS TO THE CITY AND REGION'S COMMUNITY

CULTURE

HELPS FOSTER A REPUTATION OF A CITY AND REGION THAT HAS A VIBRANT CULTURAL LIFE

QUALITY

ENVIRONMENT THAT MEETS CUSTOMER EXPECTATIONS OF A QUALITY THEATRE

VALUE

MAXIMISE THE SOCIAL, CULTURAL AND ECONOMIC VALUE A THEATRE CAN BRING TO THE CITY AND REGION

INSPIRE

INSPIRE THE WAIKATO REGION'S CREATIVE TALENT

ENGAGE

HAVE AN ENGAGING RELATIONSHIP WITH ITS PERFORMERS, ITS PATRONS, ITS CITY, ITS REGION

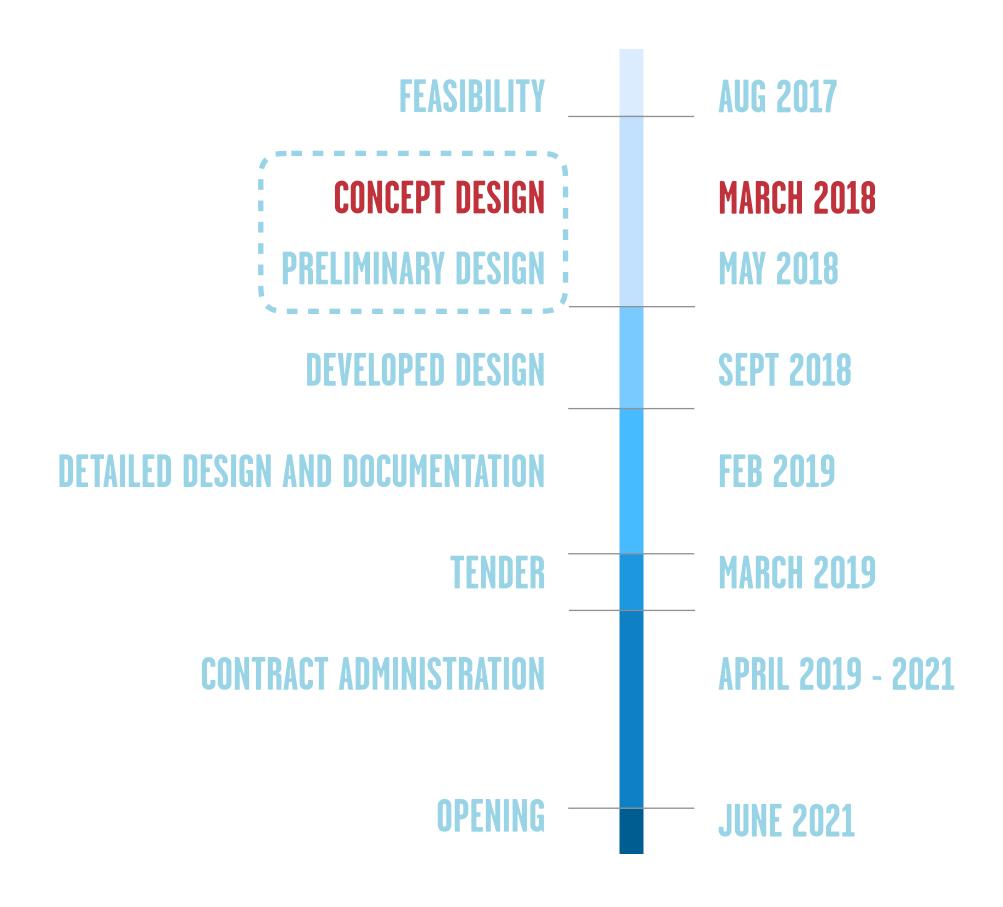
DESTINATION

BECOME A DESTINATION IN ITS OWN RIGHT

CREATING A PRECINCT WHERE PEOPLE FEEL INSPIRED TO CREATE, EXPERIENCE AND TELL THE STORIES OF THE WAIKATO, NEW ZEALAND—
IT'S LAND, ITS PEOPLE AND ITS CULTURE.

WHAT IS THE CONCEPT DESIGN PHASE?

PROJECT WORK STAGES



WHAT IS THE CONCEPT DESIGN PHASE?

TESTING THE FEASIBILITY STUDY TO THE NEXT LEVEL IN PREPARATION FOR PRELIMINARY DESIGN AND RESOURCE CONSENT

CLIENT BRIEF AND COMMUNITY FEEDBACK

SITE INFORMATION GATHERING

PROGRESS DESIGN

ANALYSE COST PLAN IN DETAIL

ANALYSE COST PLAN IN DETAIL

FEASIBILITY STUDY COST PLAN

CONSTRUCTION	\$42,351,376	
PRELIMS AND MARGINS	\$ 4,443,624	
CONTINGENCY AND ESCALATION	\$12,450,000	
FEES	\$ 9,250,000 \$ 3,785,000	
FF+E		
OTHER	\$ 600,000	

TOTAL PROJECT COST

\$72,880,000

ANALYSE COST PLAN IN DETAIL

CONCEPT DESIGN STUDY * COST PLAN

CONSTRUCTION	\$47,918,076	
PRELIMS AND MARGINS	\$ 5,189,562	
CONTINGENCY AND ESCALATION	\$ 7,793,547 \$ 9,250,000 \$ 3,382,400	
FEES		
FF+E		
OTHER	\$ 400,000	

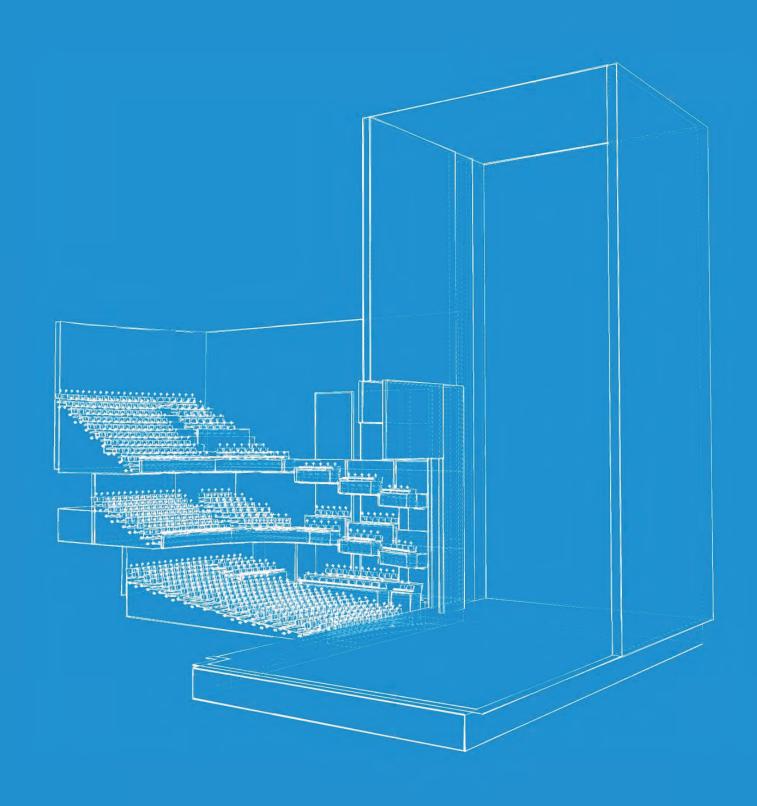
TOTAL PROJECT COST

\$73,933,584*

WAIKATO REGIONAL THEATRE CONCEPT DESIGN REPORT

MARCH 2018



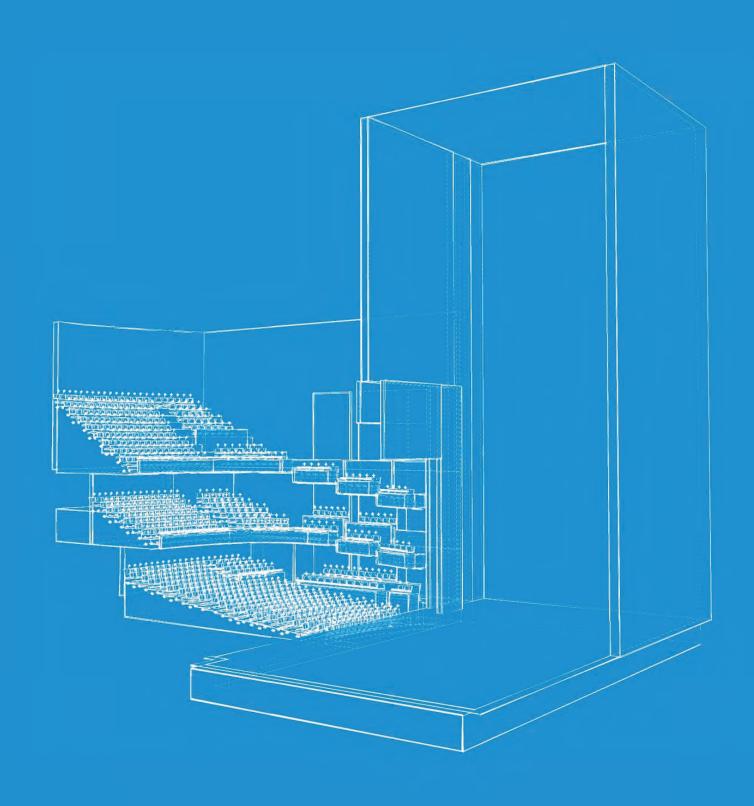


WAIKATO REGIONAL THEATRE CONCEPT DESIGN REPORT

MARCH 2018

INCLUDING VALUE ENGINEERING ANALYSIS





in its access the portunes pa no w is 'Waikato' identity raugh to the design. Mus very different from AKI.

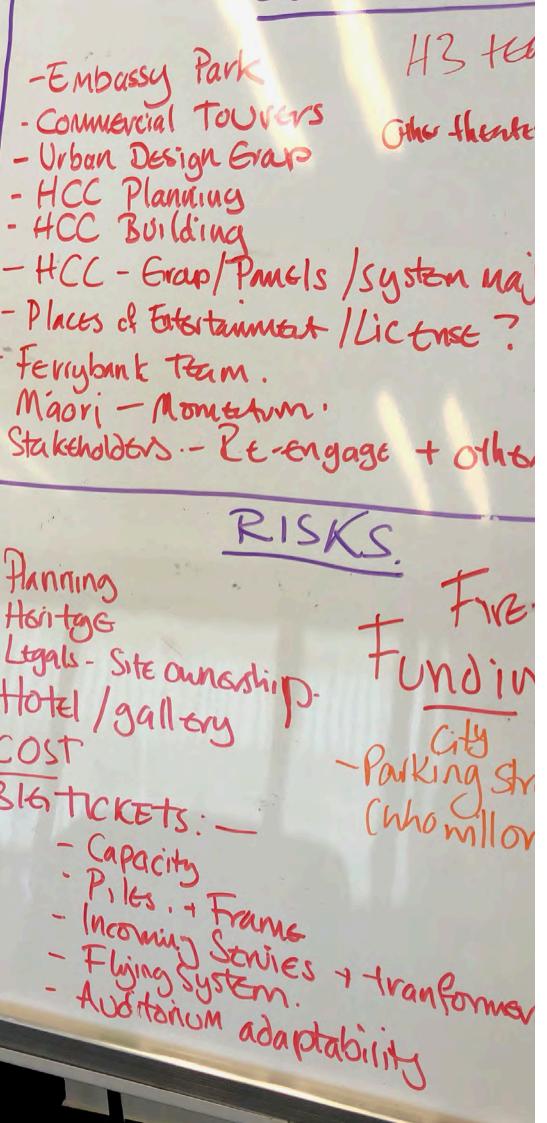
Very different from AKI. community who do you is the define as a: Ga Will Change.

of our A chance for Hamilton

Ge to grow up!" we heed this!
if will be packed out
in no time!

CLIENT BRIEF AND COMMUNITY FEEDBACK

THE MOST FREQUENT PUBLIC CONCERNS PARKING/CITY SAFETY ACCESSIBILITY (PEDESTRIAN/VEHICLE) COMMUNITY COST OWNERSHIP MODEL REGIONAL TRANSPORTATION CONNECTIONS LOCATION



CLIENT BRIEF AND COMMUNITY FEEDBACK

RISK ITEMS FOR DESIGN TEAM ANALYSIS

VEHICULAR ACCESS

AUDITORIUM CAPACITY

THEATRE TECHNICAL SPACES

BACKSTAGE FACILITIES AND SHARED SPACES

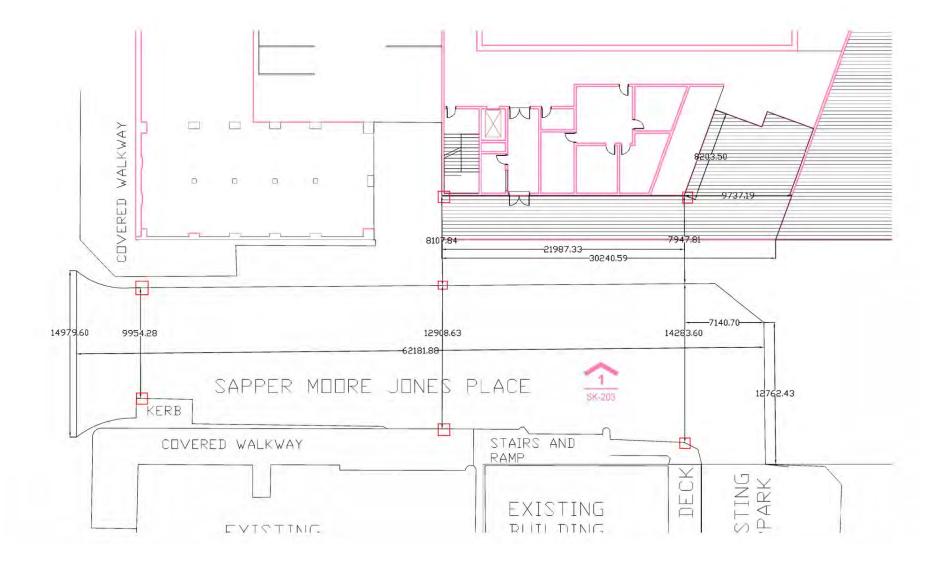
HOTEL/GALLERY PROJECT







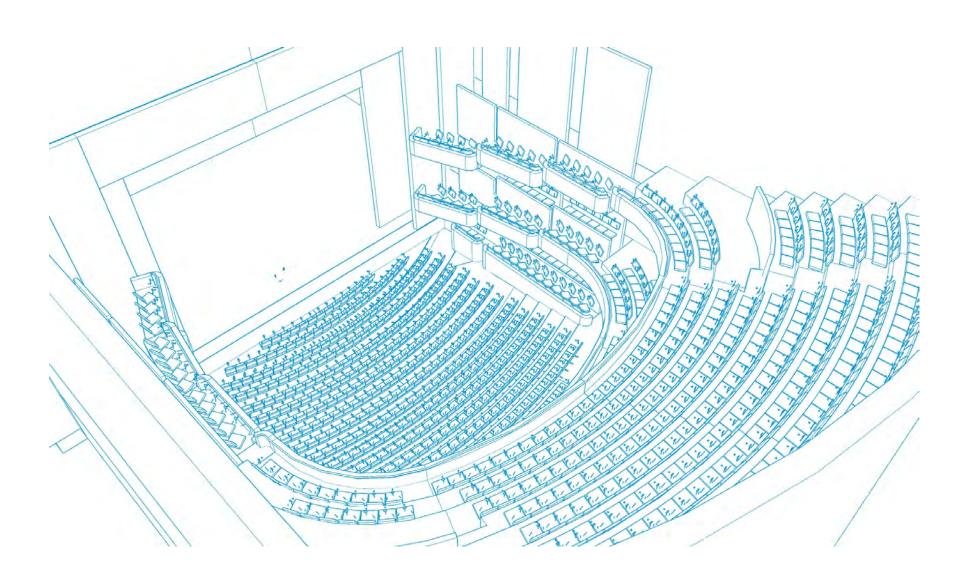




VEHICULAR ACCESS

180 DEGREE TRUCK TURN IN SAPPER MOORE JONES PLACE AND REVERSE MANOEUVRE INTO PROPOSED LOADING BAY





AUDIENCE CAPACITY

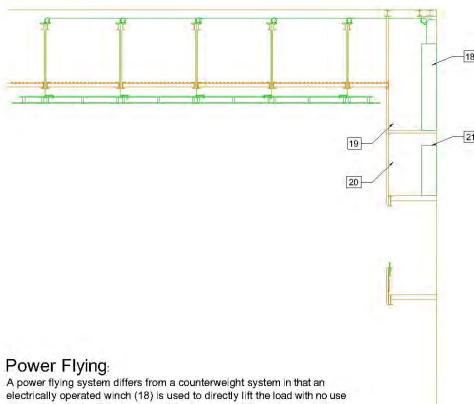
RE-ENGAGAGED WITH STAKEHOLDERS

ISSUED CAPACITY QUESTIONAIRE

SPOKE WITH COMMERCIAL TOURING PROMOTERS

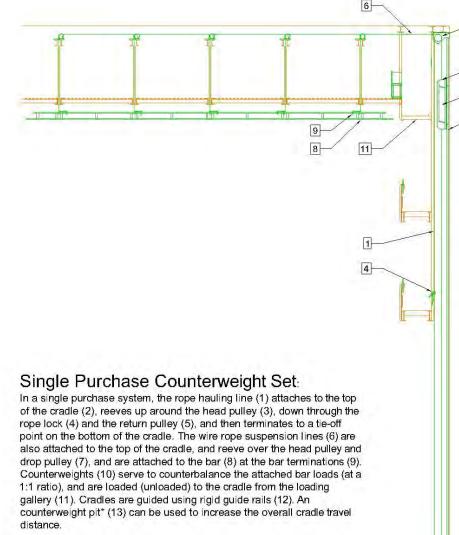
ANALYSED DATA







of counterweights. The winches will be housed in fully enclosed winch rooms (19) that are acoustically isolated from the stage. To fit in the winches for a full cross stage bar system winch rooms will be needed on both sides of the stage, unlike a counterweight system which will have a counterweight frame only on one side of the stage. The motion control equipment for the winches (20) will need to be located in rack rooms (21) close to the winches, again these rooms will need to be acoustically isolated from the stage.



TECHNICAL FACILITIES

FURTHER DISCUSSION ON POWER FLYING VS COUNTERWEIGHTS AND A REPORT UPDATE PROVIDED

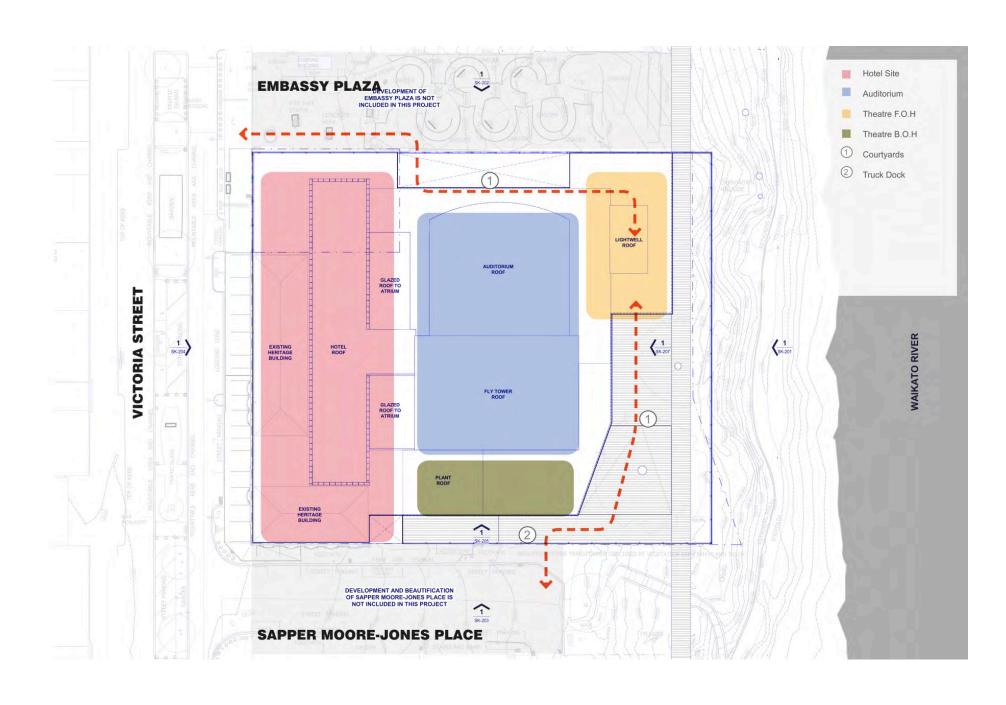




BACKSTAGE FACILITIES AND SHARED SPACES

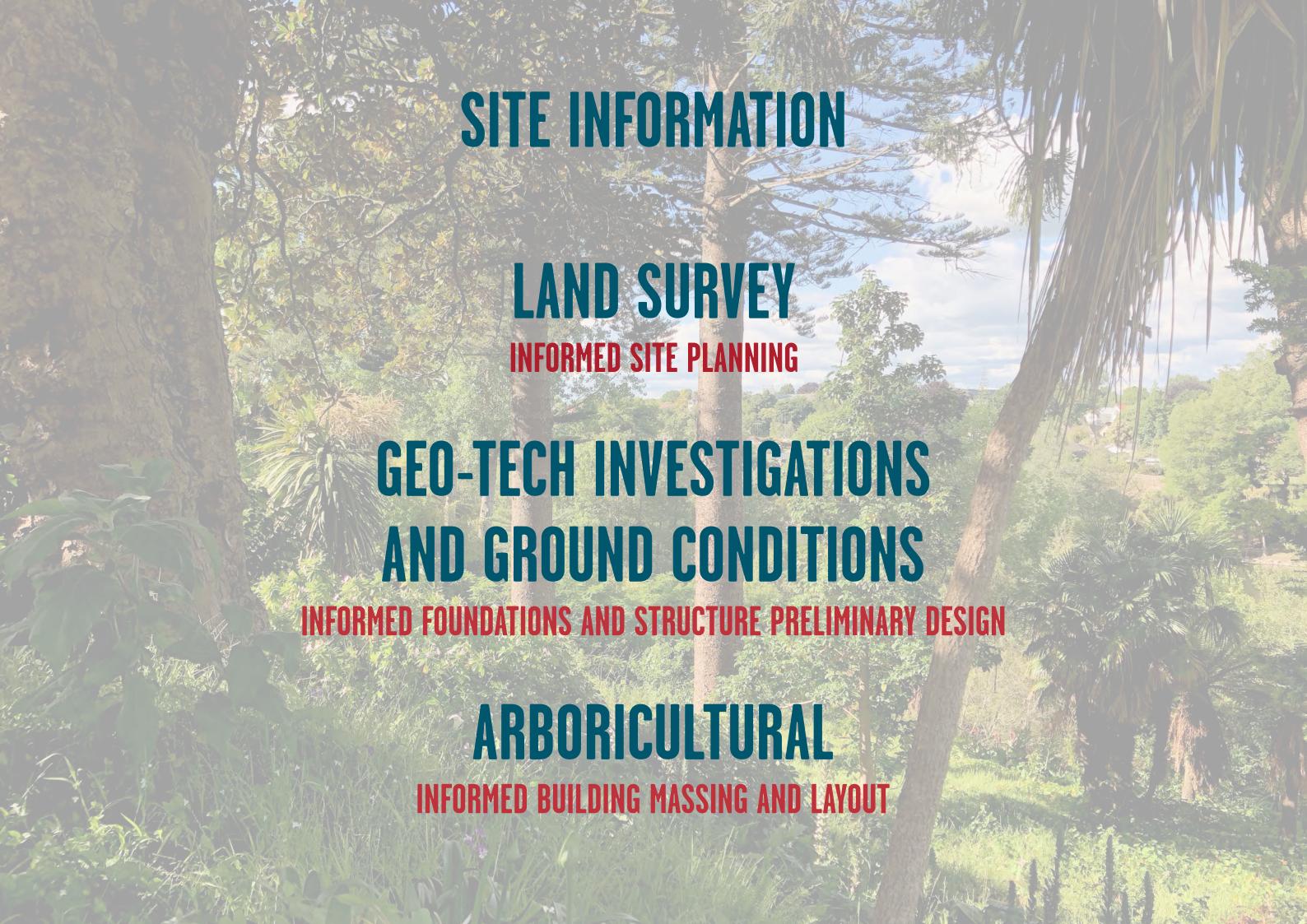
BACKSTAGE SPACE PLANNING AND ADJACENCIES SET FOR EFFICIENT AND OPTIMUM COMMUNICATION AND CIRCULATION SHARED SPACES ALLOCATED AND PLANNED WITH HOTEL LAYOUTS



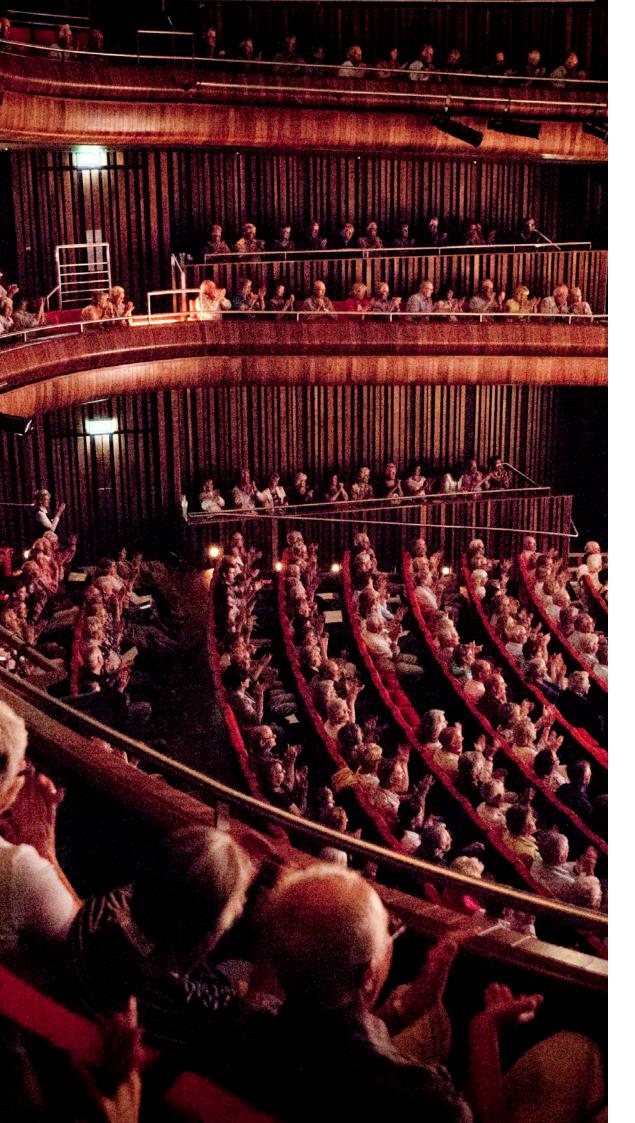


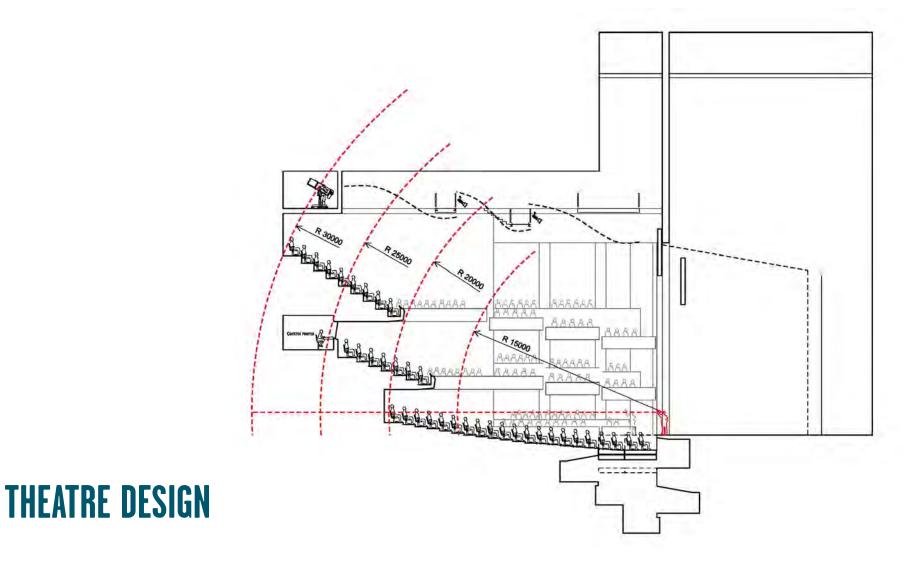
HOTEL/GALLERY PROJECT

SPACE PLANNING, PEDESTRIAN FLOW,
AND FLOOR LEVEL INTEGRATION
STRUCTURE AND SERVICES STRATEGY DEVELOPED









A multi-function and multi-capacity space where the local community can take ownership -

HAMILTON'S LOCAL WORLD STAGE

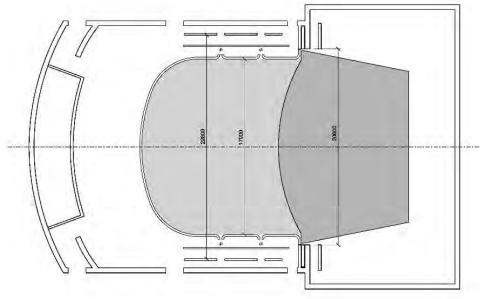
INTIMACY

Intimacy is a key word for the success of any live performance space.

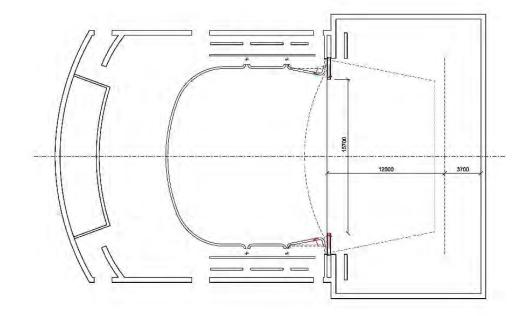
- the relationship of actor and audience
- a nurturing environment where everyone can see, hear, think and feel together
- wrapping the seating and lining the walls with a live audience,
- balcony fronts, provide focus focused and perception of intimacy

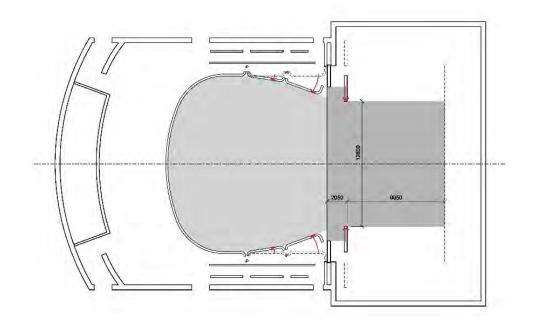
AUDIENCE DISTANCE

- 20-24m for drama, 30m for large scale opera and musicals.
- balcony fronts forward and lower in relation to the stage,
- pull more people closer to the action,
- keep stalls rake is flat, optimises sightlines
- place approximately half the audience below and half above an actor's gaze
- actor has a stronger sense of commandment over their audience.



MUSIC MODE





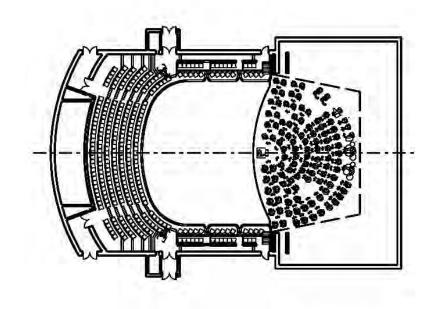
THEATRE MODE

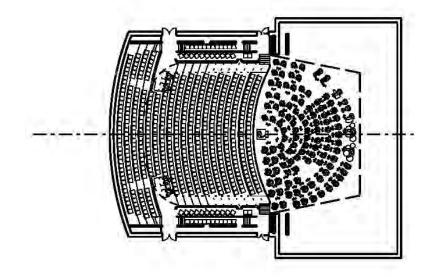
THEATRE DESIGN

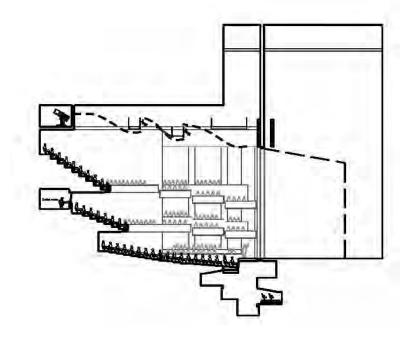
FLEXIBILITY

the room can be summarised as having two base formats; a music mode and a theatre mode

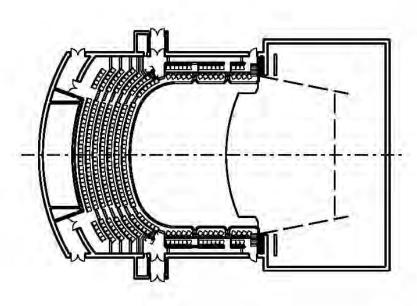
- music and dance performances informed the requirement for a 20m-wide proscenium opening
- In 'music mode' the side audience boxes are in parallel arrangement, following the side walls of the auditorium
- The 'theatre mode' reduce to an adjustable proscenium opening 12-13m width

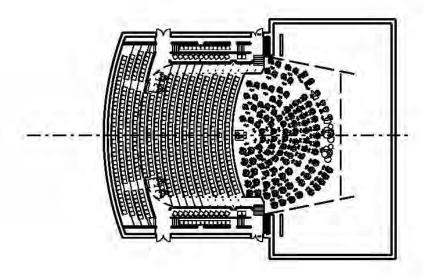


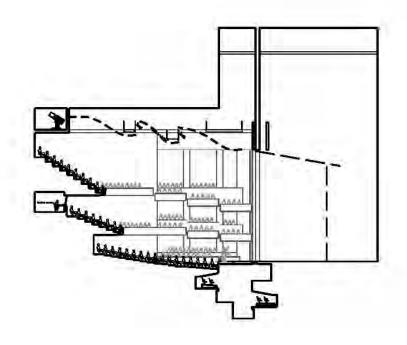




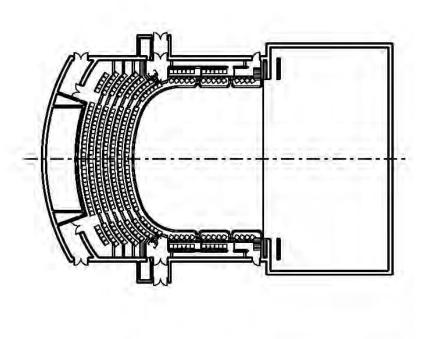
MUSIC - ORCHESTRA ON FORESTAGE ELEVATOR

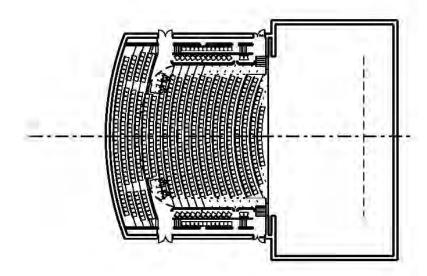


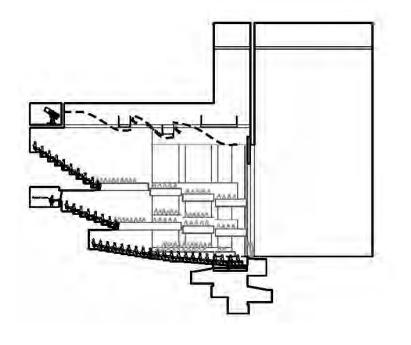




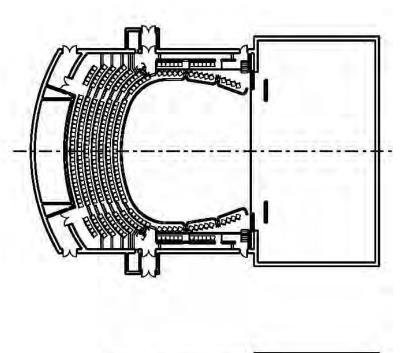
MUSIC - ORCHESTRA ON BOTH FORESTAGE ELEVATORS

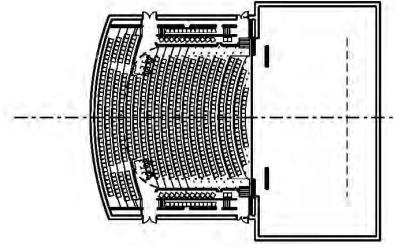


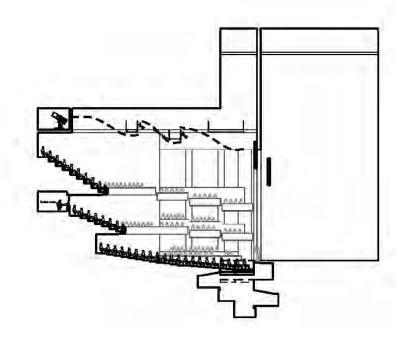




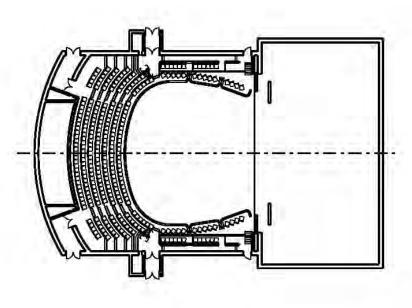
DANCE / KAPA HAKA / PRIZE-GIVING FULL WIDTH 20M PROSCENIUM

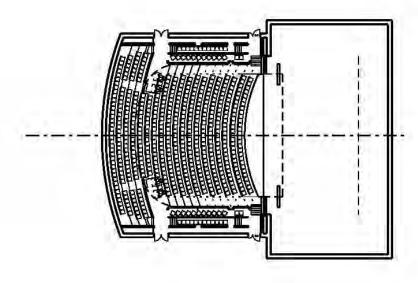


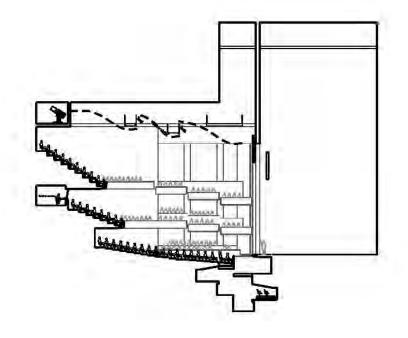




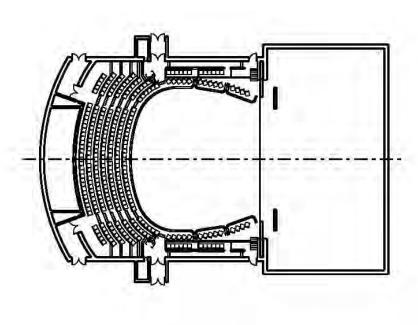
DRAMA - NO ORCHESTRA PIT

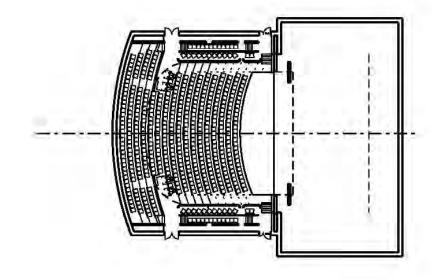


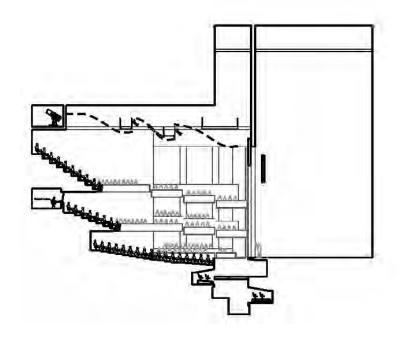




MUSICALS - SMALL ORCHESTRA PIT







OPERA/BALLET - LARGE ORCHESTRA PIT



THEATRE DESIGN

SEATING CAPACITY

CAPACITY RESEARCH AND ANALYSIS SUGGESTED

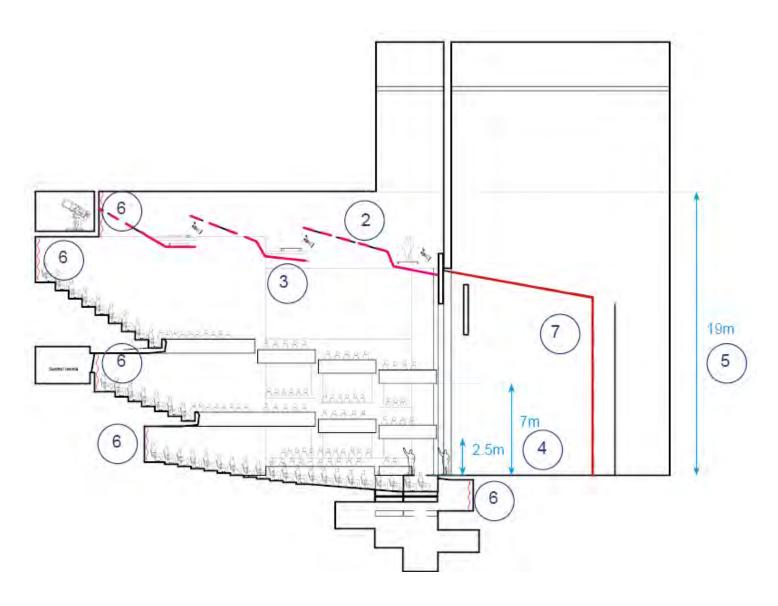
OPTIMUM CAPACITY OF 1200 - 1500

THE AUDITORIUM SEATING CAPACITY AT THE END OF CONCEPT DESIGN CAN BE SUMMARISED AS FOLLOWS;

MUSIC (ORCHESTRA ON ONE ELEVATOR)	1298
MUSIC (LARGE ORCHESTRA ON BOTH ELEVATORS)	1241
KAPA HAKA, PRIZEGIVING AND DANCE, NO PIT	1305
THEATRE, NO PIT	1305
MUSICALS, SMALL PIT	1268
OPERA, LARGE PIT	1211
EXCLUDING BALCONY, NO PIT	954
EXCLUDING BALCONY AND CIRCLE, NO PIT	640

CONCEPT DESIGN TARGET SEAT COUNT IS <u>1300</u>
WITH MINOR OR NO INCREASE IN FLOOR AREA OF AUDITORIUM

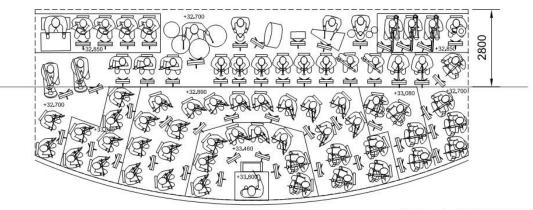




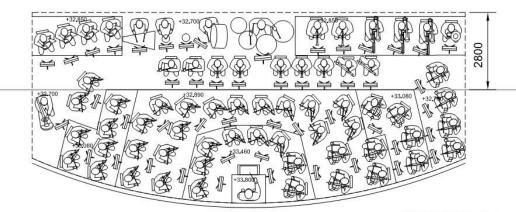
ACOUSTIC DESIGN

Concept Design phase, the acoustic design focus has included:

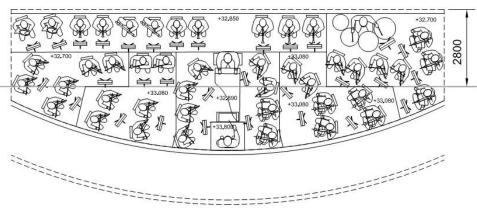
- Coordination of the development of the Auditorium form,
- acoustic volume,
- geometries for early reflections,
- balcony overhangs
- locations for variable acoustic elements.
- design criteria and strategies for noise and vibration control.
- Development of the plan layouts
- internal sound separation
- strategies for specialty sound separating constructions.
- building systems schematics to achieve noise control objectives.



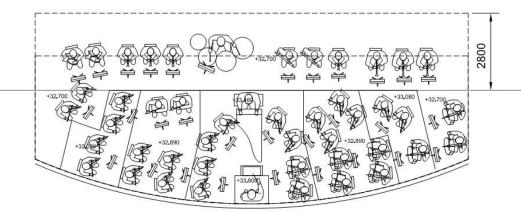
"The Nutcracker" FULL INSTRUMENTATION 72 PLAYERS 1.4 m² / PLAYER = 100 m² (Occasional max capacity)



VERDI INSTRUMENTATION 68 PLAYERS 1.5 m² / PLAYER = 100 m² (Typical max capacity)



MOZART INSTRUMENTATION ONE ORCHESTRA PIT LIFT 46 PLAYERS 1,5 m² / PLAYER = 70 m² (Typical max capacity)



MOZART INSTRUMENTATION TWO ORCHESTRA PIT LIFTS 46 PLAYERS

ACOUSTIC DESIGN

ORCHESTRA PIT

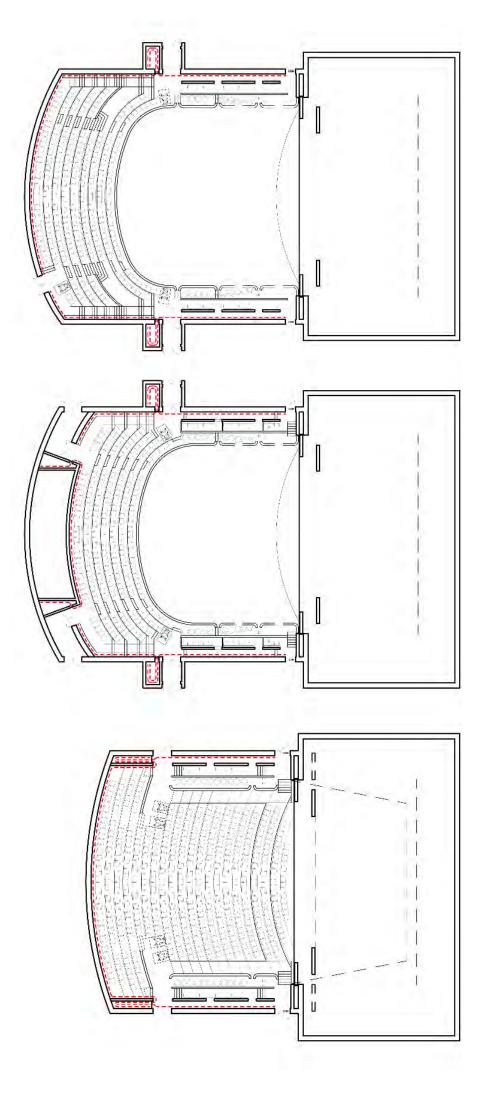
ACOUSTICAL GOALS WITH RELEVANCE TO THE ORCHESTRA PIT:

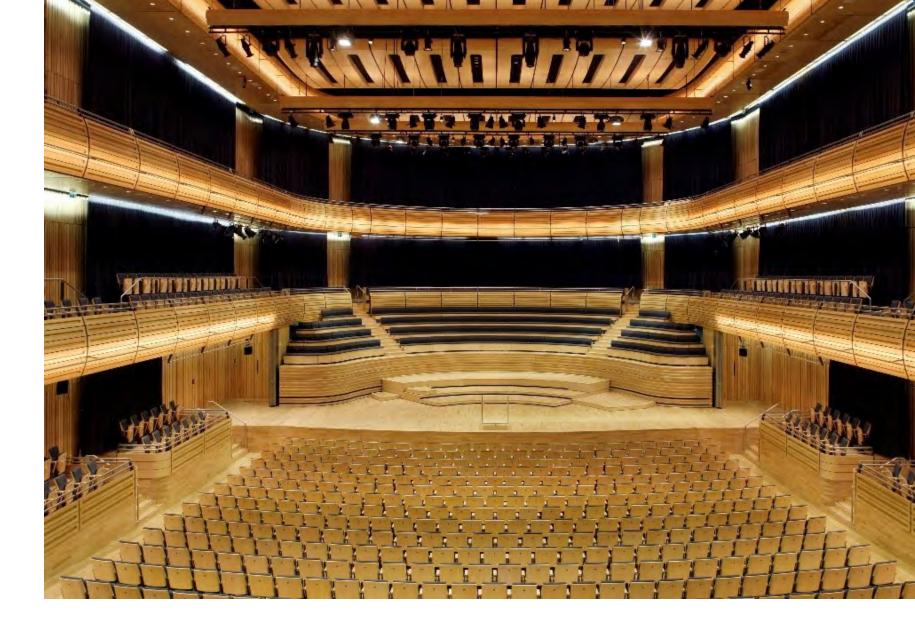
- Balance between orchestra and singer loudness
- Frequency balance tonal character
- Musicians should be able to hear each other
- Musicians should be able to hear singers, and singers to hear orchestra
- Loudness in the pit

ACOUSTICS WITHIN THE ORCHESTRA PIT ARE AFFECTED BY:

- Geometry
- Finishes
- Orchestration
- Conducting
- Auditorium design
- Elevation of pit lift
- Size orchestras and musical intentions

Typically, the front to back dimension of the pit is 45m with a 28m overhang The pit width is matched to the proscenium width at 20m





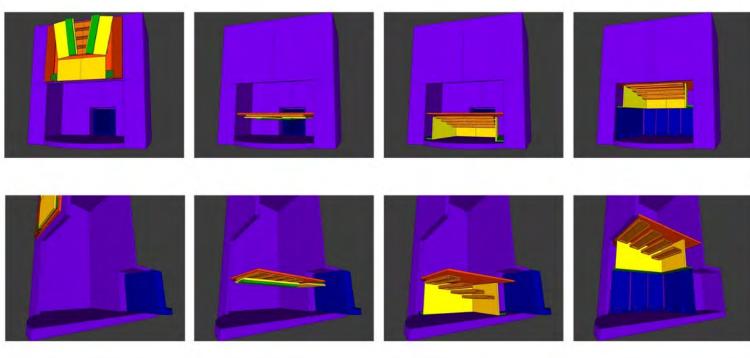
ACOUSTIC DESIGN

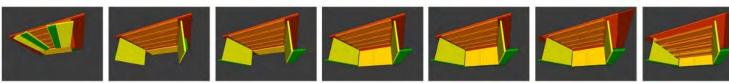
VARIABLE ACOUSTIC SYSTEMS

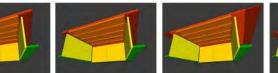
ACOUSTIC CURTAINS

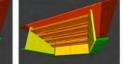
- Provide variable acoustics systems to transform the sound-reflective characteristics of the wall into sound-absorptive surfaces.
- 2 layers of heavy, tight-weave fabric on motorised track The curtains move horizontally, and they typically hang with "fullness" which provides performance at bass frequencies











ACOUSTIC DESIGN

ORCHESTRA SHELL

To improve the acoustics for orchestra concerts in the Auditorium.

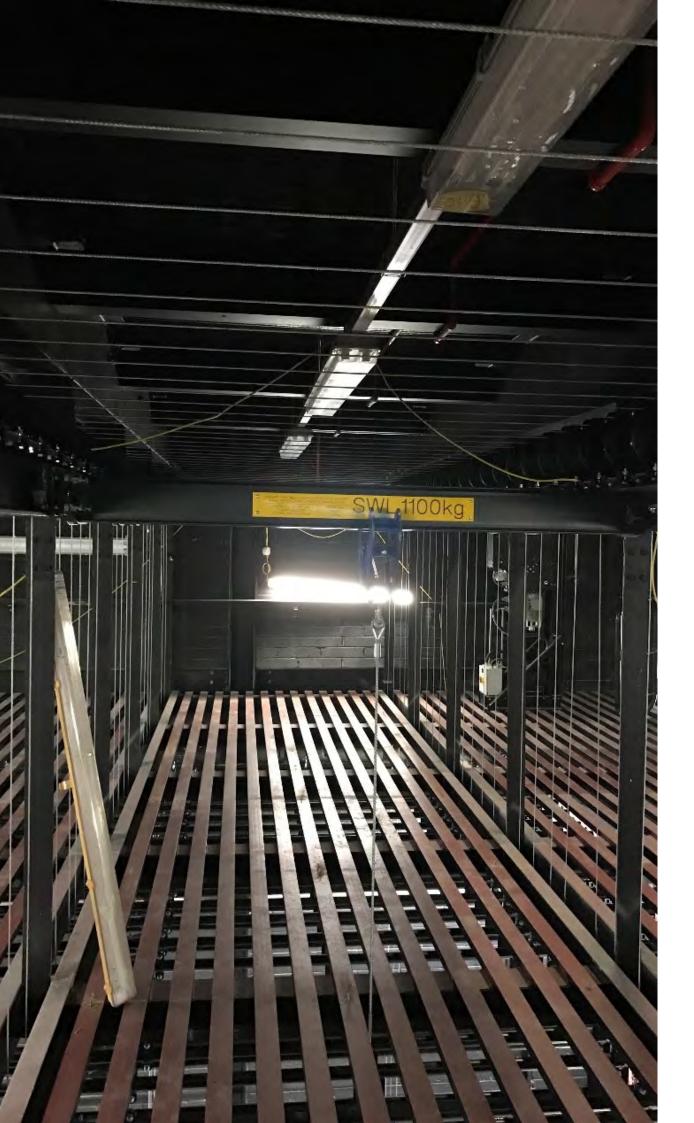
The shell consists of floor standing concert "towers" forming the back and side walls and suspended ceilings, all placed within the stage.

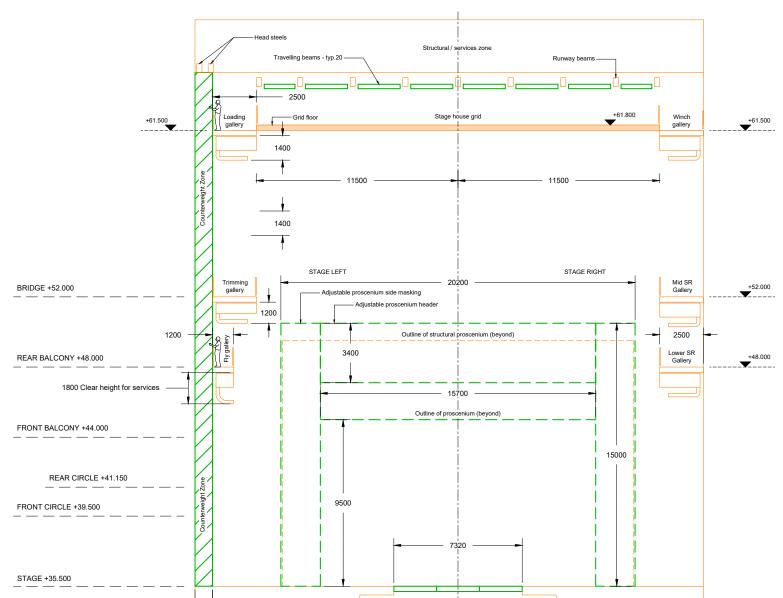
Acoustical goals for the orchestra shell include:

- Reflect sound of the orchestra out into the Auditorium
- Reflect some of performers' own sound across stage so they can hear each other
- Flexible arrangement to allow different acoustical for different ensemble sizes and types, larger or smaller enclosure.

Will be housed in forestage grid fly tower







STAGE ENGINEERING

FLYING SYSTEM AND STAGEHOUSE

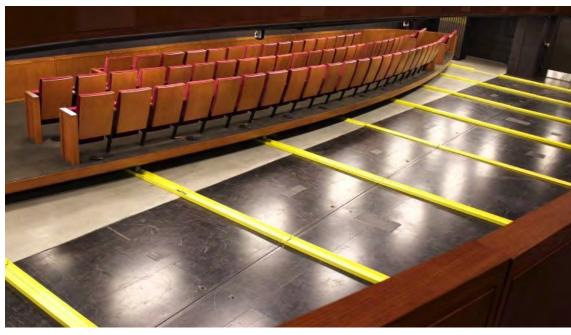
Compiled a report on Power Flying vs Counterweight Flying Concept Design assumes counterweights but allows for future change

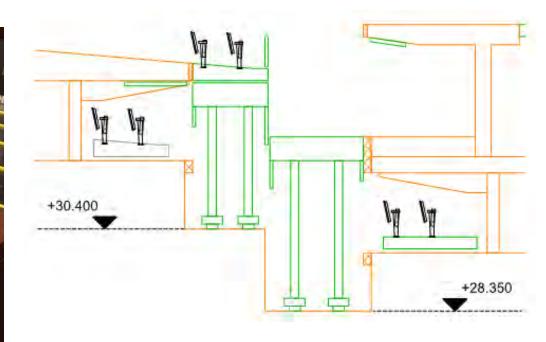
A full-height fly tower and grid over the stage area to fly scenic elements out of view above the proscenium line and provide the required suspension system for technical equipment including lighting, sound fixtures and the acoustic canopy.

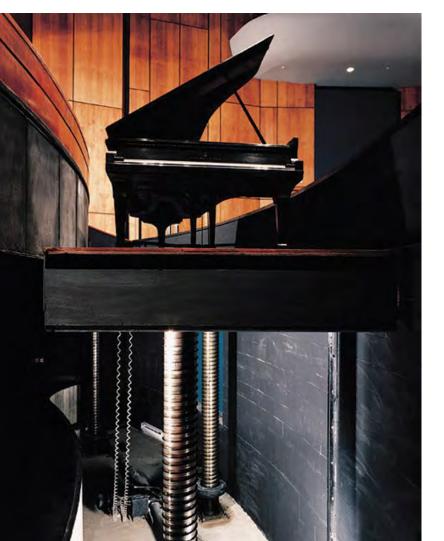
The grid area includes twenty travelling beams.

A budgetary allowance for twenty motorised chain hoists has been made within the FF&E budget.









STAGE ENGINEERING

THEATRE STAGE LEVEL AND SUBSTAGE SYSTEMS

TRAPPED AREA

An area of the stage floor is made up of modular sections that can be removed or adjusted individually to create raised areas, depressions and access hatches.

SEATING PIT ELEVATORS AND SEATING WAGONS

Two electrically-operated elevators. These elevators have the ability to run with installed seating wagons on them, including to a sub stage seat storage area.

The seating wagons are guided trucks that will roll on and off the elevators using temporary guide tracks into their appropriate storage levels.









TECHNICAL INSTALLATION

THEATRE STAGE LIGHTING AND AUDIO VISUAL

The technical Installation will be split between infrastructure provided by the building contract and loose equipment bought outside the contract by the client.

INFRASTRUCTURE

Will include all wiring, dimmer panels, AV and facility panels for stage lighting and AV in the theatre and limited facilities FOH and ancillary spaces.

Includes:

- Worklight system
- Stage Lighting Control System
- Stage Lighting Facility Panels
- Power and Data Wiring Infrastructure
- AV Wiring
- AV Socket outlet boxes
- Comms equipment
- Assisted Listening and audio description
- Production Video System
- Show Relay
- Paging

FF+E

All loose equipment, e.g. Stage Lights
Microphones etc

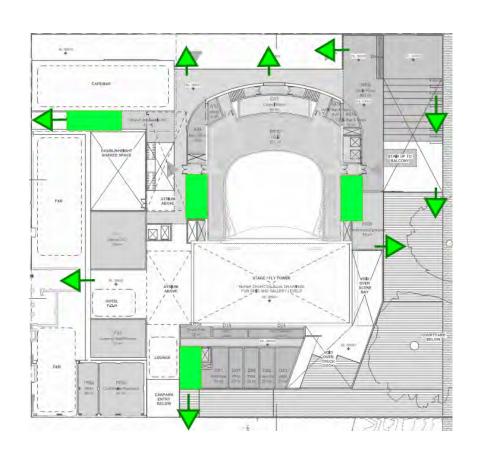
Smoke extracted at high level Smoke control = time to escape BREAKFAST LACCESS ALCOMY SCREEN (COURTYARD ALCCESS) BAR & TOILETS PLANT PLANT

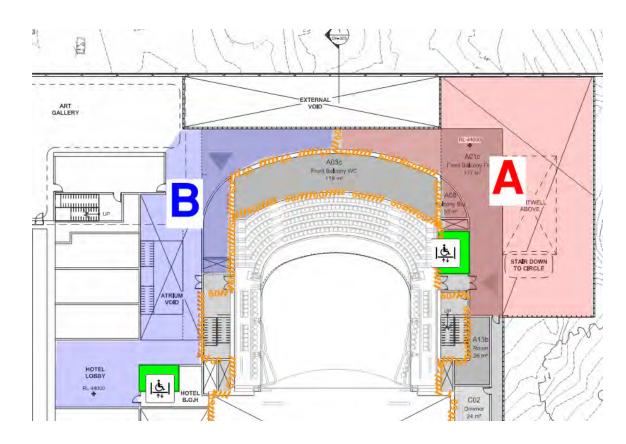
FIRE ENGINEERING

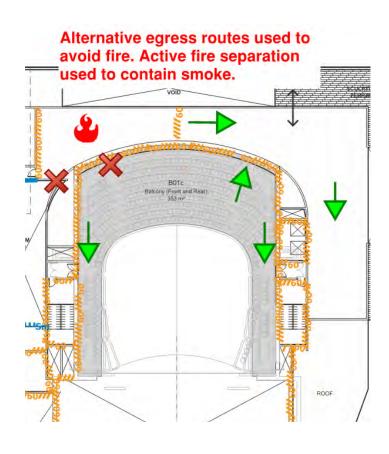
REGULATORY COMPLIANCE FIRE ENGINEERING PHILOSOPHY

- Prevention:
- Communication:
- Containment:
- Suppression:

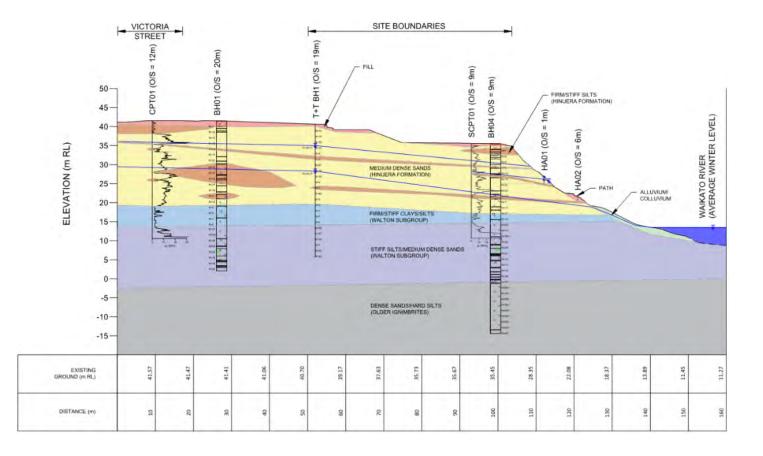
MEANS OF ESCAPE
LIFTS FOR EVACUATION
CONTROL OF FIRE & SMOKE SPREAD
SMOKE MANAGEMENT
STRUCTURAL FIRE ENGINEERING







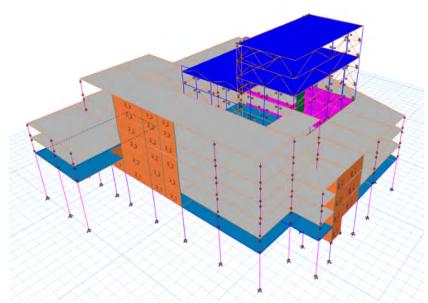


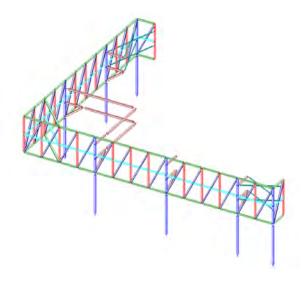


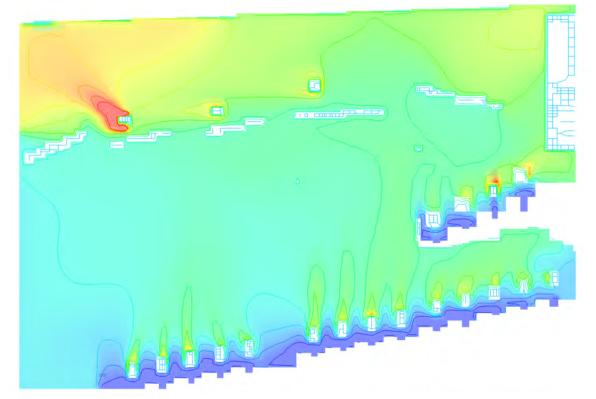
STRUCTURAL + CIVIL DESIGN

Gravity Structure
Lateral Load Resisting Structure
Foundations & Basement
Geotechnical considerations
Structural Design Loads
Design Wind Loads
Structural system
Piled Foundations
Raft Slab
Slope Stability

CIVIL ENGINEERING
Proposed Infrastructure
Raintanks
Risks and Opportunities
Items Not Fully Resolved at Concept Design
Green-star













SERVICES + ENVIRONMENTAL DESIGN

MECHANICAL SERVICES

- Design Criteria Indoor air temperatures
- Stage and Auditorium system
- Auditorium Air Conditioning
- Front & Back of House Air Conditioning Options
- The river water source for cooling
- Building Management System

HYDRAULIC SERVICES

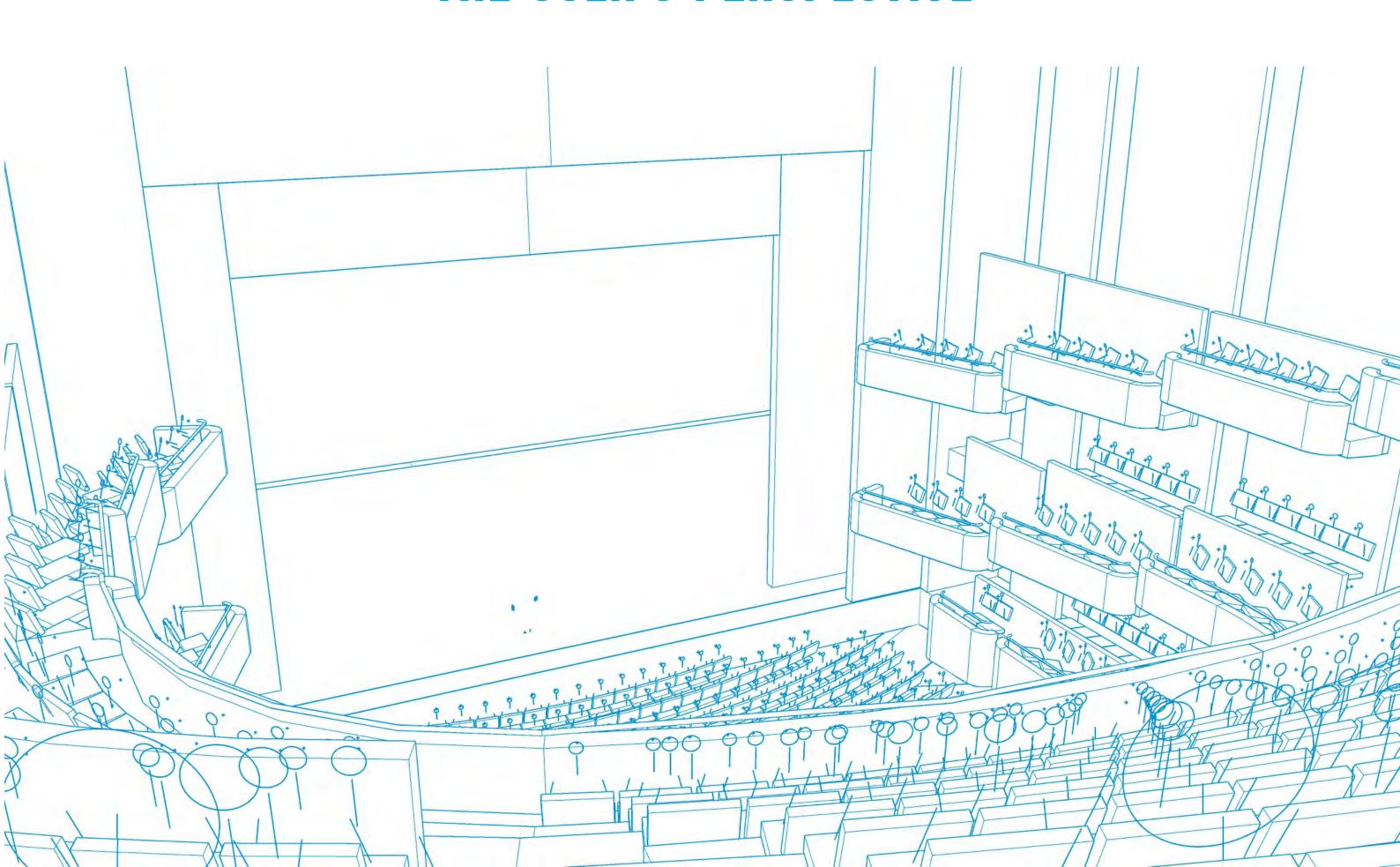
ELECTRICAL SERVICES
Main Switchboard (MSB) and Site Distribution
Standby Generation
Small Power Supplies
Artificial Lighting
Emergency Lighting
Structured Cabling System Provisions
MATV
Security Systems

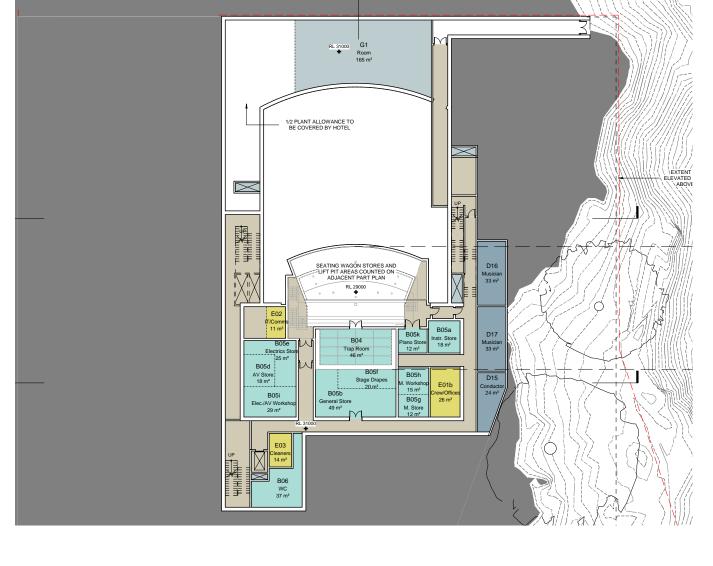
SUSTAINABLE DEVELOPMENT FRAMEWORK

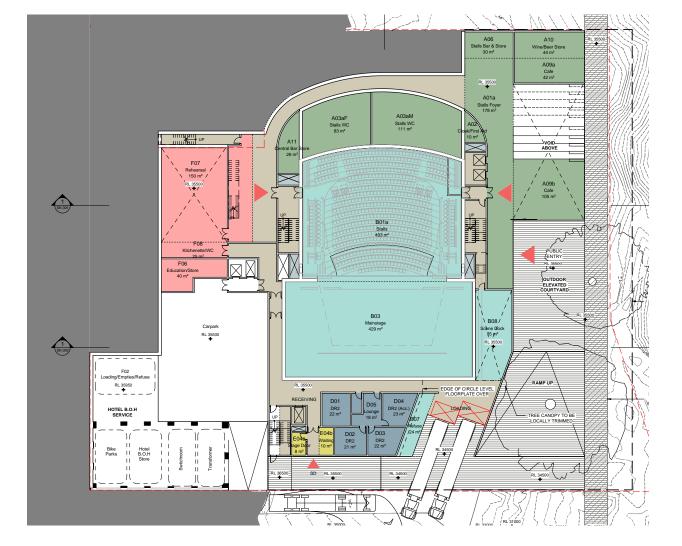
ENVIRONMENT & RESOURCES
Theatre Indoor Environmental Quality
Energy Efficient Design
Water Conservation
Transport and Connectedness
Land Use, Ecology and Urban Design

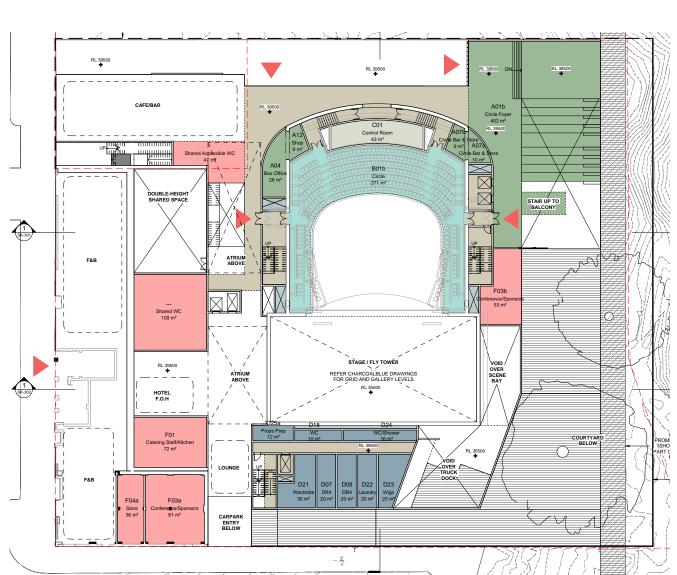
CONCEPT 5 STAR GREENSTAR CREDIT BREAKDOWN

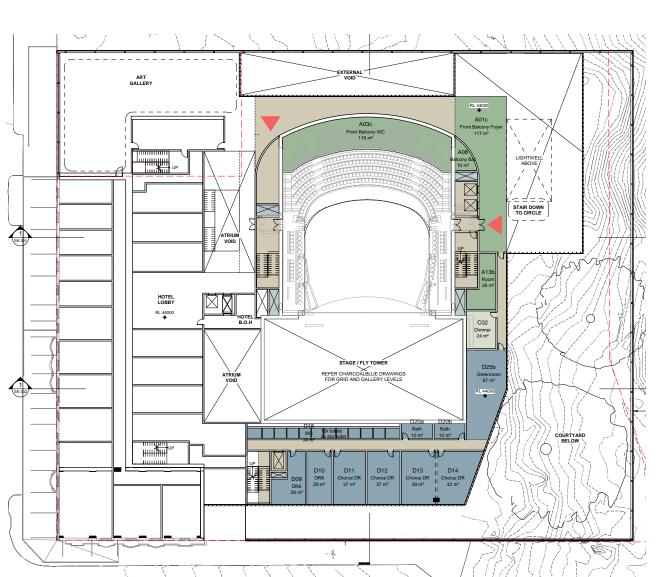
THE USER'S PERSPECTIVE













TRANSFORMATIONAL VISION

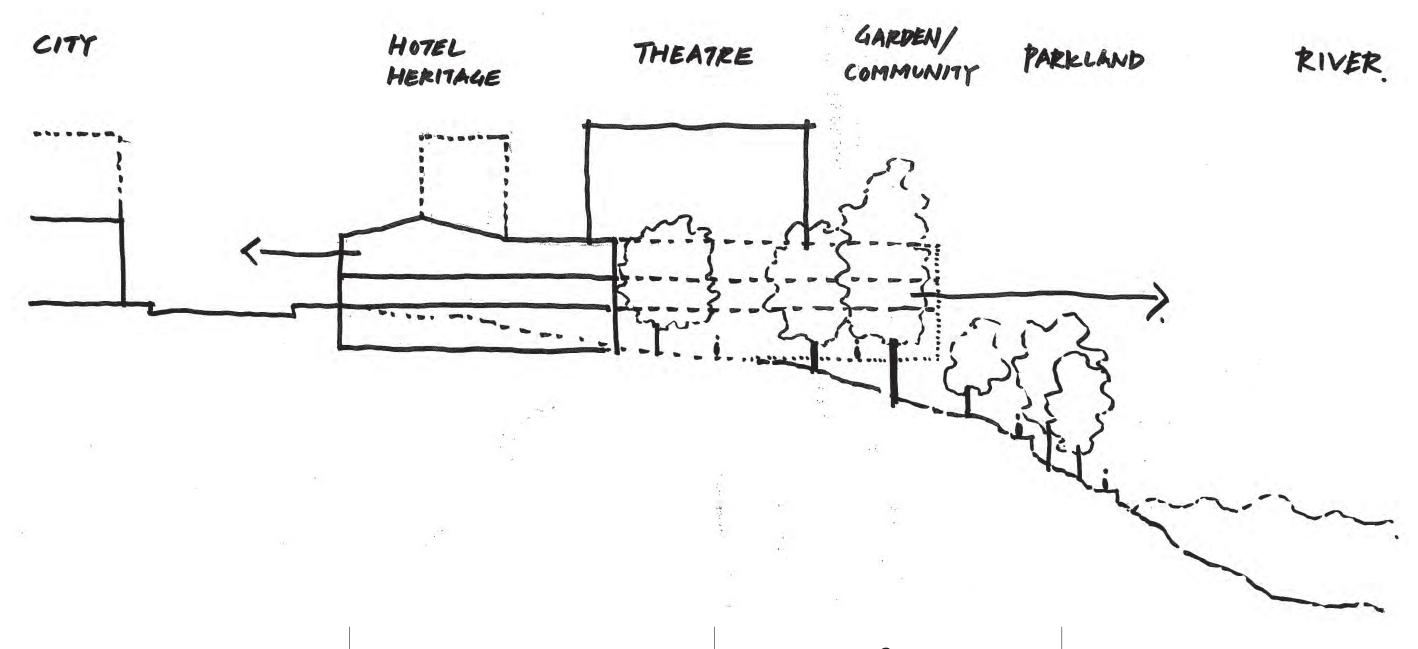
Regeneration: Stimulate catalytic change within the heart of Hamilton by being positively disruptive, providing a visual identity, encouraging creative innovation, and creating a world class destination.

Community: Integration and engagement with the local community, encouraging 24/7 activity that builds on the existing vibrant restaurant and cafe culture as well as introducing outreach programs to help create a sense of place that people will come to and gather.

Creative precinct: The theatre will be seen as the head tenant and a benchmark of quality within the creative precinct that stimulates creative innovation.

Linkages: Build a strong and positive relationship between Victoria Street and the Waikato River by strengthening linkages between them. Integration into the Ferrybank masterplan and Victoria





1. CITY & RIVER

Strengthen connectivity and celebrate the difference between the dynamic city and tranquil river.

2. HERITAGE

Engage with the built, natural and cultural heritage of the site through conservation, interpretation and integration.

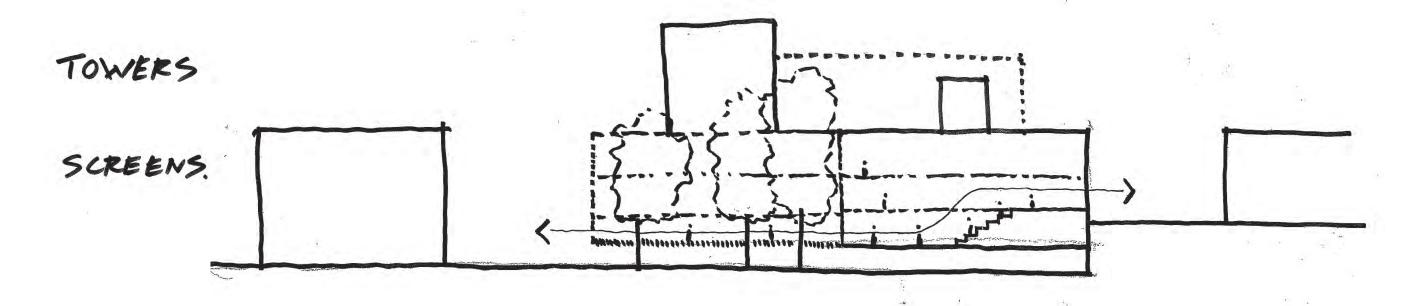
3. GARDEN & PARKLAND

Provide transitional spaces between the building while protect notable tress and reinforce the history and characters of the site's parkland.

4. COMMUNITY

Foster sense of community through providing high quality communal spaces for engagement and activities.

SPATIAL ORGANISATION



5. SCREENS

A distinctive and dramatic feature that hovers over the site threading through the trees. Enclosing and protecting the sites heritage features.

6. TOWERS

Urban markers with a visual association to the tall trees on the site.

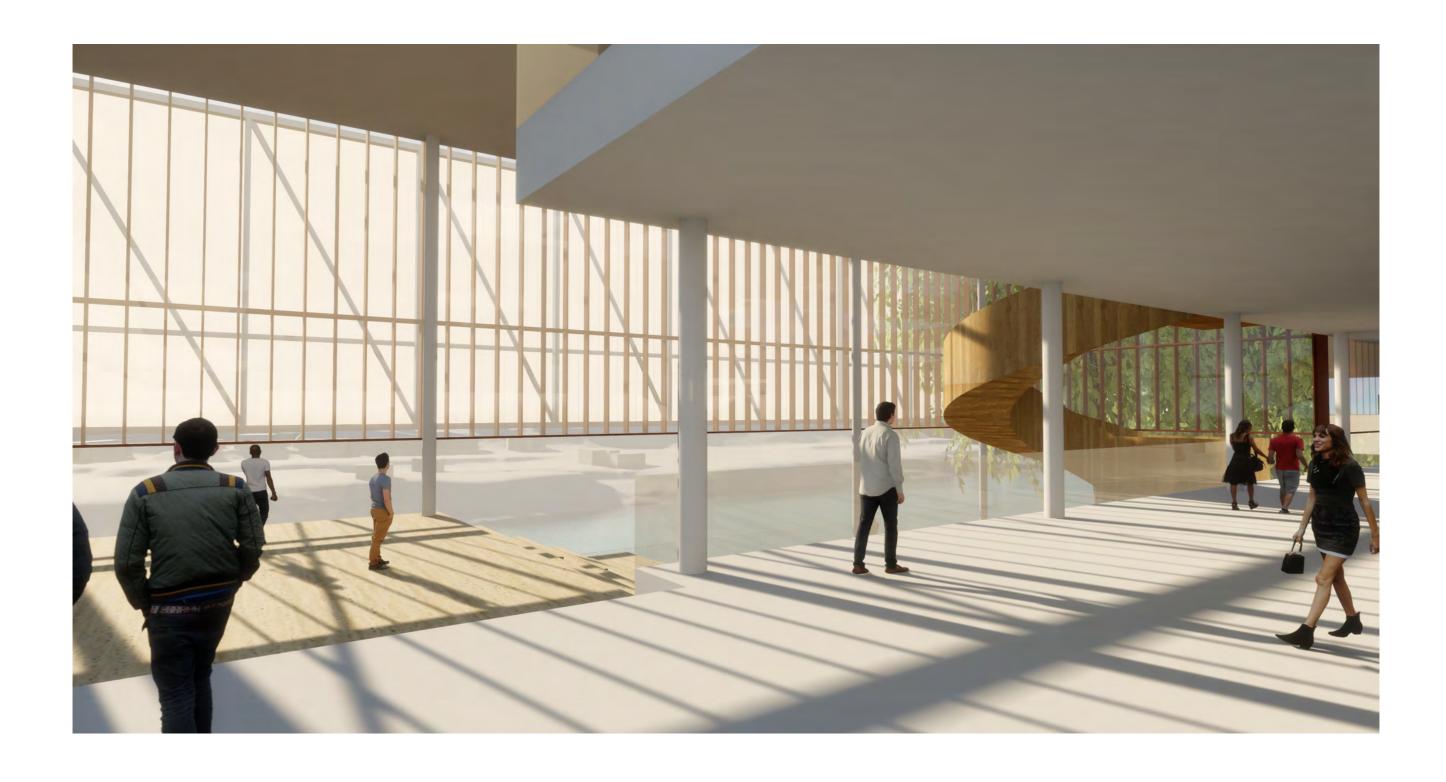
Back lit to provide the dappled light closley related to the dappled light of the trees.

7. SPATIAL ORGANISATION

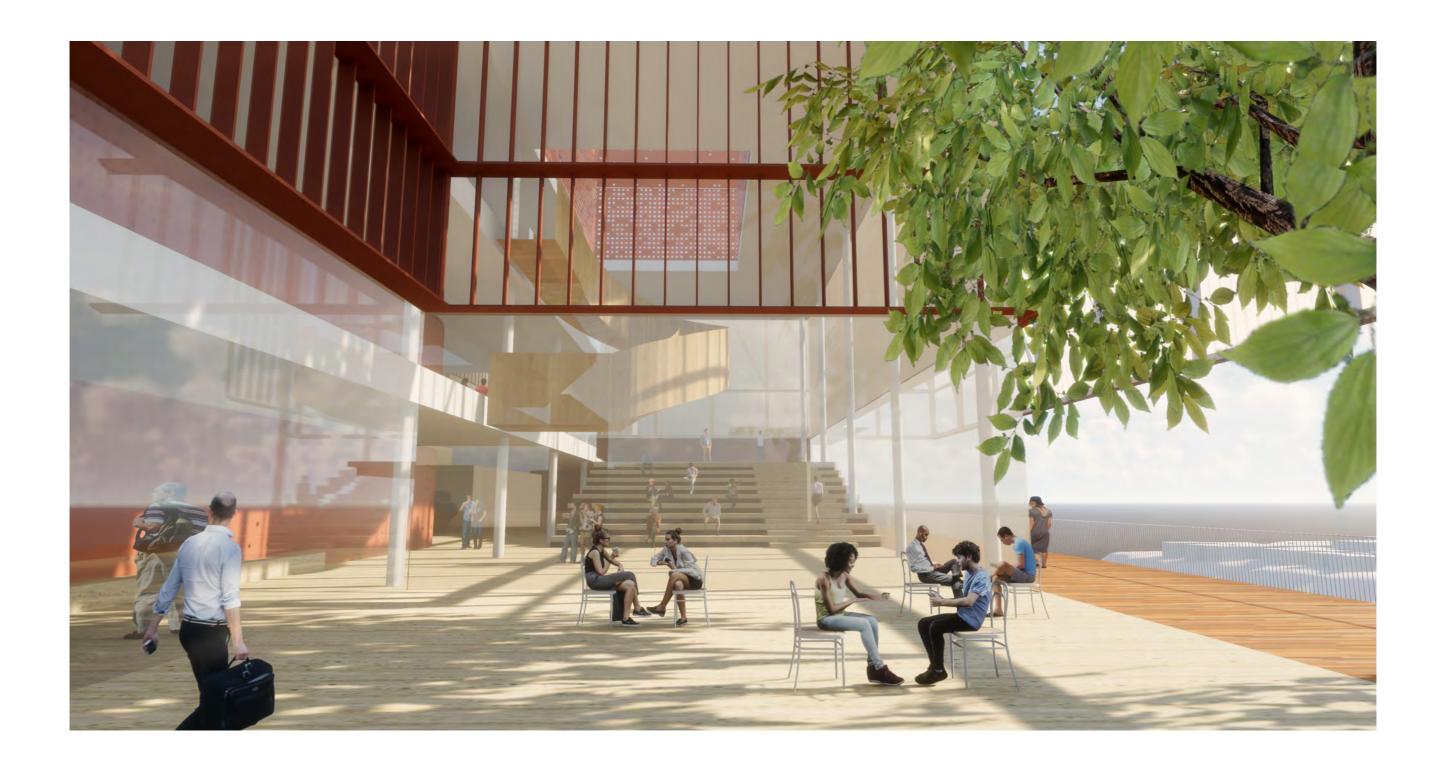
A dramatic arrival and entry sequence that progresses through a series of performance spaces; the courtyard, foyer and formal auditorium.

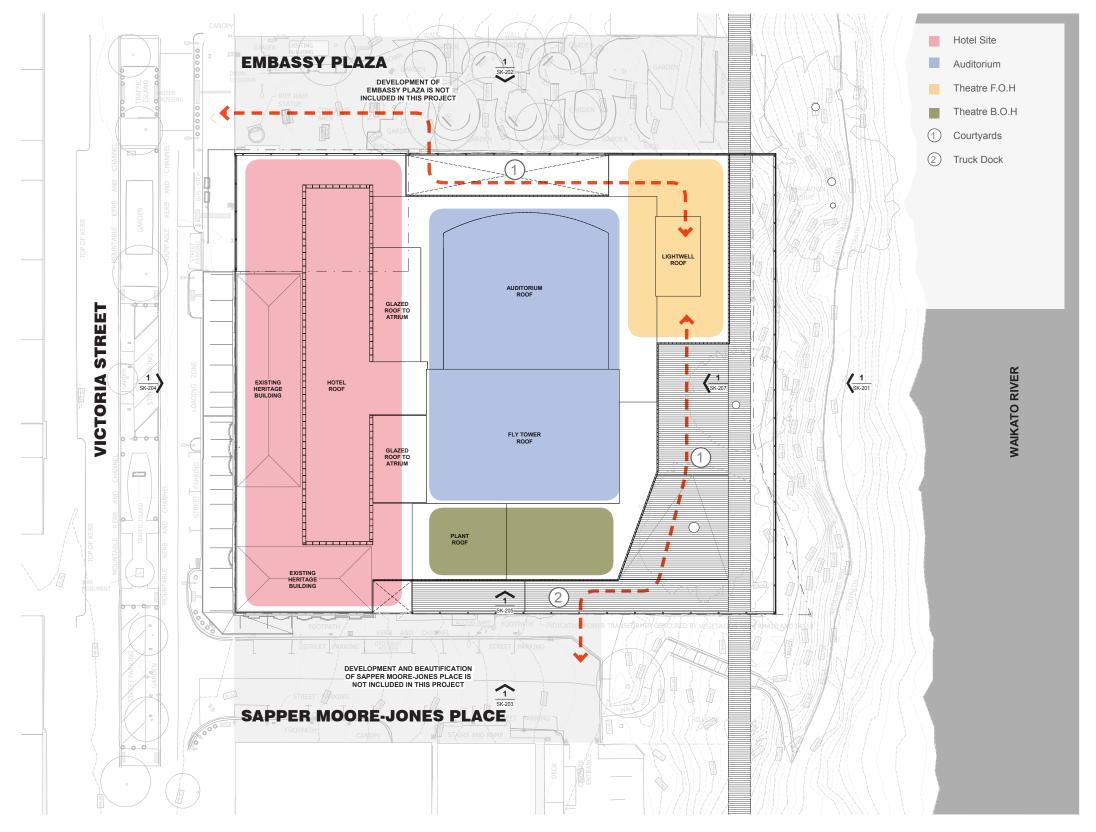












PLANNING

SITE PLANNING
HISTORY
SETTING
BUILDINGS

THEATRE PLANNING
ADJACENCIES
PUBLIC APPROACH
GARDEN COURTYARD
LIGHTWELLS

REPORTING AND PROCESS

HERITAGE AND IWI ENGAGEMENT

Heritage assessment:

We have met with Heritage New Zealand to discuss the proposal on two occasions. The first was to introduce the project and give a context to the development. The second meeting was to view the property file to help establish the property listing criteria. Heritage New Zealand have confirmed that the property is a scheduled site requiring assessment of the existing buildings, grounds, including trees and site archaeology. We have engaged Salmond Reed as conservation experts for the existing buildings and they will be providing an independent assessment of the existing buildings during the next phase of the design. We have also engaged Arbolab as arborists and Clough Associates for archeology (refer below). We have also begun our iwi engagement process with the local kaumatua and representatives from the HCC. Heritage New Zealand acknowledged that the project offered an opportunity to regenerate and celebrate the complex history of the site, its buildings and garden and that these features needed to be integrated carefully into the design, rather than a façade only and "tacked on" solution.

Next steps:

We will be presenting the design to Mana Whenua at the March Hui, as part of an ongoing consultation and design process. Final reports from each of the heritage consultants will be assessed by Tattico planners for presentation to Heritage New Zealand as part of the Resource Consent application.

ARCHAEOLOGICAL

Archaeological assessment:

Clough & Associates have been engaged to complete an archaeological assessment of the site as part of the requirements of the Hamilton City Council district plan. An assessment is required to be carried out prior to any development taking place. Clough & Associates have noted that presently there are no recorded archaeological sites on the property.

Next steps:

Clough & Associates will complete their desk top and field survey work and prepare a heritage assessment report for the resource consent process. Findings from the report will be incorporated into the final design.

ARBORICULTURAL

Arboricultural assessment:

ArborLab have prepared an assessment of the five notable trees growing within the site. Each of the trees is listed in the Hamilton City Council district plan and therefore requires assessment prior to any development taking place. The listed trees are: two Norfolk Pines (16.1 & 16.2), two Southern Magnolia (16.4 & 16.5) and a Bunya bunya pine (16.3). The report has highlighted that the Southern Magnolia (16.5) is not worthy of retention due to decay within the trunk, and the Norfolk Pine (16.2) due to trunk damage. The second Magnolia (16.4) is also recommended to be removed due to its close proximity to the Bunya bunya pine. This is detrimental to both trees and its removal would mean that the more dominant and highly valued Bunya bunya pine would grow to full maturity. We have incorporated these findings into the theatre design.

Next steps:

Work with ArboLab to initiate a tree protection methodology to mitigate construction activities. Replacement tree planting should be undertaken in consultation with HCC.

FERRYBANK MASTERPLAN

Ferrybank Masterplan:

We have met with WALA to discuss the theatre proposal and how it could tie in with the Ferrybank masterplan. We are continuing to work with the WALA team so that the levels for the proposed high level walkway can tie in with the theatre stalls and outdoor seating level. This will provide an excellent walking network and activation between the theatre and adjacent sites as well as the future bridge connection to Hamilton east.

Next steps:

Continuing working with WALA and the HCC during the Preliminary Design phase to provide an integrated approach between the theatre project and the Ferrybank masterplan.

TRAFFIC

Traffic assessment:

Flow traffic engineers have been engaged to undertake a high level integrated transport assessment for the wider area, to establish a holistic transport approach for the theatre and adjacent precinct. It is vital for the success of the project that the community have good access to the theatre and wider precinct. This was a key concern for local residents during the feedback stage, who will need to understand our recommended approach, and that we are providing a suitable parking provision and access strategy.

Next steps:

Flow to provide a high level assessment for consultation with HCC and the wider community. We will then incorporate the recommendations into the wider precinct access and parking strategy as part of the theatre's resource consent application.

TOWN PLANNING

Tattico have confirmed that the project will require a Resource Consent for the following minor non-compliances:

- Street Wall building exceeds maximum building height on street frontage.
- Active Frontages Not achieved along
 Sapper-Moore Jones Place due to truck dock.
- Verandah Cover Not provided in all instances
- Set back from the river bank The proposal does not comply with the Waikato rlverbank set back of 5m.

And a more complex non-compliance relating to the demolition,

removal and alteration of Category A Heritage items.

Next Steps:

Consent for this project.

Undertake pre application meeting with Hamilton City Council in April 2018. The team will also look to accelerate the lodgement of Resource

WAIKATO REGIONAL THEATRE CONCEPT DESIGN REPORT

MARCH 2018

END OF REPORT



