

# Appendix 3 – Theatre Brief



# CAIRNS PERFORMING ARTS CENTRE

## THEATRE BRIEF

(AT THE COMPLETION OF CPAC PROJECT  
FEASIBILITY STUDY FEBRUARY 2013)

Prepared for

Cairns Regional Council



20 February 2013

## TABLE OF CONTENTS

|  | <b>Page No.</b> |
|--|-----------------|
| <b>1.0 PROJECT OVERVIEW</b>  | <b>2</b>        |
| 1.1 Introduction   | 2               |
| 1.2 Consultation   | 2               |
| 1.3 Vision   | 3               |
| 1.4 Project scope  | 3               |
| <b>2.0 THE SITE</b>  | <b>4</b>        |
| 2.1 Location, boundary and site area                                     | 4               |
| 2.2 Constraints  | 4               |
| 2.3 Ingress and Egress points  | 4               |
| <b>3.0 ROOM SCHEDULE &amp; SPATIAL RELATIONSHIPS</b>                     | <b>4</b>        |
| <b>4.0 THEATRE</b>   | <b>4</b>        |
| 4.1 Overview   | 4               |
| 4.2 Auditorium   | 5               |
| 4.3 Theatre Stage  | 6               |
| 4.4 Orchestra pit and forestage  | 6               |
| 4.5 Orchestra shell  | 7               |
| 4.6 Seats and Sightlines   | 7               |
| 4.7 Technical systems  | 7               |
| <b>5.0 STUDIO</b>  | <b>8</b>        |
| 5.1 Overview   | 8               |
| 5.2 Studio   | 8               |
| 5.3 Studio Stage   | 9               |
| 5.4 Technical Systems  | 9               |
| <b>6.0 BACK OF HOUSE</b>   | <b>10</b>       |
| 6.1 Overview   | 10              |
| 6.2 Accommodation  | 10              |
| <b>7.0 FRONT OF HOUSE, FOYERS AND PUBLIC SPACES</b>                      | <b>11</b>       |
| 7.1 Overview   | 11              |
| 7.2 Accommodation  | 11              |
| <b>8.0 FACILITIES FOR ALL ABILITIES</b>                                  | <b>12</b>       |
| 8.1 Overview   | 12              |
| 8.2 Wheelchair access  | 12              |
| 8.3 Hearing augmentation systems   | 12              |
| 8.4 Vision impaired  | 12              |
| <b>9.0 BUILDING SERVICES</b>   | <b>12</b>       |
| 9.1 Mechanical service   | 12              |
| 9.2 Electrical services  | 13              |
| 9.3 Fire services  | 13              |
| APPENDIX A <b>CAIRNS PERFORMING ARTS CENTRE AREA SCHEDULE</b>            | <b>14</b>       |
| APPENDIX B <b>CAIRNS PERFORMING ARTS CENTRE THEATRE EQUIPMENT BUDGET</b> | <b>18</b>       |

## **1.0 PROJECT OVERVIEW**

### **1.1 Introduction**

Cairns Regional Council is considering developing the Cairns Performing Arts Centre on a site adjacent to the Cairns Convention Centre.

Cairns Performing Arts Centre has the opportunity to be a regional performing arts and educational centre of excellence capable of bringing together remote areas and communities of outback Australia and the Pacific.

The performing arts centre will be designed and managed to attract Australian and International touring productions, concerts and acts. It will also nurture local actors, dancers and musicians and support educational programs in performance, theatre craft and production.

The objective of the theatre design brief is to advance the development of the architectural brief and support the architectural design process towards submission of a Feasibility Study of development options to Council. The brief provides details of the infrastructure that will be required to allow the performing arts centre to be proactive in creating an artistic environment that will encourage excellence in the creative arts and provide an exciting and rich experience for audiences of all ages and backgrounds.

The brief concentrates on describing the requirements and special relationship of each space in broad terms, leaving detailed description of each room to follow as the brief and room data sheets are developed.

The brief should be read in conjunction with the acoustic design brief prepared by Acoustic Studio. The original brief for the project was written by Marshall Day (during CEP stage 1) and has been modified to meet the current project goals.

### **1.2 Consultation**

The Cairns Regional Council has undertaken extensive consultation with community and arts industry groups over the last 10 years.

Focus group sessions for the CEP project were held in Cairns in January 2011 with representatives of the performing arts industry, indigenous and multi-cultural groups and neighbouring ports operators and local business. The object of this consultation was to bring the project up to date and to test the scope and broad design of the performing arts centre.

Tele-conferences were also held with arts organisations in Queensland and other states in Australia. There was an urgency expressed during the January 2011 consultation process that the CEP should be built.

Consultation with the arts industry groups indicates that the capacity of the Main Auditorium should be at least 1,000 seats while 1,200 seats would allow for expected growth in audience numbers.

There was a desire expressed during the consultation process that the performing arts centre should be future proofed as far as possible by including the latest technical infrastructure.

Discussion with major performing arts companies identified potential areas of growth in audience numbers. Opera Queensland and Opera Australia productions currently tour biennially in regional Queensland but would consider additional tours if a suitable venue were available. There would be an opportunity for the Queensland Symphony Orchestra, the Australian Chamber Orchestra and other musical groups to expand their current touring programme in Cairns if a suitable classical music venue was available.

Following the change of Council in early 2012 the new Council commissioned a Feasibility Study to examine options to provide a Performing Arts Centre for Cairns as a stand-alone facility, at a more modest cost and on a new site.

Council wishes to explore options to determine what type of facility can be provided at a reasonable cost on a site adjacent to the Convention Centre, where construction may be more affordable than on the previously identified site next to the wharves.

The options developed during the feasibility study are also to determine whether other commercial construction such as a hotel, retail or offices might be possible on the site to offset construction costs of the Performing Arts Centre.

Recent consultation with key stakeholders was undertaken by Creative Economy and this consultation indicated the need for an 1100 seat proscenium theatre and a 500 seat studio theatre to fulfill current community needs. It was also reported that Cairns now has enough rehearsal space and that this part of the project can be removed from the brief.

The appointed consultant team will present several initial options to Council to choose a preferred option that will be further developed to confirm an order of cost for the proposed Performing Arts Centre.

### **1.3 Vision**

Cairns is one of the most culturally diverse cities in Australia and is the gateway to millions of tourists every year visiting Far North Queensland. The new performing arts centre will provide a unique cultural showcase for local, national and international creative talent from wide and varying backgrounds.

The performing arts centre needs to provide 21st century facilities for the western performing arts including orchestral symphony performances, chamber music, drama, dance and opera, popular music concerts and must also be appropriate and accessible to indigenous and multicultural groups. The prospect of combining these art forms and linking them to other Australian and international venues via new technology is exciting, and the design of the precinct must facilitate this.

The spaces in the performing arts centre must be designed holistically to address all performance and audience requirements and expectations, incorporating spaces that bring together performance, eating, viewing, gathering, multi-media and social networking.

In the 20th Century the advent of radio, recording, film, TV and finally the Internet changed how we experienced the performing arts. In the past decade, the advance in social media has moved society into a new realm of possibility with people posting on Facebook and Twitter and blogging about their experiences in real time.

### **1.4 Project scope**

This project scope has been developed around the user needs analysis undertaken by Council over an extended period of time, and has also drawn on the venues and spatial requirements identified during meetings held by focus groups in January 2011 and further refined by the appointed consultant team.

Following the change in focus by the new Council from the earlier Cairns Entertainment Precinct planning, Council is now undertaking a feasibility study to determine what style of stand-alone performing arts centre may be required and what the likely costs of such a project might be to construct a facility on a new site.

The brief has taken into account the likely growth in local performing arts activity that will occur when the new performing arts centre opens in addition to predicted number, size and nature of touring productions that will be attracted to the new facilities.

The completed business plan for the Cairns Performing Arts Centre is based on a performing arts facility with one main performance space with seating capacity of approximately 1,100 and a smaller performance space seating a minimum of 500, and all necessary front and back of house and assembly facilities appropriate for such venues.

## **2.0 THE SITE**

### **2.1 Location, boundary and site area**

The Cairns Performing Arts Centre occupies a site that is bounded by Hartley, Grafton, Wharf, and Lake Streets and is adjacent to the Convention Centre.

The site has an area of around 1ha. (Cox to confirm area)

### **2.2 Constraints**

The site is subject to tidal surges that would indicate that consideration should be given to elevating the buildings to form a podium above flood levels. Consideration will therefore have to be given to the movement of audiences up to the podium and the loading and unloading of scenery and equipment for productions to the stages without the use of freight lifts.

One of the first important design issues that will need to be established in any option is the stage and loading dock levels in relationship to grade and access.

### **2.3 Ingress and Egress points**

It is envisaged that loading ingress and egress to the performing art centre loading dock is accessed via Hartley or Grafton Streets.

Traffic management systems will be explored and developed by the design team in consultation with the Convention Centre, Ports North and other stakeholders.

Sufficient maneuvering and standing room will be provided for large trucks to load and unload at the same level as the stage with all required planning traffic management matters taken into account.

Provision is required for set down, drop off and pick up of patrons to the Performing Arts Centre. Parking for several buses is also required.

## **3.0 ROOM SCHEDULE**

Appendix A provides an indicative room schedule with net floor areas and indicative ceiling heights. This schedule is exclusive of circulation and grossing factors.

The design team will prepare detailed Room Data Sheets as the design progresses.

## **4.0 THEATRE**

### **4.1 Overview**

The Theatre will be a flexible format multifunctional auditorium with a seating capacity with the orchestra pit seating of not less than 1,100 seats.

The Theatre is a replacement for the 670 seat Civic Theatre and will support the same offer as the Civic. In addition it will also host orchestral concerts, chamber music and recitals.

The main uses have been identified as:

- Drama & theatre
- Dance
- Ballet
- Opera
- Symphony & chamber music
- Musical theatre
- Physical theatre
- Jazz, rock and popular music
- School events and graduation ceremonies
- Community Events
- Civic functions and public lectures.

The form of the room should maximise intimacy and provide a close visual and acoustical relationship between audience and performer. Side ledges or galleries will help to achieve this.

It is important to minimise the proscenium width in this multi-purpose auditorium to create an intimate and well-focused room. Most users, including Opera/Dance/Broadway, will require a proscenium width of between 12 to 14m; however, full size symphony performance needs a width of 18-20m.

To avoid a large difference in proscenium widths for performance types a successful approach is to bring the orchestra partly into the room over the forestage and raised orchestra pit lift. This has the dual advantage of reducing the maximum proscenium width to about 14m, which improves the room form for its primary theatrical use as well as placing the orchestra visually and acoustically in a desirable concert hall relationship with the audience.

#### **4.2 Auditorium**

The auditorium should be designed in accordance with the following broad specification:

- It is envisaged that the auditorium will be rectangular with a width of 26m and a length to be 28m nominal.
- The auditorium will have one balcony with a maximum overhang of 5 rows and a height from the very back row of the Balcony no higher than the top of the centre of the architectural proscenium opening and three side galleries or boxes to wrap the audience around the performance and to give a sense of connection between the Balcony and stage.
- There may be a need to vary the acoustics of the auditorium by deployable absorption. Variable volume is not considered appropriate.
- The distance from the front of the stage to the rear of the auditorium should be no greater than 28m.
- There should be forestage rigging positions, at least three lighting bridges and additional follow spot position at the rear of the auditorium.
- Additional box booms, balcony front and side stage lighting positions should be provided.
- Audio, lighting and projection control rooms should be provided at the rear of the auditorium. A Sound Control Porch should be provided inside the auditorium in the rear of the stalls, with the option for locating a temporary sound mixing desk at the cross aisle.

- Crying Rooms should be provided at the rear of the auditorium.
- Access for all abilities should be provided to each level of the auditorium with appropriate access to lifts and amenities. It is considered essential to have a direct connection between the stage and auditorium for equity of access.
- Forestage entrances are required from backstage.
- Sound and light locks are required at all entrance points to the auditorium.

### 4.3 Theatre Stage

The stage should be designed in accordance with the following broad specification:

- Proscenium opening should be variable from 12m to 14m wide and 7m to 8m high. Acting area 12-14m wide by 12m deep, trappable.
- The stage wings should be at least 8m wide on each side in addition to the Acting Area.
- One sidewall of the Stage and Fly Tower will be used for the Counterweight Fly System and must be a sheer wall clear of all obstructions.
- Access from rear of the stage to the scenery storage and loading dock is required to be via an acoustic door 4m wide and 8.5m high.
- The fly tower height should be a minimum of 23m to the underside of the grid.
- The fly tower will have a full grid, two fly galleries, loading gallery and steel support beams for the fly system.
- The entire Masonite-on-timber floor of the Stage will have resilience for dance and be painted flat black.
- Backstage crossover space 3m wide is required, separate from the stage.
- Sound lock entrances are required at each corner of the Stage connecting to backstage circulation.
- Rear Projection port in the rear wall of the stage.
- Stage Basement or Trap room under the stage.

### 4.4 Orchestra Pit and Forestage

- An orchestra pit lift is required.
- The orchestra pit lift should be 16-18m wide with a curved front of 3.5m nominal at centre, with a system of seat wagons and seat wagon storage under the stalls area.
- Three Seating Wagons should provide two full rows plus a half row in the centre section giving a total number of additional seats of around 65, with a continuous transition from the main stalls seating.
- The maximum orchestra pit size should be 18m wide, 4.5m deep at centre line and a working depth of 2.5m below the stage.
- The raised orchestra lift can be used as an apron extension for small orchestral concerts, chamber music, recitals, popular music concerts, conferences, lectures, seminars and events in front of the proscenium and/or main curtain, without impacting on a production set up on the stage.
- The orchestra pit undercut should extend no more than 1.5m under the front edge of the stage.

- The orchestra pit should be capable of accommodating an orchestra of 40.
- Sound Lock entries are required at each side of the orchestra pit.
- Access is required for musical instrument and equipment movement from the stage basement at the rear of the orchestra pit.
- Wheelchair access is required to the orchestra pit from backstage.
- Structural steel work for forestage overhead rigging should be provided.

#### **4.5 Orchestra shell**

- The orchestra shell has been removed from the project in lieu of an electro-acoustic reverberation system.

#### **4.6 Seats and Sightlines**

- To achieve optimum sightline and avoiding excessively steep rakes or excessively high and steep balconies the auditorium should be designed, in section, to “second row vision” and all seating staggered.
- Seat widths should average 550mm with front to back row spacing a minimum of 970mm. Provision should be made for distributed universal access and variable width seating to meet or exceed all applicable codes.
- At least 60-70% of seating should be at stalls level.
- The seating will be arranged in five zones:
  - Orchestra Pit
  - Front Stalls
  - Rear Stalls
  - Balcony
  - Side Galleries

#### **4.7 Technical systems**

- A suite of control rooms including audio/visual, lighting and observation should be provided at the rear of stalls level.
- The Sound Mixing position should protrude into the room at the rear with provision for a temporary sound mix position, through removal of seats, at the cross aisle.
- At the rear of the Stalls is a projection suite.
- A follow spot room with space for 3 spots is required above the Balcony with catwalk access.
- Three lighting bridges should be provided as well as side lighting galleries and box boom positions to both sides of the proscenium, all with discrete technical access.
- The stage should be equipped with a single purchase Counterweight Fly system with approximately 66 lines at 200mm centres each with a WLL of at least 500kg.
- The flying system shall have line sets with heavier load capacity or motorised winch lines for stage lighting bars, main curtain and panorama bars.
- There will be rigged speaker clusters at the proscenium wall as well as distributed speakers throughout the house.

- A full surround sound speaker system shall be provided and the speakers should be integrated into the architecture of the auditorium interior.
- A system of stage lighting bars and lighting ladders will be required on line sets over the stage.
- Provision for rigging touring lighting, sound and audio/visual systems is required.
- A Dimmer Room and Communications Room are required.
- Infrastructure wiring and outlet panels for all theatre technical systems shall be provided with dedicated audio power supply and temporary power connection points.
- All requisite stage lighting, sound system, audio-visual, stage management, paging and other technical equipment should be provided.

## **5.0 STUDIO**

### **5.1 Overview**

The Studio is planned as a flexible theatre space that can be used for smaller touring productions, local and community groups and as a corporate function, rehearsal and holding space for dance schools, Community and school groups.

The Studio will be a dedicated 500 seat flexible flat floor theatre space with formal access from the main foyers and back of house access to shared dressing room and back of house facilities.

### **5.2 Studio**

The Studio Theatre should be designed in accordance with the following broad specification:

- It is envisaged that the Studio will be rectangular flat floor flexible studio space with a nominal width of 20m and a nominal length to be 26-28m with a height of around 11m to the ceiling and 8m to the underside of catwalks.
- The Studio will have a retractable seating system across one end of the space providing seating for up to 400 persons facing an end stage on the flat floor.
- A seating lift shall be provided to allow an additional 50 seats to be located on 2 tiers below the floor level.
- The seating will include a gallery large enough for 50 seats nominal.
- The Studio will be a flexible performance space with a range of seating options created by deploying temporary seating banks or loose chairs.
- The Studio will have one balcony on four sides that can be used for seating and technical access.
- The Studio will have a system of catwalks around its perimeter with lateral catwalks at 3m intervals nominal. The catwalks will provide safe access for rigging lighting sound and audio/visual equipment.
- The Studio will have a system of rigging beams at around 2.5m centres running the full length of the space from which the theatre rigging system can be attached.
- A system of winch line sets will facilitate the rigging and suspension of flown scenic elements for productions although there is no fly tower.
- Audio, lighting and projection control areas should be provided at the rear of the seating on the balcony and on the flat floor.

- Sound Lock entries will be required at each corner of the Studio floor, two with foyer access and two with back of house access.
- Sound Lock entries will be required at each corner of the Studio balcony, two with foyer access and two with back of house access.
- Access for all abilities should be provided to each level of the Studio with appropriate access to lifts and amenities. It is considered essential to have a direct connection between the stage and auditorium for equity of access.

### 5.3 Studio Stage

The stage area of The Studio should be designed in accordance with the following broad specification:

- The Stage acting area can be located anywhere in the Studio depending on the seating configuration used although the primary seating mode for 500 seats will set the location of the stage opposite the retractable seating bank in a traditional end stage mode, with or without a soft curtain proscenium.
- A soft curtain Proscenium opening should be variable from 10m to 14m wide and 6m to 8m high with a soft curtain false proscenium arrangement and traveller main curtain.
- Acting area 10-14m wide by 8-10m deep will be provided with side wing space.
- The stage can be masked with a system of leg and border curtains rigged on tracks and winch line sets to create traditional stage masking with mid and rear traveller curtains and white cyclorama.
- Perimeter curtain tracks will allow the Studio to be used in an open mode for rehearsals, open stage productions and functions.
- Winch line sets over the stage will allow scenic elements to be rigged and suspended over the stage although there is no fly tower.
- Access from the rear of the stage to the scenery storage and loading dock is required to be via an acoustic door 4m wide and 6m high.
- The entire Masonite on timber floor of the Studio will have resilience for dance and be painted flat black.
- Backstage crossover space 3m wide is required, separate from the studio.
- Sound lock entrances are required at each corner of the studio connecting to backstage circulation.

### 5.4 Technical systems

- A control room at the rear of the balcony may be provided with discrete access to the catwalks over the Studio.
- Areas for temporary sound, audio/visual and lighting control desks should be provided at the rear of stalls level and at the rear of the balcony.
- A follow spot platform would be located at ceiling level as part of the catwalk system.
- Catwalks will have infrastructure for lighting, sound, audio/visual and communications.
- There will be rigged speaker clusters at the proscenium wall as well as distributed speakers throughout the Studio.

- Projection facilities will be provided for data projection to a large format motorised projection screen.
- All requisite stage lighting, sound system, audio-visual and other technical equipment should be provided.

## **6.0 BACK OF HOUSE**

### **6.1 Overview**

Back of house accommodation is required to support management, technical crew, front of house staff, performers and musicians with their work.

The back of house is a working performing arts factory and needs to be planned and designed taking into account all necessary material handling, OH&S, and circulation requirements so that the process of loading and unloading of scenery and production equipment, assembly and erection of sets and the running of productions is undertaken in an efficient and safe manner.

There is a need to provide facilities to cater for holding large numbers of performers, especially children, close to the stage for Community performances, dance schools and school performances.

Back of House accommodation shall be shared between the Theatre and Studio with centralized performer facilities.

### **6.2 Accommodation**

The back of house accommodation will include:

- Stage door and security entry point.
- Administration offices, meeting room and support facilities for up to 20 persons.
- Production and technical offices for up to 10 persons.
- Back of house, Front of House and building staff rooms and amenities for 30 persons.
- Theatre Dressing rooms (2) for principals and soloists with en-suites for 4 persons.
- Theatre Dressing rooms (3) for ensemble with en-suites for 15 persons.
- Theatre Dressing rooms (2) for male and female chorus, with amenities for 40 persons.
- Studio Dressing Rooms (2) for ensemble with en-suites for 10 persons.
- Studio Dressing rooms (2) for male and female chorus, with amenities for 20 persons.
- Dressing room (1) for use of body paint with amenities for 5 persons, with exterior balcony.
- Green Room with kitchenette for 100 persons with exterior balcony.
- A wardrobe and laundry with good ventilation and fume extraction.
- Back of House Goods Lift with DDA access.
- Loading dock at the same level as the stage of the Theatre and Studio sized to take two semi-trailers and small vehicles parked on a level area with all weather cover over the loading area.
- A separate food & beverage dock including garbage facilities.
- Scenery Dock and scenery storage spaces.
- Maintenance workshop.
- Storage for Staging, Sound, Lighting and Audio/visual equipment.

- Storage for risers, chairs, tables, etc.
- Piano and instrument store with individual climate control.
- Technical Stairs at each side of the proscenium providing vertical access to all levels between the basement and grid in both the stage and auditorium separate from fire escape stairs.
- Circulation areas.
- Access for rigging equipment.
- Cleaners and chemical storage cupboards with sinks.

## **7.0 FRONT OF HOUSE, FOYERS AND PUBLIC SPACES**

### **7.1 Overview**

The Foyer is a large important public space shared between all performance spaces. This will be one of the main areas of architectural planning and should ideally be an attractive space for the community during the day. Its main function is to provide a socializing space before, pre-performance, at intermission and during the day. It is a potential revenue source and will have bars at each seating level, together with a small gift bookshop, box office and catering services for community and functions.

The foyers will be welcoming and designed to embrace and enliven the performance experience. They will provide exhibition and gallery spaces and be capable of accommodating live performances and multimedia presentations.

Foyers should be of sufficient volume to provide a sense of occasion and have sufficient sound absorption in the ceiling plane to reduce noise build-up during high levels of occupancy.

All external entrances to foyers and public spaces must be provided with protection from torrential rain and strong winds.

Ideally the box office management's offices should be located close to the front of house.

### **7.2 Accommodation**

Front of house accommodation will include:

- Front-of-Theatre marquee and entrance areas.
- Car parking for patrons and staff.
- Covered drop off zones.
- Foyer.
- Audience Services (Box Office) with secure office area.
- Cloak Room to hold coats, umbrellas, school bags.
- Toilets with close proximity to auditorium and bar on each level.
- Management offices.
- Support area, break out rooms, VIP spaces.
- Bars and catering area with refrigeration and dry/cool stores for a stand-alone operation.
- Function spaces.
- Provision for other activities such as foyer entertainment and exhibitions.

- Rubbish rooms, recycling and bin store.
- Cleaner cupboards and storage area.
- Storage.

## **8.0 ACCESS FOR ALL ABILITIES**

### **8.1 Overview**

The Cairns Performing Arts Centre will be capable of being accessed and enjoyed by people of all abilities.

### **8.2 Wheelchair access**

Wheelchair users and people with walking disabilities should be able to access all public areas of the performing arts centre and enjoy easy access to all services.

Wheelchair access is required to all auditorium seating areas, stages, back of house and control rooms.

### **8.3 Hearing augmentation systems**

The Disability Discrimination Act requires provision of hearing augmentation system to allow equal access to all abilities. Australian Standard AS 1428.5 provides guidelines for the scope of these systems in theatre buildings. Hearing loops will be required in various locations, including, foyer, ticket office, and in the Theatre and Studio.

### **8.4 Vision impaired**

To aid the vision impaired the building will be designed with good colour contrast in choice of materials particularly relating to floors, steps ramps and signage.

Clear signage of sufficient size incorporating Braille must be provided in all areas.

The capability to provide audio description of all performances should be available.

## **9.0 BUILDING SERVICES**

### **9.1 Mechanical service**

The performing arts venues and associated spaces will need to be fully air-conditioned and provide a suitable level of comfort for audience, artists and production staff.

The Theatre will have a displacement air-conditioning system with air being supplied via diffusers under the seats and to below seats or in the floor.

All performing arts spaces, side stages, orchestra pit and instrument storage will require humidity control to protect musical instruments.

Stage supply and exhaust systems will require to be separately isolated to allow the use of stage smoke and haze effects.

Individual temperature adjustment will be provided in all dressing rooms.

Energy efficiency will be important in the design of all mechanical systems to reduce running costs through the deployment of individual systems for each discrete area.

## **9.2 Electrical services**

Stage and technical positions within the performance spaces will require significant power supplies for lighting and stage equipment. The remaining building will have moderate power requirements.

Stage lighting and power systems will be designed to have sufficient capacity to meet the demands of major theatrical productions.

A separate stable “clean” power supply or “green power” will be provided for sensitive sound and audio/visual systems. This will consist of dedicated switchboards and sub-circuit wired to strategic technical positions.

## **9.3 Fire services**

The fire services systems in the Cairns Performing Arts Centre will be part of a complete fire engineering solution.

Fire systems within the performance spaces will consist of automatic detection systems. Where there is a proscenium there will be a fire curtain and drencher system or fully sprinkled stage or back-stage areas, with a preference for a non-fire curtain solution.

A safe system of isolating the fire/smoke detector systems on stage will be developed to enable smoke and fire detectors to be isolated from the fire brigade in circumstances where stage smoke, haze or pyrotechnics are being used.

**APPENDIX A**

**CAIRNS PERFORMING ARTS CENTRE**

**AREA SCHEDULE**

| No.                 | Room Description  | Room Area    | Room Height | Room Volume Levels |
|---------------------|---|--------------|-------------|--------------------|
| <b>1.00</b>         | <b>THEATRE</b>  |              |             |                    |
| 1.01                | Auditorium Shell 30m x 26m = 780 sqm  |              | 15m         | 3                  |
|                     | Seating area Stalls 700 seats (includes aisles)   | 600          | 15m         | 3                  |
|                     | Balcony with side galleries 300 seats (includes aisles)   | 300          | 11m         | 2                  |
| 1.02                | Sound Locks to Stalls level (4 No)  | 20           | 2.8m        | 1                  |
| 1.03                | Sound Locks to Balcony level (4 No)   | 20           | 2.8m        | 1                  |
| 1.04                | Stage Area 30m wide by 13m deep Proscenium 14m wide 7m high   | 390          | 23m         | 5                  |
| 1.05                | Stage apron 1.5m minimum deep stage apron   | 30           | 15m         | 3                  |
| 1.06                | Orchestra Pit to accommodate up to 40 players   | 90           | 2.2m        | 4                  |
| 1.07                | Orchestra pit lift pit  | 52           | 1.5m        | 5                  |
| 1.08                | Seating wagon store   | 60           | 1.8m        | 1                  |
| 1.09                | Assembly area Access to stage and stage apron   | 8            | 3m          |                    |
| 1.10                | Pit Assembly area Access to pit from understage PS & OP   | 20           | 3m          |                    |
| 1.12                | Rear crossover 3m wide  | 90           | 4/8.5m      |                    |
| 1.13                | Lighting & Box Booms Two on OP & PS side. 3 platform levels with connecting stair. Connect to light bridges and fly galleries | 50           | 3m          | 3                  |
| 1.14                | Lighting Bridges 3 no. at 1m wide and 20m long. Plywood on steel frame.   | 54           | 3-5m        |                    |
| 1.15                | Perimeter access to Lighting Bridges PS & OP  | 140          | 3-5m        | 1                  |
| 1.16                | Speaker Bridge across proscenium 2m wide  | 40           | 4m          | 1                  |
| 1.17                | Grid Open grid floor constructed from steel channels with hoist trap  | 375          | 3m          | 1                  |
| 1.18                | Loading Gallery at OP side 2m wide  | 26           | 4m          | 1                  |
| 1.19                | Fly Gallery - 2 OP and 2 PS 2.5m wide with two rear crossover 1m wide   | 180          | 9/12m       | 1 + 1              |
| 1.20                | Trap room under stage 13m x 20m   | 260          | 4m          | 1                  |
| 1.22                | Dimmer Room   | 12           | 3m          | 1                  |
| 1.23                | Comms Room  | 8            | 3m          | 1                  |
| 1.24                | Scenery, Props and Touring Road Case Store at rear of Stage   | 80           | 8m          | 2                  |
| 1.25                | DDA Lift or Ramp in Trap Room from Trap Room RL to Orchestra Pit RL   | 10           | 4m          | 1                  |
| <b>Sub Total m2</b> |   | <b>2,915</b> |             |                    |

## 2.00 STUDIO

|                     |   |              |      |   |
|---------------------|---|--------------|------|---|
| 2.01                | Studio - 20m wide by 28m long by 10m high                           | 560          | 10m  | 3 |
|                     | Retractable Seating storage at end of Studio 16m w x 1.5m d = 27sqm |              | 4m   | 1 |
| 2.02                | Balcony to audience side 3m wide with seats                         | 60           | 4m   | 1 |
| 2.03                | Balcony to 2 sides and stage end 1.5m wide                          | 105          | 4m   | 1 |
| 2.04                | Catwalks to Perimeter 1m wide                                       | 92           | 8m   | 1 |
| 2.05                | Catwalks across Studio (5 No) 1m wide                               | 90           | 8m   | 1 |
| 2.06                | Sound Locks to Floor level (4 No)                                   | 16           | 2.8m | 1 |
| 2.07                | Sound Locks to Balcony level (4 No)                                 | 16           | 2.8m | 1 |
| 2.08                | Dimmer Room   | 10           | 3m   | 1 |
| 2.09                | Comms Room  | 8            | 3m   | 1 |
| 2.10                | Scenery Dock at rear of Studio                                      | 80           | 4m   | 2 |
| 2.11                | Crossover to Stage area on 2 levels                                 | 60           | 3m   | 1 |
| <b>Sub Total m2</b> |   | <b>1,097</b> |      |   |

## 3.00 BACK OF HOUSE (TECHNICAL)

|                     |  |            |      |       |
|---------------------|--|------------|------|-------|
| 3.01                | Loading dock/deliveries Located as extension of back of stage. Sized to fit two semi-trailers and rubbish container. Awning to provide covered loading area. Access to adjacent workshop | 100        | 8m   | 2     |
| 3.02                | Holding area/temporary store - secure  | 50         | 8m   | 2     |
| 3.03                | Rostra and chair store. Easy access to stage   | 30         | 3m   | 1     |
| 3.04                | Piano store. Easy access to stage  | 18         | 3m   | 1     |
| 3.05                | Instrument store. Easy access to orchestra pit   | 15         | 3m   | 1     |
| 3.06                | Scenery Workshop   | 40         | 6m   | 2     |
| 3.07                | Lighting store and workshop  | 40         | 3m   | 1     |
| 3.08                | Sound, Video, Electronics workshop   | 30         | 3m   | 1     |
| 3.09                | Rack rooms (Building Comms)  | 40         | 3m   | 1     |
| 3.10                | Production office for visiting Production/Stage Managers   | 12         | 2.8m | 1     |
| 3.11                | Technician Offices for 5 staff and meeting room  | 25         | 2.8m | 1     |
| 3.12                | Technical Staff Change Room, Amenities, Showers  | 40         | 2.8m | 1     |
| 3.13                | Wardrobe/Costume Repair Workbench and Ironing area   | 25         | 2.8m | 1     |
| 3.14                | Laundry with 2 Washing Machines & 2 Dryers plus ventilation  | 10         | 2.8m | 1     |
| 3.15                | Rubbish Store Close to Loading Dock  | 10         | 4m   | 1     |
| 3.16                | Lift for Goods/Passengers/DDA BOH 3 x 5m car   | 20         |      | 4 to5 |
| <b>Sub Total m2</b> |  | <b>505</b> |      |       |

#### 4.00 BACK OF HOUSE (PERFORMERS)

|      |  |     |      |   |
|------|--|-----|------|---|
| 4.01 | Theatre: Star Dressing rooms, Two star dressing rooms each to accommodate two people with en-suite bathroom. Close to stage. 2 at 20m2 | 40  | 2.8m | 1 |
| 4.02 | Theatre: 5 Person Dressing rooms with en-suite bathroom 3 at 20m2  | 60  | 2.8m | 1 |
| 4.03 | Theatre: 20 Person Dressing rooms Two 20 Person Change Rooms at 70m2 each includes adjacent bathroom area                              | 140 | 2.8m | 1 |
| 4.03 | Studio: 5 person Dressing rooms with en-suite bathroom 2 at 20m2   | 40  | 2.8m | 1 |
| 4.03 | Studio: 15 person Dressing rooms with en-suite bathroom 2 at 50m2  | 100 | 2.8m | 1 |
| 4.04 | Shared: Assembly Room (Musicians/Choirs/Children) for 100 people   | 100 | 2.8m | 1 |
| 4.05 | Shared: Wet & dry Dressing room - wet and dry change room for body painting  | 20  | 2.8m | 1 |
| 4.06 | Wig and makeup room  | 10  | 2.8m | 1 |
| 4.07 | Toilets BOH common areas M, F and DDA  | 50  | 2.8m | 1 |
| 4.08 | First aid room   | 15  | 2.8m | 1 |
| 4.09 | Green Room To accommodate 100 people. Include small kitchen area. External terrace area preferred.                                     | 120 | 4m   | 1 |
| 4.09 | Stage Door Reception with waiting lobby  | 20  | 2.8m | 1 |
|      | Stage Door/Security/Building Services Office. Adjacent to theatre loading dock area  | 12  | 2.8m | 1 |

---

|                     |            |
|---------------------|------------|
| <b>Sub Total m2</b> | <b>727</b> |
|---------------------|------------|

---

#### 5.00 FRONT OF HOUSE (TECHNICAL SPACES)

|      |   |    |      |   |
|------|---|----|------|---|
| 5.01 | Sound control porch at rear of auditorium                         | 15 | 2.8m | 1 |
| 5.02 | Lighting control room at rear of auditorium                       | 15 | 2.8m | 1 |
| 5.03 | Audio/Visual control room at rear of auditorium                   | 15 | 2.8m | 1 |
| 5.04 | Crying Room/Directors/Interpreters room at rear of Auditorium     | 15 | 2.8m | 1 |
| 5.05 | Projection Suite at rear of auditorium Soundproof room            | 15 | 2.8m | 1 |
| 5.06 | Translation/Viewing room at rear of auditorium                    | 15 | 2.8m | 1 |
| 5.07 | Follow spot room at catwalk level at rear of auditorium in centre | 18 | 2.8m | 1 |

---

|                     |            |
|---------------------|------------|
| <b>Sub Total m2</b> | <b>108</b> |
|---------------------|------------|

---

**6.00 FRONT OF HOUSE (INCLUDING ADMIN)**

|      |  |     |      |        |
|------|--|-----|------|--------|
| 6.01 | Theatre Foyer Stalls   | 800 | 5-6m | 2      |
| 6.02 | Theatre Foyer Balcony  | 200 | 3m   | 1      |
| 6.03 | Studio Foyer Stalls  | 400 | 5-6m |        |
| 6.04 | Studio Foyer Balcony   | 100 | 3m   | 1      |
| 6.05 | Box Office Connect to general office. Possible external transaction                              | 20  | 2.8m | 1      |
| 6.06 | Box Office Manager   | 10  | 2.8m | 1      |
| 6.07 | Female toilets 44 WC distributed (studio and theatre)  | 105 | 2.8m | 1      |
| 6.08 | Male toilets 6 WC and 16 urinals distributed   | 60  | 2.8m | 1      |
| 6.09 | Disabled toilets 2 Unisex  | 16  | 2.8m | 1      |
| 6.10 | General Office To accommodate 15 staff plus area for records storage.                            | 115 | 2.8m | 1      |
| 6.11 | Manager's Office Adjacent to General Office. Direct access to Foyer. Include sink and bar fridge | 19  | 2.8m | 1      |
| 6.12 | Friends of theatre office  | 16  | 2.8m | 1      |
| 6.13 | Office Store and Tea Area  | 21  | 2.8m | 1      |
| 6.14 | Cloakroom Close to entrance  | 10  | 2.8m | 1      |
| 6.15 | Store for bollards, display boards, etc  | 10  | 2.8m | 1      |
| 6.16 | Artwork store Climate Controlled. Could be located near Loading Dock                             | 25  | 3.5m | 1      |
| 6.17 | Sick room. Room for bed and basin  | 18  | 2.8m | 1      |
| 6.18 | Bars Single long counter that includes box office, bars, coat check.                             | 50  | 5-6m | 2      |
| 6.19 | Bar Store Includes Cold Room   | 20  | 3m   | 1      |
| 6.20 | Lift for Passengers/DDA FOH 3x 2m car  | 12  |      | 3 to 4 |

---

|                     |              |
|---------------------|--------------|
| <b>Sub Total m2</b> | <b>2,027</b> |
|---------------------|--------------|

---

**SUMMARY**

|      |                                   |       |
|------|-----------------------------------|-------|
| 1.00 | THEATRE                           | 2,915 |
| 2.00 | STUDIO                            | 1,097 |
| 3.00 | BACK OF HOUSE (TECHNICAL)         | 505   |
| 4.00 | BACK OF HOUSE (PERFORMERS)        | 727   |
| 5.00 | FRONT OF HOUSE (TECHNICAL SPACES) | 108   |
| 6.00 | FRONT OF HOUSE (INCLUDING ADMIN)  | 2,027 |

---

|                      |              |
|----------------------|--------------|
| <b>TOTAL AREA M2</b> | <b>7,379</b> |
|----------------------|--------------|

---

NOTE - Excludes Car Parking, Loading Dock Parking, Rubbish Collection, Truck Parking, Stage Door Setdown, External Stairs & Public Plaza

**APPENDIX B**

**CAIRNS PERFORMING ARTS CENTRE**

**THEATRE EQUIPMENT BUDGETS**

| Item                                    | Capital Cost       | Depreciation Rate (Years) | Depreciation Cost Per Year | Maintenance Cost per Year @ 2.5% |
|---|--------------------|---------------------------|----------------------------|----------------------------------|
| <b>Theatre</b>                          |                    |                           |                            |                                  |
| Rigging                                 | 685,000            | 20                        | 34,250                     | 17,125                           |
| Orchestra Lift                          | 270,000            | 20                        | 13,500                     | 6,750                            |
| Stage Curtains (FFE)                    | 134,000            | 20                        | 6,700                      | 3,350                            |
| Stage Lighting                          | 650,000            | 10                        | 65,000                     | 16,250                           |
| Stage Lighting Portable Equipment (FFE) | 520,000            | 15                        | 34,666                     | 13,000                           |
| AV Equipment                            | 187,000            | 10                        | 18,700                     | 4,675                            |
| AV Portable Equipment (FFE)             | 170,000            | 7                         | 24,285                     | 4,250                            |
| Sound Equipment                         | 865,000            | 10                        | 86,500                     | 21,625                           |
| Misc. FFE                               | 163,000            | 10                        | 16,300                     | 4,075                            |
| <b>Theatre Total</b>                    | <b>\$3,644,000</b> |                           | <b>\$299,901</b>           | <b>\$91,100</b>                  |
| <b>Studio Theatre</b>                   |                    |                           |                            |                                  |
| Rigging                                 | 50,000             | 20                        | 2,500                      | 1,250                            |
| Stage Curtains (FFE)                    | 61,000             | 20                        | 3,050                      | 1,525                            |
| Stage Lighting                          | 117,000            | 10                        | 11,700                     | 2,925                            |
| Stage Lighting Portable Equipment (FFE) | 89,000             | 15                        | 5,933                      | 2,225                            |
| AV Equipment                            | 15,000             | 7                         | 2,142                      | 375                              |
| Sound Equipment                         | 83,000             | 10                        | 8,300                      | 2,075                            |
| <b>Studio Theatre Total</b>             | <b>\$415,000</b>   |                           | <b>\$33,625</b>            | <b>\$10,375</b>                  |
| <b>GRAND TOTAL</b>                      | <b>\$4,059,000</b> |                           | <b>\$333,526</b>           | <b>\$101,475</b>                 |