



Upper Riccarton Community and School Library

Functional Design Brief and Budget Report

Prepared for
The Christchurch City Council
Project Control Group

by

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1. INTRODUCTION

Reports recommending the construction of a new combined Community & School Library at Riccarton High School were presented to the Community Board and Council in early 2002. The recommendations were supported by the Council, with a decision made to proceed in July 2002.

In October 2002 the project's pre-development phase was commenced, culminating in development of the concept design, functional design brief, and a budget report for presentation to a combined meeting of the Arts Culture and Heritage and Property and Major Projects Committees in April 2004.

On approval of this brief and associated budget the development phase will commence, leading to building construction and commissioning.

2. BACKGROUND

In February 2002 Christchurch City Libraries reported that "From the Christchurch City Libraries' perspective Riccarton High School is a highly desirable location. Apart from the financial benefits associated with the proposed partnership, there are significant social, economic and environmental benefits.

The key benefits of combined community library and school library on the Riccarton High School grounds are:

Community Benefit

The library would be located in the heart of the community, in close proximity to Church Corner, shopping facilities, primary and secondary schools, rest homes, tertiary institutions and rental housing. Christchurch City Libraries would work in collaboration with local primary, secondary and tertiary institutions to develop programmes for community learning.

Council Benefit

The land would be available at no cost to the Council and the school would contribute to the cost of the building and ongoing operational costs.

Library Benefit

The location and size of the site meet community library requirements, and Christchurch City Libraries will benefit from working in partnership with education providers to enhance community learning and information literacy programmes.

School Benefit

This project enables Riccarton High School to get a better and extended service for their students.

Environmental Benefit

One building would be built instead of two.

In February 2002 the Riccarton/Wigram Community Board agreed to support in principle the partnership with Riccarton High School to build a joint community/school library on the Riccarton High School land.

The Council supported the proposal in principle in March 2002, and in July 2002 adopted the recommendation that a community library should be built on Riccarton High School land,

with frontage onto the Main South Road, confirming that funding for the project would be spread between the 2004/05 and 2005/06 financial years, with December 2005 as the expected date of completion.

The library site is situated on the school playing fields fronting Main South Road, 1km west of Church Corner. This site affords an appropriate community profile with a high level of visibility to and from the Main South Road, maximises retention of established trees and plantings, provides good orientation to existing school buildings, does not impinge on the primary playing fields and is well located in relation to the sun.

It is expected that the total size of the building will be 1,500 square metres and will be both a community library and a school library. Whilst this is a co-located facility, the final design shall provide for as much integration as possible.

3. PROJECT PHASING

The project has been divided into two distinct phases; Pre-development and Development phases.

The Pre-development phase constitutes the following deliverables:

- Project Terms of Reference Document
- Functional Design Brief and Budget Report
- Project Delivery Methodology for future stages

This document is the Functional Design Brief and Budget Report for the project. It provides a brief for the Architectural and technical design requirements for the future Development Phase of the project and a budget estimate.

The Development phase constitutes these deliverables:

- Detailed design and documentation
- Resource Consent application
- Tender
- Tender evaluation and recommendation
- Construction
- Commissioning and Opening

4. AIMS AND OBJECTIVES

Aim:

To establish a combined community and school library at Riccarton High School by 2005.

Objectives:

1. The community library will be an important community focal point for a population of up to 30,000 residents from Avonhead, Ilam, Upper Riccarton, Riccarton West, Wharenui, Middleton, Sockburn and Wigram areas.
2. The school population of approximately 1,100 students and teachers will have good access to the facilities. The main catchment of the school extends from the area

bounded by Russley, Blenheim, Maidstone, Creyke, Riccarton Roads and Matipo Street.

3. The library will be sited not only to allow for integration with other school activities but so that it will be recognised as a community facility, which can be easily accessed by the community as a whole.
4. The design of the building, and the resources provided, will take into account the wide range of groups using the facility.
5. Careful attention will be given to the use of the different library spaces, and the relationship between the users and these spaces.
6. The new community library will complement, and not replace, the school libraries of neighbouring schools.
7. The community will be able to access many of the school's library facilities out of school hours.
8. The building will be "healthy", safe and "friendly" for all users.
9. The project will be completed within the Council approved budget and completed within the approved programme.
10. The facility will be designed to give a good balance between capital costs and operational costs.
11. The building structure should have a life span of at least 49 years.
12. The building will include a fire sprinkler system.
13. There will be drive-by / bike-by facilities.
14. There will be small café for community use.
15. Self issue (and return) will be encouraged.
16. The building will be designed to ensure flexibility for future users and adaptability to technology changes.
17. Both parties will use the same automated library system.
18. The library will comply with Ministry of Education requirements.

5. SITE DESCRIPTION

The Riccarton High School site, approximately 1km West of Church Corner, owned by the Ministry of Education, has individually surveyed areas of land adjoining Main South Rd. To date these land areas are not held as individual titles. Title details are Part Lot 1 DP 13925.

5.1 Summary of Provisions of the City Plan applying to site

5.1.1 General

The site is zoned Cultural 3 (Schools).

Any activity in a Cultural 3(schools) zone not defined as education activities shall be subject to the rules of the zone stipulated in Column B of clause 3.6.1 and 3.6.2. An education activity is defined as “the use of land and / or buildings for the provision of regular instruction or training in accordance with a systematic curriculum by suitably qualified instructors”. The proposal includes both a public library and educational facilities. It is therefore assumed that the building does not fall within the terms of the definition of an educational activity. The proposal will therefore be subject to the rules of Living Zone 2.

Under the City Plan a resource consent application will be required for the proposal.

A PIM application has not yet been made for the project. The details listed below will require to be confirmed by means of a PIM application.

5.1.2 Designated land

The site is designated land defined or approved under Section 166 of the Act. It is designated for use as a Minister of education Secondary school. Where any work is to be undertaken on designated land in the City Plan the provisions of Section 176A of the act apply (outline plans). These allow the council to request any changes to all or parts of the proposed outline plans relating to the height, shape and bulk of a work, its location on a site, the likely finished contour of the site, vehicular access, circulation, provision for car parking, landscaping and any other matters to avoid, remedy, or mitigate any adverse affects on the environment.

Outline plans and elevations describing proposal will have to be submitted to the Local Authority.

5.1.3 Protected trees

There are no protected trees or groups of protected trees noted on the site.

5.1.4 Protected object place or building

There are no protected objects, places or buildings on the site.

5.1.5 Site Density

Open Space (Development Standard) – residential and other activities; the maximum percentage of the net area of any site covered by buildings shall be 40% less 18m² except that where the height of all buildings on the site does not exceed 5.5m and is of a single storey the maximum shall be 45%.

Open space (Critical Standard) – the maximum percentage of the net area of any site covered by buildings shall be 45% less 18m².

5.1.6 Building Setback

Street Scene – residential and other activities;

- (a) The minimum building setback from road boundaries shall be 4.5m.
- (b) Parking and outdoor storage areas shall be screened from adjoining roads by landscaping, walls, fences, or a combination. The minimum height of screening shall be 1.2m. Where the screening is by way of landscaping the screening must be 1.2m at the time of planting and not less than 1.5m in depth along the road frontage.

Separation from neighbours – residential and other activities;

The minimum building setback from internal boundaries shall be 1.8m except that;

- (a) Accessory buildings may be located within the 1.8m where the total length of walls does not exceed 9m.
- (b) Where an internal boundary of a site adjoins an access, the minimum building setback (except accessory buildings) shall be 1m.

5.1.7 Building Height

Building Height – residential and other activities;

The maximum height of any building shall be 8m under the Development standards and 9m under the Critical standards. Both to be within the designated recession planes.

5.1.8 Continuous Building Length

No length of any ridgeline, parapet of a building within 10m from an internal boundary or 6 m from a road boundary shall exceed 20m without providing either a horizontal step of at least 2 m or a vertical step of at least 1m.

The number of steps required in buildings which do not meet these requirements are to be as designated in clause 2.2.8.

This shall not apply to any exterior wall of less than 5.5m in height and 28m in length.

5.1.9 Building Size (community standard)

The maximum gross floor area of any single building shall be 550m².

Where buildings located on a the same site each have a gross floor area of more than 100m² they shall be separated by at least 3.6m.

5.1.10 Traffic Generation

The maximum number of vehicle trips per site shall be 2 Heavy vehicle per site and 50 other vehicles per day.

5.1.11 Facility Access

The vehicle entry to the site shall be from Main South Road. Under the City plan Main South Rd is designated as a minor arterial road.

Parking area and access design - minimum requirements for private ways and vehicular access;

Minimum legal width of vehicle access to be 6m (reducible to a minimum of 3m for one way access where no more than 30 vehicle movements occur in any hour). Minimum formed width to be 4.5m.

Minimum legal width of cycle and access ways to be 4m with a minimum formed width of 2m.

The vehicle crossing width shall be no less than 4m and no greater than 6m.. The minimum spacing between successive access on a road of 100Km/h speed limit shall be 200m.

The maximum number vehicle crossings allowed along the school boundary with Main South Road is 2 assuming the frontage is greater than 100m.

The minimum distance between a vehicle access point on a minor arterial road and the nearest intersection (a major arterial road) shall be 45m.

5.1.12 On-site manoeuvring

- (a) On site manoeuvring shall be provided to ensure that no vehicle is required to reverse either onto or off the site.
- (b) Parking spaces shall be located so as to ensure that no vehicle is required to carry out any reverse manoeuvring from any vehicle access to any required parking spaces.

- (c) Vehicles shall not be required to undertake more than one reverse manoeuvre when manoeuvring out of any required parking or loading space.

The surface of all parking areas shall be formed sealed and drained.

5.1.13 Queuing spaces

Shall be provided on site for all vehicles entering or exiting a parking or loading area. Queuing space length shall be measured from the road boundary to the nearest vehicle control point or point where conflict with vehicles already on the site may arise. For 21 – 50 car parking spaces the minimum queuing space length is 10.5m. For access to 50 - 100 car parking spaces the minimum queuing space is 15.5m.

5.1.14 Distances of vehicle crossings from intersections

Vehicle crossings to be located no closer to intersection than 25m (intersection type frontage road minor arterial to local and service road).

5.1.15 Access for high traffic generators

Any activity on a site, which is not in the Central City Zone providing more than 25 parking spaces shall be a discretionary activity with the council's discretion limited to vehicular access. This proposal would be deemed a high traffic generator.

5.1.16 Car Parking

Parking space numbers

For any activity the owner shall provide parking spaces at the following rates. Or a cash payment of 90% of land value (25m²per car park) may be made in lieu of part or all of the parking requirement.

<i>Activity</i>	<i>Libraries</i>
<i>Residents/Visitors</i>	<i>1 space/50m² PFA</i>
<i>Staff</i>	<i>1 space/200m² PFA</i>
<i>Cycle</i>	<i>1 space/100m² PFA</i>
<i>Loading/unloading</i>	<i>as per general requirement</i>
<i>Activity</i>	<i>School classrooms</i>
<i>Residents/Visitors</i>	<i>1 space per classroom</i>
<i>Staff</i>	<i>1 space / 35 pupils</i>
<i>Cycle</i>	<i>3 spaces / 4 pupils</i>
<i>Loading/unloading</i>	<i>1 99% car bay / 100 pupils + 1 HGV bay</i>
<i>Activity</i>	<i>Offices</i>
<i>Residents/Visitors</i>	<i>5% of staff requirement (1 space minimum)</i>
<i>Staff</i>	<i>2.5 spaces/100m² GFA</i>
<i>Cycle</i>	<i>1 space/200m² GFA</i>
<i>Loading/unloading</i>	<i>1 99% car bay/800m² GFA or part thereof + 1 HGV bay/8000m² GFA (up to 16000m² GFA)</i>

PFA = Public Floor Area = floor areas contained within the external walls of any building or within the boundaries of any outdoor area available for the use of the general public in association with the activity, excluding stairs, toilets, lifts.

GFA = Gross Floor Area = total area of all floors of all buildings on a site measured from the external face of the external walls.

Parking spaces for people with disabilities: shall be provided at a rate of 1 for up to 10 spaces, provide 2 for up to 100 spaces provided.

The requirement for vehicle parking for this proposal is estimated as follows:-

LIBRARY (including library office space of 266m²)
Area 1695 m²
Total car parks required 43 +1 loading
Visitors 34, Staff 9, Cycle 17
Loading/unloading 1 99% car bay

OFFICE SPACE
Area 280 m²
Total car parks required 9 + 1 loading + 1 HGV
Visitors 1, Staff 8, Cycle 2
Loading/unloading 1 99% car bay + 1 HGV bay

Total parking requirement will require confirmation by way of a PIM application

The parking calculation assumes that the number of school children on the site will not be increasing due to the construction of the library and therefore it is concluded that:-

- Sufficient parking already existing on the site for school staff.
- Sufficient cycle parking spaces already existing on the site for school pupils.
- Space already exists for loading functions associated with the school.
- It is however conceivable that the new school classrooms may affect the number of visitors visiting the school and so allowance has been made for this possibility.

5.2 Summary of Provisions for the Paparua District Plan applying to the site

Section 19 of the Resource Management Act provides that a rule in a proposed plan is to be treated as if it is operative and any previous rule (i.e. in a transitional plan) is inoperative if all challenges to that rule have been resolved.

Accordingly the applicable rules to are all the rules for the Living 2 zone in the proposed plan and any continuous building length rule for the equivalent zone in the Paparua transitional plan. All other zone rules in the transitional plan can be disregarded (i.e. under S 19 they are inoperative).

6. GENERAL REQUIREMENTS

6.1 Introduction

The Upper Riccarton Community and School library will provide a co-located public & school facility for Library and teaching use. The needs of all the users must be considered and the final design shall provide for a fully integrated facility.

The facility may also provides space for elected member facilities. The design must balance the requirements of staff working conditions, elected member and community user expectations and requirements.

6.2 Concept design

The project comprises a mixed-use library facility integrating a new community library with Riccarton High School's existing collection and IT resources. The first of its kind in New Zealand, the building draws on Australian precedents for similar joint-use facilities while proposing a dynamic new structure in which school and community can interact. The new

library incorporates outdoor reading areas, a dedicated cafe, a children's library and comprehensive multi-media learning and research tools. Four shared teaching suites will provide research and tuition opportunities for students and allow school computer resources to community groups after hours. The new library enclosure will be passively ventilated, taking advantage of environmentally sustainable design principles and methods which will allow the building fabric to monitor climatic changes and reconfigure itself to accommodate them. The library promises to be a landmark structure providing a valuable community resource and a much needed gateway to Riccarton High School's western precinct.

The proposed building is arranged over a single level, approximately 1600m² in area. Its north-western aspect is substantially glazed to provide outlook from the library to a landscaped outdoor space and to allow a high level of transparency from Main South Rd. Carparking is located to the south-eastern side of the building, making use of the existing vehicle crossing and access route, and ensuring that vehicles do not screen the public face of the building. A new quadrangle is additionally formed between the library teaching spaces and the school's music department building providing outdoor amenity and a dedicated circulation route for students.

Entry is achieved by way of a semi-enclosed integrated 'porch' at the south of the library, allowing public and students to arrive at a common entry point from both street and school approaches to the building. This space is balanced by a semi-enclosed outdoor reading room at the north end of the building, with the body of the collection and the adjacent teaching spaces forming the transition zone between these two 'bookends' of the building. Staff facilities and returns / administration are transversely arranged about the entry and issues counter, with WCs and parenting facilities located behind the café to the north of the teaching spaces.

The design shall provide for as much integration as possible between the library and school.

- A community library, including community learning spaces (950m²)
- School teaching spaces (500m²)
- Community meeting facilities (170m²)
- Café (50m²)

Teaching spaces will include:

- computers in the classroom areas
- Easy access by class groups and teachers during that doesn't interfere with the other functions of the building
- The school book collection and in particular young adult fiction collection

Community Library spaces will include:

- Easy access to teaching spaces outside of school and library opening hours for community use
- Easy access to community meeting facilities both during the school day and after hours
- Library resources including books, computers
- Café
- Outdoor reading area
- Community learning areas

6.3 Community Views

A commitment to public consultation, and to keeping the community informed throughout the project, resulted in the development of a communications plan which identified project milestones, key stakeholders, both internal and external, and appropriate means of

consultation. These include press releases, internal newsletters, public meetings, and a website <http://library.christchurch.org.nz/UpperRiccarton>

Important customer groups to be consulted have been identified as:

- The general public
- Senior citizens
- Youth and children
- Local schools
- Councillors and Community Board members
- Maori
- The Pacific Island Community
- The Asian Community

Ideas and issues gathered have been used to inform the architects concept plan. Information gathered throughout the consultation process has been collated and is available on the website. The main themes from customer consultation are:

- Inclusion of a café and an outdoor area
- Plenty of space around the shelves
- Variety of seating areas – comfortable chairs, study spaces
- Places for community groups to meet
- Art work
- Safe and easy access
- Energy efficient design

6.4.4 Children and Families

Christchurch City Council is committed to Christchurch developing as a ‘child-friendly city’. Whilst many of the specific requirements relating to people with special needs are covered and satisfied by the New Zealand 4121 Code of Practice for ‘Design for Access and Use of Buildings and Facilities by Disabled Persons’ and the NZ Building Code section S1/AS1, there is also a need to identify the needs of children and their families. For this reason all aspects of the design will, with sensitivity, acknowledge the smallness of children, their height, sight lines and physical limits.

The Architect is referred to the publication ‘Designing for Parent and Child’ available from the Christchurch City Council Children’s Advocate.

6.4.5 Passive Design and Energy Efficiency

The internal environment is dependant upon the local climate, external building envelope, its thermal mass and the arrangement of the major spaces, in addition to the natural and mechanical environmental control systems provided in the building. The building’s form and structure will be designed to assist with the control of the environmental conditions in a passive manner. This will minimise the requirement for active systems and therefore optimise energy consumption. Mechanical systems which are provided will be cognizant of energy efficiency and sustainable design issues. The internal temperatures anticipated with the passive and semi passive systems will generally fall within the range of 20°C to 24°C, higher temperatures will however be experienced on very hot days.

The design should be carried out in accordance with the requirements of the Christchurch City Council Energy Strategy 2020. An Energy Efficiency and Sustainability Assessment should be carried out.

6.4.6 Future Proofing and Flexibility

Future changes of use, growth and new technology require that provision for flexibility is made by planning structure and services to allow for such possibilities to occur at least cost in the future.

Examples of provision for the future include, but are not limited to:

- Adoption of common design floor-loads throughout to permit future relocation of uses within the building without restriction, eg expansion of library into service centre space.
- Avoiding using solid internal load-bearing walls which may be a future barrier to changed building usage.
- Consideration of 'open-planned' office functions flexible to change.
- Common ceiling heights within zones permitting partition relocation.
- Provision of accessibility to services to allow the installation of new cabling for new functions.
- Accessibility to wall, ceiling and floor cavities, or provision of access ducting.
- Provision of multiple service point locations within spaces.
- Integrated cable routes for electric power, security, fire data, telephone, audio and video networks with suitable segregation.

6.4.7 Sustainable Design /Durability

Sustainable Design

The design shall take into account the councils criteria for waste minimisation and sustainable design and meet the Councils Energy Strategy.

The complex will have to be designed and constructed in accordance with specific energy standards set by Christchurch City Council. These standards surpass the requirements of the building regulations and the targets envisaged in the Energy Efficiency and Conservation Strategy as released by the Energy minister in September 2001. The issue of passive design and energy efficiency has already been addressed in more detail in section 4.5 of this document.

The concept design proposals have been summarized in a series of tables attached to this report which cover the various subjects of :- educational benefit , water use , site ecology , material selection and occupant health.

The items listed in the recommended design column have all been included in the functional design budget. Items listed in the "other" column are specifically proposed for council approval.

The following sustainable design issues have been taken into account in the preparation of the Concept Design.

Educational benefit Where possible the design should aim to incorporate sustainable design features which are visible or measurable and can be use for their educational benefit by Riccarton High School or other interested groups.

The brief offers a unique opportunity to demonstrate the sustainable features to a wide audience of educational groups.

Material selection

The contract documents should aim to specify the use of materials which are sustainably sourced or sourced and manufactured with minimal impact on the environment. Such as :-
Sustainably sourced timber products
materials with a significant recycled content
natural materials or materials with a low embodied energy content
materials endorsed by the Environmental choice labelling scheme

The contract documents should also aim to minimise the use of :-
materials containing PVC's, Ozone depleting chemical, VOC's, PVC, heavy metals etc,
materials which are known to pollute the internal building environment.

Durability

The National Building Code will apply to the construction of the new Library / Service Centre with performance standards requiring that the building shall have minimum design life of 50 years. The building code and life cycle design accept that components both internal and external will be renewed within this period.

The design should aim to, where reasonable, incorporate durable materials to minimise the use of applied surface finishes.

The design should seek to select durable materials over less durable alternatives which may be proposed to the council for approval on a life cycle costing basis.

Waste

During the construction programme construction waste should be minimised. The contract documents shall include a requirement on the contractor to have a site specific waste management plan.

The design shall allow for the provision of space for the collection and storage of recyclable material.

Consideration should be given to the use of an on site wormery or other composting facilities for vegetable scraps.

Water Use

The design should aim to minimise water use and minimise the amount of polluted water leaving the site. Investigation should be given to the specification of low water use plumbing fittings and the collection and use of rainwater or grey water systems.

Landscaping

The design shall aim to maximise the biodiversity across the site, minimise the damage to existing mature trees and implement storm water management strategies to control the quantity of polluted and non polluted stormwater leaving the site.

7. LANDSCAPE CONCEPT

The vision of the landscape concept is to integrate the surrounding landscape features and proposed landscape with the architectural design of the new library building.

The design will provide visually permeable boundaries to the external landscape areas of the library and surrounding school.

Where ever possible trees will be retained and added to by introducing more specimen trees to enhance the overall framework of the existing vegetation. The trees have been chosen to provide continuity and scale with the existing spaces and the proposed building.

At time of planting the trees are to be sufficiently large to give immediate impact and framework for the library environment and surrounding school.
The proposed specimen trees and pleached hedge will require trees of approximately 2 m in height or greater at the time of planting.

The intention is to use hardy landscape groundcover plant species that will require less maintenance but will contribute to the aesthetic appeal of the site.
Both native and exotic plants species will be used dependant on their texture, colour and overall shape and environmental conditions required.

The proposed groundcover plants will be of a size and spacing that will give the landscape design initial impact without relying on years of growth to create the right effect.

It is envisaged generous areas of grass will link with the existing school grounds and surrounding sports fields.

The overall effect of the landscape is to create an appealing and, harmonizing landscape design where the building is integrated into the site by the holistic design of the surrounding spaces and elements in the outdoor environment.

8. STRUCTURAL REQUIREMENTS

8.1 Preamble

This section of the Functional Design Brief covers the structural and geotechnical design criteria for project.

Care is needed with the structural design to incorporate future flexibility and security of the building structure.

8.2 Design Standards

All structural design and construction shall comply with the latest version of the New Zealand Building Code, Handbook, Section B1, Structure and B2, Durability. Unless noted otherwise, comply with all relevant Verification Methods and all relevant Acceptable Solutions. Alternative solutions may be permitted, but only with the express approval of the Territorial Authority.

8.3 Floor Design Loadings

Design floor-loadings shall be in accordance with AS/NZS 1170:2002 Table 3.1 Reference Values of Imposed Floor Actions. Where floor-loadings are not specified in the above Standard, they shall be calculated by the engineer for the specific situation.

8.4 Durability of the Building Structure

The specified intended life of this building shall be 50 years. The quality of the design and construction of the building structure and its associated components shall meet the requirements of the New Zealand Building Code, Clause B2, Durability.

8.5 Future Proofing the Building Structure

The building design shall allow for a high degree of flexibility of the use of Library, Service Centre and Community Learning spaces. For example, during the life of the building it may be that service centre spaces are converted to library spaces and vice versa.

Internal columns should be minimised to give clear spaces. Special consideration shall be given to the library display areas.

Structural walls should be carefully located to allow for a good degree of future flexibility of usage.

8.6 Seismic Design Criteria

In general, the building structure shall be designed for a seismic risk factor of $R=1.1$ commensurate with the minimum seismic load requirements of NZS 4203:1992.

8.7 Structural Form/Type

Designers shall select the structural form/type that best suits the geometry of the building. The full range of structural types and materials as set out in Table 4.2.1 and their corresponding ductility factors, μ are considered suitable for this project.

8.8 Seismic Restraint of Building Services

It is particularly important that all building services are adequately restrained against seismic movement and rupture for this building project. The contents of the library are particularly vulnerable to ruptured pipes or tanks.

Designers shall adhere to the requirements of NZS 4219:1983 'Specification for Seismic Resistance of Engineering Systems in Buildings' except that Appendix A, covering loads from NZS 4203:1976 shall be replaced by the equivalent sections from NZS 4203:1992.

The Risk Factor in NZS 4203:1992 shall be taken as:

$R = 1.1$ for all general building services.

$R = 1.3$ for waterpipes, drainpipes, water-storage tanks, fuel tanks and items of plant containing water or fluids etc.

NZS 4219:1983 shall be modified to include the current appropriate materials, codes and design guides.

The design and construction of all seismic restraints for plant, equipment and pipework shall be accompanied by Producer Statements for Design and Construction Review from a New Zealand Registered Engineer competent in that work.

8.9 Geotechnical

The Engineer shall arrange for any necessary site investigations to determine the specific soil conditions at the site.

8.10 Building Vibration

Special care is needed with the design of the building structure to ensure that building vibrations are kept within acceptable limits. Designers shall mitigate the effects of vibration by adopting proven methods of isolation, damping, stiffness control etc.

All sources of vibration from mechanical plant and the like shall be adequately isolated using rubber mounts, concrete plant decks and the like.

Suspended floor design shall comply with the AS/NZS 1170:2002 Table C1 recommendations that deflections shall be less than 1 mm under a 1.0 kN point load at all positions on the slab so as to limit transient vibrations from footfall effects.

9. MECHANICAL SERVICES REQUIREMENTS (INCL FIRE)

9.1 Mechanical heating/ventilating system description

Heated fresh air supply to the library and other internal spaces will be provided to meet Building Code requirements. The fresh air supply volumes to the main spaces will be controlled by air quality sensors to reduce energy costs while still maintaining a fresh environment.

The library and classrooms will have mechanical extract fans to help control heat build up the summer. An air source heat pump will provide heating and partial cooling to the main spaces through pipe coils in the concrete floor slab. This results in a very energy efficient form of temperature control. Individual heat pumps will provide heating and cooling to meeting rooms. Opening windows will be installed in most areas including the library and these will be coordinated with the fan systems to provide natural ventilation whenever practicable. Some high level windows will be fitted with motorised actuators for automatic operation. Tile flooring surfaces are being used around the perimeter and other key areas to provide a "thermal flywheel" effect. The tiles will help absorb excess solar energy during the summer and release heating from the floor heating during the winter.

Mechanical extract systems will be provided for specific requirements such as toilets, photocopy areas, kitchen etc. The mechanical systems will be complete with electrical supplies and controls.

The complete system will be controlled by a BMS (building management system) which will incorporate many energy efficient features such as night purge (using cool night time air for free cooling during summer), optimised start and stop schedules, fresh air control etc.

9.2 Design Criteria – Environmental Control

The design criteria stated herein shall be used to meet the design and operational objectives.

The external design conditions are:

Summer	28°C DB, 19°C WB
Winter	1°C

which are the 2.5% design conditions for Christchurch City as advised by the NZ Meteorological Service.

Internal Design Conditions (Dry Resultant Temperature):

- (i) Internal temperatures will generally be controlled in the range 20°C to 24°C. Higher temperatures in the 26-27°C range will be experienced during peak times

- (approximately 5% of the summer period). Specific spaces justifying air conditioning (e.g. computer suites, boardroom) will be designed for conditions of $22.5^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$.
- (ii) Toilet ventilation - 10 L/s per sq. metre floor area or 25 L/s per soil fixture whichever is greater.
 - (iii) Kitchen ventilation - to Code.
 - (iv) Outdoor air - minimum 10 L/s per person.

Zoning

The building environmental control systems shall be arranged to provide independent zones of control and operation as is necessary to suit the required environmental control. Zones of like requirements should be considered to be grouped or consolidated into common areas.

9.3 Regulations / Standards

The Mechanical, Hydraulic and Fire systems shall be designed and installed to comply with the New Zealand Building Code, Regulations and Bylaws of the appropriate Authorities having jurisdiction over the installation.

The systems shall be designed and installed to comply with at least the minimum requirements of the relevant New Zealand Standards. In the event that there is no applicable New Zealand Standard, then the relevant Australian Standard shall be used. Protection of books and records from risk of rupture, flooding, etc. of services shall be considered.

9.4 Plant and Equipment

9.4.1 Physical Requirements

Plant and equipment shall be located to provide a high level of accessibility, but shall be adequately protected against seismic loads, hail damage, wind loads and sabotage. Lightning protection shall also be provided.

Plant areas shall be fully banded and sealed against water migration.

9.4.2 Vibration

Plant and equipment having the potential to introduce forced vibrations into the building structure shall be isolated to eliminate the transfer of vibration to the building structure.

9.4.3 Noise

Plant and equipment having the potential to generate noise shall be isolated acoustically from all zones of use and occupation.

9.4.4 Redundancy

No redundancy in plant systems is required.

9.5 Electronic Controls

Electronic controls shall form an integral part of the building management system (BMS) and shall have both control and monitoring capability.

The system shall be capable of fulfilling the following objectives:

- To maximise the mechanical services reliability.
- To maintain satisfactory conditions for staff.

- To optimise energy efficiency, and to minimise operational and maintenance costs.
- Consideration should be given to monitoring/interfaces with other building systems, within budget constraints, e.g. Security, lighting control, etc. Decisions will be based on a cost / benefit analysis.

The BMS front end shall provide visual and audible alarm of plant malfunctions. The BMS shall be serviced by a UPS (or battery backup).

The BMS shall be interfaced with the Christchurch City Council Civic Offices BMS.

9.6 Hydraulics

Hydraulics:

- Sanitary sewer drainage.
- Domestic hot and cold water supply and reticulation to Toilets, Cleaner, Shower, Kitchens, Tea Making and Activities spaces, supplementary solar water heating within budget constraints.
- Roof water drainage, including water storage, for re-use where appropriate and within budget constraints.
- Soil, waste and vent plumbing.
- Water supply to landscape irrigation.

9.6.1 Domestic Water Services

Domestic water shall be provided to the building from a single metered water supply from the CCC street main.

9.6.2 Roof Water

Roof water systems shall be designed for precipitation of a 100-year return period.

9.6.3 Sanitary Sewer

Gravity drainage shall be provided.

9.7 System Maintenance

The Mechanical, Hydraulic and Fire Services shall be designed and installed to minimise future maintenance costs. This includes cost effective access.

Consideration shall be given to system designs that reduce the downtime or the period of system disruption for maintenance wherever possible.

9.8 Energy Efficiency

The building is to be designed to be as energy efficient as the budget constraints will allow.

The life cycle costs of systems shall be addressed and where significant operating cost savings are evident these shall be the subject of further investigation.

It is a specific requirement that an Energy Efficiency and Sustainability Assessment be carried out with the objective of the design of the energy consumption of the Library / Service Centre building to meet the Best Practice Benchmark set by the Christchurch City Council. This performance target includes lighting, air conditioning, heating, ventilation and miscellaneous energy uses.

In order for these Benchmarks to be achieved a fully integrated approach will be required with commitment from the entire project team and in particular the Architect that to some degree the building form will need to follow function, e.g. Building orientation, external shades, exposed structure, glazing restriction etc.

9.9 Fire Services

The fire protection design must comply with the fire safety objectives of the New Zealand Building Code, and seek as a minimum standard, equivalency with the New Zealand Building Code Acceptable Solutions. This is in particular reference to New Zealand Building Code Clauses C1-C4 and F6-F8.

- Manual alarm system connected to the Fire Service.
- Automatic non-brigade connected smoke detection system (optional)
- Fire hose reels and / or portable extinguishers.
- Automatic fire sprinkler system, including valve enclosure, backflow prevention, drainage to sewer and Fire Service Inlet.
- Sufficient Exit doors with complying direction of swing, and hardware.
- Illuminated Exit signage
- Meeting Ministry of Education requirements

9.9.1 Protection Systems

The fire protection systems provided need to not only meet New Zealand Building Code objectives, but also the requirements of the Fire Safety and Evacuation of Buildings Regulations 1991.

Fire alarm and sprinkler systems are to be installed to reduce the impact of other fire protection features.

Due regard is required for support systems such as hand held fire fighting equipment, emergency lighting and security interfaces.

9.9.2 Egress Design

The following factors need to be considered:

- Travel distance and way finding
- Exit design
- After hours access and egress
- Smoke and fire separations.

9.9.3 Spread of Fire

Consideration is required for spread of fire risk to neighbouring property, and limiting contents damage within the new building. Advice needs to be provided to the Architect on any passive fire protection features.

10. ELECTRICAL SERVICES REQUIREMENTS (INCL COMMUNICATIONS & DATA)

10.1 Electrical Services

10.1.1 Scope

The scope of the electrical services associated with the South Christchurch Library/Service Centre redevelopment will consider the following in terms of the relevancy to this project and design will be undertaken as necessary to provide an energy efficient and economic solution in line the 'eco friendly design of the building:

- Power Supply- mains survey and upgrade
- Main Switchboard
- Earthing
- Submains
- Distribution Boards
- Subcircuit Cabling
- Lighting Systems
 - External (incl carpark)
 - Internal General
 - Internal Feature Lighting
 - Emergency Lighting
- General Purpose Power Outlets
- Future Proofing
- Energy Conservation Target
- Lightning Protection on key sub-boards

10.1.2 Power Supply

The power supply shall be derived from the Orion Network System.

The required works shall depend on final loadings and final network requirements.

Main Switchboard(MSB)

The main building switchboard will be designed in accordance with the following criteria:

- Metal clad switchboard in accordance with AS 3439.1
- All switchgear, busbars, terminations and distribution equipment designed to withstand the maximum prospective fault current for a period of one second.
- Designed and installed in accordance with the seismic requirements of the building
- Compliant with all relevant New Zealand, Australian and International standards
- Allowance for energy retail metering
- The MSB shall be located within the Main Plantroom

10.1.3 Earthing

Earthing of all electrical switchboards and equipment shall be included. A separate earth shall be used for the lightning protection. The earthing on computer and computer services should also be segregated from the main and lightning earthing systems.

10.1.4 Submains

A Submain cable will be provided to supply the 1 only remote distribution board. The selection and routing of the submain shall take into account the following:

- Minimal impact of electromagnetic interference, careful design of mains cable routes and cable configurations shall be considered.
- Fire resistance for essential services (if applicable)
- Ease of access for future flexibility
- Particular attention will be paid to segregation of services.

10.1.5 Distribution Boards

One only remote Distribution board will be provided as required and will be of the same metal clad commercial pattern as the MSB with MCB chassis mounted MCB's.

It shall be positioned to allow for future flexibility of installing additional sub circuits during the life of the building. The board will provide for a minimum of 25% of spare ways for future flexibility.

10.1.6 Lighting

The lighting can be split into two distinct areas. These are the external lighting and the internal lighting .

External Lighting

Lighting for the carpark will be considered during the initial design phase and included as necessary. The lighting levels will be to current standards for carparks. Some decorative building lighting will be provided.

All external lighting shall be automatically controlled via daylight and time functions and shall be integrated with the BMS.

Internal Lighting

The following standard shall be taken into account in the design for lighting for the Library/Service Centre, as minimum requirements.

- NZS 6703 1984 'Code of Practice for Interior Lighting Design' except where superseded by AS/NZS 1680 'Interior Lighting' standards.

Lighting for the building will need to take into account the different functions of the building and various time of after hours operation.

Some feature lighting will be provided at the main public entranceway to the building as well as around the public service counter of the Library/Service Centre. Use of daylight sensors for the lighting circuit nearest external windows and aisle access sensors for lighting between significant aisles in the library will be considered during the preliminary design phase of the project. Occupancy sensor controls shall be employed within larger spaces including teaching spaces etc.

Emergency Lighting

The design will allow for emergency lighting throughout all areas of the building in accordance with the requirements of AS/NZS 2293:1995 "Emergency Evacuation Lighting for Buildings".

The minimum period of the availability of the emergency lighting will be in accordance with the requirements of the New Zealand Building Code.

10.1.7 Luminaries and Services Equipment

Careful consideration should be given to the selection of luminaries and services equipment to ensure that they enhance the spirit of the building and are as unobtrusive as practicable. An intelligent lighting system will be considered to maintain recommended lighting levels throughout the building during times of variable ambient lighting levels. This would be integral with the BMS System. Luminaires shall be energy efficient and shall utilise energy efficient lamps/tubes.

10.1.8 Energy Conservation Target

An Energy Efficiency and Sustainability Assessment will be carried out during the preliminary design phase of the project. An energy analysis of the proposed design will be submitted to the Christchurch City Council Energy Manager. The placement or inclusion of lighting shall be designed in close association with the Building Management System.(BMS) and mechanical services equipment.

10.1.9 Lightning Protection

The design will consider lightning protection for the building. If it is considered necessary the building structure will have protection that complies with the requirements of AS/NZS 1768: 1991 "Lightning Protection". Primary and secondary protection shall be considered.

10.1.10 Power Requirements

Socket outlets shall be provided throughout the complex as required by end users.

Socket outlets shall be protected via residual current devices as required by the code or as required by end users.

Dedicated circuits shall be included for the following services: -

- Security and Access Panel
- Fire Alarm Panel

Allow for 40 only quad power outlets and 100 double power outlets for the main library and teaching spaces. Additional outlets will be required to the amenities areas, cafeteria etc.

There will be no provision for a stand by generator.

The only uninterruptible power supply forming part of the contract would be associated with the BMS System.

10.2 Data and Communications Requirements

The data and communication services will encompass all information technology systems to be provided throughout the building. These are generally outlined as follows:

Telephone services
Network cable reticulation
Public address (emergency warning system)
Audio/visual cabling
Linkage with the school bell system

The network philosophy and operating parameters will be determined by the Council's Libraries and Information and Information Technology Services Units. Additionally, the interconnection of the Library to the existing Council system will be determined by the Libraries and Information Unit.

Aspects such as the ability to upgrade will be considered during the initial design phase.

10.2.1 Voice and Data Cabling

Basic requirements for the voice and data system include;

- A free standing structured cabling cabinet to be mounted within a dedicated communications room. The cabinet shall incorporate fibre connections, an RJ45 patch panel for field wiring and cable terminations for the link cable to remote panels and the Riccarton School. A krone block shall be located adjacent to terminate incoming phone lines etc.
- A duct and lead-in cable for connection to the Telecom network,
- A duct and lead-in cable for connection to the TelstraClear network,
- A remote patch panel (at other end of building) to accept field wiring from adjacent outlets. (Note: all patch panels shall utilise RJ45 outlet technology)
- 1 x 6 core multimode fibre between the 2 panels.
- Approximately 125 Cat5e RJ45 IT outlets spread evenly throughout the complex (exact locations to be resolved in conjunction with end users)
- Each outlet shall be supplied via Cat5e 4 pair UTP cables.
- Approximately 4 only Cat6 RJ45 outlets supplied via Cat6 4 pair UTP cables.
- A duct and tie cable from the library to the school. The tie cables would incorporate 1 only 6 core multimode fibre and 1 only 25 pair Underground rated phone cable. Terminated on krone disconnect modules. For budget purposes cable length of 75m should be allowed (including trenching and making good).

Forced ventilation, but no air conditioning will be provided to the various IT cupboards/rooms.

Dedicated sub circuits to single phase socket outlets shall be provided as required however it is assumed any uninterruptible power supplies will be client supplied and not form part of the contract.

Socket outlets associated with the IT cupboards shall incorporate surge protection.

The supply and installation of the following items would not form part of the main contract: -

- Fly leads associated with the patch panel
- Fly leads associated with field devices
- All hardware including switches etc
- All software

10.2.2 Audio/Visual Cabling

Basic requirements for the audio/visual systems include: -

- A reticulated television aerial system to approximately 6 only outlets throughout the library and teaching spaces. (exact locations to be resolved with end users)
- The systems shall be sky compatible but would exclude decoders etc. An aerial, amplifier and outlets would be provided.
- Data projection facilities (cabling and outlets only) will be provided to teaching spaces and the library space as required. An allowance of 3 fixed outlet positions has been included in the budget.

11. SECURITY REQUIREMENTS

Electronic security in the form of access control, alarm systems and intercommunications will be provided. An allowance for 3 zones is included in the budget.

11.1 Access Control

- Card (tag, or similar) access control to essential doors in the building including electric mortise locking, and full door status monitoring. The system used will be capable of readily interfacing with the existing Civic Office system, being an open format 26bit Motorola ASP card reader system. An allowance of 3 only external doors having security access has been included in the budget.
- The system electronics shall be interfaced with the existing Council's access control system, via the Councils IT infrastructure using TCP/IP. The system must be Siemens SiPass or equivalent.
- Allow to provide all programming of system devices as required to implement site security, such as security groups, time zones, PIN access times.
- All after hours staff entry doors must have Motorola Asp Pin/Prox 26bit readers (an allowance of 1 door over and above the 3 main doors has been included).
- All doors designated as Fire Exits must be hard-wired fire drop relays.
- All electronically locked doors must have re-settable emergency egress switches.
- The security system computer will be independent from the BMS computer. There will be some level of data transfer. The actual requirements for this will be established during the design phase.
- The system must be able to have extendable unlock times for disabled persons.

11.2 Alarm Systems

The following items will be considered during the preliminary design phase and have been included for in the budget

- Door status monitoring via the access computer
- Space detection will be provided.
- Panic/duress button installation (at main reception)
- Smoke detectors (assume within Fire Specification and not in this contract)

The space detectors should typically be Passive Infra-red detectors, unless other considerations (e.g. security risk, noise interference, application) require other devices.

All cabling in public places **MUST** be concealed wherever possible. Rigid PVC conduit (with fixings every 1m) must be used in exposed areas, if concealment not possible. Discuss with the Council representative, options for aesthetic installation if unsure of conduit and sensor placement in exposed areas.

11.3 CCTV System

The following items will be considered during the preliminary design phase

Cameras viewing the:

- Main public entrances

- Main staff entrances (after hours)
- Cash handling areas
- Known problem areas

An allowance for wiring for 7 cameras and the provision of 2 cameras has been included in the budget.

Camera selection should take into the following lighting conditions...

- Auto-iris, vari-focal lens as standard (selected for required field of view)
- Wide dynamic range CCD's if camera viewing images with high contrast
- Hi resolution (480tvl)
- Colour for all cameras

All camera images and field of views to be signed off by Council representative.

This system should be compatible with the Councils network backup scheme, as designed for the Siemens Kodicom DVR.

The DVR should be compatible with the DVR recording interface provided with the Siemens Kodicom DVR.

The security system shall interface with the main lighting controls such that intruder detection automatically turns lights on.

11.4 PSTN & LAN Connections

Any connection to the telephone system must be approved by the Council's Communications' Engineer before work commences. Any cabling components used must be telepermit approved. Stranded cables must not be use when connecting into telephone (or CAT5) connection blocks.

11.5 Intercom System

Consideration should be given as to whether audio or audio/video intercoms will be useful in the project.

For budget purposes an intercom system has been included however it is based on only 2 zones and one point of origin.

11.6 BMS Interface

The system should be able to be interfaced or linked with the proposed Building Management System at a later stage.

11.7 Documentation

As-built manuals must contain the following:

- Drawings showing location of all devices
- Identification of all devices, including zone, door or camera number
- User manuals describing operation
- Copy of manuals on CD-Rom's

Training to a maximum of three Council representatives of all front end equipment, by a competent representative of the installation company.

11.8 Maintenance

Maintenance should be for a minimum of 1 year, with 4 monthly tests for all alarms, 6 monthly for access control and CCTV.

12. FURNITURE, FITTINGS & EQUIPMENT

Furniture, fixtures and equipment will include such items as:

- Loose furniture (including seating, office furniture, work-stations and screens)
- Appliances
- Drapes and blinds
- Staffroom/kitchenette equipment
- Rubbish collection and handling
- Library collection shelving
- Lockers
- First Aid equipment
- Public area furniture (including lounge seating and study spaces, computers, printers, a photocopier, self issue units and security gates)

Exact details of the furniture, fittings and equipment shall be decided upon and agreed with both Library and Service Centre staff during the design phase.

13. CONTRACT STRATEGY & PROGRAMME

Strategy 1

The usual Council procedure for a project of this nature is for contractors approved through a registration of interest process to be invited to submit lump sum tenders based upon full contract documentation. The contract price is determined by market competitiveness at the time of tender and is then known to the Council before the building works are committed

Strategy 2

Project Partnering and other forms of contract delivery have been promoted in recent years in New Zealand through the Centre of Advanced Engineering, following the “Rethinking Construction” initiative in the United Kingdom. As a step toward a closer partnership between the Council, design team and selected contractor, under this strategy selected contractors would be invited to submit proposals for the cost of site establishment, preliminary and general, profit margins, subcontract administration and incentives for project cost saving measures.

A contractor would then be selected to work as part of the design team, advising on construction details and procedures. Agreed details and procedures would then be included in documentation and all sub contract trades tendered by the contractor. The selection of sub contractors would then be made taking price and quality into account.

As with strategy 1, the contract price will be known to the Council before the building works are committed and there will have been maximum opportunity for the contractor to minimise construction costs prior to tendering sub trades.

It is suggested that with approval from the Council, the Project Control group further investigate the strategies above to most effectively deliver the Upper Riccarton Community and School Library.

Programme

A project programme is appended.

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The project programme contains the following sequence:

- Committee approval of the concept design and budget prior to proceeding to developed design
- Developed design, documentation and scheduling, March 2004 through to August 2004.
- Resource consent application – publicly notified, proceeding in parallel with design development.
- Tender in August 2004
- Reporting tenders to Property and Major Projects Committee in September 2004
- Latest construction commencement January 2005
- Completion and opening early December 2005

The development phase component of the programme is to be verified by the Design Team at the start of the this phase

14. PROJECT BUDGET

The Current Cost Estimate carried out by Cost Consultants Shipston Davies Ltd in March 2004 based on the concept design and since subjected to value management by the Consultant team indicates the budget required for the project to be \$5,507,000

This is broken down as follows:

Building Construction	\$3,630,000
Carparking and Landscaping	\$340,000
Inflation provision for current market conditions (say)	\$300,000
Professional fees	\$450,000
Communications/advertising	\$5,000
Miscellaneous expenses	\$5,000
Notified resource consent and building consent fees	\$12,000
Project contingency (say 5%)	\$200,000
Sub Total	4,942,000
Library fit out	\$540,000
School classroom fit out	\$25,000\$
Total Required (excluding GST)	\$5,507,000

SUMMARY OF DESIGN OPTIONS

This Functional Design Brief and Budget report is based on the “recommended” column in the tables below.

ARCHITECTURAL

MINIMUM	RECOMMENDED	OTHER OPTIONS
Building <ul style="list-style-type: none"> Minimum insulation, etc 	<ul style="list-style-type: none"> Underfloor insulation (required for underfloor heating) Double glazing R5.0 batts in ceilings Thermal mass inside building (plaster walls – not lined) Louvres to glazed areas - Solar shading Roof overhang for shading to classrooms Motorised high level windows for ventilation – refer also to mechanical services 	<ul style="list-style-type: none"> Motorised louvres for solar shading Additional motorised windows for ventilation – refer also to mechanical services Low E glazing / reflective glazing
Hot & Cold Water <ul style="list-style-type: none"> Basic water services 	<ul style="list-style-type: none"> Stormwater storage Low water usage fittings Cylinder suitable for future solar hot water system 	<ul style="list-style-type: none"> Solar hot water systems Recover/re-use grey water

MECHANICAL SERVICES

MINIMUM	RECOMMENDED	OTHER OPTIONS
Ventilation <ul style="list-style-type: none"> Building Code ventilation (natural ventilation - openable windows) 	<ul style="list-style-type: none"> Mechanical Extract Mechanical tempered fresh air system to library Natural ventilation at high level to allow hot air to spill out (motorised windows). BMS control for night purge, etc CO2 (air quality) sensors for control of ventilation systems. 	<ul style="list-style-type: none"> Additional motorised windows e.g. windows at low level Heat reclaim ventilation BMS on network/web to enable school computers to access selected information about the library performance. Flat screen with relevant performance information in the library.
Heating <ul style="list-style-type: none"> Electric underfloor heating 	<ul style="list-style-type: none"> Air to water heat pump to provide hot water to underfloor heating. 	<ul style="list-style-type: none"> Water source heat pump connected to town mains water supply.
Air Conditioning <ul style="list-style-type: none"> Partial air conditioning (conference room only) 	<ul style="list-style-type: none"> Heat pump air conditioning (conference room only) Reverse cycle heat pump capable of providing partial cooling using underfloor pipework. 	<ul style="list-style-type: none"> Water source heat pump connected to town mains water supply. Full air conditioning e.g. chilled beams.
Cost \$130-150 per m²	Cost \$200 per m²	Cost \$290 per m²

ELECTRICAL SERVICES

MINIMUM	RECOMMENDED	OTHER OPTIONS
Electrical <ul style="list-style-type: none"> • Basic fluorescent lighting (T8 tubes) • Prismatic diffusers • Local switching only 	<ul style="list-style-type: none"> • Fluorescent lighting complete with low glare diffusers where appropriate • Investigate T5 energy efficient tube technology • Electronic ballast (dimmable where applicable) • Occupancy sensor lighting control • Daylight sensor lighting controls 	<ul style="list-style-type: none"> • WhisperGen – mini electricity generator operating on LPG • Check meters with displays to local areas for children to see.

FIRE PROTECTION SERVICES

MINIMUM	RECOMMENDED	OTHER OPTIONS
Fire Protection <ul style="list-style-type: none"> • Minimum requirements of The Building Code, Ministry of Education and the New Zealand Fire Service 	<ul style="list-style-type: none"> • As per the minimum requirements. These include: Sprinkler system Manual fire alarm Exit doors Fire hose reels Fire extinguishers Exit signage • Although not required by the Building Code, Ministry of Education or Fire Service, it is recommended that emergency lighting be installed throughout 	<ul style="list-style-type: none"> • In addition to the minimum requirements, include smoke detection to provide earlier warning of fire.

APPENDICES

- Appendix 1 Project Terms of Reference
- Appendix 2 Existing Site Services
- Appendix 3 Concept Plans
- Appendix 4 Project Programme

Project Terms of Reference

Project Name	Upper Riccarton Community and School Library				
Project Location	Main South Rd Upper Riccarton	Date	02/07/2003		
Client Name	Christchurch City Libraries and Riccarton High School				
Client Address		Client Fax			
Client Contact	Gary Coburn, Riccarton High School Nicki Moen, Christchurch City Libraries	Contact Phone	348 5073 941 7896		
Authority	Sue Sutherland, Manager, Christchurch City Libraries Gary Coburn, Principal, Riccarton High School				
City Solutions Project Manager	Ian McKenzie	CS Phone	941 8286	CS Plan No	
CS Project No	254/25496	Cost Centre	2554	Job Type	

INTRODUCTION/ BACKGROUND

Information that sets the project in context – Council Resolutions, definition and scope of project

In February 2002 the Riccarton/Wigram Community Board agreed to support in principle the partnership with Riccarton High School to build a joint community/school library on the Riccarton High School land.

The Council passed the following resolution on 28 March 2002:

That the Council support in principle the partnership with Riccarton High School to build a joint community/school library on the Riccarton High School land subject to: Consultation in the 2002/2003 Annual Plan; Satisfactory resolution of legal, land ownership and lease issues; Bringing forward funding for the Riccarton Library to 2004/05 (25%) and 2005/06 (75%).

One submission was received through the Annual Plan Process. This submission, from the Riccarton/Wigram Community Board, was in support of the project. The proposal was also outlined in City Scene.

The Community Board requested that before the Riccarton High School offer of land was accepted, that the Council investigate one other land option on Main South Road. A public excluded report was presented to the Community Board and the Arts Culture and Heritage Committee. The staff recommendation that further investigation into this piece of land be discontinued, was adopted by Council. In July 2002 Council also adopted the recommendation that a community library should be built on Riccarton High School land, with frontage onto the Main South Road. Council also confirmed that funding for the project would be spread between the 2004/05 and 2005/06 financial years, with December 2005 as the expected date of completion.

As part of this proposal the Ministry of Education will be providing land and Riccarton High School will be contributing to the cost of the building.

The library site is situated on the school playing fields fronting Main South Road, 1km west of Church Corner. Owned by the Ministry of Education, it has individually surveyed areas of land adjoining the road. To date these land areas are not held as individual titles. Title details are Part Lot 1 DP 13925. This site affords an appropriate community profile with a high level of visibility to and from the Main South Road, maximises retention of established trees and plantings, provides good orientation to existing school buildings, does not impinge on the primary playing fields and is well located in relation to the sun.

It is expected that the total size of the building will be 1,500 square metres and will be both a community library and a school library. Whilst this is a co-located facility, the final design shall provide for as much integration as possible.

The community library requires:

- An area of about 700 square metres for the library collection of approximately 40,000 items
- Lounge areas for reading and / or socialising
- Study areas – individual and group seating areas for community learning and community meetings (shared?)
- Computer clusters and other technology areas offering fee-based and free access to Internet; catalogue, word processing and excel.
- Courier access
- Café
- Parking separate from school parking

The school library requires:

- Teaching space one: to seat 30 students in clusters of 4 students / table. Approx. 80 sq m. Separate access for after hours community learning
- Space two: a computer lab of 30 machines. Approx. 90m2
- Space three: a space to accommodate 30 students and 15 laptop computers (wired for 30 laptops) Also approx. 80 m2.
- Space four – a space for using the book and online resources with comfortable seating. Also 80 m2
- Storage space for student bags
- Shelving for the school's in-use non-fiction material. (At present the total collection is 10,000 items, which includes 8,500 non-fiction items, approx. 100 shelves.) It is likely the fiction will be integrated into the community library collection. Some non-fiction may be separately housed to meet curriculum demands.

The school and the community library will share the following areas / resources:

- Staff work areas and staff toilets, and staffroom
- Staff meeting room
- Customer service areas (information, issues, membership)
- Automated self issue
- Drive-by / bike-by / walk-in returns area /areas
- Public toilets, and baby changing facilities
- Display areas (community information and art)
- Entrance foyer (although the school may require an entrance depending on the design of the building)
- Four break-out study / meeting rooms for library users to meet – study group, book group, after school tutorial, etc
- Storage area (25 m2)

AIM

A statement about the overall purpose or goal of the project

To establish a combined community and school library at Riccarton High School by 2005.

OBJECTIVES

Specific statements about how the aim is to be achieved

The combined facility will meet the following objectives:

1. The community library will be an important community focal point for a population of up to 30,000 residents from Avonhead, Ilam, Upper Riccarton, Riccarton West, Wharenui, Middleton, Sockburn and Wigram areas
2. The school population, including students and teachers, but will be 1,100. The main catchment of the school extends from the area bounded by Russley, Blenheim, Maidstone, Creyke, Riccarton Roads and Matipo Street.
3. The library will be sited not only to allow for integration with other school activities but so that it will be recognised as a community facility, which can be easily accessed by the community as a whole

4. The design of the building, and the resources provided, will take into account the wide range of groups using the facility
5. Careful attention will be given to the use of the different library spaces, and the relationship between the users and these spaces
6. The new community library will complement, and not replace, the school libraries of neighbouring schools
7. The community will be able to access many of the school's library facilities out of school hours
8. The building will be "healthy", safe and "friendly" for all users
9. The project will be completed within the Council approved budget and completed within the approved programme
10. The facility will be designed to give a good balance between capital costs and operational costs.
11. The building structure should have a life span of at least 49 years
12. The building will include a fire sprinkler system
13. There will be drive-by / bike-by facilities
14. There will be small café for community use
15. Self issue (and return) will be encouraged
16. The building will be designed to ensure flexibility for future users and adaptability to technology changes
17. Both parties will use the same automated library system
18. The library will comply with Ministry of Education requirements

KEY OUTPUTS

Deliverables - eg. Project plan, design, documents, RFP's

1. Project terms of reference
2. Project Plan
3. Shared vision statement
4. Architects' briefs and requests for consultants' fees proposals
5. Concept Design
6. Functional design report and budget
7. Developed design and contract documentation
8. Construction tenders and contract
9. Completed building

METHODOLOGY

The way it is intended to deliver the project

The project delivery sequence is identified in the project programme, attached:
 Functional requirements and building vision are to be developed by Project Control Group (PCG)
 An architect is to be engaged to develop the design concept with the PCG and with Community input. Detailed design and contract documentation is then to be developed for tendering to selected contractors.
 Fit out requirements are to be developed with the PCG and delivered as a separated fit out contract. It is not expected that the architect will be involved in fit out development.

BUDGET

Library Construction, Consents, Fees

Year	2004/2005	2005/06
Source		
CCC Property Unit	\$510,000	\$2,095,000
Riccarton High School		\$550,000
	Total \$3,155,000	

Fit out and stock

Library & Information Services	Fit out		\$540,000
	Stock	\$350,000	\$510,000
Riccarton High School	Fit out		\$ 25,000

TIMEFRAME Project programme attached.
Project commenced October 2002, building opening is planned for early December 2005

PROJECT ORGANISATION *Including roles and responsibilities*
Project Sponsors:
Sue Sutherland - Manager, Christchurch City Libraries
Gary Coburn – Principal, Riccarton High School

Project Control Group (PCG):
Sue Sutherland – Manager, Christchurch City Libraries
Gary Coburn – Principal, Riccarton High School
Nicki Moen – Area Manager, Christchurch City Libraries
Meryllyn Smaill - Riccarton High School
Rob Hawthorne - Property Planner, CCC Property Unit
Bruce Moir – National Library
Ian McKenzie – CCC Project Manager

The PCG will convene as necessary, usually on a monthly basis, to receive reports on project progress; to make required decisions on project scope, progress and budget; and to discuss issues arising.

The Project Manager will report to, advise, and take direction from the PCG. The Project Manager will maintain a project programme, engage consultants as approved by the PCG, convene consultants' design meetings as necessary to ensure coordination and progress with formation of a construction contract for tender and construction.

The Property Planner will provide information on land ownership and legal issues, will liaise with Riccarton High School and the Ministry of Education over these land and legal issues and will lead the completion of any necessary contracts.

REPORTS *Including progress at key stages*
Project Manager to prepare PCG reports for key dates.

Reports to Council to be prepared by Area Manager, Libraries, for information and to obtain authorisation for construction.

Reports to Riccarton High School Board of Trustees and Ministry of Education to be prepared by Principal, Riccarton High School as required.

Existing background reports:

The March report to Ricc / Wigram Community Board; Arts, Culture and Heritage Committee; and Council:

<http://www.ccc.govt.nz/Council/Agendas/2002/March/ArtsCultureHeritage/ProposedLibraryinUpperRiccanton.pdf>

The July 2002 report:

<http://www.ccc.govt.nz/Council/Agendas/2002/July/ArtsCulture/UpperRiccantonCommunitySchoolLibrary.pdf>

The original report:

<http://www.local.ccc.govt.nz/Unit/Library/ProjectsAndReports/2002/UpperRiccantonLibrary/RiccantonProposal.pdf>

MEETINGS	PCG – monthly as scheduled Christchurch City Libraries – to determine functional requirements, design details, operational matters Riccarton High School - to determine functional requirements, design details, operational matters Design team (design consultants) meetings to develop the concept and final design, prepare the resource consent application Public and stakeholder consultation meetings as developed in the project communication plan
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Terms of Reference approved

Date 2 July 2003

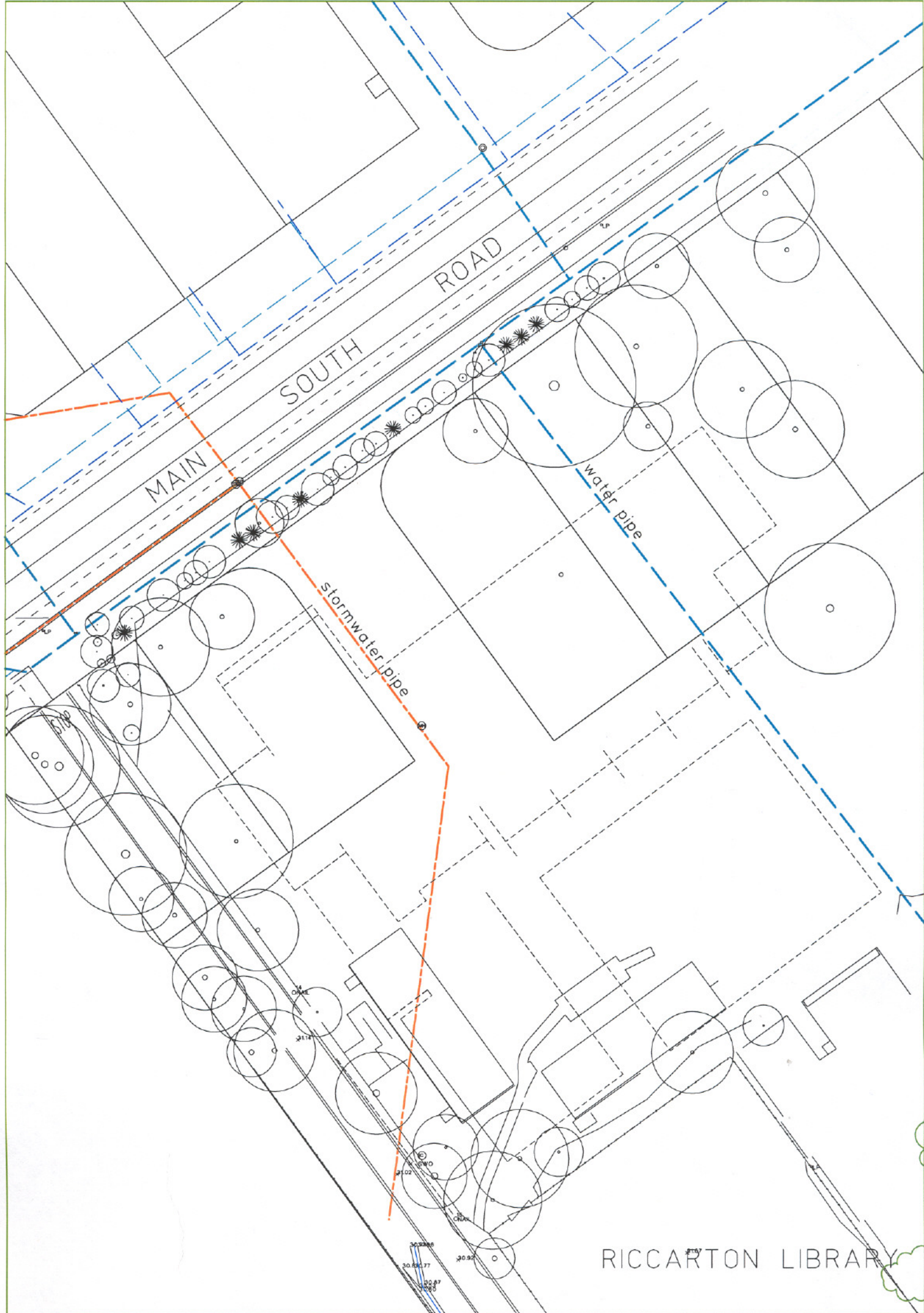
Signed:

..... (for Christchurch City Libraries)

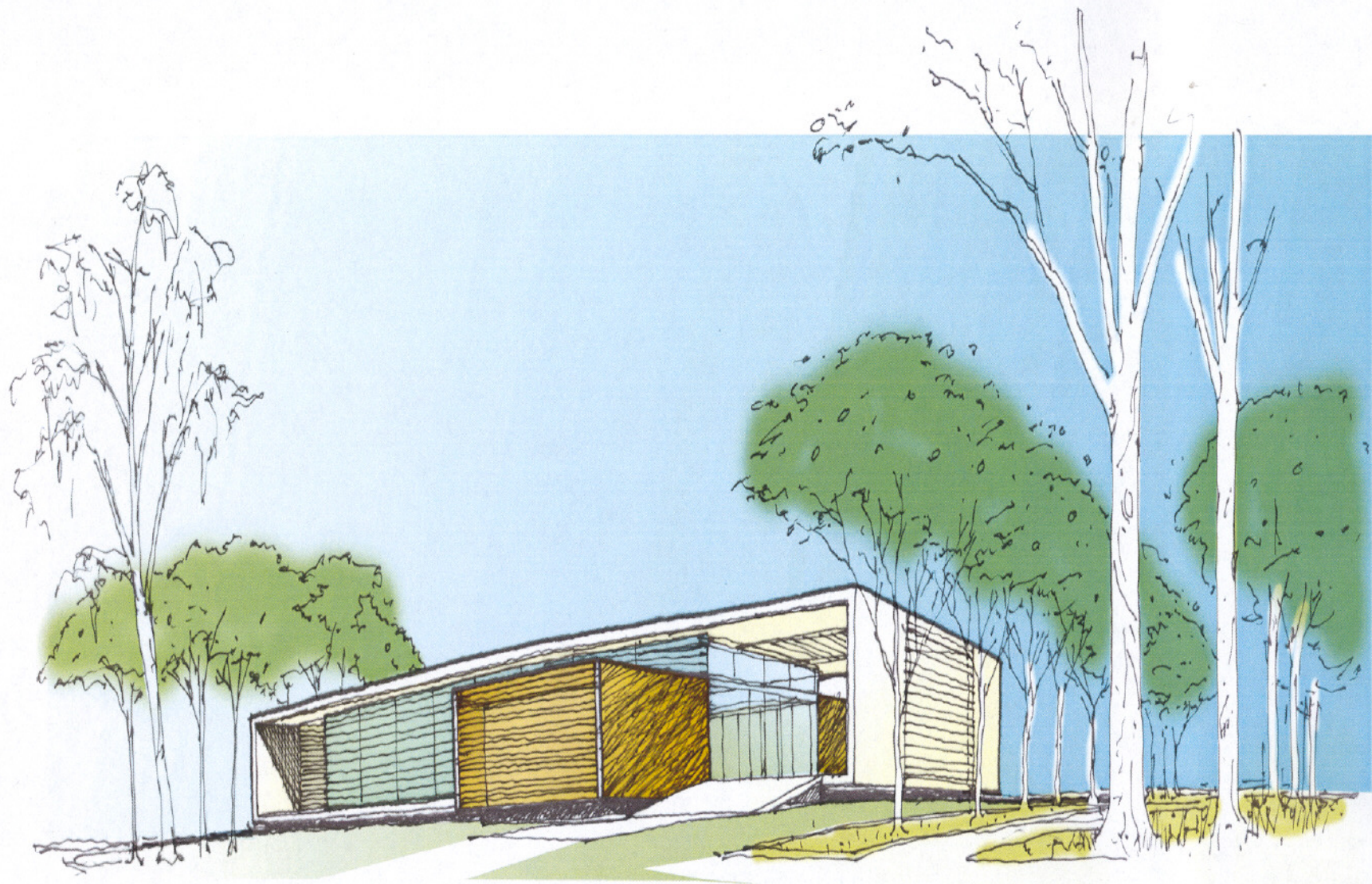
..... (for Riccarton High School)

..... (Project Manager)





RICCARTON LIBRARY







Upper Riccarton Community & School Library Project Programme V5

