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IRD building taxes skill of Lunds crew

The largest office block to be built in Christchurch in the last 15 years is presenting Lund site foreman Jim Wells and his crew some unique challenges. The seven storey building on the corner of Cashel and Madras Streets will house the offices of Inland Revenue plus a ground floor retail complex. An adjacent car parking building that preserves the façade of a historic office building is also part of the project.

Key elements of the IRD building include the two vertical shafts that are its structural core. The building's floors are made of precast Dycore beams covered with a 100mm pour. And the exterior consists of balcony beams, columns and vertical fins that make up what is essentially a separate structure attached to the outer walls.

Eighty-four piles were sunk 14 metres deep to create the foundation for the building. The majority of the piles are under the core. The two shafts will hold four elevators, stairwells, and restrooms. Jim says the core is the ballast for the whole building. It is made of precast tilt panels stitched together with concrete pours.

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C. LUND & SON LTD
Builders • Joiners • Contractors

From left: Dave Mason, Simon Thomson, Dave Johns, Gaya Griffin, and Beverley Johnston.

Fresh blood livens up Timaru office

In the wake of the retirement of quantity surveyor Ross Lund, the Timaru branch of C Lund & Son has taken on a new management team and a new way of working.

Heading up the team is long-time Lunds stalwart Dave Mason. Other key staff are contracts manager Simon Thomson and trainee Dave Johns. Beverly Johnston and Gaya Griffin now manage the office.

Dave Mason has been with the company for 33 years and has worked on many of its major projects as foreman or site manager.

"I started with Lunds down here in Timaru but then I shifted up to Christchurch," Dave Mason says. "Now I have sold my house in Christchurch and come home. I will always remember the day moved back down because it was the day of the big snowstorm."

Simon has also joined Lunds to return to his southern roots but in his case his sojourn away took him further afield. Simon has been in Auckland for 20 years and also spent some time in Australia.

"For the last six years I had my own company in Auckland. We built commercial buildings and high rise apartment buildings. I have also worked for Fletchers, Mainzeal, and Arrow International," Simon says.

Simon will be with the Timaru branch for about a year before he shifts to the company's Christchurch branch. In the meantime he will be supporting Dave Johns as he gets up to speed with the building industry. Dave Johns has also been running his own business until recently.

"I have an advanced trade qualification as a fitter-welder," Dave Johns says. "I have worked for a number of different companies, including Parr & Co, which does a lot of work with Lunds. I also spent some time in Australia and worked on the expansion of Sydney Airport.

"For the past four years I have been self-employed as a contract welder and CAD draughting technician. With Lunds I look after structural steel contracts and I am also training as a quantity surveyor."

The female faces in the Timaru office are not completely new. Though Gaya is a fresh recruit, Beverley has been with the company for 18 years.

"I started as a cleaner in the joinery workshop and I minded the office during lunch times," Bev says. "I also did a lot of site clean ups. Now I am in the office fulltime. I feel like Cinderella. I traded my steel caps in for glass slippers."

Gaya comes to Timaru after getting trained up in Lunds' Christchurch office. Gaya was an accounts manager with Allied Textiles before it closed. She is familiar with computers and has been instrumental in getting the Timaru office computerised. Prior to her arrival things were done the old fashioned way with pencil, adding machine, and typewriter.

"The office is great now," Bev says. "It is a real team."

Snow creams Fonterra dairy factory

Cattle and sheep weren't the only ones to get a cold shock from the big snowstorm that struck Canterbury on June 12th.

The 26cm of snow that fell on Fonterra's Clandyboye dairy factory collapsed two sections of a large storage shed, and C Lund & Son landed the contract to repair it. Foreman for the reconstruction effort Bruce Coles says Lunds was initially called into prop up a roof that fell on top of a shed full of milk powder.

"As the snow started to melt it was leaking onto the product. We used Doka propping to lift the roof enough that they could get a forklift in and remove everything from the shed. They got 95 percent of it out with no damage.

"The load of the snow was so heavy it sheared the bolts off at the apex of the roof. Once we salvaged the product, we lifted the whole roof out in six sections. We took all the roofing iron and purlins off and threw most of them away," Bruce says.

The crew was able to salvage some of the rafters and support columns, which steelie John Hewson straightened out and strengthened for reuse. Some new columns and rafters also had to be added for the rebuild along with new purlins.

The big snow of 2006 created work for Canterbury builders.

As big as that job was, the collapsed loading bay on the other side of the building was an even bigger task. In that case the weight of the snow literally bent the rafters in two and brought the structure down in the middle. None of the rafters could be salvaged nor could the polystyrene roofing panel.

"They redesigned that part of the building as we rebuilt it. They put in a 14m door, added Clearlite in the walls, and made the structure better," Bruce says. "In addition to rebuilding the two damaged parts of the building, we also checked and reinforced the spine trusses in the main dry store that wasn't damaged.

"Joanne Macgregor was very helpful and drove the project at the start. She has an engineering background so she could deal with their engineers. Because of her several things got checked and repairs were made that wouldn't have been otherwise."

Hospital extension creates headaches

It's not unusual to strike groundwater when digging the foundation of a major building in Christchurch. It's a bit more of a problem when the water is contaminated with diesel, however.

The four storey extension of St Georges Hospital is situated over an area that once held fuel tank for the hospital's old furnace. The tank had leaked for years, creating a hidden hazard the Lunds team uncovered.

C Lund & Son site foreman John Taggart says his team found the contaminated soil after they sheet piled the whole foundation and began to excavate to lay the floor slab for the basement.

"The digger got pugged in a silt layer that was like jelly. Then groundwater flooded the site and we had three pumps going to get it out. We filtered the water to take the fuel out and then we could pour the water into the sewer," John says.

"We were lucky to find a place that would take the contaminated soil. We weren't so lucky when we found the remains of the boiler's old chimney. We filled our trucks up with contaminated concrete and took it out to the dump but they said they couldn't take it.

"So we brought in a crushing plant. Once the rubble was crushed we water blasted it to get the oil out, and then we could dump it."

The St Georges project has been a bit of an eye opener for John. He has spent most of his career with Lunds in fit out gangs and this is first assignment as foreman.

"This was the first time I got to do all the precast and structural work. It wasn't easy but I had a lot of help. There are a lot of good men on the crew, and we were able to muck through," he says.

The St Georges project created a few more niggles than the contaminated water. Though it is a relatively simple building, because the extension was built immediately next to the existing hospital building, the sheet piles had to be braced on the inside with 900mm diameter pipe.

"We had to transfer the load of the existing building to the sheet piles on the other side of the excavation. At one point the old building started to subside and we had to dig a hole under it so we could insert a steel beam and cement to support it," John says.

Another complication was striking an underground stream when punching piles under the lift shaft, which was several metres deeper than the basement floor. It created a 2m gusher that had to be plugged before work could continue.

Because the hospital continued to operate during construction and the new building is adjacent to surgery wards, most work had to stop during surgical operations.

The end of a long day - well earned - enjoy it John!

Joinery's busy schedule includes in-house makeover

Lunds Joinery has some big projects on the horizon for 2007. Not only is it gearing up to fit out seven storeys of offices for the IRD building in Christchurch, it will also be on the receiving end of some construction work when it gets a large extension to its workshop.

The 480m^2 extension will consolidate several functions that are now spread about in different sites around Lunds' Timaru yard. The extension will house a paint shop and door hanging facility and it will provide additional storage space.

Joinery contracts and accounts manager Glen Chittock says modern joinery contracts require a lot of storage space.

"It doesn't take long to install joinery so we have to be able to store finished products. Otherwise when it got to the end of the contract the shop wouldn't be able to keep up with the installers.

"Now we have to use containers for storage. The new workshop will have storage space for material coming in and finished products going out plus a covered loading bay," Glen says.

The joinery operation's paint shop and drying area are now in old sheds at the back of the yard. The new spray booth and drying room will consolidate the two operations in one place.

Glen says putting in the new spray booth is also a chance to upgrade the technology, which will enable the joinery staff to work with contact adhesives.

Once structural staff have finished other jobs around Timaru, they will turn their attention to the extension, which will be made of structural steel and precast panels.

At the same time the workshop extension is underway, the joinery team will be working hard to build permanent fixtures – doors, acrylic panels, and conversation screens – for the IRD offices. Work has already started on prototypes for the some of the items so things can kick into action in the new year.

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Facade structure adds depth to IRD

Jim Wells

"The two pads beneath the core were made in two 500 cubic metre pours. The pads are 10m by 18m and they are 2.5m thick. There are 100 truck loads of concrete in each one. We started each of the pours at 3a.m. on a Saturday and poured concrete most of the day.

"The biggest precast panels in the core weigh 18 tonnes. Some of pours that stitch them together hold six cubic metres. That is a whole truck load of concrete in a vertical position, which has a been a challenge for Andre Stevens and his team to form up," Jim says.

The north-south exterior of the IRD building is a grid made up of balcony beams and façade columns while the east-west exterior consists of vertical precast fin panels supported by columns. Both facades sit .5m away from the wall and are attached only at the bottom, top, and sides of the each face.

"The exterior façade structure adds depth to the building, so it doesn't look like a square bloody matchbox," Jim says. "I think the architect has designed it to look like a single structure that was attached at one time with no visible joints.

"We use grout fills and rods to tie the beams together and link them to the columns. It requires aerospace tolerances. That makes it a challenge for Phil Brook and the precast guys, and for us it is like putting together a jigsaw puzzle of 1000 precast units.

"Temporary props hold everything in place. Until we tie it into roof it is like a Rubics cube with some big chunks a long way up in the air."

Jim says getting the precast slabs in place along the eastern and northern facades is also a bit of a drama because it requires cutting off a lane of two busy downtown streets. Work on Madras Street can only be done from 9a.m. to 3p.m. during weekdays.

Dave Cronin's bird's eye view.

Seasoned hand has bird's eye view

In his 34 years with C Lund & Son, Dave Cronin has reached a point where he now looks down on everyone in the company: the driver's seat of the new tower crane.

"I started as an apprentice carpenter in 1972," Dave says. "I have worked on Lunds jobs all around the South Island, including the Terraces Hotel in Queenstown, the school in Harihari, the post office in Nelson, the freezing works in Blenheim, and most of the big projects around Christchurch, including the law courts, the airport, and the art gallery.

"The first time I worked on a power crane was on the Nelson post office job 27 years ago. I came to work one morning, and Bruce Lund was in the crane. He said 'Get up here and learn how to operate this thing'. Since then I have had a few courses on cranes but they mainly teach you the safety factor."

Dave operates track cranes and mobile cranes, and he has his ticket to operate tower cranes. He says the new Liebherr crane at the IRD site is a good machine with lots of lifting power.

IRD site foreman Jim Wells says Dave's experience around big tricky structures is invaluable.

"Dave has worked on all those big building sites and he was always a hands-on man. He is still a go-to guy when it comes to concrete and precast. I bounce ideas off him because something he worked on 20 years ago might be relevant now."

When asked if he gets lonely perched up in the sky all day long, Dave replies "No, I've got the radio. And besides someone is always asking you to do something for them."

Precasters pour it on

A spin-off of C Lund & Son's contract to build the IRD office building is a major addition to the company's precast operation.

The massive panels needed to build the core of the IRD building were beyond the capacity of the 15 tonne crane in the precast shed to lift, so another precast bed was set up outside where they could be managed with an 80 tonne crawler crane.

These days the precast operation has five pouring teams and a small 'steelie' team that puts together the reinforcing cages that form the core of precast panels.

Precast operations foreman Phil Brook says during 2006 the precast operation has been almost solely focused on producing panels, beams, and columns for the IRD building.

"We have 22 guys in the operation now. Earlier in the year we were up to 30," Phil says.

The precast process starts with Mika Rairi and his gang of steelies. Mika has two men working with him now though that number was seven at the peak of the job.

Inside the 17m high precast shed are two precasting operations. One is a heated steel bed for flat panels, and the other is a vertical pouring station that uses two heated steel plates to frame fin columns and façade columns for the IRD.

The precast team pours concrete into a form.

"The heated frames in the shed reach temperatures of 40°. They can dry a panel in about 20 hours after the concrete is poured," Phil says. "Outside there is no heating and it takes about 72 hours to dry."

The large steel bed outside does have rolling covers that can be moved into place to keep the worst of the weather off the precasters. Nevertheless, Phil says it was not "overly pleasant" working out there in winter.

To match up the façade beams and columns on the IRD job requires a precise match between the starter bars and their connections as well as between dross ducts (grout pipe sleeves). Phil says the requirements for the job are all part of a precaster's work and nothing out of the ordinary.

"The big core panels were 9m long and weighed 26 tonne. They had a lot of steel in them and the boys were always cutting their thumbs when they were putting their hands in them."

Some of the key people in Phil's operation are John Plummer, who heads up the column precast gang and Hayden Coulson who heads up the pouring floor in the big shed. Dennis Archer and Daniel Bennett run the outside precast operation.

Another area of the yard Phil looks after is the carpentry shop that makes boxing and framing as well as anything necessary to support the Lunds joinery team. The carpentry shop is better known as Bryan's World thanks to the legendary head honcho there – Bryan Dodd.

Future is here in high tech glass cladding

The IRD office building will create a striking effect by combining an inner façade of floor-to-floor glass panels with outer façades of precast columns, beams and vertical fins. Glass cladding for the project is supplied by Thermosash Commercial Ltd.

Thermosash specializes in the design, manufacture and installation of the unitised glass curtainwalls that have become so popular in commercial buildings over the last decade.

Among the buildings Thermosash has clad with unitised glass are the Stock Exchange and Sky City complex in Auckland and Te Papa, the National Museum of NZ in Wellington.

CEO David Hayes says Thermosash systems are tested to World Façade Performance standards and to particular specifications for individual projects.

Thermosash has factories in Auckland, Wellington, and Christchurch where it manufactures and glazes the panels it uses in its facades. David says the IRD building has high-performance double glazed units that are locally made by Metro Glass Tech in Christchurch from imported European glass.

"The IRD office block will have 6000sqm of glass curtainwalling. We are using some novel installation techniques for this job, including a mini crane. Some of the units weigh 450kg a piece so it requires some specialist equipment to manage on-site installation safely," David says.

"We are very impressed with Andrew Macgregor and the attention to detail Lunds has shown on this project. The quality of the precast and the construction and the accuracy of the construction tolerances for a building this size is some of the best I have seen in the NZ market.

"A sensational effort by the Lund team. We are looking forward to the completion of this project. We believe it will look fantastic."

The Thermosash crew install a double-glazed glass wall unit.

TIMARU BUZZING WITH SPRINGTIME PROJECTS

Lund's Timaru end has several balls in the air this spring. They are finishing up an extension to the Timaru Motors' garage workshop, getting a good start on the construction of a large storage shed for Canterbury Wool Scourers and on time to complete a technology centre for the start of the 2007 school year.

Timaru sites supervisor Dave Mason says the new

The T-TEC building in Timaru.

At work on the new warehouse for Canterbury Wool Scourers.

Timaru Motors building is made of steel trusses, concrete floors, and colour steel cladding. The crew is headed up by Ross Brown and had four Lunds tradesmen on site at its peak.

"The new building will hold two paint spray booths, a windscreen repair room, and a chassis straightener," Dave says.

"The chassis straightener was the most challenging element in the project. It consists of steel beams and reinforcing that is set in the floor and infilled. The beams all had to be level and held in place by cross beams until it was filled with concrete."

Though a much larger building, the wool scourer's new storage shed and loading bay is a similar structure to the garage. It has a poured concrete floor, colour steel roof and cladding, and precast wall panels in part.

"It is a relatively simple building. It should take us 16 weeks to build. The floor is poured in 18m x 16m bays and it will take about 500 cubic metres of concrete," Dave says.

While these two buildings are average looking structures, the new Timaru Technology Education Centre (or T-TEC) is an architectural showcase near the centre of town. It will house laboratories, computer suites, cooking facilities, and other facilities for intermediate school technical education.

Seen from above the building has triangular shape with a large high ceiling atrium in the middle.

Site foreman Mike Leonard says eight Lunds staff and 25 subcontractors were working on T-TEC in early December. They included plasterers, drain layers, plumbers, and electricians, as well as sprinkler, ducting, and cladding specialists.

"There are some high ceilings, funny angles, and overhanging roofs which is part of the architectural design. The framing is all timber. Some of it is 6.3m high, which is a bit of a challenge," Mike says.

The Koru Lounge at Christchurch Airport.

Joinery team putting on the ritz

Some of New Zealand's toffs are enjoying their place in the lap of luxury thanks to the work of Lunds Joinery.

One of joinery's major projects this year was the fit out of Victoria Apartments in Christchurch. These are 17 luxury apartments in a 13 storey building overlooking Victoria Park. Each is individually owned and cost their owners $900,000 to $3.6m to buy.

Lunds had the contract to provide all the joinery in the kitchens, bedrooms, lounges, and bathrooms.

Contracts and accounts manager Glenn Chittock says each owner was able to individualize the final look of their apartment.

"All of the owners made significant changes and it was a big job to administer them. In the first six months of the project there were 13,000 pages of alterations we had to keep track of.

"These are people who are used to getting what they want. We got to make some amazing stuff for them. Everyone has granite tops on kitchen benches and vanity units. One of the owners spent $80,000 on granite, all of which we supplied.

"A lot of the wood joinery has high quality lacquer finishes. Stained mahogany was popular in the 70s but it went out of fashion. It is back in again and we supplied it by the truckload," Greg says.

No doubt when the residents of Victoria Apartments travel, they cool their heels in the Koru Lounge while waiting for their flights. If they wander into the Koru Lounge at Christchurch Airport no doubt they will be impressed with its new look.

Glen says the contract to provide the joinery for the Christchurch Koru Lounge refurbishment brought with it a very tight time frame.

"We had to do everything from start to finish in five weeks – that meant buy the material, make the joinery and install it. The contract involved a lot of wall panelling, a serving counter for food, some enormous tables, computer work desks, and decorative screens.

"To make everything within the timeframe we pre-built the wall panels and then stood them up and installed them on site. We got a lot of help with this from the Christchurch carpentry team led by Bryan Dodd and Robbie Halliday," Glen says.

Sydney show opens eyes to new technology

Last July two Lunds Joinery staff – Mark Baird and Julian Pratt – headed off to Sydney to attend the biannual exhibition of the Australian Woodworking Industry Suppliers Association (AWISA).

The AWISA exhibition is a showcase for the latest joinery technology and machinery.

Mark says at previous shows they were able to see in operation the edge bander and point-to-point Lunds eventually purchased.

"This year our main focus was to look for a wide belt sander to replace our existing one, which is 22 years old. We looked at several different types of sanders. The main improvements they offer over our old sander are wider tables for sanding wider timber, sectional front pads that give you the ability to sand veneer board and lacquered panels, and greater accuracy for general sanding.

"We also looked at vacuum lifters for lifting solid core doors, etc. There were several vacuum lifters at the show which are perfect for handling solid core doors. We hope to incorporate one of these in our new extension of the joinery shop to handle and move solid core doors."

The AWISA trade show is a great place to check out the latest joinery technology.

Mark says the AWISA show was very worthwhile. He and Julian then had a great three and half days looking at the latest hardware, and it took all of that time to take in all the show had to offer.

He and Julian are thankful Lunds is a company that sees the benefit in attending such shows and they're thankful for the opportunity to attend.

Dam hard work in tough conditions

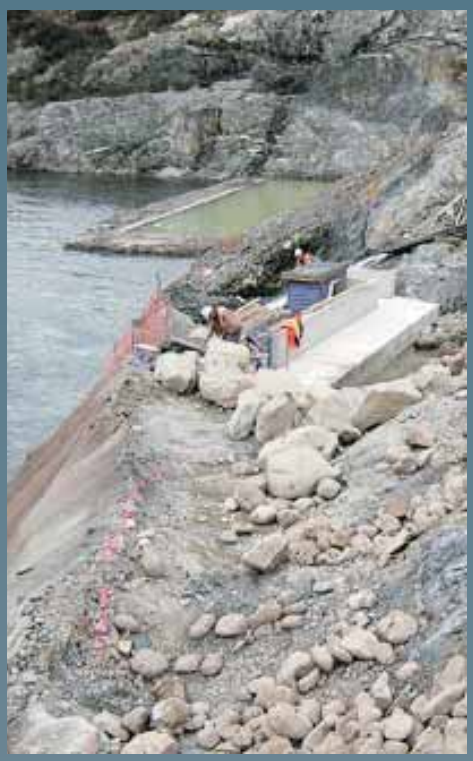
In 1997 an unseasonably large storm caused flood waters to breach the half-completed Opuha Dam. That event led to a redesign of the 50m-high earth dam and delays in construction.

This past winter a Lunds crew helped put the finishing touches on the Opuha Dam by building a series of walls and sluice boxes that will be used to monitor seepage.

Foreman for the project Neville Ellery explains that all earth dams leak to a certain extent. As a precautionary measure four pipes draw water out of the core of the Opuha Dam and it is monitored for volume and clarity to determine the amount of that leakage.

"We built four flume boxes that will each hold a monitoring device to measure the flow and the amount of silt particles in the water coming out of each pipe. It lets them know what is going on inside of the dam and gives advanced warning if anything goes wrong.

"We also built a 70m-long wall along part of the base of the dam. The wall follows the contour of the face of the dam. It ranges from 800mm high to about 2m high at the deepest point. It collects any water that does seep through the dam and channels it back into the river," Neville says.



The Opuha Dam project was tough work in tough conditions.

The Lunds team was working at the same time Rooney Earthmoving Ltd was filling in a series of terraces carved out of the front of the dam. The terraces were about 3m wide and they were filled with 200mm to 300mm diameter rocks. The fill will prevent the dam from getting scoured out should a leak develop.

Lunds builder Barry Chinn was on the Opuha Dam project. Barry says the terraces go up about two thirds of the face of the dam, and, though there were safety benches in place to catch any material, it was sometimes a bit unnerving to have trucks and diggers moving 20 to 30 ft above them.

Rooney Earthmoving contracts manager Brent Woods says the $2.5m dam project entailed moving 1500 cubic metres of material from the front of the dam. Brent says Rooney Earthmoving has an industrial division that normally subcontracts to Lunds, and this was the first time Lunds subcontracted to them.

"It was not a nice place to be working and they did a very good job in conditions that were about as bad as it gets. They were working on the south side of a north facing dam, so they only got an hour or two of sun each day.

"Then we were snowed off the site by the big storm. It took us two days to get back in with our equipment. When we got there the whole site had been flooded and a bunch of their boxing got washed away," Brent says.

Better safe than sorry

Grant Harvey

Grant Harvey isn't always the guy Lund crews want to see turning up on site. As the company's health and safety coordinator, he can appear at those inconvenient times when thing are a bit too relaxed.

Grant does a monthly health and safety audit. He also visits sites to make sure everyone is wearing the right safety gear, machines have the proper guards on them, and other safety procedures are in place.

"Lunds has a very good safety record. It has been three years since we have had a serious accident and our safety stats are improving all the time," he says.

Having worked with Lunds since he left school and having done all nature of construction work, Grant knows what builders have on their minds.

"If you are not on side with guys it is harder to get cooperation. The best way to achieve a safer workplace is to work together. If I see something is wrong I point it out. We can have a laugh about it but the point is that they do better next time.

"Everyone is ultimately responsible for their own safety. One thing I would like to see is more 'incidents' reported. If there is a near miss or someone gets a minor injury, an investigation can help stop more serious accidents happening."

Grant says, because it is a seven storey building, the IRD office block job creates some particular health and safety issues.

"We put four guys through a height safety course to learn about harnesses and fall arrest equipment. On a multi level building we have guard railings and kick boards in place so stuff doesn't go over the edge.

"Tidiness is also important on big jobs because we don't want to see anyone trip and or anything kicked over the edge. Time constraints can affect health and safety. The IRD job has reasonable time pressure but it isn't too tight."

Cranes are another health and safety issue. Sixteen operators and staff who work around cranes recently did a course run by the Power Crane Association of NZ.

Lunds social whirl spins on

Lawn bowls, the theatre, and, of course, the annual quiz night were the highlights of Lunds' social calendar this year. A family day at Sharvin Lodge is the first outing planned for 2007.

According to social committee organiser Sarah Hill, precast operations foreman Phil Brook organised lawn bowls at the Edgeware Bowling Club, which was attended by Christchurch members of the social club. Sarah says judging by the bar tab, everyone had a good time at the event.

From left: Helen Hewson, John Olds, Mrs Driver and Gaya Griffin.

Both Christchurch and Timaru social club members attended the Court Theatre's performance of Ying Tong in June. The play tells the story of Spike Milligan and it generated lots of laughs. Before the curtain went up the Lund theatre goers went to Alchemy Café for nibbles and drinks.

No social club year would be complete without the Battle of the Ends, which sees Timaru and Christchurch people test their knowledge against each other in a quiz night at Ashburton Hotel.

"This year the honours were divided," Sarah says. "Christchurch was the sharpest end but Timaru had the sharpest team.

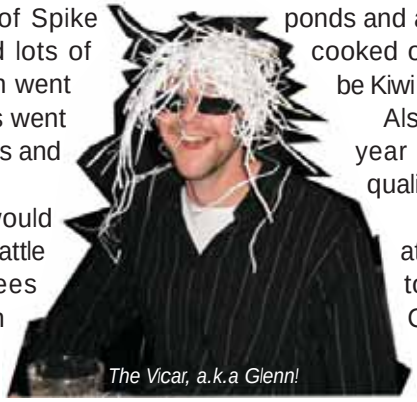
"People can choose which town to represent. Some couples split and played on different ends, and in that case we take no responsibility for domestic disharmony.

"This year the prizes supplied by our sponsors were fantastic. They include G Shock watches and Dirty Dog sunglasses along with jackets and t-shirts."

Sarah says this summer's family day will be on February 10th at Sharvin Lodge, which is on Pound Road, on the southern outskirts of Christchurch. The lodge has fishing ponds and anything that is caught gets cooked on the spot. There will also be Kiwi cricket and an evening meal.

Also on the agenda for next year a trip Naseby's Olympic quality curling ring.

The social club is a bargain at $2.50 a week. If you want to join contact Sarah in the Christchurch office.



The Vicar, a.k.a Glenn!