

Case study written commentary examples

Introduction

The following are five examples of sections of recent case studies submitted for Experience Area D - Procurement. They are all from applicants who were successful in gaining registration. Their co-operation in making these examples available to prospective registrants is much appreciated.

They have been edited only to remove critical details that may have allowed readers to identify the architect, their practice, the client or the project. All other material is the applicants own work including formatting. Any errors, omissions, inaccuracies and inconsistencies remain.

The Board offers these examples for information only to provide an indication of the range of work submitted by applicants who have met the minimum standard in their assessment. The Board specifically does not vouch for the completeness, accuracy, or appropriateness of these case study examples.

Remember that the prepared case studies provide background on which to structure the assessment conversation and are not assessed in their own right.

The assessors are not expecting comprehensive theses on the Experience Areas, brevity is a virtue.

It may be of interest to graduates commencing the preparation of case studies to know that the total word count of these five applicants' examples (Experience Area D only and excluding appendix materials) ranged from under 1000 words to over 5000 words. These applicants' total word counts for all their commentaries varied from just over 9000 words to more than 29,000 words.

Issued 2 February 2011

Example 1

1. Outcome (NZRAB)

To establish an appropriate procurement method and complete contractual arrangements with all participants.

2. Overview

Different types of projects and clients needs can lead to several options of project delivery strategies. These should ideally have been agreed upon at an early stage between Architects and clients. Whatever strategy has been chosen, there will be a time at which a contractor needs to be appointed. A procurement method has to be chosen to ensure that the contractor appointed to the job would guarantee the project is carried out in an efficacious manner and is of an appropriate standard of quality. These matters can be considered of different weight for different clients; there could be projects giving priority to the time aspects, others to quality, others to budget, another to a combination of those. To meet Client's need it is fundamental that the right project delivery strategy and procurement method be chosen.

Once the strategy has been agreed upon, Architects can have different roles, assisting clients and/or the Project Manager as a consultant or administrator.

A tender process will be in place unless the contract will be negotiated with a specific contractor. The tender will need to be administrated by the Architect, the Project Manager or others. The Administrator of the tender process is the administrator appointed in the contract, and s/he needs to guarantee fairness towards all people involved in the process, including the client and builders.

3. Performance Indicators

Knowledge and familiarity of different types of contracts and contract conditions has been demonstrated.

The procurement method for the main contract was an invited tender. This was due to the size of the job and the need for the contract works to be ended in the time assigned.

The contract used had been NZS 3910:2003 with amendments as stated in Conditions of Tender and Condition of Contract.

(ref. D1 p. 114-124 - selection of Condition of Tender for the Main Contract).

This Contract, differing from NZIA SCC did not require the administrator to be an Architect. The administrator of the contract, defined as Engineer had been appointed the Project Manager. Engineer to the contract administrated with architect consultancy.

Experience and knowledge of the role of the Architect in preparing documentation has been demonstrated.

The Project Manager had administrated the tender and the entire contract thereafter. The Architect dealt directly with the PM in providing technical consultancy and the documents needed. As other consultants were engaged from the Architects, we coordinated the sub-consultants in order to deliver consistent and accurate sets of documents to the PM for use as tender documents and during tender process, e.g. specifications, notice to tenderers etc.

(ref. D2 p. 125-127 - communication Project Manager/Architect + Architect CI for refurbishment tender attached).

(ref. D3 p. 128 - Notice to Tenderer, demolition contract).

(ref. D4 p. 129-140 - selection of drawings issued for tender / D5 p. / - selection of specifications issued for tender).

Familiarity with a range of procurement processes has been demonstrated.

The procurement process for another commercial project carried out by the practice, can outline some important issues related to different procurement processes. The project of the ABC Building saw the Applicant closely involved during the design and documentation stages. Due to the complexity and highly specific performance requirements of the double skin facade, during the development design stage, it had been decided to appoint a contractor for this specific work on the base of Design/Build deliver strategy. The tender had been processed on the base of P&G specification. The DEF project, did not require works of a high level of specialization, hence it had been tendered on a completed set of detailed drawings and specifications. Tenderers submitted a fix lump sum price for Preliminary and General plus margin, subcontractors had been appointed with further tender processes during construction. The Architect consulted the Project Manager in reviewing tender offers for the Main Contract and instructing the Contractor about the trade tenderers.

(ref. D6 p. 141 - communication Project Manager/Architect)

(ref. D7 p. 142-152 - selection from tender offer)

(ref. D8 p. 153-161 - selection from tender offer)

Appropriate procedures through the tendering and contract negotiation processes have been followed particularly with respect to ethical principles.

In tender processes in which the Architect is appointed as the administrator of the Contract, ethical principles are to be followed in respect of the client, builders and colleagues. In this project, the administrator appointed was the Project Manager, hence the Architect assisted the Project Manager in the process, still working with respect to ethical principles but within the constraints of a consultancy contract.

4. Conclusion

The tender process had been an important experience for the Applicant as it gave him the opportunity to get involved in reasonably complex processes due to the large scale of the project and implications of this.

Several tender processes had taken place in the DEF project, from the demolition through to the refurbishment, to the Main Contract. These have given the applicant a wide range of experiences with varying levels of involvement.

The Project Manager driven procurement method of this scale required significant coordination responsibility regarding the work of sub consultants and on the overall accuracy of the documents delivered.

The Applicant recognized that the Architects had been working following ethical and professional principles, ensuring the best interest of the client, providing accurate documents and consulting the Project Management Team in order to be fair towards the tenderers.

5. Complementary jobs

Below is a selection of jobs in which the applicant has been involved during Procurement stage in the past three years in New Zealand:

Example 2

D1 Procurement Method

At a pre-tender client meeting, in which I participated, it was decided that the contract would be procured by means of a selected tender process and would be a lump sum contract. It was believed that this process would achieve the best price while minimising risk to the client.

It was decided that four construction companies would be asked to express interest in submitting a tender for the project. All four companies selected had previous experience working with either our practice or the client, which ensured confidence that all were capable of competently completing the project. I wrote to the four selected companies formally inviting them to register their interest in tendering for the project. As expected, particularly due to the state of the construction industry at the time, all four companies positively responded, expressing interest in submitting a tender.

[See Appendix D1: Pre-Tender Client Meeting Minutes]

[See Appendix D2: Invitation to Register Interest in Tendering, and Contractor Response]

D2 Conditions of contract

The director-in-charge and I put fourth our intention and confirmed with the client that our practice would be administering the contract under NZIA Standard Conditions of Contract (SCC) 2007. We explained that these conditions were tailored to be used specifically by architects, and provided a standard copy of SCC 2007 to the client for review and reference purposes.

D3 Specific and Special Conditions of Contract

The director-in-charge customised the Specific and Special Conditions of Tender (schedules T1 and T2), and the Specific and Special Conditions of Contract (schedules B1 and B2) of SCC 2007, to be project specific and discussed these with me to ensure I understood and agreed with the customised details. We then confirmed these with the client who requested that additional items be included in the Special Conditions of Contract.

The Specific Conditions of Tender outlined (among other details) contract details, architect's details, the due date for submission of tenders, and the required tender validity date. We decided to set a tender validity period of 2 months due to the tender submissions being required just prior to the Christmas period. At any other time of the year, we would have instructed a tender validity period of 1 month.

The Special Conditions of Tender requested details the tenderers were to include with their tender submission. These included:

- Details of margins to be applied to Variations to the Contract
- Key Personnel details
- Details of a proposed early completion
- Labour, Plant and Equipment Dayworks Rates
- A Tenderer's Questionnaire requesting company details

We included a provisional allowance to cover potential unforeseen structural implications associated with the boundary work. We took care to convey the provisional allowance as being for a precise section of work.

Under the Specific Conditions of Contract we included:

- Details of the Principal and NZIA Practice
- Set a Contractor's performance bond required of 5% of the contract price
- Details of Insurance requirements (due to having an existing building on the site the Principal insured the contract works)
- Site possession date
- Practical Completion date
- A Defects Liability Period of 6 months
- Details of Retentions
- Details of Liquidated damages
- The time after Practical Completion for submission of the final claim

Under the Special Conditions of contract we added a clause outlining additional information required by the contractor in order to qualify for Practical Completion. The intention of this was to encourage the contractor to provide information such as warranties, operation and maintenance manuals, and apply for Code Compliance in a timely manner.

At the request of the client we also added a clause stating that "*no additional payments due to extensions of time in respect of adverse weather will be considered*".

[See Appendix D3: Special Conditions of Tender]

D4 Tender Collection

After compiling the tender documents, including those of the consultants, I advised the tenderers of when the documents would be available for collection. An accompanying letter outlined the contents of the tender package. Upon collection, I ensured each tenderer sign a collection register for record purposes. Each tenderer signed an individual page so that they would not immediately discover the identities of the other tenderers. It is a policy of our practice not to disclose the identity of the other tenderers to reduce any change of price exchanging which may disadvantage the principal.

[See Appendix D4: Consultant Correspondence]

[See Appendix D5: Advice to Tenderer of Tender Document Collection Time]

[See Appendix D6: Tender Documentation Issue Letter]

[See Appendix D7: Tender Document Collection Register]

D5 Notices To Tenderers

Several items arose throughout the tender process that necessitated the issue of Notices to Tenderers (NTT). These arose through queries from tenderers and from conditions of the building consent approved during the tendering period.

One such matter arose when one of the tenderers brought to our attention that the profiled metal roofing system we had specified was very expensive. Upon review we opted to change this specification.

I sent the Notices to Tenderers out simultaneous to each of the four tenderers, ensuring each received the same information at the same time and thus no unfair advantage could be gained.

[See Appendix D8: Notice to Tenderers No. 02]

D6 Tender Submission

All tenders were received in the last few hours prior to the tender submission deadline. These were in the form of email, facsimile and hard copy format. The tenders submitted in the form of email or facsimile were followed up with hard copies.

All tenders received included numerous qualifications, clarifications or conditions.

[See Appendix D9: Tender Submission]

D7 Tender Evaluation

I forwarded all tenders to the client and explained that there were numerous clarifications to work through that could have a considerable affect to the initial tendered prices.

I set up a spreadsheet that enabled me to enter details of the tenders so that they could be easily compared. The spreadsheet presented values of each trade, contractor's margin and the highest and lowest prices of each trade. It also presented details of margins on variations and indicated the extent of company details provided. I treated this as a live document and updated it as responses to clarifications were received.

[See Appendix D10: Tender Analysis Spreadsheet]

I requested that the lowest three tenderers remove their clarifications (*tags*) to enable us to evaluate them properly. We chose not to pursue clarification of the highest tender due to the extent of the price difference between that tender and the next lowest.

In order to remove the majority of the tender clarifications I was required to correspond up to three times with each of the tenderers. I had some difficulty in receiving responses within the requested timeframes due to the proximity to the Christmas period. The tender evaluation period extended over three weeks. At another time of year I would have expected the evaluation to be completed more rapidly. I conveyed this issue to the client who accepted that there may be some delay before we could confidently recommend a tender to accept.

Interestingly, removing the tender clarifications resulted in very little change to the submitted prices. I credit this to the competitiveness of the construction industry due to low work volume at that time.

Once all clarifications were removed to our satisfaction, I compiled a tender report to present to the client. The report summarised the tenders received, highlighted key points of these tenders, and recommended a tender to accept. It also included

all correspondence between our practice and the tenderers during the evaluation period. I met with the client together with the director-in-charge to discuss the report and our recommendation. The client agreed to accept our recommendation. This was the lowest tender which was submitted by ABC Construction.

[See Appendix D11: Tender Report]

D8 Tender Acceptance

I requested the client confirm the accepted tender via email, for record purposes, before sending a Tender Acceptance letter to ABC Construction and thus awarding the contract. As soon as this letter was sent, a contract was in place.

The tender acceptance letter also provided details of the other tenders received and asked that the construction programme, insurances and health and safety plan be prepared.

[See Appendix D12: Tender Acceptance Letter]

I received a phone call from ABC Construction immediately after issuing the tender acceptance letter. After learning the other tendered sums ABC Construction were concerned (unnecessarily) that they had made a mistake despite having been asked to check their calculations during the evaluation period.

I advised the unsuccessful tenderers in writing.

Example 3

Section D – Procurement

Outcomes:

Establish an appropriate procurement method and complete contractual arrangements with all participants.

Performance Indicators:

- Knowledge and familiarity of different types of contracts and contract conditions demonstrated.
- Experience and knowledge of the role of architect in the preparing of documentation has been demonstrated.
- Familiarity with a range of procurement processes has been demonstrated.
- Appropriate procedures through the tendering and contract negotiation processed have been followed particularly with respect to ethical principles.

1 Types of procurement

1.1 Negotiated Tender

A Negotiated Tender was chosen as the procurement for this project and is when one contractor is selected and is asked to submit a tender. This form of procurement allows for negotiation between the Contractor and the Principal for the price and scope of the contract and this was the procurement method used for this case study. When selecting a contractor to negotiate with, our practice will look at the scope, location of the project and if a contractor our practice has used before would be suitable. Our practice will also discuss with other NZIA practices for feedback on particular contractors.

Our practice proposes this method with Clients when the project is small in nature or when it might be hard to secure the selected number of tenderers to tender for the project. I found during the construction boom up to 2009 that it was hard to get contractors to tender. There was plenty of work on and there was little in the way of competition between builders. This is the reason why this procurement method was chosen for this project.

Other forms of procurement:

1.2 Invited/selected tender

A number of tenderers will be pre-selected, contacted and asked to submit a tender. Our practice will select 3-4 tenderers to tender and up to six tenders is considered sufficient to be competitive.

When I am selecting tenderers, I consult with the Client to see if they have contractor they wish to use, I then establish a short list of contractors that would be suitable. This is based on my experience, other staff experience and our practice has a contractor list that shows lists the contractors the practice has worked with, the type of project and any notes of importance. Other sources to select suitable contractors would be other Architects and NZIA practices and ask for recommendations.

An alternative is that an advertisement can invite registrations of interest and submission of credentials and from there a shortlist can be assembled¹.

Once a shortlist has been assembled I then ring each suitable tenderer, brief them on the basics of the project – type of work, timeframe to start construction and timeframe to tender, I tend to only briefly cover any information about the Principal. If they confirm that they wish to tender, I will confirm in writing the above information and the Principals name.

I advise the Principal of the selected tenderers in writing.

1.3 Open Tender

An open tender is when an invitation to Tender is by a public advertisement. The tenderer has to supply adequate information to the architect to establish that they are capable of carrying out the work if successful. This is rarely used nowadays and a tender deposit should be provided for in the tender documents².

¹ NZIA Practice Note PN9.301

² NZIA Practice Note PN9.301

2 Types of tender

2.1 Lump sum

Tenderers are asked to submit a fixed price to carry out the project and this type of tender used for this case study. This lump sum is based on the documentation supplied at the time of tender. Compared to rates and margin there is lower risk to the Client in that the price is fixed subject to any variations.

The disadvantage is that the tenderers will include contingencies for items that they might not have allowed for during the tender and the price may not be as competitive as rates and margins.

2.2 Guaranteed maximum price

This is when the maximum price of project is fixed at the completion of sketch or developed design stages. The contractor will vary the work to maintain the program and price and carries all the risk.

The advantages of this for the Client is since the price is fixed there is no risk to cost increase. The primary disadvantage to the Client is that the Contractor can lower the quality in order to keep within the agreed price.

Sketch plans and outline specifications need to be thorough or issues can arise if the contractor claims additional costs for items that they believe could not be anticipated based on the documentation supplied.

2.3 Rates and margins

The selected tenderers submit a breakdown of Preliminary and General costs, hourly labour rates, margins on variations and materials. The tenderers are then evaluated on these rates and margins. This option carries more risk for the Client as there is no fixed price and relies on goodwill between the parties involved. The advantage to the Client is that the costs are only for items that are used onsite.

I have used this before on a project where we selected the Contractor at the start of the developed design stage on the above criteria. Two tenderers were supplied with basic drawings (site plan, floor plan, typical section and elevation) and an outline specification.

A variation of this is when the tenderer is asked to submit a fixed price. It is then negotiated that the contract be carried out with labour and carpentry (and sometimes sub-contractors) on a rates and margins basis. I am working on new house project where this is the system being used.

2.4 Labour Only

A labour only contract is when the Contractor is contracted only to provide labour. All material and organization of sub trades are organised by the Principal. This creates significant work for the Principal and has liability issues for who is responsible for the work.

3 Procurement Process

For this case study, our director and I met with the Clients towards the end of the detailed design period and discussed the procurement method. I explained that in the current climate there was a shortage of builders that would tender for work. By bringing a contractor on board at this stage accurate pricing can be carried out without the need to use a Quantity Surveyor. This pricing would

determine the viability of the project and confirm if any changes would need to be made to the scope or the budget of the project.

We explained the benefits of using a Quantity Surveyor in that they provide impartial advice on costings and can be used as a benchmark against the received tender prices. The advantage of using a contractor was that they would have up to date pricing and this is an advantage in a heated construction market. The Client was more concerned with the work being of a high standard and with a degree of price certainty rather than achieving the lowest initial price and opted to negotiate with one contractor.

When selecting a contractor that might be suitable for this project we looked a number of builders that would be suitable for the project and compatible with the Clients. We had a shortlist of two, one I had recently worked with on a project and the other was the contractor that had worked on a nearby house that the Clients admired. I had worked with both contractors before and both were capable of the job but my preference was for ABC Construction (ABC). ABC was a larger company with multiple crews and I felt they would be able to apply more resources to the project if required and would be a better match with the Clients. I made my recommendation to my director and this was discussed with the other Principal who had also worked with ABC recently and they concurred.

I then approached ABC to confirm their interest in the project. We arranged a meeting with the Clients to see that each party was compatible, the Clients were impressed with ABC and took them to a recent project he had completed (I was also administrating the contract on that project and this was clearly stated to the Clients at the time).

3.1 Initial Estimate

In June 2008 ABC Construction were asked to submit an estimate for the project (house and garage) to establish if the proposed design was within the Client's budget. ABC Construction were supplied with the following documentation³:

- Cover letter
- An outline specification
- Existing and demolition plans
- Floor plan and finishes proposed plans and finishes,
- Proposed elevations
- Typical longitudinal and transverse sections
- Window and door schedule.

As this was an estimate, SCC-Tender forms were not used but the Contractor was asked to break the summary into trades and this was based on how I set out Tender submission forms.

We received the estimate on 1 Aug 2008; I evaluated the breakdown of costs on a spreadsheet⁴. This makes it easy to track changes and this is how I evaluate invited tenders. I identified a number of items for clarification and I requested in writing that these be included⁵.

3.1.1 Revisions to estimate pricing

The estimate price for the house and garage was \$510,134.33 incl GST. This was significantly higher than the Client's budget. On 19th August we met with the Clients and the contractor to discuss the

³ *Estimate Package to XX; Appendix D-1*

⁴ *Tender Evaluation; Appendix D-1*

⁵ *Request for further information, Fax to ABC dated 03 Aug 08; Appendix D-1*

project. The Clients wanted to reduce the costs, but did not want to change the scope or reduce the quality of the finishes.

It was decided to reduce the project cost that the Clients would carry out a number of items themselves and post contract:

- Interior Painting to be carried out by Clients
- Floor coverings laid post contract
- Garage painting by Clients.
- Contingency sum reduced to \$10,000.00 this was because the Contractors pricing was thorough and picked up all possible options
- Rimu skirting changed to paint quality pine
- Clients would carry out the simpler demolition work themselves

This was communicated in writing to ABC Construction who then carried out re-pricing and the revised estimate was \$466,648.77 incl GST with the total for the house \$431,434.81 incl GST. The changes were tracked on spreadsheet⁶ and after presenting this to the Clients⁷, they confirmed they were happy to proceed to documentation based on this price.

3.2 XXXXXX Issue of Tender

On 19th February 2009 I requested that ABC Construction submit a fixed price to carry out the house alterations. Since earlier pricing had been carried out, I requested that the same trade summary was used⁸.

The tender package comprised:

- Tender cover letter⁹ – this includes a summary of provisional sums
- Drawings for tender: Architectural, Engineering (and other consultants if required)
- Specification: Architectural, Engineering (and other consultants if required)

Though not applicable in this case study, for tenders with multiple tenderers I include details for visiting the site such as time and contacts.

3.2.1 Notice to tenderers

Notice to tenderers (NTT) cover items or issues that have changed or arisen during the tender process.

This can be from a query from a tenderer and if this is verbal, I note that confirmation to the query will be sent out in writing. I respond in writing and send this to all tenderers, I do this so all the tenderers receive the same information. NTT can occur when an item or specification has evolved. In projects this has occurred when a selected item was not going to be available in the time allowed and an alternative had to be selected.

In this case study there no were NTTs as there had been earlier estimate pricing. Our practice has a standard form for Notice to Tenderers. I email/fax the form and send a paper copy through the post to all tenderers.

⁶ *Tender Evaluation; Appendix D-1*

⁷ *Meeting minutes, 14th October 2008; Appendix D-1*

⁸ Normally I would use NZIA SCC Tender Forms T1-T5 customized for the project

⁹ *Request to submit a Contract price; Appendix D-1*

3.3 Tender Review

Once the tenders are received, I notify the Clients that the tenders have been received. We need to evaluate these before presenting them to the Clients and I give indication of the period that I expect to complete this in.

When evaluating the tenders, I do the following:

1. Check that all notice to tenderers have been received and followed
2. Tenderers have visited the site (if required on the tender form)
3. Tenderers have submitted their tender using the supplied forms
4. Create a spreadsheet with a breakdown of the trades as per Tender forms and input each tenderers sums beside the trades. The spreadsheet includes margins and is useful to compare tenderers.
5. Evaluate the tenderers tags and notes these on the spreadsheet
6. Note the subcontractors the tenderer has selected.

The spreadsheet is useful to compare the tenderers on each trade and I note if any figures seem particularly low or high or contains errors. If figures seem low or if there appears to be an error I notify the tenderer in writing asking them to confirm the tender cost figures.

When tender clarifications are required, I notify the tenderer in writing listing the items of clarification required and supply a date that these clarifications have to be confirmed in writing by. This is usually a period of one week and if a number of tender clarifications are required, I ensure they are all sent out at the same time to ensure fairness to all the tenderers.

When not all the tenderers have clarifications I contact them via email or fax and confirm that we have received their tender and these are being evaluated. I will give an indication of when we expect to reach a decision from the Client.

When there is delay in the tender acceptance, I contact each tenderer in writing and state the reason for the delay. This is usually if the work requires government approval or approval from different departments within the same organisation.

3.3.1 Tender Review for XYZ Project

ABC Construction submitted a fixed tender price of \$407,635.50+gst on 25th March 2009¹⁰. I carried out the above steps (9.3 Tender Review) and evaluated the tender in relation to the earlier estimates received. There were increases to the labour cost, I thought the increases were reasonable and after discussing this with our director they were deemed acceptable. We felt there was still a need to reduce the project cost and I discussed with ABC Construction ways to reduce costs. Two options were proposed:

- Use an alternative kitchen manufacturer – The kitchen design had not been finalized but it was clear that the initial sum of \$35,000.00 was likely to be too low. Using an alternative supplier would offer savings of around 20% but the quality would likely be lower.
- Use a charge up system for labour and materials – this transfers some of the risk from the Contractor to the Principal. This means that only time and materials used will be charged.

¹⁰ Tender price for house alterations; Appendix D-2

I discussed these options with the Clients but they preferred to use the original joiner and have the certainty of a fixed price¹¹.

During the Tender stage, the Clients advised that they will be sourcing the light fittings through an Interior Consultant and that one of the skylights had been deleted. I communicated these changes to ABC Construction and advised a revised contract price of \$401,985.00+gst. This was accepted by ABC Construction.

With the provisional sum for the lights removed, the Clients accepted ABC Construction fixed price on 14th April 2009¹².

3.4 Tender Acceptance

In the case of an invited Tender, I call the successful tenderer confirm verbally that their tender was successful; our practice has a standard tender acceptance letter accepting the tender on behalf of the Principal. I also instruct the Principal to confirm the tender acceptance in writing and this, along with our practice letter constitutes part of the contract documentations¹³.

On 17th April I sent out the letter of acceptance to ABC Construction and began to compile the contract documents. This letter confirms the status of the project and instructs the contractor to notify sub contractors.

For invited tenders, our practice has a standard notification to unsuccessful tenderers. This follows NZIA guidance¹⁴ and states who won the tender and lists the tenders received. If applicable it also requests the return of the tender drawings and specification.

4 XYZ Project Contract

I discussed the type of contract to use with the Principals. The project at the limit of the short form agreement. The primary differences between SCC-1 and SCC2007 SF were that –SF did not have provisions for:

- Payment for offsite materials
- Cost fluctuations
- The use of Bonds (Contractor, Principal, in lieu of retentions)
- Liquidated damages¹⁵

None of these were being used in this case study and it was agreed that –SF contract would be a suitable contract for the project.

4.1 Principal

In December 2008, I had begun compiling the contract for the garage and confirmed with the Clients the legal name of the Principal and names of separate contractors¹⁶.

¹¹ *Email to Clients on ways to reduce costs; Appendix D-2.*

¹² *Email to Clients on ways to reduce costs; Appendix D-2.*

¹³ *Tender Acceptance Letter; Appendix D-2.*

¹⁴ NZIA Practice Note PN9.301

¹⁵ Liquidated damages are an amount based on losses the Principal would be expected to incur if the contract works are not completed in the agreed time. XXX does not generally use liquidated damages. In this case study there were no limitation on the completion date. The Clients had alternative accommodation and were not constrained by use of this accommodation. Without liquidated damages, general damages could still be claimed under the Consumers Guarantees Act 1993 but these have to be proven and incur costs in making a claim.

In this case study, the Principal for the contract were the Clients. The name of the Principal may not be the name of the Clients and I have encountered this when work is being paid for, and on work a property owned by a trust. The contract will need to be signed by the legal guardians for the trust. A Principal representative may be appointed and they will handle matters relating to the administration of the contract.

If the Principals address for submission of payment claims is different from the Principal address this needs to be listed. When our practice are administrating a contract payment claims then the claims address is the office address.

4.2 Contract documents

In addition to contract schedules and drawings this included¹⁷:

- Principal's tender acceptance
- Our practice letter of acceptance
- Post tender correspondence
- Contractor tender submission

4.3 Warranties and Guarantees

The warranties and duration required were listed in Rule 4.4 and in the Masterspec Specification. This form was to be used for all warranties or as per Standard conditions of contract Rule 3.6 alternative forms that comply with the wording of SCC-SF2007 4th Ed Schedule E1.

4.4 Insurance of Contract works.

The project was additions and alterations to an existing property and Insurance of the Contract works was by the Principal and included for Consequential Loss. Following discussions with the Contractor it was established that these were to assume a start date of 1st April 2009¹⁸.

4.5 Public Liability Insurance

This insurance is provided by the Contractor and as per NZIA SCC-SF2007 4th Ed Rule 5.3.1 covers liability that arises from performing the contract works. The contractor has Public Liability insurance of \$5million and a certificate of currency was provided and included in the contract.

4.6 Contractors Vehicle Insurance

This covers risk to a third party though use of the vehicle, not the vehicle itself. A certificate of currency was provided and included in the contract. The Contractor had a general Contractors Vehicle Insurance policy, this expired during the construction period and I requested a new Certificate be sent through before the certificate expired.

4.7 Site Possession date

The site possession date was set as 5 working days after the Tender Acceptance. This is the default period and allowed the required insurances to be put in place¹⁹. The contractor was already onsite as construction of the garage was underway.

4.8 Final payment claim

The contract used the default period of 2 months from practical completion.

¹⁶ Email from Clients dated 9 Dec 2008; Appendix D-2

¹⁷ Contract Documents; Appendix D-2

¹⁸ Meeting minutes dated 25 February 2009; Appendix E-1

¹⁹ This is as per PN9.401 which suggests 5-10 working days after award of contract.

4.9 Principal supplied items

Principal supplied items are items that are supplied by the Principal and installed by the Contractor. This is usually because the Principal already has those items or can purchase them. The Principal needs to insure the supplied items and carries full responsibility for these even after they are installed.

The disadvantage of Principal supply items is that items need to be correct, in sufficient quantity and fit for the intended role. I always advise the Clients that while they may save some costs by spending time selecting and supplying the items themselves. There can be occasions where parts may be defective or missing and it is then the Principal's responsibility to replace the items. If the contractor/sub contractor or the Architect has to arrange for replacement parts then there will be additional costs that may outweigh any savings they have made.

Principal supplied items for this contract were

- Heat pumps
- Kitchen Appliances
- Light Fittings
- Bathroom extraction fans (excluding ducts).

Refer to Section 15.6 for how these were handled in this case study.

4.10 Separate Contractors

For this Contract, there was a separate contractor for data, audio and phone services. The Contractor was made aware of this during the procurement process.

The Contractor is to work alongside the separate contractors but is not responsible for the performance of the separate contractor. A Contractor and Principal need to be clearly advised of the co-ordination and responsibility of the separate contractor. The Contractor should be responsible for the site safety and the contract insurance (in this case by the Principal) should include the separate contractor. This will eliminate potential disputes of what is required of them to work with as there will be time/cost coordinating with separate contractors. The liability of the separate contractors needs to be considered, where possible it is better to use nominated sub contractors in place of separate contractors.

4.11 Monetary allowances.

4.11.1 Prime cost sum:

A prime cost sum is a sum allowed for the supply only of items to be installed by the contractor. The Contractor is to allow to install these items elsewhere in the contract. The sum does not include Contractor's installation costs, margins, overheads or profit²⁰. These sums are typically for fittings that have not been selected or finalised during the documentation stage. The profit should be stated as a percentage and included elsewhere in the contract price.

In this case study there were a number of prime cost sums²¹:

- Door/window hardware
- Bathroom/Ensuite Joinery

²⁰ Practice Note PN9.302 and <http://www.thegrad.net.nz/Forum-Have-Your-Say/Prime%20Cost%20sums%20-%20definition-i6e193641-7e4f-41ba-8177-86ea62ce3b06-1114.htm>

²¹ *Prime Cost sums in Contract*; Appendix D-2

- Plumbing Fittings and fixtures
- Kitchen Joinery
- Verandah Brackets
- Glazing – mirrors
- Storage cupboard doors

4.11.2 Provisional sums

A provisional sum is a sum that has been allowed for the supply and installation of a particular product or service. The sum will include for the Contractors margin and Preliminaries & General (P&G).

This case study had a provisional sum for the exterior painting of the new addition only.

4.11.3 Contingency Sum

A contingency sum is an amount set aside to be used at the direction of the Architect for unforeseen items. For alteration work, this is important as some elements are not visible until after construction work has begun.

In this case study, we had initial contingency sum of 5% of contract value. This was reduced during the estimate pricing to \$10,000.00 as the pricing breakdown was very detailed and we thought that would suffice. NZIA suggests a range of 5-10% depending on the work²².

4.12 Practical Completion

The Contract provided a timeframe of 180 working days to achieve Practical Completion. The Contractor was required to use SCC-SF 2007 4th Ed Form C1 Contractor's Advice of Achieving Practical Completion.

4.13 Defect Liability Period

A defects liability period is a set period where the Contractor is liable to remedy any defects that occur during this time. This contract had a Defect Liability Period of 3 Months. This the default period in SCC-SF2007 4th Ed.

4.14 Retentions

Retentions are a monetary sum to be retained to ensure the Contractors carries out the Contract Works in full and corrects any defects that have arisen during the defect liability period. The amount held for retentions was 10% for first \$200,000.00 and 5% for the remainder of the contract price. The contract were as per SCC-SF2007 4th Ed with 40% released at practical completion and 60% at the end of the 3 month Defect Liability Period.

4.15 Final Payment Claim:

This is maximum time after Practical Completion that the Contractor must submit a final claim. For this contract it was set at 2 Months, this the default period in SCC-SF2007 4th Ed.

4.16 Special Conditions of Contract

There were no special Conditions of contract in this case study.

²² Practice Note PN9.510

Special conditions of contract modify the standard conditions of contract and these need to be clearly listed and explained to the Principal and the Contractor. They are commonly used to change the balance of risk between the Principal and Contractor.

In other projects, I have used Special Conditions of Contract in the following instances:

- In a residential project, an amount for retentions is being deducted at the practical completion stage and will be held for the duration of the defect liability period.
- I have worked on a civic refurbishment project, where the hours of work were to be around meetings. When assembling the tender documents, this was listed as a special condition and I included the dates and times where work could not occur and tenderers were to include afterhours hourly rate.

4.17 Signing of contracts

The contracts (Standard Conditions and Specific Conditions) were sent out for signing on 23rd April and the Principals signed and initialed each page and the sections highlighted. After being signed by the Contractor, our practice retained the Principal's copy for the duration of the contract.

5 Other types of contract

5.1 NZIA SCC-2009

NZIA SCC-2009 is the standard NZIA contract for when the contract administration is being carried out by a member of the NZIA. The Contract is suitable for all range of projects and complexities. The Contract provides a Practical Completion Certificate and Defects Liability Certificate. I have used the SCC Contracts for new houses and commercial work. The Contract is much more comprehensive than the Short Form Contract and includes provisions for the following:

Bonds

SCC 2009 provides for provision of the following bonds:

- Contractors Performance bond
- Contractors Bond in lieu of retentions
- Principals Bond

A Contractors performance bond is a document between the Contractor and the Principal that provides financial protection against the Contractor defaulting. The Bond is executed by the Contractor and the Surety named in the Bond. The Surety named in the Bond is the party that provides the financial protection. The use of Bonds is generally more suitable for commercial work and projects over \$ 1.5 million²³. The requirement for a bond to be included for is to be noted in the Tender. A Principal's bond and Contractors Bond in lieu of Retentions are not common practice. Our practice does not use bonds.

Fluctuations in Cost

This provides for when the cost to supply material will fluctuate over the Contract period. This is likely to be on Contracts greater than 12 months.

Payment & Security for Offsite Materials

This is for items and materials that are being stored off site for the benefit of the Principal. When this is used, our practice requires the items and materials are clearly labeled property of the Principal and ask for photographic evidence of this.

Liquidated damages:

²³ NZIA Practice Note PN9.404

Liquidated damages are an amount based on losses the Principal would be expected to incur if the contract works are not completed in the agreed time. Without liquidated damages, general damages could still be claimed under the Consumers Guarantees Act 1993 but these have to be proven and incur costs in making a claim. Our practice does not generally use liquidated damages.

Contractors Construction Machinery Insurance

Includes equipment and machinery owned by the contractor and required for the contract works. While not a requirement of the Contract, these were provided by the Contractor for this project.

Nominated sub-contractors

A subcontractor may be nominated because they provide a specialised service and/or have worked with the Principal for a period of time. Nominated subcontractors and their scope of work need to be listed in the tender documents. The Contractor has the same responsibilities for a nominated sub contractor as they do for selected sub contractors.

I have worked on residential project where a plumber was to be nominated sub contractor as they had carried out previous work on the property. In these situations, unless the service is specialised I recommend to the Principal that the tenderers can get this priced by other providers as well.

In the commercial projects I have worked on nominated sub contractors are typically been for security services and Information Technology services and where suppliers already carry out all associated work and maintenance for the Principal.

5.2 NZIA SCC-SF 2009

The short form agreements are for use on house alterations or new buildings that are simple in nature and for projects of a low value with a short contract period (under a year).

The layout is similar to SCC-2009 but the following provisions are not allowed for:

- Fluctuations in cost
- Schedule of Quantities
- Contractor's Performance Bond
- Contractor's Bond in Lieu of Retentions
- Producer Statement – Construction
- Confirmation of insurance construction plant and equipment

Earlier versions of SCC-SF did not allow for payment for offsite materials.

5.3 NZIA National Building Contract- General

The latest version is July 2010 and the layout is based on the NZIA SCC-2009 contract. The previous version, NZIA NBC-G 2003 was based on the NZIA SCC1-2000.

I have used NBC-SW 2003 for house alterations that are not being administered by XXX.

5.4 NZIA National Building Contract short form

The short form agreement is used for smaller projects and is based on the layout of NZIA SCC-SF2009. Like the NBC-G, it is used for projects that are not being administered by an Architect.

5.5 NZS3910

NZS3910 is similar in scope to NZIA SCC contracts. It is commonly used by Engineers and can be used by Contractors that have design responsibility. One difference between NZIA SCC contracts and NZS3910 is that in NZS 3910 50% of Retentions are released at Practical Completion as opposed to SCC's 40%.

6 Reflection

The estimate pricing by the Contractor was the right procurement method for this project, as the Clients wanted a high quality of work and a degree of price certainty. By bringing the Contractor onboard early meant we were able to identify where savings could be made. Having worked with the Contractor before I knew that the estimate would be broken into sufficient detail but in hindsight the SCC tender forms should have been used and I now use these for all estimate pricing. The tender for the house alterations was not as formal as it should have been. In part, this was because the Garage was under construction and earlier estimates had been carried out. However, all tender should be treated consistently.

In hindsight, SCC2007 would have been more suitable for the project as the monetary value was reasonable high for an alteration project and now I would recommend using SCC 2009 for similar projects. The contracts were not signed till 3 weeks after construction began. These should be signed before Contractor begins onsite but this is not always practical.

Example 4

D. PROCUREMENT

ABC Project

Applicant Involvement 95%

1. *Project Rundown*

Project Type	Retail
Project Building Area	xxxxxm2
Anticipated Construction Cost	\$xxxx (Based on Tender)
Commissioned	Inception: December 2009 Completion: August 2010
Client	xxxx
Architect	xxxx
Structural Engineer	xxxx
Quantity Surveyor	xxxx
Refrigeration Engineer	xxxx
Electrical Engineer	xxxx
Hydraulics Engineer	xxxx

2. *Project Précis*

The project was the refurbishment of an existing building in Eketahuna. It consisted predominantly of an internal fit out including alterations to the xxx, xxx and xxxx, the addition of new xxxxx, xxxxx and xxxxx throughout. The external envelope included new signage incorporating the new branding and painting to all elevations.

The client is one of our practices main clients. We carry out a lot of refurbishment work as well as new builds. I am currently assisting a Project Architect with Contract Administration on a new building in Matakana. As well as this I am running a number of other refurbishment projects around the greater Dunedin area.

3. Applicants Role

My role was similar to that of "Project Architect". I was involved from the Detailed Design stage right through to the contract administration and Defects Liability Period. I was responsible for producing working drawings for building consent and coordinating consultant and tender documentation through to construction stage. As it stands the project is currently nearing the end of the Defects Liability Period.

D.1 Preferred Construction Contract

The preferred form of contract by our Client for this type of work is NZS3910. I am more familiar with this form of contract as all our Client's work in the office falls under it. The Client doesn't need a Registered Architect to administer NZS3910 as it is done so by a third party, namely an 'Engineer'. SCC 2009 is typically regarded as more Architect focused in this regard as a Registered Architect is required to administer it.

NZS3910 was initially tailored towards Civil Engineering, however there is a greater depth of industry involvement when using this form of contract for large construction projects. The SCC format is simpler and in order of building process. Both forms of contract are recognized as two of the most commonly used forms of contract in New Zealand and both were developed through industry consultation.

D.2 Specific Conditions of Contract

The Specific Conditions of Contract include information relevant to the specific project.

D.2.1 Performance Bond

A Contractors Performance Bond - 10% of the contract price was included to protect the Principal against non performance of the contractor. The two types of performance bonds are:

- On Demand Bonds

Surety required to make payment whenever the bond is demanded

- Conditional Bonds

Bond conditional upon proving the amount of loss suffered

Under NZS3910 the bond can be called upon whenever the contractor is in default.

D.2.2 Insurances

Insurances fall under Specific Conditions of Contract in NZS3910. The Architect does not set the amount of Insurance. The Client sets it or it is deferred to an insurance advisor. This was an alteration to an existing building; therefore it was the responsibility of the Principal to effect insurance in the joint names of the Principal and the Contractor. Our Client's have a policy of taking out Contract Works Insurance for New Build's also.

Insurances should be in place before any works take place on site. This was discussed at the Pre-Start Meeting by my Project Architect with me present.

D.2.3 Liquidated Damages

Liquidated damages reflect the level of foreseeable loss that the client has calculated to the best of their ability on similar projects. LD's set in the conditions of contract were initially \$xx per calendar day. They were raised on this project to \$xx. This is a reflection of the need for increased liability on behalf of the Contractor as finishing at Practical Completion is of great importance in our client's work. See Appendix 4.1 for NZS3910 Conditions of Contract.

D.3 Special Conditions of Contract

The Principal has their own set of special conditions that the Tenderers must uphold to with this type of work. Due to the volume of the work that they build being all very much the same, they are able to have generic special conditions. Within these they tailor things to their own needs.

Where extensive Special Conditions are applied to a contract, the Client is seeking to change the risk allocation, resulting in a higher bid price from contractors trying to cover the added risk being applied to the construction phase of the project.

Tenderers may add tags to try and manipulate the meaning of the Special Conditions to suit their own version of the contract. In most cases these are not accepted by myself or my Project Director as we know the Principal will not accommodate changes to them.

D.4 Other Types of Construction Contracts

NZIA Standard Conditions of Contract (SCC2009)

- Contract between Principal and Contractor for any size and complexity where the architect administers the contract on behalf of the Principal. The Architect must be a Registered Architect.

NZIA Standard Conditions of Contract Short Form (SCC-SF 2009)

- Similar format to above but intended for alterations or new build of simple nature.

Reasonably short contract period.

NZIA Standard Conditions of Contract (MW2)

- For Minor Works

NZIA National Building Contract (NBC-G 2003)

- Contract between Principal and Contractor for any size and complexity where the Architect is not engaged to administer the contract.

D.5 Forms of Contract

This was a Lump Sum Contract (agreement by which the Principal agrees to pay a Contractor a specified amount for completing a scope of work without requiring a cost breakdown). This is a traditional type of contract commonly used where by the contract sum is largely determined before construction begins.

D.5.1 Other forms of Contract

Cost Reimbursement Contract

- Contract figure derived from actual cost of labour and materials with sums for overheads, profit and co-ordination added.

Partnering Contracts

- Multiparty Contract whereby Consultants and Specialist Sub Consultants are party to the contract. There is a great deal of flexibility with regard to procurement route.

Guaranteed Maximum Price (GMP)

- Contract that establishes a price for a specific scope of work that cannot be exceeded.

They are used on Fast Track projects or when the design is incomplete at the time construction starts. Quality can suffer.

Turn Key

- Project in which is constructed by a Developer and sold or turned over to the buyer in ready to use condition. The Developer handles all decisions and problems related to construction.

Labour Only

- Contract whereby the Client manages the whole process and the contractor is only responsible for building. The Client has better control of the building process and manages sub trades.

D.6 Contract Procurement

Our Client can be described as a Client who is experienced and are able to select a procurement process that works for them, taking into account their prioritized objectives and their attitude to risk.

D.6.1 Preferred Type of Procurement

A Selected Tender was the preferred option for this type of work. Our Client has a list of Contractors that they have had a good working relationship with in the past. Added to this are Contractors that through word of mouth the Client has heard positive feedback about.

On projects with a budget of 500K or less, generally up to 4 tenderers are selected. Reasons for this include cost savings that need to be achieved to meet a tight budget. On projects of greater than 500K in value, up to 5 tenderers may be selected as there is greater potential for one tenderer to pull out. By increasing the pool of potential Builders an increase in competition can be gained between them and a more cost competitive tender achieved.

This project resulted in the Client choosing five. The state of the economic climate at the time with the country coming out of recession late last year meant Construction Companies were desperate for work and this increased the potential for a very good tender price for the Client. With this process it is also important to be aware that Contractors desperate for work may tighten up their price too much and therefore compromise quality.

D.7 Other Types of Tender

D.7.1 Negotiated Tender

Advantages: Will not cut corners in pricing, ensure quality is not compromised. Ensure tender is market related – Quantity Surveyor engaged to review the tender quantities and costs

D.7.2 Open / Public Tender

Advertisement, registration of interest and pre-qualification assessment

D.7.3 Preliminary & General (P&G) and Margins Tender

Advantages: Ability to Fast Track - Time constraints and very thin documentation. Main Contractor on board early and documents produced alongside them.

D.8 Other Types of Procurement

Design & Build

- A procurement type whereby design and construction can be assigned to a single party. Singular responsibility in terms on contract quality cost and schedule.

Fast Track

- A procurement type whereby stages may overlap to reduce the overall programme. Project can be divided into different packages. Requires a clear scope.

D.9 Tender Process

A standard tender process is followed at our practice:

D.9.1 Tender Register

I sent out this standard office document listing all tenderers, their points of contact and addresses. This was reviewed by my Project Director. Once the client had confirmed their list of Tenderers I rang all to engage them verbally and confirm all of their details. The register includes a column beside each tenderer that records who, when and how the documents were picked up and delivered in order to allocate time fairly. See Appendix 4.2 for Tender Register.

D.9.2 Invitation to Tender

I sent out this standard office document formally engaging the tenderers which was reviewed by my Project Director. It acts as a record of all the Tender documents being sent out including all Consultants documentation. At the bottom it lists the tenders period and closing date. A drawing register is attached to this also. During the tender process one of the tenderers pulled out due to landing another contract. The Project Manager (PM) was not impressed as that particular tenderer had been particularly keen to tender for the work. This highlights the need to increase the pool of potential Contractors as a tenderer can pull out at anytime without warning. The tender documents were returned to our office. See Appendix 4.3 for Invitation to Tender.

D.9.3 Notice to Tenderers

I sent out these standard office documents which are used throughout the course of the tendering process. They answer tender queries and clarify items that may have been missed or have been added to since the tender drawings went out. Whenever a query is answered it is sent to all respective tenders to keep it fair across the board. They need to be clear and unambiguous using words like 'add' and 'delete'. These documents are kept confidential between all parties. See Appendix 4.4 for Notice to Tenderers.

D.9.4 Tender Analysis

Four tenders were received (three by fax and one by email). The two that came in by fax were late by 8 minutes and 12 minutes respectively. The PM concluded that they were still legitimate as the extra time would not have given either any significant advantage, however it was our recommendation to return the late tenders. (See D.10 Commentary for breakdown).

Of the four tenders, one was particularly high, two were similar in the mid range and one was particularly low. The QS wanted to shelve the lowest tender from the outset as he believed from past experience the Client would not want to deal with such a low offer as there would be pitfalls when it came to them carrying out the job efficiently. They were a large Construction Company that had worked with the Client on comparative jobs many times before. The PM proceeded to give them a phone call and establish whether they could actually do the work for the price submitted.

D.9.5 Tender Correspondence

I sent three out of the four tenderers correspondence letters that replied directly to their tenders, verifying tags and requesting extra information where necessary. The favored tender at this stage had a list of erroneous tags that I requested be removed as they were not compliant to the conditions of contract. See Appendix 4.5 for Tender Correspondence Letter.

D.9.6 QS Tender Report

The QS then submitted a Tender Report based on the tenders received to establish a method for 'comparing apples with apples'. It provided a cost breakdown and recommendation to the Client as to the most appropriate tender. See Appendix 4.6 for Tender Report.

D.9.7 Tender Acceptance

The Client confirmed through the PM who they preferred. I sent out a Tender Acceptance letter to the winning tender and likewise tender decline letters to the unsuccessful bids. Often the winning tender price is released; however disclosure of that information must first be determined by the Client. In this case, our client chose not to allow that information to be included on the Tender Decline Letter . The low fee nature of these projects demands efficiency. These documents are based on standard NZIA Pro-forma letters. See Appendix 4.7 for Tender Acceptance Letter and Appendix 4.8 for Tender Decline Letter

D.10 Commentary

The Registered Architects Rules 2006 state under the Code of Minimum Standards of Ethical Conduct that A Registered Architect must:

- 'Uphold the Law'
- 'Exercise unprejudiced and unbiased judgment'
- 'Act with honesty and Fairness'

A late tender, no matter how late, is still a late tender. Best practice is to return it unopened to the party concerned as it is the only way to be fair and impartial across the board. In this case we recommended to the PM what a prudent Architect would adhere to and left it to him to decide the outcome.

A Breach of Tender is a breach of contract and therefore a breach of the law. An invitation to tender (invitation to treat) is not a contract per say but the distinction between the two is not always clear. The law generally considers invitations to treat as "Contracts that govern the procurement process" to avoid injustice. The law therefore requires all parties operating tenders to act fairly and in accordance with the advertised procedures or risk being sued for damages such as tender costs and loss of future profits.

My Project Director and I are assessing how to handle this situation the next time it arises. First and foremost it is about acting as a prudent Architect fairly and impartially. Secondly it is about transferring liability onto the party obliged to have the final say if you as the Architect see any breach in standard of ethical conduct what so ever. See Appendix 4.8 for Email from Construction Contracts Lawyer.

Example 5

D. Procurement

During developed design, senior architects A and B discussed project delivery strategies with our client. They believed the most appropriate strategy would be a traditional linear approach: design, documentation, tendering, construction and occupation. The advantage of a linear programme is that the client can maintain greater control over the budget and design at each project stage. Pricing also occurs with a full document set in place, so can be more competitive. The downside is that it is a time consuming process due to its sequential nature. It is also near impossible to complete an error-free documentation set, so the client cannot assume that the tender price will be the ultimate project cost.

Other Procurement Options

Fast Track –

Design/documentation and construction phases are overlapped – documents are usually prepared in a series of trade packages. The client often establishes a contract early with a contractor (the tender may be on only P&G and margins, with a budget set for balance of works). The contractor is then often involved in managing the design delivery to meet the procurement requirements. Project consultants may or may not be novated.

Advantages:

- Good for larger commercial projects with critical time deadlines, as overlapping saves time.
- Client may achieve earlier cash flow, building sale or occupation.

Disadvantages:

- Involves more project administration and prolonged dealings with Territorial Authorities (e.g. staged and multiple Consents, amended Consents due to modifications).
- Greater scope for errors as work is built with incomplete documentation.
- Less competitive price wise – extra administration costs, trades being brought to site repeatedly instead of carrying out all associated work in one time period.
- Won't produce innovative design results.

Design and Build –

The project is organised around a single contract (which includes all consultants needed), which can avoid adversarial relationships associated with traditional tendering method.

Advantages:

- Can be either a linear or fast track process.
- Encourages collaboration between the architect and contractor, with the contractor providing input during all design stages.
- Client has a single point of contact and a single party to hold accountable.
- Costs are considered earlier in the design process, before detailed drawings are completed.
- Encourages application of cost-effective building technologies.

Disadvantages:

- Possible loss of design control by architect in the interests of trying to achieve cost savings.
- There is no opportunity for competitive tendering.
- Client does not have a clear idea of how the project price is made up.

Novation –

The architect produces documents for the client up to a certain predetermined stage (usually the end of developed design, when the design is set and costings have been carried out). A contract price is sought and a contractor is selected on the basis of these documents. The architect's contract is then

transferred from one party to another (i.e. from the original client to the contractor) and the contractor takes responsibility for design management and project delivery to completion. The party you were originally contracted to has an obligation to discuss novation terms with you, and the original party cannot novate you without your consent. You must also ensure there are no terms in the novation deed that extend your liability or scope of works beyond the scope of the original agreement.

There may be several contract documents required:

- Consultants' agreement, covering normal conditions of engagement and scope of works for architect (stage 1 between principal and architect, stage 2 between contractor and architect).
- Deed of Novation (brings together the principal, contractor and architect). It sets out novation conditions and covers items like responsibility for fee payment and liability issues between principal and contractor.
- Building contract (between principal and contractor). The architect is not directly a party to it, but is affected by it to the extent that it covers consultants' roles and responsibilities after novation.
- Deed of Covenant (requires consultant to act impartially between all parties named on deed).

Advantages:

- Can reduce risk of cost and time overruns by allowing design consultants and contractor to work together efficiently. The contractor takes on the onus of design management and construction methods can be tailored to the contractor's preferred systems.
- Allows client to focus responsibility during documentation and construction on a single party.
- Time savings – a price is often agreed before the drawings are completed. Design processes can also overlap construction processes (fast track) to save time.
- Client has a greater control of the design (via scheduled design reviews etc) than under a Design and Build process.

Disadvantages:

- Gives contractor significant control over the design (this can happen at an early stage and the client may not understand the implications of this on the final design).
- Not all contractors have the dedicated resources or suitably experienced staff (including a suitably experienced project QS) to undertake effective design management.
- There is no established format or documentation for novation. The overall contract documents may be assembled by specialist construction lawyers may seek to transfer risk to (and increase liability of) consultants. Documentation must be reviewed by the architect's PI insurer and lawyer before signing.
- A novated architect cannot be the client's independent representative (due to a conflict of interests) and cannot certify payments to the contractor.

Guaranteed Maximum Price –

The contractor prices a job based on an incomplete drawing set and an outline specification (often at the end of developed design, when the contractor still has the ability to vary the work to maintain the price and programme) and fixes a maximum project price. However, only the client (not the contractor) has the ability to vary the scope of the project. The contractor puts forward his price for preliminaries and general, and his margin, while tendering each sub trade as further documentation is provided. This arrangement is often used on fast track projects. The architect still has a duty of care to the client, to ensure that the client ends up with the quality of building they expect.

Advantages:

- Time savings – the project does not have to be fully documented before a price is obtained.
- There is no cost penalty to the client for time delays.
- Gives the client price certainty.
- If a cost/risk sharing arrangement is in place between client and contractor, both parties share financial rewards if a project component's cost is lower than its estimated 'maximum' price.

Disadvantages:

- Quality can be at risk unless project documentation is very thorough. If quality is not clearly established at the outset, it may be compromised to meet the budget.
- The client pays a premium for having a price assured (as contractor carries the cost risk).

- If cost savings are required, this may involve redrawing (which can put time pressure on consultants and result in inefficient use of time or in drawing mistakes being made in haste).
- Possible greater liability for consultants (especially if they have been novated to the contractor) as the contractor may reduce contingency sums to a minimum to secure the job.

NZIA SCC – Standard Conditions of Contract

NZIA SCC 2007 (1st Edition) was the chosen form of contract due to the project's size. The client had been provided with a copy of SCC to review early on in the project and had met with senior architects A and B to go through the document and discuss the clauses. The client therefore knew that the project would be run as a lump sum plus variations contract, following a selected tender process. SCC is an agreement between the contractor and principal, but clearly defines the architect's role to administer the contract impartially on the principal's behalf. SCC and SCC Short Form are the only documents generally recognised within the industry which provide for an architect's role during construction.

Other Commonly Used Contracts

NZS3910 – operates in a similar manner to SCC, allowing for an 'engineer' to impartially administer the contract and act as the principal's agent and advisor. It includes several similar features as SCC such as a provision for retentions and bonds.

NZS 3915 – an agreement between the principal and contractor. It is based on NZS3910, but altered to accommodate having the principal managing the contract. The contract drawings and specification can be prepared by either principal or contractor. If a dispute arises the principal and contractor can call on an agreed expert to make a decision.

NZIA National Building Contract General – an agreement between the principal and contractor. It follows a similar format to SCC, but all references to 'architect' are removed and replaced with 'principal' as there is no architect engaged to administer the contract. However there is provision for the architect to act as the principal's agent in some circumstances. NZIA NBC SW (Small Works) is similar to SCC-SF, so is suited for simple projects with a relatively low value.

Contract Works Insurance

The insurance provisions of SCC require that either the client or the contractor are to effect and maintain insurance cover for the full value of the new work. Because the project was a new build, the contractor would be responsible for arranging contract works insurance. To make the client aware of what level of cover would be appropriate, we sent a practice project insurance memorandum (*appendix 20*) which listed some suggested figures (our director reviewed the figures before I sent the document off). The client was required to discuss the values with their insurance provider and seek their advice and confirmation. Once we had written confirmation from the client that this had occurred, we included these cover values in the copy of SCC 2007 (Schedule B1 – Specific Conditions of Contract) included as part of the tender documentation.

If the client were responsible for the contract works insurance, a similar memorandum would have been sent to them. Again we would suggest insurance values based on our experience, for the client's insurance provider to confirm. Architects are not insurance experts so the client (and their insurance broker) needs to take responsibility for ensuring suggested insurance values are adequate. The client must confirm the excess on their insurances, as the contractor would be required to pay the excess for a claim (for any loss or damage to either the contract works or existing structures). Ideally, the client would organise contract works insurance with the same insurance provider that covers the existing building to make sure the two insurances are compatible, and increase the amount insured. Existing structures should be insured to full replacement value (less the value of any portions being demolished).

Monetary Allowances

Amounts were nominated in our tender documents for certain monetary allowances. Allowances in a contract are useful when a part of the contract works has yet to be sufficiently defined or detailed to enable it to be priced.

Prime cost sum –

This is a materials related monetary allowance. This sum includes the net purchase price and supply to site of a specific material to be part of the contract works. It also includes a reasonable allowance for the contractor's cost and profit, but does not include costs associated with the material's installation. A prime cost sum is used for materials where all other parts of the work involved in incorporating the materials into the contract works can be costed. Where installation work cannot be costed, these items should be included as provisional sums. The architect should clearly describe prime cost sums as without thorough descriptions, tenderers might not allow correctly for the items' installation.

Provisional sum -

This means a work or item related monetary allowance. The sum covers the cost of carrying out a specific part of the contract works, or for items that the contractor pays for. It includes for both materials and installation, as well as covering all of the contractor's cost and profit. Monetary allowances are not variations to the contract, so should not result in an extension of time. When there is a difference between the relevant allowance and the actual amount spent, the contract price must be adjusted to take account of the difference. Items covered by a monetary allowance can be deducted – having a sum is not a guarantee that the work will be carried out. However, the principal has no right to carry out the works or arrange for others to do so.

Contingency sum

The practice always advises clients to allow for a contingency sum within their project budget. This sum is to cover costs of work unknown at the time of entering into a contract, and needs to include includes all the contractor's costs and margins associated with carrying out the unknown work. A contingency sum should reflect the complexity of the project and any unknown factors, such as foundation conditions. The spending of contingency sum (in terms of both time and amounts) is directed by the architect, but is authorised by the client. Therefore the client must be kept informed of spending as it occurs. As the contingency is spent, the contract price must be adjusted by the difference between the total spending authorised by the architect and the sum stated in contract documents.

The contingency sum for the contract was \$50,000.00 excluding GST, which totalled approximately 7.5% of the project cost as provided in the latest QS estimate. However, the contingency sum was not declared in the contract. This issue was discussed with the client – as with other past projects, the client was advised to keep the contingency sum separate from the contract as including it may give some contractors the impression that the money is there to be spent.

Liquidated Damages

Liquidated damages are a genuine pre-assessment of the loss that a client will suffer if the contract works are not completed on time, not a penalty for late completion. Damages can also be calculated on the basis of lost interest that would have been earned (or the cost of extra interest on borrowings) due to a delay in completion of the contract.

The amount set for liquidated damages if any, must be written into the contract. An architect must advise their client that liquidated damages are available as a remedy but must not set the amount of damages. If liquidated damages are set and included, the architect must show them as a deduction from certified progress payments issued after the due date for practical completion (after allowing for any extensions of time).

For this project, the client would have suffered no financial loss had the contract works been completed late as they owned the land and had yet to hire staff for the childcare centre. Therefore the amount for liquidated damages was determined by the daily cost of the practices involvement in administering the contract and providing observation beyond the set contract period. For a project where the client has the potential to suffer a loss, practice policy is to send a liquidated damages pre-assessment form to the client, to assist them in calculating their losses. This document allows damages to be calculated at a set amount per calendar day, as most costs occur on this basis.

Tender Processes

The process for obtaining tenders can be carried out in different manners.

Open tender –

This tender type is often undertaken by the public sector, where it is required to allow any interested party to submit a tender. An invitation to tender is called by public advertisement (e.g. in major newspapers or on websites such as GETS – Government Electronic Tenders Services) to ensure all potential candidates have the opportunity to submit a price. This tender type will often require tenderers to provide a deposit (to cover the cost or re-tendering if a tenderer withdraws his tender or fails to sign a contract).

Advantages:

- Gives emerging parties the chance to tender a project they might have otherwise missed.
- Removes the liability of selecting tenderers from public servants.

Disadvantages:

- Not all tenders received could be from parties with the experience or resources to successfully carry out the contract works.
- If a large number of tenders are received, there is considerable time spent in analysing so many prices.

Selective tender –

This is the most common tender procurement process as the practice has good working relationships with a range of contractors specialising in projects from residential to commercial scales.

Advantages:

- Limits the number of received tenderers, so evaluating tenders can be faster.
- Tenderers are selected based on their suitability to undertake the project, based on past experience on projects of a similar size and nature.

Disadvantages:

- Tenderers may be tempted to include the lowest subcontractor prices in their tender, regardless of their experience or track record, simply to win the job. The risk of a subcontractor's performance then falls on the main contractor.

Negotiation –

This process can be suited to larger projects with a quantity surveyor on the project team. A selected contractor becomes part of the team at an early stage (at which point the contractor's preliminary and general costs and margins are negotiated).

Advantages:

- Project documentation can be produced in stages to save time.
- Removes the potentially adversarial relationship between the architect and contractor.
- No need for tender drawings – drawings can be produced solely for Building Consent and construction purposes.

Disadvantages:

- QS is responsible for ensuring that the contractor's preliminaries and general costs are fair.
- Lack of competitive bidding for main contractor's works.

Selection of Tenderers

Our director and the client had a conversation about which tenderers to select. Some clients may have builders in mind they want to have on the tender list. However, the client had no tenderers in mind and confirmed he was happy to use those suggested by us. In the office we talked about possible candidates, based on successful past collaborations and proven experience. A list of four reputable prospective tenderers was compiled (*appendix 21*):

- ABC Construction
- DEF Construction
- HIJ Interiors
- LMN Construction

Once the client had approved the list, the contractors were contacted and invited to tender. Tender packages of full architectural and engineering drawings, specifications and SCC 2007 schedules (*appendix 22*) along with a formal invitation letter, were couriered out on 5/10/09 and were due to be submitted by 4.00pm on 28/10/09. Each tenderer received two full document sets in hard copy format and a CD set of drawings. Our director wrote to the client confirming the call for tenders and they also received a full set of tender documents for their records (*appendix 23*). I called tenderers the following day to ensure they had received the documents.

During the tender period, I was the principal contact for tender enquiries. I also issued Notices to Tenderers when required (which our director signed as a registered architect). An example where a Notice was needed was an amendment to the project documentation regarding the amount of LPG cylinders on site (*appendix 24*). To avoid delaying the processing of the Building Consent, the number of gas cylinders on site had to be reduced from four to two, meaning that a small electric water cylinder would be required to provide additional hot water to the nappy change room while the rest of the building's hot water would be from a Rinnai unit. In total, there were two Notices to Tenderers couriered out and these were required to be acknowledged by all the tenderers in their submissions, as proof of receipt.

Tender Evaluation

I called each tenderer a few days prior to tenders closing, to confirm they were on target to submit a price on time. All four tenders were received by fax within the specified tender validly period, with originals delivered to our office the next day.

I entered the tender information into an Excel spreadsheet that followed the layout of the trade summary included in the tender package. None of the tenderers followed the trade summary perfectly and there were some items that were included as part of other trades. However, the spreadsheet allowed for easy comparison of prices and highlighted potential omissions or mistakes in the tenders. Day rates, tags, margins and variation processing rates were also listed and compared.

Once the contingency sum and a sum for street services connections were included, three of the tenders were below the latest QS estimate of \$665,856.00 excluding GST. This meant that the funding obtained by the client would be adequate. However, only two tenderers made reference to programme – LMN Construction confirmed they could start construction 5 working days after Building Consent was uplifted and DEF Construction noted that the contract period would need to be discussed.

HIJ Interiors tender was the lowest. However, we noted the low amount in HIJ's price for site works (which also included drainage and excavation) compared to other prices received and were concerned that this might be an error. When an architect spots a possible error in a tender, the tenderer must be given the opportunity to review their price. They can either stand by it or acknowledge a mistake and withdraw from the tendering process.

HIJ was given the chance to review their price for a possible mistake – a Tender Clarification asked them to confirm their site works price and clarify several other points in their tender. HIJ stood by their original site works price. Tender Clarifications were also sent to LMN and DEF (*appendix 25*). Once we had received replies to the Clarifications, I was able to update the figures in the comparison spreadsheet (*appendix 26*) and better compare the tenders.

I was still very concerned about HIJ's comparatively low price for site works, excavation and drainage, and what it could mean for the quality of the work if it were accepted. I also wondered whether this price could cause problems during construction – if a mistake had indeed been made in the pricing, the contractor may seek to recover losses through pricing variations in a less efficient manner and cutting corners on site.

On the other hand, LMN's tender was free of tags, they had the advantage of being based very close to the project site and they had confirmed they could start on site promptly and commit to the proposed programme. We were impressed with the quality and thoroughness of their tender, which included a preliminary programme and information on company quality assurance procedures and health and safety. We therefore decided that LMN were the best choice for the project.

Our director reported to the client, summarising the tender results and explaining why we believed that LMN were the best choice for the contract even though their price was not the lowest (*appendix 27*). The final decision on which tender to accept is always the client's. Once we received the client's acceptance of our recommendations, we wrote to LMN Construction on the client's behalf to confirm their tender was successful. I also then wrote to the other three tenderers, informing them of their unsuccessful tenderers (*appendix 28*).

Minimising Risk

- Regardless of what procurement method is used, it needs to be discussed early on with the client, to make sure the client understands what arrangement would best suit their project. The client also needs time to review the proposed contract to make sure they understand contractual relationships and legal requirements.
- If a client wants a project to be run under their own special contract, inform your Professional Indemnity insurer. The contract also needs to be reviewed by your lawyer, so make the client aware that there will be a cost involved for your lawyer's time.
- Try to minimise the amount of monetary allowances in a contract – they represent cost uncertainty to the client.
- Keep Notices to Tenderers to a minimum and give the tenderers sufficient time to act on the new information.
- Make it clear to the client that the lowest tender is not necessarily the best tender and that they are not obliged to accept any tenders.
- If liquidated damages are to be written into the contract, assist the client in making an assessment of the costs they believe they may incur if completion of the contract works is late. Record the agreement in writing.
- Tenderers can be invited to collect the tender documents from the office, rather than having the documents sent to them. This gives the architect the opportunity to brief the tenderer on the project and leave them with a clearer understanding before they start pricing.
- Always remain fair and confidential to all involved parties during the tender process. All tenderers should receive identical information.
- When a tender is received, ensure that the time and date of receipt are clearly recorded. Late tenders should be returned without analysis.