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Titahi Bay Gospel Chapel

Addition & Interior Alterations

Prepared for:

Titahi Bay Gospel Chapel
25 Mana Avenue
Titahi Bay
Wellington

TITAHI BAY GOSPEL CHAPEL: **Addition & Interior Alterations**

Scope of Work

This contract is for construction a light timber framed addition, including interior alterations at the Titahi Bay Gospel Chapel, 25 Mana Avenue, Titahi Bay, as described below.

Construction to be as detailed in the attached drawings.

Drawings and Scope of Work to be read in conjunction the attached Fire Safety Design Report.

All work is to be carried out to the best of trade practise and in accordance with all relevant standards, manufacturers instructions and the NZ Building Code.

Construction to be as detailed in the attached drawings.

Please check all dimensions on site.

Allow to complete the following items of work:

DEMOLITION

Allow to remove the following items:

- Windows in nursery.
- Shelving units in nursery, (shelving to be relocated).
- Shelving units in classroom.
- Doors at locations shown in drawings.
- Partition wall in hall.
- Vinyl flooring, wall linings, toilet pans & cisterns, hand basins, light fittings and fixtures & fittings throughout toilet area as indicated in drawings.
- Interior walls at locations shown in drawings.
- Section of decking as indicated in drawings.
- Concrete steps & planter at location shown in drawings.
- Section of exterior cladding at locations in drawings.
- Exterior hose tap at location in drawings.
- Disconnect services to allow for demolition work.
- Remove all demolition material and debris from site.

NEW WORK

Carpentry:

- Construct new reinforced concrete foundation wall and concrete footings for new addition at location shown & as detailed in drawings; all concrete to be 20mpa.
- Allow to install new 390x190mm concrete foundation wall vents at locations indicated in drawings.
- Construct sub-floor framing as detailed, using a 90x45 H3.2 joists at 450 crs on 90 x 90 H3.2 bearers on 125x125 H5 timber piles, set at as indicated in drawings.
- Construct deck sub-floor framing as detailed, using a 90x45 H3.2 joists at 450 crs on 90 x 90 H3.2 bearers on 125x125 H5 timber piles, set at as indicated in drawings. Allow for new timber steps to suit and to match existing.
- Supply and install Batts R2.6 Snugfloor under floor insulation as indicated in drawings.
- Flooring to be 21mm ECOPLY H3.2 ply wood T&G sheeting.
- Construct new exterior walls using 90x45 H1.2 framing at 400crs, including timber lintels above doors, windows and openings as indicated in drawings.
- Construct new interior walls using 90x45 H1.2 framing at 400crs.
- Supply & install a 360x63 hySPAN LVL timber beam at location shown on drawings.
- Construct roof framing using 140x45 H1.2 rafters at 900mm crs, with 70x45 H1.2 timber purlins at 900mm crs over.
- Roof cladding to be 0.55 gauge Steel & Tube Colorsteel Maxx Custom Orb long run corrugated roofing, complete with associated fixings and accessories. Provide Thermokraft Covertex 405 fire retardant roof underlay over galvanised netting. Roofing to be installed in accordance with manufactures instructions, (roofing colour to match existing).
- Provide new PVC spouting to new addition, profile to match existing.
- Exterior wall cladding to be James Hardie 9mm Axon Panel on 70x19mm CLD structural cavity battens over James Hardie 4.5mm HomeRAB per-cladding.
- Supply and install new Batts insulation to exterior walls & ceilings throughout new work before fitting of new linings, (wall insulation to be R2.8, ceiling insulation to be R3.2).
- Supply & install aluminium exterior sliding doors, (D1), and solid core interior doors, (D2, D3, D4, D5, D10, D11 & D12), at locations shown and as detailed in drawings.
- Supply & install aluminium windows, (W1 & W2), at locations shown and as detailed in drawings.
- Supply & install interior sliding window, (SW1), at location shown and as detailed in drawings.
- Allow to relocate existing window, (W3), at location shown in drawings.
- Allow to reuse existing doors, (D6, D7, D8 & D9) at locations shown in drawings).
- New interior wall linings to be 10mm Gib Board, stopped to F4 finish.
- New ceiling linings to be 13mm Gib Board, stopped to F4 finish.

- Provide new timber skirtings, scotias, & architraves to finish work as described in drawings.

Electrical

- Supply & fit new power points, and fluorescent & incandescent light fittings in locations shown in drawings, with associated light switches and wiring to suit.
- Run new wiring in wall cavities/ceilings before new linings are fitted.

Plumbing and Drainage

- Allow to relocate gully trap & storm water down pipe as indicated in drawings.
- Allow to connect new down pipe to existing storm water drainage.
- Supply & install the following items in the accessible toilet area:
 - Caroma Flora 500 wall mounted hand basin with Methven Futura basin mixer.
 - Dux Delomite Disabled toilet suite.
 - Bradley 005 750x750mm 90deg grab rail.
 - Supreme HAF82B soap dispenser.
 - 750x500mm mirror.
- Supply & install the following items in men's & women's toilet area:
 - Dux Delomite toilet suites.
 - Vallo corner hand basin, complete with Methven Futura, or similar basin mixer.
 - Englefield, or similar, 900mm free standing vanity, complete with Methven Futura, or similar, basin mixer.

Floor Finishes

- Supply and install new carpet in addition and pastor's office, (carpet brand & type to be advised).
- Supply and install new Tarkett vinyl flooring throughout toilet area, vinyl to be coved to 150mm.

Painting

New work only.

- Interior
 - Paint ceilings, walls, timber window & door frames, architraves, skirtings, scotias and all miscellaneous interior timber trim.
- Exterior
 - New exterior cladding, barge & fascia boards, eaves linings and new miscellaneous exterior trim timber trim, and other areas affected by new work.

Interior and exterior colour schemes to match existing.

All rubbish and debris to be removed from site upon completion of work.

Door Hardware

- a) Door Hinges Hang exterior doors on 100 mm broad butts with fixed pins; 3 butts to each door. Hang internal doors on 100 mm LP bronzed steel butts, 3 butts per door.
- b) Locks Fit on all external aluminium doors, Lockwood 3582XT Vestibule Set, and on all timber doors Lockwood 3572WT, (L or R to suit handing), mortise locks with handles 1m from floor. Provide extended striker plates to all outward opening doors to master door facings. Provide 3 keys for each lock.
- c) Door Stops Fix behind each internal door D & W 1404 spring loaded door stops to prevent doors or hardware striking walls.
- d) Furniture All door furniture shall be Legge Pacific Alpha 500 with scp finish.

Preliminary and General

1) Extent of Work

Refer to the attached page(s).

2) General

The following documents shall form part of the Contract:

- a) The attached Conditions of Contract for small projects.
- b) The accompanying Tender Forms.
- c) The accompanying Specification.
- d) The accompanying Drawings with any subsequent Drawings.
- e) Any written correspondence, instructions and variations issued subsequent to the signing of the contract.
- f) The letter of acceptance.
- g) Any written notice to tenderers recording adjustments to drawings and or specification prior to the signing of the contract.

3) Examine the Site

Tenderers shall examine the site and building before tendering. The submitting of a tender will be taken as an indication that the tenderer has visited the site and made himself familiar with any matters that might affect the fulfilment of his part of the contract and has made due allowance in his tender for these. No consideration shall be granted for any misunderstandings as to the work to be performed or the materials used.

4) Temporary Services

Water

The contractor may draw water from the employers existing reticulation.

Latrine

The contractor may use an existing toilet at the discretion of the employer, and must keep it in a clean and tidy condition.

Electric Power

The contractor may use the existing power supply during the course of the contract, unless special loadings are required, in which case the contractor shall make the necessary arrangements and pay all costs.

5) Work Programme

The successful contractor is to arrange with the employer and supervisor, approved dates and times within the specified time when work can be actioned.

6) Insurances

As per the conditions of contract, the Contractor is to carry a General Public Liability Insurance policy with a minimum cover of \$2,000,000.00.

The contractor shall insure separately the Contractors Plant and Equipment.

7) Noise

No radio or other noise not strictly associated with the works shall be audible in any room outside the contractors working and storage area.

8) Scaffolding and Hoarding

The contractor shall provide for the erection of all necessary gantries, cranes, staging, ladders, moving sections, chutes and any other scaffolding to permit the proper and efficient erection of the work.

9) Dimensions and Setting Out

Check and confirm all building dimensions on site. The contractor shall accept full responsibility for the final dimensions. All work shall be set out accurately and in accordance with the plans. Any errors shall be made good at the contractors expense.

10) Existing Services

Any damage incurred to existing services shall be made good to the supervisors approval and at no cost to the employer.

11) Care of the Site

The contractor shall regularly remove all debris, rubbish, and surplus materials, including that of subcontractors as they accumulate. The site shall be as tidy as possible at all times.

Upon completion of the contract works, the contractor shall take down and remove all plant, gear, temporary work, rubbish, debris and surplus materials from the site, and make good.

At the conclusion of the contract, the contractor shall leave the site in such a condition, as new, and to the supervisors approval.

12) Workmanship

Workmanship shall be consistent with good trade practice to produce sound and well finished work, and to the requirements and standards demanded by the supervisor.

13) New Zealand Standards

It is the sole responsibility of the main contractor to ensure that the complete contract works are executed according to the relevant New Zealand standards, and local and national regulations.

14) Protection

The contractor shall be held responsible for the protection of persons or property in the immediate vicinity of, or liable to be affected by his operations. To that end, he shall provide a suitable temporary fence around the entire construction zone, at a minimum orange plastic safety mesh supported on tensioned wire over waratah stays and all necessary coverings, guards and the like, and display suitable and sufficient warning notices. The fences and signs shall be maintained throughout the contract.

15) Bylaws and Regulations

The whole of the operations shall be carried out in compliance with regulations of all public bodies having jurisdiction in the matter, and the contractor shall pay all and any fees which may be payable in respect thereof.

16) Labour and Materials

The contractor is to supply all labour, plant and sundry items as later detailed which are the best of their respective kinds.

Only first class tradesman are to be employed on this contract and any defective or improper workmanship shall be reinstated by the contractor in an approved manner at the contractors expense.

17) Damage

The Contractor shall be responsible for the loss or damage which may be caused to the property of the employer in his carrying out of this contract and the contractor shall make good such loss or damage at his own expense, to the satisfaction of the employer.

18) Behaviour Generally

Any behaviour by workers on the site that could be considered sexist, racist, obscene or beyond the limits of normal, acceptable behaviour will not be tolerated.

The supervisor reserves the right to exclude any such offending persons from the site area.

Wherever possible, contact between workers and the employees staff should be kept to an absolute minimum. If the contractor finds that the employees staff are being a nuisance within the building site area, he is to notify the supervisor immediately in order that steps be taken to remedy the situation.

Under no circumstances whatsoever is the contractor and or employees thereof, permitted to have physical contact with, admonish or discipline any employees staff that may from time to time enter the site area and or act in a manner that is a nuisance to the contractor and his staff. Report any such incidence to the supervisor immediately.

19) Smoking

Smoking is not permitted on the site site unless in a designated area as indicated by each individual employer.

20) Foreman

The contractor shall provide at all times an efficient foreman who shall have the power to receive and carry out the instructions of the supervisor or his agent.

21) Compliance Certificate

The contractor shall complete the enclosed compliance certificate, stating that the all work carried out in the execution of the contract works by all contractors involved in such work, has been carried out in accordance with the contract documentation. This certificate shall be delivered to the employer or his agent before the issuing of the completion certificate.

22) Health & Safety In Employment Act

The contractor shall confirm in writing to the employer or his agent that all practical steps have been taken to ensure the requirements of the Health & Safety in Employment Act are complied with, in particular the contractor is required to:

- a) Provide and maintain a safe working environment.
- b) Provide and maintain facilities for the safety and health of employees at work.
- c) Ensure that machinery and equipment in the work place is designed, made, set up, and maintained to be safe.
- d) Ensure that employees are not exposed to hazards in the course of performing their work.
- e) Develop procedures for dealing with emergencies that may arise while employees are at work.

A copy of the Contractors Health and Safety Policy shall be kept on site in a prominent position at all times.

The Contractor is required to seek a copy of the owners health and safety policy and make himself aware of any hazards that may be present on the site.

23) Defects Liability Period

The defects liability period is 90 days.

Complete all defects liability and remedial work identified by the supervisor within the time period stated.

A Maintenance retention of 5% of the contract sum may be held by the employer to cover the work required over this period. The retention will be released upon final completion at the end of the maintenance period.

24) Building Consent Fees

The building consent shall be uplifted and paid for by the employer prior to the awarding of this contract. **Tenderers do not need to allow for building consent fees in their tender price.**

25) Liaison with the Territorial Authority During the Contract

It shall be the responsibility of the main contractor to liaise fully with the local Territorial Authority (TA) on all matters that require the involvement of the TA during the execution of this contract. This shall include for example, notifying the TA when the following work is ready for inspection:

- Foundations
- Pre-lining
- Plumbing and drainage
- Completions.

The main contractor is also to inform the TA any variations that may have arisen during the contract. The main contractor is to inform the supervisor when the TA inspections are to be carried out.

It shall be the responsibility of the main contractor to secure a Code Compliance Certificate from the TA upon completion of the work.

26) Asbestos

The contractor is required to immediately notify the supervisor, if the presence of asbestos is suspected or detected during construction.

27) Contractors Animals

Due to a number of problems having been experienced in the past in relation to contractors pets, particularly dogs, on site during the course of the project, employer requests that all contractors and related persons refrain from bringing animals on to the site at all times during the contract.

Carpentry

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.
- 3) Set out the Works symmetrically unless stated otherwise.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solutions E2/AS1 & E3/AS1, and any relevant manufacturers instructions.

5) Timber Grading

- 1) Timber to grades in accordance with NZS 3604: 2011 and NZS 3631:1988
- 2) Use dry timber with the following equilibrium moisture content:

a)	External	Sawn Timber	20% average max 22% at 17.5 deg c.
		Machine gauged	19% average max 22% at 17.5 deg c.
b)	Internal	Sawn	18% average max 20% at 17.5 deg c.
		Dressed	12% average

max 15% at 17.5 deg c.

6) Timber framing

- 1) Unless otherwise detailed, timber framing to comply with NZS 3604:2011. Generally all framing to be H1.2 SG8 grade Pinus Radiata. Studs for walls up to 2.4 m high: 90 x 45 studs @ 600 centres.
- 2) Dpc to be fitted between all concrete and timber.
- 3) Dwangs to be provided @ 800 crs max to all timber framed walls. Fit additional dwangs as required for upstands, joinery units, light fittings, hardware, and the like.
- 4) Provide all lintels, trimmers and blocking in accordance with NZS 3604:3011

7) Exterior Timber

- 1) Use H3.2 SG8 grade framing grade pinus radiata for all exposed exterior timber.
- 2) Use H5 SG8 grade framing grade pinus radiata for all timber in contact with the ground.

8) Exterior Finishing Timber

Use finger jointed or clear H3.1 SG8 grade pinus radiata for all exterior finishing timbers. Profiles to match existing where necessary.

9) Interior Finishing Timber

- 1) Finishing timber to match existing except where noted otherwise.
- 2) Use selected or Dressing A Rimu for all clear finished interior trim unless noted otherwise.
- 3) Use selected, clear or finger jointed pinus radiata or MDF for all painted interior trim.

10) Fixings

- 1) Nail fix timber work in accordance with NZS 3604:2011.
- 2) Punch all finishing nail fixings and leave ready for stopping.

- 3) Use non ferrous or galvanised fixings for exposed external timber work.
- 4) All hardware is to fixed with appropriate fixings of matching finish to the item being fixed. Use non ferrous screws in external situations.
- 5) Use galvanised fixings where fitting into concrete.

11) Priming

Preprime all surfaces of exterior painted timberwork prior to fixing. Prime all cuts and joints as necessary.

12) Building paper

Fix fire resistant breather type building paper complying with NZS 2295:2006 over exterior framed surfaces in accordance with NZS 3604:2011

13) Exterior Cladding

As per extent of work or to match existing as required, supply, store and fix in accordance with the manufacturers instructions.

14) Interior Linings

As per extent of work or to match existing as required, supply, store and fix in accordance with manufacturers instructions.

Plumbing

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solution G13/AS1 & G13/AS2, any relevant manufacturers instructions, and local and national authority requirements.

5) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations. Any underground services broken or damaged during excavation shall be rectified at this subcontractors expense.

6) As Laid Plan

A completion certificate for this contract cannot be issued until a scaled services 'As - Laid' plan has been deposited with the supervisor.

7) Materials

Provide all materials fittings and plant and allow for all fixing. Piping shall be as follows:

- a) *Rigid PVC Piping:* Shall be Garnite, Novapipe or equal approved, confirming to NZS 7648/1987.
- b) *Copper Piping:* Shall all be seamless drawn copper conforming to NZS 3501:1976 All hot water reticulation lines shall be run in copper and insulated with plumbers felt or an equal approved lagging.
- c) *Polybutylene Piping:* Shall be in accordance with the New Zealand Building Code Acceptable Solution G12/AS1 & NZS 2642:2008
Only these fittings are acceptable.

8) General Requirements

- a) When non-copper pipes pass through concrete foundations, slab or paving, provide and install rigid PVC sleeves, to give a minimum 12mm clearance around the pipe.
- b) Underground piping shall be buried not less than 450mm in the ground.
- c) Conceal all piping within the building.
- d) Where pipes emerge from framing and are exposed, they shall change to chrome plated copper with equivalent flanges.
- e) Water supply lines to other fittings shall not be less than 12mm.
- f) All piping in the building shall be copper or polybutylene. All hot water reticulation shall be run in lagged copper.

Drainage

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solution G13/AS1 & G13/AS2, any relevant manufacturers instructions, and local and national authority requirements.

5) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations. Any underground services broken or damaged during excavation shall be rectified at this subcontractors expense.

6) As Laid Plan

A completion certificate for this contract cannot be issued until a scaled services 'As - Laid' plan has been deposited with the supervisor.

Drainage Sub-Contractor is to accurately record a drainage 'As - Laid' plan and hand to the supervisor at the time of back filling.

7) Materials

Shall be UPVC 'Terrain' , 'Garnite', or equal approved complying with NZS 1260:1996 and 7649:1988. Joints shall be made with solvent welded joints or rubber ring joints complying with BS 2494. Jointing to be in accordance with manufactures instructions. Associated fittings shall match the material of the main pipe used.

8) Drains

It is the Drain layers responsibility to accurately and correctly size the pipes as required by the regulations. All fittings shall be inspection fittings, at not more than 9 metre intervals for sanitary pipes and not more than 15 metre intervals for storm water pipes.

Run all new drainage lines as shown and / or as required by the regulations.

9) Gully Traps

Shall be proprietary uPVC units complying with NZS 7649:1988. The tops of gully traps shall finish 75mm above finished ground level. Protect all gully traps with concrete D -type surrounds or neatly haunched. Set gullies in 75mm of concrete and provide removable metal or uPVC gratings as applicable.

Wastes shall discharge below the gratings in all cases.

10) Inspection Eyes

Construct and provide all inspection eyes in positions as required by the regulations and / or by-laws.

11) Jointing

Jointing to be in accordance with manufactures instructions.

Cutting of uPVC pipe shall be at right angles, with a fine toothed saw. The end shall be chamfered at 15 degrees for half the wall thickness. All burrs shall be removed.

Mark the pipe end with a pencil, to the depth of the socket joint, then clean the end of the pipe and rubber ring seal, check the seal is properly seated, apply lubricant and insert the pipe.

12) Excavation

All excavation work shall be carried out in accordance with the construction regulations and under direct control of a person familiar

with the health and safety act and the contractors health and safety policy.

Excavation for trenches shall be taken out in accordance with the longitudinal section, and by open cut. Trenches shall be of sufficient width and depth to permit de-watering, bedding and pipe jointing.

Trenches in stable country may be opened a maximum of 60m in advance of pipe laying, but this allowable advance distance may be reduced at the discretion of the supervisor. Excavation for all manholes and other structures shall be such as to leave adequate space for toms, bracing and extraction of timbers.

The side of the excavation shall be kept below the metal foundation by using pumps or similar appliance designed for this purpose. Under no circumstances shall the water be allowed to enter the sewer drain.

13) Bedding

Unless otherwise instructed, all bedding shall be type D shown in NZS 4452:1986 appendix c. Granular bedding shall be between 5 to 10 mm in size, placed and compacted as detailed in NZS 4452:1986. The pipe shall be laid on the bedding material such that it is straight, laid to grade and free from distortion. Bedding material shall then be used and compacted up each side of the pipe and covering the pipe. Care shall be taken when placing and compacting back fill to prevent distortion of the pipe.

If pipe bedding stated is concrete then refer to the supervisor for instructions.

14) Pipe laying

All pipe shall be laid in accordance with manufacturers instructions. Pipe laying shall begin at the lower end of the pipeline and shall be constructed with sockets pointing up hill. The pipe may be assembled outside the trench and carefully placed into position. In the case of solvent cement joints leave for thirty minutes to dry before moving.

Each pipe shall be accurately set to line and grade and in straight lines between changes of line and grade.

15) Extra Fittings

Any fittings that are not shown on the drawings or mentioned in the Specification and which are required to complete the drainage system in accordance with the regulations, shall be provided by the drainage contractor as part of his contract. No extras will be allowed under this heading.

16) Completion

On completion leave the whole of the drainage system in perfect working order.

Reinstate any damage cause by the execution of the work.

All trenches in grass areas shall be top soiled 10mm and grassed.

All trenches in hard surface areas shall be neatly saw cut against existing paving and re surfaced to match.

Remove all excess materials and sweep the entire area to leave the site in a neat tidy condition.

Electrical

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of the specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations and work to existing buildings . Any underground or internal services broken or damaged during excavation and or other work shall be rectified at this subcontractors expense.

5) Earthing

Earth continuity conductors shall be installed with the wiring to all outlets.

6) Workmanship and Regulations

a) The electrician shall visit the site in order to understand the nature and scope of the work. No claims will be allowed on the grounds of insufficient knowledge of existing conditions.

b) The electrical installation shall be carried out in strict accordance with the New Zealand Electrical Regulations and Codes of Practice 1993, and interpretations and amendments thereto, the rules of the Fire Underwriters Association, notwithstanding any omissions herein, and to the complete satisfaction of the local power board's inspector and the supervisor.

- c) All wiring shall be concealed, unless otherwise stated, and only new, first class materials and workmanship will be allowed.
- d) The electrician shall obtain all necessary permits for the work and allow to pay all associated charges.
- e) The electrician shall visit the site and accurately assess the size of the existing main, submains, and all other cables required to complete the wiring in accordance with this specification and to comply with the local body and national regulations.
- f) The complete electrical system shall be checked by the local authority power supplier on completion of the contract. Any wiring not accepted and passed shall be replaced by the electrician at no extra cost.
- g) The electrician shall carry out all necessary cutting away, drilling etc. When cutting into timber only sufficient to permit the bare entry of the wiring is to be removed. No joists are to be cut away for cables **more than 100mm out from a support**, except with the approval of the supervisor.
- h) All stainless steel bench tops are to be earthed.

7) **Wiring**

Wiring of sub-circuits shall be TPS insulated cables. All cables shall be concealed in wall, ceiling and floor cavities.

Wire to plug sockets	- 3x 2.5mm ² and earthed.
Wire to lights	- 3x 1.5mm ² and earthed.
Wire to electric heaters	- 3x 2.5mm ² and earthed.

Standard Specification for Roofing in Corrugated Colorsteel

1) Site

All tenderers shall visit the site of the proposed works before submitting their tenders as no extra payment will be authorised on the grounds of insufficient knowledge of existing buildings and services.

2) Access

The contractor shall restrict access by his own, his subcontractors and his suppliers vehicles to the main school entrance, unless otherwise notified by the employer.

3) Order of work

The work shall be carried out in stages so that a minimum of roof is exposed to the weather at any one time.

4) Building Paper

Prior to fixing the new roofing materials, cover the timber roof structure with new standard weight building paper, laid horizontally with a minimum lap of 150mm well tacked down.

5) Corrugated Coil Coated Steel Roofing

Provide and fix 'Colorsteel Endura' (or as directed in the Extent of Work attached) continuously coil coated steel roofing in accordance with the manufacturers instructions.

Alternative brands may be considered with prior approval of the employer.

a) Material

Corrugated iron shall be .55mm BMT grade G250 with Zinalum galvanised coating.

b) Fixing

Corrugated roofing shall be fixed with 65 x 4mm dia. 'weather seal' pre-painted or similar approved hot dip galvanised spiral shanked nails or self drilling screws as specified in the Extent of Work. Nails shall be spaced to leave one corrugation between fixings at the end of sheets and two corrugations between fixings at all other purlins below the ridge and above the eaves. Fix sheets with one and a half corrugations side lap. Stainless Steel fixings required with Zinalume.

Sheets shall be in single lengths where possible, but where joints are necessary they shall be lapped 300mm.

The 'colorsteel' shall be inspected when it arrives on site by the contractor and the supervisor, damaged or unsatisfactory sheets will not be accepted.

6) Workmanship

a) General

All work shall be carried out by tradesman experienced in sheet metal work, more particularly in the handling, fixing and flashing of the materials specified. The workman should be equipped with adequate tools and equipment to ensure a first class job.

Fix all roofing and accessories strictly in accordance with the manufacturers instructions. Where such instructions conflict with this specification seek clarification with the supervisor before proceeding.

b) Handling

Care is to be taken when handling colorsteel.

Products are to be lifted directly into position and must not be dragged or slid over rough surfaces or other colorsteel products.

All workers employed on roofing jobs must wear suitable rubber soled footwear and all tools and ladders must be suitably protected from damaging the painted surfaces.

Long lengths of roofing iron are to be lifted by crane directly on to the roof. The use of a lifting boom is recommended.

Any damage to the 'colorsteel' caused by failure to follow these procedures shall be replaced at the contractors expense.

c) Storage

Products delivered to the site must be stored off the ground in sheltered positions. Where undercover storage is not practical or where products are lifted in bundles directly on to the roof, they must be covered with a loose fitting tarpaulin until ready for use. Plastic covers must not be used.

If for any reason the products become wet, they must be separated to allow drainage and air circulation. Timber fillets

must be kiln dried seasoned timber. Treated timber must not be used

Contact with wet cement is to be avoided.

d) Sealants

Under no circumstances shall 'colorsteel' be joined by soldering, welding or brazing.

Joints shall be made using an approved type of blind rivet and sealant.

Sealant shall be approved transparent, neutral curing silicone rubber type.

Surfaces must be clean, dry and free from oil.

The sparing use of a solvent such as Toluol or xylol is recommended, sealant should be applied the same day the surface is cleaned.

Sealants should be laid in a continuous 3mm wide line covering the fastening holes and finished as soon as possible after application.

Excess sealant is to be removed before it cures. Remove all rivet shanks and drillings following the completion of the work.

Refer to the colorsteel technical bulletin No. 5.

e) Cutting and Drilling

Colorsteel products shall be cut or drilled with the colour side down where ever possible. Products should be cut using sharp tin snips or a power saw fitted with a friction blade.

f) Flashings and Roof Penetrations (see section 10 for lead on Zinc alum)

All flashings and roof penetrations shall be manufactured from coil coated materials and in long lengths where available.

To all ridge and hips fix lead edged ridging to follow the line of the roof with the lead moulded down into the corrugations. Seal all joints as above.

Where required sheet lead shall be used. All lead edging and all sheet lead shall be primed on all surfaces before fixing. Exterior

surfaces shall be painted with Colorsteel touch up paint, colour to match roof.

On roof penetrations 'aquaseal' type flashings shall be used. Aluminium shall be painted to match the roofing.

7) Cleaning Up

To prevent Staining or the surface it is essential that all metal off cuts, filings, fastener shanks etc, are removed from the work area as work progresses. A soft broom may be used, followed by hosing down at the end of each day. Removal of particles from gutters is also important to prevent premature corrosion.

8) Completion

On completion of new roofing etc, fit all new flashings required to make the roofs completely watertight.

9) Guarantee

The contractor shall furnish a written guarantee in the form required by the employer that the roofing will remain weatherproof for a period of five years after the expiry date of the maintenance period. This guarantee shall cover the making good of any defects which may appear and rectifying any damage to the interior or exterior of the building due to defective materials or workmanship.

10) Lead and Zinc alum Coatings

Avoid using lead flashings in contact with zinc alum products as excessive corrosion will occur. Use an alternative product such as "flashgard" or fully encapsulate the lead in an approved paint system.

Concrete, Reinforcing Steel & Blockwork Masonry

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.
- 3) Set out the Works symmetrically unless stated otherwise.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, and any relevant manufacturers instructions.

5) Concrete & Reinforcing Steel

- 5.1 All concrete construction shall comply with NZS 3109:1997
- 5.2 Concrete shall be special grade in accordance with NZS 3604:2011, having a compressive strength at 28 days using standard cured 300 x 150mm diameter cylinders of:
20MPa Floor slabs
- 5.3 All concrete shall be water cured for a minimum period of seven days
- 5.4 All concrete shall be vibrated using an immersion type mechanical vibrator to fully consolidate the concrete and to release all entrapped air. Do not over vibrate the concrete.
- 5.5 Concrete surface finishes shall comply with NZS3114:1987 and shall be:

Foundations	concealed	F1
	revealed	F3

Floor slabs	formed unformed	F3 U2 + Kelly float
Columns & beams	formed unformed	F5 U3
Precast panels	formed unformed	F3 U2 + Kelly float

- 5.6 The contractor shall allow to accurately position, level and secure all bolts, weld plates, inserts, pipes etc, before pouring concrete.
- 5.7 Use an approved release agent for all formwork.
- 5.8 The floor slab shall be cut where detailed within 36 hours using a 30 x 5 mm cut. The reinforcing mesh or steel shall not be cut unless detailed otherwise.
- 5.9 Reinforcing steel shall be round and deformed Grade 300 MPa mild steel (R or D) or Grade 430MPa high yield steel bars (HD) complying with NZS 4671:2011
- 5.10 Reinforcing mesh shall be Grade 485 MPa high yield welded steel wire mesh complying with NZS 4671:2011 or Grade 430 Ductile steel wire mesh complying with NZS 4671:2011.
- 5.11 All bends, laps and covers to the reinforcing steel and mesh shall comply with NZS 3101.1 & 2:2006.
- 5.12 Reinforcing steel and mesh shall be tied at each intersection with black sort mild steel wire, with the ends turned away from the concrete surface.
- 5.13 Reinforcing steel and mesh shall be supported on plastic chairs or formed concrete chairs at spacings appropriate to the bar or mesh size to maintain the specified concrete cover.
- 5.14 Provide a 0.25 mm Polyethylene damp proof membrane, with all joints lapped 150 mm and fully taped, to the underside of the floor slab and foundations where detailed.

6) Blockwork Masonry

- 6.1 All blockwork masonry construction shall comply with NZS 4210:2001
- 6.2 The construction of blockwork masonry works shall be carried out by competent, experienced tradesmen who shall be fully conversant with the detailed provisions of NZS 4210:2001.
- 6.3 Concrete blocks shall be 20.00 series blocks unless stated otherwise on the drawings.
- 6.4 Blocks shall be open-end bond beam units wherever possible, with the bottom course laid upside down. Provide clean-out openings of at least 100 x 75 mm at each vertical reinforcing starter bar.
- 6.5 Grout spaces shall be cleaned out before grout is poured to remove any mortar from reinforcing bars, protruding mortar into cells and carities and all mortar droppings and other loose material.
- 6.6 Mortar joints shall be concave tooled to a depth not exceeding 6 mm and burnished after initial stiffening has occurred. Mortar joints shall not be raked off.
- 6.7 Grout shall have a minimum compression strength of 17.5 MPa at 28 days using standard cured 300 x 150 dia. cylinders.
- 6.8 Grout shall have a spread value within the range 450 to 530 mm.
- 6.9 Grout shall completely fill all cells and cavities unless stated otherwise on the drawings.
- 6.10 Grout shall be vibrated using a mechanical vibrator to fully consolidate the grout in each cell and cavity.
- 6.11 Provide a waterproofing additive to the mortar and grout in accordance with the manufacturers recommendations.
- 6.12 Grouting shall be carried out using the high lift grouting with expansive additive method for pours up to a maximum height of 3.6 m.
- 6.13 The expansive additive shall be Darexpan as supplied by W R Grace (NZ) Ltd or an approved equivalent, with the dose rate as recommended by the manufacturer. The additive shall be mixed with the grout immediately prior to placing the grout in the blockwork masonry.

- 6.14 After filling and waiting for the grout expansion to take place, the wall top shall be locally recompact by troweling, or a weighted restraining board shall be left in place on top of the wall immediately after grouting for a least 4 hours.
- 6.15 The tops of the grouted walls shall be protected in order to prevent too rapid drying during hot or drying weather or winds.

PAINTING

1) General

Refer to all the general and specific conditions, the tender drawings and preliminaries section of this specification, all of which shall apply to this section of the works.

2) Extent of works

Refer to the extent of work section of the specification.

3) Colours

Colours will be selected during the contract, generally to match the existing colour scheme.

4) Workmanship and materials

All painting shall be in accordance with good sound trade practice, in accordance with NZS 2239, and only premium grade paint systems are permitted. The only paint products approved for this contract are for paints manufactured by **Resene** and **ICI Dulux**. Unless prior dispensation is given for an alternative manufacturers product, all tenderers must price this work using paints supplied by either Resene or Dulux.

Only first class premium paints may be used on these contract works and all paint brought on to the site must be in the original manufacturers tins and must be available for inspection by the supervisor at all times during the contract. The supervisor reserves the right to take samples for testing. Any materials which do not conform to the manufacturer's formulae or the requirements of this specification will be rejected.

Unless specified otherwise all paint materials shall be lead free. An exception may be for galvanised steel priming, unless specified lead free for roof water collection areas.

All paint materials in thermal areas shall be of a suitable formula.

a) Paint systems

It is intended that, unless specified otherwise a "paint system" is used on all works involved in this contract. That is, only the same manufacturer's primer, undercoat and finishing coats are to be used in any given situation. Use the correct type of each as recommended by the manufacturer for the materials to be

painted and their situation. The painting for this contract shall require the application of a complete "paint system"

b) Cutting In

Only first class cutting in work will be accepted on this contract. The requirement for, and the importance of, a top class cutting in job cannot be stressed enough. It is therefore brought to the attention of all tenderer in this specific clause and reiterated that any poor cutting in work will be completely rejected by the supervisor and the work will be required to be completely redone.

c) Protection of work

Take adequate precautions during and after painting operations to protect your own work, and the work of other trades and adjacent existing surfaces, from damage or disfigurement, The Contractor must ensure adequate protection for all grassed, concrete or sealed areas during preparation, mixing and application, including cleaning and washing of brushes and applicators.

The contractor must ensure that all brick veneer work is adequately protected from the possibility of paint damage.

Provide pans or trays in which to keep materials and carry out all necessary floor and wall protection, for both new and existing areas.

External work shall not be done during frosty or inclement weather and in the likelihood of frost, work in shaded positions shall cease at least four hours before sunset.

Protect factory finishes from paint disfiguration.

Protect floor finishes from paint spillage or disfiguration. Any paint damaged by frost, rain, and dust or through inadequate protection shall be rubbed down and recoated at the painter's expense.

Any damage done to persons or property by the painting contractor or his workmen during the progress of the contract is to be made good at the expense of this contractor.

d) Conditions when paint is not to be applied

Paint is not to be applied when any one of the following conditions exist:

- The surface is less than 5 degrees Celsius above dew point.
- The ambient air temperature is below 5 degrees Celsius, or 10 degrees Celsius in the case of water based paints.
- The relative humidity exceeds 85%.
- There is moisture or ice on the substrate.
- If any of the above are likely to occur before the paint dries.
- Any condition stipulated by the paint manufacturer more restrictive than above.

5) **Colours**

The colour scheme will be chosen before the contract starts and forwarded to all tenderers.

Tenderers are to note that all work to be painted **white**, will require:

- **three** finishing coats over the undercoat.

6) **Preparation of surfaces**

It shall be the responsibility of the painter to ensure that all surfaces, including surfaces of each successive coat, are in a suitable condition to produce a first class job. Apply "Moss & Mould Killer" to areas where required, wash down and apply such sealers, neutralisers, etc., as are necessary and in accordance with sound trade practice, Similarly wash or brush down prepared surfaces immediately before painting to effectively remove dust, deposits or loose material. Such preparatory work being deemed to form part of this contract.

No paint shall be applied to damp surfaces. All timbers exposed to view or contact by the hand shall be smooth finished and the painter shall not apply to such surfaces if still rough.

It shall be the responsibility of this sub-contractor to make good, to the supervisor's satisfaction, any paint failures or blemishes caused by insufficient or incorrect preparation of surfaces to be painted.

Where appropriate all existing wallpaper shall be stripped off in preparation for the new wallpaper. Prepare the existing wall surface to recommended trade practice.

7) Cleaning down of existing surfaces

Where existing surfaces require re-painting in this contract, the following conditions shall also apply:

a) Generally

Rigid attention must be paid to the "PREPARATION OF SURFACES" clause as above. Existing surfaces shall be repaired as called for and the painter must allow for filling as required.

Remove sufficient to provide a good key for new paint. Prime any existing bare timber or steel shown up by old paint removal.

b) Removal of moss and mould infestation

This must be applied to any porous surface, the contractor must ensure that all moss and mould is removed prior to the application of any paint system.

Treat all infested areas with Resene, or equal approved, Moss and Mould Killer, at a rate of 100 grams to 1 litre of clean water, or as required by the alternative manufacturer. Leave for 48 hours to achieve a full kill, then wash down the affected surfaces.

c) Sanding

The use of disk sanding equipment is not permitted on this contract.

8) Priming

a) Generally

Prime all faces, edges backs, joints and abutting surfaces of all exterior finishing timbers.

b) Galvanised steel

Thoroughly degrease all surfaces before priming. Apply "Galvo One" or equal approved, steel primer.

c) Other priming

Shall be as recommended by the manufacturer of the finishing paint.

9) Undercoats

Undercoats shall be the same brand as the finishing coats and shall be as recommended by the manufacturer of the finishing paints for use with his paint in the situations specified. **Tint the undercoats to closely match the colour of the finishing coats to give additional covering power to paint.** Undercoats on exterior, exposed more than 8 weeks to weather, shall be sanded down and recoated without extra charge. The minimum number of paint coats required in each particular case is specified in later clauses, but not withstanding this, undercoats shall be sufficient to provide a full bodied, even colouration to the finished job.

10) Application of paint

a) Exterior Painting

Shall be applied by BRUSH ONLY. Airless spraying is **NOT** permitted.

b) Interior Painting

The undercoat shall be applied by BRUSH ONLY. The finishing coat may be applied by brush or roller.

11) Painting schedule

a) Timber Doors

NOTE: Both the tops and bottoms of all doors are to be painted.

Prime (if new):	One coat of pigmented sealer
Undercoat:	One coat of alkyd undercoat
Paint:	Two coats of satin enamel

b) Door and Window Frames and/or Liners

Prime:	One coat of pigmented sealer
Undercoat:	One coat of alkyd undercoat
Paint:	Three coats of gloss enamel (white)

c) Exterior Sheathing and Concrete Blocks and C P Plaster Finishes

Prime: One coat of exterior acrylic primer
Paint: Two coats of exterior acrylic "Lumbersider"

d) Existing Galvanised Steel Roofs, Flashings, Spouting, Downpipes & Metalwork

Refer to previous clauses for the preparation of existing surfaces. Ensure all rust, blisters and loose or perished paint has been removed. Recoat in zinc rich paint any ungalvanised metal exposed during preparation.

Prime: One coat of galvanised steel primer
Paint: Two coats of exterior full gloss acrylic or enamel

e) Painted Metalwork

Prime: One coat of galvanised steel primer
Paint: Two coats of exterior full gloss enamel
(3 coats if white)

f) Exterior Trim, Facings etc.

Prime: One coat of exterior acrylic primer
Undercoat: One coat of exterior acrylic undercoat
Paint: Two coats of exterior acrylic paint

g) Gibraltar Board

Sealer: One coat of Gib Sealer
Undercoat: One coat of acrylic undercoat
Paint: Two coats of acrylic (satin)
Three coats for white ceilings (matt)

h) Particle Board Linings

Undercoat: One coat of sealer
Paint: Three coats of clear polyurethane

k) All Interior Finishing Trim and Hardboard Linings

Prime: One coat of acrylic primer (satin)
Paint: Two coats of acrylic (satin)

12) Left over paint

All cans of partially used paint left over at the completion of the contract shall become the property of the employer. The contractor shall clearly label each can with the paint colour and the block on which the paint was used.

Hand all left over paint to the employer at the completion of the contract. This paint shall be available for use by the contractor at the conclusion of the maintenance period if it is required.

13) Completion

Clean all glass, flooring, fittings etc. of any paint spots and leave the site in a clean and tidy condition.