



Government of **Western Australia**
Department of **Communities**



Department of Communities

Construction Specification – Supplement 3

NATSPEC | Aboriginal Communities and North West Housing

This supplement to the reference specification has been developed by NATSPEC in conjunction with the Western Australia Department of Communities. The requirements in this document are generic and are to be read in conjunction with the reference specification for the class of building project specific documents from the Design consultant, including drawings, schedules and appendices. It does not cover the requirements for every project situation.

The Design consultants' documents take precedence. Check the consultants' documents for any variations to the requirements of the specification.

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PREFACE

This specification supplement for Aboriginal Communities and North West Housing sets out requirements that are in addition to HOUSING PART C: CONSTRUCT SPECIFICATION for BCA Class 1a and 10 buildings. Read this supplement in conjunction with HOUSING PART C: CONSTRUCT SPECIFICATION and other project specific documents, including drawings, schedules and appendices, and conform to the applicable requirements.

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0131 PRELIMINARIES

1 GENERAL

Add clause as follows.

1.1 TENDERING**Tender briefing and site meeting**

Site familiarisation by tenderers: Visit the site and collect data to inform project requirements of the site(s) for which demolition and/or construction/refurbishment work is required to AS 4120 (1994) clause 7.3.

Contact to arrange visit: Principal or representative stated in the tender documentation in **Tender Enquiries**.

Cost of inspection and associated costs: Borne by the tenderer.

Add clause as follows.

1.2 SITE PROCEDURES**Pre-construction site meeting**

On-site meeting: Arrange for an on-site pre-construction meeting with the community and Housing Authority before starting construction works. The meeting will be chaired by the principal or principal's representative.

Site start-up discussion list: Before the meeting, distribute a list (with outlines) of items requiring discussion, agreement or resolution. Include this in the tender documentation submission for information purposes.

Completion of meeting: After the meeting, arrange for all attending parties to sign the list.

Contractor's responsibilities

Requirement: Take responsibility for all works on site, and take all actions required to prevent problems, conflicts or contentious behaviour.

Problems/conflicts: Report any problems caused by any contracting personnel (including employees, subcontractors, agents, suppliers) or local people to the appropriate authority and take action to prevent repeat of the problem.

Contentious behaviour by local residents: Notify the appropriate community authority and the principal.

Local regulations and community access

Local regulations: Conform to regulations concerning behaviour and access at all times.

Obtain details from the community administration.

Access restriction to the community: Only personnel actively involved in the construction process are allowed within the community or community houses.

Code of conduct

Contractor's behaviour: All contractors, subcontractors, suppliers, visitors and agents are to conform to local community regulations and protocols, particularly in relation to alcohol, speed limits, safety, and sacred/ceremonial areas.

Contact/liaison: Do not directly contact the local government authority regarding this contract unless

initiated by the local government authority. Conduct discussions only in the presence of the Housing Authority's representative.

Disputes arising from application of this clause: An independent adjudicator will consider representations from the contractor and the Housing Authority. All parties will adhere to the determination by the adjudicator.

Loans or gifts: Do not offer loans or gifts of equipment, vehicles, food or beverages to members of the community (including elected representatives), unless it is part of contract conditions.

Services not included in the contract: Do not provide to the community (including elected council members) without prior approval from the Housing Authority.

Employment: Do not seek employment within the community during the entire term of the contract.

Close contact or sexual relationships: Do not initiate or maintain relationships with any community member. If this occurs, there will be instant dismissal and/or removal from the site and the community.

Racially discriminatory behaviour: If this occurs, there will be instant dismissal and/or removal from the site and the community.

Photographs and videos: Do not bring photographs or videos into the community without the community's consent. Make sure this is adhered to by all contracting personnel.

Project documentation photographs or videos: Do not include individuals, dwellings (except as agreed for the project), or areas of significance (except with the written consent of the community).

Areas of significance: Undertake measures required to prevent trespassing of or interference with any areas of significance in the community. Conform with reasonable directions by the community regarding areas of significance.

Prohibition of substances, alcohol and guns

Prohibited substances and alcohol: Do not bring or consume alcohol or other prohibited substances; or supply, sell or provide to any person while on community land, or on land vested by the community. This is applicable to all contracting personnel, including subcontractors, employees, agents, suppliers and visitors.

Contracting personnel: Make sure personnel are aware of the prohibition.

Notification of breaches: If the contractor is aware of breaches of the prohibition, notify the Housing Authority and the community.

Guns or firearms: Undertake measures to prevent the bringing of firearms into community land or land vested by the community, except where there is written consent by the community.

Animals: Undertake measures to prevent the hunting or slaying of animals on community land or land vested by the community, except where there is written consent by the community.

Personnel training and procedures

Personnel compliance: Make sure all personnel involved with the project are aware of the Aboriginal by-laws and customs that may impinge on the project. Conform to this clause and all community rules regarding conduct and visitation at the community land and on the site.

Code of conduct form: The form is included with this document. Abide by this, circulate amongst all resident staff, sign and return to the Housing Authority within 7 days of commencement of the contract.

Removal of contracting personnel

Costs of contracting personnel removal: If removal is required from the site and replacement of other personnel is required, the costs will be borne by the Contractor.

Personnel removal: Remove personnel from the community or on land vested by the community where they are found to:

- Be recklessly or wilfully trespassing or interfering with any areas of significance.
- Be recklessly or wilfully moving outside of any screened and cleared access road or work site.
- Be violating conditions imposed on the personnel entry permit.
- Have brought a prohibited substance onto the community land or land vested by the community, or to have supplied a prohibited substance to a resident of the community.
- Be behaving in a manner which is disrespectful of local Aboriginal culture and tradition, or in a manner which is offensive to the local Aboriginal people.
- Be wolf whistling or harassing in any form.

1.3 PROTECTION OF PERSONS AND PROPERTY

Add subclause as follows.

Storage facilities

Requirement: Cover the rental costs of storage and accommodation required by the community until practical completion.

1.4 BUILDING THE WORKS

Insert additional text to subclause as follows.

Disposal of waste

Waste disposal to landfill: If required, conform to **Appendix: Landfill use process map** (for remote Aboriginal communities).

1.5 COMPLETION OF THE WORKS

Insert additional text to subclause as follows.

Handover

General: At handover, clear site of waste and vegetation (except trees and vegetation nominated to remain), and rake ground to an even grade.

Add subclause as follows.

Practical completion

General: On the day of practical completion, make sure of the following:

- Dwellings are connected to all required services.
- All appliances including hot water heaters, stoves, ovens, TV antennae/systems, and fittings have been checked and are in correct working order.
- Moving parts: Operate safely and smoothly.
- A certificate of practical completion is issued to the principal.

Work not deemed complete: If the whole of the works are not deemed complete by the principal, the principal reserves the right to invoice the contractor for travel and accommodation costs incurred.

0201 DEMOLITION**1 GENERAL****1.1 EXISTING SITE CONDITION**

Add subclause as follows.

Extent of demolition

Site visit: Allow for a site visit to determine the extent of demolition required.

0221 SITE PREPARATION**1 EXECUTION****1.1 TREE PROTECTION**

Insert additional text to subclause as follows.

Trees to be retained

Tree retention: If requested by the community's representative, seek approval/instructions from the principal.

0222 EARTHWORK**1 EXECUTION****1.1 EXCAVATION**

Insert additional text to subclause as follows.

Grading

Ground surrounding dwelling: Grade the ground so that stormwater flows/drains away from the dwelling and does not affect future housing planned for the community.

0242 LANDSCAPE - FENCES AND BARRIERS**1 GENERAL****1.1 RESPONSIBILITIES**

Add subclause as follows.

Existing fencing

Requirement: If existing fencing is to be retained, match new fencing to the existing fencing height and type.

2 PRODUCTS**2.1 STEEL**

Add subclause as follows.

Slatted cyclone fencing

Description: Precoated or galvanized steel slatted fencing, installed with openings between slats to allow the breeze to flow through and able to withstand wind actions for Wind Regions C and D. Match the finish of all components exposed to view.

Height: 900 or 1800 mm high fencing.

Posts: 100 x 100 x 3 mm thick RHS with welded galvanized 3 mm thick cleats. Provide posts complete with covering or matching caps at the top of the posts.

Rail connectors: Galvanized 60 x 60 x 3 mm thick cleats welded to posts, or angle brackets and fixed to posts with self-drilling screws.

Rails: 40 x 40 x 1.6 mm thick galvanized tubing, roll-formed section.

Fence panels: 900 mm or 1800 mm long x 188 mm wide x 16 mm deep (0.42 BMT) thick cold roll-formed section.

Fence capping: Continuous capping finished to match fencing and fixed as recommended by the manufacturer's recommendations.

- Size: 35 x 30 x 0.4 mm thick.

Driveway gate latch and hardware: D latch and 300 mm long drop bolts with galvanized steel keepers built into the concrete driveway.

Add subclause as follows.

Post and rail wire mesh fencing

Description: Type A (Class 1) chain link fabric fencing to AS 1725.3 (2010).

Finish: Galvanized steel.

Fence height: 1200 mm.

3 EXECUTION**3.1 FENCING**

Add subclause as follows.

Slatted cyclone fencing

Concrete footings: 250 mm (diameter) x 800 mm (deep) with posts set minimum 650 mm into the concrete.

Post spacing: Maximum 2.1 m apart for Wind Regions C and D.

Slat panel fixing to rail: Fix with self-drilling fixing screws with heads of screws matching the panel colour.

Bottom of fence panels: Install approximately 50 mm above ground level.

Top of fencing: Maximum 290 mm above the top rail.

Openings between slats: 32 to 40 mm.

Add subclause as follows.

Post and rail wire mesh fencing

Location and gate arrangement: As documented.

Installation: To AS 1725.2 (2010) Section 4.

Footings: To AS 1725.2 (2010) Appendix B Table B2.

0250 LANDSCAPE – GARDENING**1 EXECUTION****1.1 IRRIGATION**

Add subclause as follows.

North West and Goldfields region

Sprinkler installation: Provide plastic sprinkler surrounds to all sprinklers to protect from lawn mower damage.

0274 CONCRETE PAVEMENT**1 EXECUTION****1.1 GENERAL**

Add subclause as follows.

Labour

Requirement: Use only experienced and skilled labour.

Add subclause as follows.

Mass concrete paving

Slab thickness: 100 mm.

Concrete class: 20 MPa.

Pour sections: Pour in sections of not more than 10 m² or 6 m in length.

Joints: Crack groove at not more than 2 m centres.

Edge finish: Steel trowelled to a smooth surface.

Add subclause as follows.

Vehicular driveways/parking

Slab thickness: 100 mm.

Concrete class: 20 MPa.

Reinforcement: F72 mesh.

Pour sections: Pour in sections of not more than 75 m² or 12 m in length.

Joints: Provide clean construction joint between sections.

Set-downs: As required for tiled floor finishes.

Thresholds: Provide at all external openings and as required.

Add subclause as follows.

Blinding layer

Requirement: Provide 50 mm bedding sand under all concrete slabs on ground. Accurately screed so that floor level is correct and as required.

Location: Allow for all set-downs, block-outs and falls.

0310 CONCRETE

1 EXECUTION

Add clause as follows.

1.1 GENERAL

Labour

Requirement: Use only experienced and skilled labour.

Verandah or external slabs

Slab thickness: 100 mm.

Concrete class: 20 MPa.

Reinforcement: F73 mesh.

Pour section: Pour in sections of not more than 50 m² or 8 m in length.

Joints: Provide clean construction joints in between sections and crack grooves at each column centreline or at maximum 3 m intervals, as appropriate.

Edge finish: Steel trowelled to a smooth radius.

Freestanding carports: Where required, allow for a 2 m separation from carport roof to verandah slab to prevent roof water shedding onto the verandah.

- Pathway: Allow a 1.2 m wide path from the verandah to carport.

0342 LIGHT STEEL FRAMING

1 PRODUCTS

1.1 COMPONENTS

Add subclause as follows.

Framing thickness

Steel stud wall framing: Minimum 1.6 mm.

Verandah columns: Minimum 3 mm.

2 EXECUTION

2.1 WALL FRAMING

Insert additional text to subclause as follows.

Additional support

Noggings adjacent to doors: Provide noggings at the same level as the door knob, behind the door, where the door knob strikes the wall.

0421 ROOFING

1 PRODUCTS

1.1 MATERIALS

Amend subclause text as follows.

Sheet metal roofing

Material: Powder coated steel sheeting.

Add subclause as follows.

Vermin mesh

Mesh: Powder coat finished expanded aluminium mesh.

Mesh size: As required for bird/rodent proofing.

Colour: Black.

1.2 ROOF PLUMBING

Amend subclause as follows.

General

Gutters and fascias: Powder coated steel sheeting.

Downpipes: Powder coated.

2 EXECUTION

2.1 INSTALLATION

Add subclause as follows.

Wall and roof junction

Junction: Run wall cladding and lining to the underside of roof sheeting.

Installation: Lap wall cladding under the roof battens/purlin. Scribe around rafters as required and make neat bends in sheets where changes in direction occur. Make sure all edges are secured.

If above timber or steel beam: Cover sheet edge with aluminium or timber beads.

Metal separation: Provide where mesh is in direct contact with other metals.

Add subclause as follows.

Raking roofs

Roof and wall junctions: Scribe wall cladding around battens/purlins, to provide a neat junction at the underside of the roof sheeting, or provide hardwood infill panel/members.

2.2 SHEET METAL ROOFING

Add subclause as follows.

Roof sheet finish

Town based construction: Precoated steel sheeting.

Non-town based construction: Galvanized, self-finished steel sheeting.

0451 WINDOWS AND GLAZED DOORS**1 PRODUCTS****1.1 GENERAL**

Insert additional text to subclause as follows.

Glass

Type: 5 mm toughened glass for windows.

Add subclause as follows.

Glazed sliding door assemblies

Dimension: Minimum 1810 mm.

1.2 COMPONENTS

Insert additional text to subclause as follows.

Security screens

Mesh type: Type 304 stainless steel mesh with minimum 0.9 mm diameter wires.

Screen construction: Provide screens conforming to the following:

- Framing: Extruded aluminium frame.
- Mesh attachment: Fix mesh to frame with screw-clamps and anti-tamper screws. Provide screw-clamps which transfer forces around the frame so that the mesh remains intact after heavy impact.
- Finish: Powder coated. Colour of screen frame to match adjoining door frame colour.

Screen arrangement: Hinged or sliding conforming to the following:

- Allows cleaning of any fixed lights from the outside.
- Hold open position: Allow for mechanisms for holding screen in position.
- Make sure screens are compatible with door/window system and do not interfere with its operation.

Operation and latching: From the inside with a keyless one touch locking system.

2 EXECUTION**2.1 INSTALLATION**

Add subclause as follows.

Laminated glass

Requirement: Provide for the following:

- Doors.
- Sliding panels.
- Windows where required.

Insert additional text to subclause as follows.

Security screens

Location: Provide to the whole area of windows and glazed sliding doors.

Doors: Provide sliding security screen doors to the external face of each glazed sliding door.

0453 DOORS AND ACCESS PANELS**1 PRODUCTS****1.1 DOORS**

Replace subclause as follows.

Construction

Solid core doors: Tempered hardboard faced, external grade blockboard core doors. Do not use particleboard core doors.

Door thickness: 35 mm.

Door width: Minimum 870 mm.

Edge strips:

- Hardwood edge stripping, drilled for locks.
- Minimum thickness 10 mm. Increase overall thickness to greater than 15 mm to accommodate the full depth of the rebate in rebated doors.
- Apply to the external edges of door after the facings are bonded to the door framing/core and finish flush with outside surface of the facings.

Door facing:

- Internal doors: Standard Redicote finish.
- External doors: Solid core, Duracote finish.
- Doors to wet areas (internal): Duracote finish.

Door edges: Painted, including top and bottom edges.

Add subclause as follows.

Steel faced door panels and steel framed doors

Steel door frame: Pressed metal door frames manufactured from galvanized 1.6 mm gauge steel with cut-outs for striker plates.

Steel faced doors: 37 mm (nominal) thick door clad on both sides with 0.6 mm galvanized steel skins, internally cleat joined at edges to provide hidden edge fixings.

- External steel skin: Bonded to an internal foam core with timber reinforcing sections to lock, hinge and closer positions. Fold skins at top and bottom of the leaf to completely enclose ends and seal to prevent moisture ingress.
- Lock hardware latch plate: Recess into the door edge so that it finishes flush with the external edge surface.
- Door finish: To match other doors.
- Hinge: 2 mm reinforcing hinge strip.

Add subclause as follows.

Door panels

Wardrobes and W.C. doors: Hollow core.

All other external and internal doors: Solid core doors.

0455 DOOR HARDWARE**1 PRODUCTS****1.1 COMPONENTS**

Replace subclause as follows.

Door buffers and stops

Internal doors: Provide a satin chrome finished, half moon, floor or wall mounted door stop to all doors.

External doors: Provide a satin chrome, floor or wall mounted door stop with 3 fixing points.

2 EXECUTION**2.1 INSTALLATION**

Insert additional text to subclause as follows.

Door buffers and stops

Internal doors: Securely fix, as close as possible to the wall.

Levelling: If required to achieve full contact with the door, raise the door stop on a painted hardwood block fixed to the floor. Make sure the door buffer does not make contact with the door seal.

Add subclause as follows.

Door frames

Hardware fittings: Fix the following to the door frames:

- Stainless steel escutcheon plate.
- Flat mushroom rubber buffers.

Add subclause as follows.

Locks and door furniture

External doors: Provide latchset and deadlocks with inside snib and proprietary stainless steel shroud (approximately 200 x 150 x 1 mm thick) around the deadlock.

Privacy locksets: Provide to bathroom, shower and W.C., and bedroom doors.

Escape lockset: Provide to store doors.

Passage lockset: Provide to all other interior doors.

Door handles: Lever sets.

Lockset finish:

- Generally: Satin chrome-plating (SCP) finish.
- Front entry door: Single cylinder mortice cylinder with stainless steel (SSS) finished deadlock.

Add subclause as follows.

Air conditioner panel

Locks: Allow panels to be locked internally with 2 x 80 mm horizontal chrome/satin barrel bolts.

Drawing reference: Standard Detail L8A.

0467 GLASS COMPONENTS**1 EXECUTION****1.1 FIXING MIRRORS**

Replace subclause as follows.

General

Mirror locations and sizes: As documented.

Fixing: Do not adhesive fix to walls. Frame fix or clip fix as follows:

- Frame fixing: Proprietary aluminium frames to mirror perimeter, corners mitred. If unbacked, bed glass edges in a continuous resilient gasket. Attach the frame to the substrate with concealed screw fixings. Seal the frame to the substrate with paintable sealant which will not react with the mirror coating. Do not allow the sealant to contact the mirror back.
- Clip fixing: Fix direct to wall plugs with chromium-plated fixed clip and spring clip fixings at 900 mm maximum centres around perimeter. If unbacked, provide polyethylene or cork washers to prevent contact between clips and mirror back.

Number of fixing points:

- Frame fixing: 6.
- Clip fixing: 4.

Frame size: 20 mm face.

0471 THERMAL INSULATION AND PLIABLE MEMBRANES**1 EXECUTION****1.1 GENERAL**

Add subclause as follows.

Installation

Glass wool and rock wool insulation: Conform to the ICANZ Industry code of practice for the safe use of glass wool and rock wool insulation.

1.2 CEILINGS

Insert additional text to subclause as follows.

Framed ceilings

R-Value: Minimum R3.0 or as documented.

Thickness: Minimum thickness recommended by the manufacturer to achieve the required R-Value.

0511 LINING**1 PRODUCTS****1.1 MATERIALS AND COMPONENTS**

Replace subclause as follows.

Fibre cement

Standard: To AS/NZS 2908.2 (2000).

Wall and ceiling linings: Type B, Category 2.

Minimum thickness:

- Generally: 6 mm.
- Durable lining (non-wet areas): 9 mm.

2 EXECUTION**2.1 CONSTRUCTION GENERALLY**

Add subclause as follows.

Wall and ceiling linings

Store walls and ceiling: Fibre cement.

Shower walls: Fibre cement, complete with flexible wet area sealant at shower walls and floors.

Bathroom walls: Fibre cement for tiling over.

Ceiling access panel: 600 x 400 mm, as documented.

Add subclause as follows.

Durable wall and ceiling linings

Location: As documented.

0551 JOINERY**1 PRODUCTS****1.1 JOINERY MATERIALS AND COMPONENTS**

Replace subclause as follows.

Splashbacks

Ceramic tiles: Glazed ceramic tiles to AS 13006 (2020).

Height: Minimum 400 mm above benchtop.

2 EXECUTION**2.1 JOINERY**

Add subclause as follows.

Wardrobe, cupboard, drawer units

Construction: To **WARDROBE, CUPBOARD AND DRAWER UNITS** and the following:

- Framing: To **Steel cupboard and bench framing**.
- Cupboard door edging: ABS edging.
- Door panels: Moisture resistant medium density fibreboard.

Add subclause as follows.

Kitchen and vanity cupboards

Drawing reference: Drawing details L1A, L2A, L3A and L5B for sink, bench, stove and microwave, overhead, island bench, and kitchen cupboards; kitchen drawers; and vanity units.

Add subclause as follows.

Built-in wardrobe

Drawing reference: Detail L4G.

Wardrobe finish: Provide floor, wall and ceiling finishes to match room finishes to which the robe opens.

Wall recess cupboards: Provide doors to *0453 Doors and access panels*.

- Drawing reference: Detail L3A.

Add subclause as follows.

Steel cupboard and bench framing

Drawing reference: Details L1A, L2A, L3A, L4G, L5B and L13.

Framing: Provide galvanized steel frame as required to support the required cupboards, with fixing connections for fixing to wall framing and adjustable legs.

End of frames: Seal all ends.

Welded frame members: If required, butt weld. Wire brush to form a smooth surface on completion.

Fasteners: Countersink all fasteners.

Shelving: Perforated steel shelves as documented.

Frame and perforated steel shelving finish: Powder coat.

Adjustable leg finish: Stainless steel.

Stainless steel benchtops: 1.2 mm thick stainless steel, folded return at exposed edges with slightly rounded arrises to form a 20 mm deep fascia.

- Backing: Bond stainless steel to 18 mm thick compressed fibre cement sheeting with adhesive recommended by the manufacturer.
- Finishing: Remove sharp corners to exposed edges.
- Drawing reference: Joinery layout and Details L1A, L2A, L3A and L5B.

Add subclause as follows.

Kitchen cupboard and cabinet hardware

Door catches: Heavy duty concealed double magnets with minimum 13 kg pull.

Strike plates: Install screw-in steel plates. Do not install self-adhering steel strike plates.

Hinges: Powder coated steel piano hinges welded to the cupboard framing.

- Length: To fit the length of cupboard/cabinet doors.

Childproof compartment: Provide to kitchen cupboards and vanity unit complete with a childproof catch.

- Drawing reference: Detail L12.

Drawer sliders: Zinc-plated 510 mm full extension with ball bearing runner or similar.

- Fixing to drawers: Screw fixed.

Top drawer: Provide 75 mm high cutlery tray.

Add subclause as follows.

High pressure decorative laminate (HPDL) panel benchtops

Location: Provide for kitchen and laundry benchtops and upstands.

Thickness: Minimum 13 mm.

Upstands: Provide 45° bevel to the top edge and 5° bevel to bench junction, sealed with clear silicone.

0572 MISCELLANEOUS FIXTURES AND APPLIANCES

1 PRODUCTS

1.1 APPLIANCES

Add subclause as follows.

Electric wall ovens and upright stoves

Electric wall oven and cooktop: If documented, provide electric wall oven (with circuit and isolator) and electric cooktop to each dwelling unit.

- Drawing reference: Detail L5B, replace gas cooktop with electric cooktop.
- Wall oven: Single electric fan forced oven with removable side opening door.
- Dimension: 595 (H) x 596 (W) x 568 (D) mm.
- Material and colour: Stainless steel, white.

Electric upright stove: If documented, provide electric upright stove, with circuit and isolator.

- Type: Freestanding electric stove with 4 cooking elements and conventional oven.
- Dimension: 540 (W) x 620 (D) x 1150 (H) mm.
- Material and finish: Stainless steel, white enamel finish.
- Oven gross capacity: 80 litres.
- Cabling: For each stove, provide a 900 mm long cable in flexible conduit from the isolator to the stove floor, attached with anti-tilt brackets, installed to the manufacturer's recommendations.
- Appliances isolator: Wall mounted white plastic adjacent to the stove location.

Add subclause as follows.

Electric cooktops

Type: Electric cooktop with 4 cooking elements.

Dimension: 600 (W) x 535 (D) x 58 (H) mm.

Material and finish: Stainless steel, white enamel finish.

Drawing reference: Standard Detail L5B, replace gas cooktop with electric cooktop.

Add subclause as follows.

Rangehoods

Rangehoods: Provide fixed rangehood, flued to the outside, and with removable filters.

Material and finish: Stainless steel, white enamel finish.

Dimension: 598 (W) x 500 (H) x 160 (D) mm.

Noise level (high/low): 64/57 dB.

1.2 EXTERNAL FIXTURES

Insert additional text to subclause as follows.

Clothes drying facilities

Fixed clothesline: Galvanized steel frame and wire.

- Drawing reference: Standard Detail G7.

Add subclause as follows.

Dwelling number signage

Location: To the front verandah beam or approved location.

Signage: 100 mm high black acrylic numbers, spray painted using stencil.

Numbers: To the Housing Authority Community Layout Plan (CLP). Confirm with the principal before painting.

2 EXECUTION

2.1 APPLIANCES

Replace subclause as follows.

Rangehood and exhaust fan

Requirement: Provide as follows:

- Habitable rooms: Fit with self-closing damper or filter to BCA (2022) H6D2(1)(b)(iii) [BCA (2019) 3.12.3.4].
- Exhaust fans: Operated by a separate wall switch.
- Ducting to outside.

Installation: To the manufacturer's recommendations.

0574 WINDOW COVERINGS

1 PRODUCTS

1.1 COVERING TYPES

Add subclause as follows.

Curtain rods and brackets

Curtain rods: Provide PVC coated 16 to 25 mm diameter galvanized steel curtain rods to all windows, except for W.C.s and showers.

Metal support brackets: Provide brackets with 75 mm projection to suit curtain rod.

- Number of brackets: 3 per curtain board.

Add subclause as follows.

Curtain boards

Location: Provide curtain boards over all window and sliding door openings, except for W.C.s and shower recesses.

Type: 100 mm (nominal) thick treated pine, double bullnose architrave with minimum 150 mm additional length each end of window opening.

Fixing: Fix to adjoining wall with one counter sunk screw at each end.

Finish: Painted the same colour as the wall.

0631 CERAMIC TILING

1 PRODUCTS

1.1 TILES AND ACCESSORIES

Add subclause as follows.

Ceramic floor tiles

Size: 300 x 300 mm.

Slip resistance: R10.

2 EXECUTION

2.1 TILING GENERALLY

Add subclause as follows.

Wall tiles

Location: Install tiles to shower enclosure walls to a height of 2000 mm above the shower floor.

Add subclause as follows.

Skirting

General: Install tile skirting over floor finishes, where required.

- Skirting height: One tile high.

0651 RESILIENT FINISHES

1 GENERAL

Add clause as follows.

1.1 SUBMISSIONS

Operation and maintenance manuals

Cleaning and polishing: Submit a maintenance manual with polishing and cleaning instructions, including details of liquids and cleaners recommended for the installed work, including for skirtings.

Warranties

Requirement: Submit warranty covering the installation against defective materials and workmanship from the date of practical completion. Include a statement that the whole of the work has been carried out to AS 1884 (2021) and the manufacturer's recommendations at the time of installation.

- Workmanship: 5 years.

- Materials: 15 years.

2 PRODUCTS

Add clause as follows.

2.1 GENERAL

Substitution of materials

Alternative materials: Provide samples and data sheets of proposed alternative materials. Do not order materials without written approval from the principal.

Delivery and storage

Delivery: Deliver materials in the original packaging, bearing the material brand name, colour, thickness and other relevant data.

Storage: Store materials in a secure dry area, away from other materials which may cause its deterioration.

2.2 MATERIALS

Add subclause as follows.

Floor tiles and planks

Vinyl floor tiles: 2.5 mm (nominal) thick homogenous commercial grade tile with through-pattern.

- Tile size: 300 x 300 mm (nominal).

Luxury vinyl plank: 2.5 mm thick, vinyl planks with 0.55 mm thick polyurethane reinforced wear layer.

- Wear resistance group: T.

- Slip resistance: R10.

- Plank size: 1220 x 150 mm or 1220 x 130 mm (nominal).

Add subclause as follows.

Floor sheeting

Vinyl floor sheeting: 2 mm (nominal) thick homogenous commercial grade tile with high dent and gouge resistance.

- Wear resistance group: T.

- Slip resistance: R10.

Add subclause as follows.

Wall sheeting

Vinyl wall: 2 mm thick homogenous, commercial grade vinyl sheeting.

Add subclause as follows.

Ancillary materials

Adhesives: Adhesive recommended by the floor covering manufacturer for installations in site locations with high temperatures and humid climates.

Floor filler/leveller: To the floor covering manufacturer's recommendations.

3 EXECUTION

3.1 PREPARATION

Insert additional text to subclause as follows.

Substrates

Subcontractor inspection: Examine the substrate, including walls and doors before applying resilient finish and accessories.

Wall substrate surface condition: Dry, clean, smooth, structurally sound and free from moisture, alkali, dust, dirt, wax, oils, grease, loose paint or plaster, or any other foreign matter.

Imperfections in substrate surface: Rectify before applying resilient finish and accessories.

3.2 COMPLETION

Insert additional text to subclause as follows.

Protection

Protection: Apply suitable sheeting taped over the floors, such as 3 mm MDF or sheet paper. Maintain in position until final cleaning before practical completion.

Insert additional text to subclause as follows.

Cleaning

Stripping, sealing and cleaning: To the manufacturer's recommendations.

0671 PAINTING

1 GENERAL

Add clause as follows.

1.1 RESPONSIBILITIES

Items/surfaces to be painted

Requirement: Provide paint finishes and colours as documented.

Items/surfaces not to be painted

Requirement: Do not paint the following unless documented:

- Fibre cement fencing/prefinished fencing.
- Roof sheeting.
- Face masonry including concrete blockwork.
- Concrete.
- Glazed ceramic tiles.
- Prefinished items, including precoated metals, chrome-plated, baked enamel or plastic items.
- Vinyl.
- Aluminium.
- Stainless steel.
- Melamine surfaced particleboard/hardboard.
- Pre-painted window frames.

2 PRODUCTS

Add clause as follows.

2.1 SURFACE TREATMENT TO STEELWORK

Primer

Coating system: Self-curing ethyl silicate based inorganic zinc system conforming to AS/NZS 3750.15 (1998), Type 3 or Type 4.

Minimum dry film thickness: 125 microns.

Metallic zinc content of dry coating: Not less than 77% of the dry film tested to AS/NZS 3750.15 (1998) Appendix E.

Intermediate coat

Coating system: Epoxy coating conforming to AS/NZS 3750.15 (1998) and compatible over zinc primers.

Minimum dry film thickness: 125 microns.

Colour: White.

Top coats

Coating system: High build recoatable polyurethane coating conforming to AS/NZS 3750.6 (2009).

Total coating thickness: Minimum 150 microns, consisting of 2 coats of minimum 75 microns.

3 EXECUTION

3.1 PREPARATION

Add subclause as follows.

Exposed steelwork

Requirement: Before painting, including before applying primers and sealers, clean exposed steel surfaces to the recommendations of AS 2312.1 (2014) Section 4.

3.2 PAINTING

Add subclause as follows.

Exposed steelwork

Steelwork partially or wholly exposed to the weather: Immediately before application of each subsequent paint coat, clean painting surface to remove any soluble salts and contamination which are likely to affect the performance of subsequent paint coatings.

Paint application: To the recommendations of AS 2312.1 (2014) Section 5 and the paint manufacturer.

Paint coating systems: To the recommendations of AS 2312.1 (2014) Section 6 for atmospheric corrosive Category C4 (High) and long-term durability of 10 to 15 years.

- Number of coats: 4 coat system, including primer.

Water used in the painting process: To AS/NZS 4020 (2018).

0702 MECHANICAL

1 PRODUCTS

1.1 AIR CONDITIONING SYSTEMS

Add subclause as follows.

North West Aboriginal Housing (NW) projects

General: If required, provide air conditioning to HOUSING PART C: CONSTRUCT SPECIFICATION and as documented.

0802 HYDRAULIC

1 PRODUCTS

1.1 FIXTURES

Add subclause as follows.

General

Outlet risers: Stainless steel.

Insert additional text to subclause as follows.

Toilet suites

Pan: 4.5 litre full flush washdown pan with open flushing rim with the following:

- Chrome flush button.
- Vitreous china pan.
- Plastic seat.

Cisterns: Dual flushed, wall fixed, PVC-U cistern installed with vandal resistant conversion kit to lock lid onto the cistern.

Insert additional text to subclause as follows.

Shower heads

Mounting height: Install so that shower outlet is 1800 mm above the finished floor level.

Add subclause as follows.

Shower curtain rails

Shower curtain rod: 25 mm diameter, satin finished, type 304 stainless steel rod installed at 1800 mm above the finished floor level.

- Fixing/support: Screw fixed (side mounting flanges) to wall.

Curtain rings/hooks: 50 mm (nominal) diameter type 304 stainless steel openable rings.

Shower curtain: Heavy duty, opaque, matte white vinyl curtain with nickel-plated brass grommets along top 150 mm spacing and hemmed bottom.

- Width: To suit the shower recess.
- Corner shower rails: Allow for 2 curtains to suit the shower configuration.

Replace subclause as follows.

Baths

Type: White slip resistant acrylic bath to AS 1172.5 (2019) with aluminium angle corner tiling strip for upstand corners.

Nominal size: 1510 mm long.

Tapware: Wall-mounted bath set.

Replace subclause as follows.

Basins

Vanity basin: Oval self-rimming, vitreous china, inset vanity basin with two soap holders.

- Nominal dimensions: 500 x 425 mm.
- Tapholes: 1 or 3, as required.
- Bowl capacity: 7 litres.

Semi-recessed basin: Oval self-rimming, vitreous china, semi-recessed vanity basin with two soap holders.

- Nominal dimensions: 500 x 430 mm.

- Tapholes: 1 or 3, as required.

- Bowl capacity: 8 litres.

Replace subclause as follows.

Towel rails

Type: 30 mm (nominal) satin finished, type 304 stainless steel rail screw fixed to walls.

Nominal dimension: 2400 mm (single) or 2 x 1200 mm (double).

Add subclause as follows.

Grab rails

Type: 30 mm (nominal) satin finished, type 304 stainless steel rail screw fixed to walls.

Length: 1200 mm or as documented.

Replace subclause as follows.

Coat hooks

Type: Satin finished, type 304 stainless steel single hook.

Location: Fix to back of doors in bathroom and/or shower cubicles.

Installation: Screw fix to wall. Allow stud or trimmer support at fixing points.

Replace subclause as follows.

Toilet roll holders

Type: Satin finished stainless steel single roll holder.

Location: Install adjacent to each W.C. pan.

Installation: For stud walls, allow trimmer support at fixing points.

Add subclause as follows.

Recessed soap and shampoo holders

Location: One per shower recess as documented.

Type: Satin finished, type 304 stainless steel recessed holder.

Dimensions: 200 (W) x 300 (H) x 70 (D) mm.

Installation: Allow for wall framing support and recess to suit. Waterproof seal all connection point/joints.

Amend subclause text as follows.

Laundry tub and cabinet

Bowl capacity: Minimum 70 litres.

Add subclause as follows.

Handles

Type and finish: Chrome-plated or powder coated brass star type or capstan type handles.

Finger grip only handles: Do not install.

Insert additional text to subclause as follows.

Internal tap fittings

Requirement: Provide stainless steel breeches for internal tap fittings and outlets.

Plastic tapware: Do not install.

Replace subclause as follows.

Kitchen sink

Type: Stainless steel double bowl sink with drainer and single tap hole.

Nominal size: 1350 (long) x 470 (wide) mm.

1.2 WATER HEATERS

Add subclause as follows.

Solar water heaters

Location: If documented, provide solar water heaters to **COLD AND HEATED WATER, Water heaters**.

Roof mounted collectors: Install in a shade free area using cyclone mounts or frame to the manufacturer's recommendations, including for the following:

- Mounting angle.
- Distance from bathrooms and kitchens.
- Tolerances.

Solar panel mounting frame: Galvanized steel frame and fixings able to withstand wind classification as defined in AS/NZS 4505 (2012) appropriate to the project site.

Collector panel stone guards: Provide galvanized steel framed welded mesh (stone guard) enclosure, to all roof mounted collector panels, to the solar heater manufacturer's recommendations.

- Finish:
 - . Town based construction: Powder coat finished to match roof colour.
 - . Non-town based construction: Galvanized, self-finished.

Electrical booster element: Single phase with thermostatic and manual control.

- Booster element control: Provide a booster element relay switch complete with push button switch and neon indicator installed as documented. The relay switch is to be initiated by a single press of the push button switch and turned off by the booster element thermostat on reaching the set water temperature. Make sure connection is suitable with electrical distributor's network requirements.
- Switch location: Inside the meter box. If no location has been documented, seek instructions from the principal.

Add subclause as follows.

Heat pumps

Location: If documented, provide heat pumps to **COLD AND HEATED WATER, Water heaters**.

Type: 200 litre solar heat pump water heater and fan guard.

Installation: To AS/NZS 3500.1 (2021) and the manufacturer's recommendations including for the following:

- Valves.
- Tempering valves to bathrooms.

2 EXECUTION

2.1 INSTALLATION

Replace subclause as follows.

Water meters

Community managed water supply: Provide Water Corporation approved meters and/or sub-meters to

each dwelling and connect to the mains in conformance with **Box covers** and the Water Corporation requirements.

Above ground meters: To **Box covers**.

Consumer accounts: Open an account for each water service in the contractor's name. Pay and close account at practical completion.

General water service: Install 20 to 25 mm brass ball valve on exterior wall at 1800 mm high.

Add subclause as follows.

Box covers

Meter box: Provide a precast concrete water meter box with galvanised steel hinged lid.

Box dimension: 600 x 290 x 145 mm high box.

Box covers (hinged lid): Install lid to water meters as documented.

Principal's approval: Before ordering and installing meter box and cover, confirm details with the principal.

2.2 COLD AND HEATED WATER

Replace subclause as follows.

General

Pipe materials: Copper.

Pipe joints: Silver brazed capillary joints or screwed brass unions silver brazed to pipe.

2.3 STORMWATER

Add subclause as follows.

Drainage

Connection to drainage system: To the local government authority's drainage system.

Drainage from silt pit: Provide 90 mm diameter stormwater drain.

Existing road kerb: Demolish if required to facilitate new works. Replace or rectify on completion of works.

2.4 WASTEWATER

Add subclause as follows.

Waste outlets and pipes

Bathroom drains: Provide stainless steel 100 (wide) x 35 (deep) mm single length square bar grate floor channel drain.

- Outlet: Provide 95 mm diameter outlet for connection to soil drain at floor slab underside.

Floor wastes:

- Step-down or level shower recesses: Install reflux valves.
- Grates: Provide 100 mm chrome-plated brass removable gratings.

Waste pipes:

- Pipes penetrating floor slab laid on ground: Do not install with wrappings, sleeves or surrounding openings in the concrete.
- Other waste pipes encased in concrete: Provide 6 mm thick wrapping.

Relief disconnecter gullies: Fit with 100 mm diameter pop-up inspection cover.

2.5 FUEL GAS

Add subclause as follows.

Supply

Gas supply to each dwelling: If documented, provide the following:

- Individual reticulated gas service connection and meter.
- Gas piping from gas supply to gas appliances and outlets.

Add subclause as follows.

Connection to reticulated gas

Consumer accounts: Open an account for connection to reticulated gas main in the contractor's name. Pay connection fees and other costs accrued before closing the account at practical completion.

Gas fitting work: Provide the following:

- Piping between gas main and meters.
- Meters and regulators.

Insert additional text to subclause as follows.

Bottle LP gas

Requirement: If bottled LP gas is documented, provide one full 45 kg capacity gas bottle to each dwelling unit.

Gas bottle restrainer: To Detail P2 to each bottled LP gas installation.

0902 ELECTRICAL

1 GENERAL

Add clause as follows.

1.1 SUBMISSIONS

Samples

Combined heat lamp and fan: If proposed, submit sample.

2 PRODUCTS

2.1 CEILING FANS - NORTHERN AREAS

Amend subclause text as follows.

Internal ceiling sweep fans

Type: White fans with metal blades and sealed bearings.

- Bedrooms, living and dining areas: 1400 mm diameter.
- Kitchen: 1200 mm diameter.

3 EXECUTION

3.1 CONNECTION OF MAINS POWER SUPPLY

Add subclause as follows.

Card pre-payment electricity meter

Requirement: If documented, provide to each dwelling:

- Type: Single-phase debit meters.
- Installation: Install away from sources of water, excess heat and humidity. If installing outside fit within a weatherproof cabinet.
- At handover: Start each meter with a \$20 standard credit and program as required by the principal to the manufacturer's recommendations.

Add subclause as follows.

Connection costs

Consumer accounts: Open an account for connection to the power supply in the contractor's name. Pay connection fees and other costs accrued before closing the account at practical completion.

3.2 LOW VOLTAGE POWER SYSTEMS

Insert additional text to subclause as follows.

Switchboards

Dwelling unit load centre finish: White, beige or light grey.

Insert additional text to subclause as follows.

Accessories

Socket type: Provide as follows:

- Generally: 10 amp.
 - External installations: 10 amp with IP Rating to AS/NZS 3000 (2018).
 - Fridges and air conditioning panels: 15 amp.
- Light switches: Install 1100 mm above the finished floor level.

Add clause as follows.

3.3 POWER GENERATION – PHOTOVOLTAIC

North West Aboriginal Housing (NW) projects

System description: Provide photovoltaic generating system(s) as documented, incorporating the following:

- Photovoltaic array.
- Regulator.
- Inverter.
- Connection to low voltage power system.

General

Requirement: For the purpose of this worksection, the following standards relating to stand-alone systems are also applicable to network connected systems:

- Stand-alone power systems: To AS/NZS 4509.1 (2009) and AS/NZS 4509.2 (2010).
- Grid connected systems: To AS/NZS 4777.1 (2016) and AS/NZS 4777.2 (2020).
- IEC 61836 (2016).

Photovoltaic module

Selection: To AS/NZS 4509.2 (2010), AS/NZS 5033 (2021) and as documented.

Array

Encapsulation: Required.
Toughened glass: Required.

Protection rating: \geq IPX6.

Integral bypass diode protection: Required.

Cells

Type: Crystalline.

Standard: To IEC 61215-1-1 (2021).

Efficiency: \geq 12%.

Regulator

Selection: To AS/NZS 4509.2 (2010) and as documented.

Function: Charge cycle control including:

- Low battery voltage disconnect.
- Pulse width modulation.
- \geq 3 step series regulation.

Display: LCD display of:

- Battery voltage.
- Charge current.
- Ampere hours in and out.
- Load current.

Alarms: Visible and audible low and high battery voltage alarms.

Transient protection: Required.

Battery system

Selection: To meet the documented performance.

Blocking diodes: Required.

Service life: \geq 10 years.

Standards: To AS 2676 and AS 4086.1 (1993).

Inverter

Selection: To meet the documented performance.

Waveform: True Sine wave.

Waveform quality: To the AS/NZS 4777 series.

Voltage regulation: \pm 8%.

Harmonic distortion of output current: $<$ 4%.

Frequency regulation: \pm 1%.

Efficiency: \geq 90% at 10% load.

Protection: Overload, short-circuit and transient required.

Automatic no-load shutdown: Required.

Display:

- Output power.
- Grid stability.

Standard: To AS/NZS 4777.2 (2020).

Synchronisation: Provide self commutation modules which automatically synchronise the inverter supply frequency and phase angle to the low voltage network or other embedded generator system.

Control panel

General: Provide photovoltaic system control panels, switchgear and controlgear assemblies.

Metering

Requirement: Provide bi-directional metering equipment to meter the photovoltaic energy that is exported back to the grid to the requirements of the electricity distributor and the electricity retailer.

3.4 LIGHTING

Add subclause as follows.

External lighting points

External lights: If required, provide batten holder fixings and long life low energy bulbs.

External luminaires: Yellow anti-insect globes.

Lights in Wind Regions A, C and D: Weatherproof with heavy duty polycarbonate fittings.

Add subclause as follows.

Internal lighting points

Type: Batten holders to required locations.

Add subclause as follows.

Switches

Requirement: Flush mounted 10 amp IP56 or IP66 rated flush mounted switches, as appropriate.

Insert additional text to subclause as follows.

Luminaires

Luminaire type: Provide as follows:

- Generally: LED recessed downlights as documented.
- Garage: Fluorescent fittings.

3.5 TELECOMMUNICATIONS

Add subclause as follows.

VAST television systems

Before tender closing: Confirm with the principal the television system currently used by the community where the project site is located.

VAST system: If in use by the community, provide a VAST system complete with the following:

- One TV outlet.
- Set-top box.
- 1 x 85 cm satellite dish suitable for VAST LNB per dwelling or site, as documented.

Centralised television distribution system: If one satellite dish is shared by multiple dwellings, liaise with ACMA and Broadcasting Australia and provide transmitter or cabling as required by ACMA or Broadcasting Australia.

RG6 Quad shield cabling: Provide from LNB to F connector mounting block.

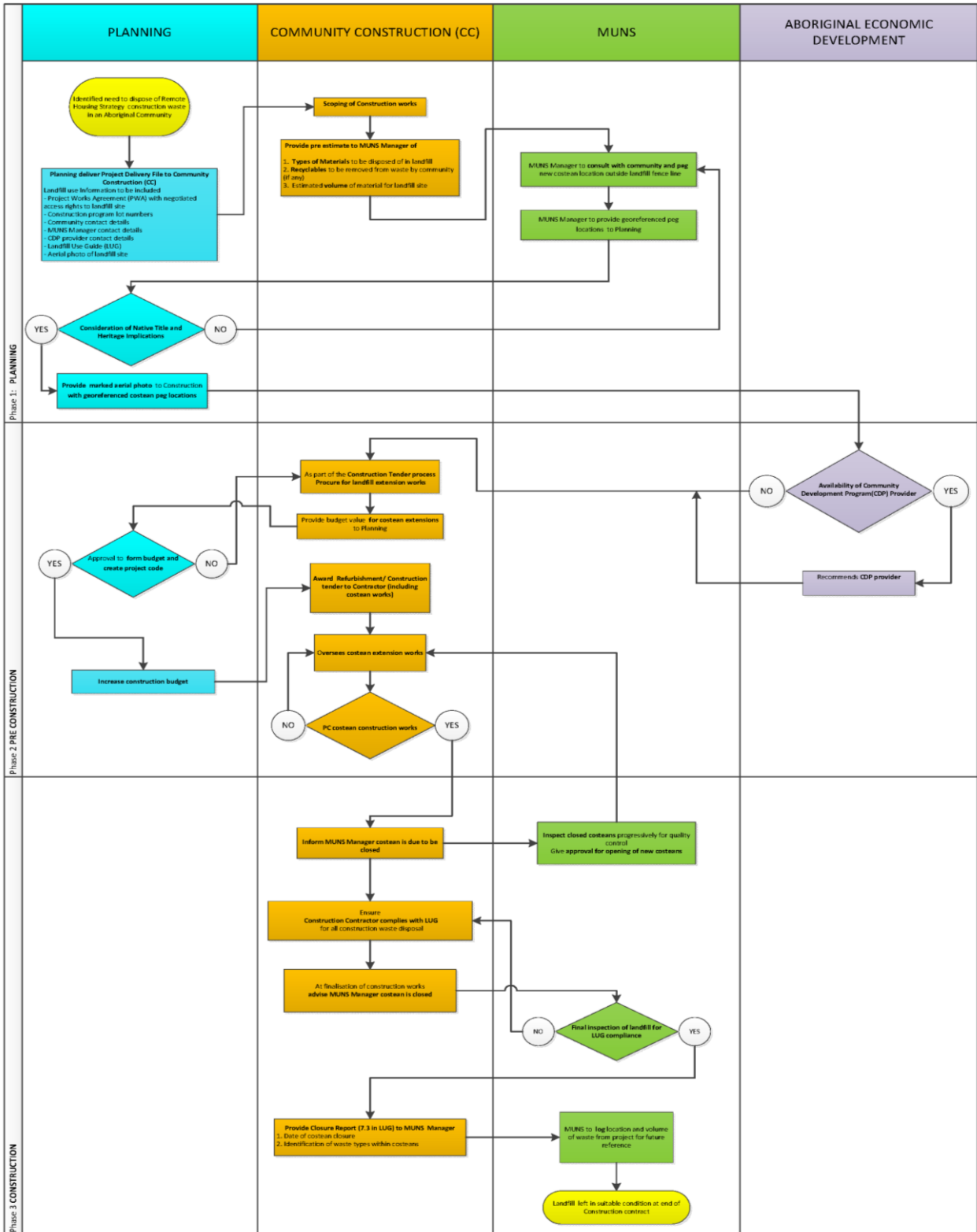
Satellite dish: Align to the satellite and commission system.

Location of system components: Confirm location with the principal before installing.

VAST system not in use by the community: If not in use by the community, provide a TV system to match the system currently used by the community.

LANDFILL USE PROCESS MAP

APPENDIX: LANDFILL USE PROCESS MAP (FOR REMOTE ABORIGINAL COMMUNITIES)



REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1172		Sanitary plumbing products
AS 1172.5	2019	Baths for ablutionary purposes
AS/NZS 1229	2002	Laundry troughs and tubs
AS 1725		Chain link fabric fencing
AS 1725.2	2010	Tennis court fencing - Commercial
AS 1725.3	2010	Tennis court fencing - Private/Residential
AS 1884	2021	Floor coverings - Resilient sheet and tiles - Installation practices
AS/NZS 2312		Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings
AS 2312.1	2014	Paint coatings
AS 2676		Installation, maintenance, testing and replacement of secondary batteries in buildings
AS/NZS 2908		Cellulose-cement products
AS/NZS 2908.2	2000	Flat sheets
AS/NZS 3000	2018	Electrical installations (known as the Australian/New Zealand Wiring Rules)
AS/NZS 3500		Plumbing and drainage
AS/NZS 3500.1	2021	Water services
AS/NZS 3750		Paints for steel structures
AS/NZS 3750.6	2009	Full gloss polyurethane (two-pack)
AS/NZS 3750.15	1998	Inorganic zinc silicate paint
AS/NZS 4020	2018	Testing of products for use in contact with drinking water
AS 4086		Secondary batteries for use with stand-alone power systems
AS 4086.1	1993	General requirements
AS 4120	1994	Code of Tendering
AS/NZS 4505	2012	Garage doors and other large access doors
AS/NZS 4509		Stand-alone power systems
AS/NZS 4509.1	2009	Safety and installation
AS/NZS 4509.2	2010	System design
AS/NZS 4777		Grid connection of energy systems via inverters
AS/NZS 4777.1	2016	Installation requirements
AS/NZS 4777.2	2020	Inverter requirements
AS/NZS 5033	2021	Installation and safety requirements for photovoltaic (PV) arrays
BCA 3.12.3.4	2019	Acceptable construction - Energy efficiency - Building sealing - Exhaust fans
BCA H6D2	2022	Class 1 and 10 buildings - Energy efficiency - Application of Part H6
ICANZ	2003	Industry code of practice for the safe use of glass wool and rock wool insulation
IEC 61215		Terrestrial photovoltaic (PV) modules - Design qualification and type approval
IEC 61215-1-1	2021	Special requirements for testing of crystalline silicon photovoltaic (PV) modules
IEC 61836	2016	Solar photovoltaic energy systems - Terms, definitions and symbols



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