

# HUT PROCUREMENT MANUAL FOR BACKCOUNTRY HUTS

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March 2009 Version 4.0

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Department of Conservation  
*Te Papa Atawhai*

## APPROVED FOR USE:

..... Date:.....  
Kevin O'Connor  
General Manager, Research and Development

## AMENDMENTS

| Amendment date | Amendment details (section, page number, block) | Version | Amended by |
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# HUT PROCUREMENT MANUAL

## INTRODUCTION

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## Section 1: Introduction

### 1.1 Purpose

This manual provides specific means of compliance with the provisions of the building code for backcountry huts provided by the Department of Conservation (DOC). Based on the known abilities of staff and visitors, the location and nature of their visit, the activities undertaken and the experience sought, appropriate solutions are included in this document.

Within the backcountry of New Zealand DOC is responsible for the management of approximately 1,100 huts providing accommodation for both recreational visitors and staff. Due to the scale and purpose of its operations, DOC has a continual programme for the replacement, alteration, repairs and maintenance of its huts and thereby deals with the majority of the Territorial Authorities in New Zealand on a regular basis.

DOC is the only significant owner and builder of backcountry huts in New Zealand and is committed to ensuring that it complies with the Building Act and building code with respect to the building, alteration and management of these huts. However, the current Acceptable Solutions do not provide adequate information or guidance for DOC's needs. Specific backcountry hut solutions are required.

This document is, therefore, necessary to ensure code compliance is achieved for the benefit of DOC, its consultants, Territorial and Building Consent Authorities and the users of DOC's backcountry huts. The solutions included identify what is required for code compliance and DOC may choose to exceed these solutions to meet its own higher service standards or for other reasons.

As this manual is also used by DOC's staff and consultants it includes information concerning the department's procedures and processes that do not affect building code compliance. Such information is identified by being enclosed in a text box headed "DOC Process" and written in italics, as follows:

***.DOC Process: Information***

*This is an example of a text box that identifies information concerning DOC's procedures and processes.*

### 1.2 Scope of manual

This manual is limited in its application to new DOC backcountry huts that meet the following criteria:

1. is of single storey construction,
2. has no hallway between multiple rooms,
3. has no connections to, or services received from, a network utility operator,
4. does not include loose upholstered furniture, drapes, carpets, and similar flammable items or materials.

For these huts the following features are permitted:

- may be either single room (open plan) or multiple room in layout. Multiple room huts shall provide rooms for either cooking/living or sleeping use only. Store rooms, hallways, cupboards and the like are not permitted, except that an entrance lobby is permitted in alpine huts,
- may contain Fire Sources comprising cooking benches (with or without fitted LPG fuelled cooking appliances), and space heaters (either solid fuel, LPG fuelled or electrical appliances).
- May contain 12V electrical services for hut specific services such as radios, staff hut lighting, staff hut appliances and space heating.
- Staff huts may provide sleeping capacity for up to four staff. Staff quarters may include ancillary rooms such as store rooms, storage cupboards, bathrooms and workshops, but hallways are not permitted.
- Staff huts may contain Fire Sources comprising cooking benches (with or without fitted LPG fuelled cooking appliances), other LPG gas fuelled appliances (e.g. fridge, stove, hob top, hot water califont), and space heaters (either solid fuel, LPG fuelled, or electrical appliances).

This manual provides quantitative solutions able to be applied to DOC backcountry huts complying with these criteria and having any or all of the permitted features.

***DOC Process: Relationship to other departmental manuals and documents***

*This manual is part of a suite of documents provided and used by DOC to plan and manage its backcountry visitor hut network and must be read in conjunction with these other documents. There are therefore many issues it addresses but, as important, there are also many issues for which the answer lies outside the scope of this manual. Those issues that lie outside this manual include:*

- *Obtaining financial approval for building a new hut*
- *Strategic planning covering the need for a hut, location and size (including consultation)*
- *Hut Service Standards (olddm-723623)*
- *Assessing Geological hazards (docdm-401231)*
- *Assessment of Environmental Effects (wgnco-28273)*
- *Selection/design of toilet systems (nelco-25639)*
- *Standard Tender process (docdm-304896)*
- *General Conditions of Contract documents (wgnho-119531)*

*The outcome of this relationship is that, in order to use this manual, the other documents and procedures must also be followed at the appropriate times. This manual makes references to those other processes and/or documents. It identifies the likely points at which they are used or where their outcomes will influence the procedures contained within this manual.*

### 1.3 Use of the Manual

This manual is divided into seven parts:

- Part A: 2 bunk huts:
- Part B: 4-12 bunk huts:
- Part C: Larger huts:
- Part D: Fire Safety
- Part E: Construction Details:
- Part F: Toilets and Grey Water
- Part G: Specifications

Dependent on the size of the hut, detailed information is included in parts A, B and C on the process to be followed and the compilation of the necessary information for the design, documentation and procurement of the hut.

For 2 bunk huts, in addition to Part A, the following parts are to be referred to –

- Part F for toilets

For 4 -12 bunk huts, in addition to Part B, the following parts are to be referred to –

- Part E for construction details
- Part F for toilets and grey water
- Part G for specifications

For larger huts with a sleeping capacity of more than 12, in addition to Part C, the following parts are to be referred to –

- Part D for fire safety
- Part E for construction details
- Part F for toilets and grey water
- Part G for specifications

The process that is followed for larger huts, in particular the application of Part D, will also be applicable to huts in the following situations –

- huts with a sleeping capacity of 12 or less that are not derived from the base drawings included in this manual
- huts including staff quarters

All drawings are A4 reductions of A3 originals and therefore are **NOT TO SCALE. DO NOT MEASURE OFF THESE DRAWINGS OR USE FOR CONSTRUCTION.**

## 1.4 Equivalent Substitution

Within the Hut Procurement Manual, references are made to specific manufacturers, proprietary systems or proprietary products. These references are made for DOC's contractual purposes and do not preclude the use of substitutions in certain circumstances, such as:

- a specified product is not available locally, or there are supply issues,
- a specified product is no longer available,
- a specified product is replaced by the manufacturer or supplier,
- an equivalent alternative product is more cost effective, or
- an alternative product is more suitable for the local situation.

In these circumstances, a substitution is considered "equivalent" if it is equivalent or better than that which is being replaced in terms of building code compliance. These equivalent substitutions are considered to be included in this manual.

## 1.5 DOC backcountry huts

This manual is limited in its application to DOC backcountry huts because DOC has a unique combination of factors under its control, or applicable to it, that enable it to determine appropriate building code solutions for these huts and to implement them. These factors are:

### 1.5.1 Management regimes:

In the management of the land it administers and the provision of buildings on those lands, five key statutes (The Conservation Act, National Parks Act, Reserves Act, New Zealand Walkways Act and Marine Reserves Act) govern the department in addition to the Building Act. The management of land is further governed by detail in Conservation Management Plans, National Park Management Plans and other management plans required under statute. The provision of recreation facilities is further governed by two departmental management documents, the Visitor Strategy and the Hut Procurement Manual, and the underlying direction for recreation facility provision on Conservation Lands provided by the Recreation Opportunity Spectrum (ROS).

DOC has unique statutory obligations, strategic planning regimes and management processes which enable it to determine the complete recreational experience and likely users for any part of the areas it manages and to provide an appropriate level of facilities and services for the identified users.

### **1.5.2 Location:**

The department manages the National and Conservation Parks, a range of reserve types and other publicly protected areas of New Zealand. These comprise about a third of the country, the majority of New Zealand's natural areas, and the backcountry - that land that is generally at least a half-day walk from any roadend, with motorised access limited to the occasional use of helicopters, aeroplanes or boats. Only the backcountry has extensive networks of tracks and these huts, which are available to the public.

### **1.5.3 Visitor capabilities and expectations:**

In terms of the Visitor Strategy, these huts are provided for Backcountry Comfort Seekers, Backcountry Adventurers and Remoteness seekers. These users include trampers, climbers and hunters, be they New Zealanders or international visitors, of varying degrees of ability and experience. They are expected to reach these huts, or undertake activities from them, on foot, be within the 10 - 65 years age bracket, of reasonable fitness and with minimal disabilities. Users carry their own provisions and equipment with them, and are expected to be self-sufficient in carrying out their activities. They will normally stay one night before moving on.

Due to the lack of vehicular access, the remoteness, and the terrain in which these huts are located people with disabilities requiring wheelchair access to and within the huts are not expected to visit or use these huts. Therefore only those people with disabilities who retain a reasonable degree of mobility and agility can be expected to visit and use these huts.

Tramping, climbing and hunting are activities with purposes which include recreation, physical challenge and exercise, 'getting away from civilisation', to commune with nature, self-reliance, and the social experience of the trip with others. To enhance the experience sought, instead of diminishing it, only a rudimentary level of services and facilities, including communal style living and sleeping, is expected by users. Indeed many trampers, climbers and hunters choose not to use huts, or to use them only when the weather is poor.

Staff facilities are for short term use by staff in the field. Their work includes compliance with the national hut fee regime (i.e. people pay their hut fees), undertaking hut and track maintenance and other field operations. Again, only a rudimentary level of services and facilities are provided to staff.

### **1.5.4 Building construction and features:**

These huts are shelters with basic facilities incorporated. They are usually a light timber framed construction, single storey, single room building with simple facilities for sleeping, cooking and living activities. Occasionally, a separate bunkroom or bunkrooms are provided, and/or a small staff quarters incorporated.

For visitor huts the facilities usually comprise at most a solid fuel burner, a cooking bench and a communal sleeping bench, or in some instances individual bunks. Staff quarters often will have some LPG gas fuelled appliances (e.g. fridge, stove, hot water califont) and sometimes a 12V power system for a radio and lighting. Water is usually obtained either from a nearby creek or a roof fed water tank. There is no mains electrical or gas supply.

Linings and finishes are usually timber (e.g. ply floor, walls and ceiling). Flammable materials, such as loose upholstered furniture, drapes, carpets, and the like are not provided.

## Section 2 Appendices

### 2.1. General

Within this manual are appendices containing drawing sheets, details, specifications and the like for the Developed Design and Tender and Building Consent stages of the Process. These are the base documents from which all of the project specific documents are derived.

### 2.2. Appendices Document Management

These documents are for the sole use of the architect and therefore the architect will be responsible for updating and reissuing amended base drawing sheets and specifications. To ensure that the specifications and drawing sheets contained within these appendices, and those used for each project are current the following management system is used:

#### 2.2.1 Base Document Control

Any amendments made to these documents will be noted as a 'Version' change identified by number. The first version, which is included with this issue of the manual, is noted as 'V4.0'. Any subsequent minor amendments (e.g. typos, individual details) to the base documents will be recorded as 'V4.1', 'V4.2', etc. Major amendments (e.g. full revisions) will be recorded as 'V5.0', 'V6.0', etc.

The Version is recorded as "version/document/date of issue"(e.g. V4.0 Base Developed Design Specification 4/6 bunk hut June 2008, V4.0 12 Bunk Hut Base Drawing June 2008). For specifications it is recorded on the cover page and in the header of every subsequent page excluding appendices. For drawings it is recorded beneath the revision block.

At the beginning of each Appendix is an 'Amendment Register' that serves the same purpose and is used in the same way as the Amendment Register for the Manual, but is used for the Appendix documents only.

For the Drawing sheets a 'Current Drawing Register' is also included. This lists all of the Base Drawing sheets included in the Appendix and records both the current version and date of issue.

Whenever an amendment is made to one of these documents, an updated Amendment Register and Drawing Register (when a drawing is involved) will be issued. The updated document will be included in the manual and from that day on will be the base document upon which project specific documents will be based.

## Section 3 Project Document Control

### 3.1 General:

Any Project specific amendments made to the Base documents that are then issued to DOC staff will be noted as an 'Issue' change for the specification and as a "Revision" change for the drawings. Where no change is made, as is expected for such drawings as the standard details, then a "Revision" is not noted. To differentiate between Base and Project document control, project amendments are noted by letter and date (e.g. Issue A March 2009).

Whenever a project set of documents is issued to DOC staff a 'Document Transfer' (refer Appendix 1) is attached that identifies the documents sent, number of copies, issue/revision and date of transfer.

### 3.2 Drawings:

The first Revision, which is expected to be the first set of drawings forwarded to DOC staff, is identified as 'Rev A'. If changes are made and incorporated as a result of feedback, the next issue to DOC staff will be 'Rev B', but only those drawings that have changes made will be identified as 'Rev B'.

The tender and building consent drawings are either derived from the Developed Design drawings or from the base documents. Where they are derived from the Developed Design Drawings the issued document is identified by the next letter (e.g. if the Developed Design drawing is Rev B, then the tender and building consent issue will be Rev C). If additional project specific drawings are required, either as unique drawings or derived from Base drawings, these begin anew with 'Rev A'. For amendments to the base drawings, the amendment is highlighted by drawing a cloud around the affected portion of the drawing.

If changes are made and incorporated as a result of feedback, the next issue will be the subsequent letter (e.g. 'Rev C' becomes 'Rev D', while 'Rev A' becomes 'Rev B'). The revisions are specific to the drawing – if no change is made then the Revision number does not change. If amendments are required as a result of the building consent and/or tenders a new Revision is identified for the specific sheets of the Construction set.

The Revision is recorded in two places. First, as "Rev/Description/date of issue"(e.g. Rev A - Bracing and Hold down connections added – 07/03/08) in the Revision Block on the drawing sheet. Second, the revision letter alone in the bottom right hand corner of the title block.

### **3.3 Specifications:**

The first issue is identified as 'Issue A'. If changes are made and incorporated as a result of feedback, the next issue will be 'Issue B'.

The tender and building consent specification is derived from a new Base document and therefore begins anew with 'Issue A'. If changes are made and incorporated as a result of feedback, the next issue will be 'Issue B' and so on. If amendments are required as a result of the building consent and/or tenders a new issue is identified for the Construction set.

The Issue is recorded as "issue/date of issue"(e.g. Issue A 18 March 2009). It is recorded on the cover page and in the footer of every subsequent page excluding appendices.

## **Section 4: Change Management**

### **4.1 Purpose**

To ensure that any changes to the Hut Manual have been properly considered so that valuable knowledge and experience is retained, worthwhile improvements continue to be incorporated, and errors and omissions are avoided. At all times when addressing proposed amendments the prime consideration must be that the Hut Manual addresses a national backcountry hut system and proposed changes must be for the benefit of all, or a significant number of huts.

In order to achieve this Purpose, this section first identifies the change process for the two separate components of the manual that require change management:

- The technical information, and
- The process.

It then identifies the procedure for actual change to the document itself and notification to all concerned.

### **4.2 Technical Information**

A technical advisory group shall be established under the auspices of the General Manager, Research and Development comprising of selected departmental staff and consultants. Its purpose shall be to consider any suggested changes to the technical information contained in the appendices to the Hut Manual (i.e. all design and construction issues).

It is likely that many of the changes will arise from project specific issues where a solution not already within the manual is required. The function of the technical group will be to determine if the project specific solution is likely to be of value nationally and therefore should form part of the hut manual. Where the detail or solution could replace an existing solution then it has to be determined whether it is a substitute (ie the existing solution is replaced) or an alternative solution (i.e. either solution can be used) and the criteria for selection.

The technical group will provide advice to the General Manager, Research and Development who shall make the decision.

### **4.3 The Process**

DOC staff or others involved in the Procurement Processes set out in this Manual can make proposals for adding to or changing that Process. Proposals are to be made to the General Manager, Research and Development who will make a decision after wider consultation.

#### **4.4 Manual Change Procedure**

Approved changes will be made to this electronic document by the DOC Head Office. The amendments will be set out in the amendment table at the beginning of this manual and all Conservancies and Areas will then be notified that an amendment has been made. It will be the responsibility of conservancy and area staff to ensure the copy they refer to, and that they provide to others, is the most up to date.



## 1. Contents

Appendix 1 contains the Base Document Transfer Sheet, on which issues of all documents and subsequent revisions of documents sent from Pynenburg and Collins Architects Ltd are to be recorded.

## 2. Document Transfer Sheet use

The Architect uses this process each time documents are issued from their office. This will enable all parties to maintain an accurate record of when and which documents are dispatched and received.

Process to be followed when preparing Document Transfer Sheet.

- Input Project name and Job Number.
- The date to enter is the date that the documents are issued. (ie. dd-mm-yy)
- Project Specific Base Hut sheets 1 to 8 have been listed in the Sheet, Version, Drawing Title and Scale columns as they will be issued. Check scale of Site/Location and Floor Plans as these can vary depending on hut size. When the project reaches Building Consent and Tender stage, the Standard Detail, Fixture and Fittings, Standard Furniture and Other Buildings sheets, sheet numbers, version number and scales are to be added to the lists to reflect a full set of Project Drawings.
- At the bottom of the Drawing Title column is a list of non-drawing items. This is where the specifications and consultant's documents are to be recorded. These items may be added to or deleted, to reflect more accurately what is being issued.
- Directly below the date of issue in the Revision / Issue column is where the revision letter 'A', 'B' etc. of the drawings or the issue letter of the specifications are to be recorded. The tick represents documents, that are to be recorded as issued but have no revision as they are non revised Standard Drawings or other consultant's documents that are being issued via Pynenburg and Collins Architects Ltd.
- Enter the name of whom the documents are to be issued in the Name column beside their respective role and the number of documents to be sent to that person in the same column as the date and revision / issue.
- Using the abbreviations shown at the bottom of the sheet, input the one which best describes the action required, format and delivery method. Record this in the same column as the date and revision / issue.

Where different actions are required by different parties, these are to be recorded in adjacent columns with the same date and revision / issue letters.

# Document Transfer Sheet

V4.0 Document Transfer March 2009



| Project: |     |   | Date   |                   |
|----------|-----|---|--------|-------------------|
| Job No:  |     |   |        |                   |
| Sheet:   | V:  | Drawing Title:                          | Scale: | Revision / Issue: |
|          |     | Cover Sheet                             |        |                   |
| 1        | 4.0 | Site & Location Plan                    | 1:200  |                   |
| 2        | 4.0 | Floor Plan                              | 1:50   |                   |
| 3        | 4.0 | Elevations                              | 1:100  |                   |
| 4        | 4.0 | Section A                               | 1:50   |                   |
| 5        | 4.0 | Section B                               | 1:50   |                   |
| 6        | 4.0 | Foundation Plan                         | 1:50   |                   |
| 7        | 4.0 | Bracing Plan                            | 1:50   |                   |
| 8        | 4.0 | Window & Door Schedule                  | 1:50   |                   |
|          | 4.0 | Outline Specification                   |        |                   |
|          | 4.0 | Specification                           |        |                   |
|          |     | Lapish Enterprises-foundation calcs/PS1 |        |                   |
|          |     | Lapish Enterprises-foundation drawings  |        |                   |
|          |     | Structural calcs / PS1                  |        |                   |
|          |     | Drainage design / dwgs / calcs          |        |                   |
|          |     | Fire Design                             |        |                   |

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✓ = non revised document

| To:                      | Name: | Number off: |
|--------------------------|-------|-------------|
| Project Manager          |       |             |
| DOC Area Staff           |       |             |
| Lapish Enterprises       |       |             |
| Structural Engineer      |       |             |
| Environment Engineer     |       |             |
| Surveyor                 |       |             |
| Territorial Authority    |       |             |
| <b>Action Required :</b> |       |             |
| <b>Format:</b>           |       |             |
| <b>Delivered via:</b>    |       |             |

Practical  
&  
Innovative  
Design

Directors:  
 Ron Pynenburg  
 BBSc BArch (Hons) PPNZIA  
 Life member FNZIA

Action Required: YC = your comments, YA = your approval, YI = your information, RC = resource consent, BT = building consent / tender, C = for construction,

Format: A1/A2/A3/A4 = hard copy, P = pdf, CD = compact disk

Delivery via: M = mail, C = courier, EM = email, PD = personally delivered, FX = faxed

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