



DATE: 3 June 2019  
Our Ref: P19048

Mr John Newman  
30 Mactier St,  
Narrabeen NSW 2101

Dear John,

**RE: 30 Mactier St, Narrabeen  
PERFORMANCE VERIFICATION REPORT**

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Please find enclosed our Performance Review Report prepared in respect of the ceiling heights within the above listed premises.

Should you require any further information, please do not hesitate to contact me on the number provided.

Yours faithfully

A handwritten signature in black ink, appearing to read "Kieran Tobin", followed by a horizontal line.

**Kieran Tobin**  
**Senior Technical Consultant**  
**BPB Accredited Level A2**  
**Advanced Diploma EHBS (TAFE)**  
**Grad Dip BS (UWS)**

# **PERFORMANCE VERIFICATION REPORT CEILING HEIGHTS**

Prepared For  
**Mr John Newman**

Regarding

**30 Mactier St, Narrabeen**

Prepared By



## **REPORT REGISTER**

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The following report register documents the development and issue of this report and project as undertaken by this office, in accordance with the Quality Assurance policy of NCC Vision Pty Ltd.

<b>Our Reference</b>	<b>Issue No.</b>	<b>Remarks</b>	<b>Issue Date</b>
P19048	1		3 June 2019

## **1.0 INTRODUCTION**

### **1.1 INTRODUCTION**

This performance verification report is required to consider if Ceiling Heights within the lower ground floor of the dwelling situated at 30 Mactier St, Narrabeen, comply with the performance requirements of Volume 1 of NCC 2019.

### **1.2 DESCRIPTION OF BUILDING AND PERFORMANCE MEASURE**

#### **1.2.1 Building Description**

The subject building is a 2-storey class 2 residential unit building, constructed of masonry veneer walls and timber and concrete floors.

The proposed lower ground floor dwelling has ceiling heights of 2.32m within the lounge and 2.38m within the bedroom which is less than the 2.4m required by the Deemed to Satisfy requirements of the BCA within a habitable area

In this regard the finished ceiling heights within the bedrooms will be less than the 2.4m required by the current National Construction Code.

In this regard it is identified that the finished ceiling heights within the bedroom and living area do not meet the Deemed to Satisfy (DTS) requirements of Clause F3.1 of the National Construction Code.

#### **1.2.2 Performance Verification**

The areas of noncompliance and NCC requirements associated with the performance verification are described in Table 1.2.2.

<b>No.</b>	<b>Description of Requirement</b>	<b>DTS provision</b>	<b>Performance requirements</b>	<b>Method of meeting performance requirements</b>
1	Ceiling Heights are required to be a minimum 2.4m for habitable areas	Clause F3.1	FP3.1	A.05 (c) and (d)

**Table 1.2.2 NCC requirements associated with the Performance Review.**

## **1.3 Scope & Limitations**

### **1.3.1 Scope and limitations**

- This report is limited to the non-compliances with the DTS provisions of the NCC Cl F3.1.
- A site inspection of the subject premises undertaken on the 29<sup>th</sup> of March 2019;
- Assumptions have been made that all other compliance measures have been met within the building and are consistent with the requirements of the Building Code of Australia.
- Opinions identified within our report do not guarantee acceptance by the Consent Authority as current Legislation requires that the Consent Authority exercise their discretion in regard to compliance issues proposed to meet the Performance Requirements of the NCC.
- This report addresses only those clauses off the National Construction Code that are directly referenced within the report and a full assessment of the building has not been undertaken by BCA Vision Pty Ltd.

## **1.4 Considerations**

- Light and ventilation provided to the rooms exceeds that required by the National Construction Code.
- Australian Demographic Statistics, June 2012 (cat. no. 3101.0), Census of Population and Housing, 2011 - identifies the average Australia height as 175.6 cm for males and 161.8 cm for females over 18 years of age.
- All walls and ceilings are proposed to be light in colour (white) and assist lighting and visibility within the rooms.
- The portion/s of the dwelling due to their size and position will have a low occupancy and therefore circulation within the rooms will be lower.

## 2.1 Performance Verification – Ceiling Heights

### 2.1.1 Introduction

**Clause 3.8.2.2 Ceiling heights – requires that Ceiling Heights are not less than: -**

Height of rooms and other spaces

The height of rooms and other spaces must be not less than—

- (a) in a Class 2 or 3 building or Class 4 part of a building—
  - (i) a kitchen, laundry, or the like — 2.1 m; and
  - (ii) a corridor, passageway or the like — 2.1 m; and
  - (iii) a habitable room excluding a kitchen — 2.4 m

The (subject) habitable rooms within the subject property contravene this clause as listed in Table 2.1.1.

Note: All Dimensions taken with a Laser Level

Room	Requirement (m)	Height (m)	(Average) Difference (mm)
Bed 1	2.4	2.38	20
Living Room	2.4	2.32	80

**Table 2.1.1 Ceiling heights**

**Light and ventilation calculation: -**

The Following floor and glazing areas were calculated from interpolation on site.

These calculations are important in interpreting both amenity within the subject bedroom and safe movement within each location.

Room	Floor Area (m2)	Light Provided (m2)	Required Area-Light (m2)	Ventilation Provided (m2)	Required Area-Vent (m2)	Outcome
Bed 1	19.6	1.522	0.2	0.1	0.776	Exceeds NCC
Living Room	19	1.522	0.19	0.1	0.095	Exceeds NCC

**Table 2.1.2 Light and Ventilation**

Note: *Exceeds NCC* identifies that the light and ventilation provided exceed the minimum requirements of the NCC.

### **2.1.2 Intent of the NCC**

To make an assessment of whether the reduced ceiling heights achieve compliance with performance requirement FP3.1.

In order to understand this requirement we must be familiar with the intent of this performance provision and in this regard we note the following;

#### **2.1.2.1 The Functional Statement O2.4.2 - suggests that:**

The Objective is to safeguard the occupants from injury or loss of amenity caused by inadequate height of a room or space.

#### **2.1.2.2 The Performance Requirement States that: FP3.1**

A room or space must be of a height that does not unduly interfere with its intended function.

#### **2.1.2.3 The Guide to the NCC 2016**

Refers to ceiling heights of less than 2.4m being permitted where the reduction from 2.4m will not adversely affect occupant safety, health or amenity.

### **2.1.3 ASSESSMENT**

The reduced ceiling heights must be assessed with consideration to occupant safety, health and amenity. Each of these factors is discussed below.

#### **2.1.3.1 Occupant safety**

Natural Light and ventilation within each of the rooms exceeds the requirements of the NCC which will enhance occupant movement within the subject rooms.

No Ceiling fans projections are provided.

Walls and ceilings are light in colour which enhances visibility.

The rooms enjoy a low occupancy and therefore circulation within the rooms is low

The room layout is uncomplicated and occupants will be familiar with their surroundings.

#### **2.1.3.2 Occupant health**

*The health of occupants in rooms with reduced ceiling heights could be adversely affected by reduced air volumes in the room.*

The rooms are each provided with Natural Lighting to a degree which exceeds the minimum 10% requirements of the building code of Australia.

The rooms are each provided with natural ventilation which exceeds the minimum 5% requirements of the building code of Australia.

### 2.1.3.3 Occupant amenity

*Reduced ceiling heights can create a feeling of occupants being excessively cramped and closed in.*

The rooms are sizable areas for the number of occupants and are provided with suitable artificial and ample natural lighting and ventilation.

In our opinion Occupant Amenity within the location exceeds the requirements of the NCC.

## 2.2 COMPLIANCE WITH PERFORMANCE REQUIREMENTS

A summary of the assessment demonstrating compliance with the performance requirements of the NCC is listed as follows:

P2.4.2 A habitable room or space must have sufficient height that does not unduly interfere with its intended function.

Criteria	Compliance
Occupant safety	The departure from the DTS requirements to the subject rooms in our opinion has minimal impact. The ceiling does not contain hazardous projections which could result in physical injury to an occupant. Ample light is provided to assist occupant navigation within the rooms.
Occupant health	In our opinion the minimum NCC requirements are exceeded within the rooms.
Occupant amenity	There is adequate light and ventilation to the room to prevent a loss of amenity for the occupants. In our opinion the minimum NCC requirements are exceeded within the rooms.
Intended function of the room	The bedroom will not be a high circulation area it is used primarily for sleeping. The enclosed Living Room is a comparatively small area which adjoins the open plan living area. The living area achieves the ceiling heights required and enjoys natural light and ventilation which is considerably exceeds the minimum requirements. Occupants of each area will be familiar with the layout of their surroundings.

### **3.0 CONCLUSION & RECOMMENDATIONS**

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#### **Compliance Statement**

In our opinion the reduced ceiling heights, within bedroom 1 and Living Room at 30 Mactier St, Narrabeen, will not have an adverse impact on the intended function of the rooms.

This report demonstrates that performance requirements FP3.1, of NCC 2019 are met within the subject rooms.

No additional recommendations are made or required to improve the amenity and use of the room.

#### **Author**



**Kieran Tobin**  
**Senior Consultant (Grad Dip BS - UWS)**  
**Accredited Certifier BPB**  
**Accredited Building Surveyor AIBS**  
3 June 2019