01 Independent Quality Assurance: Pre-Pour Inspection

01 Independent Quality Assurance: Pre-Pour Inspection / [redacted]

Complete

Flagged items	17
Inspection type	01 Independent Quality Assurance: Pre-Pour Inspection
Job Name	[redacted]
Client	[redacted]
Site Address	[redacted] 3217, Australia [redacted] [redacted]
Inspection Date	[redacted]2023
Footing description	Slab on ground Bored piers
Inspection completed by	[redacted]
Weather	3:15PM: 17°, Times of sun and clouds, Wind WSW 13km/h, Wind Gusts 33km/h

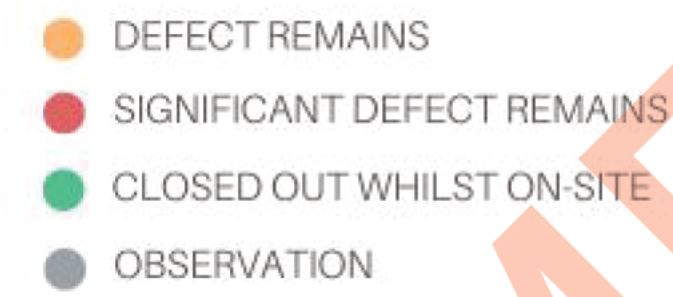
1.0: GENERAL/REINFORCEMENT 9 flagged

INSPECTION PROCESS:
Visual appraisal under normal or special lighting

BOUNDARIES OF THE INSPECTION:
The dwelling and it's immediate surroundings within the title boundary on the aforementioned property address. Items inspected are as per the list below.

REPORTING:
Any defects listed in reports will be based on elements that are known to not comply with the following but not limited to; Client supplied project drawings and specifications, the Building Act 1993, the Building Regulations 2018, National Construction Code/Building Code of Australia Volume Two, AS 4349.0 – 2007 Inspection of buildings, relevant Australian Standards, the Victorian Building Authority Guide to Standards and Tolerances 2015, manufacturers guidelines, and other similar relevant documents.

LEGEND



[redacted]

1.0: REINFORCEMENT 9 flagged

1.1: GENERAL

1.1.4: External beams extend into slab as per Engineers locations

[redacted]

1.2: FABRIC 2 flagged

1.2.2: Fabric consistent height

SIGNIFICANT DEFECT REMAINS

Highlighted areas where mesh sags.

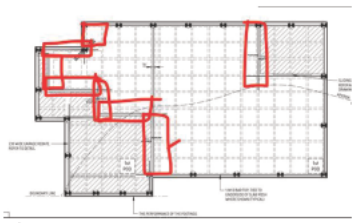


Photo 1

Photo 2

Photo 3

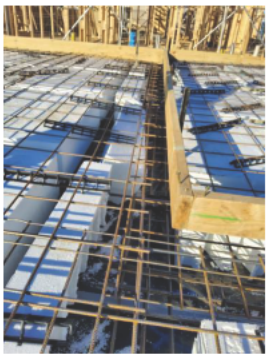


Photo 4

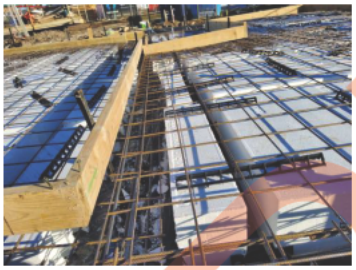


Photo 5

Photo 6

Photo 7

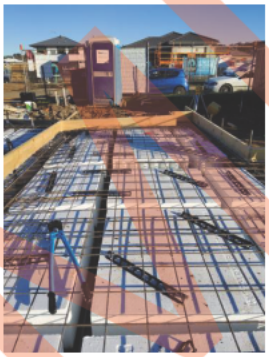


Photo 8

Refer to the National Construction Code of Australia in particular section 3.2.3.2 Steel reinforcement:
"(f) Reinforcement must be placed as follows:
(i) All reinforcement must be firmly fixed in place to prevent it moving during concreting operations.
(ii) Reinforcement must be supported off the ground or the forms by bar chairs made from wire, concrete or plastic.
(iii) When using wire chairs the minimum concrete cover (see 3.2.3.2(d)) to the uncoated portion of the chair must be obtained.
(iv) Wire chairs on soft ground or plastic membrane must be placed on flat bases.
(v) Bar chairs must be spaced at not more than 800 mm centres for steel fabric."

(f) Reinforcement must be placed as follows:

(i) All reinforcement must be firmly fixed in place to prevent it moving during concreting operations.

(ii) Reinforcement must be supported off the ground or the forms by bar chairs made from wire, concrete or plastic.

(iii) When using wire chairs the minimum concrete cover (see 3.2.3.2(d)) to the uncoated portion of the chair must be obtained.

(iv) Wire chairs on soft ground or plastic membrane must be placed on flat bases.

(v) Bar chairs must be spaced at not more than 800 mm centres for steel fabric.

Explanatory information:

Reinforcement is designed to be in a particular place so as to add strength or to control cracking of the concrete. A displacement from its intended location could make a significant difference to the life or serviceability of the structure.

Supports for fabric reinforcement are provided to prevent the fabric distorting when workers walk on top of it to place the concrete and maintain the correct concrete cover to the fabric.

+1.2.4: Bar chairs

DEFECT REMAINS

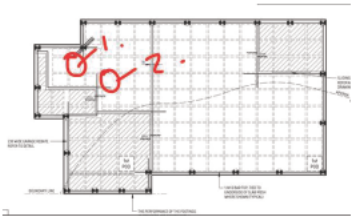


Photo 9

Photo 10

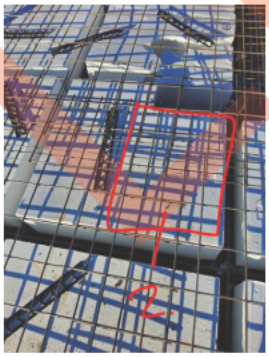


Photo 11

Refer to the National Construction Code of Australia in particular section 3.2.3.2 Steel reinforcement:
"(f) Reinforcement must be placed as follows:
(i) All reinforcement must be firmly fixed in place to prevent it moving during concreting operations.
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(iii) When using wire chairs the minimum concrete cover (see 3.2.3.2(d)) to the uncoated portion of the chair must be obtained.
(iv) Wire chairs on soft ground or plastic membrane must be placed on flat bases.
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(iii) When using wire chairs the minimum concrete cover (see 3.2.3.2(d)) to the uncoated portion of the chair must be obtained.

(iv) Wire chairs on soft ground or plastic membrane must be placed on flat bases.

(v) Bar chairs must be spaced at not more than 800 mm centres for steel fabric.

Explanatory information:

Reinforcement is designed to be in a particular place so as to add strength or to control cracking of the concrete. A displacement from its intended location could make a significant difference to the life or serviceability of the structure.

Supports for fabric reinforcement are provided to prevent the fabric distorting when workers walk on top of it to place the concrete and maintain the correct concrete cover to the fabric.

1.3: EXTERNAL BEAMS

2 flagged

1.3.1: Stem width as per Engineer's requirements

SIGNIFICANT DEFECT REMAINS

Stem width exceeds 220mm and additional bar is required.

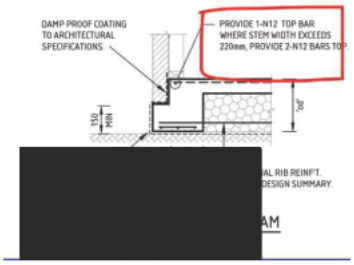

Photo 12

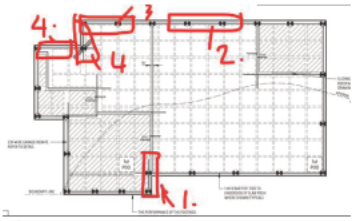

Photo 13


Photo 14

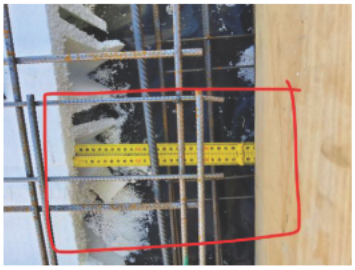
Photo 15


Photo 16

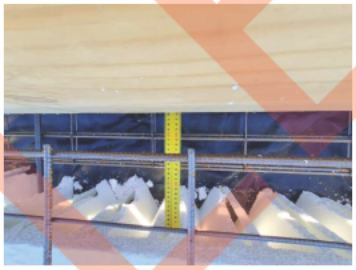
Photo 17


Photo 18


Photo 19

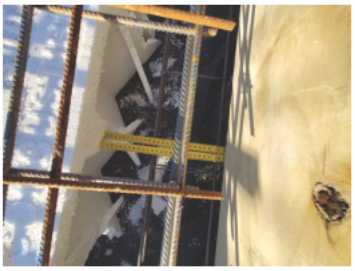
Photo 20

1.3.2: External beam reinforcement cover (side/bottom)

SIGNIFICANT DEFECT REMAINS

All bottom trench mesh not supported chair spacing e ceeds 800mm centres and not as per engineers design.


Photo 21

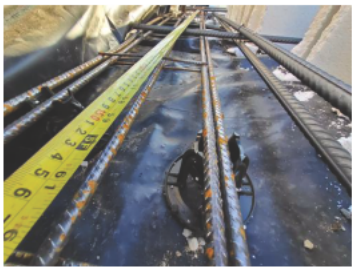
Photo 22


Photo 23

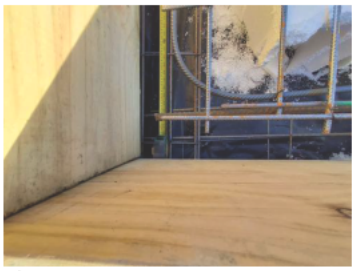

Photo 24

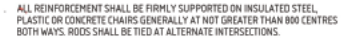

Photo 25

There are coverage issues at the marked up location that don't meet AS 2870 part 5.3.2(a): "Reinforcement in rafts and slabs shall be 40 mm to unprotected ground, 40 mm to external exposure, 30 mm to a membrane in contact with the ground, and 20 mm to an internal surface."

1.4: INTERNAL BEAMS

1 flagged

1.4.1: Internal beam reinforcement cover (side/bottom cover on steel)

DEFECT REMAINS

Bottom nternal rib bar side cover not achieved.

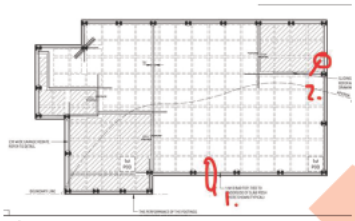

Photo 26

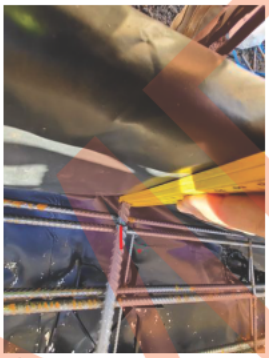

Photo 27

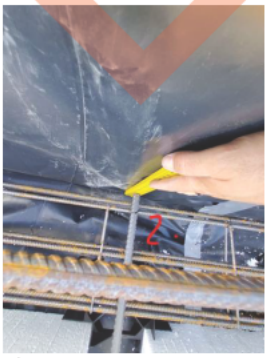

Photo 28

Refer to the National Construction Code of Australia in particular section 3.2.3.2 Steel reinforcement:
“(d) Footings and slabs-on-ground must have concrete cover between the outermost edge of the reinforcement (including ligatures, tie wire etc.) and the surface of the concrete of not less than the following:
(i) 40 mm to unprotected ground.
(ii) 30 mm to a membrane in contact with the ground.
(iii) 20 mm to an internal surface.
(iv) 40 mm to external exposure.”

(d) Footings and slabs-on-ground must have concrete cover between the outermost edge of the reinforcement (including ligatures, tie wire etc.) and the surface of the concrete of not less than the following:

3.2.3.2

Footings and Slabs

(i) 40 mm to unprotected ground.

(ii) 30 mm to a membrane in contact with the ground.

(iii) 20 mm to an internal surface.

(iv) 40 mm to external exposure.

(e) Reinforcement must be cleaned of loose rust, mud, paints and oils immediately prior to the concrete pour.

Explanatory information:

In order to obtain a good bond between concrete and reinforcement, the reinforcement should be free of contamination by mud, paint, oils, etc. It is not necessary for the reinforcement to be completely free of rust. Some rusting is beneficial in promoting a good bond as it roughens the surface of the steel. Loose rust, however, must be removed from the reinforcement.

[redacted]

1.6: WAFFLE

4 flagged

Apply?	YES
1.6.1: Waffle set out as per engineer's drawings	DEFECT REMAINS

Waffle pod debris throughout ribs and beams.

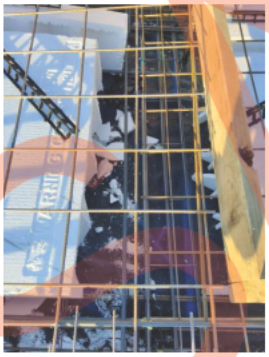

Photo 29

Photo 30

Photo 31


Photo 32


Photo 33


Photo 34

1.6.2: Waffle pods in position?

DEFECT REMAINS

Highlighted ribs not aligned.

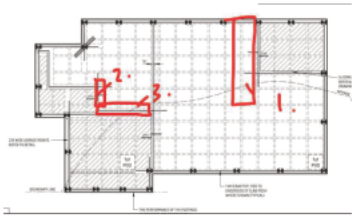
Photo 35

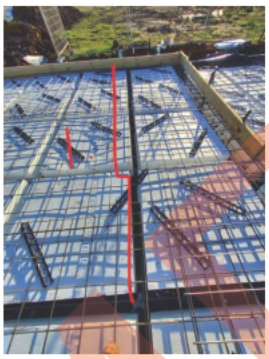
Photo 36

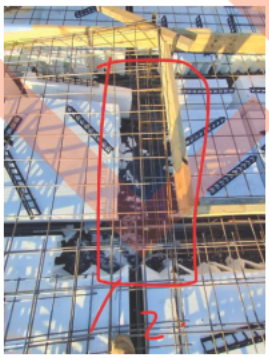
Photo 37


Photo 38


Photo 39

As per Australian Standard 2870 - Residential slabs and footings, part 6.4.6:
"Reinforcement and void formers shall be fixed in position prior to concreting by means of proprietary spacers, bar chairs with bases, ligatures or other appropriate fixings so as to achieve the required reinforcement position and concrete covers."

Other item 1.6.3. 2 flagged

Other item 1.6.3. 1 1 flagged

DEFECT REMAINS

Highlighted pods damaged.

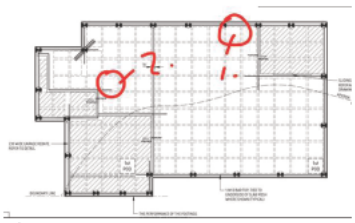

Photo 40

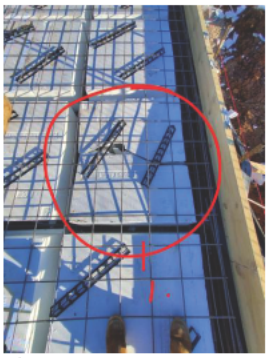

Photo 41

Photo 42

Other item 1.6.3. 2

1 flagged

DEFECT REMAINS

The Rear alfresco step down has been cut back too far into the home theatre by approximately 1200mm, the builder has stacked loose and cut pods, some pods have been damaged due to not being supported properly, engineer to review and RBS to approve.

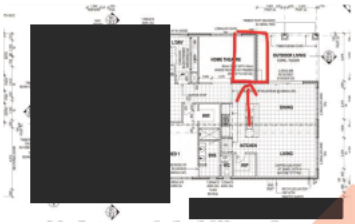

Photo 43

Photo 44

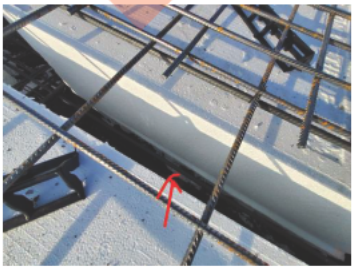

Photo 45

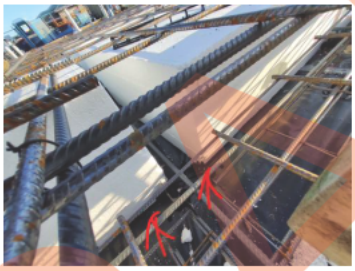

Photo 46

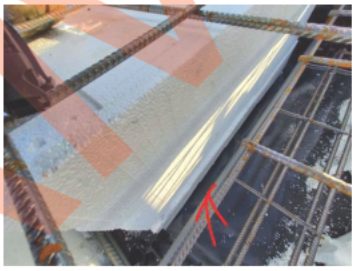

Photo 47

2.0: MISCELLANEOUS

8 flagged

2.1: MAIN SERVICES INCOMING

2 flagged

2.1.2: Water conduit/s installed and secure

DEFECT REMAINS

Not secured to boxing.

Photo 48

Water conduit not installed. As per section 5.6 of AS 2870-Residential slabs and footings "ADDITIONAL REQUIREMENTS FOR CLASSES M, H1, H2 AND E SITES" refer to the specific section 5.6 .4 Plumbing requirements:
"(e) Cold water pipes and heated or hot water pipes shall not be installed under a slab, unless the pipes are installed within a conduit so that if the pipe leaks water it will be noticed above the slab or outside the slab and will not leak unnoticed under the slab.
NOTE: Water service pipes installed under concrete slabs should comply with the relevant requirements of AS/NZS 3500.1. Heated water service pipes installed under concrete slabs should comply with the relevant requirements of AS/NZS 3500.4."

2.1.5: Phone conduit installed/stabilised

DEFECT REMAINS

Not fully secured to boxing.

Photo 49

Photo 50

Photo 51

2.2: INTERNAL SERVICES

1 flagged

2.2.2: Smart pans installed

DEFECT REMAINS

Not installed.

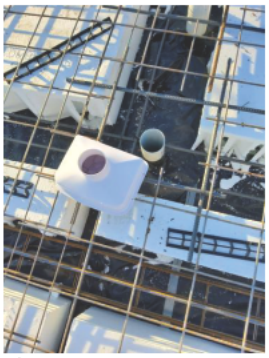
Photo 52

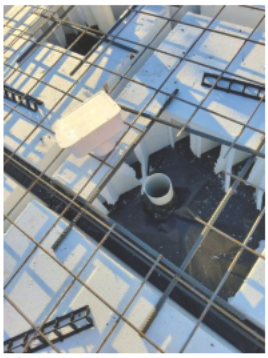
Photo 53

2.3: VAPOUR BARRIER & DAMP PROOFING MEMBRANE

1 flagged

2.3.1: Installed

CLOSED OUT WHILST ONSITE

Cut/damaged vapour barrier to corner of porch

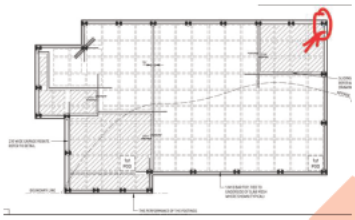
Photo 54


Photo 55

AS 2870-Residential slabs and footings. Part 5.3.3.4(a) of AS 2870 requires the vapour/damp proof membrane to be installed as per the below:
"The sheet shall be placed beneath the slab so that the bottom surface of the slab and beams, including internal beams, is entirely underlaid. The membrane shall extend under the edge beam to ground level;"

2.3.2: Taped at pipe penetrations

DEFECT REMAINS

Not taped around penetrations, base material visible.


Photo 56


Photo 57


Photo 58

Refer to the National Construction Code of Australia in particular section 3.2.2.6 Vapour barriers, (b) Installation; A vapour barrier must be installed as follows—:
"(ii) tape or seal with a close fitting sleeve around all service penetrations;"

3.2.2.6 Vapour barriers

A vapour barrier must be installed under slab-on-ground construction for all Class 1 buildings and for Class 10 buildings where the slab is continuous with the slab of a Class 1 building as follows—

(a) Materials

A vapour barrier must be—

(i) 0.2 mm nominal thickness polyethylene film; and

(ii) medium impact resistant,

determined in accordance with criteria specified in clause 5.3.3.3 of AS 2870; and

(iii) be branded continuously "AS 2870 Concrete underlay, 0.2 mm Medium impact resistance".

(b) Installation

A vapour barrier must be installed as follows—

(i) lap not less than 200 mm at all joints; and

(ii) tape or seal with a close fitting sleeve around all service penetrations; and

(iii) fully seal where punctured (unless for service penetrations) with additional polyethylene film and tape.

(c) The vapour barrier must be placed beneath the slab so that the bottom surface of the slab is entirely underlaid and extends under edge beams to finish at ground level in accordance with Figure 3.2.2.3.

2.4: DIMENSIONS

2 flagged

2.4.1: Dimension spot check

DEFECT REMAINS

At the time of the inspection the boxing was incomplete and not locked in, Builder to check all slab dimensions prior to pouring concrete.

Photo 59

Photo 60

Photo 61

Photo 62


Photo 63


Photo 64

Photo 65

Builder/Supervisor to review dimensions prior to pour

2.4.2: Sewer/waste approximate locations; Shower/s, Sewer stacks (2 storey), WC/s, Wall hung vanities

DEFECT REMAINS

At the time of the inspection the boxing was incomplete and not locked in, Builder to check all pipe/conduit locations prior to pouring concrete.

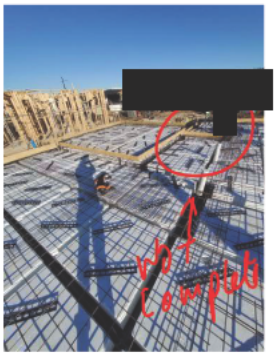

Photo 66

Photo 67

Photo 68

Photo 69

Photo 70

Photo 71

Photo 72

Other item 2.5.

2 flagged

Other item 2.5. 1

1 flagged

DEFECT REMAINS

The Rear alfresco floor waste has not been installed as pervthe approved plan, Builder to discuss with client if not being installed for a variation to the design.

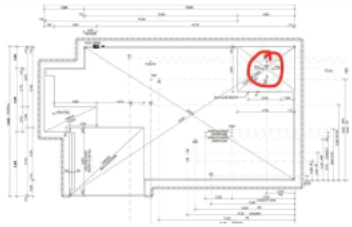

Photo 73

Photo 74

Other item 2.5. 2

1 flagged

DEFECT REMAINS

No smart pan installed for the free-standing bath and the waste sticks up above the finished floor level, Builder to ensure the position is correct prior to pouring concrete.

Photo 75

LIMITATIONS

Limitations at time of inspection?

Other limitations as per the “Consultancy Service Agreement”

This report is prepared in accordance with AS 4349.0 - 2007: Inspection of buildings. It is not a certificate of compliance of the property within the requirements of any Act, regulation, ordinance, local law or by-law, and is not a warranty against problems developing with the building in the future.

CONCLUSION

Conclusion

Report completed by

2023 3:52 AEST

QUALIFICATIONS:
- Registered Building Practitioner