



EDITORIAL

Hello and welcome to Wairoa District Council's June edition of the Building Sector News.

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CHANGES IN CONSTRUCTION

Check, check and check again – what does the change affect?

A rather unusual thing occurred recently. A single story brick clad dwelling was being constructed. Construction was as per NZS 3604 with 100 x 50 framing at 600 centres with a double top plate.

The builder decided to do away with the double top plate and use only a single top plate. The affect of removing the double top plate was:

- Bracing calculations had to be redone as double top plate allows bracing lines to be at 6.0m centres. A single top plate allows bracing lines to be at 5.0m centres.

So as long as the walls were situated at the 5.0m centres all would be well and a new plan and bracing schedule would need to be submitted and approved.

The change may also necessitate a change in the construction process as bracing wall linings would need to be fitted first then the ceiling battens fitted.

The reason is that bracing wall units have to be fixed to a continuous framing member, i.e. the top plate.

But this dwelling has an oversize garage 10m long which was braced by way of a ceiling diaphragm.

A ceiling diaphragm is required to be fixed to the top plate (along with the wall bracing GIB board). Therefore the only way to fit the wall bracing GIB board was to change them to ply and fit the required bracing units to the exterior side of the walls. Fitting wall bracing in the exterior may then reduce the brick cavity to less than 40mm or as in this case as the exterior was clad, an engineer would need to be engaged to design appropriate bracing for the structure as it was impossible to actually fit bracing to the exterior side of the studs.

The reason we are bringing this to your attention is that one

change may not sound like it is a problem, but one change can and usually does affect other aspects of construction.

Please think through any changes so the building is still compliant and always check if an amendment is required.

SUPPLEMENTARY PROTECTION TO CUT SURFACES OF TREATED TIMBER

Timber in contact with ground, to achieve 50 year durability, requires house piles and poles to be treated to H5 (NZS 3602: 2003 Clause 106.2) and any cut or bored surfaces shall have in situ treatment in accordance with NZS 3640. It is also a requirement of NZS 3604 clause 6.4.3.3.

NZS 3640: 2003 Informative Appendix B5 (Machining and sawing treated timber) says it is advisable to apply supplementary protection, as prescribed by the manufacturer, to H3.1 and higher timber, if cut or machined after treatment. Appendix B5 is recommended practice, and Clause 1.2.4 (Definitions) clarifies that the term "informative" identifies information provided for guidance or background but that does not form part of the mandatory requirements. Hence, it is not a mandatory requirement to apply supplementary protection to cut ends of H3.1 treated timber.

Painted or stained timber weatherboards must always have cut ends sealed before installation.

SKILLION ROOF TIMBER CEILING BATTEN TREATMENT

Under NZS 3602 Table 1D.3 radiata pine timber ceiling battens installed in low slope skillion roof construction (under 10°) where the ceiling lining is a structural diaphragm must be treated to H3.1 to achieve a not less than 50 year durability.

GROUND CLEARANCES FOR TIMBER SLATTED DECKS

How close to the ground can a deck be built? If following NZS 3604, the minimum pile height above the ground is 150 mm with a DPC. However, for a number of existing and new buildings, once the bearer and joist depth is added, the timber slatted deck may be higher than the floor level inside the building.

Even though a deck close to the ground doesn't require a building consent, its construction must comply with the Building Code – in the case of a low deck, it is primarily the durability of the timbers used and structure. Any timber in ground contact (even if sitting on a concrete pad at ground level) must be treated to H5, while decks that allow a gap between the timber and the ground can be constructed using H3.2 treated timber.

Options to allow a low deck to be constructed can include:

- bolting bearers to the sides of piles.
- supporting joists directly on concrete pads (using H5 treated timber and installing a DPC between the timber and the concrete is recommended) – some form of connection of the timber to the concrete, such as corrosion-resistant metal brackets or cast-in bolts, will need to be provided.
- bolting joists to cantilevered metal brackets embedded in a concrete pad to allow the timber to be supported clear of the

ground (for this type of installation, decks should be attached to the building to provide lateral stability and therefore should be no wider than 2.0 m). When wider than 2.0 m some form of lateral support will need to be provided to stiffen the deck construction such as an anchor pile.

SUITABLE DECKING TIMBERS

The main reference when selecting suitable timber for decking is NZS 3602 Table 2A7. When timbers other than treated Radiata pine (cypress species, vitex, kwila, eucalyptus or beech) are being considered, the timber must be heart timber to give the required minimum durability of not less than 15 years.

Also, if imported timber is being used for decking, ascertain whether it is from a sustainably managed source.

LRV

E2/AS1 paragraph 2.4 specifies a light reflective value (LRV) of 40% or more for EIFS and flush-stopped texture coated fibre-cement claddings to minimise the risk of thermal movement resulting in cracking and the potential for water entry.

Specifying a light colour on all cladding will significantly reduce the amount of heat absorbed by the cladding and the resultant thermal movement.

AS/NZS 1170

The recent amendment to Building Code Clause B1 Structure, which adopted AS/NZS 1170 as the structural design standard may, in some areas of the country, change the wind zone classification. For example, in parts of Wellington and the Kapiti Coast, this has meant that sites that were very high wind under the old standard NZS 4203 are now specific design under AS/NZS 1170. If not taken account of, this can cause problems at consent stage where the structural design work was carried out before the adoption of the new standard.

While NZS 3604 has not changed, the councils' assessment of the wind zones may have changed with the adoption of the new NZS/AS 1170 standard.

MITEK – STRUCTURAL FIXING BOOKLET

Mitek New Zealand Ltd have updated Structural Fixings onsite guide for Building Code Compliance – 2009 edition.

We have limited copies at Council or alternatively request a copy from Mitek, fax 03 348 0314 or www.mitek.nz.

New information includes:

- Timber strength properties 04/2008
- Internal load bearing on concrete slab floors 12/2008
- GIB Handibrac
- Top plate stiffener 06/2007
- Hip board strut 02/2008
- 9kN/16kN Truss to top plate fixing 03/2008
- Concealed purlin cleats 02/2008
- Roof bracing specification 08/2008

Removed information:

- Deck building guide
- GT spacer
- Truss fixing chart

There is also modified information included so please get a copy if you use Mitek products in your building.

BUILDING OFFICIALS SURVEY

The Building Officials Institute recently conducted a survey of Councils to try and determine whether there are common issues amongst members.

It would appear that Wairoa's issues are very similar to the rest of the country when it comes to the two main areas of building control.

Item 1:

Processing an application to check that the proposed work complies with the Building Code - the following issues are commonly left off the plans:

- No bracing schedule or calculations
- A general lack of site specific information (specific wind zones, soil, glazing)
- Lack of plumbing and drainage details, layout and specifications
- Incorrect or lack of H1 calculations – thermal insulation
- Producer statements which are out of date
- Fail to provide roof truss design certificate and PS1
- Incorrect scale on plans
- Stormwater disposal details
- Sub floor ventilation
- Timber framing fixing details
- Water supply details
- Weathertightness detailing including the risk matrix

Item 2:

Inspecting building work – the following items builders/sub contractors fail to do onsite which results in reinspection:

- No approved plans onsite
- Deviation from the approved plans without seeking amendment approval
- Call for inspections to be made before is complete (requires reinspection usually at owner's cost)
- No one onsite to meet inspector or leave instructions with even though this was agreed to
- Failure to call for final inspection for code compliance certificate or fill in Form 6
- Failure to read product literature or understand how product installed
- Fixings incorrect in claddings and bracing
- Flashings and window tape either not correct, building paper not correct or loose
- Ground levels incorrect
- Failing to install smoke alarms
- Insulation not fitted correctly, e.g. batts with gaps and folded over
- Proprietary products not being installed to manufacturers specifications

The above items are just some of the issues the inspectors find. Clearly we all need to do better.

WASTE WATER PROSECUTION

We have been contacted by the Plumbers, Gasfitters and Drainlayers Board regarding a recent conviction. Following a complaint by Waimate District Council, the Board laid charges against Gould Tank Systems Ltd of Palmerston North for knowingly allowing their waste water system to be connected by persons who were not registered Drainlayers. Gould's primary defence was that the work is not "drainlaying" and that the discharge from a waste system is not "effluent". This defence was not accepted by the Court and fines were imposed. This conviction gives clear

mandate. The work on installing and connecting the drains up to and from a waste water treatment system, no matter what type or brand, the size of the pipework or pumped or gravity feed, is the work of a registered Drainlayer who must hold a current licence with the Plumbers, Gasfitters and Drainlayers Board.

GULLY TRAPS

A gully trap is a fitting designed to prevent foul air escaping from drainage systems and used to receive the discharge from wastepipes.

A wastepipe is a discharge pipe that conveys the discharge from waste water fixtures to a gully trap.

A waste water fixture is a sanitary fixture or sanitary appliance used to receive wastes, and which is not a soil fixture.

A sanitary fixture is any fixture which is intended to be used for sanitation.

A sanitary appliance is any appliance which is intended to be used for sanitation but which is not a sanitary fixture. Included are machines for washing dishes and clothes.

Sanitation means the term used to describe the activities of washing and / or excretion carried out in a manner or condition such that the effect on health is minimised, with regard to dirt and infection.

The above definitions are from the New Zealand Building Code Handbook.

Council inspectors are finding lately that the applicant is citing G13 AS2 as a means of complying with the Building Code then not quite following the acceptable solution.

Issues noted are the maximum distance from the top of the water seal is more than the allowed maximum of 600mm and the wastes are not sealed into the gully when the wastes are run to through the rear of the gully trap.

Quite why the 600mm maximum measurement is being exceeded is rather unclear but it does show a lack of understanding of the acceptable solutions.

For your information the following pages are from G13/AS2 on gully traps.

3.3 Gully traps

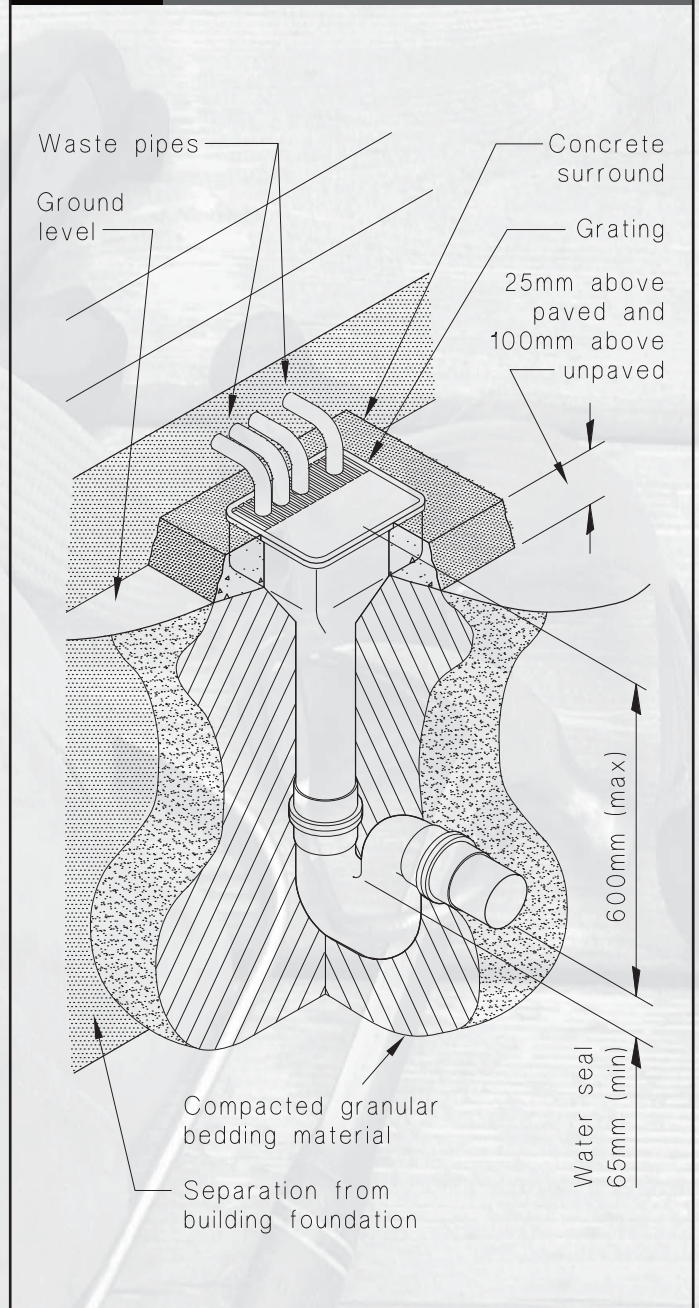
3.3.1 All *gully traps* shall be constructed to prevent the ingress of *surface water* and foreign bodies likely to cause a blockage, shall be located within the legal boundary of the land on which the *building* is erected, and shall have (see Figures 2 and 3):

- a) The overflow level of the gully dish no less than:
 - i) 25 mm above paved surfaces, or
 - ii) 100 mm above unpaved surfaces,

COMMENT:

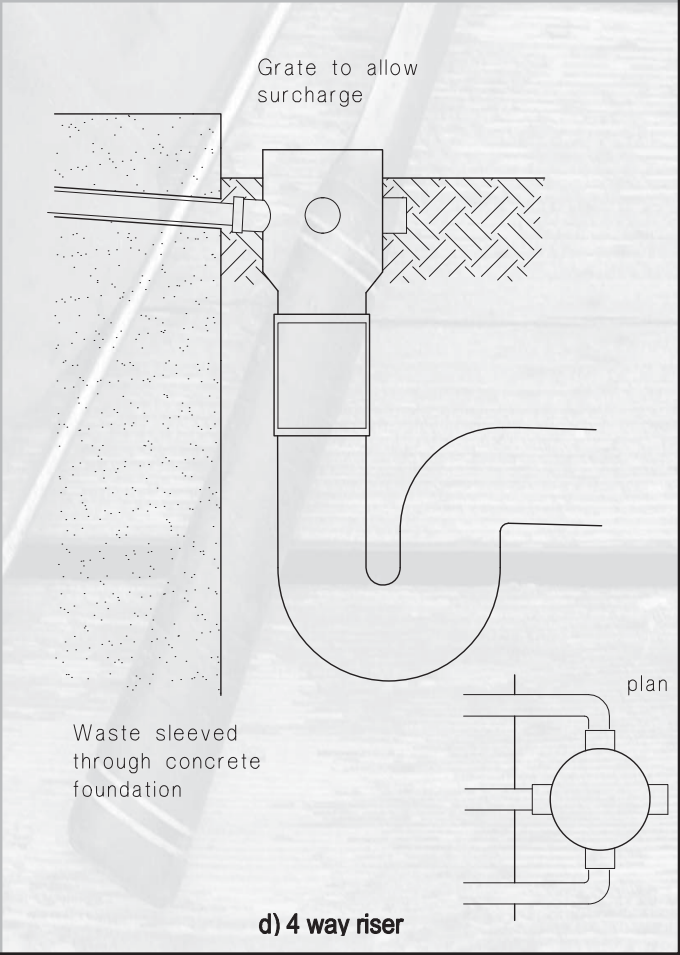
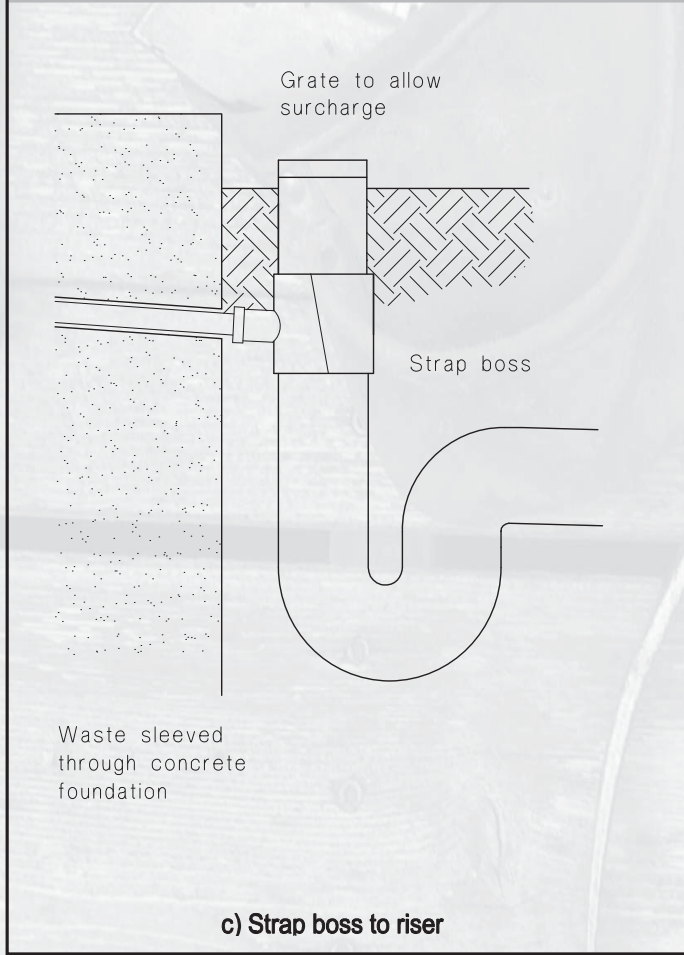
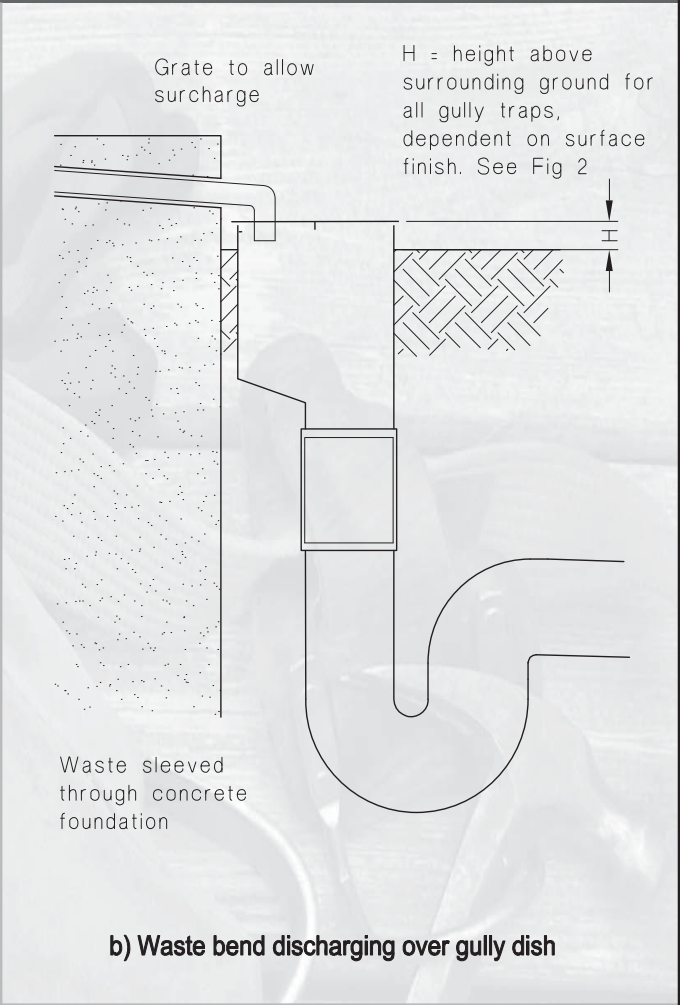
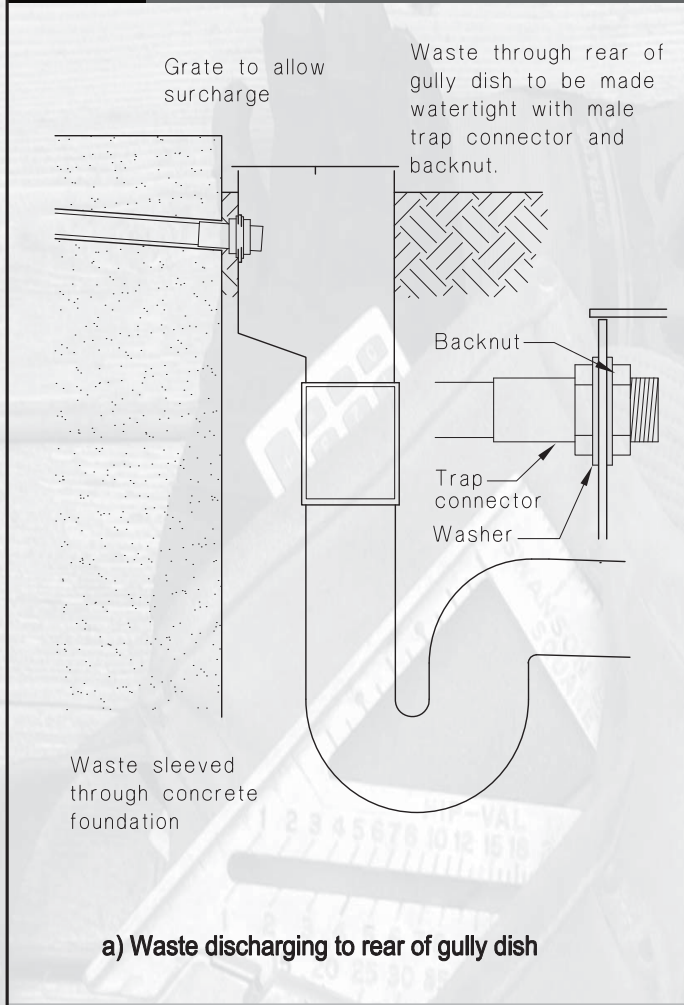
It is imperative that the *waste pipe* connections to the *gully trap* remain watertight to prevent the ingress of ground/surface water.

Figure 2: Details of gully traps
Paragraph 3.3.1



- b) A grating that will allow surcharge,
- c) A minimum outlet pipe *diameter* of 100 mm,
- d) A *water seal* depth of at least 65 mm,
- e) At least one *discharge pipe* discharging to the *gully trap* to avoid *water seal* evaporation,
- f) *Waste pipes* that discharge to the *gully trap* arranged to permit easy cleaning of the *gully trap*,
- g) *Waste pipe* outlets located at least 20 mm above *water seal* level, and at least 20 mm below the grating,

Figure 3: Methods of connecting to gully traps
Paragraph 3.3.1



- h) The top of the *water seal* no more than 600 mm below the top of the gully dish, and

COMMENT:

To permit the *gully trap* to be easily cleaned by hand.

- i) *Adequate* support from bedding and backfilling with:
- i) concrete no less than 75 mm thick surrounding the entire gully dish and which is separated from the *building* foundation, where the *gully trap* is likely to be damaged, or
 - ii) compacted bedding material complying with Paragraph 2.2.1, in other areas, and
- j) A minimum of 600 mm clear access space above the gully dish.

3.3.2 In order to provide overflow relief for the drainage system, every *building* used for Housing shall be provided with at least one *gully trap* which shall:

- a) Be positioned so that the top of the gully dish is no less than 150 mm below the overflow level of the lowest *sanitary fixture* served by the drainage system,
- b) Have a grating that will allow surcharge,
- c) Be located in a visible position, and
- d) Be installed so that surcharge cannot enter into or under *buildings*.

3.4 Grease traps

3.4.1 *Grease traps* shall be provided for any *discharge pipe* serving a sink(s) where the *foul water* discharges to a soak pit.

3.4.2 In *buildings* other than Housing, *grease traps* shall be provided where waste water is likely to convey grease.

3.4.3 The capacity of a *grease trap* shall be at least twice the capacity of all *sanitary fixtures* and *sanitary appliances* discharging to it, and in no case less than 100 litres as shown in Figure 4.

3.4.4 For restaurants and cafés, the capacity of the *grease trap* shall be at least 5 litres for each person for whom seating is provided, and in no case less than that required by Paragraph 3.4.3.

3.4.5 *Grease traps* located outside a *building* shall be configured as shown in Figure 4.

3.4.6 The top of the outlet junction shall be

extended to finished ground level and fitted with a watertight *rodding point* access cover as shown in Figures 4 and 10.

3.4.7 Other types of *grease trap* such as those that separate or digest grease must be approved by the *network utility operator* as required by G14/VM1 1.2.

If you know of anyone who would like to receive these Newsletters please ring WDC Building Control Dept 838 7309 and give us your details. Or similarly if you would like to be removed from our list please advise.