A common feature of many leaky buildings is that they were constructed without eaves, usually with walls terminating with a parapet. Changing this design detail can greatly enhance a building’s weathertightness.

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Eaves can, depending on their width and the height above the ground, provide significant shelter to a wall cladding and penetrations, such as windows, by deflecting water away.

Typically, pitched roofs can have outriggers flitched to the side of the rafters or truss top chords to create eaves. Doing this involves total removal of the parapet wall and its cladding and the repair of any damaged wall framing.

Questions to ask
Engineering advice may be needed on the extension of rafters, particularly where proposed eaves are wider than 400 mm.

Figure 1: Roof extension – long-run metal roofing with lined sloped eaves.

Notes:
1. Roofing warranty not usually provided.
2. New roofing must be compatible with old, avoid lapping galv steel and alzinc steel.
3. New rafter extensions to match existing rafter/top chord size.
4. Insulation not shown for clarity.
The designer will also need to consider:

- how the additional roof cladding is to be integrated with the existing roof cladding – can there be a lapped junction or does the roof extension need to be a specific length to suit a module, such as concrete or metal tiles?
- the effect the extension may have on any roof cladding warranties, for example, having a lapped joint between new and existing steel long-run roofing may void any manufacturer’s warranty on the new materials.
- the final form of the eaves – is the new soffit fixed to the underside of the extension (see Figure 1) or a fully boxed flat soffit (see Figure 2)?

*Note:* CAD versions of these figures will shortly be available on the BRANZ website, www.branz.co.nz, under BRANZ Details Remediation.

**Figure 2: Roof extension – metal tile roofing with boxed eaves.**