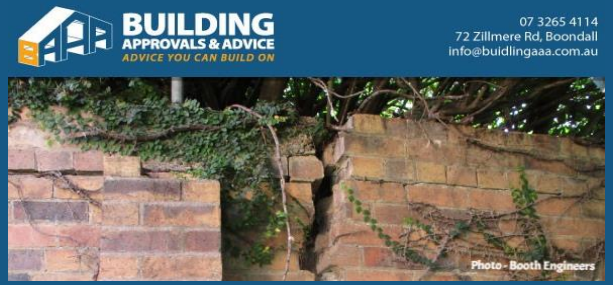
Retaining Walls 101 – July 25th 2018

Stephane Rebibou's expert eye on how to meet the retaining wall criteria the first time.

A back to basics rundown to support the delivery of strong, compliant and lasting retaining walls.

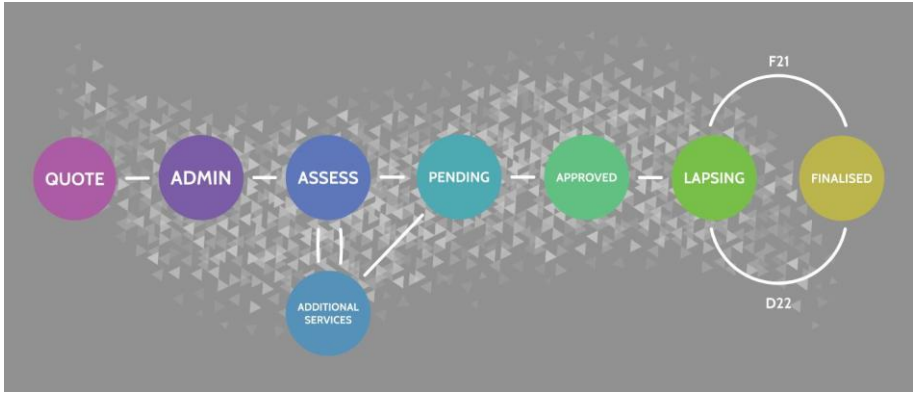


Saving time - streamlined building approvals for retaining walls

Compliant retaining walls

Class 10b (non-habitable) structure under the Building Code of Australia (forming Volumes 1 and 2 of the National Construction Code

- When approval is not required
- Siting variations (relaxations)
- Materials and height requirements



Drainage
Design of ...retaining walls P28-31 *Catchments and Creeks*

BCC
Development application criteria

QBCC
Maintenance tips/ general info for owners

Timber Qld
Fact sheets and support including residential timber retaining walls

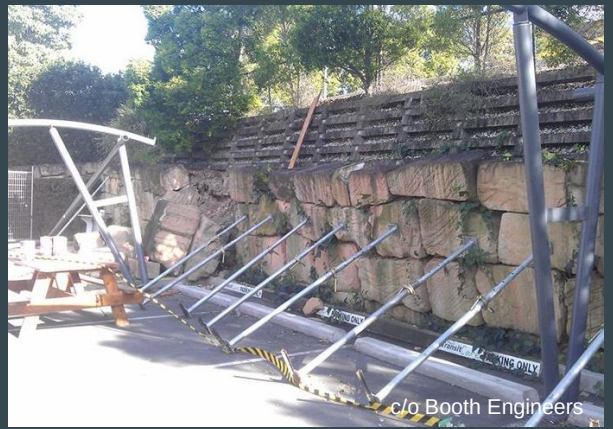
Building Surveyor insights for building high quality retaining walls – notes from presentations

- Collaboration is key – e.g. teamwork between builder, certifier, neighbours, engineer so well informed decisions can be made about retaining walls and embankments specific to each site. Cut and fill techniques that suit the project can be chosen. Surrounding retaining walls, neighbouring trees, fences and boundary considerations can be accurately factored in.
- Best practise is that an inspection is allocated so all information can be collated, even in the case of walls below 2m where there are surrounding considerations e.g. adjacent to a pool, other walls, neighbouring properties. These inspections can be separately itemised in the builder's quote so competitive yet professionally rigorous quotes can be maintained.
- The NCC will guide us how to build the wall, the QDC regulations cover where it can be built.
- Building regulations Schedule 1 can be used as an initial way to highlight issues and cross check plans.
- If a BA is required, the RFI (request for information) process will consider aspects such as flooding/ sewerage/ stormwater, heights of fences and if a siting variation is required. Once council approval has been issued, building may commence.

Engineering insights for building high quality retaining walls – notes from presentations in addition to case studies/ photos

- Many online resources and standard tables to identify common items relating to how to construct retaining walls. Less common knowledge relates to the influences on retaining wall failure – the wall in situ and surrounding structures that influence it.
- Rule of thumb – consider the area around the wall to a match of the height of the wall – for example, for a two meter wall- structures/ soil type/ slope two meters beside, over, under the wall might influence the surge load and therefore wall requirements – e.g. if buttresses, piers or anchors are required.
- Important - site visits prior to building and being upfront with communicating requirements to clients, as they will be responsible for wall maintenance and repair.
- Project assistance could be an additional engineering service if a client needs further support to understand or in complex situations with many stakeholders.
- Consult adequately with experts and engineers to provide detailed plans and the building approval process (if required) - avoids costs and hassles long term.


c/o Booth Engineers


c/o Booth Engineers

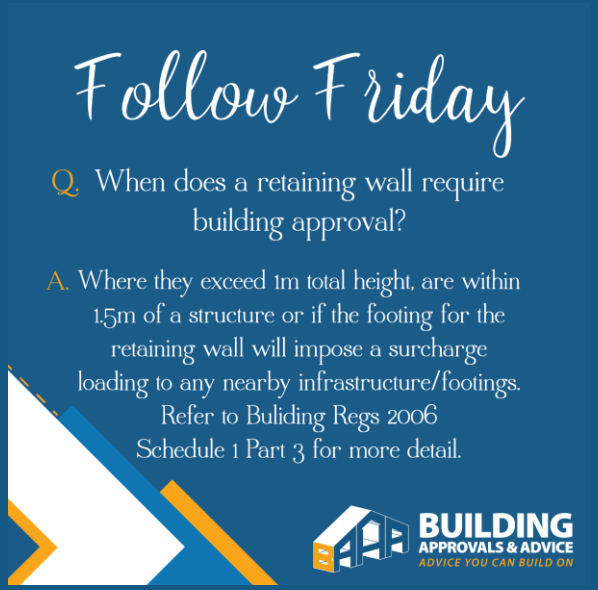
Engineering insights for building high quality retaining walls – notes from presentations – continued

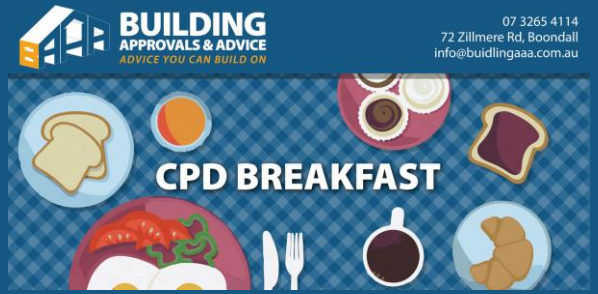
- “Special walls’ or those over 2m, those that encroach across / nearby property boundaries may need extra/ planning and support to ensure safety.
- Recommend early advice for projects that are high cost/ high risk (even for smaller retaining structures). An engineer’s perspective before work begins can help identify additional walls on site that may effect the structure, meaning builders avoid pitfalls, landscaping issues, failures and QBCC scrutiny. Engineers can issue dilapidation surveys/ spot levels/ categorisation of cracks or defects so that is disputes occur, liability is limited.
- Anchor lines, drilled piers and tie backs provide restraint and support for long lasting retaining walls.
- Moreton Bay regional council has updated retaining wall height requirements, seeking to support higher builds to avoid overland flow issues.
- Drainage is a major consideration – water should be able to seep through wall to avoid build up of hydrostatic pressure.
- Consider boundary/ access requirements, adequate post depths, timber durability factors and help owners to explore the wide variety of retaining wall options available.
- Underpinning, rock anchors, piers may be required prior to excavation of a retaining wall site.

BOOTH ENGINEERS & ASSOCIATES PTY LTD
CONSULTING ENGINEERS

We appreciate your feedback!

- Any questions regularly posed by clients that we could clarify in our online resources?
- Please add your topic vote as we plan the next CPD breakfast - Wednesday 3rd October





Thanks for joining us!

Resources and summary also available on our website.

BUILDING APPROVALS & ADVICE
ADVICE YOU CAN BUILD ON