

CRJ Constructions Pty Ltd
23 Horatio St
MUDGEES NSW 2850
AUSTRALIA

Re: 31 Court St Mudgee NSW 2850

To whom it may concern,

Thank you for the opportunity to inspect 31 Court St Mudgee in April 2021.

In its time this was a really solid built house. I have been asked to do a building report on this building to work out the best direction moving forward.

I am a licenced builder (Licence number 299250C). I have been self-employed running my own business for 27 years. I am a member of Master builders (master builders number 1850737) and have been with them for 20 years.

I have done many course on old buildings and have specialised my building career around old buildings. I course in particular that I attended (3 day course) on Salt attack and rising damp. In this course it gives you questions and answers to key issues to dealing with salt damp issues. Since completing this course I have worked on The property shop (from old tyre place to what it is now 2007), several prominent heritage buildings in Sydney, about 20 old heritage buildings in Mudgee from Bleak house through to Putta Bucca house which I am currently injecting walls to try and eliminate salt and damp issues at the moment.

Salt attack and rising damp issues on buildings comes from poor maintenance and housekeeping practises. Main issues concerning this property is:

1. Over time through neglect the house has had some major water issues that have never been addressed at the time. Excess water in sub floor area.
2. Poor ventilation.
3. Poor housekeeping practices. Washing or blowing old salt and dust sediments instead of dry vacuuming up. If not vacuumed up dust and salt particles recycle. So the salt can recycle over and over again getting higher causing more damage.
4. Building integrity neglect. The building should have never been able to have got to this state. Work to rectify salt and rising damp issues should have started 30 to 40 years ago.

I have been to 31 Court St Mudgee 3 times trying to assess the best course of action to take and have come to the conclusion that the house is too far gone to try and rectify. I have been under the building in the sub floor area and have never seen so much salt just sitting on the ground and so much degradation on footings.

Please open first attachment and observe pictures.

Picture 9745 shows soft fluffy salt just lying on top of soil.

Picture 9737 shows areas where there are almost no footings left from salt attack.

Picture 9738 & 9740 shows salt attack on piers and bricks are now soft and are being eaten away.

Picture 9741 shows my hand in front of what's left of footing that have been completely eaten away. From ground level to timber bearers is 620mm. Footing almost completely eaten away as in a pile of soft dust.

Picture 9742 shows the same but now showing that bearers are now not being supported hanging in mid-air.

Pictures 9743 & 9744 shows other footings. In areas there are large gaps with bricks hanging. Just remember in these old buildings these footings are the walls above. They go from ground level through to supporting roof structure. There is no building integrity left in these walls.

Please open second attachment and observe pictures 9851 to 9858. This is the salt and rising damp damage from inside building.

In most areas throughout the house the rising damp issues have been covered over with a timber fret border to hide damage. Instead this has made things worse, as these old walls need to breath. This has caused the salt and moisture to rise even further and faster without doing any prevention.

These photos are showing areas where the damage has not been bad enough to cover. Behind timber borders walls are disintegrating and are falling beneath house as shown in photo 9741.

Please see attachment 3.

These photos contain moisture meter reads taken throughout the house.

Pictures 9859 & 9860 in areas where minimal damage is evident are showing readings of Med range from 18.1% to 19.9%.

Picture 9861, 9862, 9863, 9864 and 9865. At 1.5 metres off floor level and moving around house it is still showing really high readings in mid-range of 18.5% trough to high moisture reads of 33%.

Picture 9866 is very interesting as majority of the brick has already disintegrated and still reading a very high moisture read.

The interesting thing about taking moisture metre reads is that it doesn't lie. It lets you know the true extent of the building and what stage it is at and if worth salvaging. Old bricks such as the ones used in this construction are soft bricks. Modern bricks are pressed by machine but these bricks are just baked. There fore not as strong as pressed bricks and salt and rising damp issues are more prevalent with these bricks and soft mortar.

A normal internal brick inside a house reads no moisture or next to no moisture. Now if you look at attachment 4 it shows how moisture enters this type of building with brick footings.

If we look at the first attachment photos we can see majority of the footings are eaten out. Ideally if the walls were to be injected it's here as low as possible.

The moisture and salt is that bad in this house and has travelled so high through-out the whole building now that if the walls could be injected the result would see the building deteriorate even faster.

The easiest way to describe this action is that you don't see the salt in the ocean water. To see salt it has to crystallise through drying out the moisture content. Damp cure works the same way. When the walls dry out the salt crystallises. When it crystallises it swells and blows out and the bricks, mortar and render.

If you look at attachment 5 it shows you the pace in which deterioration will occur if left alone and the life cycle or jevity of the building remaining. If damp cure is injected too late the rate of decay will increase but the result will still be the same in the end the building will succumb to salt attack and will have to be removed along with the contaminated soil.

In my professional opinion this house is too far gone to renovate. House are inspected and accessed each on their own merits. House's get determined at what stage they are currently at.

Stage 1. Evidence of salt and moisture issue that the building with the appropriate treatment at the appropriate time will respond well too. Most likely also including an air rating system be installed in sub flooring area to help with ventilation.

Stage 2. Major cost involved to try and remove salt and moisture damage. Work mostly done over 2 to 4 years to start with than on going as issues will still arise. Very expensive. Must be a prominent building with either personal attachment or prestige but still worth attempting.

Stage 3. Major costs involved. Only worth doing if heritage importance and there are heritage grants involved or government works involved. 90% of buildings in this range are demolished. No builders can guarantee any works unless the contacts are on-going.

Stage 4, Too far gone.

With really high moisture readings of 33% taken at 1.5m off floor level the house is in stage 3 of 4 to ruin.

In brief works need to restore.

1. walls have no footings below and the cost of removing all floors throughout and propping up internal double brick walls to get new footings in would outweigh the cost of the build.

2. Inject all walls with damp cure to remove salt and moisture within.

3. Remove all old render and re-render whole internal walls.

4. Remove all the sub floor ground. It has to be removed because there is so much salt and it would eat way new building works, than back fill with new soil throughout the subfloor area.

5. All new piers, bearers, joists, floor boards and an air rating systems to help with better ventilation.

6.

Recommend to demolish house and remove all debris off site. The surrounding top soil containing salt and contaminants will have to be removed moving forward as the salt will now attack any other future builds here. Recommend to get soil test to determine depth of soil fill to be removed.

If you have any queries regarding this report please call.

Regards

John Tyrrell

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Attachment 1. Sub Floor



Photo 9745



Photo 9737



Photo 9738



Photo 9740



Photo 9741



Photo 9742



Photo 9743



Photo 9744

Attachment 2. Internal.



Photo 9851



Photo 9852



Photo 9853



Photo 9854



Photo 9855



Photo 9856



Photo 9857



Photo 9858

Attachment 3. Moisture Readings.



Photo 9859



Photo 9860



Photo 9861



Photo 9862

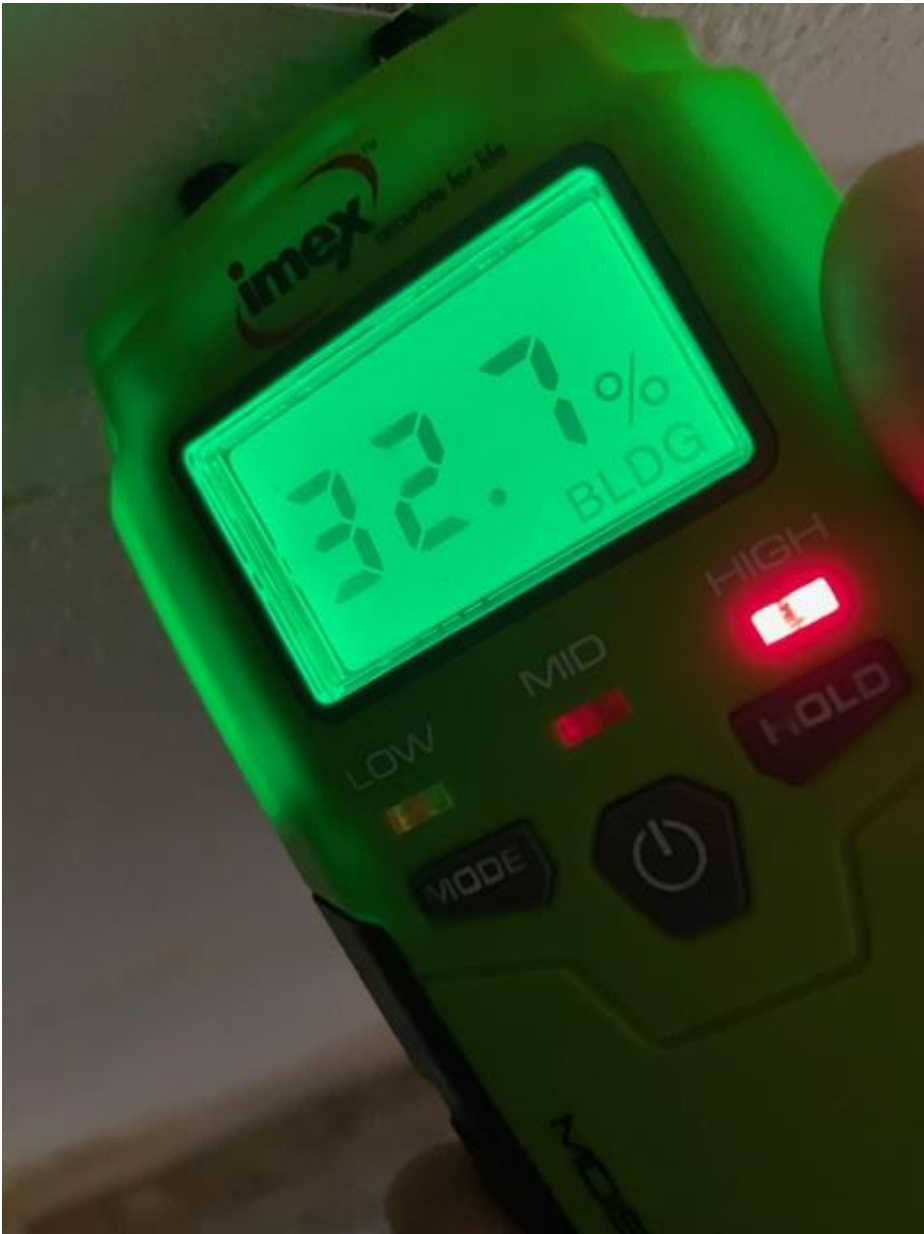


Photo 9863



Photo 9864



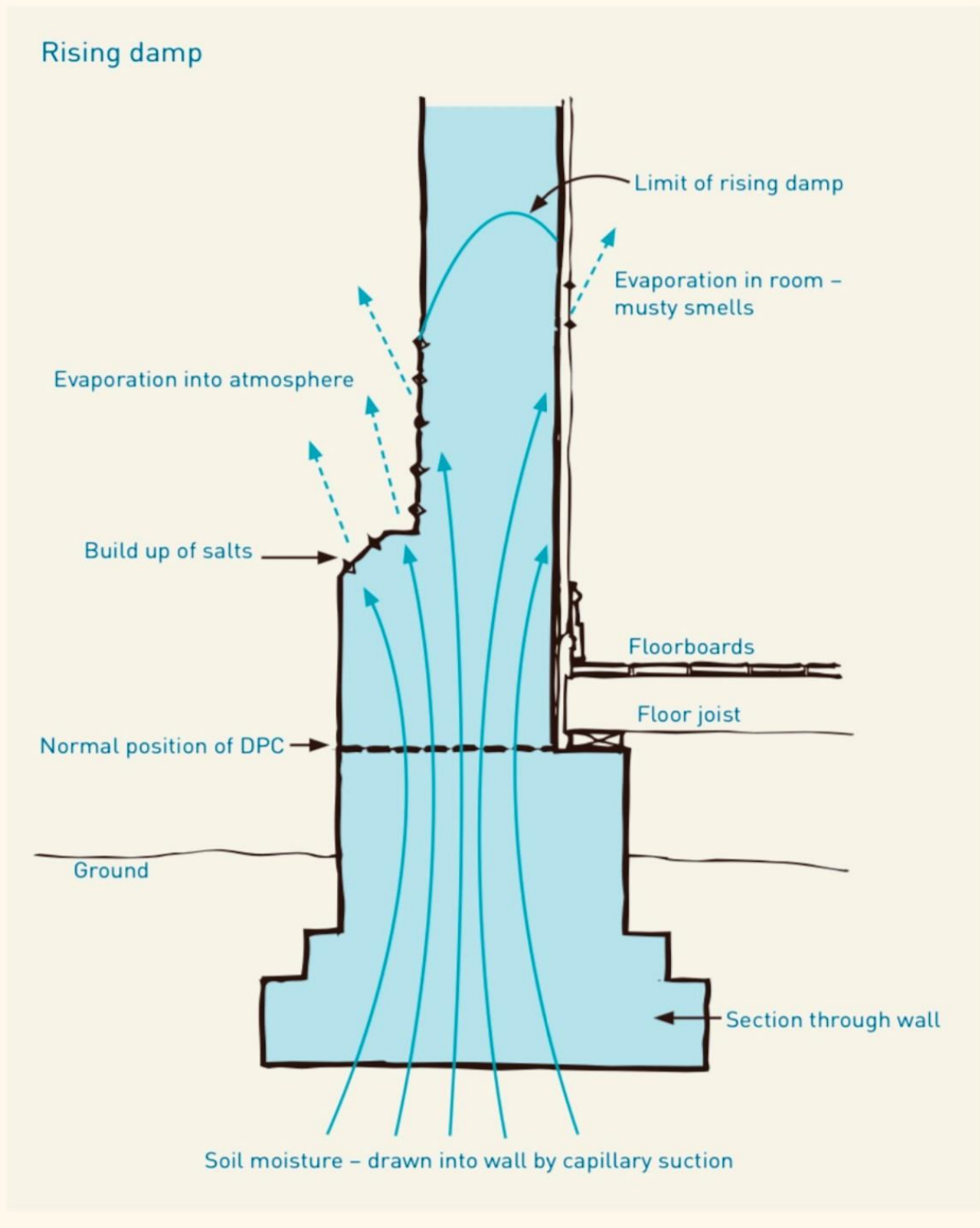
Photo 9865



Photo 9866

Attachment 4.

Rising damp



Attachment 5.

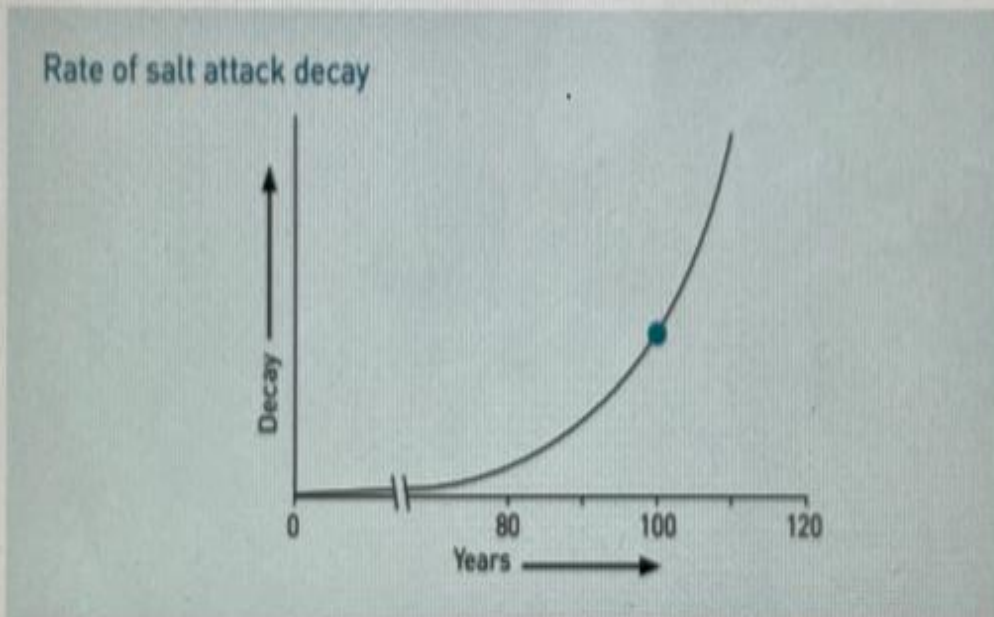


Figure 12 Moisture content in a masonry wall due to A, capillary action (rising damp) and B, hygroscopic salts. The total moisture content is shown by the dashed line and is the sum of A and B. The relative contributions of A and B to the total will depend on the amount and nature of the salts in the soils beneath, on the climate (humidity, temperature and wind speed) and on time (the older the wall the longer it will have had to accumulate salt).

