

St Mary's Church, Orton Waterville

Dampness in the Tower

The Problem



After periods of significant rainfall, we observe that the floor in the Tower appears very damp and wet.

We have measured the percentage of water dampness in the structures:

Stonework can be up to 38% water content. (West facing wall, adjacent to WC.)



20% to 38% moisture content in this area here.

Tower timbers can be up to 22% water content.



This is the Tower ceiling, looking up.

We take a closer look at the easterly facing structural floor timbers:



**We find water staining on the timber surfaces.
Moisture levels in excess of 15% require attention,
otherwise rot and/or insect infestation is a real risk!**



The Investigation

Q. What is the source of the dampness?

We suspect that the Tower render is not "breathing" and is holding water within! A condition like keeping it sealed within a plastic bag!



We have taken samples of the render and sent them to a laboratory for analysis.



Peter, our Conservation Architect concludes:

"The current render has a range of 1 part cement to 2 parts sand. It is thick, dense and entirely waterproof. The consequence is that it is impossible for all the water percolating from the top of the walls to evaporate externally."

The Solution

- 1. Remove the entire external render from the lower floor. It is cement and not a traditional material. Removal will be difficult and will require use of power tools.**
- 2. Replace with the traditional Lime render. Can only be carried out in fine weather conditions**
- 3. Budget cost £30,000**
- 4. The Diocese have approved our strategy in principle.**