Building Flood Protection

Christchurch, New Zealand

Usually, building envelope protection applications call for permeable air and moisture protection solutions that allow building wall assemblies to "breathe" and let unwanted moisture vapor (caused by inner and outer temperature differentials) to escape through the permeable barrier. Such is not the case involving a unique BEP Blue Barrier application in the flood stricken region around Christchurch New Zealand where recent earthquakes have caused the ground around hundreds of homes to sink by as much as a half meter. The result of this change in ground elevation is constant residential flooding, particularly in heavy rain seasons.

One immediate answer is to put a waterproof liquid applied Blue Barrier protective "skirt" around the entire structure of houses affected in the area. The liquid applied water tight membrane extends from the foundation up to approximately a meter high on the wall. This externally applied non-permeable BEP Blue Barrier waterproofing system, along with specially designed flood gates installed at door openings and the sealing off any air vents, is referred to as "house tanking" and according to a spokesperson for the Christchurch City Council," is the cheapest and fastest way," to protect hundreds of homes from additional flood damage in the lower basins surrounding Christchurch .

To validate the concept, the New Zealand division of ABEP, the Australasian specialty waterproofing company, spray applied an 80mil waterproof Blue Barrier Liquid Wrap 2300 membrane over the power washed external clap board surface of the test house after sealing large surface cracks with BEP Blue Barrier Joint Filler.

The whole application was conducted under the direction of civil engineers from AECOM and City Council representatives and took two days to complete.

After withstanding three days of three foot high flood waters created by a specially engineered man-made dam, the Blue Barrier system performed flawlessly keeping any water from penetrating the outer walls of the building.

The external application of the BEP Blue Barrier waterproofing system to existing affected houses in this low level region is a very cost effective and viable solution to a very time critical problem. With every new flood, more damage is incurred to the houses and personal property, and the cost of repairs continue to soar.

Just as important is the consideration for BEP Blue Barrier total building envelope protection in all new construction, re-cladding and renovation applications. In certain geographic areas, that are prone to flooding, it makes sense to install the **non-permeable** waterproofing Blue Barrier system behind the outer cladding (two to three feet up the wall) and complete the rest of the wall assembly with a thin mil Blue Barrier **permeable** air and moisture protection application….thus providing complete building envelope protection with one compatible system.

Specifiers / Contractors

Civil Engineers: **AECOM**

- **Christchurch, New Zealand**

Applicator: **ABEP**

- **Hawkes Bay, New Zealand**

Blue Barrier Products Used

- **Joint Filler 2200**
- **Liquid Wrap 2300**

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