[redacted]

06 August 2020

[redacted]
Project Manager
Moreton Bay Regional Council
199 Gympie Rd
Strathpine

Our ref: 24DJSZNHUEPC-1850682920-7
Your ref:email dated 30 July

Dear [redacted]

Sutton Beach Pavilion 1
Structural Safety

Following your request the above building has been inspected by a [redacted] principal structural engineer on 3 August 2020. In addition to this inspection we have reviewed the following reports on the building:

1. FSA Consulting Engineers report of 30 June 2020
2. BE Collective Condition Audit Peer Review 1 May 2020

This letter is not intended to be a commentary on the above reports but where appropriate the photographic record contained within them has been used to enhance our understanding of the condition of the structure.

We understand that commentary from the above reports to be concerned that the 90 year old suspended slab is likely to be nearing the end of its life, in conjunction with the major concrete spalling in the south west toilet and reports of cracking and slab soffit repairs would give the impression of a building in severe distress.

It is a fact that the building has had (box gutter and services leaks appear to be repaired) a history of water ingress issues and the west wall continues to be problematic. Over time water ingress will degrade the building structure to the point where failure will occur. Our observation and those of the above reports do not indicate that water ingress has caused slab defects.

The photographs in the above reports and our own limited observation of the level one slab soffit indicate that the patching noted is at least older than the last ceiling fitout (more than 12 years) as evidenced by the fact they are all painted over with the same paint as the general soffit area. We have not observed any evidence of patched areas failing nor from the sum of all observations would we say that patching or slab cracking was widespread. In a physical sense we would consider the slab to be in fair condition and not at imminent risk of structural failure.

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What we believe is the reasonable concern expressed by others is that a 90 year old suspended slab in a seaside environment would be exposed to conditions in that timespan that would alter the chemistry of the concrete that could weaken it or reduce its pH to allow corrosion of the reinforcement. It is our observation that at least for a large part of its life, both the top and underside of the slab have been covered with floor coverings or paint and the exterior walls have been rendered. These coverings halt or significantly reduce the chemical changes to the concrete.

No widespread spalling of concrete, indicative of a loss of pH, was observed in our inspection. No concrete cracking or reflective cracking in floor tiles, or bounce in floors, indicative of substantial loss of strength, was observed. We do not consider the floor slab to be at risk of imminent failure. It would show more obvious signs of distress if it was deteriorating to an unsafe level. It would be prudent given its age to undertake an initial triage of audit testing such as half-cell potential, carbonation depth, Schmidt hammer testing and 6 compressive strength tests from 50 mm diameter cored samples, to gauge the future life expectancy of the slab before committing to any significant redevelopment of the building.

The extensive concrete spalling in the south west toilet is an isolated occurrence that is not structurally representative of the rest of the building or structurally significant. It has currently been made safe and is repairable. As noted in the BE Collective report, the extensive cracking in coloured external façade trim around the building is actually rendered foam, not concrete.

We were unable to assess the consequence of the long term water ingress through the west wall. It did not appear to be leaking at the time of inspection. Anecdotally it would appear to be a nuisance/hygiene problem rather than a significant structural issue. We did not see any evidence structure moving out of alignment or staining long term corrosion. The façades were in good condition with no sign of spalling that could endanger patrons. It was noted that the drip groove on the underside of the suspended slab, often a source of early reinforcement corrosion due to reduced cover, was consistently in good condition.

Conclusion

Notwithstanding the age of the building, the prolonged struggle to manage water ingress and the very harsh seaside environment, the building is in fair condition but needing to some tested verification of the concrete durability before committing to its long term future.

The structural elements of the building are currently sound and pose no immediate risk of failure.

Sincerely

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