HSE
STRUCTURAL ENGINEERING CONSULTANTS

Inspection Report

Location: Pittsford Mendon High School – Pool Shell

Date: February 7, 2023

2/3/23 Site Visit

HSE on-site representative: David Finkbeiner, P.E.

Notes/Observations:

1. The outside face of the concrete pool walls/shell are fully exposed within the pool mechanical room and crawl space that totally surrounds the pool. This allowed for a very effective inspection that included walking and crawling completely around the outside perimeter. We could also inspect the bottom of the reinforced concrete floor structure that supports the surrounding deck.
2. The reinforced concrete floor deck was found to be in excellent condition. No signs of structural deterioration or distress were noted.
3. The outside face of the concrete pool walls/shell are in a fair and reasonable condition. There are expected age related signs of deterioration, but it is structurally sound and performing its intended purpose.
4. Some areas showed efflorescence, which is evidence of water working its way through the pool walls and leaving salt deposits on the surface. Although not ideal, this is not an unusual or extreme condition. It is consistent with what would be expected for a pool structure of this age.
5. We discovered a few areas that we'd recommend repairing. This included some cracking & some miscellaneous small areas of spalling. One particular area had a larger section of spalling where the outer face of the concrete was fully separated from the inner section of concrete.
6. Spalling and cracking conditions like this are typically caused by steel reinforcing corrosion. When steel corrodes, even if it's just surface corrosion, it will expand. This expansion/pressure will often cause the surrounding concrete near the surface to crack and spall.
7. In a few spalled areas, the steel reinforcing was partially exposed. The steel was corroded but it was not excessive. The surface corrosion could be scraped off to reveal a fully intact steel section.
8. We did note that there were several areas where cracks had been previously repaired. It's our understanding that the repair work was done many years ago. The repairs were in good shape and appeared to be functioning adequately. No signs of structural deterioration or distress were noted in the areas of the repairs.
9. We also inspected the pool structure from above, paying particular attention to the few areas where we noted the spalling and cracking from below. We did not note any structural issues and the tile work in those areas (and in all areas) was in good serviceable condition.

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Discussion/Recommendations:

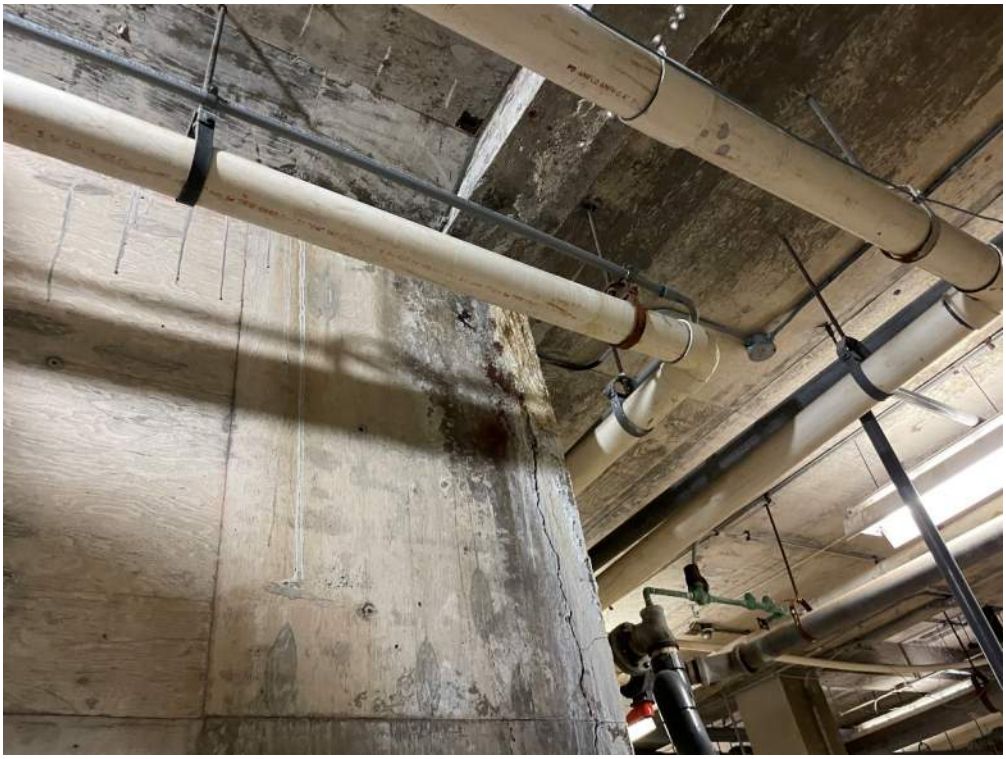
1. Overall, the pool shell was found to be in a fair and reasonable condition. Some issues exist, but they are in line with what we would expect for a pool shell of this age. We have inspected several older pool structures over the years and find this one to be in a similar to better condition comparatively.
2. There are obvious isolated concrete issues, but those conditions are not extreme and can be readily repaired. The few areas of spalling and cracking can be repaired with standard rehabilitation measures. For the spalling, this would include removing any loose concrete, cleaning up exposed surface corroded steel, coating with a bonding and corrosion inhibiting agent and then patching the concrete to its original shape/thickness. The crack repair would include adding injection ports, sealing the surface of the crack and injecting it with a structural epoxy.
3. Concrete pool structures like this don't have an infinite life span. Over time, the water that inevitably makes its way into the concrete will severely corrode the reinforcing steel and cause severe concrete deterioration. The current level of concrete deterioration and steel reinforcing corrosion has not progressed to that point and we believe the pool structure has several productive years of use left in it.
4. With proper upkeep and repairs to any cracking and spalling conditions, there is no reason the pool shell cannot function effectively for at least another 10 years.

Representative site visit photos are attached for reference.

Efflorescence

Efflorescence

Corner Crack



Small Spalling Area

Large Spalling Area

Spalling & Exposed Partially Corroded Steel Reinforcing

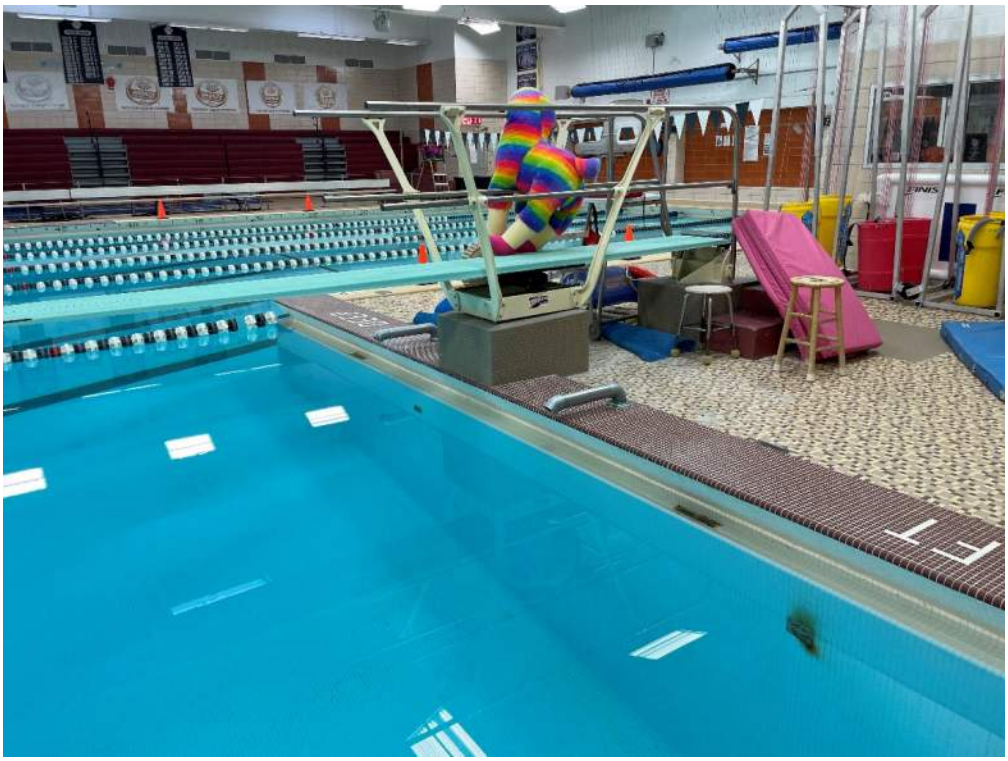
Spalling & Exposed Steel Reinforcing

Spalling & Exposed Partially Corroded Steel Reinforcing

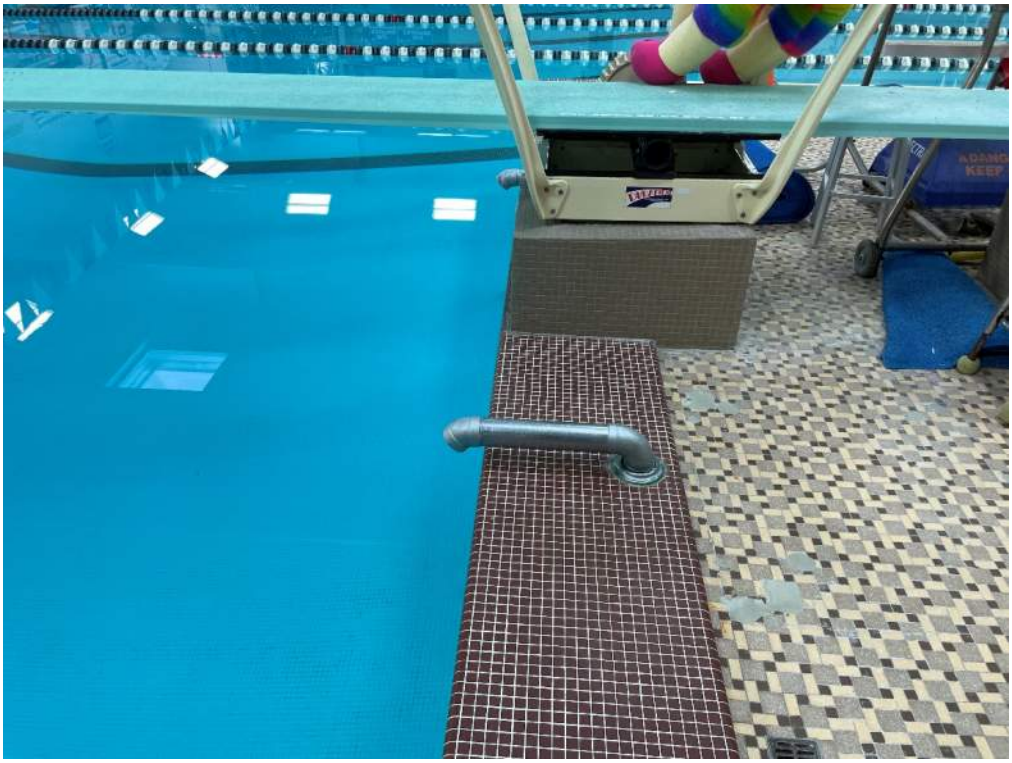
Existing Crack Repair – Good Condition

Existing Crack Repairs & Overall Good Conditions

Pool Wall & Tile – Good Condition



Pool Wall & Tile – Good Condition



Pool Wall & Tile – Good Condition