

Challenge

Issue

The concrete above an aeration basin was spalling badly after the existing coating failed within 24 months. This led to concrete dropping into the clarifier which lead to underflow pump service interruptions.

Goals

To prevent further concrete erosion and spalling, seal the concrete, and provide a slip-resistant surface.

Root Cause

Moisture-saturated concrete was spalling due to freeze thaw cycles.



Existing coating was failing, causing the concrete to deteriorate.

Solution

Preparation

All surfaces were water washed. Heavily damaged areas were prepared with chipping hammers. Wherever concrete spall repairs were required, key cut terminations were employed. Finally, all surfaces were diamond ground to CSP 3 finish.

Application

Chesterton® ARC EG-1 was used to repair all spalled areas.

Chesterton ARC CS2 was applied at 15 mils and then broadcast to rejection with non-slip grit. After the initial cure, the excess grit was swept away and a 15-mil sealer coat was squeegee applied for a sealed, slip-resistant surface.



Loose and damaged concrete repaired with ARC EG-1.

Results

Client Reported

Two catwalks were protected in 4 days. Surfaces are now virtually free of spalls, loose concrete, and trip hazards and present a sealed, slip-resistant surface.

The customer liked 100% solids technology as it eliminated concerns of fire/explosion with the off-site contractor.



Concrete protected with two coats of ARC CS2 with a non-slip finish.