



New Wastewater Treatment Plant Protection

Featuring Polyshield HT™

Project:

New Wastewater Plant Protection

Location:

Dequeen, Arkansas

Owner:

City of Dequeen Waste Water Dept.

Applicator:

Gibraltar Coatings

Coating System:

Polyshield HT™ Polyurea 120 mils

Polyprime-100™ Concrete Primer

Total Area:

195,000 square feet

Date Completed:

October 2008

PROBLEM:

The City of Dequeen Waste Water Department was constructing a new large sewage treatment plant. The new addition will ease the demand on existing waste water facilities and help upgrade the city infrastructure for future growth. It was imperative the new treatment facility have at least a twenty year service life for this multi-million dollar tax payer investment.

Achieving a service life of at least twenty years poses serious challenges. The waste water treatment process produces significant Sulfur Reducing Bacteria (SRB) growth and Hydrogen Sulfide gas. This causes significant concrete damage from the break down of silica and calcium. City officials needed a durable protective coating to shield the concrete from decay caused by the bacteria. Any coating solution would also need to handle thermal concrete expansion and contraction from annual freeze/thaw cycles.

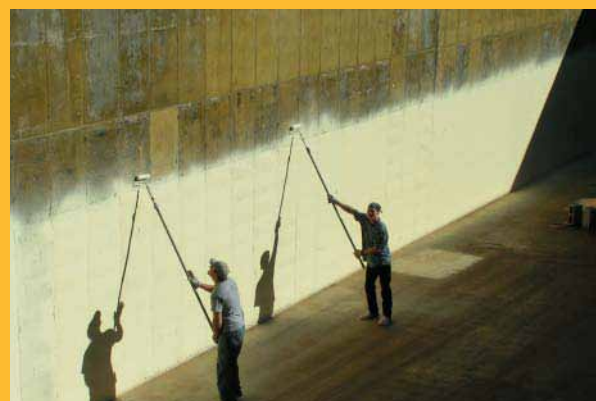
SOLUTION:

City management chose SPP's Polyshield HT™ polyurea coating after evaluating several other options (epoxy & urethane). The decision was based on the coating's extensive track record and high elongation & strength properties.

The applicator removed any surface latents, then roll-applied a thin-film of Deep Seal® moisture-barrier and Polyprime-100™ primer to seal the pores in the concrete. Then 120 mils of Polyshield HT™ polyurea was spray applied on every surface that will be exposed waste water.

RESULTS:

City management was extremely pleased with the application. The new treatment plant now has a reliable coating that will prevent bacteria damage and increase the facility's service life. Annual follow up inspections showed the coating is continuing to perform well.



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Methane Gas Protective Liner

Featuring Polyshield SS-100®

Project:

Landfill Leachate
Collection Boxes

Location:

Morrisville, PA

Owner:

Rust Engineering
Grows Landfill Waste Management

Applicator:

Performance Foam & Coating

System:

POLYSHIELD SS-100®

Total Area:

3,300 square feet

Completion Date:

February 1994

PROBLEM:

The concrete leachate collection boxes at the Grows Landfill were deteriorating. The damage was being caused by bacteria growth feeding on the methane gas created by the landfill waste. The bacteria secretes acidic enzymes that breakdown silica & calcium in the concrete.

SOLUTION:

Grows Landfill Waste Management needed an interior lining to protect the leachate collection boxes from further damage. In order to prime the surface, the concrete was heated, which pushed the water vapor back, allowing the concrete primer to be properly

applied and cured. Polyshield SS-100® was then applied over the prepared concrete at 250 mils.

RESULTS:

The Polyshield SS-100® polyurea coating created a seamless barrier that sealed off the concrete, protecting it from further bacteria damage.

The site was revisited in March 1998. Rust Engineering was very satisfied with the performance of the coating. There was no degradation noted in the Polyshield SS-100® coating.



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Mechanically Stabilized Earth for Landfill

Featuring Polyshield SS-100®

Project:
Landfill (Wrap Face)
Perimeter Wall

Location:
Bend, OR

Owner:
City of Bend

Applicator:
Cascade Industries

System:
Polyshield SS-100® over
woven Geo-textile

Total Area:
10,000 square feet

Completion Date:
March 2002

PROBLEM:

The City of Bend, Oregon was in search of a fast-cure coating to reinforce the 1,250-foot long city landfill retaining wall. Urethane coatings had been considered, but were impractical due to their inability to penetrate the existing geo-textile fabric. In addition, urethane coatings require multiple coats, and have a slower cure rate.

SOLUTION:

Polyshield SS-100® was selected to expedite completion of this project due to its superior strength, ability to bond tenaciously to the existing geo-textile fabric, and its fast turnaround time (tack free in less than one minute).

Polyshield SS-100®'s ability to be sprayed at any thickness in a single application, saves time and labor costs. Polyshield SS-100® was applied at 60-mils to the woven geo-textile fabric, reinforcing the landfill retaining wall and eliminating leaks.

RESULTS:

Reinforcing the retaining wall with Polyshield SS-100® (on geo-textile fabric) increased the landfill's service life by four years and its capacity by 1.2 million cubic yards.



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