

Clear Lake Wastewater Treatment Plant

Clear Lake, Wisconsin

PROJECT
PROFILE
003



SPEC MIX® SPECPATCH

SPEC MIX® SPECPATCH concrete repair shotcrete is designed for use in wet or dry process applications for concrete patching and repair. SPECPATCH is an engineered, computer-batched blend of quality dry materials and additives that are optimized for shooting and structural performance.

LICENSEES:

Billings Brick and Masonry Supply, Billings, MT
Central Pre Mix Concrete, Kent, WA
Central Pre Mix Concrete, Spokane, WA
EZ Mix Products, Sun Valley, CA
Gibraltar National, Detroit, MI
Great River SPEC MIX, Muscatine, IA
Materials Packaging, Memphis, TN
Materials Packaging, Draper, UT
Midwest Block and Brick, Kansas City, MO
Package Pavement, Stormville, NY
Packaged Concrete Inc., Elburn, IL
Precision Packaging, Jackson, MS
Precision Packaging, Fort Smith, AR
Precision Packaging, North Little Rock, AR
QUIKRETE Atlanta, Lithonia, GA
QUIKRETE Baltimore, Clinton, MD
QUIKRETE Birmingham, Birmingham, AL
QUIKRETE Boston, Brentwood, NH
QUIKRETE Buffalo, Lackawanna, NY
QUIKRETE Carolina, West Columbus, SC
QUIKRETE Chesapeake, Chesapeake, VA
QUIKRETE Cincinnati, Harrison, OH
QUIKRETE Columbus, Columbus, OH
QUIKRETE Connecticut, Wauregan, CT
QUIKRETE Denver Holdings, Denver, CO
QUIKRETE Indianapolis, Indianapolis, IN
QUIKRETE Kentucky, Louisville, KY
QUIKRETE Miami, Miami, FL
QUIKRETE Nashville, Nashville, TN
QUIKRETE Peachland, Peachland, NC
QUIKRETE Philadelphia, Berlin, NJ
QUIKRETE Pittsburgh, Latrobe, PA
QUIKRETE Tampa/Orlando, Eaton Park, FL
QUIKRETE Tennessee, Jefferson City, TN
QUIKRETE Wisconsin, Sussex, WI
Saunders Dry Mix, Nedrow, NY
Simpson Materials, Valley Park, MO
Superlite Block, Phoenix, AZ
Texas Industries, Inc. (TXI), Dallas, TX
Tri Delta Inc., North Las Vegas, NV
Tri State QUIKRETE, Flanders, NJ
Twin City Concrete Products, Mendota Heights, MN
Twin City Concrete Products, Des Moines, IA
Twin City Concrete Products, Vinton, IA
Twin City Concrete Products, Omaha, NE
Twin City Concrete Products, Fargo, ND
Twin City Concrete Products, Sioux Falls, SD

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July 2003

PRODUCTS: **SPECPATCH**

CONTRACTOR: **GRAHAM CONSTRUCTION**

LICENSEE: **TWIN CITY CONCRETE PRODUCTS**

FINISHING CHARACTERISTICS OF SPECPATCH



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THE SOLUTION

SPEC MIX SPECPATCH shotcrete provided a quick and durable solution. Form work required for the shotcrete application was minimal, and the SPEC MIX licensee was able to manufacture 4,800 pounds of material and deliver it to the jobsite within two days.

The SPECPATCH product was designed to provide concrete that was capable for both thin and deep repairs. Using a special blend of pea rock and sand, a mixture was achieved that would have less shrinkage while providing better buildup characteristics. SPECPATCH was placed into the repair areas full depth, trimmed and finished to meet the architectural requirements.

PROJECT BRIEF

- 1 Concrete deterioration detected on two trickle towers at water treatment plant.
- 2 Some patches up to 14 inches deep.
- 3 Finishing to match architectural features required.
- 4 SPEC MIX SPECPATCH provided quick and durable solution.
- 5 SPECPATCH was placed into repair areas, trimmed and finished.

PHOTOS BELOW: BEFORE AND AFTER PHOTOS OF THE REPAIRS ON ONE TOWER. WITH THE SPECPATCH MATERIAL, FORM WORK WAS MINIMAL, EVEN ON CORNERS.

THE CHALLENGE

Two trickle towers in the Clear Lake, Wis., Wastewater Treatment Plant were in need of repair. Small areas of the deterioration could be seen on the exterior of the structures, but removal of the unsound concrete revealed more extensive deterioration of the concrete.

The deteriorated concrete was removed by chipping and sand blasting down to sound concrete, which was up to depth of 14 inches in some areas and often coincided with the depth of reinforcing steel. This would have meant using extensive formwork with conventional concrete repair methods, which is both costly and time consuming.

Also, attention to the existing architectural details was required so that the repaired trickle-filter structures matched the other trickle-filter structures. The reinforced concrete tanks were round and had horizontal rustication strips within the shell walls that needed to be replicated. The finishing could be problematic with a material that had fast set time characteristics.

"THE [SPECPATCH] MIX DESIGN UTILIZED ON THIS PROJECT ALLOWED US TO PLACE THE REPAIR MATERIAL IN ONE PASS FULL DEPTH, TRIM TO THE REQUIRED PLANES AND FINISH TO MEET THE PROJECT REQUIREMENTS."

DAVID GRAHAM
GRAHAM CONSTRUCTION

PHOTO ABOVE: SPEC MIX® SPECPATCH WAS PLACED IN ONE PASS, THEN FINISHED TO MATCH THE EXISTING ARCHITECTURAL DETAILS OF THE STRUCTURE.



Before



After

