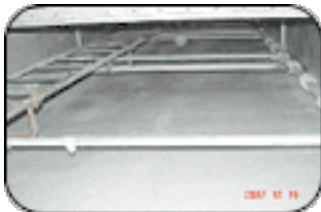


Project: Linn State Elevator

Wall
Strengthening



St. Louis, MI



Project Description:

The elevator shaft was incorrectly reinforced and did not meet the requirements for wind loads, nor for FEMA missiles. The design had called for #7's at 8"o.c.; the actual construction had #7's at 16"o.c. plus the engineer was unsure if the cells were grouted.



Solution:

We designed the composite to replace the missing steel. An 8" wide strip was installed for each missing rebar. The carbon composite was used with lengths of up to 45 feet applied vertically inside the elevator shaft.



Summary:

The construction defect was repaired using the carbon composites. Since it was an elevator shaft, the strengthening solution could not impact on the elevator opening. The use of fiber wrap allowed a repair that had no impact on the structure utilization. This would not have been possible with another type of strengthening.

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