

General Description:

- **Location:**
Portage, Michigan
- **Profile:**
Corporate R & D Facility
- **Project:**
Wall Evaluation & Restoration Project

Services Provided:

- Evaluation
- Design Development
- Construction Documents
- Bidding
- Field Quality Assurance

Challenge:

- Security access was difficult
- No cameras allowed on site
- Multiple facets and components of building envelope design

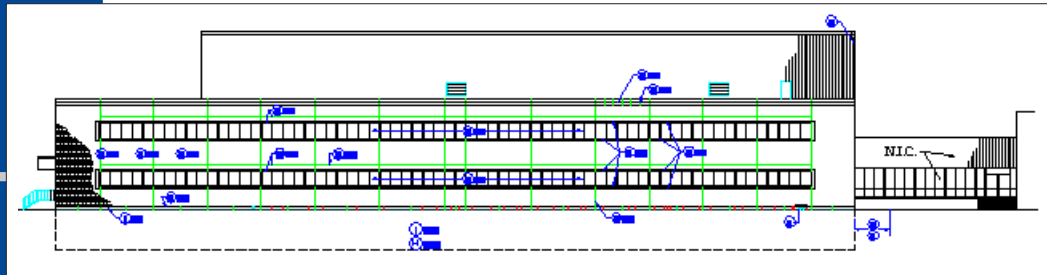
Solution:

- Extensive communication and coordination to establish needed interface
- Used explicit notes, sketches and details to accommodate evaluation and design
- Designed extensive details for all aspects of the building envelope restoration

Pfizer, Inc./Pharmacia Corporation Building 259

Pfizer, Inc., the world's leading research-based pharmaceutical company which provides a broad range of human and ani-

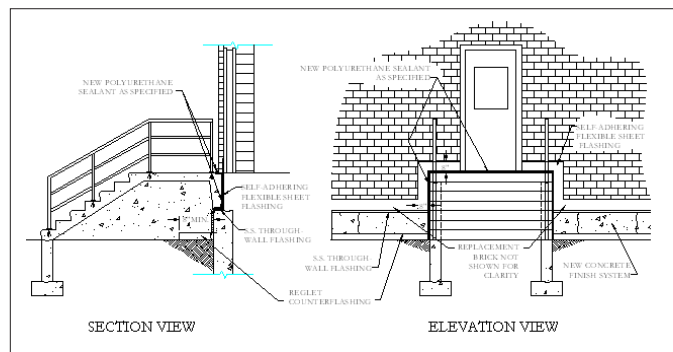
tureTec and miscellaneous trades access when it was needed. The next challenge StructureTec faced was the fact that cameras were not al-



Overview of North Wall Elevation

mal pharmaceuticals and consumer products, was experiencing leakage concerns at Building 259 in Kalamazoo, Michigan. Building 259, a research and development facility, was constructed around 1982 primarily of brick masonry and was a part of the Pfizer acquisition of Pharmacia Corporation. StructureTec was contracted to evaluate the entire building envelope, as well as particular leakage concerns occurring at the basement level of the structure. Several unique challenges were encountered with this project, the first regarding security clearance for access into the facility. Through extensive communication and coordination, StructureTec established a high level of interface that allowed Struc-

lowed on site. StructureTec overcame this challenge by taking explicit notes, sketches, and details to accommodate the evaluation process. Although the walls appeared to be in relatively sound condition, each wall elevation typically contained varying amounts of distress or degradation to the masonry. There were areas where the embedded steel had caused movement in the wall. The concrete foundational walls were exhibiting physical cracks and distress, with hairline cracks present, both along and between control joints. Previ-

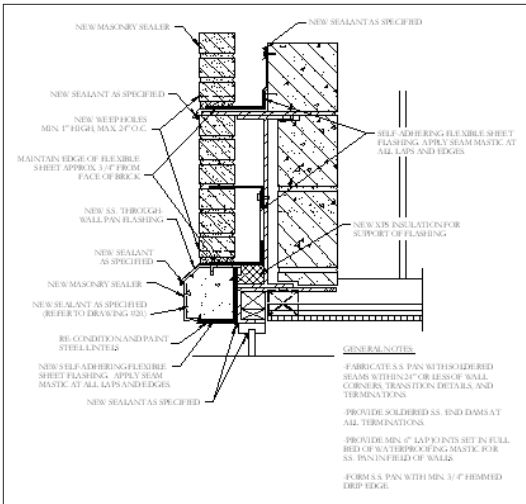


Specification detail depicting below-grade construction and transitions.



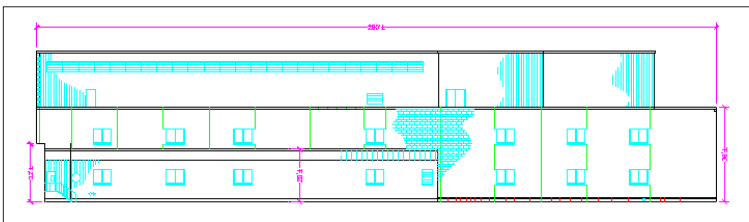
Web: www.structuretec.com
Email: geninfo@structuretec.com

All rights reserved.



Specification detail depicting transition between masonry and concrete wall.

ous repair efforts had been unsuccessful at achieving watertight integrity. The major area of concern, however, was at the joint interface between the masonry brick and the concrete foundation wall. The original flashing system had been trimmed flush with the wall, leaving an open void. This opening was a major passageway for moisture infiltration into the basement of the building. Also, through-wall flashings were not present above wall penetrations such as doors and windows. In many locations, the steel lintels above these areas exhibited degradation and rust. Other minor problems were discovered with windows, below-grade waterproofing, limestone, copings, etc. StructureTec then took the extensive findings from the evaluation and designed possible solutions for



Overview of South Wall Elevation

FEATURES

Scientific approach to problem-solving

Provided Field Quality Assurance

Rilem tube test for masonry absorption to determine porosity

Designed sealer system for exterior masonry walls to reduce the porosity

Reconstruction of wall expansion joints using proper methods

BENEFITS

Eliminated the cause of the problem, not just the effect

Ensured high quality end product

Able to determine proper corrective action for exterior facade

Created a moisture barrier to minimize moisture ingress through the exterior wall

Provided long-term watertight integrity through the use of proper procedures

remediation. This posed another challenge for StructureTec because extensive detailing was required to incorporate the repair of so many components: windows, walls, expansion joints, control joints, below-grade construction, through-wall counterflashings, masonry, sealants, copings, etc. StructureTec then incorporated these designs into specifications which were bid by approved contractors. During the construction phase, all areas of deficient masonry and limestone were replaced, new silicone sealant was applied at all joints, and new sealer was applied to all masonry surfaces. StructureTec also recommended providing new through-wall flashings. It is intended that this work will be performed as a second phase to the project. The water-repellent barrier created by the sealer will solve Pfizer's leakage concerns. This process will be maintained every 10-15 years. In conclusion, Pfizer was able to correct the water ingress into their building, while staying within the allotted budget. This process assured Pfizer the greatest return on investment. ■