



Concrete Protection & Restoration 1000 Vermont Facade Repair

Project Information

Location

Washington, D.C.

Project Size

\$585,865.00

Owner

1000 Vermont Avenue SPE LLC c/o LPC

Engineer

Smislova, Kehnemui & Associates, P.A.



The 1000 Vermont Avenue building is located in one of the busiest intersections in northwest D.C. It was built sometime in the 1960s and it consists of a twelve story structure with continuous window and precast bands. The 11th floor contains a recessed balcony area along the Vermont and K Street elevations. The floors up to the 11th level contain precast panels, approximately 48" tall and 36" wide, which are connected to each floor slab. Nonetheless, the 12th floor and the main roof precast panels are supported by steel lintels and a masonry parapet wall. There is a precast bull-nose coping on top of the exterior vertical precast and masonry parapet wall.

The intention of this project was to repair and waterproof the existing parapet wall, precast, and steel lintels on the 12th floor and roof levels along the K Street and Vermont Avenue elevations. This was an extremely difficult project with limited access and storage. Once removed, the panels needed to be numbered and carefully stored. Removal and reinstallation of the panels was challenging. Clamping mechanism and Lewis pins were used to remove and reinstall the panels. The facade repair project sequence was executed as follows:

- ◇ The entire masonry parapet wall, precast bull-nose, vertical precast on the 11th and 12th floors and roof level were completely removed down to the structural roof slab to disengage the vertical precast. Adequate lateral bracing of the vertical precast were provided during the removal of the masonry parapet wall. All precast elements were salvaged and re-installed.
- ◇ Once the removal of the precast and parapet wall were completed on the 11th and 12th floors, the steel support was removed and replaced with new ones. The interior steel angle exposed surfaces were cleaned via wire wheel, corrosion inhibitor was applied, and these exposed steel surfaces were painted. New flashing were installed on the exterior steel angles after the replacement of the new angle.
- ◇ The steel radius on the 11th and 12th floor were completely removed and a new one had to be fabricated to match the exiting radius conditions.
- ◇ The vertical precast elements were reinstalled after new lateral tie clips were secured into the precast prior to the re-installation.
- ◇ The masonry parapet walls were re-built to match the original as-built construction and two rows of horizontal joint reinforcement were installed between the structural slab and bull-nose as well as new fully grouted vertical reinforcing were installed in the block and epoxied into the slab.
- ◇ New aluminum counter flashings were installed on the exposed masonry face of the parapet wall to prevent any water penetration into the masonry parapet wall.
- ◇ All roofing gravel, insulation, elastofom flashing with bonding adhesive, rubber nailing strip were replaced to tie into the existing ballasted single ply roof membrane over 2" rigid insulation and 1" perlite insulation.
- ◇ The bull-nose was replaced on a mortar bed after all masonry and flashing were installed and cured. All precast-to-precast joints were sealed with polyurethane and weep holes were provided at the bottom of the vertical precast joints within the polyurethane sealant.
- ◇ All sealants were repaired and replaced on all levels of K Street and Vermont Avenue elevations and all steel lintels on the 2nd thru the 11th floors were cleaned and painted.
- ◇ All slab spalls were repaired on the 12th floor.

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