

# The School District of Philadelphia Administration Headquarters

## Shell and Core Renovations

440 North Broad Street, Philadelphia, PA



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Mechanical Option

<http://www.arche.psu.edu/thesis/eportfolio/current/portfolios/jla250/>

### Electrical System

- 13,200 Volt service
- Existing 1500 KVA substation
- Existing emergency service is a 150 kW diesel generator
- Two new 3000 KVA 480/277 volt substations

### General Building Data

- Size: Gross Measured Area – 848,000SF  
Building Footprint Area – 161,000SF
- 8 Total Levels, 6 Stories Above Grade
- Dates of Construction: December 2003 – July 2005
- Cost of Construction: \$25M

### Structural System

- Original structure is reinforced concrete with brick masonry exterior
- North and South additions: steel frame with concrete slab on metal deck
- Modifications accommodated the new atrium, shafts, stairs and elevators

### Project Team

Owner:	<b>Archon Group</b>
General Contractor/CM:	<b>Turner Construction Co.</b>
Architect:	<b>Hooper Shiles Architects</b>
MEP Engineers:	<b>CannonDesign</b>
Site/Civil Engineers:	<b>Gladnick Wright Salameda</b>
Structural Engineers:	<b>Thorton Tomasetti Group</b>

### Architecture

- Originally built in 1948 as a printing facility
- 2 major additions on the north (1960s) and on the south (1980s)
- A three story atrium with skylights is a new architectural highlight
- Interior construction: new toilet rooms, elevator shafts, and lobbies
- Exterior wall refurbishment: insulated glass windows, curtain wall systems, and re-glazing
- Roof: Insulated 3-ply modified bitumen system, modified for new roof penetrations



### Mechanical System

- Existing: two 15-ton and one 10-ton packaged rooftop unit, electrical cabinet heaters, unit heaters, and strip heaters provide local heat
- New AC Units (with electric heating coil):  
Seven 80-ton units, five 90-ton units, five 100-ton units
- New exhaust for toilet rooms, elevator machine rooms, and electrical closets
- Four exhaust fans for the atrium provide 20,000cfm each for smoke purge

