

# SUPPORT SERVICES BUILDING

Penn State Milton S. Hershey Medical Center - Hershey PA



## Project Overview

- ◆ **Function:** Mixed Use- Warehouse/Office
- ◆ **Size:** 42,796 SF
- ◆ **Number of Stories:** 2 + 1000SF Basement
- ◆ **Construction Type:** II
- ◆ **Construction Dates:** 6/1/2010 – 9/30/ 2011
- ◆ **Construction Cost:** \$14,395,331 GMP
- ◆ **Delivery Type:** Design-Bid-Build
- ◆ **Zoning:** (MC) Medical Campus zoning district for Derry Township, PA



## Project Team

- ◆ **Owner:** Penn State Milton S. Hershey Medical Center
- ◆ **Architect:** Highland Associates
- ◆ **Consultant:** Relocation Consulting & Mgmt, Inc.
- ◆ **Geotechnical Consultant:** Hillis-Carnes Engineering Assoc.
- ◆ **Civil Engineer:** Gannett Fleming
- ◆ **Consulting Civil Engineer:** Acker Associates, Inc.
- ◆ **Landscape Architect:** Pennoni Associates, Inc.
- ◆ **ICRA Consultants:** EIC Consultants
- ◆ **Construction Manager:** Alexander Building Construction Co.

## Architecture

### Building Facades:

- ◆ 4" Arriscraft masonry veneer with a deep sandblasted finish, color Driftwood
- ◆ Centria Formwall Flush Smooth metal panels, color #9946 Silversmith
- ◆ Centria Formwall Graphics Flush Smooth metal panels, color #9948 Champagne Bronze
- ◆ Glass curtain wall comprised of either 7" or 4 1/2" framing with 1" thick PPG-Atlantic Solorban 60 (green tinted) glass

### Roofing:

- ◆ 1 1/2" metal roof deck, 2 layers of 2" ridged insulation, 1/4" dens-deck sheathing, and cold applied asphalt roofing

## Sustainability

Project is expected to achieve a LEED Certified rating for LEED 2.2 by;

- ◆ Diverting 75% of construction waste from landfills
- ◆ Effective use of materials made from recycled content, regional materials, certified woods, and rapid renewable materials (8 credits)
- ◆ Low water consumption (5 credits)
- ◆ Higher efficiency mechanical system and advanced commissioning (4 credits)
- ◆ High indoor air quality (8 credits)
- ◆ Additional 5 credits for Sustainable Sites by reducing heat island effect, and minimizing the building footprint

## Structural

- ◆ Rigid Steel Superstructure cast on micropiles and gradebeams
- ◆ Total of 152 120-Ton micropiles, 60 of which are battered
- ◆ Average micropile length of 67' with 12' minimum embedment into bedrock
- ◆ Typical column size: W13x33
- ◆ Typical beam & girder sizes: W14x22, W18x35 & W21x44
- ◆ SOG at Tunnel Level is a 12" one-way slab
- ◆ SOG at 1<sup>st</sup> level is a 6" slab
- ◆ Elevated slabs are 3 1/2" NW concrete supported by 2" composite metal deck w/ 3/4" shear studs.

## Mechanical

- ◆ Primary System: VAV w/ reheat coils
- ◆ 3 Roof Top Units capable of providing 136 Ton cooling, 1,214MBH heating, and 30,000 CFM of air.
- ◆ 2 Gas Boilers supply 45 GPM & 140°F water each
- ◆ 18 Exhaust Fans located at key locations
- ◆ MERV 8 Filters
- ◆ 2 types of fire suppression systems: wet sprinkler system & early suppression fast response (ESFR)

## Electrical

- ◆ 13.8KV power stepped down by 500KVA transformer to 277/480V 3Ø to feed building.
- ◆ 600A Main Distribution Panel
- ◆ 150KVA Transformer to step power down to 208Y/120V for additional 8 panel boards
- ◆ 17-277V light fixtures and 3-120V light fixtures

## Specialty Systems

- ◆ Compressed Air System w/ 2-100 gallon air compressors
- ◆ High Pressure Spray System—Splash N Dash model manufactured by the Jim Coleman Company.
- ◆ Paint Booth—Paint Booth Technologies Model PBT-IE-1212.
- ◆ Vertical Transportation: 12,000lb freight elevator & 3,000lb passenger elevator

**WILL LAZRATION - CONSTRUCTION MANAGEMENT**

<http://www.engr.psu.edu/ae/thesis/portfolios/2011/wjl5012/index.html>