



ASTORINO

ALEC HANLEY

CONSTRUCTION

SENIOR THESIS BUILDING ABSTRACT

PROJECT INFO

Occupant Name - Catholic Diocese of Pittsburgh
Occupancy Type - Educational – E
Size (GSF) - 177,129 SF
Number of Stories- 2 Above grade, 1 partial below grade (Café, MEP)
Dates of Construction - June 2012 – June 2014
Approximate Cost - \$72,500,000
Delivery Method - Design-Bid-Build

PROJECT TEAM

Owner - Catholic Diocese of Pittsburgh
General Contractor - Mascaro Construction
CM Agency - Campayno Consulting
Architect/Engineer - Astorino
Civil Engineer – CEC, Inc.
HVAC/Plumb. Contractor - Renick Brothers
Electrical Contractor - Lighthouse Electric
Site Contractor - Allegheny Excavating, Inc.

ARCHITECTURE

Sustainability - LEED Silver Certification
Façade – Brown Brick, Insulated Metal Panel, Glass
Roofing - TPO, Standing Seam Metal
Phase I - 27 classrooms, chapel, MEP, 1500-person gymnasium, 1000-person auditorium, offices, cafeteria
Phase II - Chapel
Notable – Design reviewed by Vatican

STRUCTURAL SYSTEM

Substructure – footings, caissons, grade beams
Concrete - 5” SOG w/ 5” SOD above cafeteria and MEP rooms & 2nd Floor of Classroom Wing
Superstructure – steel frame
Columns – W10, W12, HSS
Masonry – CMU walls in auditorium & gymnasium
Lateral System – shear walls & moment connections

MECHANICAL SYSTEM

Location – Mechanical Room at SW of building
AHUs – eleven rooftop units (5,000 – 25,000 CFM), chilled water & natural gas
Chillers – 310 & 364 ton units w/ (3) 450 GPM CHWP
Auxiliary Units – split system air conditioners, fan coil units, elec. baseboard heaters, elec. wall heaters
Fire Protection – Wet Pipe System

LIGHTING/ELECTRICAL SYSTEM

Main Switchboard – (1) 3000A
Panel Boards - (42) 120/208V & (32) 480/277V
Backup Power Diesel Generator
Auditorium Lighting – 6” LED down lights
Classroom Lighting – pendant linear fluorescent
Main Elec. Room – Southwest of CWNCHS
Branch Elec. Rooms – (6) along north side

All images are courtesy of Astorino.



<http://www.engr.psu.edu/ae/thesis/portfolios/2014/azh5102/index.html>

