

GLOBAL VASCULAR INSTITUTE

BUFFALO, NY



MADISON SMITH | CONSTRUCTION MANAGEMENT | <http://www.engr.psu.edu/ee/thesis/portfolios/2011/mms2028/index.html>

PROJECT OVERVIEW

USE: HOSPITAL & MEDICAL RESEARCH
SIZE: 450,000 SF
HEIGHT: 10 STORIES
CONSTRUCTION DATES: SEPT. 2009- DEC 2011
CONSTRUCTION COST: ~\$291,000,000, GMP
DELIVERY METHOD: CM AT RISK

PROJECT TEAM

OWNER: KALEIDA HEALTH
OWNER: UNIVERSITY AT BUFFALO
CM: TURNER CONSTRUCTION COMPANY
ARCHITECT: CANNON DESIGN
ENGINEER: CANNON DESIGN

ELECTRICAL SYSTEM

THE POWER IS SUPPLIED BY NATIONAL GRID.

PRIMARY DISTRIBUTION: STEPPED DOWN TO 5000/6650V THROUGH 4 AA/FA OIL-FILLED POWER TRANSFORMERS AND DISTRIBUTED TO 2 5KV, 1200A, 300 MVA FAULT RATED DOUBLE-ENDED SWITCHGEAR.

SECONDARY DISTRIBUTION: 2 DOUBLE-ENDED 480Y/277V 3 PHASE, 4 WIRE + GROUND

MECHANICAL SYSTEM

VARIABLE AIR VOLUME SYSTEM FOR EACH FLOOR

(9) AHU'S RANGING FROM 28,000CFM TO 45,000CFM

SINGLE ZONE SYSTEM FOR ELEVATORS AND STAIRCASES

(7) AHU'S RANGING FROM 15,000CFM TO 25,000CFM

COOLING IS SUPPLIED FROM EXISTING CHILLER PLANT

(3) CENTRIFUGAL TRANE CHILLERS

NOMINAL CAPACITY: (1) 1400 TONS (2) 2400 TONS

(3) ROOF MOUNTED INDUCED DRAFT COOLING TOWERS

NOMINAL CAPACITY: 7200 GPM

ARCHITECTURE

THE FAÇADE IS COMPOSED OF A CURTAIN WALL SYSTEM MADE UP OF LOW-E INSULATING GLASS AND PAINTED

ALUMINUM PANELS. COMPARED TO MOST RECTANGULAR STRUCTURES IN THE DOWNTOWN BUFFALO AREA, THIS STRUCTURE HAS DOMINANT CURVED EDGES ALONG THE NORTH - SOUTH DIRECTION OF THE BUILDING. A 5-STORY LINK CONNECTS THE NEW GVI BUILDING AND THE EXISTING BUFFALO GENERAL HOSPITAL.

STRUCTURAL SYSTEM

FOUNDATION: ENGINEERED FILL MATERIAL FOR SUBGRADE STEEL H PILES ON LIMESTONE BEDROCK, PILE CAPS, GRADE BEAMS, SLAB-ON-GRADE

STRUCTURE: MOMENT FRAMING ON EXTERIOR STEEL COLUMNS/BEAMS
STEEL/CONCRETE STEEL DECK COMPOSITE
4 1/2" NWC, 3" DEEP 18 GAGE COMPOSITE STEEL DECK

FAÇADE: PAINTED ALUMINUM PANEL CURTAIN WALL

ROOF: 1 1/2" DEEP 18 GAGE TYPE B STEEL ROOF DECK SUPPORTED ON TYPICAL BEAM, GIRDER, COLUMN CONSTRUCTION

