North Mountain Integarted Medical Services Office Building

Phoenix, Arizona
123, 400 Square Feet
$ 10 Million

Design and Construction Team

Owner: Advanced Real Estate Resources
Developer: Thomas Speer L.L.C.
Architect: DFD CornoyerHedrick
Contractor: IBC Southwest
Precast Contractor: Coreslab Structures (Ariz) Inc.
Structural Engineer: Paul Koehler
Precast Detailer: TRC Worldwide Engineering
Mechanical Engineer: Tri-City Mechanical
Electrical Engineer: Arkibis Engineering L.L.C.

Architectural Features

Design-build project with construction starting June 2007 and expecting completion February 2008
State-of-the-art outpatient diagnostic imaging center and ambulatory surgery center on ground floor
Large open floor plan provides over 92,000 square feet of rentable office space on three floors
Precast concrete wall panels provide building envelope and lateral load stability

Design Features

Structure:

- Precast concrete double tees and inverted tee girders provide interior floor framing
- Precast concrete shear walls provide lateral load resistance
- Interior columns supported by 6'-0" diameter caissons drilled to a depth of 30'-0"
- Exterior wall panels bear on grade beams which span between caissons drilled to 20'-0"

Mechanical:

- Water Source Heat Pump with roof mounted cooling tower and boiler provides cooling and heating to office floors
- Units sized on ambient temperatures of 115 degrees summer and 40 degrees winter
- Calculated cooling load: 341 tons, calculated heating load: 188 kw

Lighting/Electrical:

- Both 120/208V and 277/408V service is supplied to the building
- Total electrical demand for the imaging and surgical center is 1000 kVA, while the rentable space demand is 1754 kVA
- Interior lighting is built to suit future tenants
- Lighting load calculations are based on 3.5 Watts per square foot

Michael Hopple
Structural Option
http://www.engr.psu.edu/ae/thesis/portfolios/2008/mrh260