Building Statistics

General Building Information

Building Name:

Art & Visual Technology Building

Location:

George Mason University, Fairfax, VA

Occupancy Type:

Business (B) & Assembly (A3)

Size:

88,902 sq ft. (65,000 sq ft future addition outlined in master plan)

Number of Floors

3 stories (all above grade)

Project Team

Owner: George Mason University

Architect: Ayers/Saint/Gross

Civil Engineer: Edwards & Kelcey

Structural Engineer: Tadjer-Cohen-Edelson

MEP Engineer: Mueller Associates

Lighting: Crampton/Dunlop

Acoustics: Henning Associates

Dates of Construction:

Scheduled to be opened 2009.

Cost:

$21,000,000 (total construction cost)

Project Delivery Method:

CM with GMP contract.

Architecture:

This building is to represent the creativity and vision of the department that it shall contain. A large open and flexible plan will accommodate the changing needs and differing teaching styles of the Art & Visual Technology department. In order to create an open industrial feel that is welcoming to the public, this building incorporates a combination of brick and corrugated metal paneling. The large curved facade will comprise of a metal frame with a brushed steel cladding. This combination of the traditional brick with an industrial feel of the metal cladding will tie this building into the campus while giving the Art & Visual technology department the uniqueness they desire.

Major National Codes:

International Building Code 2003
International Plumbing Code 2003
International Mechanical Code 2003
International Fuel Gas Code 2003
International Energy Conservation Code 2003
National Electric Code 2002
Virginia Statewide Fire Protection Code 2003
International Fire Code 2003
Americans with Disabilities Act Accessibility
Standards Construction & Professional Services Manual 2004 rev.1

Building Envelope (Walls):

The base level is a 1'-0" thick concrete wall with 2" of rigid insulation protection board and an adhesive sheet membrane for waterproofing. Behind the concrete are 6" metal studs which have a

gypsum wallboard finish. The second and third levels are either a brick curtain wall or preformed metal panel curtain wall. Both wall systems have a 1" airspace then a 1/2" thick exterior sheathing for weatherproofing. Behind the weatherproofing is a 2" layer of rigid insulation and finally 6" metal studs for support.

Building Envelope (Roof):

Four types of roof assemblies are employed for this building. The first is a composite roof decking comprising of 3" metal decking and a 6-1/4" concrete slab. On top of the concrete slab is a layer of rigid insulation and tapered insulation. A ½" layer of recovery board and 4" ply built-up roofing system complete the first roofing assembly. Two of the other assemblies both include metal decking, with one containing both rigid and tapered insulation while the other only utilizes rigid insulation. The fourth roofing assembly is also a metal decking using rigid insulation once again, but it also uses plywood, a slip sheet and a pre-finished standing seam metal roof (seams at 24" O.C.)

Construction:

The project is projected to be completed by 2009. However as of now there is no hard date for when construction is going to begin.

Electrical:

Electrical service is supplied to the building from Dominion Virginia Power to a pad mounted exterior utility transformer where it is stepped down from 34.5kV to 480Y/277. It is then fed to the 2000A main switchboard located in the main electrical room on the lower level. 480Y/277V service is distributed to each floor at the east & west electrical closets. 208Y/120V panels are located in each electrical service via 480Y/277V to 208Y/120V transformers. Life safety and stand by loads are on a pad mounted exterior 80kW diesel generator.

Lighting:

In conjunction with a large amount of exposed ceiling, the primary lighting systems utilize pendant fixtures. Classrooms, offices, and studios all use a linear fluorescent direct/indirect fixture. The corridors make use of compact fluorescent downlights. The exhibit gallery and studio spaces make

use of a custom suspended uni-strut grid that has track lighting mounted to it. Clerestories provide daylight to the painting and drawing studios, which are along the southern face of the building on the upper level.

Exterior lighting consists of pole mounted fixtures which line the main north/south walkway. In-grade fixtures accent the main entrance along with curved metal clad wall which slices thru the building.

Mechanical:

The Art & Visual technology building utilizes hot and chilled water which is supplied from an existing campus line. Two rooftop variable airflow AHU's supply the buildings air. A 70,000cfm AHU supplies the majority of the building spaces while a 25,000cfm AHU supplies exclusively the wood, metal and stone/plaster workshops. A dedicated dust and particle collection system serves these spaces as well. Finally, the server room and telecom spaces are served by individual ductless split systems.

Structural:

4" reinforced spread footings are used as the foundation system. Gravity loads are resisted by a cambered composite steel & concrete decking, which has a total thickness of 6 ¼". Lateral resistance is achieved through both braced and moment framing. There are two roofing systems; 3" steel decking and composite steel and concrete. Finally, transfer girders are used throughout the building where necessary.

Fire Protection:

The building is protected by a combined standpipe and sprinkler system. The standpipe is an automatic wet-type class I. Meanwhile, both wet-pipe and pre-action sprinklers are used in the building. The system is comprised of addressable fire detection equipment, the ability to alarm a central campus monitoring system and automatic controls to shut down air handling equipment in the case of fire.

Transportation:

The building has a central elevator shaft with one passenger elevator and one freight elevator. Both elevators are hydraulically powered and serve all three stories of the building. The passenger elevator is rated for 3,500 lbs while the freight elevator is rated for 6,000 lbs. Both are to run on 480 volt, 3 phase, 60 hertz power.

Telecommunications:

The Art & Visual Technology building ties into the campus telecommunications system via a 4" underground duct which connects into the existing system at the north end of the site. The 4" duct runs into the main telecommunications room which is on the lower level. Cable trays run the along the length of the corridors above the accessible ceiling. Combination voice/data outlets are located in practically all spaces. In most studio spaces these are mounted in floor boxes. In the digital studios and graphic design are two areas of extensive telecommunication services where there is a combination outlet for every seat in the room.