

5-13-2005

Re: Monolithic Domes

Mr Mayor and City Council:

The Environment and Energy Committee [E&E], has been researching and discussing energy efficient, sustainable new construction alternatives for new city and school buildings. Monolithic Domes offer a durable, energy efficient inexpensive and easily constructed alternative to conventional buildings.

Monolithic domes are constructed to higher standards than conventional buildings. A dome is fire rated type II. This can save money in the long run by lowering the cost of insurance. The Monolithic Dome is covered in 3 inches of polyurethane and liquid concrete and is extremely energy efficient, requiring only half the energy required by conventional buildings to heat and cool. Monolithic domes are not subject to termites or other creatures. It won't rot. It won't get blown away or knocked down.

Domes have been called the "kings of all roofs", and cover some of our most important buildings. Domes have curved structures--they have no angle and not corners- and they enclose an enormous amount of space with out the help of a single column. Despite their thin walls, domes are the strongest and stiffest of structures in existence today.

Dome design, the curved aerodynamic shape actually bends wind around the building eliminating pressure buildup. Domes can withstand pressures of 2000 pounds per square foot. So the 400 pound pressures exerted by a tornado are insignificant,

Utility cost is 50-80% less. Example. The Marathana Temple in Mont Believe, Texas built a new two dome facility. The 34,000 square foot dome building [church sanctuary] averaged \$1,800.00 a month for utilities. A cost of \$52.90 per 100 square feet. The old sanctuary was 8,000 square feet and averaged \$2,000.00 a month for utilities. A cost of \$27.50 per 100 square feet.

Domes offer lower cost, fast turn around, inside construction until occupancy, less long term interest expense, 60% lower energy cost, very low building maintenance, a building that is tornado proof, has a high resistance to earthquakes and fire proof construction.

There are now nine domes in four school districts in Missouri. After three attempts to pass a bond issue for a conventional design building, Plattonsburg High School passed a \$600,000.00 bond issue for a Monolithic Dome gymnasium and Monolithic Dome class rooms.

The EEC would like the City Council to incorporate Monolithic Dome construction as a viable choice for future green building projects.

Additional information on Monolithic Domes can be found at the following websites:

<http://www.pbs.org/wgbh/buildingbig/dome/index.html> ;
<http://www.bfi.org/domes/makers.htm> ;
<http://www.monolithic.com/gallery/commercial/list.html> ;
http://www.monolithic.com/plan_design/mdconst/index.html ;
<http://www.monolithic.com/thedome/cost/index.html> .

Respectfully submitted,

Andrew Spain, Chair

Columbia Environment and Energy Commission

CC: Columbia Board of Education