

Wasuma Elementary home to first dome-style school building in California

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The New Orleans Saints play in the Mercedes-Benz Superdome, the St. Louis Rams play in the Edward Jones Dome, and the Wasuma Elementary Wildcats will soon play ball under a dome, too.

Wasuma Elementary, located in Ahwahnee, plans to open a gymnasium for students this fall that developers say is the first dome-shaped public school building in California.

“I don’t want people to think they’re stepping into the [Save Mart Center](#) — it’s still an elementary school built for an audience of about 300 small children,” Bass Lake School District Superintendent Glenn Reid said. “But it does look pretty cool when you step inside.”

“Cool” wasn’t what Reid was going for, though. After the district passed a bond in 2006, there were several facility issues that took priority over providing Wasuma Elementary with a gym. Up until now, the cafeteria has doubled as its gym and events venue — forcing staff to host separate assemblies because the student body couldn’t fit into one room. The funding had dwindled, but Wasuma needed the space, so Bass Lake officials “got creative.”

The dome-shaped building cost the district around \$2 million — about half of what it would’ve cost to build a traditional gym, Reid said.

The building was constructed using the techniques of the [Monolithic Dome Institute](#) in Texas, which boasts significant energy savings and less construction and maintenance costs than traditional buildings.

The domes, made of concrete insulated with polyurethane foam, act as containers that naturally regulate the temperature — resulting in up to 75% less in energy costs compared to traditional buildings, according to Glen Lauterbach, a developer with California Dome Builders who oversaw the project.

My goal is to make the world go round

David South, chairman of the Monolithic Dome Institute

The time line for building the Wasuma school gym was much shorter than a typical school construction project, Lauterbach said, because it required less materials and less laborers. The buildings are essentially shaped around an inflated bag of air that is held in place with steel bars, then concrete is quickly sprayed on through a hose.

School officials across the country have started building domes to house their classrooms, with most domed schools popping up in Oklahoma, Texas and Arizona. That’s because, in addition to cost savings, the domes provide extra protection against natural disasters, said David South, chairman of the Monolithic Dome Institute, who invented the design about 40 years ago.

FEMA often provides funding for domed school buildings if the district allows it to also serve as a disaster shelter, South said. While most of the domes have been recognized for their stability in tornadoes and fires, South said, there’s potential for protection in the case of earthquakes, too. The trick, he said, is that domes don’t have “moment connections” like standard buildings — breaks in the structure that cause a domino effect if disturbed.

“In a dome, there are no moment connections. It’s round and smooth and just as strong in every direction,” South said.

At Robert L. Duffy High School in Phoenix, which features four separate domes, school administrators have embraced the aesthetically unique campus and used it to get students excited about school, painting the tops of the domes to mimic different planets.

Ken Turer, principal at Robert L. Duffy High, a charter school focused on career preparation, said he's more interested in what goes on inside, though.

"Our utility bills are cheaper. We seem to be able to stay cooler longer," Turer said. "When you're in here, you don't even realize it's a dome. But outsiders do — we just had a tour bus from Japan stop and ask to see inside, like we're a museum or something."

But if the dome is the superior shape, and the cheaper route, then why aren't they the norm? South says he sees houses in the future being dome-shaped, but it will take some time.

"We're so used to doing everything as it's been done. The biggest problem is getting it out there, but people are catching on and it's opening doors," South said. "My goal is to make the world go round."

Brian Ferguson, a spokesman with the Division of State Architects, which approved the Wasuma project, said he did not immediately know of any other dome buildings at a K-12 public school in California, but said a few college campuses across the state have domes on campus. Palomar College in San Marcos, for example, has had an aluminum-framed dome building for many years. The Division does not track private school property.

Wasuma Elementary School's gym should be up and running by September.

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