

The Canton Sanatana Dharma community ritually closed the existing temple in mid-June and held a grand procession into the new temple on June 20 with children dressed as Lord Krishna, Lord Ganesha or one of the other deities. Ritual installation of the deities and the formal grand opening will be held in late August in a celebration called Murti Pratisinsanhta.



BUILDING FOREVER

Rand Construction Builds Rare Jewel of a Temple

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Photos Courtesy of
Rand Construction Engineering, Inc.

Lord Ganesha, the remover of obstacles in the Hindu tradition, must have heard the prayers of the 1,200 members of the Hindu Temple of Canton. A narrow linear site, cost constraints and a protracted site plan approval process did not deter this devoted community from building a 37,500-square-foot temple six times the size of its original facility. Once housed in a small brick building with cinder block walls, the temple has blossomed into a newly constructed worship space with a grand prayer hall enveloping the devout in its rose-colored walls.

Carved lotus flowers mark the 9-foot-tall, two-inch-thick oak

entrance and vestibule doors that open into an interior also housing a welcome center, seven classrooms, and a library containing rare and ornately illustrated manuscripts from India. A multi-purpose hall on the lower level has an extensive stage, a fully equipped kitchen and 15-foot-high ceilings. The main level is a fitting place for the deities; the lower level is the perfect space for weddings, discourses, and other community events.

As the project team, Rand Construction Engineering, Inc. and Lindhout Associates Architects AIA, PC, both of Brighton researched some of the practices of what is often considered the oldest living

religious tradition in the world, to build this jewel of a temple with sensitivity to its modes of worship and a keen eye for cost. The end result is a temple of ancient forms but modern materials. "We were shown images and forms of what to study for the temple's two domes," said John Eckstein, Lindhout project architect. "The ancient domes were handcrafted by artisans in India, but could not be duplicated cost-effectively in the United States. We presented variations of several domes for the temple's review, and opted for a pre-finished, aluminum-clad dome built using modern methods."

Ultimately, Rand shaved "a million dollars off of the original budget through value engineering of mechanical, electrical and other systems," said David R. Haskins, project manager of Rand Construction, the design-build construction manager of the \$7.8 million dollar project.

THE FIRST OBSTACLE: SITE PLAN APPROVAL

Rand's path as construction manager of this unique building began about five years ago with the construction of a manufacturing facility for Manoj Sachdeva, the temple's Chairman of the Board and a supplier for the automotive industry. Sachdeva became a satisfied repeat client over the course of several years. "We selected Rand because of their reputation," said Suresh Shah, a Temple board member. "Our Chairman has worked with them in the past and provided good reports of Rand. They are definitely great."

The project team first began meeting in late 2006 with Sachdeva to establish a program and to prepare some simple sketches. The first obstacle was obtaining site plan approval. Shortly after purchasing the property along Cherry Hill Road in 1985, the community built a modest temple, adding a multi-purpose hall in 1994 for a grand total of 6,800 square feet of space. Even as the Temple grew, Canton Township began to be filled with subdivisions, creating a clash of interest when the Temple decided to expand in 2006 and to move from a location directly on Cherry Hill to a position deeper into the linear site and closer to adjacent residential neighborhoods. "It took a year to go through the site plan approval process," said Eckstein.

Sensitive to neighborhood concerns, the Temple and the project team blocked visual access and general noise with berms, landscaping and appealing masonry screen walls. "We have buffered the building from the neighborhood," said Eckstein. "There is going to be a forest of trees planted on the site."

Placing the building's five mechanical units on a specially built lower roof, wrapped on all sides in a stockade of sound absorption panels, effectively blocks the sight and the sound of the rooftop

units. "The lower roof covers the last 25 feet of the south end of the building," said Haskins. "The panels around the perimeter are specially manufactured sound absorption panels that are a type of metal panel with weather-resistant bats. Because the roof and panels create a recessed area about six feet lower than the main roof, you can't really see any of the mechanical components of the building."

THE SECOND OBSTACLE: A NARROW LINEAR SITE

Rand and Lindhout worked closely with the Temple Board over the course of the entire project, for the building's structural system and interior corridors are intimately linked to the religious practices of Hinduism or Sanatana Dharma. "The real name of our religion is Sanatana which means forever," said Shah. The full name - Sanatana Dharma - is Sanskrit for eternal law. Hindu is merely the name first ascribed to the people living near the Indus River in northern India.

Other lessons were in store for the project team throughout this fascinating endeavor. The 900-person prayer hall had to provide every worshiper a clear view of the seven deities placed on individual granite platforms along a main altar. This requirement steered the project toward design and construction of an extremely long clear span. "The 14 trusses for the free span are 115-foot-long," said Haskins. "But with longer spans comes deeper structural members."

At 18 feet in height, the basement walls are exceptionally deep, and the 3-foot-thick footings extremely robust, both to address the clear span's structural needs and to meet community wishes for a spacious banquet facility on the lower level. "The Temple did not want anyone to feel like they were in a basement, so we created 15-foot-high ceilings with added room for mechanical space," said Eckstein.

The depth of the excavation even altered the traditional sequence of construction. "Because

of the height of the basement walls, they have a tendency to want to push in," said Eckstein. "We had to first install underground plumbing, mechanical and electrical work and get the basement slab poured before we even backfilled." Rand waited almost four months to be able to backfill around the outside perimeter of the basement walls.

The narrow linear site added another level of complexity to the excavation and to the entire design and construction process. For safety, the height of the basement walls required a deep, broad excavation with a series of stepped tiers. Rand successfully managed tiered excavation on a tight linear site with a single access road on the east side of the property. "It was challenging to manage the flow of construction and vehicle traffic back into the south



Stante Excavating, Wixom, excavated just over 20,000 cubic yards of soil for the basement. Poured Brick Walls, Inc., Brighton, placed 1,300 cubic yards of concrete and 43 tons of steel reinforcement for the basement.

section," said Haskins

The narrow linear lot complicated the logistics of maintaining existing Temple access. "We had people coming in for services even as we were building a new de-acceleration lane and widening Cherry Hill and constructing the building, itself."

The test tube-shaped site even slightly altered the interior configuration. In the Sanatana Dharma religion, the deities must face the east and the worshippers must enter the temple facing the deities. This practice was problematic on a narrow site stretching along a north-south axis. Even though the main entrance is on the north, Lindhout created an interior corridor allowing Temple members to enter the prayer hall directly facing the deities.

THE THIRD OBSTACLE: COST

Rand and Lindhout successfully delivered a beautiful building on a tight budget. The exterior masonry is a pleasant blend of light, neutral colors ranging from beige to champagne and a light yellow. With an eye for cost, the exterior façade is composed of several varieties of concrete masonry products: a concrete masonry burnish block product simulating a stone base; a brick product called C Brick that is actually made of concrete rather than clay; and custom fabricated EIFS that add detail and character to a series of faux columns, window arches and lotus medallions. The extensive screen wall has a similar masonry composition, complete with lotus medallions.

"The C Brick is an oversize brick that is a bit more durable and cost-effective than clay, but still provides the same appearance as traditional clay brick," said Haskins.

The roof materials reflect the same devotion to traditional forms combined with attention to cost. "We emulated the tile roofs of India, but used a metal product," said Haskins. "The 16 small cupolas on the roof look like copper but are actually copper-painted aluminum."

A NEW TEMPLE BLOSSOMS

The project team nimbly managed every obstacle to deliver a wonderful new temple to the Sanatana Dharma community of western Wayne County. At heart, the building's form is a path to the prayer hall expressed in a series of ground-level tiers, widening in successive increments, until the devotee reaches this core space. The path to prayer begins with the long, narrow entrance canopy lined with an underside of stained pine and topped with a dome. The dome exterior and interior is hand painted with the OM sign, the first sound of the universe uttered by Lord Brahma, the name of the

creator and absolute God in Hinduism. "The chanting of OM is a powerful vibration going through mind and soul," said Shah.

The painted OM sets the inner tone for the devotee entering the next tier, namely a barrel-vaulted vestibule with a welcome center and library to the west. The third tier widens into a lobby aglow with a chandelier suspended from the interior of a second dome. Coat and shoe racks flank the lobby, creating areas for temple members to take off their shoes and wash their hands.



The prayer hall's 115-foot-long clear span allows every worshipper a clear view of the altar. Rand installed 14 trusses to create this serene worship space.

Turning toward the left, temple members enter a corridor, round the corner, and enter the prayer hall directly facing the seven deities.

This graceful house of worship has a delicate beauty expressed in cornice details painted a bright gold. Elegant chandeliers, reused from the existing temple, illuminate the prayer hall painted in a calming shade of rose. The domed archways over each deity platform are flowing, curvilinear lines coming to a sharp

central point. "It points upward as a symbol directing us to the Almighty," said Shah.

The new prayer hall will enable the Canton temple to expand the number of deities from five to seven. In Hinduism, the deities are the many incarnations, aspects or manifestations of God through time. "Hinduism believes that there is only one God," said Shah, "but incarnations at different stages."

The prayer hall also houses the havan, a place for fire ceremonies within this beautiful worship space. Rand installed an exhaust system to service the havan, as well as in-floor heating in tile areas on the perimeter of the hall's carpeted expanse. Because temple members do not wear shoes in the hall, in-floor heating is in all tile areas leading from the shoe storage area to the prayer hall.

A wise use of funds made it all possible. "The building is very ornate, but yet we had to be smart with how the client spent his money," said Eckstein. "Classrooms and offices are more functional, less flash. The biggest challenge was, "How do you hit the budget when you have certain demands, such as a banquet facility in the basement with a fully operational stage?"

Stage construction called for pouring a slab on top of the floor slab, erecting masonry walls and installing a sand infill before building the platform, itself. The multi-purpose hall has a sophisticated audiovisual system, a fully equipped commercial kitchen, and an elegant lobby. Thanks to the dedicated and savvy team of Rand Construction and Lindhout Associates, the Sanatana Temple in Canton now has a wonderful place to worship, to conduct dance, music and yoga classes, and to hold its major festivals. Namaste. ☸

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