



SC
Steel & Crete
STRUCTURAL SOLUTIONS

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Structural Solutions LLP

Tailored Designs for Structures

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STEEL and CRETE

Tailored Designs for Structures

STEEL and CRETE is established by well experienced structural engineers who have an excellent reputation in the field of structural engineering in India and abroad for many years.

The team members have worked with many of the renowned architects and clients always striving to find better methods to tackle the engineering challenges.

Our team members have contributed substantively in the field of structural engineering by publishing internationally cited articles in reputed journals and are well experienced in a wide range of projects like nuclear power plants, high rise buildings, pre-engineered structures, bridges and machine foundations.

We are well experienced in providing high quality, safe and economical design solutions for unprecedented structures and unique buildings. We always make the effective use of materials using efficient structural systems.

We always collaborate with the other experts like Architects, Geo-technical engineers, MEP consultants, Project managers/contractors and other engineering consultants to develop an efficient and cost-effective design. We as structural consultants always strive to provide tailored designs for your structures by reducing the material and building costs.

Steel & Crete
STRUCTURAL SOLUTIONS

Scope of Services

- Structural Designs in Steel and Concrete
- Renovation, Expansion and Retrofitting of Existing Structures
- Wind and Seismic Design
- Industrial Facilities and Machine Foundations
- Design of Special Structures
- Building Condition Evaluations
- Structure Failure Investigation
- Quantity Surveying of Structures
- Design Proof Checking
- Structural Expertise
- Feasibility Studies

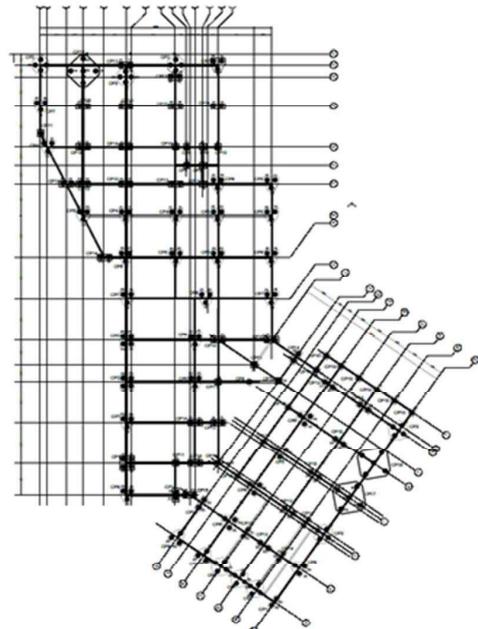
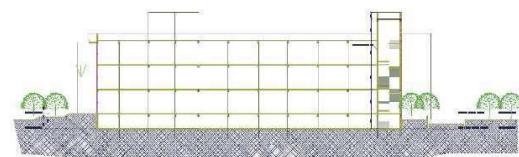
PREVIOUS PROJECTS OF THE TEAM COMMERCIAL BUILDINGS

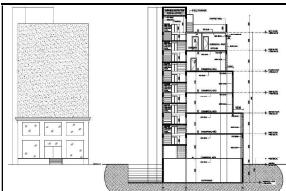
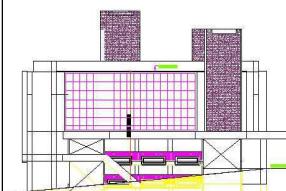
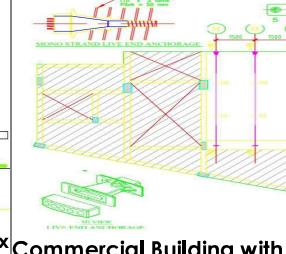
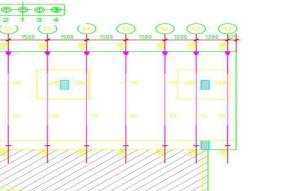
Proposed Commercial Building, Amballur

(Done in Collaboration with CE Cell, GEC Thrissur)



This shopping complex is having 70,000 sq.ft area and is a G+B+2 Storey building. In addition to the commercial space the building consists of basement parking, elevators, atrium face and balconies facing it.



 <p>Proposed Milan Building, Ernakulam</p>	<h2>COMMERCIAL BUILDINGS</h2>	 <p>Commercial Building, Thalassery</p>	 <p>Bhima Jewellery Building, Thiruvalla</p>
 <p>Angamally Shopping Complex</p>	 <p>Commercial Building with Pre-stressed Slab, Calicut</p>	 <p>Commercial Building (Red Chilies), Perinthalmanna</p>	 <p>Commercial Building, Karinkallathani</p>
 <p>Commercial Building, Manjeri</p>	 <p>Commercial Building, Parayancheri</p>	 <p>Fathima Square, Karuvarakundu, Malappuram</p>	 <p>Commercial Building, Parayancheri</p>

RESIDENTIAL BUILDINGS

The team members are well experienced in designing different types of residential buildings with complex configurations designed by leading Architects in the field. Many of the houses designed by the team members are winners of architectural design awards. Our structural designs helped the architects to turn their dreams into reality.

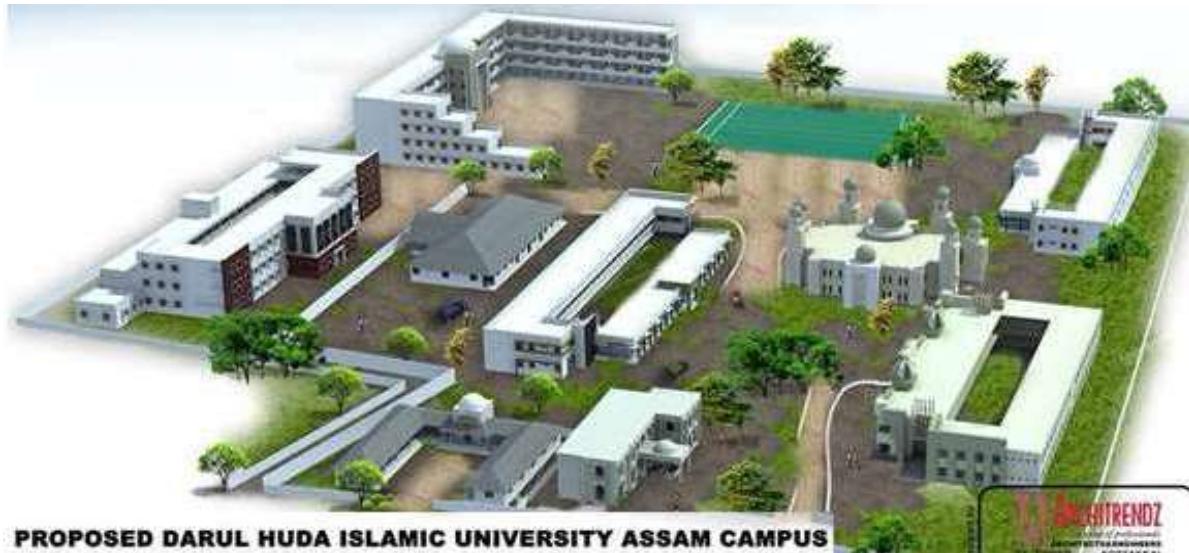
Canopy House, Kozhikode, Kerala, India



This house is designed by Zero Studio, Manjeri has a complex network of cantilevers. The cantilever balcony slab has a span of 3m.

RESIDENTIAL BUILDINGS	Dr.Jojo Residence, (De earth Architects), Calicut	Biju Mathew Residence, Manjeri (Zero Studio)	Naveem Residence, Morkaz Architects + Engineers
Halaman, Courtyard House, Aluva (Zero Studio)	Pebble House, Kochuthomman & Associates, Bangalore	Dr.Sunil Residence, (Ar.Ramzi Omar), Bangalore	Majeed Residence, Aslam Architects, Perinthalmanna
Appartment Perinthalmanna, Fahed Architects	Ashraf Residence, Edappal	Niyas Residence, Attiks, Kondotty	Shameena Residence, (De earth Architects), Calicut

EDUCATIONAL BUILDINGS



The proposed Darul Huda Islamic University is situated in the flooding areas of Brahmaputra River, Assam is highly prone to earthquakes. The administrative building (long building at the center) is 100 m long is constructed without any seismic gaps/expansion joints. During the design "missing mass" is taken into consideration and the structure faced so many tremors and two major earthquakes and stands without any cracks. Further considerable measures are taken to mitigate the effects of floods.

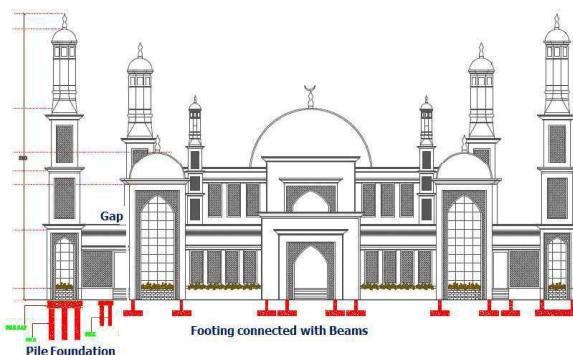
EDUCATIONAL BUILDINGS	
Music School, Bangalore	Darul Huda College, Birbhum, W.Bengal
Carmelgiri English medium School, Nilambur	International School, Kulashekaram
Nagle Vidya Bhawan, Kanjoor	St. ANN School, Miller's Road, Bangalore
ISS ARTS College, Ponniakursi, Perintalmanna	Golden Hills School building, Calicut.
Iqbal College, Peringamala, Trivandrum	Bafakhy Woman's College, Kalpakancherry.
Vadakara College, Vadakara	IES College of Architecture, New Block, Thrissur
Karnataka College for DH, D3 Architects	

RELIGIOUS BUILDINGS

Nattika Mosque, Kerala, India



This grand Mosque consists of domes, minarets and openings, is a framed structure and is supported on a foundation system consisting of footings and piles. A cleverly given structural gap separates the portions supported by different foundation systems make the structure cost effective. Concealed arches are provided to take the weight of the Chandelier which acts as a point load at the center of the dome.



The minarets are designed to take the dynamic effects of the winds. The design wind speed is 44m/s and the fundamental natural frequency of the minaret is 1.14Hz. The vortex shedding frequency is calculated as 5.21Hz, as per code provisions



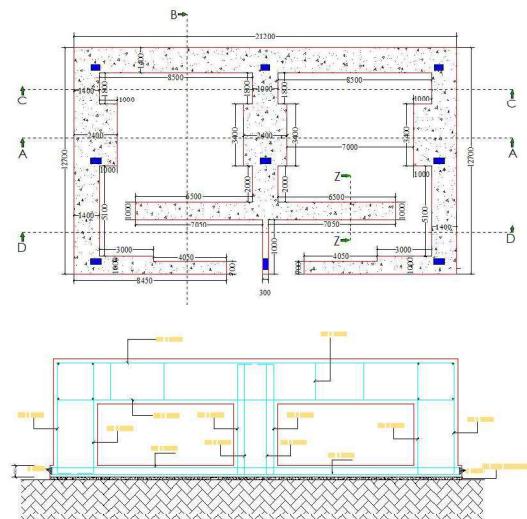
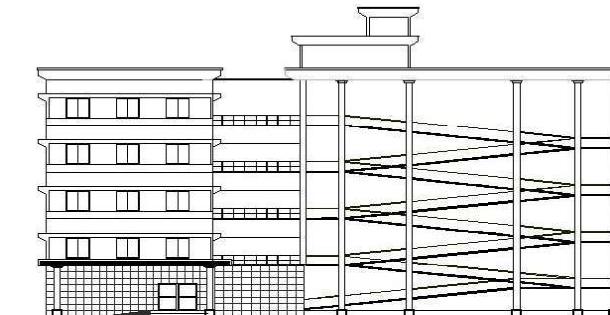
RELIGIOUS BUILDINGS

Extension of Mamburam Makham, Malappuram

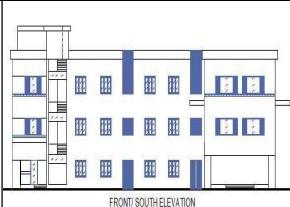
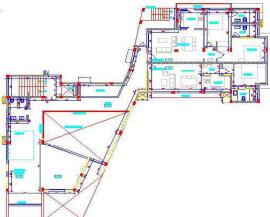
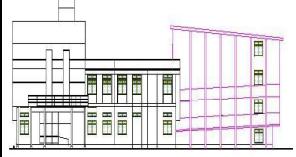
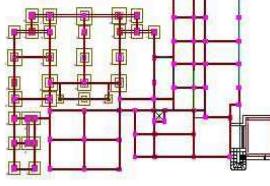
Mosque, International School, Korome, Wyanad	Puthuparambil Juma Masjid, Malappuram	Mosque, Palapetty, Malappuram	Attakulangara Masjid, Malappuram
St. Ann Church, Millers Road, Bangalore	Islamic Cultural & Spiritual Center, Athipatta, Malappuram	St. Mary's Church, Yavanarkulam, Wyanad	Bengal Masjid, (D3 Architects, Kottakkal) W.bengal

HEALTH BUILDINGS

Sree Mookambika Cancer Centre, ulasekharam



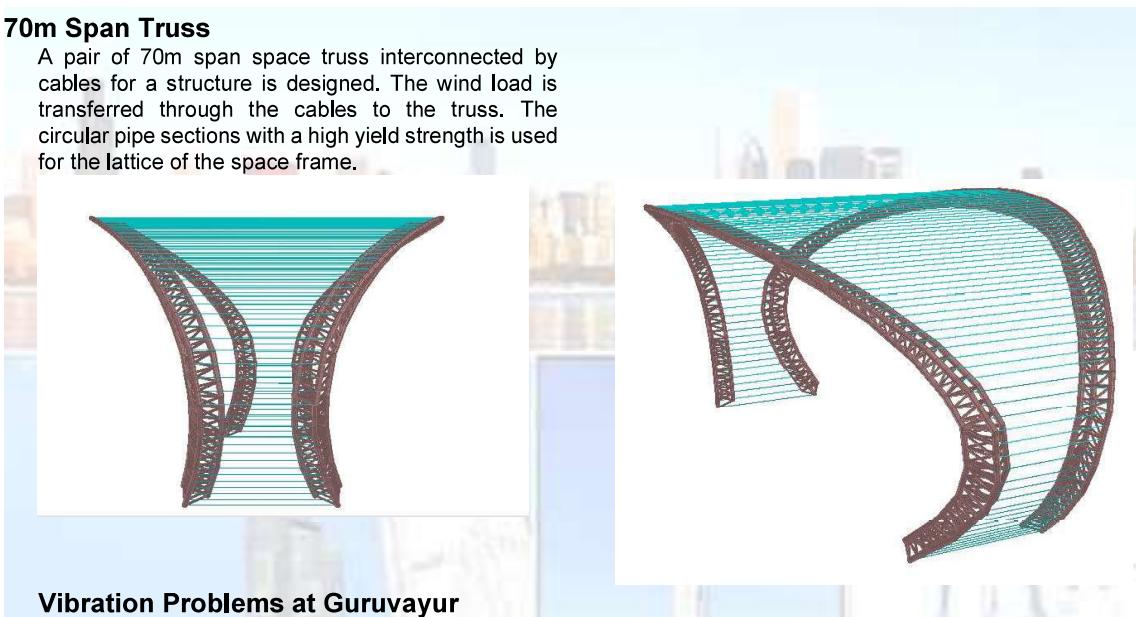
In addition to the medical facilities, this building supported on piles has got a bunker which is used for housing two linear accelerators. During concreting adequate care is taken to reduce the thermal effects and to attain the minimum density required.

 <p>Library Block, Amala Medical College, Thrissur</p>	 <p>FRONT SOUTH ELEVATION Proposed 100 bedded Indra Gandhi Hospital, Kavaratti Island, Lakshadweep</p>	<h2>HEALTH BUILDINGS</h2>	 <p>SR Medical College, Varkalla</p>
 <p>Dr. Shaji Clinic, Perinthalmanna</p>	 <p>School of Research in Ayurveda, Tripunithara</p>	 <p>Nilambur Hospital, Nilambur</p>	
 <p>Mookannur Nursing College</p>	 <p>Unity Hospital, Kunnamkulam</p>	 <p>Proposed Vinayaka Multispeciality Hospital, Sultanbathery</p>	 <p>Elims Pharmacy College, Thrissur</p>

STEEL STRUCTURES

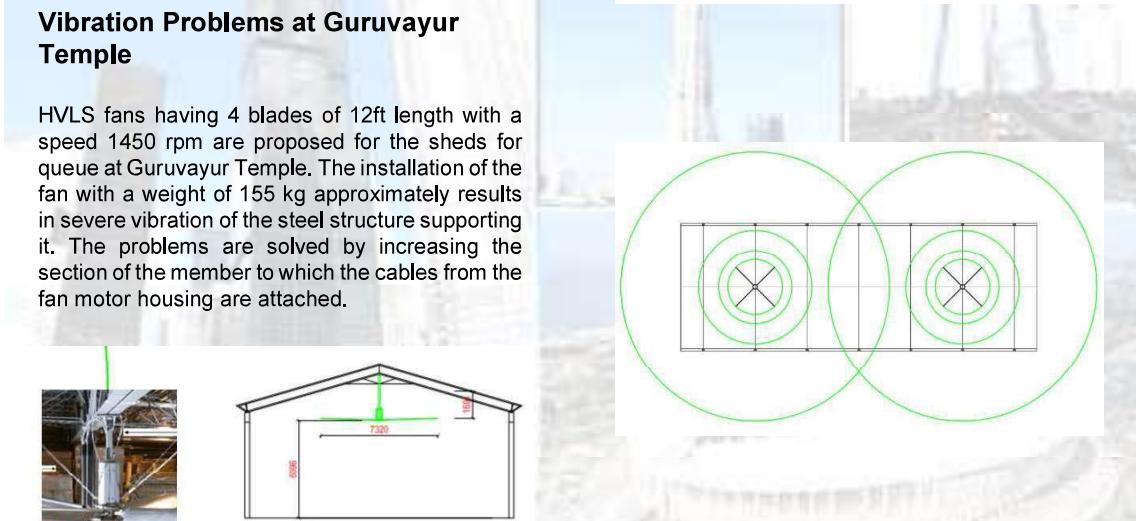
70m Span Truss

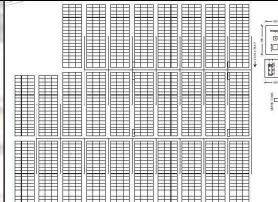
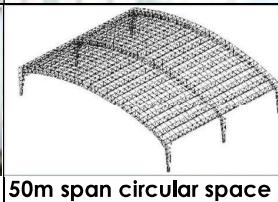
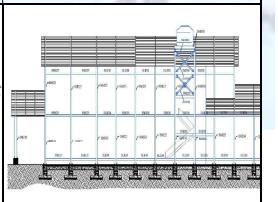
A pair of 70m span space truss interconnected by cables for a structure is designed. The wind load is transferred through the cables to the truss. The circular pipe sections with a high yield strength is used for the lattice of the space frame.



Vibration Problems at Guruvayur Temple

HVLS fans having 4 blades of 12ft length with a speed 1450 rpm are proposed for the sheds for queue at Guruvayur Temple. The installation of the fan with a weight of 155 kg approximately results in severe vibration of the steel structure supporting it. The problems are solved by increasing the section of the member to which the cables from the fan motor housing are attached.



		STEEL STRUCTURES	
Pre-engineered structure 32m span, Sur, Oman	Solar Power Station by Keltron, Ponani		Resort at Kodikuthimala, Steel Structure
		Mobile ramp, to transfer the loads from containers	 Proposed steel auditorium building, Malappuram

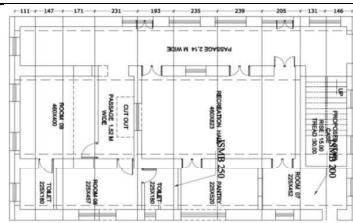
OTHER STRUCTURES



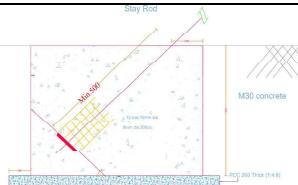
Proposed Kalady Bus Stand - Pretensioned Prefabricated hollow section



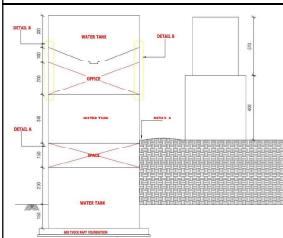
Proposed Market, Kalady



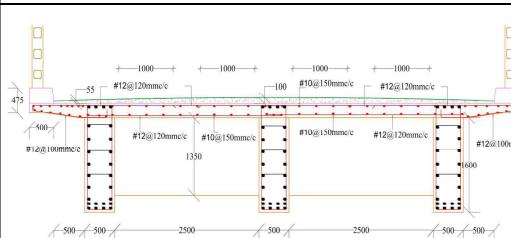
Renovation of 120 years old building, Pulicunnu



Foundations for moving Bridge



Settling Tank with water storage, 3 levels-10lakh liters capacity



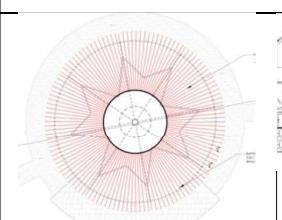
Girder and Deck slab of a bridge with span 15.7m



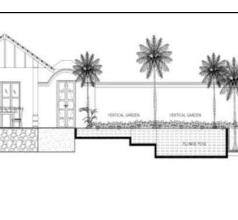
Spiral Stair with two supports



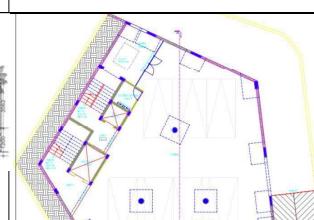
Café steel, Belgaum



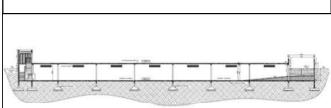
Paravur Resort, Paravur



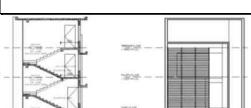
Water Theme Park, Anakatty



Pentagon Building



Foot Ball Court with basement parking



Lawyer Building, Ernakulam



Design Proof Check
G+6, Apartment, NPOL
Community, Ernakulam



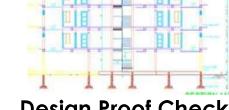
Dry Dock for 80 ton floating unit



Cow Barn, Mangalapuram



Aquarium Stand



Elephant Proof Steel
Barricade



Stability Checking of Steel
structure of Ravi Pillai's
daughter's marriage, Kollam



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