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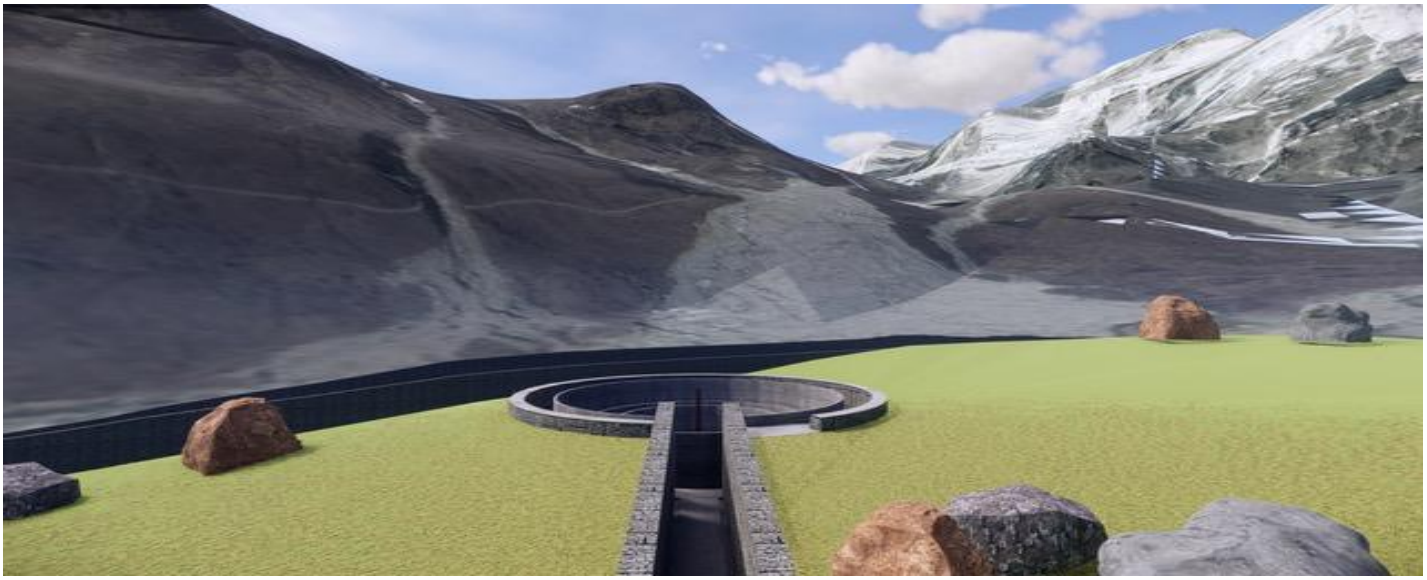
STRUCTURAL DESIGN OF SHRI ADISHANKARACHARYA SAMADHI STRUCTURE UNDER THE PROJECT KEDARNATH RESTORATION AND REDEVELOPMENT

JSW IP HOLDINGS PVT. LTD.



CASE REFERENCE: 339/CS/2018-2019/Kedarnath

BRIEF:

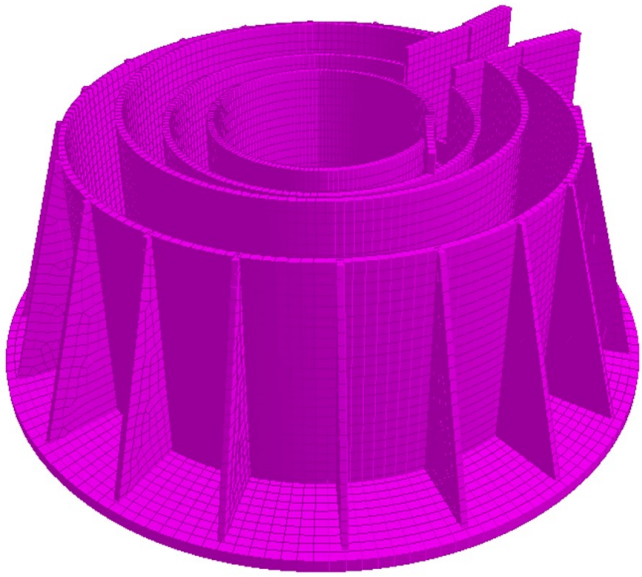
It is proposed to construct SHRI ADI SHANKARACHARYA SAMADHI (SAMADHI) at Kedarnath, Uttarakhand, India. The structure will be built behind the existing Adi Shankarachrya temple. The journey to SAMADHI starts from Divyashila which is presumed to have protected the temple during 2012 disaster, a small exhibitory is right next to Divyashila which then enters into an open lobby, further a narrower passage with high rise walls on both sides leads to SAMADHI. The SAMDHI is made of three concentric circles around which the visitors enter and exit through ramps at mountain top. Adi Shankarachrya's sculpture is proposed to be placed at the centre of the Samadhi.

Duration: June, 2018 – June, 2019

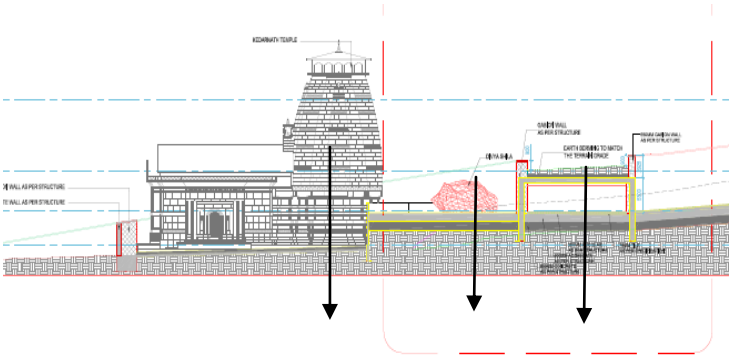
Owner/Client: JSW IP Holdings Pvt. Ltd.

Location: Kedarnath, Uttarakhand

Role of Genstru: Consultancy for structural design of a distinctive RCC structure



GEOMETRIC MODEL OF SAMADHI STRUCTURE



STRETCH FROM TEMPLE TO DIVYASHILA –EXHIBITORY

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MAIN DELIVERABLES:

a) The structural design mainly deals with;

- ◊ Design of foundations
- ◊ Design of retaining walls
- ◊ Design of slab
- ◊ Design of RCC walls

b) Site visits, collecting previous geotechnical, meteorological, environmental records, interaction and review from experts

c) Design vetting from IIT Delhi.

D) Optimal yet realistic design considering feasibility of construction, availability of materials, equipments etc on site.

PROJECT HIGHLIGHTS:

The Samadhi area comprises of 4 Concentric circles with radius varying from 6.0m to 13.6m and height varying from 7.0 to 11.5m above temple plinth.

The passage from Divyashila to Samadhi entrance is about 63.0m long, 3.0m wide and height varying from 5.0m to 8.0m above temple plinth.

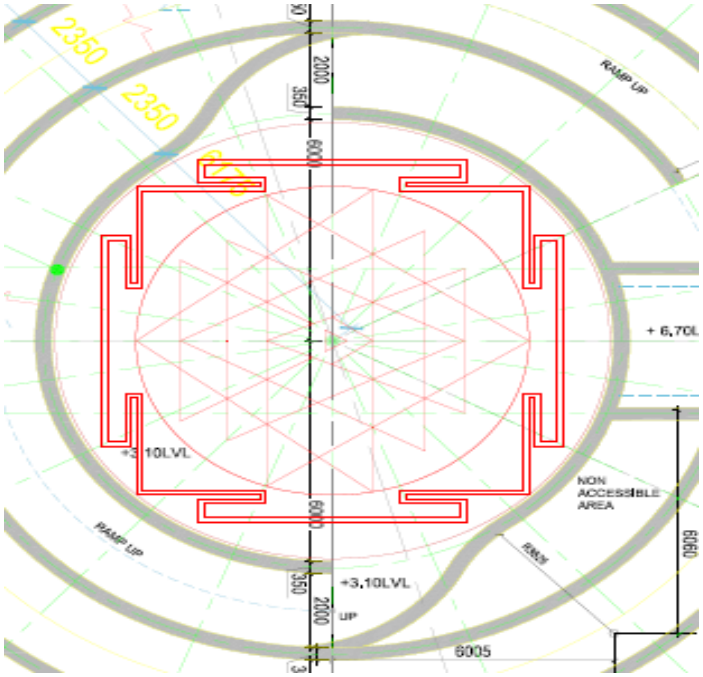
The exhibit area behind Divyashila is about 620 m^2.

In view of extreme weather conditions and to maximize the life of the structure higher clear cover and air—entrainment considered.

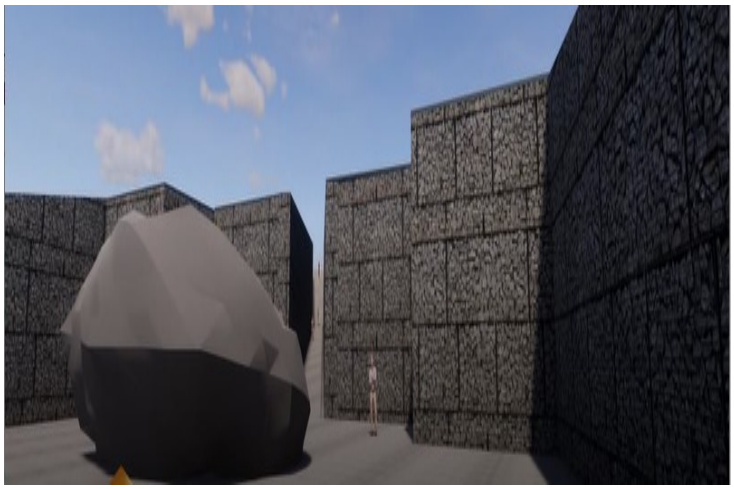
The analysis method used for RCC is Limit State Design (LSD) as per IS-456. Snow melting radiant heat technology has been considered to be used in pathways.

For structure design ultimate load combinations are used and serviceability combinations are used for serviceability checks and foundation sizing whereas, design is done on factored load combinations.

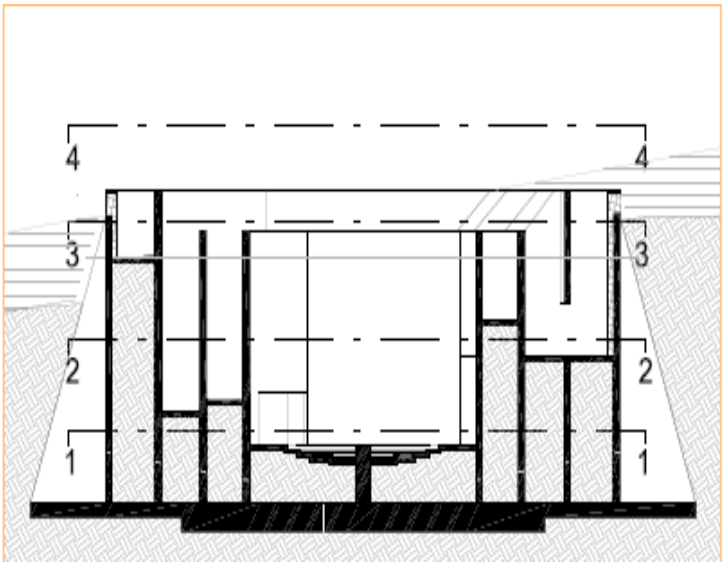
Design and drawing reviewed and approved by IIT Delhi, in June 2019 and released for execution on site.



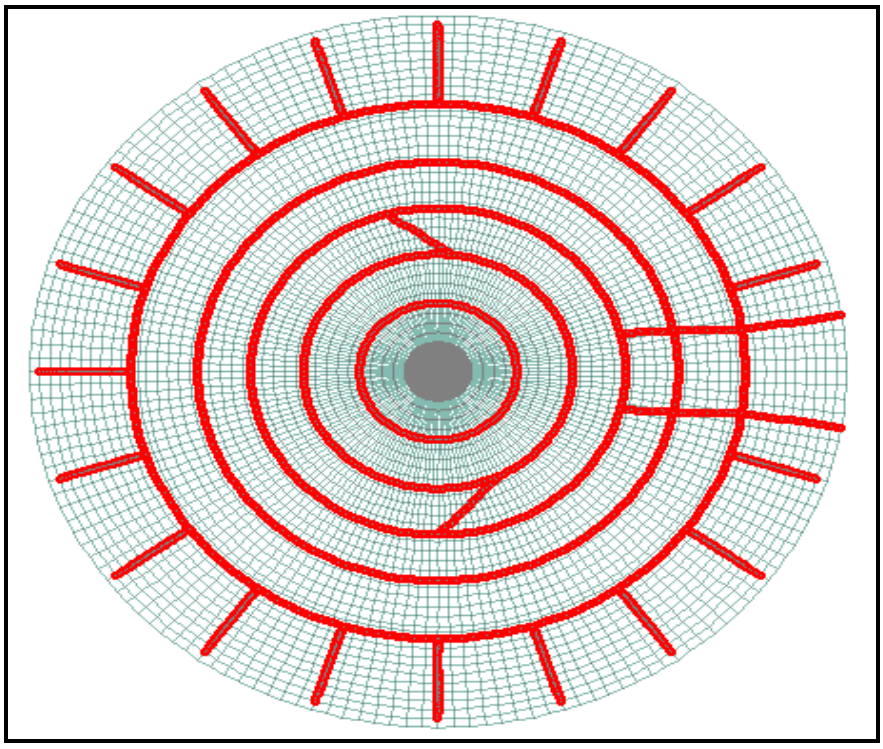
ARCHITECTURAL DESIGN AT CENTRAL CORE OF SAMADHI



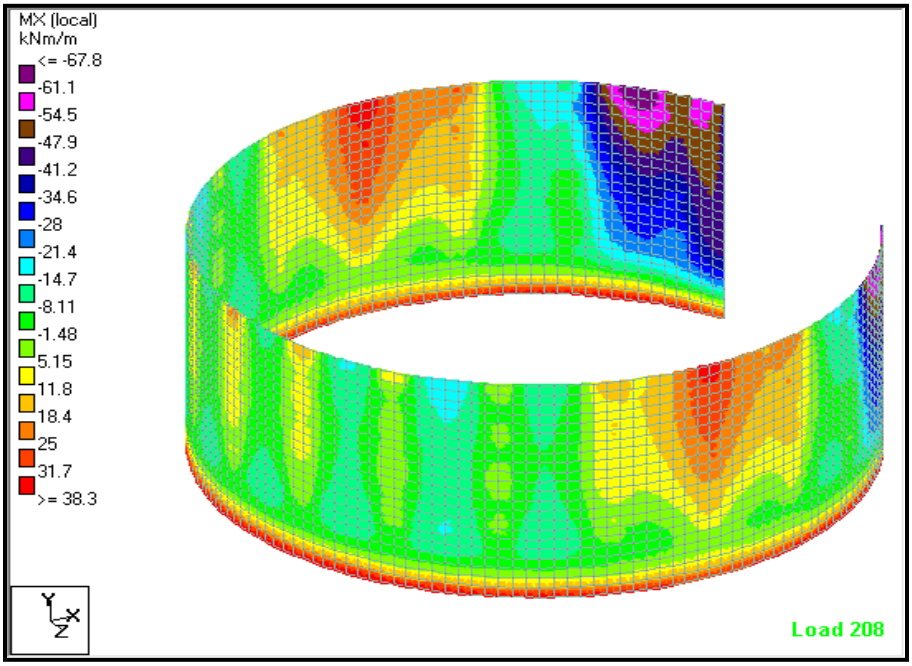
VISUALIZATION AT DIVYASHILA



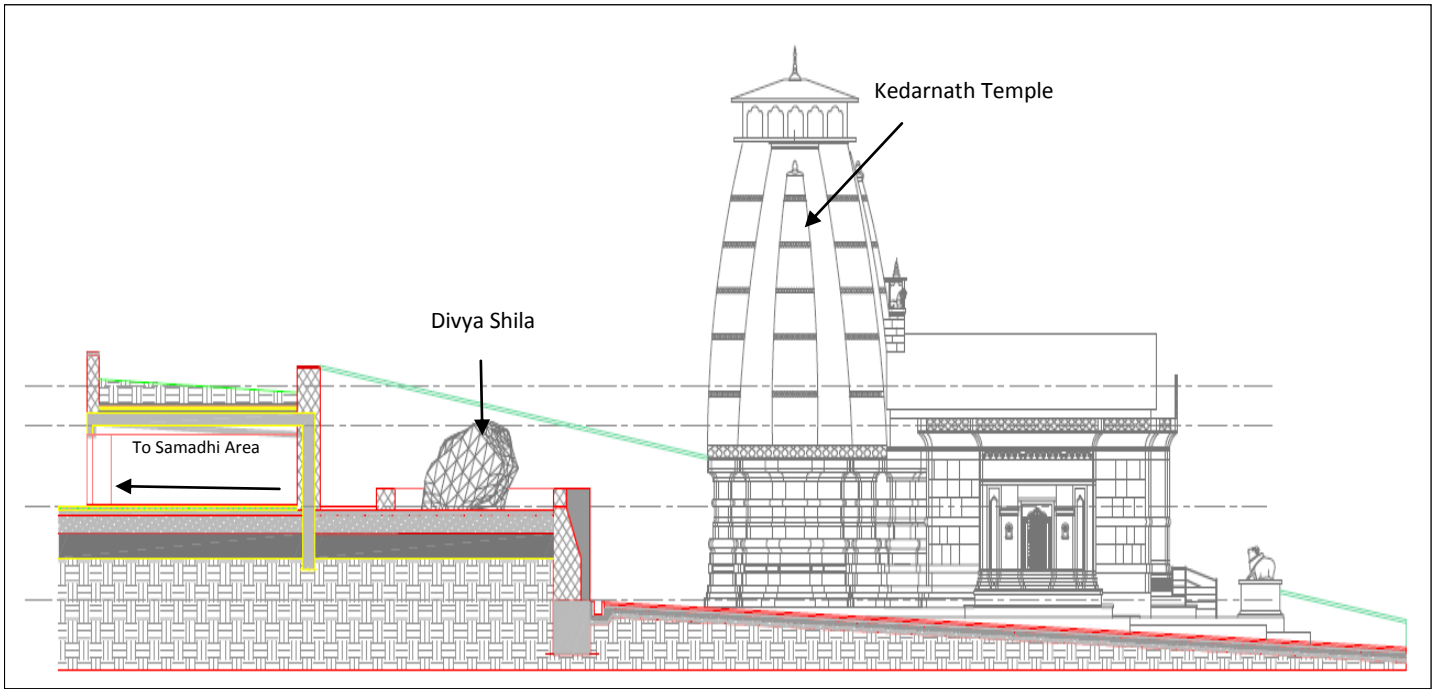
SECTION AT SAMADHI STRUCTURE



PLAN VIEW OF STRUCTURE



Design of External Wall Element


Kedarnath Temple
Divya Shila
To Samadhi Area