

COMPLETION REPORT

THE HINDU TEMPLE (SHIVA MARHI) AT MOOSA
KHATIAN



ENDOWMENT FUND TRUST
For Preservation of the Heritage of Sindh

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Project Overview

The Conservation of the historic temple at Moosa Khatian was a project that came in through the Endowment Fund Trust's advertisement campaign. The initiative was taken to receive information regarding traditional built heritage all over Sindh through an e-portal. This saw a steady influx of emails and applications pertaining to heritage sent by concerned citizens and heritage enthusiasts.

The historic temple of Moosa Khatian, henceforth referred to as Shivala Marrhi, is one such project which echoes the success of the initiative.

The conservation operation was a definitive preservation through reconstruction. Owing to the techniques used for its original construction, the project had its own set of complexities.

The project has been completed on **January 2023**.

Historical Background

Muhammad Ismaeel Khan was a celebrated general of the Talpur Dynasty. The town of Moosa Khatian was named after his son, Muhammad Moosa Khan Khatian.

A narrow road leads to the historic town of Moosa Khatian. The town is covered by ancient trees and a dense canopy can be observed in the townscape as one turns towards the town. From within the trees, emerges the Inverted Lotus Dome of the Tomb of the Khatian Jagirdars; one of the tallest structures of the town and neighboring vicinities.

Right at the entrance of the historic town, opposite the Public School of Moosa Khatian, an old temple can be observed in the farmlands. The temple appears to be interwoven with an ancient tree and together form an aesthetic ensemble.

The temple is complete with a *Mandap*; *Garbhagriya*; and *Shikhara*. Local legends claim the temple to be multiple centuries old. Alternatively, apparent observations trace the temple back to the colonial era at the very least. 'NWR' is written on the frogs of many bricks which could also be an acronym for 'North Western Railway'; a colonial era railway project.

However, it is well known that the temple has been part of the historical townscape for a long time. Now neglected and at mercy of time and the elements, the temple is in a ruined condition.

A living monument; the temple is among the few historic temples in the vicinity of Moosa Khatian and is in dire need of conservation.

Site Details

Site Name: Temple of Moosa Khatian.

Town: Moosa Khatian.

District: Hyderabad.

Nearest Landmark: Govt: Higher Secondary School, Moosa Khatian.

Period: Colonial.

Coordinates: 25°27'43.6"N 68°31'50.9"E



Materials Used

- Masonry Unit: Burnt Bricks
- Size: 9" x 4.5" x 3"
- Mortar: Lime.
- 1st Coat Plaster: Sand; Lime; Wheat chaff.
- 2nd Coat Plaster: Lime & Jute.



Condition Report

- The structure is designed as a traditional Hindu temple.
- The *Mandap*'s ceiling has caved in and the structure has collapsed.
- Externally, the *Garbhagriya* is intact however; many of the bricks are badly spalled and have fallen out.
- The *Garbhagriya* has seen previous restoration attempts with the floor being remade with cement concrete up to the skill level.
- An outer corner of the *Garbhagriya* that is closest to the tree has been undercut by the tree growth.
- The *Shikhara* is entwined with the tree branches.
- Many of the relief plaster decoration have eroded due to the effects of rain.
- Many bricks can be found at the site that are supposedly said to belong to the original structure.
- The masonry units are still in a good condition due to the usage of 1st class bricks.
- The masonry used is bare brick masonry and it adds to the beauty of the temple.
- The pointing work is still extent at most parts.
- The lime plaster inside the *Mandap* has fallen off.
- There are evidences of a central column in the *Mandap* entrance which alludes to there being two arches rather than one arch.
- A platform could help stabilize the structure by checking differential settlement.
- The tree and the temple entwined together form a picturesque whole.
- The locals also consider the tree as sacred thus the tree also has to be conserved preferably. (Based on an interview with the caretaker).

Monthly Progress Debriefing

The conservation of the historic temple was rife with complexities and impromptu strategic engineering decisions had to be made. To begin with, structurally, the temple had innate design failures which led to its eventual collapse. The masonry units, for instance, weighed heavily on the structure; the bricks used for its roofing were just too heavy. The precarious condition of the structure and it being a living monument justified its reconstruction.

As the workplan suggests, the project was initiated with the first brick being laid at the end of April. The conservation operation was underway full-fledged on the beginning of March 2022.

March 2022:

The first month saw procurement and mobilization phase of the project along with addressal of the structural issues.

- The site had to be demarked and established with conservation material being transported to the site.
- The local workforce had to be trained and underwent capacity-building sessions.
- An informal meeting was arranged with the local stakeholders.
- The structure had been heavily undercut at the plinth level and had to be 'Underpinned'. (A meticulous process of replacement of defected masonry at the base).
- Structural stability had to be insured prior to any further conservation attempt should the structure cause harm to any devotee or worker.
- Scaffolding had been installed to allow access to the *Shikhara*.

June 2022:

The second month saw the inception of conservation work of the *Mandap*. A tiring and meticulous procedure in which the masonry of the *mandap* of the temple was reconstructed.

- The centre column of the arch ensemble was erected.
- A field template was made (reminiscing the conservation of Dooleh Darya Khan Otaaq) and arches were carefully fashioned.
- Further structural reinforcements were made to ensure that risks be eliminated.
- The *Shikhara* conservation was started with faulty plaster being removed and damaged bricks replaced.
- A field template for the vaulted roof of the *Mandap* was made and the base was re-constructed using lime and *chirol*.
- Reconstruction work of the parapets was underway.

July to Mid-September 2022:

Conservation of the temple lost momentum as the work was paused due to the disastrous monsoon rains of 2022. The structure was still under conservation when the first drizzle started. As the structure was made of fresh lime and *chiroli* which still had not attained maturity; the rains could have spelled disaster. However, the structure proudly withstood the onslaught unscathed. The conservation work could not be continued due to the floods until Mid-September when conditions improved.

September 2022:

The conservation work was resumed, first with potentially the riskiest activity of the project: removal of the template propping the *Mandap* roof. The template was eventually removed, and the dome stood firm. Other activities during the month include:

- Buffing of the brick masonry to scrape off the extra moisture.
- Pointing work between the bricks to ensure cohesion.
- Plastering work of interior of the *mandap*.
- Grouting of the cracks in the structure caused by inherent design failure. (The *Mandap* was a later addition to the temple and had lost cohesion with the *Garbhagriya* due to improvisation of joints/ interlocking between the two structures).

October 2022:

The month of October was all about intricate plastering work to breath life back into the interior of the structure.

- The central column of the structure was given shape mirroring the original design of the original columns.
- Structurally, the arches were reinforced using an interventive conservation procedure where they were reinforced with iron bars at the crown.
- The interior saw extensive plastering work (including the arch foil).
- The *shikhara* saw extensive plastering work.

November 2022:

November was the month that was tentatively selected for project completion. However, the symbolic finial was delayed in its delivery due to the *kashigar* being overworked. Thus, the *shikhara* could not be completed on schedule. The workforce was mobilized downwards:

- The finial was finally installed on the spire of the *Shikhara*.
- The lime cream layer was plastered on the *Shikhara*.
- The interior of the *garbhagriya* was plastered.
- The flooring work was started.

December 2022:

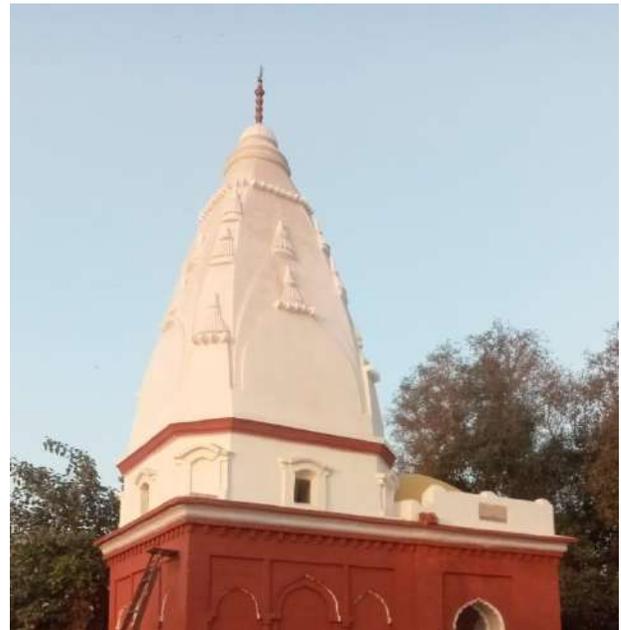
The project was finally concluded in December with the total elapsed time of the project being stretched to X days.

- The outer platform of the structure was constructed to provide additional stability.
- The area around the temple was hardscaped for beautification purposes.
- The finishing touches were given to the structure and the progress.
- The project was handed over to the local community and reviews were taken from the stakeholders.

Pictorial Report

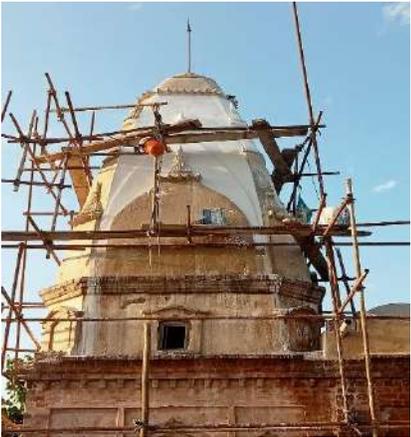
FINIAL PHOTOGRAPHS:

The following photographs show the before and after conservation of the restored finial.



SHIKARA PHOTOGRAPHS:

The following photographs show the timeline conservation of the Shikhara of the temple along with cultural detailing.



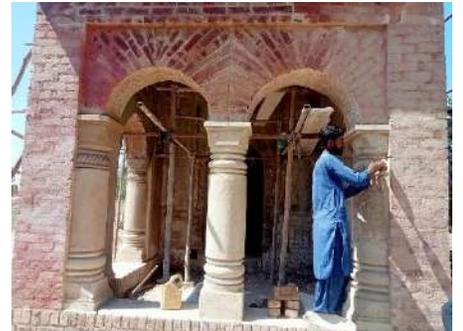
MANDAP MAIN ARCH PHOTOGRAPHS:

The mandap was perhaps the most difficult portion of the structure to conserve owing to an innate design failure. On-site strategic responses had to be devised to strengthen the structure.

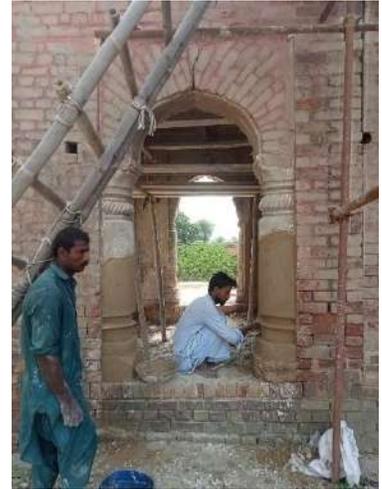


MAIN ARCH PHOTOGRAPHS:

The front arch openings were one of the most complex activities of the project. The engineers and masons on site managed to meticulously execute its reconstruction.

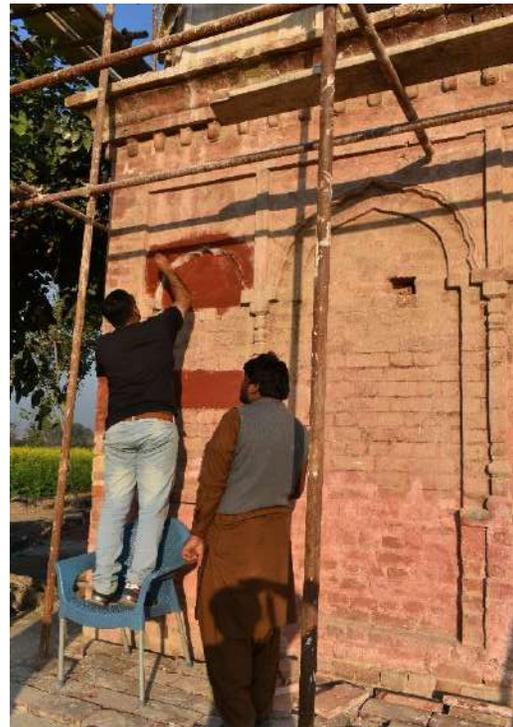
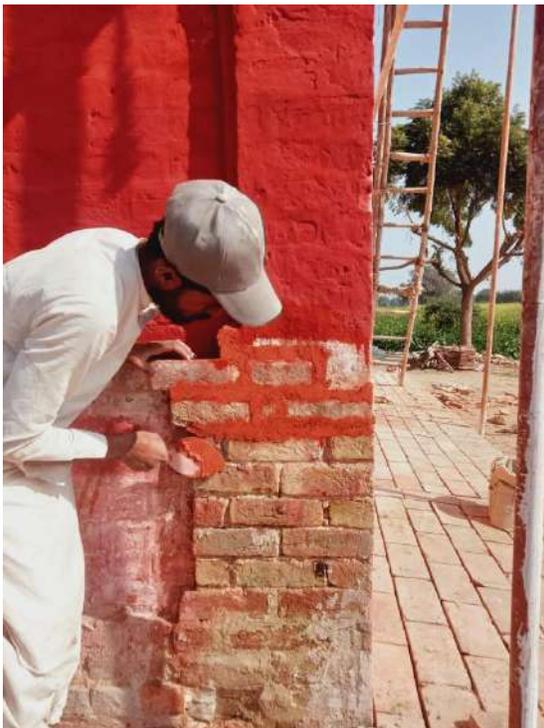


SIDE ARCH PHOTOGRAPHS:



EXTERIOR PHOTOGRAPHS:

The structure was heavily undercut by erosion and interventive measures were deployed to ensure structural stability.



FLOORING PHOTOGRAPHS:

The flooring of the temple was poorly conserved by cement which damaged the structure. A new flooring was given with adequate drainage.

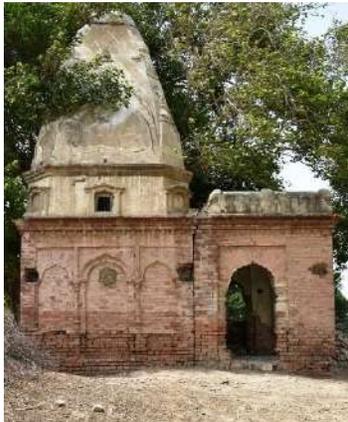


INTERIOR PHOTOGRAPHS:

The interior of the temple was conserved with lime mortar. Special attention was paid to the detailing and plasterwork.



GENERAL PHOTOGRAPHS:



HARDSCAPING PHOTOGRAPHS:

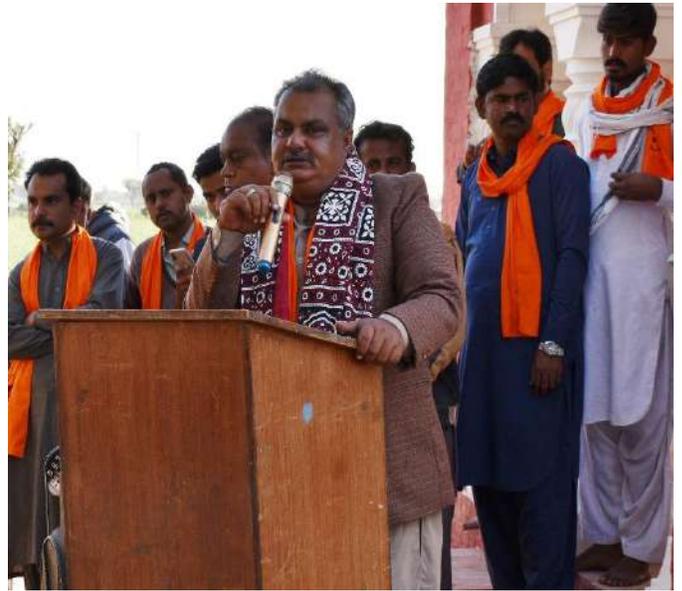
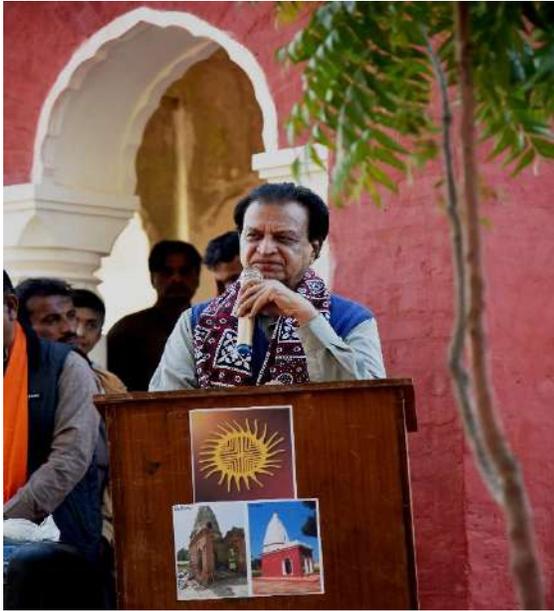
The area around the temple was landscaped for beautification purposes.

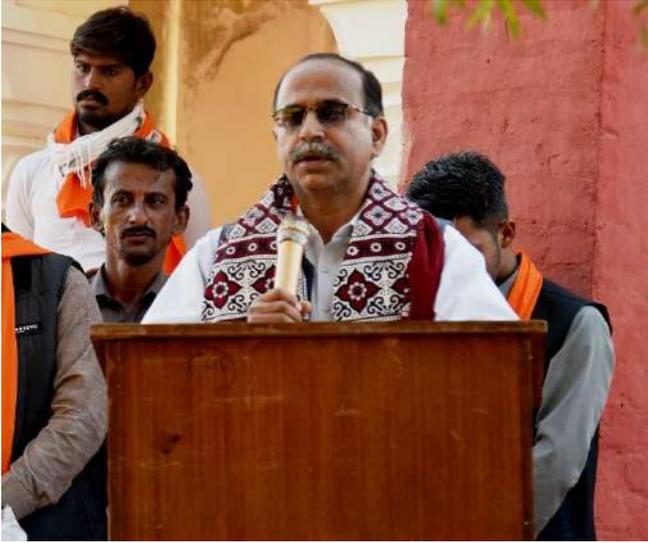


INAUGURATION CEREMONY PHOTOGRAPHS:

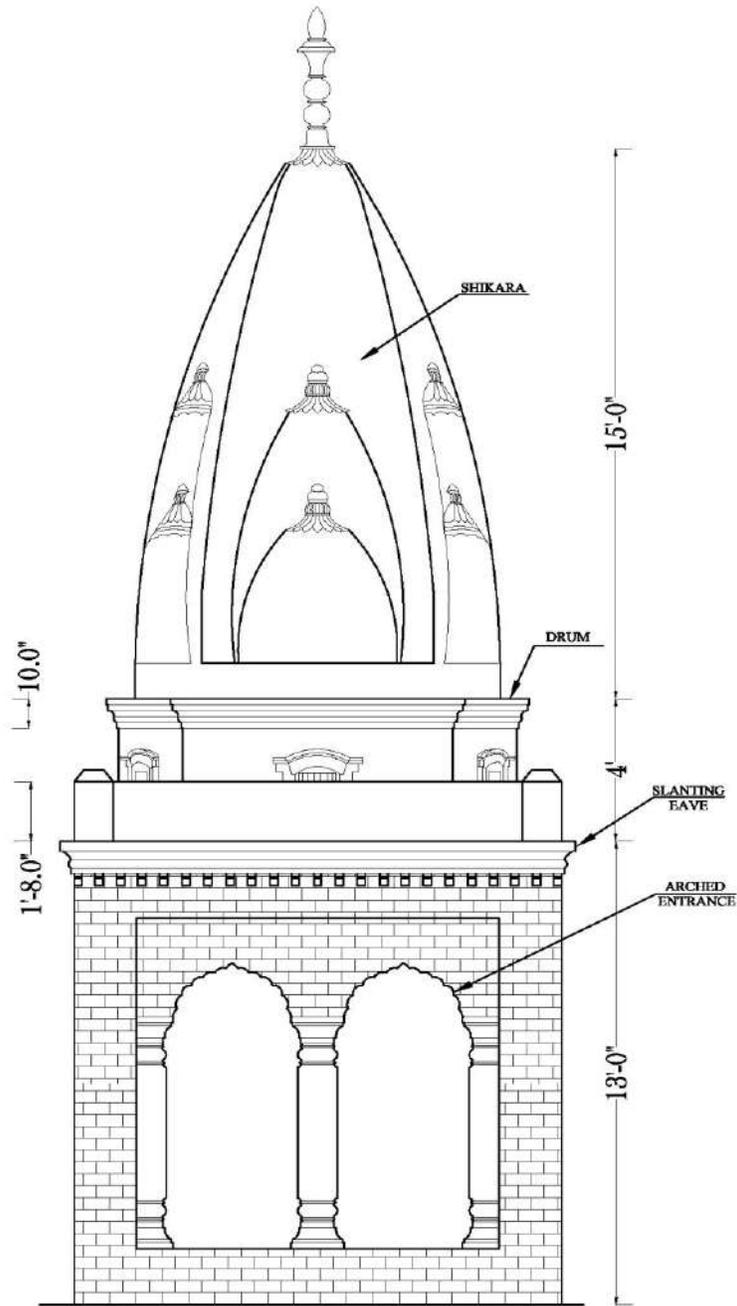
In light of the completion of the restoration work of Shiva Marhi at Moosa Khatian, the local community of the town inaugurated it with a ceremony commending the efforts of EFT and celebrated the cooperation between the trust and the community.

Some distinguished personalities present at the ceremony included Mr. Farman Ali Khatian, Mr. Razaq Abbasi, Mr. Deepak Goswami, Mr. Khan Chand Sutar, Mr. Din Mohammed Kalhoro and Mr. Aziz Ranjhani.

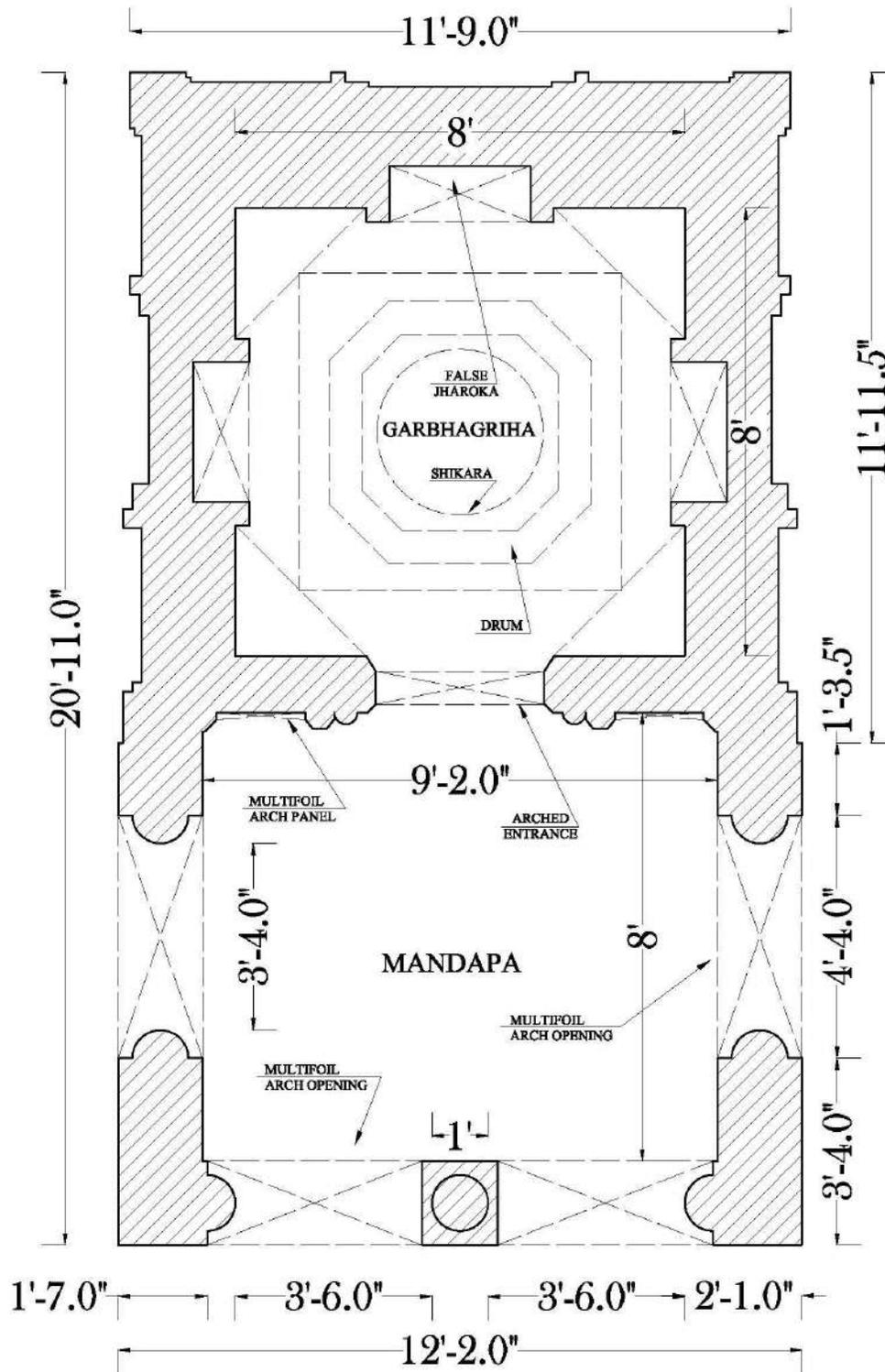




Architectural Drawings



ELEVATION OF TEMPLE
AT MOOSA KHATIAN



**PLAN OF TEMPLE
AT MOOSA KHATIAN**



