



Development of **SURYALANKA BEACH**

AS GLOBAL ICONIC RETREAT

under Scheme for Special Assistance to
States for Capital Investment (SASCI)

DETAILED PROJECT REPORT

Submitted to:
**Ministry of Tourism,
Government of India**

Submitted by:
**Andhra Pradesh Tourism Development Corporation (APTDC)
Government of Andhra Pradesh**

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Detailed Project Report

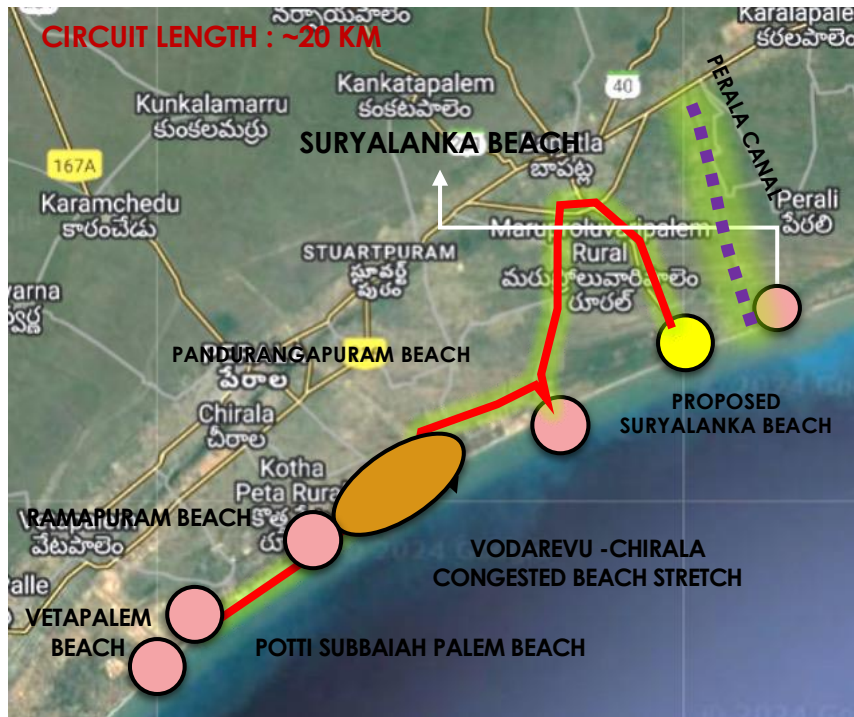
PART - A

PROJECT RATIONALE – TOURISM ECO-SYSTEM

Suryalanka Beach is an emerging coastal destination known for its tranquil environment, scenic beauty, and proximity to urban centers. Overlooking the Bay of Bengal, this serene beach is renowned for its golden sands, calm waters, and picturesque sunrises, making it an ideal getaway for leisure and adventure seekers. It connects with Chirala, Vodarevu, Ramapuram, Pandurangam, Subbayyapalem, and Vetapalem beaches, forming an *"Ecstatic Beach Corridor"* ideal for tourists seeking diverse beach experiences.

The Suryalanka - Potti Subbaiah Palem Beach Stretch of 20 km is one of the most potentially delightful Beach Corridor making it a great place for tourists seeking the best kind of experience.

However, Chirala-Vodarevu Beachfront stretch which is about 10 kms from Suryalanka Beach houses abundant High-end (10 Nos) and Mid-segment Resorts (50 Nos) along the fringes of the beach witnessing large footfalls leading to congestion. Furthermore, the exciting water sport activities and fishing options at these delightful Tourist Cottages/resorts adds to the congestion and disturbs the serenity of the area.



In order to address the congestion and enhance the visitor experience as a whole, it is proposed to create additional "Activity Zone" along the beachfront little away from this congested area so as to increase the accessibility of the beach, lower the density and disperse the tourists across the beach. This will not only mitigate the congestion problem, but also enables the visitor to access various prominent nodes along the beachfront. Currently, the region is majorly attracting domestic segment and to draw International tourists also, an Iconic project with world class facilities have to be created.

In view of the above, it is proposed to develop Suryalanka Beach as an extension of the Beachfront with Iconic elements so as to attract the tourists/visitors and decongest the Chirala-Vodarevu beach stretch. Suryalanka Beach with its golden sands, calm waters, and picturesque sunrises holds an immense potential to be developed as an exotic Beachfront Destination with World-class Amenities so as to attract Tourists from across the Globe.

1. OVERVIEW OF THE DESTINATION

1.0 Introduction of APTDC

The Andhra Pradesh Tourism Development Corporation (APTDC) Limited, headquartered in Vijayawada, is a state government corporation focused on the development and promotion of tourism in Andhra Pradesh. Its mission is to provide cutting-edge tourism infrastructure to enhance the experience of visitors exploring the state. APTDC has a significant transport and water fleet, facilitating leisure-based cruises, water sports, and engaging sound and light shows. Additionally, the corporation operates a chain of Haritha Hotels located at major tourist destinations throughout Andhra Pradesh, complemented by essential amenities along key national highways. Key highlights include 33 hotels that provide a total of 840 rooms at strategic locations. Furthermore, 13 hotels operate under a public-private partnership (PPP) model, while 25 hotels and 24 restaurants are managed through an operations and maintenance (O&M) framework. APTDC also features a water fleet comprising 46 vessels across 16 locations, including 5 luxury boats and 3 houseboats. In terms of transport, APTDC's fleet includes 38 vehicles, with 23 owned by the corporation and 15 being private electric vehicles. The organization offers a diverse range of 15 travel packages to cater to different interests and needs. For the fiscal year 2023-24, APTDC recorded a turnover of ₹166 crores, reflecting a significant increase over the previous year.

1.1 Introduction of Destination.

Andhra Pradesh, located on the southeastern coast of India, is endowed with a long coastline of approximately 972 kilometers, making it the second longest coastline among Indian states after Gujarat. (a) Surya Lanka Beach is located in Bapatla town in Bapatla district, Andhra Pradesh. It is a district in coastal Andhra with administrative headquarters at Bapatla town. The district is carved out from erstwhile Prakasam and Guntur districts, Andhra Pradesh Bounded on the North by Guntur District, on the West by Palnadu / Narasaraopet and Prakasam Districts, on the South by Bay of Bengal, on the East by Krishna Western Delta, the district comprises of 25 Mandals. The district is known for its historic temples, vibrant markets, and proximity to the scenic Bay of Bengal. (b)

Suryalanka Beach is an emerging coastal destination known for its tranquil environment, scenic beauty, and proximity to urban centers. Overlooking the Bay of Bengal, this serene beach is renowned for its golden sands, calm waters, and picturesque sunrises, making it an ideal getaway



Figure 1.1 (a) Map showing the location of the

for leisure and adventure seekers. It connects with Chirala, Vodarevu, Ramapuram, Pandurangam, Subbayyapalem, and Vetapalem beaches, forming an *"Ecstatic Beach Corridor"* ideal for tourists seeking diverse beach experiences as shown in Figure 1.1 (a).

The entire coastal stretch of ~20 km from Suryalanka Beach to Potti Subbiah Palem Beach offers pristine shores, and relatively untouched natural beauty, and has immense potential to develop as a major tourism hub for domestic and international visitors. However, the scope of the proposed development is restricted to a 5 km stretch from Haritha Resort to Suryalanka Beach

Suryalanka Beach is characterized by its expansive shoreline with soft golden sand that stretches for kilometres. The shallow waters and gentle waves make it a safe and enjoyable spot for families and beachgoers of all ages. This beach is relatively less crowded and unspoiled and offers visitors a peaceful atmosphere to relax and unwind. It serves as a perfect getaway for relaxation and a key destination for those interested in water sports, cultural tourism, and eco-tourism. The area beach has gained popularity due to its accessibility and unique coastal experience, including *spectacular sunrises, open beaches, and a peaceful environment.* (c)



Figure 1.1(b) Glimpse of the Proposed

No entrance Gateways or Edge definition at the beach

1.2 District Connectivity

Bapatla district is well-connected to various parts of the state and the country through a robust network of roadways, railways, and airways. The district's strategic location ensures convenient access for both locals and tourists, especially those visiting Suryalanka Beach and other tourist destinations. Below is an overview of various connectivity options:

Road Connectivity

Bapatla enjoys excellent road connectivity, making it accessible to major cities like Vijayawada, Guntur, and Hyderabad.

National Highway 16 (NH 16), part of the Golden Quadrilateral is major arterial road that runs along the eastern coast of India, that connects Bapatla to major cities such as Vijayawada (95 km), Guntur (50 km), Chennai, and Kolkata. It provides excellent road connectivity to the commuters to these cities from Bapatla.

State Highways: State Highway 48 (SH 48) connects Bapatla to surrounding towns including Suryalanka Beach. SH 48 serves as a crucial route for tourists heading to the beach.

Local and APSRTC Bus Services: Andhra Pradesh State Road Transport Corporation (APSRTC) operates regular bus services from Bapatla to major cities like Vijayawada, Guntur, and Hyderabad. These buses provide a convenient mode of transport for both daily commuters and tourists. (d,f)

Rail Connectivity

Bapatla Railway Station: It is a key junction in Andhra Pradesh, serving as a crucial connection for the coastal region. It boasts 3 platforms, offering a range of amenities, including waiting rooms, ticket counters, and refreshment stalls. Located just 10 km from Suryalanka Beach, this railway station connects Bapatla to major cities such as Vijayawada, Guntur, Hyderabad, Chennai, and Bangalore. Regular train services make it a convenient option for tourists and commuters alike. The railway station is an important hub for both passenger and freight traffic.

Vijayawada Railway Junction: It is the second busiest railway junction in the country, situated at the junction of Howrah-Chennai and New Delhi-Chennai main lines. The station everyday serves about 1.40 lakh passengers, over 250 express and 150 freight trains. Located at about 95 km from Bapatla, Vijayawada Railway Station provides long-distance connectivity to the rest of the country, including important cities like Delhi, Mumbai, Kolkata, and Chennai. (g)

Air Connectivity

The nearest airport to Bapatla is Vijayawada International Airport, located about 110 km away. While this airport provides domestic and limited international flights, it is the primary air travel hub for people traveling to and from Bapatla. **Vijayawada International Airport (Gannavaram Airport):** It offers regular flights to major Indian cities such as Delhi, Hyderabad, Bangalore, Chennai, and Mumbai. It also handles some international flights, primarily to the Middle East. From the airport, Bapatla can be reached via NH 16, making it easily accessible to tourists and business travelers.

Hyderabad's Rajiv Gandhi International Airport: For international tourists, Hyderabad's Rajiv Gandhi International Airport is another option, though it is about 350 km away. This airport offers direct flights to several international destinations across Europe, Asia, and the Middle East. (h)

Waterways



Figure-1.2 Connectivity (g)

Although there is no direct inland waterway connections to Bapatla, the district is located in close proximity to the Krishna River, which is part of the National Waterway 4 (NW-4) project. This waterway runs through the Krishna and Godavari river basins, connecting various coastal regions of Andhra Pradesh. While the Nagarjuna Sagar Dam and Prakasam Barrage regulates the river's water flow, the project aims to facilitate goods movement and could indirectly benefit Bapatla by improving trade routes.

Local Transport

Auto-rickshaws and taxis are widely available in Bapatla, providing convenient options for short-distance travel within the town and nearby attractions. Private car rentals are also available for tourists who wish to explore the district and its surroundings at their own pace.

1.3 Demographic Profile

Bapatla District, a coastal region located in the state of **Andhra Pradesh**, has a rich history, diverse culture. The district economy is driven primarily by agriculture and fisheries. The district is known for its agricultural production and tourism, with **Suryalanka Beach** being a major attraction. Below is the detailed demographic profile of the district:

Population

The Bapatla Municipality has population of 70,777 of which 34,385 are males while 36,392 are females as per report released by Census India 2011. Current estimated population of Bapatla Municipality in 2024 is approximately 98,000. The schedule census of 2021 for Bapatla city is postponed due to covid. The district is predominantly rural, with approximately **75%** of the population residing in rural areas and **25%** in urban centres like **Bapatla town**, which serves as the administrative headquarters. The population density of the district is about **400-500 people/sqkm**, indicating a moderately dense settlement pattern, with higher concentrations in the coastal and agricultural zones. The **gender ratio** (number of females per 1,000 males) in Bapatla is approximately **980**, which is close to the state average but slightly below the national level.

Literacy Rate

The literacy rate in Bapatla District stands at around **70-75%**, which is slightly below the national average but consistent with rural district profiles. It is higher among males accounting to about **80%**. Female literacy is approximately **65-70%**, with efforts being made to close the gender gap in education through government programs and local initiatives.

Table 1.1 Demographic Profile of Bapatla District (Source: Census of 2011)

Metric	Value
Total Population	1.5 million
Rural Population	75%
Urban Population	25%
Gender Ratio	980 females per 1,000 males
Male Literacy	80%
Female Literacy	65-70%
Overall Literacy	70-75%
Main Occupations	Agriculture (60%), Tourism (10%), Small-scale industries (15%), Service sector (15%)

1.4 Economic Profile

Bapatla District Agriculture: The backbone of Bapatla's economy is **agriculture**, with nearly **60%** of the population engaged in farming and related activities. The district is known for rice, pulses, and cotton production. **Fishing** is also a key livelihood, particularly in the coastal areas.

Tourism: With the rise of beach tourism, especially due to **Suryalanka Beach**, tourism has become an emerging sector, creating job opportunities in **hospitality, transportation, and service industries**. (b)

Industries: While the district is not highly industrialized, there are small-scale industries like **textile production, handloom weaving, and food processing** that provide employment to a segment of the population.

Economic Impact at Suryalanka Beach:

Suryalanka Beach, located in Bapatla District, Andhra Pradesh, is a fast-growing tourist destination, with its economy primarily driven by tourism, hospitality, and local businesses. The beach draws an estimated 2 to 2.5 million visitors annually, generating approximately INR 600-750 crores in revenue, with tourists spending an average of INR 3,000 per trip (Source: APTDC). Seasonal events like kite and art festivals boost footfall by 30-40%, providing additional revenue for local vendors and businesses. Similar to Rushikonda Beach, which saw a 20% increase in footfall following infrastructure improvements, Suryalanka Beach is expected to play a significant role in the region's economic growth (Source: Ministry of Tourism, India, 2020).

Tourism Sector:

Suryalanka Beach draws a significant number of visitors, especially from nearby cities like Guntur, Vijayawada, and Hyderabad, contributing to its annual footfall of 2 to 2.5 million visitors (source: APTDC). Key attractions include boating, parasailing, and jet-skiing, which make it a popular destination for adventure tourism. Seasonal events, such as kite and art festivals, boost footfall by 30-40% during peak seasons, bringing an additional 50,000 visitors per event, and generating around INR 15 crores in tourism revenue (source: Ministry of Tourism, India, 2020).

Hospitality and Accommodation:

The region around Suryalanka Beach has experienced rapid growth in hotels, resorts, and homestays, including the government-operated Haritha Beach Resort, contributing significantly to the local economy. The hospitality sector, with around 500 rooms currently available, generates approximately INR 45 crores annually in revenue, with room occupancy rates averaging 70-80% (source: APTDC).

Local Businesses and Small-scale Industries:

Beachside vendors and small enterprises at **Suryalanka Beach**, including handicraft sellers, souvenir shops, and food stalls, generate an estimated **INR 30-40 crores annually** from tourist spending (source: **APTDC**). The sale of local handicrafts and seafood are key income sources for these vendors.

Government Initiatives:

The Andhra Pradesh Tourism Development Corporation (APTDC) plays a pivotal role in promoting Suryalanka Beach, managing facilities like the Haritha Beach Resort and spearheading beautification and infrastructure projects. These initiatives include the construction of new resorts, improved beach access, and enhanced amenities to accommodate the growing influx of tourists (APTDC, 2021). Additionally, the Andhra Pradesh government is advancing the Beach Corridor Project, which aims to improve road connectivity along the coastline, linking destinations such as Rushikonda, Bhavanapadu, and Bheemili beaches, further boosting tourism in the region.

1.5 Tourist Attractions

Nestling along the scenic shores of the Bay of Bengal, Bapatla boasts itself of stunning views of Suryalanka beach and mystique and spiritual aura cast by the age-old temples adorning the cityscape. Suryalanka Beach is a popular tourist destination due to its scenic beauty and accessibility. Its long stretch of clean coastline, serene waters, and proximity to major cities like Guntur and Vijayawada make it an ideal getaway for visitors. The beach offers a tranquil atmosphere, known for being peaceful and less crowded compared to other popular beaches. One of its standout features is the breathtaking views of the sunrise and sunset, making it a prime spot for photography and relaxation. Additionally, the beach is close to well-developed resorts, such as the Haritha Beach Resort, which provides comfortable accommodations with direct access to the beach, enhancing the overall visitor experience. The presence of the Suryalanka Air Force Station enhances the security around Suryalanka Beach, ensuring constant surveillance and maintaining a safe environment for tourists. However, it also imposes certain restrictions, such as limited infrastructure development and air traffic regulations in the vicinity, affecting activities like parasailing and drone usage. Despite these constraints, the Andhra Pradesh Tourism Development Corporation (APTDC) has effectively managed tourism growth while adhering to security protocols, ensuring that the beach continues to thrive as a tourist destination. Bapatla is also an ideal destination for spiritual travellers. The city is home to one of the oldest Hindu shrines in the state, Bhavanarayana Swami Temple. Built during the 14th century by the region’s Cholas rulers, it is worth visiting for its religious as well as archaeological value. Some of the other noteworthy religious sites in Bapatla include the Sai Baba Temple and Venkateswara Swami Temple. (APTDC, 2021)

Table 1.2 Tourist attractions and unique offering

S. No	Tourism Asset	Unique Offering
	Hero/ Primary Attractions	
1	Beachfront	Clean sandy beach with gentle waves - ideal for relaxation
2	Sunrise and Sunset Views	Spectacular views for photography
	Secondary Attractions	
1	Haritha Beach Resort	Beachfront Resort offers quality accommodations and dining
2	Bapatla Town	Religious and historical significance including local attractions like the lighthouse
3	Nearby Temples	The beach is in proximity to various temples of which Bhavanarayana Swamy Temple holds major religious significance
	Activities to do/ Experiences	
1	Swimming and Beach Walks	Creates thrilling experience amidst calm waters and long stretches of sand
2	Beach Sports and Camping	Potential for volleyball, frisbee, and overnight camping



Figure 1.3 Snapshots of Sunset views of Beach and Haritha Beach Resort

1.6 Major Festivals/Fairs or Events

Suryalanka Beach Festival organised by APTDC unveils a colourful and thrilling extravaganza on the beach. Exciting boat races, speed boat rides, beach volleyball matches, and other water sports bring alive the beach in a frenzy of activity. Flower shows, sand art exhibitions, Music and dance performances, folk dances and folk songs are other activities of the festivals that hold rapt attention of the visitors. Connoisseurs of good food with exciting spread of local dishes is treat to the food lovers. The presence of Tollywood stars adds to the glitter of the night The Suryalanka Beach festival spreads its magic for two days and leaves an impact that lasts for a long time. In addition, Kite festival is also organised during January which attracts large crowd to the beach.

Table 1.3 Major festivals, theme, dates and footfalls

S. No	Major Festivals/ fairs or Events	Theme	Dates	Footfalls
1	Beach Festival	Celebration of local culture	Typically, in January	Estimated around 5,000+
2	Kite Festival	Traditional kite flying event	Around Sankranti (January)	Around 3,000 - 4,000 visitors

Source: (i)

1.7 State Policy Environment

(i) Key Aspects of Andhra Pradesh's Tourism Policy

Andhra Pradesh has developed a comprehensive Tourism Policy 2020-25, focusing on promoting the state as a prime tourist destination in India. The policy highlights various aspects aimed at bolstering tourism, such as:

Development of Tourism Infrastructure: Emphasis on creating high-quality tourism infrastructure, including beaches, heritage sites, eco-tourism, and wellness tourism.

Public-Private Partnership (PPP): Encouraging collaboration with private sector entities to develop tourism-related projects and infrastructure.

Sustainable and Responsible Tourism: Focus on eco-friendly tourism practices, preserving natural resources, and promoting responsible tourism.

Marketing and Promotion: Leveraging digital platforms and global partnerships to enhance the visibility of Andhra Pradesh's tourism potential.

Focus Areas: Beach tourism, eco-tourism, heritage tourism, and adventure tourism, all of which are relevant to the Suryalanka region.

(ii) Incentives for the Tourism Industry

The state provides several incentives to attract investment in the tourism sector:

Capital Subsidy: Incentives for capital investment in tourism infrastructure projects, including resorts, hotels, and recreational facilities.

Interest Subsidy: Interest subsidies on loans taken for tourism development projects, which reduce the financial burden for investors.

Land Allotment: Preferential land allotment and concessions in prime tourist locations like Suryalanka Beach to boost tourism-related infrastructure.

Tax Exemptions: Some categories of tourism projects may be eligible for tax exemptions and reimbursement of state goods and services tax (SGST) to support sustainable growth.

Skill Development Programs: Focus on training local populations to equip them with the skills needed to support tourism growth.

(iii) Ease of Doing Business (EoDB) Initiatives

Andhra Pradesh ranks high in the Ease of Doing Business index in India, reflecting the state's commitment to facilitating investments. Key initiatives include:

Single Window Clearance System: A single window clearance system streamlines the approval process for tourism projects, reducing bureaucratic delays.

Online Approvals and Licensing: Efforts have been made to digitize and fast-track approvals, making it easier for investors to obtain the necessary licenses and permits.

Transparent Land Allotment: Simplified procedures for land allotment ensure transparency and efficiency, which is particularly important for tourism projects that require prime coastal land.

Investment-Friendly Environment: The state government actively promotes private investments by offering financial incentives and simplifying regulatory frameworks.

(iv) Planned Exemptions for Tourism Project Development

Andhra Pradesh offers several planned exemptions and financial benefits for the development of tourism projects:

Stamp Duty Exemptions: Projects in the tourism sector may receive partial or full exemptions from stamp duty on land transactions, making it more cost-effective for developers to acquire land.

Subsidies for Infrastructure Development: Tourism infrastructure projects, including hotels, resorts, and amusement parks, may be eligible for infrastructure subsidies to reduce construction and operational costs.

Electricity Tariff Concessions: Concessions on electricity tariffs for tourism businesses, including hotels and resorts, are provided to reduce operational overheads.

Property Tax Exemptions: Certain tourism projects, especially those promoting eco-tourism or rural tourism, may benefit from property tax exemptions to encourage sustainable development.

1

¹Sources*

Ministry of Earth Sciences, India (a)

Andhra Pradesh Tourism Development Corporation (APTDC) (b)

Andhra Pradesh Tourism Development Corporation. (2021) (c)

Ministry of Road Transport and Highways, Government of India (d)

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[www.indiarailinfo.com/station/map/bapatla-ppp/420\(g\)](http://www.indiarailinfo.com/station/map/bapatla-ppp/420(g))

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www.newsindianexpress/states/andhra-pradesh/2020/Jan/11/andhra-pradesh (i)

2.PROJECT BRIEF

2.1 Project Concept & Rationale

Given the high tourism potential of the location, the proposed Suryalanka Beach Development Project aims to create a vibrant, multi-functional destination that blends modern amenities with rustic landscape, fostering both relaxation and recreation. This development is focused on providing an enhanced and memorable experience to the tourists by integrating eco-friendly activities, infrastructure, and innovative design elements that capitalize on the beach's pristine environment and cultural significance. The project will introduce a variety of features, such as plazas for gatherings, edge spaces, cycle tracks, and art installations, transforming Suryalanka Beach into a Global Iconic Retreat for diverse tourism products such as outdoor festivals, water sports, and leisure activities. Alongside the beach, the development will offer comfortable luxury eco-friendly accommodation with authentic dining options, making it more attractive, accessible and sustainable tourist destination. The inclusion of an iconic structure and recreational zones will add aesthetic and functional value, further promoting tourism growth in the area.

Destination Delineation: To develop a comprehensive development plan for the Suryalanka Beach, the focus area is delineated based on key natural, cultural, and infrastructural elements that enhance the appeal of the destination. Suryalanka Beach is located close to Bapatla, and its easy accessibility via rail and road ensures consistent tourist footfall. The delineation includes:

Natural Features: The project will leverage the stunning natural beach landscape, offering opportunities for water sports, nature walks, and eco-tourism.

Cultural Significance: With its proximity to heritage and spiritual sites of historical importance, the beach development will incorporate cultural elements to celebrate local heritage.

Road and Rail Connectivity: Suryalanka Beach is well connected via NH-16 and the nearby Bapatla Railway Station, enhancing access for both local and regional visitors. This connectivity ensures that the destination is easy to reach for tourists from nearby cities like Vijayawada and Guntur.

Furthermore, the destination delineation has also been derived based on the following elements:

a. Experience

Suryalanka Beach offers a unique opportunity to experience the blend of natural beauty and modern infrastructure. Visitors will engage in eco-friendly activities like cycling along the 5 KM cycle track, enjoy local festivals, and participate in water sports. The sailing club and designated recreational areas, such as edge plazas and gathering zones, will provide spaces for relaxation and entertainment, while the beach's natural beauty adds a serene backdrop for these activities.

b. Engage

The development aims to increase tourist engagement beyond just sunbathing and beach visits. Art and kite festivals, musical events, and community gatherings will ensure tourists spend more time on-site, significantly enhancing the visitor experience. Facilities such as Haritha resorts and cafes will encourage longer stays, contributing to local tourism revenue.

c. Explore

The inclusion of an iconic structure with uniquely designed concept will allow visitors to explore the place and its components from different perspective. Cycling routes, pedestrian walkways, and planned event spaces will encourage exploration, providing a well-rounded experience that promotes physical activity and cultural discovery.

d. Learn

To foster an educational aspect to the visitors, themed development, interactive displays /shows, exhibits, information kiosks and signage will play a key role in informing visitors about the environmental and historical significance of the region. The integration of eco-friendly activities such as cycling and water sports, will promote sustainable tourism while encouraging tourists to learn about the local ecosystem and cultural heritage.

e. Celebrate

The development will create a platform for local and international festivals, where communities and tourists can come together for events like kite and art festivals, beach cleanups, and cultural celebrations. This will position Suryalanka Beach as a premier event-based tourist destination, further contributing to its unique identity as a beach destination.

2.2 Project Site – Location and connectivity

Project Site Location

For the proposed tourism development at Suryalanka beachfront, 5 land parcels have been selected in the first phase spread in an extent of 34.50 acres. The selected land parcels (A, B, C, D, E) for the proposed development is shown in Figure 2.1. Furthermore, the selected land parcels along with the area and proposed tourism interventions are illustrated in Table 2.1 below:

Table 2.1 Land Parcels identified for development

S. No	Land Parcels	Area	Proposed Intervention
1	A	6.14 acres	Parking
2	B	3.72 acres	Sailing Boats
3	C	2.14 Acres	Hotels and Resort
4	D	6.54 acres	Iconic Structure
5	E	15.96 Acres	Hotels and Resorts

The project includes the following interventions as part of the Suryalanka Beach Development:

Key Facilities:

- **Hotels:** The plan includes the development of eco-friendly accommodation options near the beach, catering to tourists and visitors.
- **Iconic Structure:** A central landmark or architectural element that will likely serve as a key attraction and symbol of the beach's development.
- **Sailing Club:** This indicates the inclusion of a water-based sports facility, promoting recreational activities like sailing.

Amenities and Attractions:

- **Edge, Gateways, and Plazas:** These spaces are intended for gatherings and public events, such as kite and art festivals, which will add cultural and recreational value.
- **Pontoon and Cycle Track:** The development includes a **5 KM stretch** cycle track along the beach, emphasizing eco-friendly transportation and leisure activities.

Accessibility:

- A road is marked **from Bapatla**, indicating that the project is well connected to the town, enhancing visitor flow.

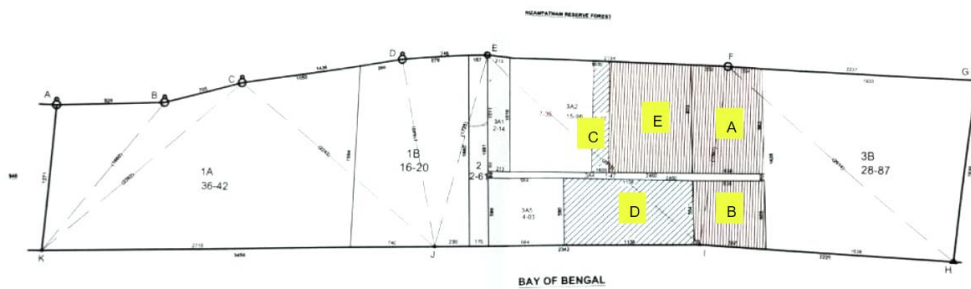


Figure 2.1 Proposed site for Suryalanka Beach Development Project



Figure 2.2 Project Layout with Proposed Interventions

Project Connectivity

Road Connectivity:

- From Guntur: Suryalanka Beach is around 50 km from Guntur. The most common route is via NH 16 and SH 48, leading directly towards Bapatla and then to the beach.
- From Vijayawada: The distance is approximately 95 km by NH 16. One has to take the exit towards Bapatla and further travel via SH 48 to Suryalanka Beach.
- From Hyderabad: Suryalanka Beach is about 350 km from Hyderabad. Travelers can use the NH 65 and then connect to NH 16, passing through Guntur and taking SH 48 towards the beach. (d)

Rail Connectivity:

- Bapatla Railway Station: The nearest railway station to Suryalanka Beach is Bapatla Railway Station (about 10 km away). It is a major station on the Vijayawada-Chennai rail line and is well connected to several major cities like Vijayawada, Chennai, Guntur, Hyderabad, and Bangalore. (g)

Air Connectivity:

- Vijayawada International Airport (Gannavaram Airport): The nearest airport is Vijayawada International Airport, located around 110 km away. From the airport, travellers can take NH 16 towards Guntur and then SH 48 to reach Suryalanka Beach.
- Hyderabad's Rajiv Gandhi International Airport is also an option for tourists traveling from more distant locations, though it is around 350 km away. (h)

Bus Services:

- APSRTC buses frequently operate from Vijayawada, Guntur, and Hyderabad towards Bapatla, (f)



Figure 2.3 Suryalanka Beach Connectivity

2.3 Project Outcome

The Suryalanka Beach Development project is designed to achieve several positive outcomes:

- **Tourism Growth:** The development of new resorts, tourist cottages, and infrastructure will attract visitors, both domestic and international, significantly boosting tourism in the area.
- **Economic Benefits:** The project will provide direct and indirect employment opportunities for the local community in sectors such as hospitality, tourism services, and local crafts.
- **Sustainability:** The focus on eco-friendly resorts and sustainable tourism practices will ensure the preservation of the natural beauty of the coastline while supporting economic growth.
- **Cultural Preservation:** The annual Surya Lanka Beach Festival and other local traditions will be effectively promoted duly preserving and celebrating the region's cultural heritage.

Table 2.2 Expected Project Outcome

S. no	Tourism Attributes	Expected outcome (numbers or in %)
1	Expected increase in Tourist footfall in next 2 years (% increase)	30-40% in the next 2 years
2	Projected Direct Job Creation during the Operations Phase	1000 – 1100 jobs
3	Projected indirect job creation	1,000-1,200
4	Number of work force trained in hospitality and allied services	400-500 People trained in hospitality and related sectors

*Detailed Calculations of job Creation is attached as annexure 5

Table 2.3 Expected project outcome 10 years projected data

S. no	Tourism Attributes	Baseline Data	Projected Data (10 years)
1	Expected increase in Tourist footfall (in lakhs) vis a vis the carrying capacity of the Destination	15 Lakhs	30 Lakhs , aligned with the carrying capacity of the destination
2	Expected Average Tourist Expenditure per trip (in Rs. per trip)	Rs. 1,000	Rs. 3,000 (with diverse activities and facilities proposed)
3	Expected increase in average tourist stay duration per trip	1-2 days	2-3 days (with diverse activities and facilities proposed)
4	Direct job creation during the operations phase (no. of jobs)	4000 Jobs	10,000 jobs <u>For next 3 years:</u> <ul style="list-style-type: none"> • Security & Facility management ~100 jobs • Managing attractions ~300 jobs • PPP hotels (700 keys) ~1400 jobs • Total ~1800 jobs Expected employment in the region in next 10 years is ~ 10,000 jobs
5	Number of PPP projects envisaged as part of this project	NA	Total PPP Projects proposed: 11 Nos PPP investment projects – 6 Nos PPP O&M Projects – 5 Nos Value: Rs. 615.00 Crore

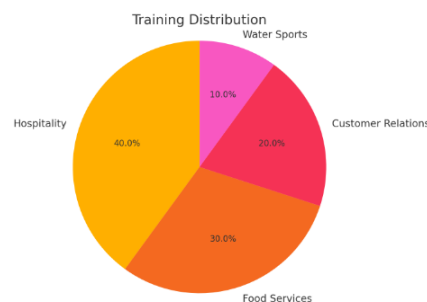
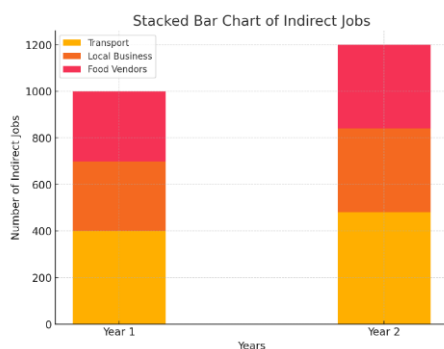
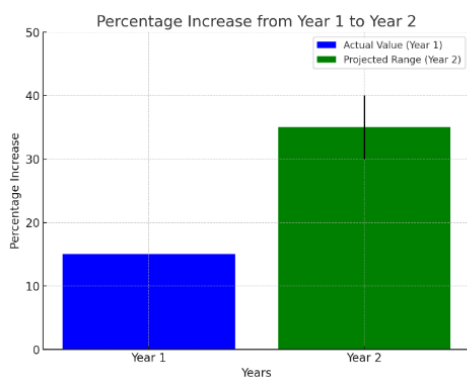


Figure 2.4 Graphical Representation of the Projection

2.4 Land Details

(i). *Geo-location of the site (Lat Long Coordinates)*- The **geo-location (latitude and longitude coordinates)** of Suryalanka Beach is as indicate below:

1: Latitude 15.83700278, Longitude 80.50176944

2: Latitude 15.84017, Longitude 80.50787

C: Latitude 15.84187778, Longitude 80.51481389

(ii). *Total land/site area*- About 34.50 acres of Land have been Identified for the infrastructure development at Suryalanka Beach front, details are given below along with Survey numbers:

Table 2.4 Land details

Sl. No	Land Parcels	Sy. No	Full Extent in Acres
1	A	547/3A3	6.14
2	B	547/3A7	3.72
3	C	547/3A1	2.14
4	D	547/3A6	6.54
5	E	547/3A2	15.96
			34.5 Acres

Documents related to land are enclosed as Annexure-1

2.5 Pre-construction clearances applicable and documentary proof of the same

Table 2.5 Pre-construction clearances applicable and documentary proof

S. No	Clearance type	Nodal Agency for providing clearance	Clearance/NoC Received (Y/N)	Approval Reference (documentary proof attached and date of approval)
1	Forest Clearance	Not applicable as the Site does not fall within forest area	NA	NA
2	CRZ Clearance	Andhra Pradesh Coastal Zone Management Authority (APCZMA)	NoC is in process from the CZMA for the project, ensuring that the proposed structures are beyond the required setbacks and that their heights strictly adhere to CZMA guidelines.	Interventions proposed are as per the CRZ Guidelines
3	ASI Clearance	Not Applicable as the Site does not have any heritage importance	NA	NA

2.6 Availability of Utility Services

The site is well-equipped with essential utility services, which are critical for the success of the project:

(i). Power Supply - Power supply is provided by the Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL), with sufficient infrastructure to meet the requirement of the proposed interventions.

(ii). Water Supply - Water Supply: The region has an adequate supply of potable water sourced from local reservoirs and borewells. Plans for sustainable water management will also be put in place for the resorts and other tourism services.

(iii). Overall Solid Waste Management System of the area where project site is location- **Bapatla Municipality** is the primary authority responsible for waste management in the Bapatla, including Suryalanka Beach region. The municipality works in tandem with the **Andhra Pradesh Pollution Control Board (APPCB)** and the **Department of Environment and Forests** to oversee waste management practices.

Waste generated by tourists, especially on weekends and during events, is collected by a combination of municipal workers and privately contracted cleaners. Littering, particularly of **plastic waste**, is a concern, leading to frequent **beach clean-up drives** initiated by local authorities, NGOs, and community groups.

3. CARRYING CAPACITY

3.1 Physical Carrying Capacity

The physical carrying capacity (PCC) refers to the maximum number of tourists or visitors that can be accommodated at any given time without causing significant environmental degradation or discomfort for visitors. This capacity is determined by the physical space available, infrastructure, and environmental constraints.

It into consideration the factors - tourist flows, the size of the area, the optimum space available for each tourist and the visiting time,

Formula: **$PCC = A \times V/a \times Rf (2)$**

Where,

A is the area of the tourism zone (m²),

V/a is the amount of space every tourist needs to be able to move freely (tourists/m²) and,

Rf is the number of permissible daily visits to a tourism zone (dividing the time of place availability by the average time of a visit) (unitless).

In view of the above the Overall 34.5 acres of land is dedicated for the Tourism Activity at Suryalanka Beach, In which Major Activities are as follows:-

1. Iconic Structure - Mythical Solar Park & Convention Center (6.54 Acres)

Total Area: 6.54 acres = 26,463.47 square meters.

Assumed Space Required per Person: 3-5 square meters per person (depending on comfort).

2. Two Promenades (Approx. 1000 sqm each)

Total Area: 1,000 square meters per promenade = 2,000 square meters for both.

Assumed Space Required per Person: 3-4 square meters per person for walking and light activities.

3. Jogging and Cycling Track (5 Km Stretch)

Total Length: 5 kilometers = 5,000 meters.

Width of Track: Assume 3 meters (typical width for shared cycling and jogging tracks).

Total Area: Area=5,000 m×3 m=15,000 square meters

Assumed Space Required per Person: Typically, 10-15 square meters per person for active movements like jogging or cycling to maintain safety and comfort.

4. Parking Facility (6.14 Acres)

Total Area: 6.14 acres = 24,846 square meters.

Average Space per Car: Typically, 25 square meters per vehicle (including maneuvering space).

Assuming 3 people per vehicle, the parking facility can accommodate around

5. Sailing Boat Club and Other Sports Facilities (3.72 Acres)

Total Area: 3.72 acres = 15,052.75 square meters.

Assumed Space Required per Person: Since it includes water sports and boating facilities, assume 15-20 square meters per person for safety and movement.

Table 3.1 PCC Calculation

Component	Approximate area (sq.m) (A)	Space reqd for free Movement (in sq. m)	Visitation Hours (Operational Hrs)	Visiting Time/ Component in Hrs	Rf	PCC
Iconic Structure Mythical Solar Park & Convention Center	26,463.47	5	8	4	2	10585
Two Promenades (approx. 1000 sqm each)	2000	5	8	3.2	2.5	1000
Jogging and Cycling Track (5 Km Stretch) assuming Width 3m	15000	10	8	4	2	3000
Parking (assuming 3 Persons Per vehicle)	24,846	25	8	4	2	1988
Sailing Boat Club and Other Sports Facilities (3.72 Acres)	15,052.75	15	8	3.2	2.5	2509
Total						19082

3.2 Final Carrying Capacity

The final carrying capacity (FCC) considers not only the physical limits but also the environmental, social, and economic factors that might reduce the initial carrying capacity estimate. This capacity ensures that tourism growth does not harm the environment or local communities and that infrastructure is resilient to high visitor numbers.

Final Carrying Capacity = {PCC}* (100-CF1/100)*(100-CF2/100)*.....

The correction factors influencing the tourists visiting the facility are **Bad Weather and Unforeseen Circumstances Correction, maintenance & management and safety & security** which limits the tourism at the attraction.

Bad Weather and Unforeseen Circumstances Correction Factor accounts for Extreme Rain and Cyclone days. Based on the cyclonic data from 2021-23 of the region, cyclonic days accounts to 13% and no-cyclonic days accounts to 87%. The magnitude of correction factor is assumed to be **13%** as illustrated in the table.

Table 3.2 Magnitude of correction factor

Year	Cyclonic Days	%
2021	40	11%
2022	56	15%
2023	51	14%
Average	49	13%

Maintenance and Management Correction Factor includes the limitations related to accommodation and the amenities provided and maintained at the attraction, which is assumed as **8%**.

Safety & Security Correction Factor includes the limitations related to the safety and security concerns at the attractions which is assumed as **5%**.

Considering the correction factors, the FCC for the proposed beachfront development is as given in the table below:

Table 3.3 FCC Calculation for the proposed beachfront development

Component	PCC	Cyclonic Correction Factor	Management Factor	Safety Correction factor	FCC
Iconic Structure Mythical Solar Park & Convention Center	10,585	13	8	5	8048.9
Two Promenades (Approx. 1000 sqm each)	1000	13	8	5	760.38
Jogging and Cycling Track (5 Km Stretch) Assuming Width 3.0 m	3000	13	8	5	2281.1
Parking (Assuming 3 Person Per vehicle)	1,988	13	8	5	1511.4
Sailing Boat Club and Other Sports Facilities (3.72 Acres)	2,509	13	8	5	1907.6
Total	19,082				14,509

From the above analysis, physical carrying capacity of the proposed project is ~19,000 tourists per day. This means that the proposed facility can't physically sustain more than these numbers. After considering the corrective factors including the bad weather, infrastructure, maintenance and management, safety etc., the final carrying capacity was estimated at ~14,500 per day, meaning that the number of tourists who are allowed to enter the proposed project facility should not exceed these values. In case, the footfalls reach a higher number, certain mitigation measures in terms of restricted entry of visitors, diversion of visitors to other surrounding attractions etc. can be taken up to manage the tourist flow.

4. PROPOSAL DETAILS

4.1 Proposed Interventions

The Suryalanka (Surya, i.e., Sun and Lanka, i.e., island) beach, renowned for its intricate symbolic connection with the Sun, is mythologically considered to be a place where Sun God came down for penance. In present times, this beach is renowned for its spectacular sunrises and sunsets, and the special ways in which the sun is reflected off its waters. Keeping the Sun God, special features of the place and Suryalanka folklore intact, the team has conceptualised the design proposal.

The proposed concept shall be based on complete immersive experience of the scientific and mythological aspects of the Sun along with the focussed development of the 5 km stretch of the Suryalanka beach. As part of the development, **five key interventions** have been envisaged along this Suryalanka beach stretch keeping this central theme in mind, so as to make it an attractive destination for tourists, thereby draw more number of tourists from across the country, extend their stays and explore all the attractions that this stretch has to offer. The interventions proposed are meticulously designed blending the mythology, the science and the natural beauty, duly ensuring that the beach becomes a hub of cultural and recreational activities offering distinctive and immersive experience for visitors.

Following are the interventions proposed as part of the Suryalanka Beach development:

- a) One of the key interventions of the proposed Suryalanka Beach Development is the Iconic Structure **“Mythical Solar Park & Convention Centre”** in 6.54 acre. The structure is designed in a diamond shape, symbolizing Surya’s chariot being pulled by seven horses, which represent the seven colors of the VIBGYOR spectrum. The main diamond structure will be visible from various points along the beachfront, creating a visually stunning landmark. The structure features multiple attractions, such as 3D motion simulated theatres, dome theatres, and interactive digital walls using cutting edge 3D projection technology. Additionally, the Solar Magic Maze and interpretation center provide visitors with engaging, hands on experiences about solar mythology and science, making the site both educational and entertaining. The design of the structure also includes special openings that allow the sun's rays to hit a specific spot in the meditation hall on Makar Sankranti, creating a spiritual ambiance. Other unique attractions include a VR motion theatre, immersive cosmic shows, and interactive displays that take visitors on a journey through celestial mythology and solar phenomena.
- b) The other important intervention is the **Sailing Club** proposed in 3.7acre site adjacent to the iconic structure. The club offers breath-taking views of the sea and is equipped with essential facilities like restaurants, changing rooms, lounge areas, and first aid services. This eye-catching building is designed to attract the attention of beachgoers and provides a luxurious, yet accessible, space for relaxation and recreation. The sailing club is designed to enhance the visitor experience by offering a range of water-based activities, along with panoramic views of the beach.
- c) The third intervention includes **beachfront development**, which spans a 5-kilometer stretch along Suryalanka Beach. The proposed 5 km stretch is designed with multiple activities such as bicycle track, plazas for informal performances, gazebos for leisure, and food kiosks. The entire beachfront is themed around the sun, with solar dials and framed viewing points specifically designed for viewing the sunrise and sunset. The development also incorporates colonnaded pavilions, which can be used for sun worship during Makar Sankranti, further connecting the project to its solar theme. This stretch focuses on providing

- both recreational and spiritual experiences, offering spaces for cycling, relaxation, and cultural events.
- d) The fourth intervention includes **Backwater River Cruise and floating restaurant**. The cruise runs along the Perala Canal and reaches the mouth of the sea, allowing visitors to enjoy a scenic boat ride. The floating restaurant, designed with a vernacular theme, provides an opportunity for tourists to enjoy local culinary delights while soaking in the beauty of surrounding landscapes. This intervention blends the tranquillity of the water with the culinary exploration, making it a must visit attraction for tourists.
- e) The fifth intervention is **Floating Modular Pontoons**, which extends into the sea from the resorts and the sailing club. These pontoons allow visitors to walk out onto the water, offering a unique, thrilling and immersive sea experience. The floating structures are designed to blend seamlessly with the environment while providing safe and enjoyable access to the sea, enhancing the overall tourism experience.

These five integrated features ensures that Suryalanka Beach becomes a destination that appeals to a wide range of visitors, offering a mix of mythological exploration, technological innovation, recreational activities, and natural beauty. Each component is designed to provide an immersive, engaging, and memorable experience, making Suryalanka Beach a key player in the tourism landscape.

4.2 Summary

Table 4.1 Tourist touch point, challenges and Proposed Solutions

S. no	Tourist Touch Point	Applicable (Y/N)	Challenge Identified	Proposed Solution
1	Entry and Ticketing Counter for participation in some activities related to water sports	Y	Long queues during peak times	To implement e-ticketing and self-service kiosks to reduce waiting time
2	Information/Help Desk	Y	Limited signage and language barriers	Add multilingual signage and virtual information points for easier tourist guidance
3	Restrooms and Changing Rooms	Y	Insufficient facilities during high tourist volume	Enhance restroom capacity and introduce real time cleaning schedules to ensure cleanliness & hygiene
4	Dining and Food Outlets	Y	Overcrowding and lack of diverse food options	Increase food outlets and ensure a mix of local and international cuisine.
5	Cleanliness & Hygiene (entire premises)	Y	Littering and inadequate waste management	Deploy waste collection bins and regular cleanup drives to maintain cleanliness.
6	Safety & Security (entire Premises)	Y	Lack of trained personnel and emergency preparedness	Hire additional security staff and install CCTV systems. Conduct regular safety drills

4.3 Benchmarking Study

Table 4.2 Benchmarking study global and national

Criteria	Phuket	Bali	Miami	Kovalam	Gokarna
Tourism Strategies	Targeted marketing to different demographics (luxury vs. budget) Promotion of ecotourism and sustainability initiatives	Rich cultural heritage Lush landscapes and rice terraces Renowned for wellness retreats and yoga	World famous beaches Unique Art Deco architecture Diverse nightlife and events	Beautiful beaches Known for Ayurvedic wellness treatments Water sports and beach activities	Tranquil beaches Spiritual Significance Less commercialized than other destinations
Visitor Experience	Diverse activities (water sports, nightlife) Cultural experiences (temples, festivals) Family oriented attractions	Rich cultural experiences (temple visits, traditional festivals) Adventure activities (surfing, diving) Wellness and relaxation opportunities	Energetic atmosphere with a mix of beach and urban experiences Cultural attractions (museums, art districts) Events throughout the year	Relaxed beach environment Emphasis on wellness and Ayurveda Opportunities for adventure and local culture	Quiet, less commercialized experience Opportunities for spirituality and nature exploration Beautiful landscapes and fewer crowds

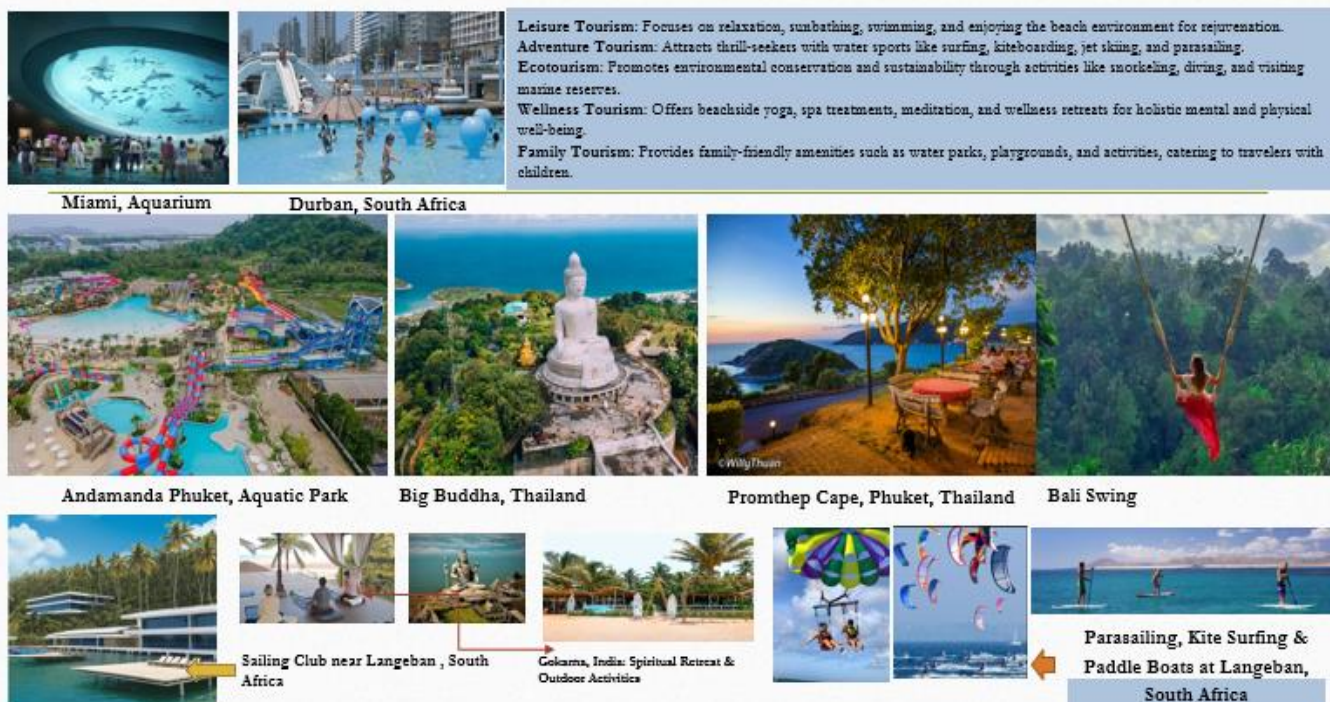


Figure 4.1 Benchmarking Study (Global & National)

4.4 Innovation and Competitiveness

The Suryalanka Beachfront development project aims to set new benchmarks for tourism development in coastal regions by introducing a series of unique and immersive features that ensure both competitiveness and sustainability:

- **Integration of Mythology and Science:** The concept is perfect blend of mythological significance of Surya (the Sun God) with modern scientific interpretations of the solar system. This unique fusion of education and entertainment provides an immersive experience that will differentiate Suryalanka Beach from other coastal destinations.
- **Advanced Technologies:** The use of VR (Virtual Reality), AR (Augmented Reality), and immersive 3D projection technologies creates engaging experiences for visitors, such as simulated battles between Surya and Asuras and celestial journeys through dome theatres. This technological edge will enhance visitor interaction and increase the site's appeal to tech-savvy tourists.
- **Eco friendly Infrastructure:** The project promotes sustainable tourism through environmentally conscious designs like floating pontoons, which minimize environmental impact while maximizing the tourist experience. The cycling and jogging tracks, as well as modular floating structures, aim to promote eco-friendly mobility within the beach zone.
- **Cultural and Experiential Tourism:** By focusing on interactive exhibits and solar themed landscaping, the project will not only attract traditional leisure tourists but also those interested in cultural and educational tourism. This broader appeal will enhance the site's competitiveness in the national and international tourism markets.
- **Year-round Tourist Engagement:** Introducing multiple features which are unique, immersive and appealing, it ensures year-round visitor engagement. Furthermore, tourists are invited to participate in cultural and religious events, drawing a diverse audience throughout the year.

4.5 Proposed Policy and Regulatory Intervention

To ensure the success of the Suryalanka Beach project, the following **policy and regulatory interventions** are proposed:

- **Environmental Regulations:** Given the project's location along a sensitive coastal zone, strict adherence to **Coastal Regulation Zone (CRZ)** guidelines is necessary. The implementation of **eco friendly construction techniques** (such as floating pontoons) and **sustainable waste management systems** will minimize environmental degradation while ensuring compliance with local, state, and national environmental laws.
- **Tourism Development Policies:** Support from the **Andhra Pradesh Tourism Department** is crucial for establishing Suryalanka Beach as a major tourist hub. Policies promoting **Public Private Partnerships (PPP)** will attract investments in infrastructure, such as hotels and resorts, while ensuring that tourism remains inclusive and sustainable.
- **Regulatory Oversight for Innovation:** The innovative aspects of the project, such as AR/VR shows and the integration of digital technology, require the formulation of policies that allow for **technological innovation in tourism**. Regulatory bodies need to provide a framework that supports the development of **smart tourism initiatives**, ensuring both safety and visitor satisfaction.
- **Cultural Preservation Policies:** The project's deep connection with **solar mythology** necessitates policies that protect the **cultural heritage** of the region. The Andhra Pradesh

government should establish guidelines for the **preservation of local traditions**, including the protection of mythological stories and practices related to the **Sun God Surya**.

- **Safety and Emergency Regulations:** Given the introduction of water sports, floating pontoons, and backwater cruises, stringent **safety regulations** need to be enforced. This includes the regular inspection of facilities, the availability of lifeguards, and the installation of emergency response systems to ensure the safety of visitors engaging in these activities

5.PROJECT LAYOUT PLANS AND VISUALIZATIONS

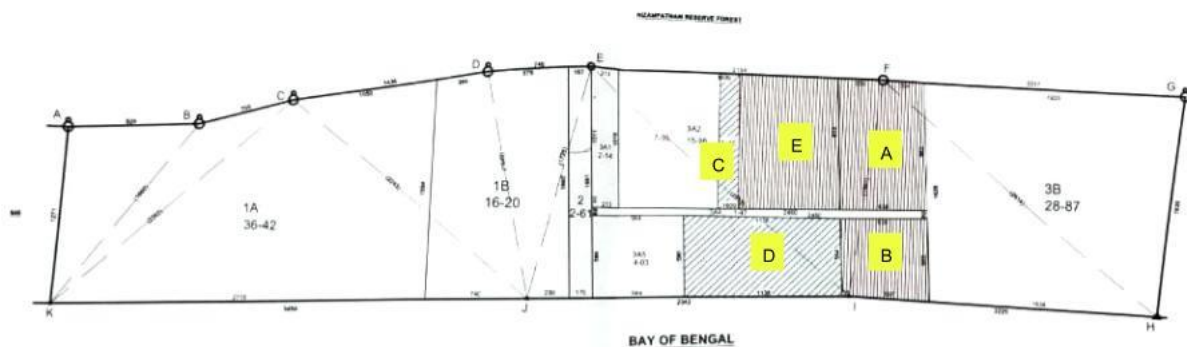
5.1 Concept

Suryalanka Beach, named after the Sun (Surya) and an island (Lanka), holds deep symbolic and mythological connections with the Sun. According to local folklore, it is believed to be a place where the Sun God descended for penance. Today, the beach is renowned for its breathtaking sunrises and sunsets, with its rays creating mesmerizing reflections on the water. Inspired by this rich cultural heritage, the design proposal for Suryalanka Beach is conceptualised around an immersive experience that blends the Sun's scientific and mythological aspects. The proposed development focuses on a 5 km stretch of the beach, incorporating five key attractions that revolve around this central theme. The features are designed not only to celebrate the beach's cultural significance but also to transform it into a major tourist destination. The aim is to attract visitors from across the Globe while encouraging those who come for a short stay to extend their visit and explore the diverse experiences the beach has to offer. By weaving the mythological and scientific significance of the Sun into the attractions, Suryalanka Beach is set to become a must-visit destination, offering a unique and enriching experience for all.

5.2 About Site

The proposed development at Suryalanka Beach is spread across several land parcels, covering a total of 34.5 acres, out of the 40 acres of land available for development. Each parcel is earmarked for a specific use, aimed at enhancing the tourist experience with modern amenities while preserving the beach's cultural and natural appeal.

Figure 5.1 Land Parcels for Suryalanka Beach Facility development



Site and Area Details:

1. Parcel A (Total Area - 6 acres 14 cents)

Proposed Intervention: 3 Star Hotel (2 Nos) and Parking for Iconic Structure

This area is designated for 3 Star Hotels (2 Nos. @ 150 Keys each) spread over 5 Acres (2.5 acres each). Another land parcel of 1 acre and 14 cents is allocated exclusively towards parking for Iconic structure visitors, ensuring that the facility has ample vehicle space to accommodate increased footfalls.

2. Parcel B (Total Area – Ac 3.72 cents)

Proposed Intervention: Sailing Club. This area will house an administrative building along with water sports facilities, contributing to the beach's appeal as a destination for adventure tourism.

3. Parcels C and E (Total Area – Ac 2.14 cents and Ac 15.96 cents)

Proposed Intervention: Hotels and Resorts. Around 10 acres of land is allocated to 5 Star Deluxe Hotel (200 Keys) and Ac. 5.96 Cents to 4 Star Deluxe Hotel (150 Keys) towards providing accommodations for tourists in Suryalanka. Another Ac. 2.14 cents is allocated exclusively for parking for hospitality facilities.

4. Parcel D (Area – Ac 6.54 cents)

Proposed Intervention: Iconic Structure. This plot will feature the Iconic Solar Park & Convention Center, a major attraction that integrates mythological and scientific elements, showcasing the solar connection of the beach.

5.3 Design Intervention

1. Iconic Structure - “Mythical Solar Park & Convention Centre”

The Iconic Structure at Suryalanka Beach is an innovative integration of sun mythology and science, designed to create an immersive and educational experience for visitors. Spanning 6.54 acres of land facing the sea, the site features diamond shaped exhibition halls, a meditation hall, and cutting-edge technologies such as a motion-simulated 3D theatre, a dome theatre, and a VR motion-simulated theatre. Visitors can explore the solar magic maze, interact with immersive 3D projection technology at the interpretation center, and enjoy the surrounding landscaped environment. A 15.96 acre site adjacent to this development is reserved for development of 3 Star and 5-Star hotels on PPP mode, which will further enhance the beach's appeal.



Figure 5.2(a) Site plan for iconic Structure

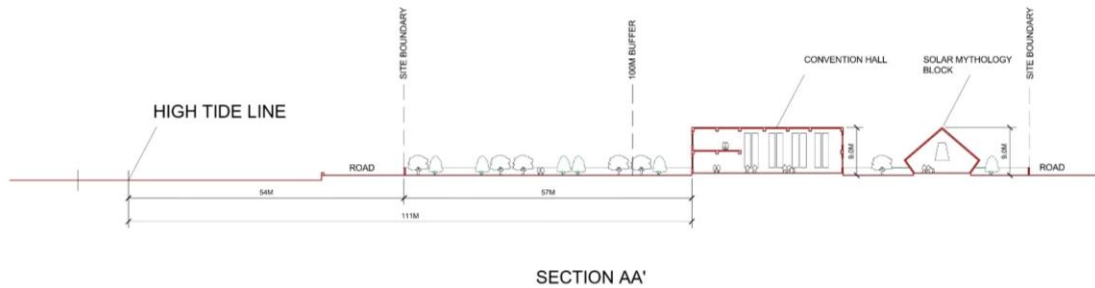


Figure 5.2(b) Sectional detail Showcasing the High Tideline distance from the Iconic Structure

The design concept draws from the mythological significance of the Sun. The central diamond structure symbolizes Surya’s chariot, with seven horses representing the VIBGYOR spectrum—the seven colors of visible light that emanate from the Sun. This symbolism is intricately reflected in the landscape through hues and shapes that bring the myth to life. Flanking the central diamond are two secondary diamonds representing Danda and Pingale, the attendants of Surya. The architectural design is meticulously planned, with precise openings on the outer shell of the main structure that allow sunlight to illuminate a specific spot in the meditation hall on Makar Sankranti, celebrating the Sun in alignment with local customs.

In addition to the iconic structure, the site will feature multiple thematic attractions that blend solar mythology with modern technology. These include:

a) "Surya with the Navagraha Battles"

An epic 3D simulation where visitors are immersed in the cosmic battle between Surya, the Sun God, and the Asura brothers Sunda and Upasunda. This high energy show uses a 180 degree curved screen, allowing the audience to experience the battle from a central vantage point, complete with motion synchronized seats that move in sync with the visuals. Added environmental effects such as heat, wind, and vibrations further enhance the immersive experience.

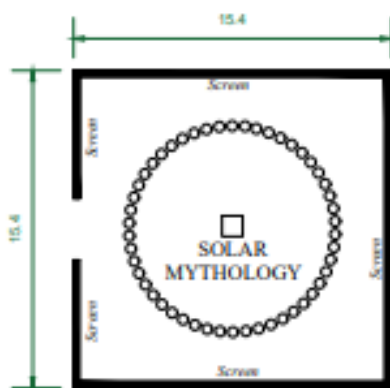


Figure 5.3 Plan of 3D Theatre



Figure 5.4 View of effects in 3D Theatre

b) "The Surya Sphere: A Cosmic Symphony"

This

360-degree dome theatre takes visitors on a journey from Surya's Sun Temple through the solar system and beyond. With high-definition visuals of solar flares, star formations, and other celestial phenomena, the experience is designed to leave audiences in awe. A powerful soundtrack and engaging narration explain both cosmic science and the mythology of Surya, blending education and



Figure 5.5 View of 3D dome Theatre

entertainment seamlessly.

c) "Surya and Hanuman"

In this VR based adventure, visitors join Lord Hanuman as he learns from Surya, the Sun God. Using high definition VR headsets, participants are transported into the skies, soaring through celestial realms alongside Hanuman. The experience is enhanced by motion seats that tilt, vibrate, and move in harmony with the visuals, creating a dynamic and interactive journey through mythological events.

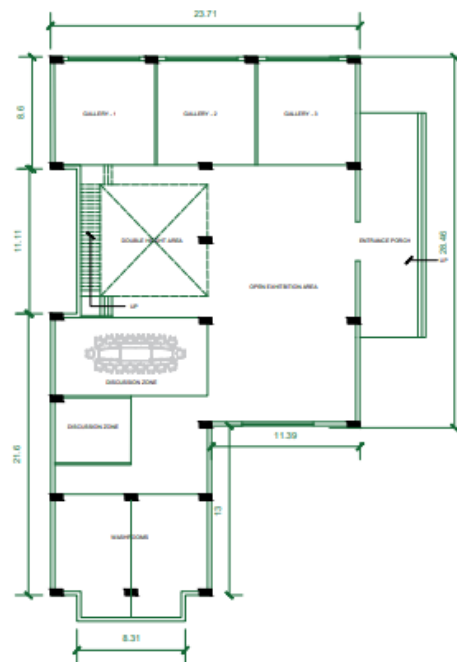


Figure 5.6 Plan of Interactive Gallery

d) "The Sun's Labyrinth"

This is a solar themed labyrinth inspired by Surya's rays and the solar system. As visitors navigate the maze, they encounter celestial stations that provide educational insights into phenomena such as solar flares and planetary alignments. Mythological tales about Surya and other solar deities are shared through plaques, audio, and visual displays, making it both an exploratory and educational experience.

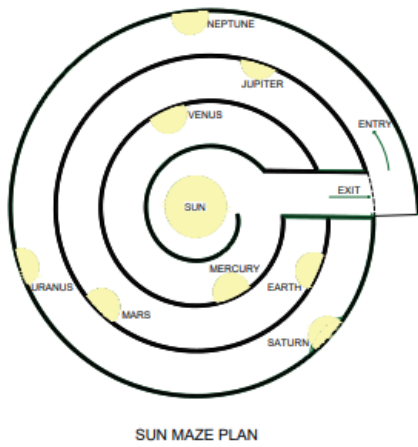


Figure 5.7 Plan of Sun Maze



Figure 5.8 View Of Sun Maze

e) Interpretation Center

The Interpretation Center offers an array of interactive exhibits designed to educate visitors about solar science and mythology. Visitors can explore a touch-responsive digital wall that reveals immersive stories about the Sun's significance.

A virtual reality experience takes visitors up close to the Sun, unveiling its contours, layers, and dynamic features. Visitors can also conduct hands-on solar experiments through a digital platform, promoting teamwork and interactive learning. The center also features innovative technologies such as projection mapping, which merges solar science and mythology into a compelling narrative. Visitors are guided by a virtual presenter who offers personalized insights, turning each visit into an engaging and educational experience. Additionally, solar events are animated through projected illustrations, making complex scientific concepts accessible to all ages.

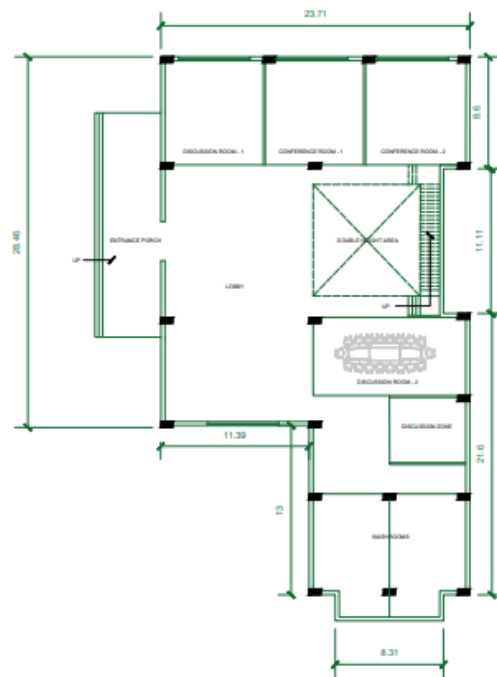


Figure 5.9 Plan of Interpretation Centre



Figure 5.10 Views of Different Functions of Interpretation Center

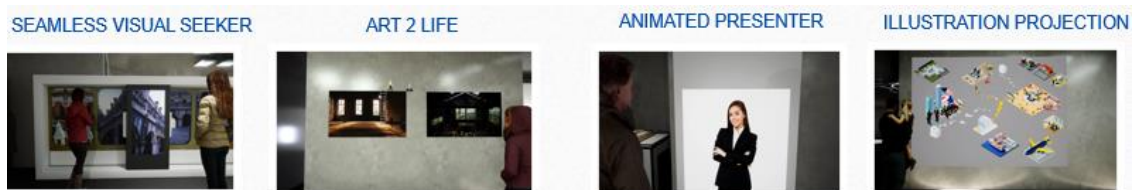


Figure 5.11 Views of Different Functions of Interpretation Center

f) Meditation Center and Exhibition Hall

The conceptual designs and floor plans of the Meditation and Exhibition Hall reflect a striking architectural vision that combines functionality with symbolic elements, emphasizing spirituality and natural light. The structure is designed to be a prominent part of the Suryalanka Beach development, blending innovative architectural techniques with cultural and mythological significance.

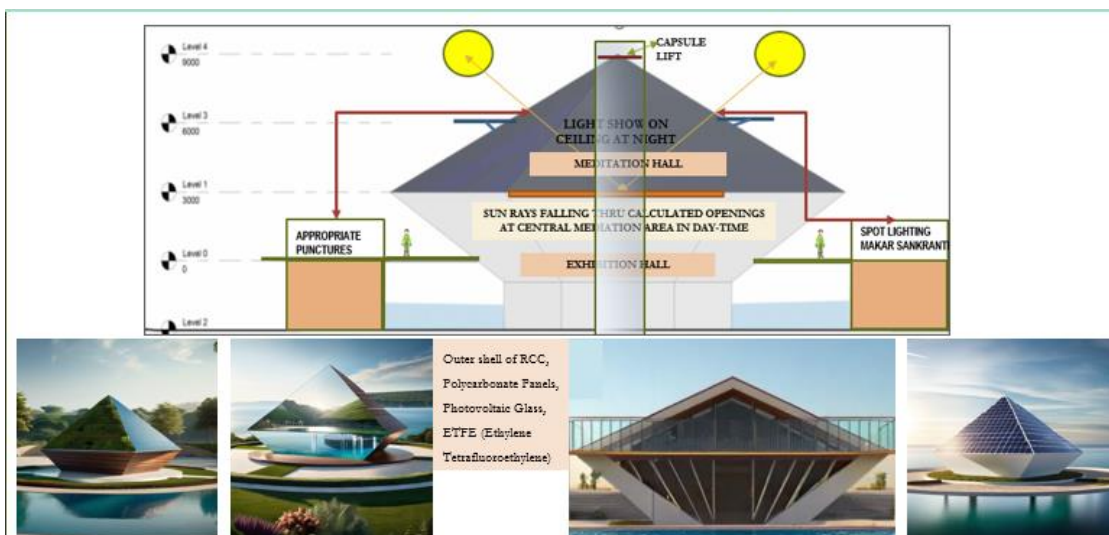


Figure 5.12 Conceptual Views and Sections of Meditation and Exhibition Hall

Conceptual Views and Sections:

The hall's design is centered around a pyramid-like structure that symbolically aligns with the Sun, reinforcing the beach's connection to solar mythology as shown in figure-5.12. The key features of the design include:

Meditation Hall with Natural Light:

The Meditation Hall at the center is designed with calculated openings that allow sunlight to fall on a specific point in the hall, especially on Makar Sankranti, creating a spiritual ambiance. This carefully designed lighting effect connects the space to the sun's journey, adding depth to the meditative experience. The natural light enters through a capsule lift and strategically placed punctures in the outer shell, highlighting the connection between architecture, light, and spirituality.

Exhibition Hall:

The Exhibition Hall is located beneath the Meditation Hall, providing space for showcasing artifacts, artworks, and exhibits related to solar mythology and scientific concepts. The hall is designed to be flexible, accommodating a wide range of exhibitions and interactive displays. The outer shell of the structure will be constructed using RCC (reinforced concrete), polycarbonate panels, and photovoltaic glass, emphasizing sustainability and modern aesthetics. These materials also enhance the structure's ability to harness solar energy and reduce environmental impact. The ETFE (ethylene tetrafluoroethylene) and tempered glass elements not only ensure durability but also enhance the aesthetic appeal, giving the building a futuristic and eco-friendly appearance.

Spot Lighting on Makar Sankranti:

A unique feature of the design is the use of spotlighting that illuminates the space on Makar Sankranti, aligning with cultural celebrations and the spiritual significance of the Sun. The design carefully integrates traditional values with modern lighting techniques to offer a meaningful experience to visitors.

Plans of Meditation and Exhibition Hall (Figure 5.13):

Ground Floor Plan (Exhibition Hall): The ground floor features the Exhibition Hall, a large, open space measuring 15 x 15 meters. The space is flexible and can accommodate a variety of exhibitions. Stairs are located on the side, providing access to the Meditation Hall on the first floor. The Exhibition Hall is designed to host interactive displays and exhibitions, which may include multimedia installations, solar-themed exhibits, and artifacts.

First Floor Plan (Meditation Hall): The Meditation Hall, located on the first floor, also measures 15 x 15 meters and is a quiet, contemplative space designed for meditation and spiritual practices. The design emphasizes minimalism, creating an environment conducive to reflection and inner peace.

Access to the Meditation Hall is provided via staircases, with strategically placed seating areas allowing participants to engage in group or individual meditation.

Overall Architectural Significance: The entire structure, from the pyramid roof to the double-height Meditation Hall, is designed to inspire visitors, combining architectural innovation with deep cultural roots. The building's integration of solar-inspired elements, modern materials, and environmental consciousness makes it a landmark destination that aligns with both the mythology of the Sun and sustainable development principles. The structure not only serves as a meditation and exhibition space but also acts as an iconic visual element within the Suryalanka Beach landscape, symbolizing the harmonious blend of tradition and modernity.

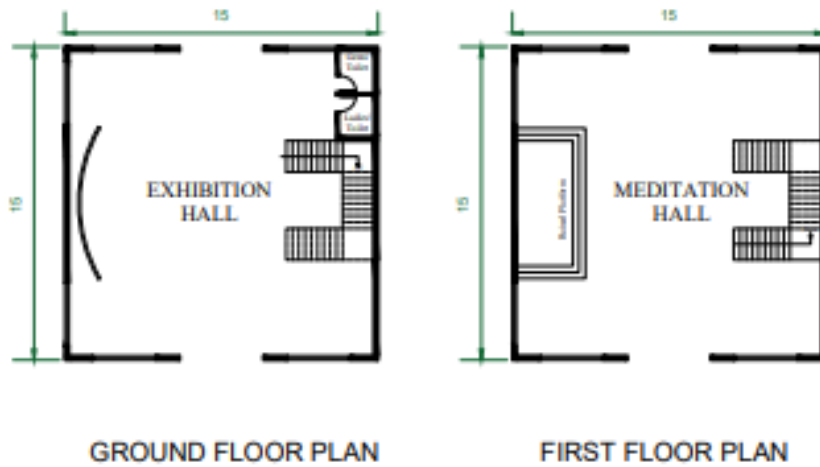


Figure 5.13 Plans of Meditation and Exhibition Hall

g) Convention Centre:

The Convention Centre ground floor plan showcases a thoughtfully designed space tailored for hosting a wide range of events, from conferences and weddings to performances and exhibitions.

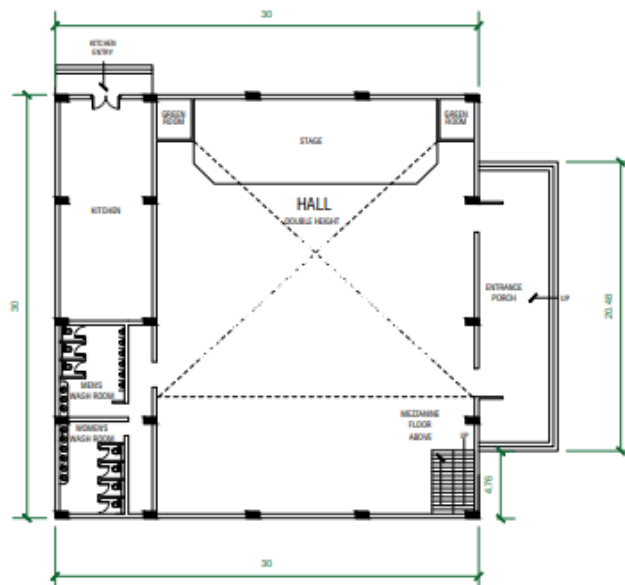


Figure 5.14 Plan of Conventional Center

At the heart of the layout is the expansive main hall, featuring a double height ceiling that provides an open, airy atmosphere, perfect for accommodating large gatherings. A prominent stage is situated at one end of the hall, offering a central platform for speakers, performers, or presentations, ensuring excellent visibility from all areas of the hall. Guests enter through a welcoming entrance porch, which leads directly into the hall, facilitating smooth guest flow and easy access. The layout also includes a mezzanine floor above part of the hall, likely intended for additional seating or a viewing gallery, adding versatility to the space. Adjacent to the main hall is a fully equipped kitchen, designed to support catering services for events, with convenient access to the hall for efficient service. The

hall is further complemented by washrooms near the entrance, ensuring convenience without disrupting the event. Additionally, a green room behind the stage provides a private area for performers or speakers to prepare, while a storage room offers space for event equipment and supplies.

2. Sailing Boat Club

The Sailing Club, located adjacent to the Iconic Structure, spread in 3.72 acre site, will offer stunning panoramic views of the sea. Designed to blend luxury and functionality, the club will feature a range of top tier facilities, including restaurants, changing rooms, resting rooms, washrooms, lounge areas, first aid services, and beautifully landscaped lawns. Every detail of the building's design is carefully crafted to be visually striking, ensuring that it draws the attention of beachgoers and complements the grandeur of the nearby iconic structure. Its prime location and modern amenities will make it a focal point for visitors, offering both relaxation and leisure activities in a sophisticated setting.

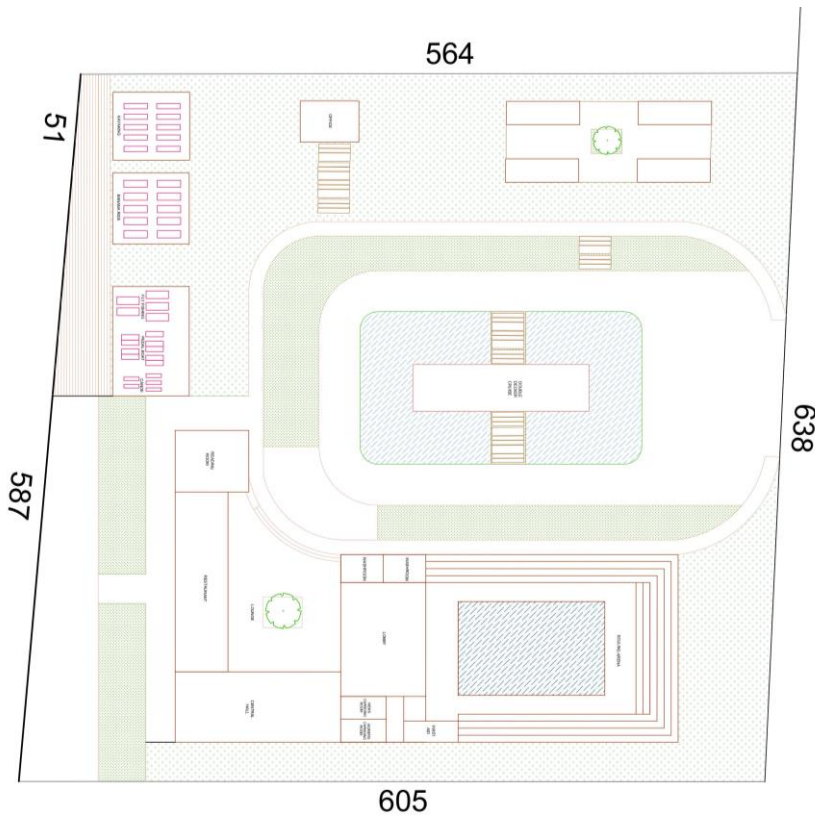


Figure 5.15 Plan of Sailing Boat Club



Figure 5.16 Sailing Boat Club Activities

3. Beach Stretch

The beach stretch development at Suryalanka Beach will feature a bicycle track integrated with plazas designed for mini performances and informal activities, along with gazebos for relaxation and food kiosks nestled within thoughtfully landscaped areas. This 5 km stretch, beginning at Haritha Resorts and extending across the beach, will be themed around the Sun, incorporating solar dials and framed viewing points specifically designed for enjoying the sunrise and sunset. The plazas will be strategically placed along the track, providing spaces for visitors to gather and engage with the solar themed installations.



Figure 5.17 Views of Promenade



Figure 5.18 View of Pathway



Figure 5.19 View of Joggers/Walking Area stretch

The beach’s design emphasizes the sun based theme, with colonnaded pavilions and other built interventions that focus on the solar aspect, making it an ideal setting for sun worship during events like Makar Sankranti. These features enhance the connection between the beach’s natural beauty and its cultural significance, offering a unique experience that celebrates both.

Additionally, the project includes a backwater river cruise along the Perala Canal, leading to the mouth of the sea before looping back. This relaxing cruise will offer tourists the chance to explore the area’s natural waterways while enjoying a meal at a vernacular themed floating restaurant, which will serve a variety of local culinary delights. The floating restaurant will provide a serene

dining experience, allowing visitors to indulge in local cuisine while surrounded by stunning waterfront views.



Figure 5.20 View of Cycling Track



Figure 5.21 View of Sun Dial locations during Makar Sankranti

4. Floating Modular pontoons

The project will incorporate floating modular pontoons that extend from both the resorts and the Sailing Club, allowing tourists to walk out onto the sea and enjoy a truly immersive ocean experience. These modular pontoons are designed to seamlessly integrate with the natural surroundings, offering a unique way for visitors to engage with the marine environment while maintaining safety and environmental balance.

Key Features and Benefits:

- **Seamless Access to the Sea:** The floating pontoons will provide an extended walkway from the shore, giving tourists the feel of being surrounded by the sea while remaining securely connected to land. This will offer a close interaction with the water without needing to get fully immersed, making it accessible for all types of visitors, including families, seniors, and those with limited swimming abilities.
- **Versatility in Design:** The modular design of the pontoons ensures flexibility, allowing them to be rearranged or expanded based on seasonal needs or special events. Their versatility will enable the pontoons to serve as platforms for a variety of activities, from stargazing at night to hosting small gatherings or events on the water.
- **Sustainable and Safe Construction:** Built using eco friendly materials, these pontoons will have minimal environmental impact, adhering to coastal zone regulations. Their floating structure will be stable and durable, able to withstand varying sea conditions while ensuring the safety of tourists. Safety railings and nonslip surfaces will be integrated into the design to provide a secure and enjoyable experience for all visitors.
- **Enhanced Sea Experience:** Walking on the floating pontoons will give visitors a unique vantage point, allowing them to feel connected to the sea while observing marine life, experiencing the soothing sound of waves, and enjoying unobstructed views of the horizon. The pontoons can serve as an excellent spot for photography, meditation, or simply soaking in the serene atmosphere of the ocean.
- **Connection to Other Attractions:** The floating pontoons will not only enhance the guest experience at the Sailing Club and resorts, but they will also be part of a broader network of coastal activities. Tourists can easily transition from land based attractions like the Iconic

Structure or bicycle paths to the pontoons, making their experience dynamic and fluid. The pontoons may also lead to anchored water sports platforms, allowing guests to participate in activities such as kayaking, jet skiing, or paddle boarding.

- **Perfect for Leisure and Events:** The pontoons will serve as a tranquil spot for relaxing, sunset viewing, or stargazing, enhancing the beach's reputation as a destination for leisure and scenic beauty. Additionally, they could be used for special events such as small weddings, private parties, or sunset yoga sessions, further boosting the tourism appeal of the site.



Figure 5.22 View of Floating Modular Pontoon from Sailing club to Sea



Figure 5.23 View of Floating Modular Pontoon from Haritha Resort to sea

5. Backwater Cruise Facility

The Backwater Cruise Facility at Suryalanka Beach offers tourists a serene and immersive experience along the Perala Canal, blending luxury and local culture. The facility features luxury boats with open decks for sightseeing, and a vernacular themed floating restaurant, where visitors can enjoy local culinary delights. The scenic cruise route navigates through lush green landscapes and tranquil waters, leading to the mouth of the sea before returning, offering breathtaking views of the coastal environment. Designed for relaxation, the facility also provides guided tours to educate visitors on local history, culture, and biodiversity. With a focus on ecofriendly and sustainable tourism, the facility promotes minimal environmental impact, making it a unique and peaceful contrast to the beach's active attractions.



Figure 5.24 View of Cruise Facility

6 SUSTAINABILITY ASSESSMENT AND MEASURES

The Suryalanka Beach Development project emphasizes sustainability in every phase, from planning and design to waste management and community engagement. These measures ensure that tourism activities do not negatively impact the environment while promoting long-term social, economic, and environmental benefits for the local community.

6.1 Planning and Design

The project is planned and designed duly focusing on eco-friendly infrastructure and minimal environmental impact. Key design elements include:

Low-impact buildings: The iconic structure, sailing club, and other facilities are designed using environmentally conscious construction materials. The floating pontoons and other structures are of modular designs to reduce the environmental footprint.

Solar energy: The entire project is themed around solar mythology with the practical usage of solar energy as a key feature. Utilization of solar power for major interventions by installation of solar panels reduces dependency on non-renewable energy sources.

Landscaping with native plants: Landscaping at the iconic structure and beachfront with native flora reduces water consumption and preserves the local ecosystem.

Environmental sensitivity: Special attention is paid to coastal protection by using designs that limit shoreline erosion. The project follows the Coastal Regulation Zone (CRZ) guidelines, ensuring that developments do not harm the marine and coastal environments.

6.2 Universal Accessibility

The project incorporates universal accessibility to ensure that all visitors, including those with disabilities, can enjoy the facilities:

Barrier-free access: Ramps, wide pathways, and elevators will be installed where necessary, especially at the iconic structure, promenades, and viewing points.

Accessible amenities: Restrooms, seating areas, and gazebos are designed to accommodate people with disabilities.

Tactile paths and information: Tactile surfaces and Braille signage will be used in key areas such as the interpretation center to help visually impaired visitors navigate the site and engage with the exhibits.

Universal access at beaches: Special provisions, such as beach wheelchairs and dedicated accessible walkways, will allow people with limited mobility to reach the beach comfortably.

6.3 Carrying Capacity Management

Carrying Capacity Management is crucial to prevent overcrowding and degradation of the site:

PCC (Physical Carrying Capacity): calculations have been done for each major component of the project to ensure that infrastructure can handle the expected tourist load without exceeding environmental thresholds.

Real-time monitoring: Visitor numbers will be monitored via digital counters at entry points and capacity limited areas, such as the iconic structure and beachfront plazas, to ensure that limits are respected.

Seasonal management: During peak seasons like Makar Sankranti, when visitor numbers spike, additional measures such as staggered entry times and temporary facilities will be introduced to manage the flow of tourists.

Zoning: Different areas are zoned for high, medium, and low visitor activity, ensuring that sensitive ecosystems (like the backwaters and beach stretches) are protected from overuse.

6.4 Solid Waste and Effluent Management

The project adopts a zero waste approach to minimize its environmental impact:

Solid waste segregation: Waste collection points will enforce segregation of biodegradable, nonbiodegradable, and hazardous waste. Biodegradable waste will be composted on site, and nonbiodegradable waste will be sent to recycling units.

Waste to energy plants: Feasibility studies shall be undertaken to establish small scale waste to energy plants to process organic waste generated by food kiosks and restaurants.

Effluent treatment: All wastewater generated by restrooms, restaurants, and the sailing club will be treated through sewage treatment plants (STPs) before being safely released into the environment. The treated water will be reused for landscaping and maintenance.

Plastic free zones: The beach and nearby areas will be declared plastic-free zones, with alternatives such as biodegradable packaging and reusable materials encouraged.

6.5 Community Engagement Plan

A comprehensive community engagement plan ensures that local residents benefit from the project:

Employment opportunities: The project will prioritize local hiring for jobs in hospitality, maintenance, and tourism services. Training programs in hospitality, ecotourism, and waste management will be conducted to upskill the local population.

Cultural integration: The project aims to highlight local culture and traditions through festivals, performances, and food kiosks. Local artisans will be invited to showcase their crafts in dedicated spaces, providing an economic boost to traditional livelihoods.

Community feedback: Regular engagement with local communities, including consultations and feedback sessions, will ensure that their concerns are addressed and that they feel part of the project's success.

6.6 Any other

Sustainable mobility: A focus on nonmotorized transport is integrated into the design, with cycling tracks, pedestrian walkways, and electric vehicle charging stations. This reduces carbon emissions and encourages sustainable tourism practices.

Sustainable tourism certification: The project aims to obtain a Green Certification for sustainable tourism by adhering to international best practices for environmental conservation and responsible tourism.

These sustainability measures will ensure that the Suryalanka Beach project is not only a tourist destination but also a model of eco-friendly development that fosters community engagement and environmental stewardship.

7.PROJECT COST ESTIMATION FOR FUNDING UNDER THIS SCHEME

Table 7.1 Project cost estimation for funding

S.No	Components	Project Cost in INR
A	Iconic Structure	45,94,63,196
1	Built up Area (3698 Sqm)	15,91,61,920
2	Driveways (2133 Sqm)	3,44,26,620
3	Path ways (5359 Sqm)	4,61,30,272
4	Greenery, Lawn (3228 Sqm)	2,15,66,268
5	Waterbody (1657 Sqm)	2,31,78,116
6	<ul style="list-style-type: none"> • Motion Simulated 3D Theater with Curved Screen and Environmental Effects • Dome Theater • VR Motion Simulated Theater • Magic Maze • Interpretation Center 	17,50,00,000
B	Sailing Club	12,88,64,000
7	Built-up Area (1000 Sqm)	4,30,40,000
8	Aquatic Sports	6,00,00,000
9	Greenery& Landscape (8000Sqm)	2,58,24,000
C	Floating Restaurant	1,85,00,000
10	Restaurant Area (55 Sqm) Twin Deck	1,65,00,000
11	Floating Pontoon 30m X 3m along with Floating Pins & Accessories	20,00,000
D	Cycling and Jogging Track	25,16,00,000
12	Cycling Track-8 inch Thickness of Gravel, Length 5 Kms, Width 10 ft	20,51,00,000
13	Landscaping (Beach Walks integrating Hard& Soft Landscaping Sun dials, sitting areas, paving plaza area of 1600 sq m, etc)-30 lakhs per Km	1,50,00,000
14	Normal Paver Block Track	15,00,000
15	Solar Panels over Rooftop (1MW)	3,00,00,000
Sub Total (A)		85,84,27,196
GST (18%)		15,45,16,895
Architectural/Consultancy (2%)		1,71,68,544
Contingency (3%)		2,57,52,816
Seigniorage (1%)		85,84,272
QC (0.5%)		42,92,136
Sub Total (B)		21,03,14,663
Total Funding Proposed under Scheme (A+B)		1,06,87,41,859

8. PROPOSED PROJECTS FOR DEVELOPMENT THROUGH PRIVATE INVESTMENT/ PPP*Table 8.1 Proposed projects for development through private investment/ppp*

S. no	Project Name	Project Cost (in INR Crores)
1	5 Star Deluxe Hotel (200 Keys) in 10 acres	300.00
2	4 Star Hotel (200 Keys) in 5 acres	150.00
3	3 Star Hotels (2 Nos. @ 150 keys each) in 4 acres	150.00
4	Luxury Cruise Boat	5.00
5	House Boats (5 Nos @ Rs. 2.0 Cr each)	10.00
	Total Investment Proposed	615.00

9. PROJECT COST ESTIMATION TO BE FUNDED BY THE STATE GOVERNMENT

Table 9.1 Project cost estimation for funded by the state government

S. no	Components	Project Cost (in INR Lakh)
1	Development of Road Connectivity	60,00,000
2	Power Supply Required Power Load of 1000Kv	1,50,00,000
3	Water Supply at Laying of Network Length of 6Km with 1MLD Treatment Plant	5,00,00,000
4	Solid Waste Management (Wheel to Wheel Transfer and Processing Plant)	1,00,00,000
	Total funding proposed through State Funding	7,60,00,000

10. OPERATION AND MANAGEMENT PLAN

The **Operation and Management (O&M) Plan** for the Suryalanka Beach project focuses on maintaining high service standards at the project so as to ensure a seamless visitor experience while safeguarding both the infrastructure and the environment. The O&M plan will adopt a hybrid management model that balances government oversight with the expertise of professional private agencies.

10.1 Destination Management Organisation (DMO)

A Destination Management Organisation (DMO) will be established to oversee the overall operations and management of the destination, incorporating stakeholders from the district administration, relevant line departments, and community representatives. A Manager with minimum 10 years of Industry experience will be recruited who will be responsible for operations of the proposed facilities. The Manager will be assisted by 3 Assistant Managers responsible for dedicatedly managing facilities. Other administrative staff will be appointed through outsource basis.

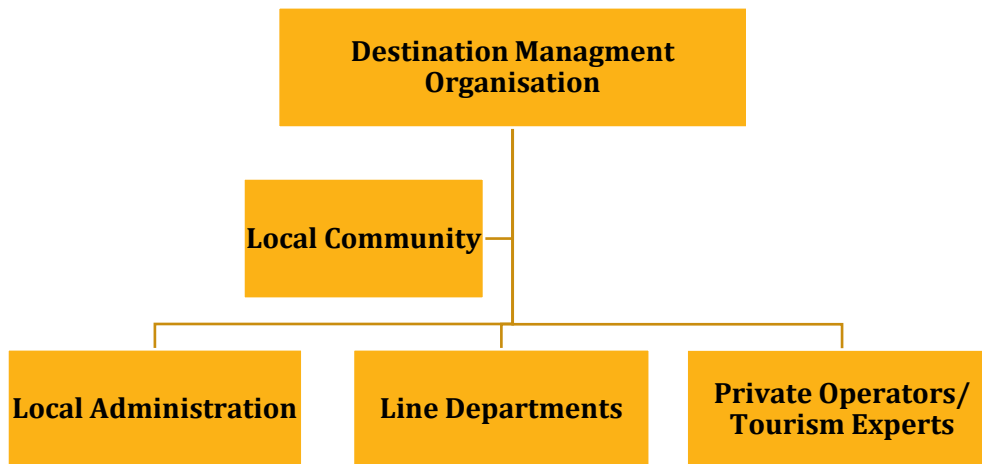


Figure 10.1 Stakeholders of the DMO

The DMO will enter into agreements with the private skilled operators/agencies to operate and maintain selected facilities such as convention center, restaurants, parking areas, water sports, cruises, Interpretation Gallery with AR/VR facilities etc.

The O&M of project facilities will be carried out on Hybrid Model as below:

- Core Management Functions such as safety and security, public conveniences, and streetlight maintenance will be managed by the DMO by engaging staff for essential services
- Specialized tasks such as landscaping, Parking, and cleanliness management will be outsourced to professional agencies.

This hybrid approach allows the government to have control over critical areas while leveraging external expertise for more complex service requirements, ensuring efficient and high-quality service delivery that aligns with tourism standards.

The Destination Management Organisation (DMO) will carry out regular inspections to evaluate the operation and maintenance standards, either through its own team or by engaging a third-party assessment.

10.2 Sustainability of DMO

The Destination Management Organization (DMO) will create a separate bank account to ensure effective financial management and sustainability. Revenue generated from the project facilities, including ticket sales, advertising, lease rentals, revenue shares etc. will be deposited into this account. This strategic approach not only secures funds but also allows for systematic tracking of income, enabling the DMO to allocate resources efficiently. The accumulated funds will be utilized for the ongoing operation and management of the destination and promotional activities .

10.3 Management Strategy

During the period of operation, DMO will maintain all the facilities in accordance with performance standards and maintenance requirements, as mentioned below:

- (i) Perform maintenance on a routine and periodic basis.
- (ii) Provide functional facilities that (a) have an environmentally acceptable atmosphere for users; (b) ensure the safety of the users; and, (c) maintain a good environment in the site conducive to run business in the proposed project site.
- (iii) Identify potential problems early within the context of the planned maintenance system so that corrective action may be planned and completed in a timely manner.
- (iv) Establish a maintenance list for planned operation and maintenance. Follow an orderly program so that maximum operational efficiency is attained.

Maintenance Works

- (i) DMO will perform routine and periodic maintenance activities for the project infrastructure viz, civil, mechanical and electrical works, equipment, services and facilities.
- (ii) Maintenance of all the electrical-mechanical equipments, machineries shall be as per standards.
- (iii) Maintaining site environment so as to cause minimum disturbance to the natural environment;
- (iv) Ensuring that the facilities are operational and rectification of the defects and deficiencies within the minimum time;

Maintenance Performance Standards

To maintain high quality operational standards, following routine and periodic maintenance/renewal activities are proposed:

Table 10.1 Routine Maintenance Performance Standards

S.no	Serviceability Indicator	Required Maintenance Level	Permissible Time Limit for repairs/ rectifications
A	Experience		
1	Power supply, Electrical Installations, Electrical equipment shall be functional	-	Any disruption in power supply shall be rectified within six hours. Standby power supply by DG sets shall be kept ready and should be available 24x7 (hrs) basis

2	Boundary Wall shall be without any Damage/ Breach	-	Any damage/ breach to the boundary wall shall be rectified within three (3) days after their detection
3	There shall be no standing water on the pavement surface, no waterlogging in the centre	-	Immediate measures to be taken and waterlogging should be cleared within four hours
B	Allied facilities for all		
4	All Toilets, urinals bathrooms shall be clean and functional	A minimum of 95% toilets and urinals shall be functional at any given point of time	Toilets, urinals bathrooms shall be demarked with suitable signboards. These should be kept clean and hygienic and cleaning shall be done at least twice daily.
5	All drinking water chambers shall be clean and functional	A minimum of 95% drinking water chambers shall be functional at any given point of time	These shall be cleaned daily, Water supply shall be on 24x7 (hrs) basis. Drinking water quality in all the seasons shall be as per WHO standards.
6	Dustbins, spittoons etc. shall be clean and functional	A minimum of 95% Dustbins, spittoons shall be functional at any given point of time	The dustbin shall be emptied after every six hours or earlier if it is full or if creates a foul smell in the neighbourhood.
7	All information Signage and Display Boards shall be visible, legible and functional	Maximum 2% number of damaged signage and boards at any given point of time	These shall be cleaned once in a week. Damaged signage and boards shall be replaced, repaired within seven days of their detection
8	Seating Arrangements shall not be damaged	Maximum 5% number of damaged seats at any given point of time	Any damaged seat shall be repaired, replaced within seven days of detection. These shall be cleaned daily and checked that they are firmly fixed/ grouted to the platform with the base.
9	Power supply, Electrical Installations, Electrical equipment shall be functional	-	Timely intervention with Temporary measures within 8 hours, permanent restoration within 7 days, depending on nature and intensity of work required as decided by the Client or its authorised representative.
10	Staircases shall be clean and functional	-	The staircase shall be cleaned at least twice a day. Damaged handrails, risers or treads shall be repaired within three days after detection.

11	Illumination (Lighting) shall be functional	To meet the required illumination level as per national standards	The ventilators, skylights, etc. serving as source of natural ventilation and other luminaries for artificial lighting shall be cleaned once in seven days to maintain the illumination level
C	Buildings		
12	Defects in Electricity gadgets like bulbs/ lampshades/ wiring/ etc.	-	Temporary measures within 4 hours, permanent restoration within 7 days
13	Defects in all other utilities like water supply/ tap/tap connections/ pipe/ sewerage and drainage pipes/ tanks & overflow/ glasses/ window panes/ all other building furniture	-	Timely intervention with Temporary measures within 8 hours, permanent restoration within 7 days, depending on the nature and intensity of work required.
E	Telecom system/networking		
14	Telecommunication and Networking System shall be functional	-	Temporary measures within 8 hours, permanent restoration within 3 days
F	Fire Fighting Equipment		
15	Fire Fighting Equipment shall be functional	-	Any damage to firefighting equipment installed in the facilities and in public spaces shall be rectified within 2 days of detection. Fire extinguishers shall be replaced before the end of its expiry date. The water tank meant for firefighting purpose shall remain flooded with water to its capacity at all the times
G	Water tank		
16	Water tank shall be clean and functional	-	Water tank shall be cleaned and disinfected every month (by the usage of approved chemicals) to ensure that no inorganic sedimentation takes place.

10.4 Key Performance Indicators for Operations & Management

Key Performance Indicators (KPIs) are indispensable for tourism projects, defining service quality, visitor satisfaction, and destination reputation. They drive economic benefits, resource sustainability, and crisis readiness while ensuring regulatory adherence and operational success. The operation & management Key Performance Indicators identified for the project are as follows:

Table 10.2 Details of performance indicators for operational and management

S.no	Service Area	Key Performance Indicator	Minimum Service Level	Evaluation Type
				i. Self (Record Keeping) ii. Automated iii. Independent Agency
1	Cleanliness & Hygiene	Cleanliness and Hygiene of Washrooms	Dry washrooms; hygienic; non-stinking; water available	1. QR-based automated feedback (scale of 1-5) 2. Random checks by DMO
		Services availability at all locations	Water 24/7; Power 24/7; Sewage: non-leaking/non-stinking; Solid water: clean and emptied regularly	1. QR-based automated feedback (scale of 1-5) 2. Complaint register 3. Random checks by DMO
2	Upkeep of Experience	Upkeep of landscaped area and pathways	Streetlights (no. of lights non-functional) Condition of benches (color, stability)	1. QR-based automated feedback (scale of 1-5) with photos 2. Complaint register 3. Random checks by DMO
		Upkeep of Built Structures and allied infrastructure	Condition of the project components built as part of experience and as per O&M Manual	(self) Status reports by DMO
5	Arrival and Traffic Management	Arrival and Traffic management at arrival area/ Overall tour experience	Scale of 1-5 Quality of experience; waiting times; TAT at reception; etc	1. QR-based automated feedback (scale of 1-5) 2. Complaint register 3. Feedback kiosk
6	Information, Signage & Wayfinding	Information, Signage & Wayfinding Boards	Scale of 1-5	1. QR-based automated feedback (scale of 1-5) 2. Complaint register 3. Feedback kiosk 4. Weekly reports by DMO
7	Safety/ Security	Safety/ Security	No. of incidents (minor; major) Availability of first-aid kits (info signboards) Availability of ambulance on call (info signboards)	Incidents to be reported monthly.

8	Power backup	Power disruption	No. of power Breaks and Duration	Record Keeping by DMO
9	Marketing & Promotion	Experience Website	Regular updating of information. seamless ticket booking; outreach; Downtime	Online complaints received Random checks by DMO
		Marketing/ Promotion	Increase in footfalls; Share of domestic and foreign tourists; increase in footfall; experience promotion on different platforms	Monthly reports on activities. by DMO

The DMO will conduct regular assessments to evaluate the adherence to operation and maintenance standards. In instances where operators/agencies fail to meet the established minimum service levels will be penalised based on the severity and frequency of non-compliance, potentially leading to the termination of services.

10.5 Human Resource Development / Micro Enterprise Development

The DMO will encourage the local entrepreneurs for investing and operating facilities such as such as e-buggies, cycling, parking, food kiosks etc. This will benefit the local youth directly as well as community in the region. The DMO with the support from Andhra Pradesh Tourism, will conduct various training programmes for unemployed youth of the region to acquire required knowledge and skill standards in the hospitality sector so as to efficiently discharge supervisory responsibilities of the developed facilities. The proposed training programmes shall be intensive with a blend of class room and on- sight modules so as to give a holistic approach on Hospitality Sector to the local /tribal youth. The key modules to be covered shall be in the areas of –

- Food Production
- Food and Beverage Service
- Housekeeping
- Front Office Management
- Entrepreneurship Development Programme
- Event management

Apart from the above, general awareness modules relating to basic ethics, communication & language skills, customer service, personality development and other required skills for upliftment of the livelihoods of local people shall also be covered as part of the training programmes.

10.6 Marketing & Promotion

Marketing and promotion are crucial for any destination development as they play a vital role in attracting tourists and enhancing the destination's visibility. Effective marketing strategies shall be taken up for Suryalanka Beach by highlighting the beach's unique features, such as its pristine natural beauty, serene atmosphere, and cultural significance. By utilizing digital platforms, social media, and targeted advertising, Surya Lanka Beach can reach a wider audience, appealing to both domestic and international travellers. Additionally, promoting local events, activities, and accommodations can enhance the visitor experience, encouraging longer stays and repeated visits.

Ultimately, a strong marketing and promotion plan can drive economic growth, support local businesses, and foster sustainable tourism development in the region.

Marketing Strategy for Inbound Tourism

Suryalanka Beach, can enhance its inbound tourism through a strategic marketing plan that focuses on attracting visitors via diverse channels. By leveraging content marketing, search engine optimization (SEO), and social media engagement, the beach can create meaningful connections with potential travellers. Additionally, implementing drip email campaigns will provide valuable information and updates, ensuring that interested customers receive relevant content at the right time. The key strategies proposed to be adopted for inbound tourism for Surya Lanka is as follows:

- **Search Engine Optimization (SEO):** To enhance visibility for Suryalanka Beach, focus shall be on optimizing the website for relevant keywords. Informative content shall be created that addresses travellers' queries about the beach, local attractions, and travel tips. To improve user experience, website will be made mobile-friendly and fast-loading.
- **Content Creation:** It is proposed to develop engaging and informative blog posts with photos and videos about Suryalanka Beach which may include travel itineraries, local culture, and hidden gems.
- **Social Media Promotion:** It is proposed to leverage platforms like Instagram, Facebook, and Pinterest to share stunning visuals of Suryalanka Beach.
- **Public Relations and Customer Engagement:** As strong relationships with visitors will foster trust among potential customers, audience shall be engaged through social media so as to respond to inquiries and thereby enhance brand loyalty.
- **Engaging Promotional Materials:** To highlight the destination's unique offerings, create brochures, flyers, and a coffee table book.

Marketing Strategy for Domestic Tourism

Domestic tourism plays a crucial role in the Surya Lanka Beach, supporting local economy and promoting cultural heritage. A well-crafted marketing strategy for domestic tourism can rejuvenate the local travel industry, foster community engagement, and promote sustainable practices. Following are the key marketing strategies proposed to be adopted:

- High-quality, mobile-friendly website featuring electronic site maps, interpretive information about local attractions, engaging imagery and videos, rating & feedback mechanism etc.
- Mobile application for seamless online reservations and bookings, enhancing convenience for visitors.
- High-quality travel map to help visitors navigate the area, serving as a practical brochure that highlights key attractions.
- Separate social media accounts (Facebook, Instagram, Twitter, YouTube) for Surya Lanka Beach. Engage frequently with followers through regular posts and interactions to build a vibrant online community.
- Brochures, flyers, and a coffee table book to showcase the destination and its unique offerings, enhancing the tourism narrative.
- Digital kiosks in public places like airports, railway stations, and bus stands to provide information about Surya Lanka Beach and its attractions.
- Host familiarization (fam) trips for bloggers and vloggers to generate well-written blogs and vlogs that can be shared online, enhancing visibility.

- Partnerships with local stakeholders, including hoteliers, tourism businesses, travel agents, and tourism associations. Create enticing travel packages and deals to promote Surya Lanka Beach effectively.
- Annual calendar of fairs, festivals, and events well in advance, positioning Surya Lanka Beach as a dynamic destination for tourists. It is also proposed to conduct SANKRANTHI kind of festivals exclusively with Celebrity Endorsement
- Separate YouTube Channel for exclusive promotion of the Destination

Apart from Andhra Pradesh, Hyderabad, Chennai & Bangalore are the Major Domestic Markets for Suryalanka Destination.

- Targeted publicity will be carried out to attract tourists from these destinations
- Separate Social Media unit will be established with the support of professional agencies and events will be publicized in Telugu, Tamil, Kannada, English & Hindi languages
- Exclusive broadcasting rights will be offered to select Telugu, Tamil & Kannada Channels for Broadcasting

In addition to the digital marketing efforts, utilizing traditional methods such as print media and billboards to promote the destination shall be planned to promote Surya Lanka as must visited destination.

11.POTENTIAL REVENUE SOURCES

11.1 Operations Strategy

DMO will have a Full Time Manager and Few Staff for managing the Overall Destination. However, the operations will be outsourced as below:

- Security and House-keeping Agencies will be appointed for supply of manpower with Salary cum performance-based compensation method
- All the Attractions will be implemented and managed through TEDMA Mode – Implementation and Operations by the specialised agencies
- Local Self Help Groups and Micro Enterprises will be encouraged for few activities like Parking Management, Gardening, Food Stalls, Advertising, Flower Arrangements etc

11.2 Major Sources of Revenue

The major sources of revenue are from

- Ticketing of Iconic structure and its components such as Exhibition hall, AR/VR, Interactive Gallery, Solar System Theme Maze and Space Theatre.
- Sailing Club Memberships and its components Water Sports etc
- Revenues from Cruise Boat, House Boats and Cycling Track and
- Floating Restaurant.

11.3 Revenue Assumptions

All the experiences will be operated & maintained by private operators who are experienced in establishing & operating respective components.

The following assumptions have been considered while estimating the revenues to the project.

Table 11.1 Assumptions considered for the estimation of the revenue

Particulars	% of Footfall	Avg. Footfall / day (Nos.)	per person Charges (Rs.)	Units	% of Revenue to DMO
Entry Fee for Iconic Structure		2,000	50	Entry Fee	100%
AR/VR	20%	400	200	Ticket Charges	10%
Interactive Gallery	25%	500	100	Ticket Charges	10%
Solar System Theme Maze	50%	1,000	25	Ticket Charges	10%
Space Theatre	20%	400	100	Ticket Charges	10%
Exhibition Hall			1,00,000	per day	100%
Sailing Club	10%	200	500	Ticket Charges	10%
Cruise Boat	20%	400	125	Ticket Charges	5%
House Boat			10,000	Per night	5%
Cycling Hub	20%	400	50	Ticket Charges	10%
Floating Restaurant	10%	200	200	Avg. Bill/person	10%

Notes

1. The DMO will get 100% revenue of the entry fee to Iconic structure and from exhibition hall rentals at Rs.1.00 Lakh per day.
2. It is expected that the Iconic structure will have around 2000 footfalls per day. For all the other components, footfalls are calculated based on the percentage of footfall of Iconic structure and mentioned in the above table.

3. Ticket price is proposed individually for each of the experience and 10% of the revenue from it is assumed for DMO.
4. For Cruise and houseboats where the private player has to invest, only 5% of the revenue is estimated as revenue to DMO.
5. The number of exhibitions to be organized are assumed at one per week and the average exhibition will be held for 2 days.
6. Membership fee is charged for sailing club members. The membership fee obtained is fixed deposited and the interest on the same is also considered as one of the revenues to DMO.
7. House Boats are assumed to be occupied during weekends only i.e. 104 days in a year.
8. The entry fee, ticket charges, event costs, etc are all increased by 5% every year.

11.4 Revenue Projections to DMO

The projected revenues to DMO for the proposed project are given below:

Table 11.2 Details of projected revenue to DMO

(Rs. Crore)

Particulars	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10
Entry Fee for Iconic Structure	3.60	3.97	4.37	4.79	5.25	5.74	6.27	6.84	7.45	8.10
AR/VR	0.29	0.32	0.35	0.38	0.42	0.46	0.50	0.55	0.60	0.65
Interactive Gallery	0.18	0.20	0.22	0.24	0.26	0.29	0.31	0.34	0.37	0.40
Solar System Theam Maze	0.09	0.10	0.11	0.12	0.13	0.14	0.16	0.17	0.19	0.20
Space Theatre	0.14	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32
Exhibition Hall	1.04	1.09	1.15	1.20	1.26	1.33	1.39	1.46	1.54	1.61
Sailing Club	0.36	0.40	0.44	0.48	0.53	0.57	0.63	0.68	0.74	0.81
Cruise Boat	0.09	0.10	0.11	0.12	0.13	0.14	0.16	0.17	0.19	0.20
House Boat	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Cycling Hub	0.07	0.08	0.09	0.10	0.11	0.11	0.13	0.14	0.15	0.16
Floating Restaurant	0.14	0.15	0.16	0.17	0.17	0.18	0.19	0.19	0.20	0.21
Total Revenue	6.03	6.59	7.18	7.82	8.50	9.24	10.02	10.86	11.75	12.71
Interest Revenue	0.32	0.49	0.66	0.85	1.05	1.25	1.47	1.69	1.93	2.18
Total Revenues to DMO	6.35	7.08	7.85	8.67	9.55	10.49	11.49	12.55	13.68	14.89

12. OPERATIONAL COSTS AND REVENUE

As discussed in the earlier chapter, all the revenue generating components will be operated & maintained by the private players and 10% of the revenue will be the revenue to DMO. All operating expenses will be borne by the respective agencies only.

The operating cost involved to DMO will be as below:

1. Salaries to DMO Staff
2. Outsourcing Cost of Security & House Keeping
3. Solid Waste Management of the destination – Collection & Disposal
4. General Maintenance
5. Destination Promotion Activities

The cycling track has roof top solar power of 1MW which will be sufficient to manage the power required for common areas and Meditation hall / Exhibition hall.

The overall general maintenance and solid waste management of the facility are estimated at Rs.1,00,000 per month each. The Meditation hall of the Iconic structure is completely maintained by DMO.

We have considered 20% of the expected revenue towards the Destination Promotion Activities including Social Media etc.

24/7 security surveillance is considered. Around 20 people are required for security surveillance in each shift and three shifts considered. House-keeping of the facility is considered for 2 shifts and each shift requires 20 people each.

The manpower cost assumptions are given below.

Table 12.1 Details of manpower cost assumptions

Manpower	Nos	Salary/month (Rs.)
Overall Security	60	20,000
House Keeping	40	12,000
DMO Staff		
Manager	1	1,00,000
Asst Manager	3	50,000
Supervisor	6	30,000

The operational costs projected for 10 years is given below:

Table 12.2 Details of operational costs projected for 10 years (Rs. Crore)

Particulars	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10
Manpower expenses	3.04	3.19	3.35	3.52	3.69	3.88	4.07	4.28	4.49	4.71
Destination Promotion Activities	1.21	1.32	1.44	1.56	1.70	1.85	2.00	2.17	2.35	2.54
Solid Waste Management	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16
General Expenses	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.16
Total Operational Expense	4.49	4.76	5.04	5.34	5.66	6.00	6.36	6.74	7.14	7.57

Summary of Operational Cost & Expected Cash flow

Considering the revenue and operational costs, the net cash flow to the project are given below. It is observed that the net cash flows to the project are positive from the first year onwards.

Table 12.3 Details of operational cost and expected cash flow

(Rs. Crore)

S. no	Experience title/ interventions		Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10
1	Revenue	Development Phase	6.35	7.08	7.85	8.67	9.55	10.49	11.49	12.55	13.68	14.89
2	Operational Expenditure (including Maintenance)		4.49	4.76	5.04	5.34	5.66	6.00	6.36	6.74	7.14	7.57
3	Expected Cash Flow (Surplus/ Deficit)		1.87	2.32	2.81	3.33	3.89	4.48	5.12	5.81	6.54	7.32
4	Total Net Cash flows for 10 years		43.49									

It is found that the destination is self-sustainable financially and positive cash flows seen from the first year of operations. There is a surplus of Rs. 43.49 crores over 10 years of operations.

13.PROJECT SCHEDULE

Expected date of commencement of development works : 02 2025
 Expected date of completion of development works : 03 2026
 Total Development Duration (months) : 13 Months

Short description of the implementation plan including key project phases and milestones

Table 13.1 Details of implementation plan

S. No	Key Project Phases and Milestones	Start Date	End Date
1	Tender Processing and tender finalization	1 st December 2024	31 st Jan 2025
2	Site Preparation	1 st Feb 2025	31 st March 2025
3	Construction Of Iconic Structure and Thematic Park	15 th March 2025	31 st March 2026
4	Promenade Development	1 st March 2025	1 st March 2026
5	Sailing Boat Club along with aquatic sport facilities and Back water cruise facility	30 th April 2025	31 st March 2026
6	Bicycling and joggers track	May 2025	Jan 2026
7.	Floating Module Pontoons	30 th April 2025	31 st March 2026

Gantt Chart

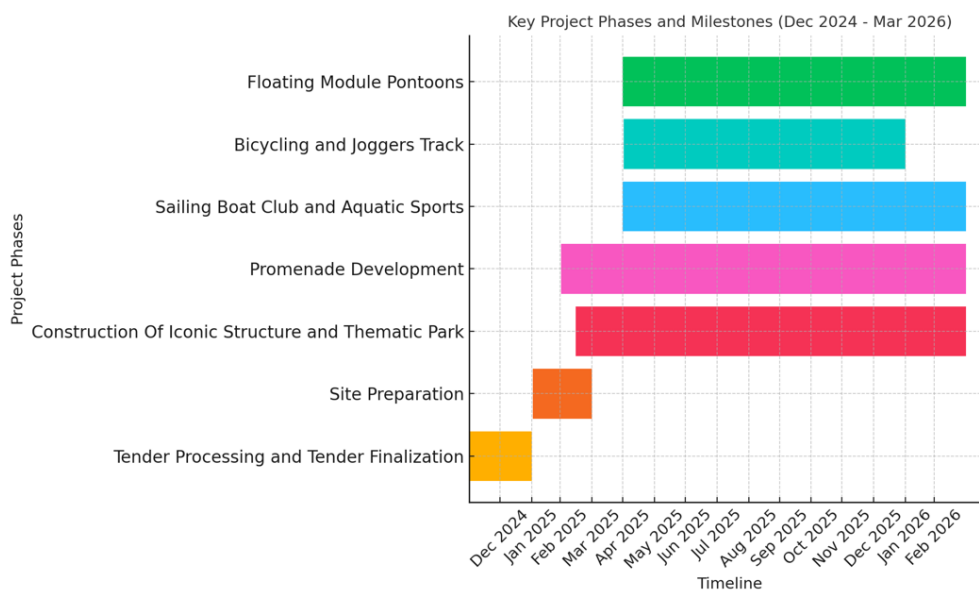


Figure 13.1 Gantt chart of Project Scheduling

Table 13.2 Resource allocation

S.no	Task	Start	End	Labor (workers)	Equipment (units)	Materials (units)	Duration (days)	Man- hours
1	Tender Processing and Tender Finalization	01-12-2024	31-01-2025	2	0	0	62	992
2	Site Preparation	01-02-2025	31-03-2025	10	5	50	59	4720
3	Construction Of Iconic Structure and Thematic Park	15-03-2025	31-03-2026	25	10	200	382	76400
4	Promenade Development	01-03-2025	31-03-2026	20	8	100	396	63360
5	Sailing Boat Club and Aquatic Sports	30-04-2025	31-03-2026	12	6	40	336	32256
6	Bicycling and Joggers Track	01-05-2025	31-01-2026	8	3	20	276	17664
7	Floating Module Pontoons	30-04-2025	31-03-2026	5	2	15	336	13440

Detailed Project Report

PART - B

14.DETAILED LAYOUT AND ARCHITECTURAL DRAWINGS

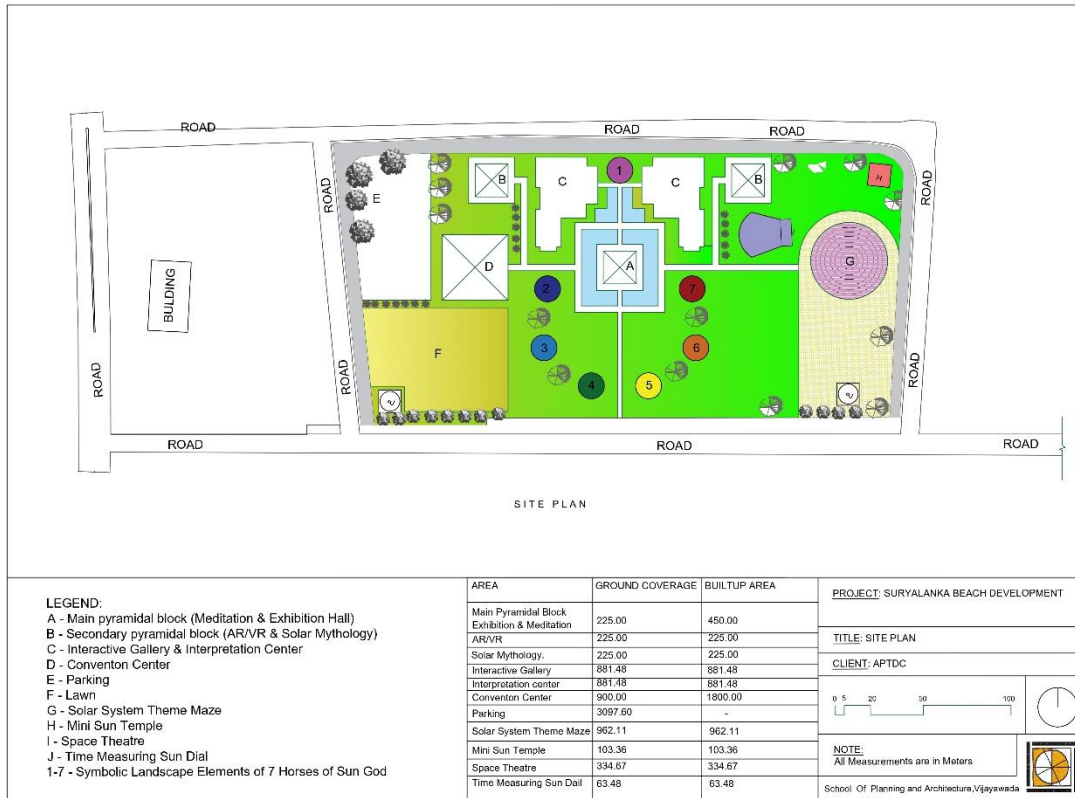
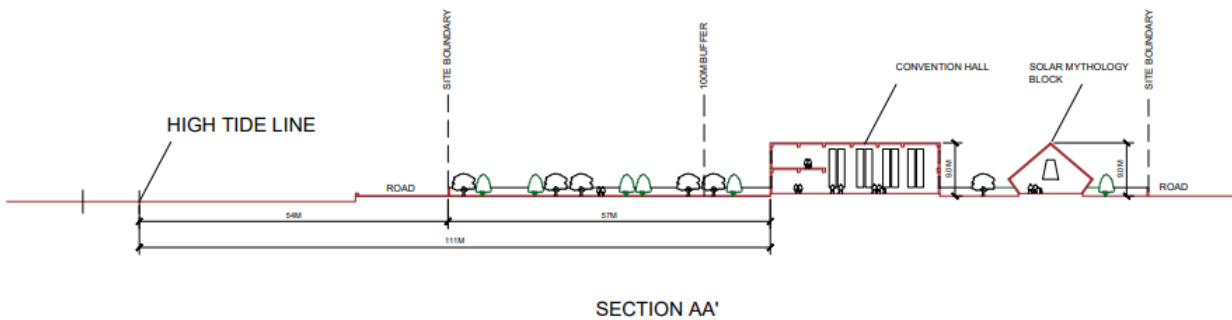


Figure 14.1: Site plan for Iconic Structure



SURYALANKA BEACH DEVELOPMENT PROJECT

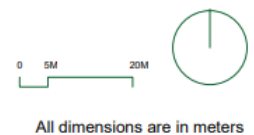


Figure 14.2: Site Section LRCZ Complaint

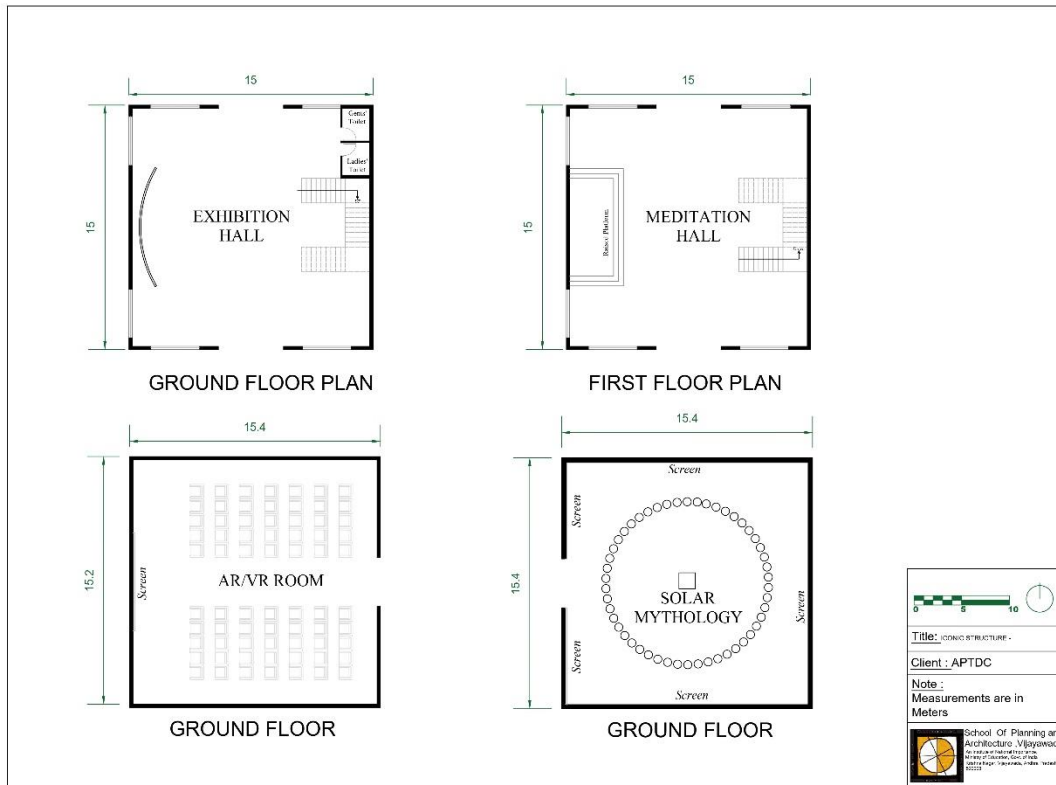


Figure 14.3: Floor plans of iconic structure



Figure 14.4: Floor plans interactive and interpretation centre

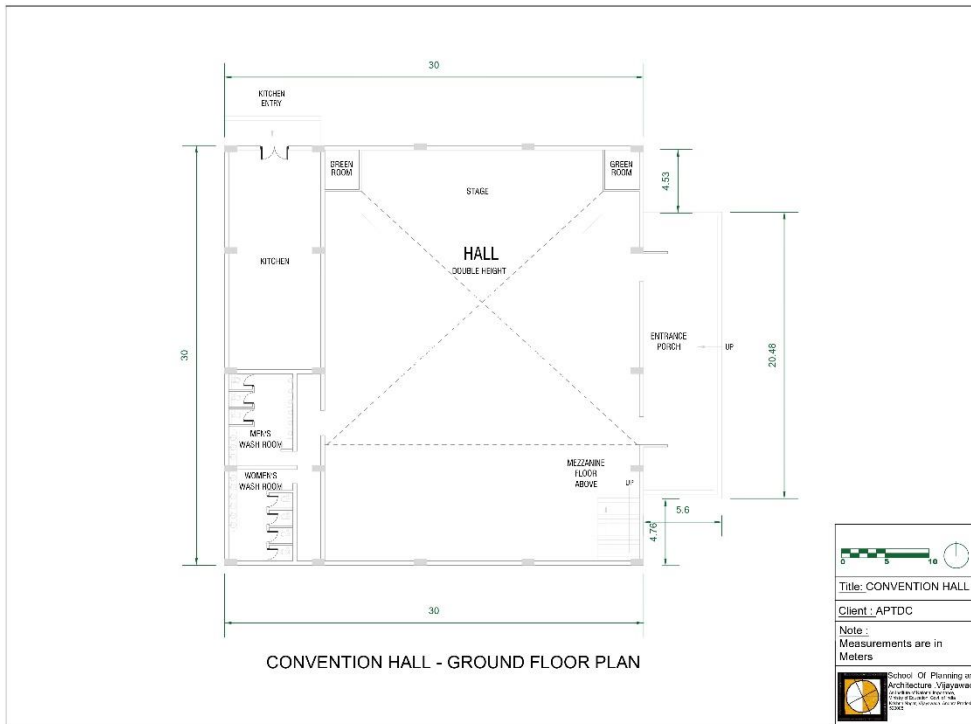


Figure 14.5: Plan for convention hall

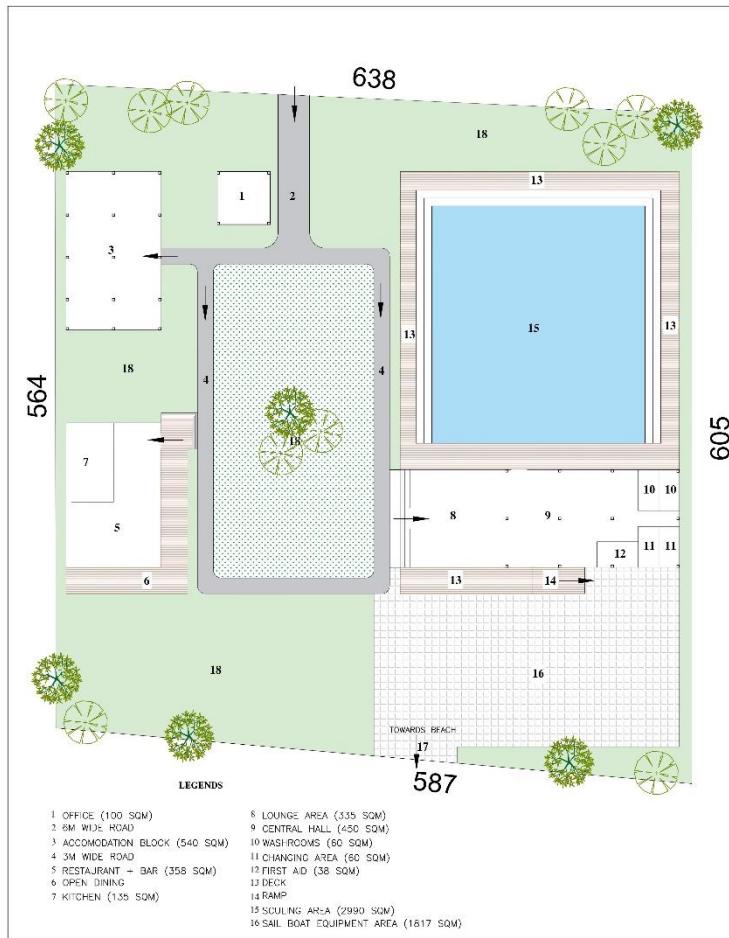


Figure 14.6 Site plan of sailing club

15.DETAILED PROJECT SCHEDULE

15.1 Iconic Site Development Conceptual View



Figure 15.1 Conceptual view of Meditation Center

15.2 Iconic Structure: Concept



Restricting to 9 m of due to height air force base nearby



Diamond-shaped meditation & exhibition of the solar system: diamonds shine brightest in the sun

figure 15.2 Conceptual sectional elevation view of the meditation centre

15.3 Different rendering of iconic diamond structure





figure 15.3 Different Rendering of Iconic Diamond Structure

15.4 Beach Stretch - Sun dials, Framing Sunrises & Sunsets



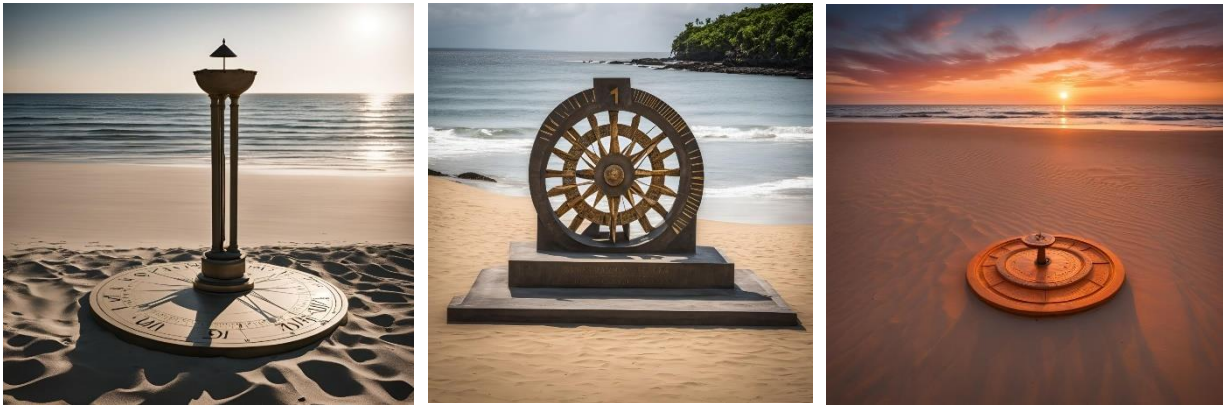
figure 15.4 Beach Corridor Intervention Images



figure 15.5 Beach Corridor Intervention Images



figure 15.6 The solar aspect through built interventions



15.5 Beach Stretch development with bicycle tracks integrated with plazas



figure 15.7 conceptual view of bicycle track integrated with plaza

- Beach stretch development with bicycle track integrated with plazas for mini performances /informal activities, gazebos for spending leisure time, food kiosks with appropriate landscape interventions. Beach stretch bicycle track integrated with plazas focussed on sun theme, I.e., solar dials, sunrise and set viewing framed viewing points), (in the 5 km stretch covering Surya Lanka beach, starting from Haritha resorts, where no motorable road exists)
- Beach stretch highlights the sun-based theme at Surya Lanka beach with sundials and colonnaded pavilions being proposed which helps in framing sunrise and sunset views from the beach. This beach stretch highlights the solar aspect through built interventions and can be used on Makar Sankranti day for sun worship and offering prayers to the Sun God.

15.6 The stretch as it exists now



figure 15.8 Existing Beach Stretch

15.7 Proposal at a glance



Figure 15.9 (a): proposal at a glance

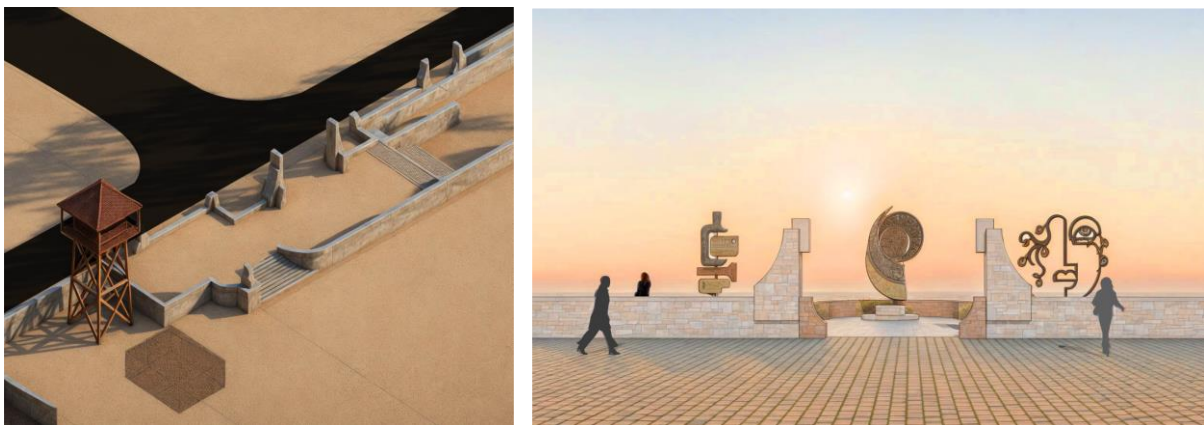


figure 15.9 (b) Proposal at glance

15.8 Backwater river cruise, floating restaurant



figure 15.10 Backwater river cruise and floating restaurant

15.9 Floating restaurant & backwater canal bank development

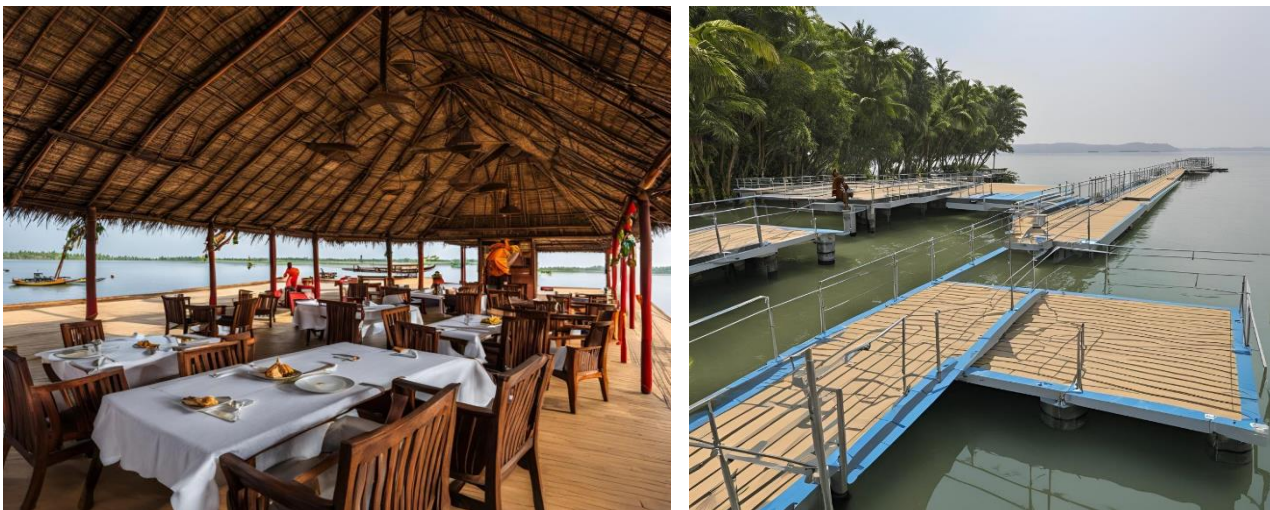


figure 15.11 Floating restaurant and Modular pontoons



figure 15.12 Landscaping interventions along back water canal



figure 15.13 Floating restaurant and Backwater river

15.10 Conceptual and Elevations of Float Pods

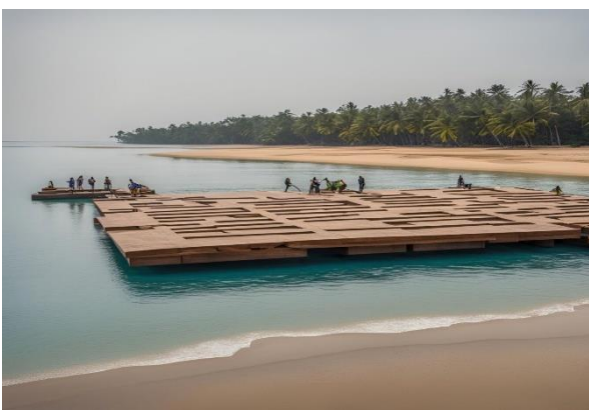
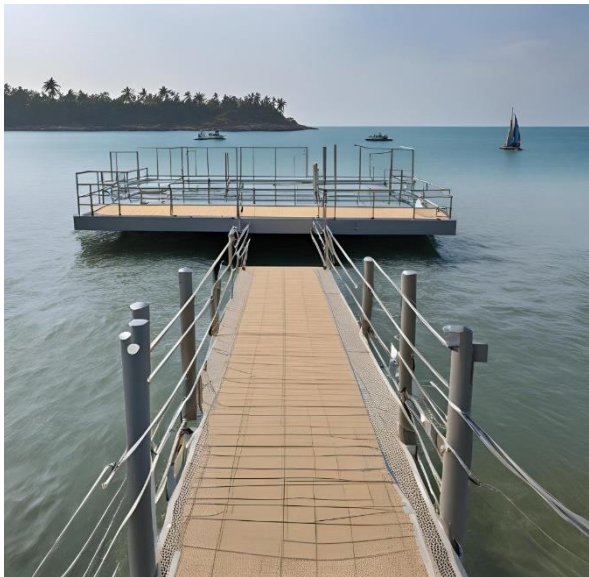


figure 15.14 Conceptual View of float pods

15.11 Sailing Club Water Sports Hub



figure 15.15 Conceptual Elevation and Views of Sailing Club

A sailing club and Aquatic Sports Hub Would Be Located next to the iconic structure on the 3.72-acre site, which offers breath-taking sea views and will have all facilities like restaurants, changing rooms, resting rooms, washrooms, lounge areas, first aid, all services, and lawns. The building would be designed to be eye-catching and attract the attention of the people on the beach, standing right next to the iconic structure site. It would also house facilities for aquatic sports.

15.10 Other components of iconic structure: mythical solar park a convention center



figure 15.16 Motion Simulated 3D Theatre

Concept: "Surya with the Navagrahas Battles"

Description: Immerse in a cosmic battle where Surya, the Sun God, and the Navagrahas face the Asura brothers, Sunda and Upasunda. This high-energy show blends motion simulation with immersive 3D projection technology.

180-Degree Curved Screen: A panoramic screen wraps around the audience, placing them in the center of the celestial clash.

Motion Seats: Synchronize with the visuals and sound, moving with the action to simulate flight or battle impacts. **Environmental Effects:** Heat, Wind, Vibrations, Lighting Etc



figure 15.17 Dome Theatre

Concept: "The Surya Sphere: A Cosmic Symphony"

Description: Embark on a celestial journey from Surya's Sun Temple, exploring the solar system & beyond. This theater offers an immersive cosmic experience, showcasing the wonders of the universe through 360-degree visuals, & narration.

360-Degree Dome Screen: The dome envelops the audience, creating the sensation of traveling through space & witnessing cosmic events from all angles.

High-Definition Visuals: Stunning HD projections bring solar flares, star formations, and other cosmic phenomena to life.

Sound & Narration: Engaging narration and an atmospheric soundtrack enhance the emotional impact, explaining cosmic science and Surya's mythology.



figure 15.18 VR simulated theatre and Magic Maze

Concept: " The Sun's Labyrinth"

Description: Explore "The Sun's Labyrinth," a maze inspired by Surya's rays and the solar system. As visitors navigate the maze, they uncover celestial phenomena and mythological tales about the sun.

Maze: A solar system-inspired layout with paths resembling Surya's rays, leading visitors through celestial bodies and phenomena.

Celestial Stations: Engaging stations showcase solar flares, eclipses, and planetary alignments, offering educational insights.

Mythological Tales: Discover legends about Surya and solar deities through plaques, audio, and visual displays. Besides, the above this part houses the 450 capacity convention centre, with spacious lawns surrounding it and having breathtaking views of the sea. The convention centre alongside all the above features as well as the interactive zones and interpretation centres, (whose images are given below) constitute the Iconic Mythical Solar Park and Convention Centre, Suryalanka on the total site area of 6.75 acres

15.11 Interpretation center

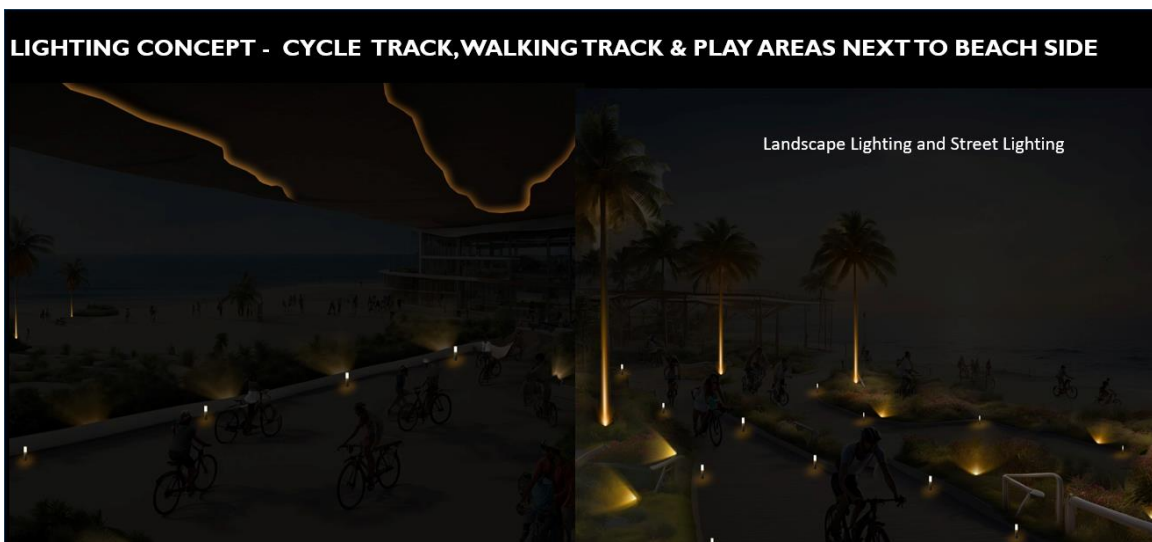


Figure 15.19 Views of Different Functions of Interpretation Center



Figure 15.20 Views of Different Functions of Interpretation Center

15.12 Night time illuminated views of beach corridor



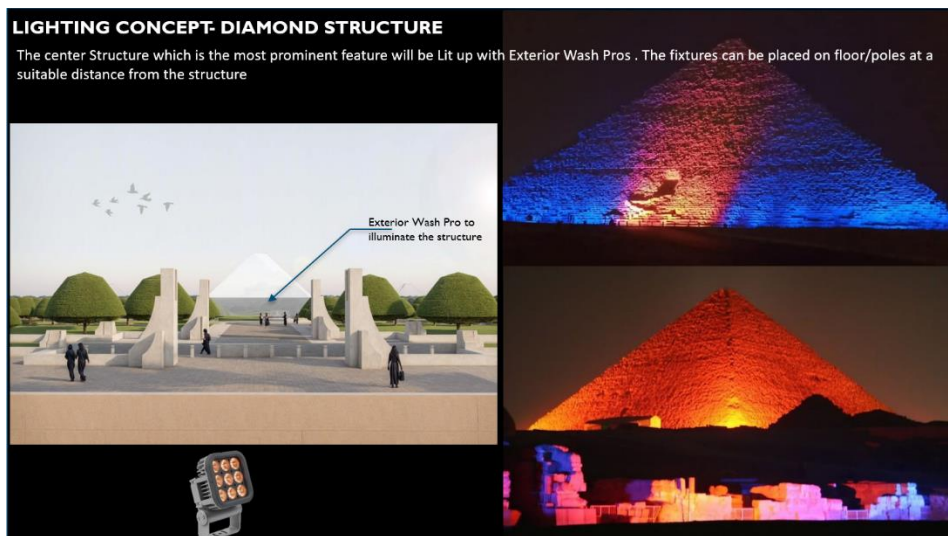
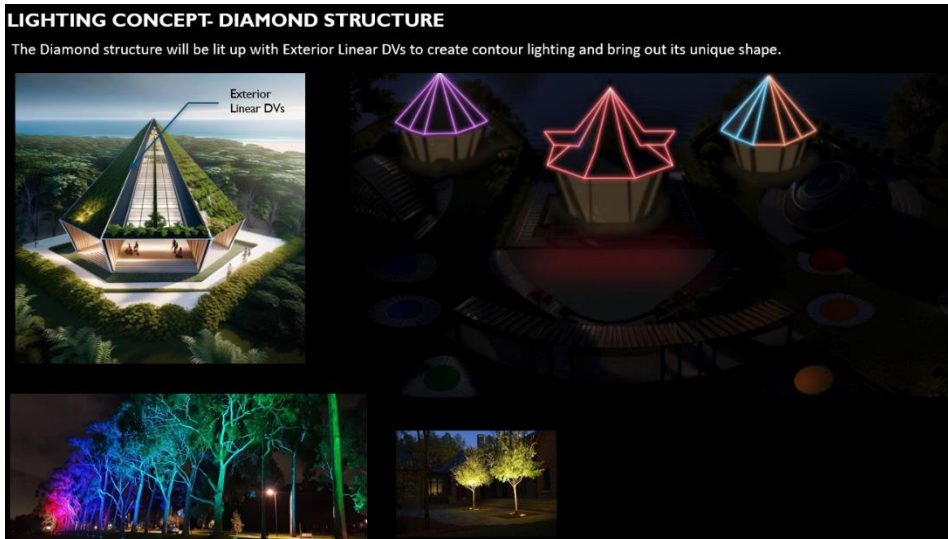


figure 15.21 Night time Lighting Concepts

16.BILL OF QUANTITIES

Expected date of commencement of development works : 02 2025
 Expected date of completion of development works : 03 2026
 Total Development Duration (months) : 13 Months

Short description of the implementation plan including key project phases and milestones

Short description of the implementation plan including key project phases and milestones

Table 16.1 Details of implementation plan

S. No	Key Project Phases and Milestones	Start Date	End Date
1	Tender Processing and tender finalization	1 st December 2024	31 st Jan 2025
2	Site Preparation	1 st Feb 2025	31 st March 2025
3	Construction Of Iconic Structure and Thematic Park	15 th March 2025	31 st March 2026
4	Promenade Development	1 st March 2025	1 st March 2026
5	Sailing Boat Club along with aquatic sport facilities and Back water cruise facility	30 th April 2025	31 st March 2026
6	Bicycling and joggers track	May 2025	Jan 2026
7.	Floating Module Pontoons	30 th April 2025	31 st March 2026

Gantt Chart

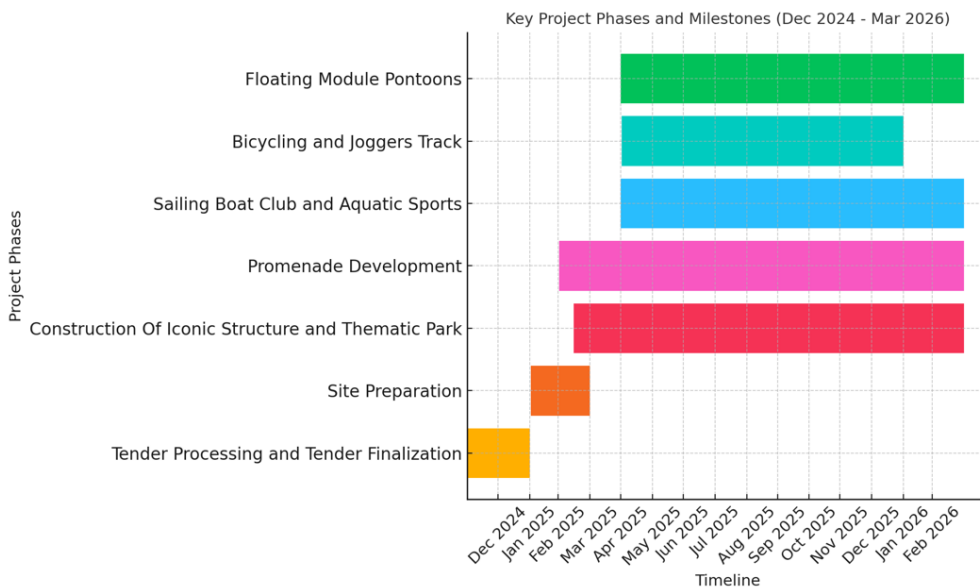


Figure 13.1 Gantt chart of Project Scheduling

Table 16.2 Details of Development of Suryalanka Iconic Beach Corridor Project

Abstract					
Preliminary Estimate based on Plinth Area Rates 2023 of CPWD					
Project: Development of SuryaLanka Iconic Beach Corridor Project Date 12.10.2024					
Ground floor: exhibition hall					
SI. NO	LIST OF ITEMS	Unit	Rate (₹)	Quantity	Amount (₹)
1	R.C.C. WORK FOR CIRCULAR COLUMNS (900mm dia)	Nos.	30,000	8	2,40,000
2	R.C.C. WORK FOR WALL	Cu.M T	7,000	31.2	2,18,400
3	GLASS WORK (PHOTOVOLTAIC)	SQ.M	11,000	52.5	5,77,500
4	R.C.C. WORK FOR STAIRCASE	Cu.M T	7,000	49.95	3,49,650
5	GLASS WORK FOR DOOR	SQ.M T	4,000	20	80,000
6	DOOR FOR TOILETS	SQ.M T	2,500	2	5,000
7	Water Pile Foundation	Lump -sum	-	-	6,00,000
8	Space Frame Structure (Top)	Lump -sum	-	-	12,00,000
9	Domical Roof Structure	Lump -sum	-	-	9,00,000
10	Bridge Work	Lump -sum	-	-	5,00,000
Total for Ground Floor Civil Work				47,12,540	
Interior Work					
SI. NO	Item Description	Unit	Rate (₹)	Quantity	Amount (₹)
11	Flooring (Exhibition Grade - Premium)	SQ.M	4,000	300	12,00,000
12	Smart Lighting and Electrical Work	Lump -sum	-	-	5,00,000

13	Wall Painting (Exhibition Style)	SQ.M	120	2500	3,00,000
14	Interior Miscellaneous	Lump-sum	-	-	5,00,000
Total for Exhibition Hall Interior				25,00,000	
First Floor: Meditation Hall					
Civil Work					
15	Polycarbonate Panel	SQ.M T	3,500	60	2,10,000
16	Pyramidal Glass Envelope	SQ.M T	11,000	100	11,00,000
17	R.C.C. WORK FOR SLAB	Cu.M T	6,000	28.5	1,71,000
Total for First Floor + Glass Envelope				14,81,000	
Interior Work					
18	Flooring (Meditation Hall - Premium)	SQ.M	3,500	200	7,00,000
19	Acoustic Wall Panels (Enhanced)	SQ.M	2,500	150	3,75,000
20	Lighting (Ambient Lighting)	Lump-sum	-	-	2,00,000
21	Furnishings	Lump-sum	-	-	2,00,000
22	Interior Miscellaneous	Lump-sum	-	-	2,00,000
Total for Meditation Hall Interior				16,75,000	
Services					
SI. NO	Item Description	Unit	Rate (₹)	Quantity	Amount (₹)

23	HVAC System (Enhanced)	Lump -sum	-	-	12,00,000
24	Fire Safety Services (Exhibition Hall)	Lump -sum	-	-	2,00,000
25	Fire Safety Services (Meditation Hall)	Lump -sum	-	-	2,00,000
26	Capsule Lift (6 Passengers)	Lump -sum	-	-	12,00,000
27	Advanced Sound System (Exhibition Hall)	Lump -sum	-	-	4,00,000
28	Exterior Landscaping (Enhanced)	Lump -sum	-	-	5,00,000
29	Security Systems (CCTV)	Lump -sum	-	-	2,00,000
Total for Services				39,00,000	
Grand Total					1,25,93,540

Table 16.3 Details of Convention Centre

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Convention Centre for Development of Surya Lanka Iconic Beach Corridor						
Date 12.10.2024						
SI no	Description	Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs
1	Building Cost					
1.1	RCC Framed Structure (Upto Six Stories)					
1.1.1	Floor Height 3.60 Metre	1800	30820			55476000
1.3	Extra For					
1.3.3	Extra for every 0.3 m or part thereof higher plinth height over normal plinth height of 0.6 m (on ground floor area only)	1800	421			757800
1.3.7	Pile foundation upto a depth of 15 m (On ground floor area only)	900	19460			17514000
1.4.2	Add or deduct for every 0.3 m or part thereof height against normal height of 3.35 m (considering additional 0.9 m height above normal height)	900	1000			900000
1.5	Fire Fighting					
1.5.3	With wet riser and sprinkler system	1800	1200			2160000
1.6.2	Automatic fire alarm system	1800	600			1080000
					Subtotal A	77887800
2	Services					
2.1	Internal Water supply and sanitary Installations					
	Offices & Colleges			4		3115512
2.2.1	Electrical External service connections			3.75		2920793
	Civil External Service connections			1.25		973598
	Local body approvals including tree cutting etc			1.25		973598
	Internal Electric Installations			12.5		9735975
	Architectural Features			5		3894390
2.4	Extra For					
	Power wiring and plugs			4		3115512
	Lightning conductors			0.25		194720
	Telephone conduits			0.25		194720
	Third Party Quality Assurance			1		778878
	Consultancy services for designing and planning of project if out sourced			5		3894390
3	Lifts					
3.1.4	13 Passenger Lifts 1 nos					3000000
3.1.7	16 Passenger Lifts 1 nos					7541000
					Total	118220883.5

Table 16.4 Details of Main Pyramid Block, Exhibition and Meditation Centre

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Main Pyramid Block, Exhibition and Meditation Centre for Development of Suryalanka Iconic Beach Corridor Date 12.10.2024						
SI no	Description	Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs
1	Building Cost					
1.1	RCC Framed Structure (Upto Six Stories)					
1.1.1	Floor Height 4.5 Metre	450	30820			13869000
1.3	Extra For					
1.3.3	Extra for every 0.3 m or part thereof higher plinth height over normal plinth height of 0.6 m (on ground floor area only)	450	421			189450
1.3.7	Pile foundation upto a depth of 15 m (On ground floor area only)	225	19460			4378500
1.4.2	Add or deduct for every 0.3 m or part thereof height against normal height of 3.35 m (considering additional 0.9 m height above normal height)	225	1000			225000
					TOTAL	37701058.38

Table 16.5 Details of Space Theatre

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Space Theatre for Development of Suryalanka Iconic Beach Corridor Date 12.10.2024						
SI no	Description	Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs
1	Building Cost					
1.1	RCC Framed Structure (Upto Six Stories)					
1.1.1	Floor Height 4.5 Metre	334	30820			10293880
1.3	Extra For					
1.3.3	Extra for every 0.3 m or part thereof higher plinth height over normal plinth height of 0.6 m (on ground floor area only)	334	421			140614
1.3.7	Pile foundation upto a depth of 15 m (On ground floor area only)	334	19460			6499640
1.4.2	Add or deduct for every 0.3 m or part thereof height against normal height of 3.35 m (considering additional 0.9 m height above normal height)	334	1000			334000
					TOTAL	25504354.26

Table 16.6 Details of Second Pyramidal Block (AR/VR and Solar Mythology)

SR. NO	LIST OF ITEMS	UNIT	RATE PER UNIT (₹)	QUANTITY	AMOUNT (₹)
	CIVIL WORK				
1	R.C.C. Work for Wall (till 3m)	Cu.MT	5,000	150	7,50,000
2	Polycarbonate Panel (from 3-6m)	SQ.MT	1,200	300	3,60,000
3	Glass Work for Door	SQ.MT	3,500	15	52,500
4	Piles and Foundation Work	Nos.	25,000	4	1,00,000
5	Bridge Construction (Entry to tower)	SQ.M	8,000	20	1,60,000
6	Water Feature Surrounding Foundation	Lump-sum	-	-	2,50,000
	TOTAL FOR CIVIL WORK				16,72,500
	INTERIOR WORK				
7	Flooring (High-grade tiles)	SQ.M	2,200	300	6,60,000
8	Acoustic Treatment	SQ.M	1,800	300	5,40,000
9	LED Lighting (Ambient + Spotlights)	Lump-sum	-	-	7,00,000
10	Furnishings (Seating, Desks, etc.)	Lump-sum	-	-	6,00,000
11	Wall Finishing (Paint/Wallpaper)	SQ.M	300	400	1,20,000
12	Miscellaneous Interior Works	Lump-sum	-	-	4,00,000
	TOTAL FOR INTERIOR WORK				30,20,000
	STRUCTURAL WORKS				
13	FRP Dome Structure	SQ.M	6,000	200	12,00,000
14	Space Frame (Vaults)	SQ.M	10,000	150	15,00,000
15	Circular Columns (900mm dia)	Nos.	25,000	8	2,00,000
	TOTAL FOR STRUCTURAL WORKS				29,00,000
	MISCELLANEOUS WORKS				
16	Floor Maintenance	Lump-sum	-	-	1,50,000

17	Furniture Assembly and Fittings	Lump-sum	-	-	80,000
18	Tech Setup (AR/VR Equipment)	Lump-sum	-	-	1,50,000
	TOTAL FOR MISCELLANEOUS WORKS				3,80,000
	SERVICES				
19	HVAC System	Lump-sum	-	-	14,00,000
20	Fire Safety System	Lump-sum	-	-	1,50,000
21	Electrical and Data Cabling	Lump-sum	-	-	3,00,000
22	Capsule Lift (6 Passengers)	Lump-sum	-	-	9,00,000
23	Miscellaneous Services	Lump-sum	-	-	1,50,000
	TOTAL FOR SERVICES				29,00,000
	GRAND TOTAL				₹ 1,08,72,500

Table 16.7 Details of Mini sun Temple and Time measuring sun Dial

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Mini sun Temple and Time measuring sun Dial for Development of Suryalanka Iconic Beach Corridor Date 12.10.2024						
SI no	Description	Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs
1	Building Cost					
1.1	RCC Framed Structure (Upto Six Stories)					
1.1.1	Floor Height 4.5 Metre	166	30820			5116120
1.3	Extra For					
1.3.3	Extra for every 0.3 m or part thereof higher plinth height over normal plinth height of 0.6 m (on ground floor area only)	166	421			69886
1.3.7	Pile foundation upto a depth of 15 m (On ground floor area only)	166	19460			3230360
1.4.2	Add or deduct for every 0.3 m or part thereof height against normal height of 3.35 m (considering additional 0.9 m height above normal height)	166	1000			166000
					TOTAL	13078212

Table 16.8 Details of Sailing club Construction

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Sailing club for Development of Suryalanka Iconic Beach Corridor Date 12.10.2024						
SI no	Description	Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs
1	Building Cost					
1.1	RCC Framed Structure (Upto Six Stories)					
1.1.1	Floor Height 4.5 Metre	1500	30820			46230000
1.3	Extra For					
1.3.3	Extra for every 0.3 m or part thereof higher plinth height over normal plinth height of 0.6 m (on ground floor area only)	1500	421			631500
1.3.7	Pile foundation upto a depth of 15 m (On ground floor area only)	1500	19460			29190000
1.4.2	Add or deduct for every 0.3 m or part thereof height against normal height of 3.35 m (considering additional 0.9 m height above normal height)	1500	1000			1500000
					TOTAL	77551500

Table 16.9 Details of Solar Maze

Preliminary Estimate based on Plinth Area Rates 2023 of CPWD						
Project: Construction of Solar Maze for Development of Suryalanka Iconic Beach Corridor						
Date 12.10.2024						
Item No	Details of work	Measurements		Quantity	No. of units	Total Quantity (as per CPWD rates)
		Area (Sq.m)	Height-H(m)			
1	Earth Work Excavation	235.4	1.2	282.48	1	282.48
2	PCC bed (1:4:8) bed for foundation	235.4	0.15	35.31	1	35.31
3	RCC Foundation beam (M20 Concrete)	235.4	0.23	54.142	1	71.962
		59.4	0.3	17.82		
4	Foundation brickwork (C:M:1:6)	56.7	0.52	29.484	1	29.484
5	Plinth beam	56.7	0.3	17.01	1	17.01
6	Brick Masonry wall for superstructure (C:M:1:6)	56.7	1.7	96.39	1	96.39
7	RCC Top Beam	56.7	0.3	17.01	1	17.01
8	Plastering with 1:6 CM or superstructure - Inside walls	599.06		599.06	1	599.06
9	Plastering with 1:6 CM or superstructure - outside walls + plinth	678.9		678.9	1	678.9
10	Brick base for sun	19.5	0.6	11.7	1	11.7
14	Plastering with 1:6 CM for brick base of sun	15.64		15.64	1	15.64
11	Stone coping for wall	75.6		75.6	1	75.6
12	Rough PCC (1:2:4) flooring	762.56	0.1	76.256	1	76.256
13	Flooring CM finish	762.56	0.05	38.128	1	38.128
15	Backfilling the plinth by soil	762.56	0.45	343.152	1	343.152
16	Acrylic sheets for covering planet-1.4 m diameter	3.08		3.08	8	24.64
17	Acrylic sheets for covering Sun-2.8 m diameter	12.31		12.31	1	12.31
18	Steel structure to support acrylic sheets					
				Total:	39,61,813.1945	

16.10 BILL OF QUANTITIES (INTERACTIVE GALLERY + INTERPRETATION CENTRE)										
Item No	Description of work	Measurements		Quantity	NO :of units	Total Quantity	Units	Unit Rate (As per AP - SOR)	Amount (₹)	Remarks
		Area (Sq.m)	Height-H (m)							
Foundation										
1	Pile foundation upto a depth of 15 m (On ground floor area only)	881		881	2	1762	Sq.m	19460	34288520	According to plinth area rate of CPWD 2023
								COST	34288520	
Ground Floor (INTERACTIVE GALLERY + INTERPRETATION CENTRE-1762 SQ M)										

<p>2</p>	<p>Supply and placing of the M25 Grade Design Mix Concrete corresponding to IS 456 using WEIGH BATCHER/ MIXER with 20 mm size graded machine crushed hard granite metal (Coarse aggregate) from approved quarry including cost and conveyance of all materials like cement, fine aggregate (sand) coarse aggregate, water etc., to site and including all materials including all operational, incidental and labour charges such as weigh batching, machine mixing, laying concrete, curing etc., complete but excluding cost of steel and its fabrication</p>								
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	charges for finished item of work (APSS No.402) with minimum cement content as per IS code from standard suppliers approved by the department including pumping, centering, shuttering, laying concrete, vibrating, curing etc., complete but excluding cost of steel and its fabrication charges for finished item of work.									
2.1	Plinth beam	113.14	0.45	50.913	2	101.826	Cu.m	14425.78	1468919	plinth beam C.S=0.45*0.45 RATE=RCC work+form work =9045.75+736.40 = 9782.15 rs
2.2	RCC for pillars (till F.F slab beam level)	0.405	3.8	1.539	38	58.482	Cu.m	14992.41	876786	M20 grade with form work rate=10852.95+961.30=11814.25
2.3	RCC Beam for F.F slab+ slab Beam	113.14	0.7	79.198	2	158.396	Cu.m	7252.04	1148695	M20 grade RCC Beam
		628	0.2	125.6	2	251.2	Cu.m	13112.00	3293734	M20 grade RCC Slab

2.4	Lintel band RCC work	45.5	0.15	6.825	2	13.65	Cu.m	14032.82	191548	M20 grade with form work rate=11505.5+736.40=12241.9
2.5	Form work for FF Slab	628		628	2	1256	sq.m	927.25	1164626	
3	Glass work (double glazed PHOTOVOLTAIC) for windows	10.8		10.8	8	86.4	sq.m	9000	777600	
4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in:									
4.1	Brick Masonry wall for superstructure (C:M ::1:6)	45.5	3.65	187.87	2	375.74	Cu.m	7838.10	2945088	volume of brick wall deducting openings

<p>5</p>	<p>Plastering 12mm thick (behind dedo) in two coats with base coat of 8mm thick in CM(1:6) and top coat of 4mm thick in CM(1:4) with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including , sales & other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting Grooves as directed by Engineer-in-charge etc., complete for finished item of work for internal</p>								
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		surfaaes.(SS 901,903 & 904)									
	5.1	Plastering with 1:6 CM or superstructure - outside walls + plinth	626.1		626.1	2	1252.2	sq.m	565.22	707769	
	5.2	Plastering with 1:6 CM or superstructure - Inside walls	781.484		781.484	2	1562.968	sq.m	525.97	822078	
	5.3	Plastering with 1:4 CM or superstructure - outside walls + plinth	626.1		626.1	2	1252.2	sq.m	465.22	582549	
	5.4	Plastering with 1:4 CM or superstructure - Inside walls	781.484		781.484	2	1562.968	sq.m	425.97	665781	

<p>6</p>	<p>Painting to new walls with 2 coats of plastic emulsion paint of approved brand and shade (APEX) over a base coat of approved cement primer grade I making making 3 coats in all to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, incidental, labour charges etc. complete for finished item of work as per SS 912 for external walls for:- External Colouring - Plastic emulsion paint - 3 Coats</p>									
<p>6.1</p>	<p>Painting finish of wall-external</p>	<p>626.1</p>		<p>626.1</p>	<p>2</p>	<p>1252.2</p>	<p>sq.m</p>	<p>256.22</p>	<p>320842</p>	

	6.2	Painting finish of wall -interior	781.484		781.484	2	1562.968	sq.m	185.13	289350	
	7	Flooring with Non-skid Ceramic floor tiles of Scratch free-stain free and scratch free-nano finish of Size 600 mm x 600 mm and thickness between 8-10 mm and 1st quality conforming to IS:13711, IS:13712, IS:13630 (Parts 1 to 15) of any colour and finish in all shades and designs of make as approved by Engineer-in-charge over RCC slab / CC bed already laid set over a base coat of CM (1:8) prop 12mm thick including neat cement slurry of honey like consistency spread at the rate of 3.3 kg per sq.m and filling the joints with									

		neat white cement paste mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, ceramic tiles, white cement etc., to site, including cost of on all materials, cost of base coat and all labour charges for mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in-charge curing etc., complete for finished item of work.									
7.1	Rough PCC (1:2:4) flooring		868.7	0.1	86.87	2	173.74	Cu.m	4892.15	849962	
7.2	Flooring Tile finish		868.7		868.7	2	1737.4	sq.m	1277.85	2220128	
7.3	Stair Tile Finish		45.5		45.5	2	91	sq.m	4412.23	401513	Assuming polished tiles

8	Filling carted sand in trenches, sides of foundations, basement etc. from approved quarry /available sources in layers not exceeding 15cm. thick, consolidating each deposited layer by watering and ramming, including cost and conveyance of sand, and water to work site and all operational, incidental, labour charges, etc. complete for finished item of work as per SS 309 and 310.	868.7	0.45	390.915	2	781.83	Cu.m	835.77	653434	
								COST	19380401	
FIRST FLOOR (INTERACTIVE GALLERY + INTERPRETATION CENTRE)										

<p>9</p>	<p>Flooring with Non-skid Ceramic floor tiles of Scratch free-stain free and scratch free-nano finish of Size 600 mm x 600 mm and thickness between 8-10 mm and 1st quality conforming to IS:13711, IS:13712, IS:13630 (Parts 1 to 15) of any colour and finish in all shades and designs of make as approved by Engineer-in-charge over RCC slab / CC bed already laid set over a base coat of CM (1:8) prop 12mm thick including neat cement slurry of honey like consistency spread at the rate of 3.3 kg per sq.m and filling the joints with neat white cement paste mixed with</p>								
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	pigment of matching shade including cost and conveyance of all materials like cement, sand, water, ceramic tiles, white cement etc., to site, including cost of on all materials, cost of base coat and all labour charges for mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in-charge curing etc., complete for finished item of work.									
9.1	Floor finish	695.66		695.66	2	1391.32	sq.m	1277.85	1777891	Assuming polished tiles
10	Supply and placing of the M25 Grade Design Mix Concrete corresponding to IS 456 using WEIGH BATCHER/ MIXER with 20 mm size graded machine crushed									

	<p>hard granite metal (Coarse aggregate) from approved quarry including cost and conveyance of all materials like cement, fine aggregate (sand) coarse aggregate, water etc., to site and including all materials including all operational, incidental and labour charges such as weigh batching, machine mixing, laying concrete, curring etc., complete but excluding cost of steel and its fabrication charges for finished item of work (APSS No.402) with minimum cement content as per IS code from standard suppliers approved by the department including</p>									
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		pumping, centering, shuttering, laying concrete, vibrating, curing etc., complete but excluding cost of steel and its fabrication charges for finished item of work.									
	10.1	RCC for pillars (till beam level)	0.405	3.8	1.539	38	58.482	Cu.m	15449.00	903488	M20 grade with form work rate=10852.95+961.30=11814.25
	10.2	Lintel band RCC work	45.5	0.15	6.825	2	13.65	Cu.m	14489.00	197775	M20 grade with form work rate=11505.5+736.40=12241.9
	10.3	RCC work for roof slab =floor slab+ roof slab beams	1004.5	0.2	200.9	2	401.8	Cu.m	13368.00	5371262	M20 grade RCC slab
			113.14	0.5	56.57	2	113.14	Cu.m	13731.00	1553525	M20 grade RCC beam
	11	Glass work (double glazed PHOTOVOLTAIC) for windows	10.8		10.8	8	86.4	sq.m	9000	777600	
	12	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level									

	in all shapes and sizes in:										
12.1	Brick Masonry wall for superstructure (C:M ::1:6)	45.5	3.65	187.87	2	375.74	Cu.m	7934	2981212	volume of brick wall deducting openings	
13	Plastering 12mm thick (behind dedo) in two coats with base coat of 8mm thick in CM(1:6) and top coat of 4mm thick in CM(1:4) with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including , sales & other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting										

	Grooves as directed by Engineer-in-charge etc., complete for finished item of work for internal surfacaes.(SS 901,903 & 904)										
13.1	Plastering with 1:6 CM or superstructure - Inside walls	635.1		635.1	2	1270.2	sq.m	565.69	718534	surface Area=wall area -openings	
13.2	Plastering with 1:6 CM or superstructure - outside walls	790.48 4		790.484	2	1580.968	sq.m	614.60	971668	surface Area=wall area -openings	
13.3	Plastering with 1:4 CM or superstructure - Inside walls	635.1		635.1	2	1270.2	sq.m	465.69	591514	surface Area=wall area -openings	
13.4	Plastering with 1:4 CM or superstructure - outside walls	790.48 4		790.484	2	1580.968	sq.m	514.60	813571	surface Area=wall area -openings	
14	Painting to new walls with 2 coats of plastic emulsion paint of approved brand and shade (APEX) over a base coat of approved cement primer grade I making making 3										

		coats in all to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, incidental, labour charges etc. complete for finished item of work as per SS 912 for external walls for:- External Colouring - Plastic emulsion paint - 3 Coats									
	14.1	Painting finish of wall-interior	635.1		635.1	2	1270.2	sq.m	256.22	325454	
	14.2	Painting finish of wall -exterior	790.484		790.484	2	1580.968	sq.m	185.13	292682	
									COST	17276178	
				Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs			

15	Fire Fighting								
15.1	With wet riser and sprinkler system	881	1200			1057200			
15.2	Automatic fire alarm system	881	600			528600			
						Sub total A	72530899		
16	PART B-SERVICES								
16.1	Internal Water supply and sanitary Installations								
	Offices & Colleges			10		7253090			
16.2	Electrical External service connections			3.75		2719909			
	Civil External Service connections			1.25		906636			
	Local body approvals including tree cutting etc			1.25		906636			
	Internal Electric Installations			12.5		9066362			
	Architectural Features			6		4351854			
16.3	Extra For								
	Power wiring and plugs			6		4351854			
	Lightning conductors			0.25		181327			
	Telephone conduits			0.25		181327			
17	Lifts								
17.1	13 Passenger Lifts 1 nos					3000000			

	17.2	16 Passenger Lifts 1 nos					7541000			
	4	RCC Water Tank cost per litre								
	4.1	Over head tank without independent staging	50000	20			1000000			
	4.5	Underground sump	100000	20			2000000			
	5	External Parking	8200	4500			36900000			
	6	Compound wall - 1500 Rmt with Security lighting					7000000			
							Sub total B	87359996		
							TOTAL COST(A+B)	159890895		
		Add Seignorages @ 1%						1598909		
		Add NAC @ 0.1%						159891		
		Add Quality Control @ 0.5%						799454		
		Add Consultancy @ 2.00%						3197818		
		Add Contingencies at 3%						4796727		
								170443694		
	Add GST @ 18%							30679865		
		Add PS Charges @ 3.00%						4796727		

Total						20592028				
						6				

Table 16.11 BOQ for Convention Hall

BILL OF QUANTITIES (CONVENTION HALL)										
Item No	Details of work	Measurements		Quantity	NO :of units	Total Quantity	Units	Unit Rate (₹) (CPWD Delhi schedule of rates 2023)	Amount (₹)	Remarks
		Area(Sq. m)	Height-H(m)							
Foundation										
1	Pile foundation upto a depth of 15 m (On ground floor area only)	900		900	1	900	Sq. m	19460	17514000	According to plinth area rate of CPWD 2023
								COST	17514000	
Ground Floor										

<p>2</p>	<p>Supply and placing of the M25 Grade Design Mix Concrete corresponding to IS 456 using WEIGH BATCHER/ MIXER with 20 mm size graded machine crushed hard granite metal (Coarse aggregate) from approved quarry including cost and conveyance of all materials like cement, fine aggregate (sand) coarse aggregate, water etc., to site and including all</p>									
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<p>materials including all operational, incidental and labour charges such as weigh batching, machine mixing, laying concrete, curring etc., complete but excluding cost of steel and its fabrication charges for finished item of work (APSS No.402) with minimum cement content as per IS code from standard suppliers approved by the department including pumping, centering, shuttering,</p>									
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		laying concrete, vibrating, curing etc., complete but excluding cost of steel and its fabrication charges for finished item of work.									
2.1	Plinth beam	51.82	0.54	27.9828	1	27.9828	Cu. m	9782.15	273731.947	plinth beam C.S=0.45*0.45 RATE=RCC work+form work =9045.75+736.40 = 9782.15 rs	
2.2	Lintel band RCC work	57.2	0.15	8.58	1	8.58	Cu. m	12241.9	105035.502	M20 grade with form work rate=11505.5+736.40=12241.9	
2.3	RCC for pillars (till F.F slab beam level)	0.405	3.8	1.539	19	29.241	Cu. m	11814.25	345460.4843	M20 grade with form work rate=10852.95+961.30=11814.25	
2.4	RCC staircase work	18		3.65	1	3.65	Cu. m	11505.5	41995.075		
2.5	RCC Beam for F.F slab+ slab Beam	84.82	0.7	59.374	1	59.374	Cu. m	11505.5	683127.557	M20 grade RCC Beam	
		241.16	0.2	48.232	1	48.232	Cu. m	11505.5	554933.276	M20 grade RCC Slab	
2.5	Form work for FF Slab	241.16		241.16	1	241.16	sq. m	927.25	223615.61		

2.6	Form work for FF Slab beams	271.42		271.42	1	271.42	sq. m	736.4	199873.688	
3	Glass work (double glazed PHOTOVOLTAIC) for windows	2.4		2.4	16	38.4	sq. m	9000	345600	
4	Doors for toilets	1.89		1.89	7	13.23	sq. m	1500	10500	
5	Doors for hall	6		6	3	18	sq. m	26,080.20	78240.6	volume of brick wall deducting openings
6	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in:	57.2	3.65	187.87	1	187.87	Cu. m	9105.95	1710734.827	volume of brick wall deducting openings

<p>7</p>	<p>Plastering 12mm thick (behind dedo) in two coats with base coat of 8mm thick in CM(1:6) and top coat of 4mm thick in CM(1:4) with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including , sales & other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour</p>									
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	charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting Grooves as directed by Engineer-in-charge etc., complete for finished item of work for internal surfacaes.(SS 901,903 & 904)									
7.1	Plastering with 1:6 CM or superstructure - outside walls + plinth	495.6		495.6	1	495.6	sq. m	333.35	165208.26	
7.2	Plastering with 1:6 CM or superstructure - Inside walls	1006.9		1006.9	1	1006.9	sq. m	333.35	335650.115	
7.3	Plastering with 1:4 CM or	495.6		495.6	1	495.6	sq. m	130.82	64834.392	

		superstructure - outside walls + plinth									
7.4		Plastering with 1:4 CM or superstructure - Inside walls	1006.9		1006.9	1	1006.9	sq. m	130.82	131722.658	
8		Painting to new walls with 2 coats of plastic emulsion paint of approved brand and shade (APEX) over a base coat of approved cement primer grade I making 3 coats in all to give an even shade after thoroughly brushing the surface to remove all dirt and remains of									

		loose powdered materials, including cost and conveyance of all materials to work site and all operational, incidental, labour charges etc. complete for finished item of work as per SS 912 for external walls for:- External Colouring - Plastic emulsion paint - 3 Coats								
8.1	Painting finish of wall- exterior	495.6		495.6	1	495.6	sq. m	171	84747.6	
8.2	Painting finish of wall - interior	1006.9		1006.9	1	1006.9	sq. m	193.7	195036.53	

<p>9</p>	<p>Flooring with Non-skid Ceramic floor tiles of Scratch free-stain free and scratch free-nano finish of Size 600 mm x 600 mm and thickness between 8-10 mm and 1st quality conforming to IS:13711, IS:13712, IS:13630 (Parts 1 to 15) of any colour and finish in all shades and designs of make as approved by Engineer-in-charge over RCC slab / CC bed already laid set over a base coat of</p>									
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	<p>CM (1:8) prop 12mm thick including neat cement slurry of honey like consistency spread at the rate of 3.3 kg per sq.m and filling the joints with neat white cement paste mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, ceramic tiles, white cement etc., to site, including cost of on all materials, cost of base coat and all labour charges for</p>									
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		mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in-charge curing etc., complete for finished item of work.									
9.1	Rough PCC (1:2:4) flooring		842.8	0.1	84.28	1	84.28	Cu. m	8595.15	724399.24 2	
9.2	Flooring Tile finish		842.8		842.8	1	842.8	sq. m	1453.63	1225119.3 64	
9.3	Stair Tile Finish		45		45	1	45	sq. m	1453.63	65413.35	Assuming polished tiles
10	Filling carted sand in trenches, sides of foundations, basement etc. from approved quarry /available sources in		842.8	0.45	379.26	1	379.26	Cu. m	196	74334.96	

	layers not exceeding 15cm. thick, consolidating each deposited layer by watering and ramming, including cost and conveyance of sand, and water to work site and all operational, incidental, labour charges, etc. complete for finished item of work as per SS 309 and 310.									
									COST	7639315.037
FIRST FLOOR										

<p>11</p>	<p>Flooring with Non-skid Ceramic floor tiles of Scratch free-stain free and scratch free-nano finish of Size 600 mm x 600 mm and thickness between 8-10 mm and 1st quality conforming to IS:13711, IS:13712, IS:13630 (Parts 1 to 15) of any colour and finish in all shades and designs of make as approved by Engineer-in-charge over RCC slab / CC bed already laid set over a base coat of</p>									
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	<p>CM (1:8) prop 12mm thick including neat cement slurry of honey like consistency spread at the rate of 3.3 kg per sq.m and filling the joints with neat white cement paste mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, ceramic tiles, white cement etc., to site, including cost of on all materials, cost of base coat and all labour charges for</p>									
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	mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in-charge curing etc., complete for finished item of work.									
11.1	Floor finish	174.14				174.14	sq. m	1453.63	253135.1282	Assuming polished tiles
12	Supply and placing of the M25 Grade Design Mix Concrete corresponding to IS 456 using WEIGH BATCHER/ MIXER with 20 mm size graded machine crushed hard granite metal (Coarse									

aggregate) from approved quarry including cost and conveyance of all materials like cement, fine aggregate (sand) coarse aggregate, water etc., to site and including all materials including all operational, incidental and labour charges such as weigh batching, machine mixing, laying concrete, curring etc., complete but excluding cost of steel and its fabrication charges for finished item									
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	of work (APSS No.402) with minimum cement content as per IS code from standard suppliers approved by the department including pumping, centering, shuttering, laying concrete, vibrating, curing etc., complete but excluding cost of steel and its fabrication charges for finished item of work.										
12.1	Lintel band RCC work	33.66	0.15	5.049	1	5.049	Cu. m	12241.9	61809.353	1	M20 grade with form work rate=11505.5+736.40=12241.9

12.2	RCC for pillars (till beam level)	0.54	3.8	2.052	19	38.988	Cu. m	11814.25	460613.979	M20 grade with form work rate=10852.95+961.30=11814.25
12.3	RCC work for roof slab =floor slab+ roof slab beams	1111.8	0.2	222.36	1	222.36	Cu. m	11505.5	2558362.98	M20 grade RCC slab
		43.36	0.5	21.68	1	21.68	Cu. m	11505.5	249439.24	M20 grade RCC beam
12.4	Form work for roof slab	43.36		981.7	1	981.7	sq. m	927.25	910281.325	
12.5	Form work for roof beams	507.6		507.6	1	507.6	sq. m	736.4	373796.64	
13	Glass work (double glazed PHOTOVOLTAIC) for windows	2.4		2.4	20	48	sq. m	9000	432000	
14	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in									

	all shapes and sizes in:										
14.1	Brick Masonry wall for superstructure (C:M ::1:6)	33.66	3.65	130.08	1	113.25	Cu. m	9105.95	1031248.838	volume of brick wall deducting openings	
15	Plastering 12mm thick (behind dedo) in two coats with base coat of 8mm thick in CM(1:6) and top coat of 4mm thick in CM(1:4) with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including ,										

	sales & other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting Grooves as directed by Engineer-in-charge etc., complete for finished item of work for internal surfacaes.(SS 901,903 & 904)									
15.1	Plastering with 1:6 CM or	204.84			1	204.84	sq. m	333.35	68283.414	surface Area=wall area -openings

		superstructure - Inside walls									
15.2		Plastering with 1:6 CM or superstructure - outside walls	210			1	210	sq. m	333.35	70003.5	surface Area=wall area -openings
15.3		Plastering with 1:6 CM or superstructure - Inside walls	204.84			1	204.84	sq. m	130.82	26797.1688	surface Area=wall area -openings
15.4		Plastering with 1:6 CM or superstructure - outside walls	210			1	210	sq. m	130.82	27472.2	surface Area=wall area -openings
16		Painting to new walls with 2 coats of plastic emulsion paint of approved brand and shade (APEX) over a base coat of approved cement primer grade I				1					

<p>making making 3 coats in all to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, incidental, labour charges etc. complete for finished item of work as per SS 912 for external walls for:- External Colouring - Plastic</p>									
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	emulsion paint - 3 Coats									
16.1	Painting finish of wall-interior	204.84			1	204.84		193.7	39677.508	
16.2	Painting finish of wall - exterior	210			1	210	sq. m	171	35910	
17	MS sheet roofing	1170.58			1	1170.58	sq. m	1457.15	1705710.647	
								COST	8304541.921	
		Quantity in Sqm	Cost /Sqm	% of Building cost	Cost /Metre	Cost in Rs				
18	Fire Fighting									
	With wet riser and sprinkler system	1800	1200			2160000				
	Automatic fire alarm system	1800	600			1080000				

						Sub total A	33457856. 96				
Services											
	19	Internal Water supply and sanitary Installations									
		Offices & Colleges			4		1338314.278				
	20	Electrical External service connections			3.75		1254670				
		Civil External Service connections			1.25		418223				
		Local body approvals including tree cutting etc			1.25		418223				
		Internal Electric Installations			12.5		4182232				

		Arhcitectural Features			5	1672893				
21	Extra For									
		Power wiring and plugs			4	1338314				
		Lightning conductors			0.25	83645				
		Telephone conduits			0.25	83645				
		Third Pary Quality Assurance			1	334578.5696				
		Consultancy services for designing and planning of project if out sourced			5	1672892.848				
22	Lifts									
22.1.1	13 Passenger Lifts 1 nos					3000000				
22.1.2	16 Passenger Lifts 1 nos					7541000				

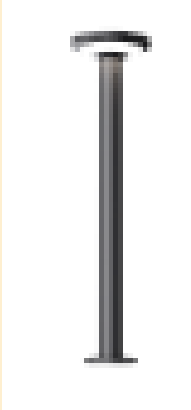

						SUB TOTAL LB	23338630. 29					
						TOTAL COST(A+B)	56796487. 24					
						Total(A+B)	5679648 7					
						Add Cost index of 112 on CPWD PAR 2023 as on 01.04.2024	6361206 6					
						Total	6361206 6					
						ESI and EPF @ 3.94 %	2506315					
						Add Contingencies at 5%	3180603					
						AP workers cess at 1%	636121					
						Grand Total	6993510 5					
						NB:Detailed estimates can differ according to the final specifications and detailed drawings.						




16.11 BOQ FOR SOLAR MYTHOLOGY



SR. NO	ITEM DESCRIPTION	UNIT	QUANTITY	RATE PER UNIT (₹)	AMOUNT (₹)
CIVIL WORK				22,10,000	
1	R.C.C. Work for Wall (till 3m)	Cu.MT	150	5,000	7,50,000
2	Polycarbonate Panel (from 3-6m)	SQ.MT	300	1,500	4,50,000
3	Glass Work for Door	SQ.MT	15	3,500	52,500
4	Piles and Foundation Work	Nos.	4	35,000	1,40,000
5	Bridge Construction (Entry to tower)	SQ.M	20	10,000	2,00,000
6	Water Feature Surrounding Foundation	Lump-sum	-	-	2,50,000
TOTAL FOR CIVIL WORK				22,10,000	
INTERIOR WORK				42,40,000	
7	Flooring (Exhibition Grade - Premium)	SQ.M	400	3,000	12,00,000
8	Acoustic Treatment	SQ.M	300	2,200	6,60,000
9	LED Lighting (Ambient + Spotlights)	Lump-sum	-	-	10,00,000
10	Furnishings (Seating, Desks, etc.)	Lump-sum	-	-	7,00,000
11	Wall Finishing (Paint/Wallpaper)	SQ.M	500	400	2,00,000
12	Miscellaneous Interior Works	Lump-sum	-	-	5,80,000
TOTAL FOR INTERIOR WORK				42,40,000	
STRUCTURAL WORKS				36,00,000	
13	FRP Dome Structure	SQ.M	200	8,000	16,00,000
14	Space Frame (Vaults)	SQ.M	150	12,000	18,00,000
15	Circular Columns (900mm dia)	Nos.	8	30,000	2,40,000


TOTAL FOR STRUCTURAL WORKS					36,00,000	
MISCELLANEOUS WORKS					5,00,000	
16	Floor Maintenance	Lump-sum	-	-		2,00,000
17	Furniture Assembly and Fittings	Lump-sum	-	-		1,50,000
18	Tech Setup (AR/VR Equipment)	Lump-sum	-	-		1,50,000
TOTAL FOR MISCELLANEOUS WORKS					5,00,000	
SERVICES					34,00,000	
19	HVAC System	Lump-sum	-	-		14,00,000
20	Fire Safety System	Lump-sum	-	-		2,00,000
21	Electrical and Data Cabling	Lump-sum	-	-		5,00,000
22	Capsule Lift (6 Passengers)	Lump-sum	-	-		9,00,000
23	Miscellaneous Services	Lump-sum	-	-		4,00,000
TOTAL FOR SERVICES					34,00,000	
GRAND TOTAL					₹ 1,09,50,000	

Table 16.12 Details of Architectural Dynamic Lighting

Architectural Dynamic Lighting (BOQ and Estimate)							
School of Planning and Architecture, Vijayawada							Date:12-10-2024
Project: Suryalanka Beach Project, Andhra Pradesh Tourism							
Sr. No	Product Description	Unit	Qty	Total Wattage	Estimate Price	Total Price	Image
1	Supply, Installation, Testing and Commissioning of LED 3000K Bollard 10W/15W 3000K luminaire for Pathway Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.	Nos	150	2250 watts	8600	1290000	
2	Supply, Installation, Testing and Commissioning of LED 3000K POST TOP 40W-60W 3000K luminaire Mounted at 5 Mtr Height for Road/ Pathway Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9 . Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required. Make - Lighting Technologies or Equivalent	Nos	120	7200 watts	46525	5583000	

3	<p>Supply, Installation, Testing and Commissioning of LED 3000K Projector / Spike 10W-12W 3000K luminaire for Plants, Tress , Bushes , Landscape Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.</p>	Nos	350	4200 watts	8300	2905000	
4	<p>Supply, Installation, Testing and Commissioning of LED 3000K Ground Burial 10W-12W 3000K luminaire for Plants, Tress , Bushes , Landscape Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.</p>	Nos	110	1320 wttts	33585	3694350	
5	<p>Supply, Installation, Testing and Commissioning of LED RGB/RGBW/3000K Flexible Neon Flex with Lens 12W-20W / Mtr luminaire for Facade, Compound Wall , Building Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9 . Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 67 and</p>	Mtrs	1500	30000 watts	5500	8250000	

	<p>IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.</p>						
6	<p>Supply, Installation, Testing and Commissioning of LED 3000K Step Light 4W-8W luminaire for Staircase Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.</p>	Nos	120	960 watts	20929	2511480	
7	<p>Supply, Installation, Testing and Commissioning of LED RGB / RGBW / 3000K Flood Light 150W-200W luminaire for Facade Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.</p>	Nos	100	20000 watts	71904	7190400	

8	Supply, Installation, Testing and Commissioning of LED RGB / RGBW / 3000K Linear Wall washer 20W / 40W / 60W luminaire for Facade Highlighting with Die-cast aluminium housing, powder-coated finish, of following wattage. The beam angle of the fitting shall be narrow, medium, wide or asymmetric as per the requirement. Luminaire shall be complete with driver and capable of operating at line voltage with / without any external power supply from 100-270 V AC, 50 Hz with power factor greater than 0.9. Fixture shall be suitable to operate at an ambient temperature range of - 10degreeC to +50degreeC and shall be IP 65 and IK 06 rated. Lifetime shall be at least L70:50000 burning hours at 50degreeC. Luminaire shall be conforming to BIS (IS 10322) and shall be complete with all necessary accessories required for proper working of fixture including weather proof connection all type of cables, water proof connectors as per requirements, etc. as required.	Nos	150	9000 watts	32890	4933500	
					Supply Amount	36,357,730.00	
NOTE:	All Light fixtures are with 5 Years warrenty, with IP 65 and for underwater IP68. All specification, desing and light fixter selction as per the Lighitng Consultant and Archtecsts approval. SITC (Supply Installation Testing and commissioning)				GST 18%	6,544,391.40	
	Set of all DBs, raw power, all other installation required accessories, support RSP, gondola, scaffolding, conducting, cabling, wiring etc to be provided at the light fixter location.				Total Supply Amount	42,902,121.40	
	Prices include 5 years product warrenty and SITC (Supply Installation Testing and commission)				Installatio n Amount	5,453,659.50	
					GST 18%	981,658.71	
					Total Installatio n Amount	6,435,318.21	
					Total Project Amount	49,337,439.61	

ANNEXURE 1: DOCUMENTARY PROOF/ CONFIRMATION/ NOC/ CLEARANCE OF THE LAND

**GOVERNMENT OF ANDHRA PRADESH
ANDHRA PRADESH TOURISM AUTHORITY
STALIN CORPORATE, AUTO NAGAR, VIJAYAWADA**

=====

LAND AVAILABILITY CERTIFICATE

It is to certify that, the Andhra Pradesh Tourism Authority having the position of the following land parcels in Adavi Village, Bapatla Mandal, Bapatla District towards development of tourism facilities:-

S.No	Village & Mandal	Survey No. & Sub Division	Extent in Acres
1	Adavi Village, Bapatla Mandal, Bapatla District	547-3A6	Ac. 6.54 Cents
2	Adavi Village, Bapatla Mandal, Bapatla District	547-3A2	Ac.8.60
3	Adavi Village, Bapatla Mandal, Bapatla District	547-3A3	Ac. 6.14 Cents
4	Adavi Village, Bapatla Mandal, Bapatla District	547-3A7	Ac. 3.72 Cents
	Total		25.00

The above lands are encumbrance free and are available for the development of the Tourism Facilities.


DEPUTY CHIEF EXECUTIVE OFFICER
Andhra Pradesh Tourism Authority (APTA)

Date: 15-10-2024


15/10/24
Tal.

ANNEXURE 2: NOC AND CLEARANCES

ANNEXURE 3: NOTE – TOURIST TOUCHPOINTS

Touchpoints, a traveller's many interactions with a destination, serve as the building blocks of an overall experience. Each touchpoint can leave a lasting impression, influencing a traveller's satisfaction, enhance the visitor experience, drive repeat visits, and boost overall tourism revenue.

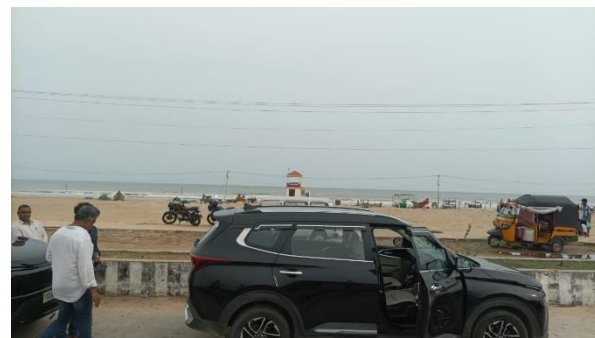
Tourists go through various stages as they interact with a destination/attraction. These stages include Inspiration and research, Planning and booking, Arrival and on-site experience and Departure and post-visit engagement.

Some of the tourist touch points that through which tourists interact with the destination/attraction through may include:

- Online Information, Marketing
- Arrival, Parking and traffic management at arrival area
- On-site ticketing and holding area.
- Hawking/Vending Zone (if any)
- Tourist's Interpretation
- Seamless Visitor flow especially during peak times
- Public Conveniences
- Souvenir, Food & Beverage and Other Retail
- Accommodation (if applicable)
- Mechanism to gauge Visitor satisfaction
- Any other

ANNEXURE 4: SURVEYS & INVESTIGATION

SPAV Team visited Suryalanka Beach corridor for a reconnaissance survey to understand the potential and challenges of the stretch following are the images as shown below:

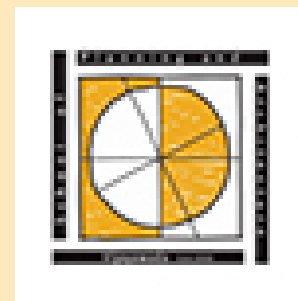


ANNEXURE-5

Projected Employment from GoI funded Project Components - Surya Lanka Beach Corridor Development											
S.No.	Activity	Details	Manpower Requirement (Nos)			Type of Manpower				Employer	mode
			per shift	no.of shifts	Total	Managerial	Technical	Skilled	Unskilled		
1	DMO Staff	Managmt of the Destination	7	0	7	1		6	0	DMO	Contract
2	Security	for 5 km stretch	20	3	60	1		6	53	DMO	Contract
3	Upkeeping	for 5 km stretch	20	2	40	1	2	2	35	DMO	Contract
4	Hero Attraction	ICONIC Structure	10	2	20	2	2	6	10	O&M Op	Operator
		AR & VT	12	1	12	2	2	4	4	O&M Op	Operator
		Itenractive Gallery	12	1	12	2	2	4	4	O&M Op	Operator
		Solar Maze	12	1	12	2	0	4	6	O&M Op	
		Space Theatre	12	2	24	2	4	4	14	O&M Op	
		Exhibition Hall	24	1	24	2	4	6	12	Catere r	
		F&B - 400 seater food court	160	2	320	10	50	100	160	O&M Op	
5	Sailing Club	Sailing Activities	16	2	32	2	6	20	4	O&M Op	
		F&B - 120 seater restaurent	40	2	80	2	4	34	40	O&M Op	
		Water Sports	20	2	40	4	4	20	12	O&M Op	
		Cruise Boats - 200 Capacity	20	1	20	2	2	6	10	O&M Op	
		House Boats - 5 Nos	12	3	36	2	4	15	15	O&M Op	
		Other Adventure Activites	20	2	40	2	6	20	12	O&M Op	
		Floating Restaurent - 50 Seater	20	2	40	2	4	20	14	O&M Op	
		Banquets - 2 Nos	6	0	6	0	0	2	4	O&M Op	
7	Cycling Club	Cycle Hiring & Repairing	2	2	4	1	1	1	1	O&M Op	
8	Command & Control		3	3	9	0	3	3	3	DMO	Contract
9	Green Transportation	Electric Autos /Cabs/Two Wheelr	50	2	100			50	50	Operat or	
10	Parking	4 Parking Lots	12	3	36	1	0	3	32	O&M Op	
11	Sanitation	Collection & Trasnportation	10	3	30	0	0	6	24	O&M OP	
					1004	43	100	342	519		



APPFCS LIMITED
ANDHRA PRADESH & TELANGANA



SCHOOL OF PLANNING AND ARCHITECTURE
VIJAYAWADA