



Review of feasibility and constraints relating to designing of Beach Corridor between Kottapatnam to Tada

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Abstract : The project road between Kottapatnam to Tada has some strategic beaches potential for tourism development. Enroute along the coast, 11 beaches were located at Kottapatnam, Madanuru, Pakkala, Karedu, Ramayapatnam, Thummalapenta, Mypadu, Koduru, Krishnapatnam, Durgarajapatnam and Sriharikota. The Krishnapatnam and Sriharikota beaches are inaccessible due to the Port and Satish Dhawan Space Center respectively. However at Sriharikota in Nellore distret, the Pulicat Lake, the second largest brackish water, which encompasses the Pulicat Lake Bird Sanctuary is a tourist destination. The beach corridor shall pass through Prakasam and Nellore districts of Andhra Pradesh.

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The main objective of the study is to establish the technical, environmental, social feasibility and economic viability of the project. The Study will result in identification of suitable alignment for the Beach Corridor, with a road with suitable configuration (2/4/6 lane) along with the Right of Way (RoW) as per the alignment, off-road connectivity to key locations and improved connectivity to adjacent tourism locations and industrial areas by improving approach roads all along the CoI.

During the several site visits have collected field data to understand the project and its constraints which has been subsequently used to formulate the project improvement/development proposals. The salient existing features of the project are discussed in the subsequent paragraphs to give an overview of the project corridor. The proper understanding of the existing project features and constraints form the basis of the design proposals to follow. The project features discussed are as follows:



- High Tide Line (HTL)
- Beaches along the corridor
- Terrain and Land use
- Climatic Conditions
- General Topography
- Existing Alignment
- Drainage
- Buckingham Canal
- Cross-road and Junctions
- Railway Crossings
- Utility Lines

High Tide Line (HTL)

The maximum elevation reached by the rising tide, especially during or near the time of new or full moon is called the High Tide. Coastal roads are greatly influenced by hydrodynamics of the sea and the coastal storms. Hence to build a safer roads vicinity to the beach, the desires to propose the beach corridor road atleast 200m away from the High Tide Line (HTL). However in order to maximize the potential of beaches and provide sea-view to the road users, the project road along the HTL has been approved. Hence the road would come within the Coastal Regulatory Zone (CRZ) as per CRZ Notification 2011.

Beaches Along the Corridor

As the primary objective of the project is to augment tourism infrastructure of the Coromandel Coast, during site visit identified no. of beaches where tourism activities are already in place. Besides, some potential beaches where tourism can be promoted are also identified.

Terrain and Landuse

The entire project section between Ramayapatnam to Durgarajupatnam lies on plain terrain. The corridor has mostly alluvium deposit with laterites available in patches. The geological map is presented in Fig. 2.2. The landuse noticed in the project corridor is mostly agricultural and pisci-culture. Scattered settlements exist along the project corridor. At Thummalapenta and Mypadu,



beach resorts facilitating the tourist activities were noted. At Krishnapatnam a port has been developed under Build, Operate, Share and Transfer (BOST) concession basis by *Krishnapatnam Port Company Ltd. (KPCL)*. Besides, no. of thermal power plants in the Krishnapatnam area was also noticed.

Climatic Condition

The climate of the region is a typical tropical maritime climate, with hot, humid summers and mild winters. April and May are the hottest months and the hot conditions generally last until the end of the June, December, January and February are the coolest months. Being in proximity to Bay of Bengal, the sea breeze renders the climate of the city moderate both in winter and in summer. Humidity level is high due to its proximity to the coast. Project area does not receive the south-west monsoon. Rainfall in the region occurs between the months of October and December due to the north-east monsoon. This period gives about 60 percent of the region's annual rainfall. Cyclones are common in the area during this period, causing floods and damages. The maximum temperature is 36 to 46 °C during summer and the minimum temperature is 23 to 25 °C during winter. The rainfall ranges from 700 to 1,000 mm through South West and North East Monsoons.

General Topography

The entire project corridor runs through plain terrain. Being in proximity to the Bay of Bengal, the corridor runs through mostly sandy silt to silty sand deposits. The general slope of the region is towards the sea side, except in the salt pan areas where landward side slope is noticed. The average ground slope of the region is noticed to be about 0.3%.

Existing Alignment

The entire corridor is a green field alignment and nowhere any existing road has been used.



Drainage

The corridor being close to the sea is generally low lying. Hence during monsoon occasional water logging is noticed in several small pockets. In general the drainage slope is towards the seaward side except in the backwater and salt pan areas where the slope is on the landward side.

Buckingham Canal

The Buckingham Canal runs parallel to the Coromandel Coast from Kakinada in East Godavari district in Andhra Pradesh to Villupuram District in Tamil Nadu. The Cooum River connects the canal to the Bay of Bengal in the center of Chennai. The portion north of the Cooum is known as the North Buckingham Canal, and the portion on the south as South Buckingham Canal. The North Buckingham Canal en route passes all along the coast through the project corridor. The canal connects most of the natural backwaters along the coast. In the project section, it connects the backwaters at Iskapalli, Utukuru, Pathapalem, Krishnapatnam, Durgarajapatnam and Sriharikota.

Cross Roads and Junctions

The project corridor will have major junctions at the start at Ramayapatnam, at Mypadu with the beach access road, Krishnapatnam Port – Venkatachalam road and at the end at Durgarajapatnam. Besides, the project road intersects with no. of local earthen and bituminous roads, thus forming the minor junctions

Railway Crossings

The project road is crossing the Krishnapatnam Port – Venkatachalam railway line at one location. The crossing being located close to station and railway siding, four railway tracks exist.

Utility Lines

Within the project corridor electric poles, high tension tower, OFC and telephone poles are noticed.

References :



- Design of Coastal Protection Structures for the State Road A1A Emergency Repair
- <http://www.autodesk.in/adsk/servlet/index?siteID=123112&id=14027039>
- Beach resort evolution: Implications for planning by Russell ArthurSmith
- Predicting Hot Spots of Herpetofauna Road Mortality Along Highway Networks by Tom A. Langen
- Beach resorts: A model of development evolution by . Author links open the author workspace.Russell ArthurSmith1
- Storm effects on regional beach water quality along the southern California shoreline by Rachel T. Noble, Stephen B