

PROJECT REPORT

PROPOSED

Berthing Jetty, Conveyor Corridor with Backup Facilities and

Approach Road for Raigad Cement Bulk Terminal of ACL

AT

VILL - SHAHPUR & SHAHBAJ, TALUKA - ALIBAG, DISTRICT - RAIGAD

MAHARASHTRA



ADANI CEMENTATION LIMITED

Adani House 56, Shrimali Society, Navrangpura

Ahmedabad, Gujarat - 380009


SANJAY PRASAD



June - 2019

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1. General Information

Adani Cementation Limited (ACL), Ahmedabad has proposed to construct Berthing Jetty, Conveyor Corridor with Storage & Backup Facilities of 5 Million Tonnes Per Annum (MTPA) capacity and Approach Road for a Raigad Cement Bulk Terminal (RCBT) at Village Shahbaj & Shahpur of Alibag Taluka in Raigad District, Maharashtra.

Company Profile:

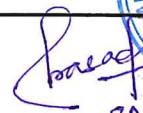
Adani Cementation Limited (ACL) is incorporated in December 2016 with vision to a leading Cement Manufacturer in India. ACL is a part of Adani Group.

The Adani Group, is one of the leading business houses in India with revenues of over USD 12 billion, employing over 10,000 people and having diverse interests in various business like global integrated commodity management, development and operation of Ports, Inland Container Depots, and Special Economic Zones, Edible Oil Refining, Shipping & Logistics, City Gas Distribution, Power Generation through renewable and non-renewable sources, Power Transmission, Solar PV Cell Manufacturing and Real Estate. The biggest source of competitive advantage for the Adani Group is its highly qualified & experienced team of the professionals. The team has demonstrated capabilities in conceptualization and implementation of large projects and has excellent records of establishing benchmarks in the industry.

ADANI Group is manned by experienced and highly qualified professionals including technocrats. The team has demonstrated capabilities in conceptualization and implementation of large projects excellent records of establishing benchmarks in the industry. With this track record of the organization in successfully execution of project, we don't foresee any problem for implementation of the proposed project of its Cement Business.

Adani Group is one of the fastest growing conglomerate in India and has the distinction of being the industry leader with business interest in India as well as abroad. Some highlights of the group are:

- It has the distinction of being India's largest port operator.



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- Its Fortune brand of edible oil is the largest selling brand in its category in India.
- Adani Group is the largest Integrated coal Manager in the country.
- It is the largest private sector thermal power producer in India.
- It is the largest Solar Power producer in India.
- It has the largest network of transmission lines in India.

2. Project Background/Requirement

2.1. Background

The proposed project is located on the southern bank of the Amba River in Shahbaj & Shahpur village of Alibag Taluka in Raigad District, Maharashtra. Pen is the nearest town located at a distance of about 8 km from the proposed project site. The proposed RCBT site is adjacent to the backyard /stackyard of PNP Port. The proposed jetty, conveyor corridor with backup facilities will be on the western side of the PNP Port. The Dharmatar JSW Port of Dolvi is located on the opposite bank of the Amba River.

Appropriate Conveyor system has been envisaged to connect the proposed Berthing Jetty and the proposed Cement Bulk terminal.

Brief description of System

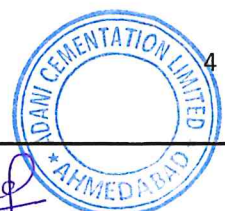
a) Unloading system at jetty

There are multiple options available for unloading of Cement at jetty Major unloading mechanisms used in the industry are as follows:

- Pneumatic unloading
- Vacuum/suction based unloading
- Mechanical unloading
- Self-discharging cement carriers

b) Conveying System with Service Road

Materials are transported to & from the jetty with the help of conveyors/Road connecting jetty and Plant.



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c) Storage with Back-up facility

ACL envisages storage and backup facility of the cargo materials handled at proposed Jetty in around 2.5 ha. towards land side adjoining to CBT in CRZ-III (Rural).

d) Approach road- Plant to Zila parishad road

An approach road between CBT and road constructed by Zila Parishad shall be constructed for material transportation.

2.2. Need of the Project

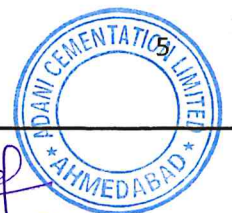
Industrialization is the better way for growth & employment. The industrialization and infrastructure growth have to go hand in hand. Cement is major component in infrastructure growth. Total Cement production in the area and nearby state does not match the demand growth and hence new capacities have to come up concurrently. The proposed plant will ensure that the supply situation in Coastal Maharashtra is comfortable in the coming times, as growth is expected to propel demand.

Adani group is known for its environment friendly initiatives across sectors it operates in and strong reputation for sustainable growth. In line with the existing agenda to make India Power sufficient in the future sustainably cement manufacturing unit are being planned close to coal based thermal power plants the group operates. Disposal of fly ash is an environmental concern which is faced by all coal based thermal power generating plants. Cement can consume up to thirty five percent of fly ash produced in the power plants and thus reduce environmental concern.

The cement projects planned by group would also generate immense employment opportunities and significant contribution to the state & central exchequer, improvement of socio economics of the area by way of education, vocational training, animal husbandry, improving infrastructure facilities such as roads, transport, improvement in Drinking water supply, Medical facility etc. The Adani Group is committed to the development of the country and will put all efforts for comprehensive development of this area also as being practiced by us at other establishments

3. Location Map and Key Plan

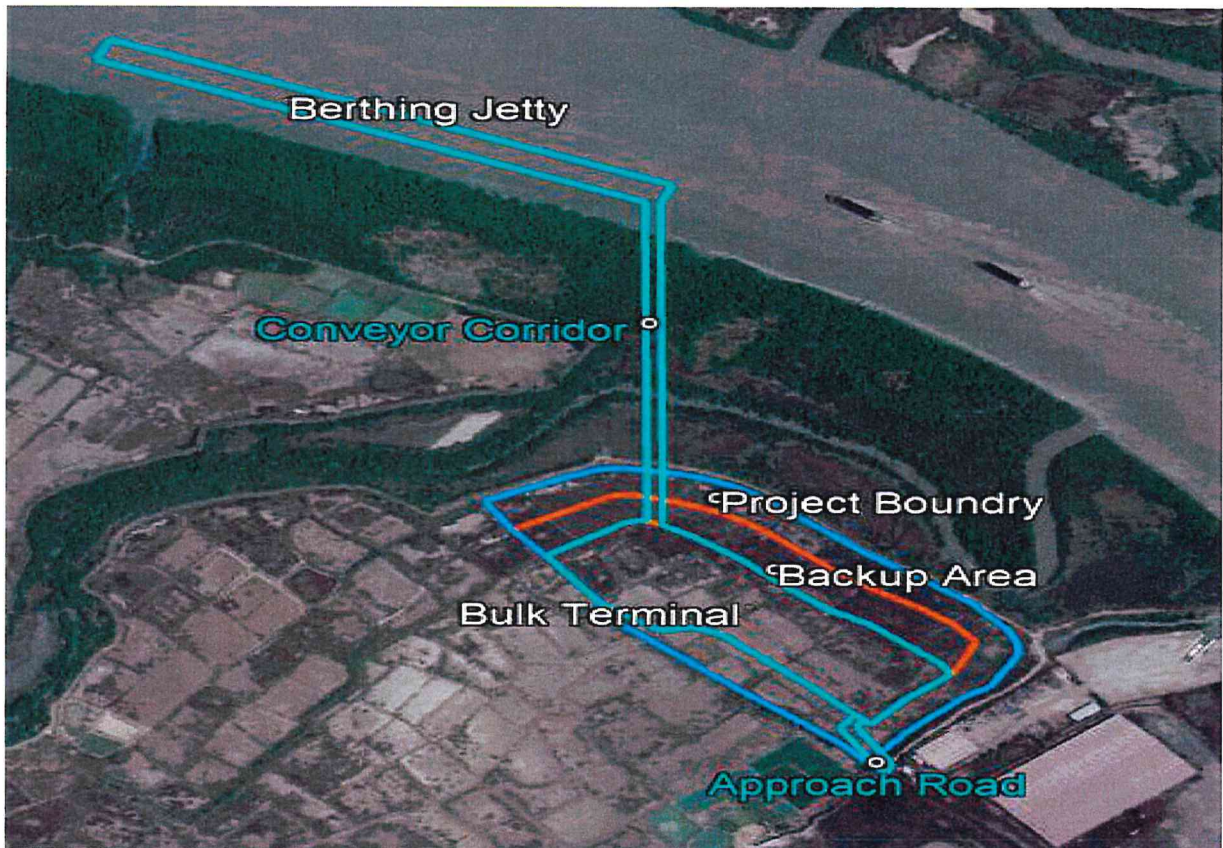
3.1. Location Map & Coordinates of Plot



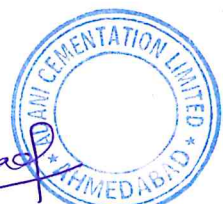
SANITAN PRAJAPATI

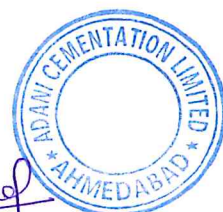
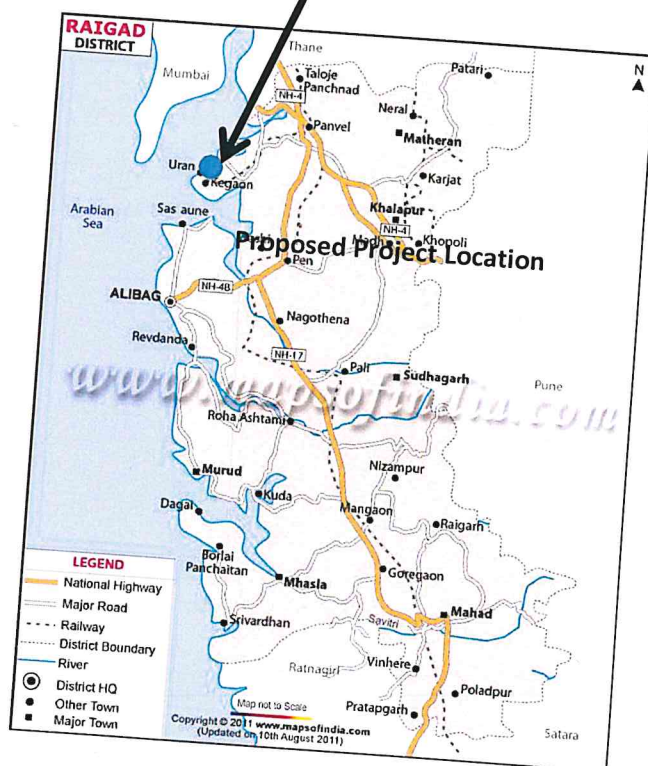
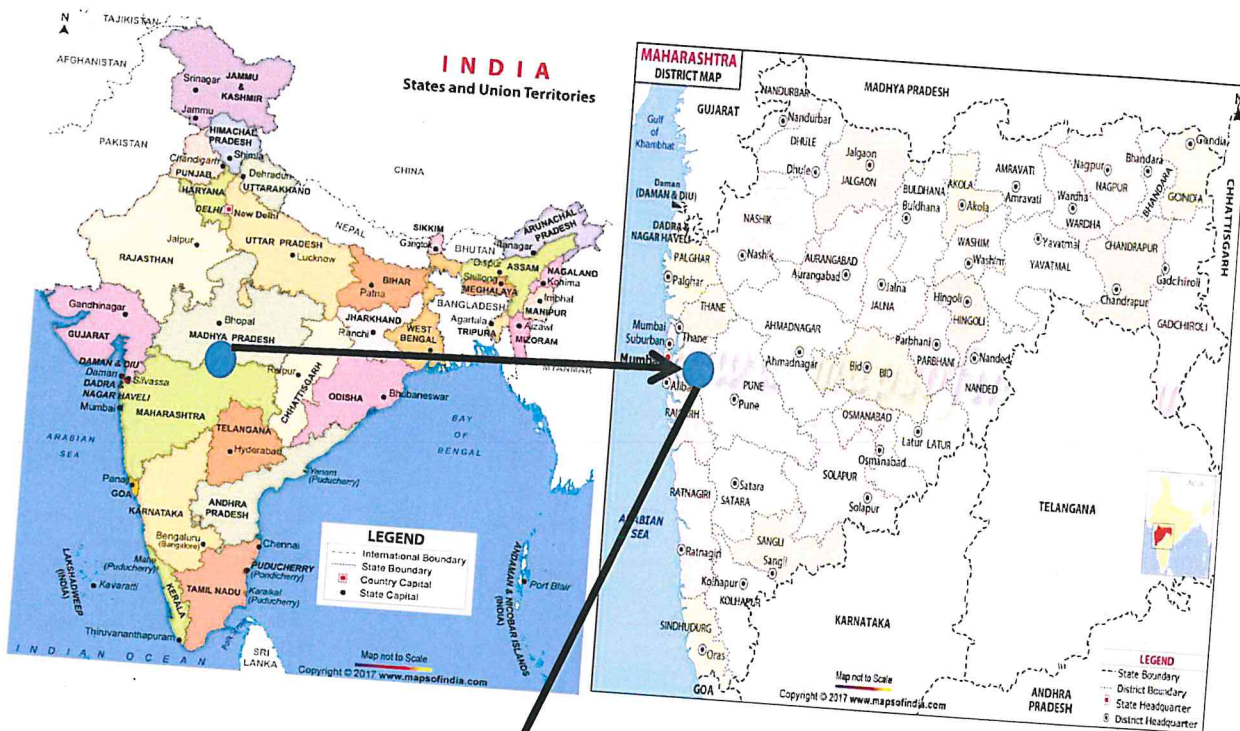
The proposed Berthing Jetty, Conveyor Corridor with Storage & Backup Facilities, Bulk Cement Terminal and Approach Road for a Cement Bulk Terminal is located at Village – Shahpur and Shahbaj, Taluka – Alibag, District – Raigad Maharashtra. Alibag is a coastal town and a Municipal Council in Raigad District of Maharashtra. It is the headquarters of the Raigad district and is south of city Mumbai. The proposed project site is almost flat with an elevation of around 3.8 mtrs in AMSL.

- Google image and Geographical location of the Plot is depicted below:




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4. Key features of the project site

Project Authority	Adani Cementation limited
Project	Berthing Jetty, Conveyor Corridor with Backup Facilities and Approach Road for Raigad Cement Bulk Terminal of ACL
Selected Location	Village Shahbaj & Shahpur, Taluka Alibag, District Raigad, Maharashtra

5. Climate and Meteorological data

Dharamtar Creek generally has humid and muggy weather, which is influenced by its proximity to Arabian Sea. This proximity is the main reason for ups and downs of the temperature. The month of May is the warmest wherein the temperature spins between 32 degree Celsius and 40 degree Celsius with relative humidity of 86%. January is coolest month with maximum temperature 24 deg C, minimum temperature 18 deg C with relative humidity of 69 %.The monsoon months are June to September that record the average rainfall of 2300 mm.

Humidity: Minimum is a little less than 65 % highest is about 85 %.

Visibility: Visibility in this area is good except for short periods in early mornings for a few days in the month of January.

Seismic Condition: The area falls in active seismic zone as per IS 1893 (Zone III). This will be considered at the time of detailed design.

6. Selection Criteria

M/s. **Adani Cementation Limited (ACL)** proposed to set up **Raigad Cement Bulk Terminal (RCBT)** capacity of **4** Million Metric Tonnes per annum Cement Storage and Packing facility in two phases (**Phase I – 2 MTPA & Phase II – 2 MTPA**) and **Berthing Jetty** (capacity of **5 MMTPA** of cargo handling capacity) at Amba River along with Conveyor Corridor and Approach road for RCBT, at Village Shahbaj & Shahpur, Tehsil Alibag, District Raigad, Maharashtra.

To find the ideal location for the RCBT and berthing of barges analysis of alternative has been carried out. Amba river which used as a national water way No. 10. Since, the three alternative site has been studied for the proposed project viz. Site 1 (S1), Site 2(S2) and site 3(S3), shown in **Figure 1** below and comparison between the site shown in **Table 1**.



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Site 1 (S1): Along Amba River, Village Masad, Taluka Pen, District Raigad

Site 2(S2): Along Amba River, Village Shahbaj, Taluka Alibaug, District Raigad **(Selected)**

Site 3(S3): Along Amba River, Village Shahbaj, Taluka Alibaug, District Raigad

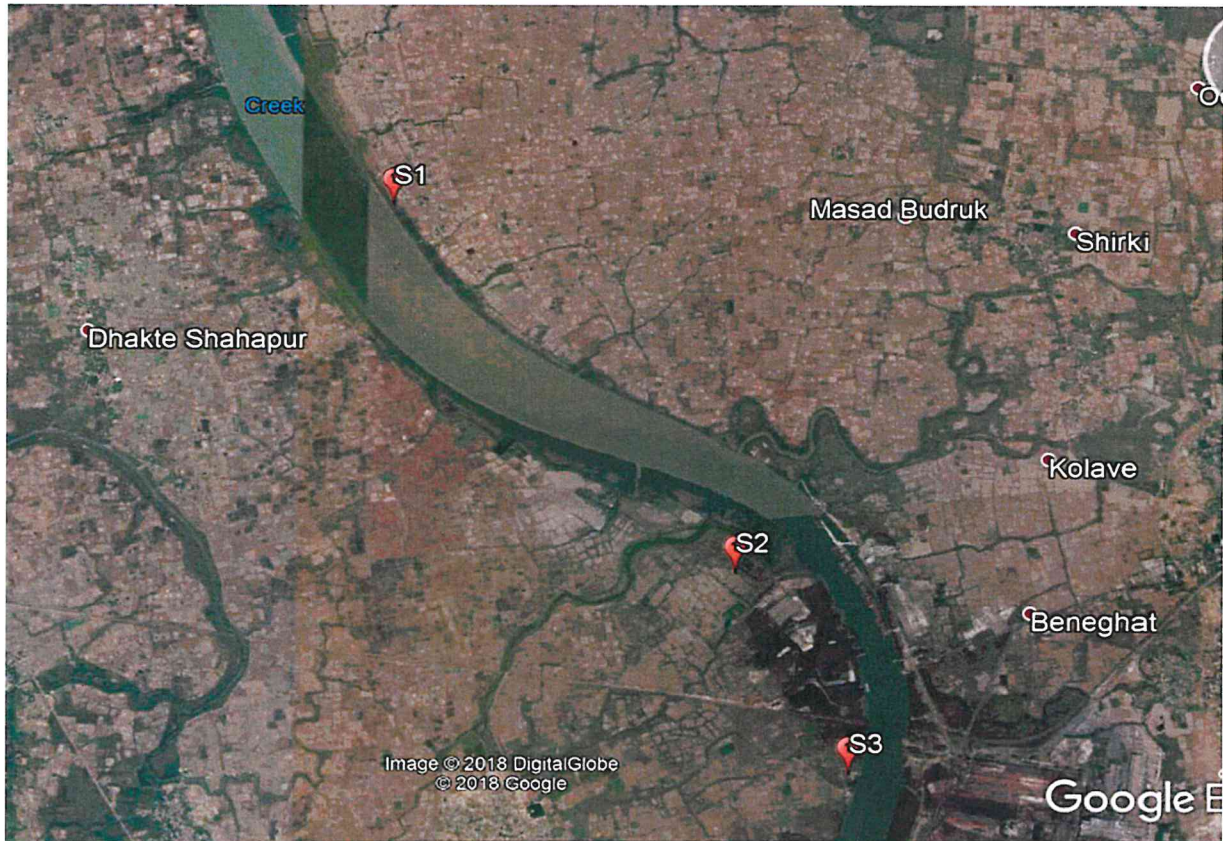
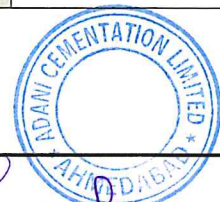


FIGURE 1 – SHOWING ALTERNATIVE SITE CONSIDERED FOR THE PROPOSED PROJECT

Table 1 Analysis of site alternatives

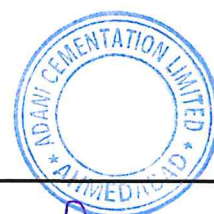
S.N.	Descriptions	Evaluation of Alternative Sites, tangible parameters		
Raigad Cement Bulk Terminal		S1	S2	S3
1	Distance of nearby River/Water bodies	Adjacent to Amba River	Adjacent to Amba River	Adjacent to Amba River
2	National Park/wild life Sanctuary / Biosphere Reserve/ Conservation Reserve	>15 km	>15 km	>15 km
3	Presence of Archaeological Sites, Historical/ Tourist	>15 km	>15 km	>15 km



	place			
4	Critically polluted areas as per MoEF notification	None	None	None
5	Presence of Environment Sensitive Area - Mangroves	Yes	Yes	Yes
6	Distance of Major city	Pen Town (@10km)	Pen Town (@8km)	Pen Town (@8.20km)
7	Major Road and Highway	State Highway SH-88 (@5.7km)	State Highway SH-88 (@1 km)	State Highway SH-88 (@0.6 km)
8	Proximity of Water Front for procurement of raw material (Km)	Adjacent to Amba River	Adjacent to Amba River	Adjacent to Amba River
9	Proximity to Highway for dispatch of finished goods (Km)	~5.0 km (Need to cross 3nos. of Habitations)	~1.5 km NH 166A	~1.5 km NH 166A
10	Proximity of nearest Settlement (Km)	0.5 km	Shahbaj Village @ 2.0 km	Shahbaj Village@ 1.5 km
11	Safety of Barge Navigation	~ 5.0 metres of draft available	~ 5.0 metres of draft available	Infringing railway/road bridges on Amba river
12	Proximity from NP/WLS/AM if any	Outside 15KM radius	Outside 15KM radius	Outside 15KM radius
	Rank	III	I	II

Site S2 has been found suitable and environment friendly for the proposed project. No adverse effect on environment is envisaged at proposed site.

At proposed Site S2, to find out ideal location for Conveyor Corridor, analysis of alternatives has been carried out. Three alternative options has been studied for the proposed conveyor corridor viz. Option 1, Option 2 and Option 3, shown in **Figure 2** and comparison between options in **Table 2**.



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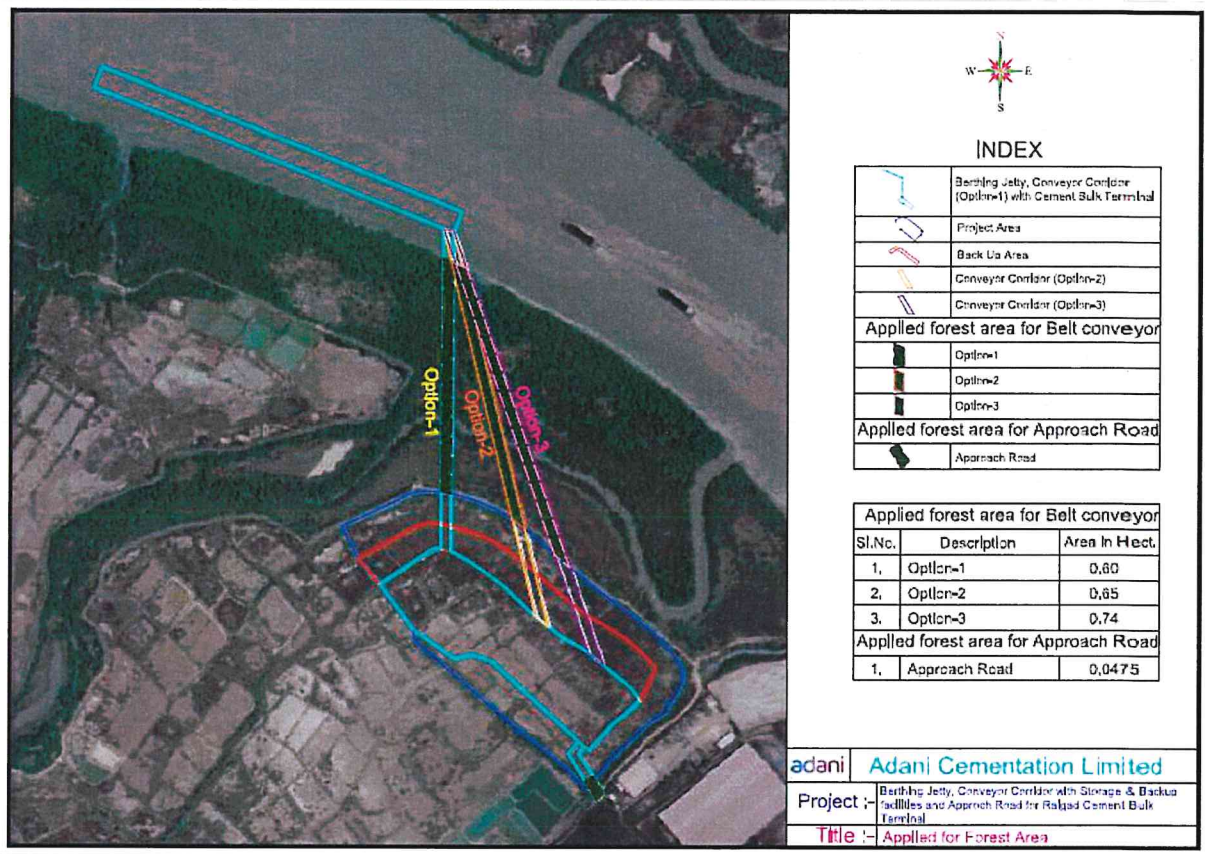


FIGURE 2 - SHOWING ALTERNATIVE OPTIONS CONSIDERED FOR CONVEYOR CORRIDOR

TABLE 2 ANALYSIS OF SITE ALTERNATIVES FOR CONVEYOR CORRIDOR

S.N.	Descriptions	Evaluation of Alternative Options, tangible parameters		
Raigad Cement Bulk Terminal		Option 1	Option 2	Option 3
1	Forest area for Conveyor Corridor	0.60 Ha	0.65 Ha	0.74 Ha
	Rank	I	II	III

Option 1 has been found suitable and environment friendly for the conveyor corridor. No adverse effect on environment is envisaged at proposed site.

7. Land requirement

Conveyor corridor length from waterfront point at Amba River to Plant Site is approx. 375 meters. Conveyor corridor width has been envisaged as 16 mtrs considering conveyor corridor and approach road. Approximate area required for Approach road is 0.60 ha.



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Approach road width has been envisaged at 16 mtrs. Approximate area required for Approach road is 0.05 ha.

8. Land Area Statement

Conveyor corridor length from waterfront point at Amba River to Plant Site is approx. 382 meters. It crosses through Shahpur and Shahbaz village of Alibag Taluka. Approximate area required for Approach road is 0.05 ha. Below table shows the complete area statement.

Adani Cementation Ltd. Details of Village wise Forest Land required for Berthing Jetty, Conveyor Corridor with Backup Facilities and Approach Road for Raigad Cement Bulk Terminal of ACL						
VILLAGE : Shahbaz						
Sl No.	Plot No.	Total Forest Area (in Ha)	Required Forest Area (in Ha)	Required Non-Forest Area (in Ha)	Total Required Area (in Ha)	Class of Land
1	333	0.0000	0.0000	3.1503	3.15030	Private Land falling under CRZ Area.
2	334					
3	335A					
4	335B					
5	335K					
6	336					
8	338					
9	339					
10	340					
11	341					
12	342	8.8170	0.1433	0.0000	0.14330	Government Land Nala & Creek Mangrove
13	343			0.0000	0.03610	
14	344	-	0.0361	3.1503	3.3297	
15	346					
17	-	-	0.1794			
Total (A)		8.8170	0.1794			
VILLAGE : Shahpur						
Sl No.	Plot No.	Total Forest Area (in Ha)	Required Forest Area (in Ha)	Required Non-Forest Area (in Ha)	Total Required Area (in Ha)	Class of Land
1	600	43.5220	0.3211	0.0000	0.3211	Sec. 4 Reserved Forest Land
2	602	3.0800	0.0956	0.0000	0.0956	Sec. 4 Reserved Forest Land
3	-	-	0.0536	0.0000	0.0536	Nala & Creek Mangrove
4	-	-	-	2.2000	2.2000	Water Front
Total (B)		46.6020	0.4703	2.2000	2.6703	
Grand Total (A + B)			0.6497	5.3503	6.0000	

9. Financial and Social Benefit

Adani Group is committed to inclusive growth and sustainable development in not only the communities it operates in, but also in contributing towards nation building.

The focus of the activities are mainly on three major dimensions of human development which include expansion of sustainable livelihood opportunities, improving the status of health and education and broadening the range of choices by creating rural infrastructure. The aim is to walk with the communities, help people look ahead, make the right choices and secure a bright and beautiful future, together.



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9.1. Improvement in the physical infrastructure

The beneficial impact of proposed project on the civic amenities will be substantial after the commencement of project activities. The basic requirement of the community needs will be strengthened by, building/strengthening of existing roads in the area. The project will also contribute to

- Development of basic local amenities
- Expansion/development/improvements in road network
- Exposure to modern technologies used in production
- Increase in local income

9.2. Improvement in the social infrastructure

The project will have positive impact on the socio-economic conditions of the region. Their production capacity will increase thereby leading to the creation of more job opportunities and avenues for income generation. As, a result it will lead to various indirect employment opportunities. People will have higher earning and buying capacities and their standard of living will increase.

The quality of life in the region is likely to improve due to the creation of jobs for the local people so that the dependency changes and there will be more than one earning member in the family, which will provide economic freedom and would facilitate a higher standard of living with better facilities. The employment generation also reduces the migration of local people to nearby areas.

9.3. Employment potential

The impact of the project on the economic aspects can be clearly observed. The proposed project activities will provide employment to persons of different skills and trades. The local population will be given preference to employment. The employment potential will ameliorate economic conditions of these families directly and provide employment to many other families indirectly who are involved in business and service oriented activities.

The development of this proposed facility will generate and support economic development as it will create economic benefits both in a direct and indirect way. By giving preference to local employment, the project will not result in influx of immigrants from other parts of the country and there by not creating stress on the existing amenities and infrastructure. The indirect employment opportunities as result of operation of project will aid in improving the economic status of the area.

During construction phase, is likely to provide employment for 40 personnel on direct basis and around 400 on indirect basis. During operation phase, it is likely to generate employment of around 10 people on direct basis and around 100 people will get on indirect basis. The



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proposed project is likely to have positive impact on socio-economic condition of the region overall.

10. Project Cost

The estimated project cost of Berthing Jetty, Conveyor Corridor with backup facilities and Approach Road for Raigad Cement Bulk terminal is approximately Rs. 172 Cr.

11. Project Completion schedule

The whole of construction & infrastructure work will be completed within 24 months from the start of construction activity.



A blue circular stamp for ADANI CEMENTATION LIMITED, MEDABHAD. Below the stamp is a handwritten signature in blue ink, and below the signature is the name SANTAY PRAJAP in blue capital letters.