F.No.2/12/2024-PIU
Government of India
Ministry of Finance
Department of Economic Affairs
Infrastructure Finance Secretariat
ISD Division
(PIU)
*****

STC Building, Janpath, New Delhi
Dated: 6th June 2025

Record of Discussion

Subject: Record of Discussion of 128th meeting of the PPPAC for considering the proposal, 'Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging, Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on PPP to be executed on Hybrid Annuity Mode', reg:-

Reference: PPPAC meeting held on 30.04.2025 & 31.05.2025

Sir/Madam,

The undersigned is directed to forward the Record of Discussion of the 128th Meeting of the PPPAC held on 31.05.2025 under the Chairmanship of Finance Secretary and Secretary (EA), for information and necessary action.

2. **This issues with the approval of the Competent Authority.**

Arya Balan Kumari
(Joint Director-PIU)

To,

1. **Secretary, Ministry of Ports, Shipping and Waterways, Parivahan Bhavan, 1, Parliament Street, New Delhi.**
2. **Secretary, Department of Expenditure, North block, New Delhi-01**
3. **CEO, NITI Aayog, Yojana Bhawan, New Delhi-01**
4. **Secretary, Department of Legal Affairs, Shastri Bhawan, New Delhi-01**

Copy to:

1. **Sr. PPS to Finance Secretary & Secretary (EA)**
2. **Sr. PPS to OSD, DEA**
3. **Sr. PPS to AS (IPP)**
4. **Sr. PPS to JS (ISD)**

Subject: Record of Discussion of the 128th meeting of the PPPAC for considering the proposal, 'Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging, Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on PPP to be executed on Hybrid Annuity Mode', reg: -

1. The 128th meeting of the PPPAC was held on 31st May 2025 at 16.00 hrs to consider the proposal, 'Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging, Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on PPP to be executed on Hybrid Annuity Mode.'

2. List of attendees is placed in **Annexure-I.**

3. The basic details of the project are given in the table below:

Table 1: Details of the project

Project Description	Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging, Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on PPP to be executed on Hybrid Annuity Mode.		
PPP Model	Hybrid Annuity Mode (HAM)		
Administrative Ministry	Ministry of Ports, Shipping & Waterways		
Implementing & Sponsoring Agency	Vadhvan Port Project Limited		
Location	State: Maharashtra District: Palghar		
Concession Period	15 years (including 5 years of construction)		
Scope of Work	**S.No.**	**Description**	**Vadhvan Port**
	Phase-I- 3 years		
	1.	Dredging of Navigation Channel	○ The Access Channel shall be dredged to a minimum level of 20 metres below Chart Datum.

			○ The turning circle of minimum diameter of 800 (eight hundred) metres, internal dredged basin and inner approach channel shall be dredged to a minimum level of 17.5 metres below Chart Datum. ○ A berth pocket with a minimum level of 19.5 metres below Chart Datum, extending 65-meter seaward of the berthing line is required. These depths shall be the minimum level after the placing of any bed scour protection.
	2.	Reclamation	○ Dredging of the marine borrow pit area for extraction of sand from offshore of Daman. ○ Reclamation of offshore land parcel with sand fill in an area of 850 Hectare in phases at the level of + 6.8 metres below Chart Datum excluding the protection wall and design slopes of the Shore protection bund. ○ The finished reclamation level shall be a minimum of + 6.8 metres below Chart Datum.
	3.	Construction of Shore protection bund	○ Along the Perimeter, a structure to protect the bland fill of the land parcel for 1207 Hectares reclaimed land
	4.	Common Port Infrastructure	○ Earthworks for Sub-base preparation for storage, rail yard and roads (filling to +6.8 m below Chart Datum)
	Phase-II- 2 years		
	5.	Reclamation	○ Dredging of the marine borrow pit area for extraction of sand at offshore of Daman. ○ Reclamation of offshore land parcel with sand fill in an area of 357 Hectare at the

			level of +6.8 metres below Chart Datum excluding the protection wall and design slopes of the Shore protection bund. ○ The finished reclamation level shall be a minimum of +6.8 metres below Chart Datum.
	6.	Common Port Infrastructure	**Development of Internal Road** ○ Preparation of sub-base, sub grade over the reclaimed land including pavements at the finished level of +7.60mCD as indicated in drawings. **Development of in-port Common Rail Yard.** ○ The development of in-port common rail yard shall include filling of granular fill, sub-base and subgrade in layers. The average finished level shall be a minimum of +6.8 meter below Chart Datum for a minimum area of 290 Ha.

Estimated Capital Cost with Break-up under major heads of expenditure

S.N.	Particulars	Instant Project (Rs.in crore)
A	Total Civil Construction Cost	18240.55
B	IC/pre-operative expenses @ 1% of (C)	182.41
C	Financing Cost (1% of debt amount i.e., 5,243.61 crore)	52.44
D	Interest during Construction	522.51
E	**Estimated Project Cost (A+B+C+D)**	**18997.90**
F	GST @ 18% on(A+B+C)	3325.57
G	**Estimated Project Cost including GST (E+F)**	**22323.47**
H	Labour Cess (1% of G)	223.23

	I	**Estimated Project Cost including GST and Labour-Cess (G+H)**	**22546.70**
	J	Contingencies @ 1% (on Total Civil cost)	182.41
	K	Escalation @5% per Year (on civil cost)	3099.54
	L	O&M Cost for 10 years (Shore Protection Bund)	171.79
	M	**Total Capital Cost (I+J+K+L)**	**26000.44**
	N	**Bid Project Cost**	**20950.00**
Land Acquisition Status	The location of the reclamation is offshore of the Dahanu Coast and no land acquisition is required for Port. However, the land requires for the road and rail connectivity is being acquired by NHAI/MoRTH.		
Financial Viability	Project IRR: 12.26% Equity IRR: 15% NPV @12% of revenue stream: Rs. 5188.73 crore NPV@12% of project: Rs. 254.72 crore Avg. DSCR: 1.40		
Concession Agreement	The project is proposed to be implemented as per Model Concession Agreement dated 09.12.2016 uploaded on MoRTH website with subsequent amendments issued thereafter till date, modified to suit Port Sector.		
Bidding parameter	Lowest Bid Project Cost quoted by the bidders		
Bidding process	Single Stage with two envelopes		

4. The Vadhvan is a greenfield port project, approved by the Union Cabinet in June 2024 with an overall cost of Rs. 76,220 crore. The instant proposal to the tune of Rs. 18998 crore (Estimated Project Cost) to be executed under a Hybrid Annuity Mode (HAM) and involves the construction of offshore and nearshore land reclamation, dredging, shore protection bund and common port infrastructure. The project consists of two phases, with Phase 1 scheduled for completion within three years and Phase 2 within two years, totalling a five-year construction period, followed by ten-year operation and maintenance period. Once the construction of port is completed, the terminals will be developed on suitable PPP mode.

5. The instant project was initially appraised by the PPPAC in its meeting held on 30th April 2025. In the meeting, PPPAC directed MoPSW to provide detailed explanations on several key aspects such as the basis of cost estimation, rationale for adopting the HAM model, quality control mechanisms during construction period, phase-wise responsibilities of the concessionaire, adherence to manual standards and international benchmarks, etc. MoPSW has given a detailed response to the queries raised by the PPPAC in its meeting held on 30th April, 2025 which are placed at **Annexure II.**

6. On behalf of the Chair, Joint Director (ISD) welcomed the attendees to the meeting and requested MoPSW to make a presentation to the PPPAC. With the permission of the Chair, Chairman, JNPA & MD. Vadhvan Port Project Limited (VPPL) made a detailed presentation to the PPPAC.

7. Vadhvan Port is a deep draft port planned by JNPA (Jawaharlal Nehru Port Authority) and MMB (Maharashtra Maritime Board) to handle the additional traffic. This need arises owing to the increasing demand for containers and the capacity saturation of JNPA and Mumbai port. As per the traffic demand assessment, Vadhvan Port has potential to handle around 23.2 million twenty-foot equivalent units (TEUs) of container traffic by FY 2040. In the port, a total of 9 container terminals with a total quay length of 9,000 meters will be developed, featuring 18 berths and over 100 quay-side gantry cranes (QGCs) to accommodate container ships with a length overall (LoA) of 350 meters or more. Further, liquid cargo berths, Ro-Ro facility, general/coastal/breakbulk cargo berths, common railyard, tank farms and storage areas will also be developed.

8. After the presentation, the Chair asked the PPPAC members for their observations. The representative of DEA, DoE and DoLA supported the proposal and stated that they have no further comments to offer.

9. PD, NITI Aayog raised the following observations:

   a) The project is currently divided into two phases. The possibility of combining the two phases into a single phase may be explored.

   b) The road connectivity is very critical for the project and therefore, it should be made as a condition precedent.

10. The Chair raised the following observations:

a) Have the rates used for the cost estimation been properly vetted and verified?

b) The sand borrow pit for the project is identified at Daman offshore, approximately 60 Km away from project site. What is the reason for selecting such a distant location?

c) Have the cost of transporting sand from the borrow pit to the project site been included in the cost estimate?

d) Have appropriate standards and specifications been adopted for dredging and reclamation, considering the large-scale nature of the work and the need for timely completion?

e) What techniques and methods will be used during the reclamation work to prevent settlement issues?

f) Whether any specialized agency shall be deployed to ensure proper execution of work in accordance with the specification of the standards?

g) Has forest clearance been obtained for the identified quarry sites?

h) What is the status of the road connectivity to the proposed site?

i) What is the rationale for adopting 60:40 cost sharing ratio under the HAM model?

j) Does the Draft Concession Agreement include provisions for penalties in case of delay in completion of the project?

k) Why has the sand filling process been divided into phases?

11. MoPSW submitted the following to the queries raised by the PPPAC Members: -

a) The phasing of the project into Phase I and Phase II has been planned based on the design parameters and the operational requirements of terminal operators. This sequencing shall ensure optimal utilization of reclaimed land and aligns with the targeted commissioning of Phase I terminals by 2030.

Therefore, the current phased approach is essential to maintain project efficiency and ensure synchronized development with future concessionaire activities.

b) Road connectivity to the site will be provided by the Authority as per Schedule T of the Draft Concession Agreement which states that the road connectivity to be within 1.5 years from Appointed Date.

c) The JNPA has undertaken various port expansion works in last 5 years, which helped to gain valuable in-house expertise over the years. The rates arrived as per the DPR by the consultant M/s. Royal Haskoning DHV was also examined by JNPA. The rates have been adopted from the Schedule of Rates (SOR) of PWD, State Govt. of Maharashtra. Thereafter, the cost estimates were also vetted by IIT, Madras for all Marine Works. The rate for dredging & reclamation from Daman to Vadhvan area is based on the CIRIA method, an international method, which is also verified by National Technologies Centre for Ports, Waterways and Coasts (NTCPWC).

d) The site at Daman was selected based on a detailed field survey, which revealed extensive sand dunes. Tests confirmed that the sand is suitable for reclamation due to its silty composition and approximately 6% clay content, providing good binding and consolidation properties. The site was recommended by ONGC and IIT Madras. No other high-quality sea sand is available near the proposed port location. The Ministry of Mines granted permission for sand mining on 24th February 2025. Dredging and dumping operations will begin only after the construction of a shore protection wall to prevent sand washout.

e) The transportation costs are included in the cost estimates to the tune of Rs. 570 per m^3. This includes the sand dredging by dredger, transporting & dumping at site by suitable method and also compaction by standard method.

f) The standards and specification have been incorporated in the Schedule D of Draft Concession Agreement for dredging and reclamation work at site.

g) Initially, sand is deposited into the waterbed, where natural liquefaction facilitates primary consolidation. Once the area transitions to a dry state, vibro-compaction is employed to achieve a compaction level of up to 90%, which meets the required standards for site handover and subsequent construction. Additionally, to prevent soil erosion and loss of reclaimed material, a geotextile

layer will be installed. This layer acts as a filtration barrier, effectively retaining sand particles and preventing washout through the voids in the shore protection structure.

h) The external agency in the form of Independent Engineer (IE) shall monitor the entire project with respect to quality control & proper execution in accordance with concession agreement. The selection of IE shall be as per the guidelines issued by DoE for selection of Consultants with experience on similar works.

i) The two quarry sites have been identified and Geophysical survey was carried out through National Institute Rock Mechanics (NIRM). The survey indicates adequate availability of suitable rock for breakwater and shore protection works. Further, the NOC for mining was obtained in May, 2025. Tree enumeration for mining was completed and land for compensatory afforestation is identified in Parbhani District of Maharashtra. The online application to get the forest clearance will be made within two days and it is understood that the clearance shall be received within 60 days.

j) MoRTH has recommended to initially go for the 22 km 2-lane road which will be used by the Vadhvan port Project for transportation of Quarry material to construction site. Tender to be invited by NHAI initially on EPC basis as there are no generation of toll revenues in the initial years. The land acquisition for Road & Rail connectivity is at final stage and 3D notification is likely to be issued at the earliest. Once the possession of land is obtained, NHAI will float the tender.

k) This is a first-of-its-kind PPP project where dredging and reclamation will be carried out on PPP. To make the project attractive, a 60:40 HAM payment structure—60% by the Authority and 40% by the Concessionaire—has been adopted. This split is also based on market feedback from 15 prospective bidders. Additionally, this model promotes competitive bidding, shares risk with private players, minimizes long-term maintenance costs, and ensures timely completion of Phase-I by 2030.

l) There are standard clauses in the concession agreement for liquidity damage of 0.2% of Performance Guarantee per day and provision for termination for delay for longer period.

m) The reclamation has been planned in phases based on the projected land use requirements. In the initial phase, 850 hectares will be reclaimed and subsequently four container terminals will be developed. The remaining 350 hectares are not immediately required and will be developed in the second phase, with full reclamation expected to be completed within the overall five-year construction period.

12. After detailed deliberations, the PPPAC unanimously recommended the proposal, **"Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging / Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on Hybrid Annuity Mode** for consideration of the competent authority for giving administrative approval. The project is recommended with the following observation for consideration of the Competent Authority for administrative approval: -

a. The appraised estimated project cost is Rs. 18,998 crore with a total construction cost of Rs. 18,241 crore.

b. With no direct source of revenue generation from dredging and reclamation, HAM is the only preferred mode of implementation. Hence, the project will be implemented on HAM model with a payment structure in the ratio of 45:55 where 45% of the upfront payment shall be made by the Authority and 55% by the concessionaire. A higher upfront payment is not recommended as that would reduce the concessionaire's stake in proper construction and take the project towards the EPC mode.

c. Given that the project involves offshore reclamation through dredging and filling, it is essential to adhere to proper benchmarking and established standards. An Independent Engineer with appropriate qualifications may be engaged to monitor the project in accordance with the provisions of the Concession Agreement. Additionally, JNPT has developed in-house technical expertise, which has already vetted the cost estimates will also carry out parallel monitoring to ensure compliance and quality.

d. As per the Concession Agreement, a 2-lane permanent road is to be developed and made operational by NHAI within six months from the Appointed Date to facilitate transportation of materials from the quarry site to the project site. The land for road development should be acquired fully before the bid submission date. Further, the road should be designed in a manner that allows for future

expansion to a 4-lane configuration without dismantling or disturbing the new 2-lane structure, ensuring its continued usability.

e. All clearances including forest clearance for quarry sites to be obtained before the bid due date.

f. A well-defined risk-sharing matrix must be implemented during execution to ensure clear accountability and prevent any breach of contractual obligations.

g. Considering the complexity of the project, the total concession period has been kept for 15 years including 05 years for construction and 10 years for operation and maintenance.

h. Penalty provisions in case of delay in completing the project should be structured in a telescopic manner, starting at 0.2% and increasing progressively over time.

13. Revalidation of its recommendation by the PPPAC is not required for following post recommendation changes in the project costs/bid documents: -

a. Any change in the date/time period for any time-bound actions like appointed date, financial close, construction period etc.

b. Non-substantial change in risk allocation.

c. Any other changes/modification in the project proposal with the overall objective of making project successful.

d. Further, MoPSW/VPPL may decide whether the changes proposed post recommendations of the project proposal by the PPPAC fall within the threshold criteria as stated above. All such changes falling within the threshold criteria shall be appraised at the level of Secretary (PSW)/ BoD of VPPL as the case may be, without any further need of revalidation by the PPPAC and shall proceed with the approval process accordingly.

14. The meeting ended with a vote of thanks to the Chair.

****

Annexure-I

List of the attendees of the 128th meeting of the PPPAC for the Development and Maintenance of Land to be created in Offshore of Vadhvan Coast by Dredging, Reclamation & Construction of Offshore Protection Bund for Vadhvan Port on PPP to be executed on Hybrid Annuity Mode.

a. **Department of Economic Affairs, Ministry of Finance**
   1. Shri Ajay Seth, Secretary, EA- In Chair
   2. Shri Aman Garh, Director
   3. Ms. Arya Balan Kumari, Joint Director
   4. Ms. Anmol Wariach, Assistant Director
   5. Shri Rajender Singh, Section Officer
   6. Shri Manjeet, Assistant Section Officer

b. **Department of Expenditure**
   1. Ms. Preeti, Joint Director

c. **NITI Aayog**
   1. Shri. Partha Reddy, Programme Director

d. **DoLA**
   1. Dr. RJR Kasibhatla, Joint Secretary & Legal Adviser

e. **Ministry of Ports, Shipping and Waterways**
   1. Shri T K Ramachandran, Secretary
   2. Shri R Lakshamanan JS (Ports)
   3. Shri Rituraj Director Ports- PPP

f. **Vadhvan Port Project Limited**
   1. Shri Unmesh Sharad Wagh (IRS), Chairman JNPA
   2. Shri Sunilkumar Vishnu Madabhavi, Director (Technical) VPPL
   3. Shri Vishwanath Gajanan Gharat, Dy. General Manager JNPA
   4. Shri Sagar Mukund Dhok, Assistant Engineer VPPL
   5. Shri Amit Magadum, Team Leader Consultant Royal Haskoning DHV

Annexure II

The queries raised by the PPPAC in its meeting held on 30.04.2025 and the response of MoPSW.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
1.	**What is the basis of the Cost Estimation?**	The cost estimates for the Vadhvan project have been firmed with significant due diligence and has also been vetted by IIT Madras. • Rates have been adopted from the Schedule of Rates of State Government of Maharashtra PWD basis 2023 (Q1). • Wherever the marine work is involved the Rate have been arrived from Rate Analysis. • Unit rates of Marine works have been taken based on the past projects carried out by rates analysis, current market rates and vendors. • Cost towards the reclamation for the project is based on the international methods for construction design. • Cost estimation was vetted by IIT Madras for all Marine Works. • Verification of unit rate for Dredging works for reclamation was done by National Technology Centre for Ports Waterways and Coasts (NTCPWC, MoPSW). **Details of Cost Breakup is attached as Enclosure-1.**
2.	**Whether industry benchmarking been done with respect to dredging and reclamation, and what is the international best practices in this regard?**	**Industry / International benchmarks:** The costing for the reclamation is based on the large dredgers proposed for carrying out the works. It is proposed to carry out the reclamation using trailer suction hopper dredgers of 24,000 cum capacity which are available with the large dredging companies. The costing is based on the proposed methodology, type of dredger, location of marine borrow pit. The costing includes the equipment charges, its mobilisation, fuel, barges, manpower and other associated equipment. The cost arrived has been compared with the similar ongoing projects elsewhere in the world. The project was discussed with various dredging companies who provided the methodology for executing the reclamation

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		works. The costing has also been reviewed and vetted by NTCPWC. The cost towards the shore protection work is based on the quarrying of the rocks, its transportation to site, sorting, weighing, barge loading, placement and profiling of the bund. The cost of the rocks is based on the CPWD rates provided by the Government of India for the region. The cost towards the transportation is based on the lead charges and prevailing fuel rates. The quarrying of the rock would be based on the mining plan which will be provided by NIRM. **Details of Consultation/ discussion with potential bidders:** In order to gauge the market and get feedback from potential bidders Expression of Interest was invited for the said work and discussions were held with these bidders. All the large dredging companies participated in the EOI discussion held on 1st Aug 2024. Applications were submitted by all the potential bidders.
3.	**How is Site Connectivity be ensured for the project?**	The Connectivity to site is at presently through the state highway and village roads and the dedicated road to Port is being developed for cargo movement & the same will be utilised for transportation of construction materials in initial years. The Port Road connectivity is being developed by NHAI and land acquisition for 34 km is in progress and will be completed by July2025. The work of road connectivity to stone quarry is being taken up on priority by NHAI/MoRTH. The road connectivity will be available for transportation of boulders within 12 months of commencement of road works. The permission / license for quarrying of stone / material from forest land is being obtained by VPPL and the application for

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		leasing of land from forest department of Govt of Maharashtra is in process. Site will be handed over to the Concessionaire for mining after approval process.
4.	**The Cabinet while providing approval, suggested to structure the project through a suitable PPP model. MoPSW has opted for HAM Model. What is the justification for considering HAM Model of PPP?**	The Cabinet, while approving the project investment, had directed that the VPPL shall undertake reclamation and dredging activities through a suitably structured PPP model (PPP Component-1) with appropriate risk sharing and financial support arrangement between VPPL and concessionaire (for instance, Hybrid Annuity Models, Gap Funding by VPPL, etc.). It is submitted that the present project primarily involves preparatory package of development (through reclamation) of land for development of Vadhvan project. It may be appreciated that preparation of land for development of terminals is critical preparatory activity and does not entail any revenue stream as such. The primary revenue generating activity for port shall be from terminal operations mainly on account of Cargo handling charges which can be leveraged only after terminals have been developed. Key reasons for adoption of HAM model are as under: **a)** The Viability Gap Funding (VGF) model assumes partial commercial viability, requiring the private partner to recover a significant portion of the investment through user-based revenue streams. However, in the case of this project, the scope is limited to land reclamation and development, which by itself does not generate any direct revenue. Revenue generation will only begin in subsequent phases, such as terminal development and port operations, which are not part of the current project's scope.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		b) Scale, complexity & criticality of the project- This project involves offshore reclamation of an unprecedented scale and complexity, making it the first-of-its-kind in India, particularly for the purpose of port development. Traditionally, projects of this nature have been executed under EPC mode, with limited private risk exposure and no long-term operational responsibility. Further, such works has not been carried out in revenue-risk model like VGF. Therefore, to ensure greater market participation, risk mitigation, and long-term interest alignment, the HAM has been adopted.
5.	**Has Stakeholder consultation been done with potential bidders? If yes, then details of Consultation/ Discussion held with potential bidders may be provided.**	**Summary of consultation with Stakeholders:** VPPL/JNPA had invited Expression of Interest (EOI) from interested parties for the purpose of assessing the interest among parties in the market. Based on the responses from 15 Firms and the same is listed below. Out of the 15 firms, 10 firms are from major Dredging and Terminal & Port Operators and balance have small time construction firms. The majority of the firms have evinced the interest and submitted various suggestions. The following are the gist of suggestions which can be of considered for analysis of the PPP Financial Model. **(i)** Concession period : The concession period to be **10 years instead of 15 years**, this will enable the Contractor to reduce the cost associated with the longer period. This adjustment will help mitigate the costs involved in the longer period. **(ii)** Payment Conditions : To consider making **60% payment** funding during construction period and 40% as variable annuity amount after the completion of the project depending upon the value of assets created instead of 40% and 60%as proposed in MoRTH-HAM.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		(iii) The O & M shall be in percentage of the Project cost instead of fixed amount to be quoted and the maintenance of dredging shall be the responsibility of Authority as the dredging in initial years would not predictable. **(iv)** Prequalification Conditions : Consider last **10 years** in place of last 5 years for demonstrating Technical Capacity and experience and consider preceding 3 years instead of preceding one year for demonstrating the Financial capacity. **(v)** Obligations by Authority : The breakwater and dredging works shall be started together in order to reduce the accretion / erosion & to have protected waters. **List of Stakeholders:** 1. Adani Ports & Logistics Ltd 2. Boskalis India Private Limited 3. Hindustan Infralog Private Limited 4. Hyundai Engineering & Construction Co., Ltd. 5. International Seaport Dredging Private Ltd 6. Jan De Nul Dredging India Private Limited 7. Larsen and Toubro Limited 8. National Marine and Infrastructure India Pvt. Ltd. 9. Rail Vikas Nigam Limited 10. Van Oord Dredging and Marine Contractors B.V. 11. Vishwa Samudra Engineering Private Limited.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
6.	**What is the status of pre-construction activities and clearances?**	The pre-construction activities and clearances for the project are completed through key preparatory stages. Land acquisition is in process and nearing completion, ensuring that the site is ready for development. Environmental clearances, including the Environmental Impact Assessment (EIA), have been obtained by the relevant authorities. Overall, the project is steadily advancing through the pre-construction phase, with most critical clearances and activities are completed.
7.	**How will the project's quality be assured; and how the testing of material, plant and equipment will be done for quality control?**	**For quality control of the project:** • Concession is DBFOT which includes investigations, design, construction, provision, erection, setting to work, material, construction method, selection of equipment and plant, quality control testing, deployment of personnel and supervisory staff monitoring and maintenance etc. • Shall be executed under the control of a quality assurance system which satisfies the requirements of ISO-9001:2015, ISO-14001:2015 and ISO-45001:2018 which will be monitored by the IE/PMC appointed by the Employer. • Engineer (IE) appointed by Authority will supervise and monitor Quality Management Plan. • Quality Management Plan will also be approved by Authority Engineers. • Quality Assurance Plan will demonstrate in detail that all the requirements of the Contract and all relevant codes, standards and regulations are being met. **For quality control of material, plant and equipment:**

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		• An Independent Engineer (IE) will be appointed with responsibility as per Concession Agreement. • As part of tender document for construction by the contractor, the Employer's requirement clearly mentions the testing schedule requirements and details that the contractor has to submit to the IE. • Tests under the relevant codes and standards and in these employer's requirement, the contractor shall carry out further tests required by the engineer, at its own cost. • Compliance of Materials with Specifications shall be confirmed by sampling and testing. • Acceptance criteria is stipulated in the Schedule D of the Concession.
8.	**How are the responsibilities shared and what are the responsibilities of PPP-1 and PPP-2 components?**	**Responsibility/ risk sharing:** • Vadhvan Port is an SPV incorporated under the Companies Act 2013 to implement this project. • Widely accepted port model balances investment risks associated with greenfield port development. • In this model, basic and common port infrastructure such as, breakwater, rail and road linkages, power supply, water supply lines and common infrastructure and services will be developed by the port/ SPV • Dredging, reclamation and shore protection bund is proposed to be developed under suitable PPP i.e. HAM. • All cargo handling infrastructure will be developed and operated by the private operators which will be awarded on concessions. • Cargo or container handling operations which would be entirely in the hands of developer cum operator on public private partnership (PPP) mode. **Responsibility of PPP-1 and PPP-2:** • Reclamation of land and access will be developed by PPP-1 under HAM.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		• O&M for the asset created under PPP-1 will be maintained by PPP-1 Concessionaire for 10 Year or until allotted to PPP-2 Concessionaire (Container Terminal). • Container Terminal Operator will invest in development berthing place, on-Shore handling and storage facilities under Concession. • O&M responsibility for the asset created under PPP-2 will for 30 years. • Land created under PPP-1 will be handed over as is where is basis and all ground improvement program etc. will be responsibility of PPP- 2 Concessionaire. • Once Project site as defined under PPP-1 is handed over to PPP-2, the O&M responsibility ceases for PPP-1. • O&M for another portion of not allotted will continue to be maintained for O & M period, as well as Shore protection Bund which is common infrastructure will be maintained by PPP-1 for 10 years.
9.	**What is the current status of near shore works?**	**Status of construction works –near shore reclamation work:** • Award of EPC Tender Package 2 (A) for Nearshore reclamation and shore protection works. • The EPC Tender invited on 22th Oct, 2024 Estimated Cost – Rs.1770 crore excluding GST. The contract Period is for 18 months. • Awarded to the lowest bidder, M/s ITD Cementation India Ltd., at their quoted price of ₹1648 crore (excluding GST) which is 6.892% below of the estimated cost on 31st Dec, 2024. (Two month before schedule i.e. Before end of Feb 2025/March 2025). • Contract Agreement was signed on 29th January 2025. • Notice to proceed with work issued on 15th March 2025. • The work will commence from May 2025 and expected to be Completed by November 2026. **Status of construction of breakwater:** • The contract period is for 52 months.

S.No.	Observations by PPPAC	Response by Ministry of Ports, Shipping and Waterways
		• The Forest Department of Maharashtra has granted permission for prospecting proposal for the survey of the quarry on 26th Aug 2024 by conducting Geo-Physical Survey in Khanivade & Gargaon sites to know suitability of rock with size & strength. • NIRM completed field survey in 27th Dec, 2024 & submitted report in 8th April, 2025. • Application to Forest for Licensing of Land for Stone Quarry is submitted on 2nd April, 2025 & under verification by DCF, Dahanu. • Tenders on EPC mode for Breakwater will be invited by July, 2025.
10.	**What are the sources of the construction materials?**	• For Stone, Aggregate and Murrum, quarry site is located at Khanivade, located 20 km from Vadhvan. 74 million tons of rock, murrum & aggregate will be traported from this quarry. • Additionally, few identified hillocks are also situated in villages of Palghar Taluka. • Cement - Manufactured cement from market. • Steel – will be procured from open Market. • Road: Murrum & Aggregate will be procured from the identified quarry following SoP issued by MoEF. • For Railway: Murrum & Stone for embankment and ballast shall be procured from the identified quarry site following SoP issued by MoEF. • Reclamation fill material sea sand will be sourced from the Marine borrow Pit located north of Vadhvan port along the Daman coast. • Borrow pit is 50 km from Vadhvan at a depth of 20 to 25 m. • Sand Mining Composite license under OAMDR Act 2002 for reservation is received from Ministry of Mines through extraordinary Gazette of India on 21st Dec, 2023.

Enclosure-1: Details of Cost Breakup

Vadhvan Port - Detailed Cost Estimates for PPP-1 Proposal under HAM						
S. No.	ITEM			QUANTITY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
1	**DREDGING (Ph 1)**						
	1.1	Inner Approach Channel & Harbour Basin (-17.5 m CD and 19.5 mCD at berth)					
		a.	Soil dredging	2,750,000	Cum	300	825,000,000
		b.	Rock dredging	3,540,000	Cum	2,350	8,319,000,000
	1.2	Outer Approach Channel (-20 m CD)					
		a.	Soil dredging	720,000	Cum	300	216,000,000
		b.	Rock dredging	0	Cum	2,350	0
	Total (1)						**9,360,000,000**
2	**RECLAMATION**						
	2.1	Offshore land (Ph 1) upto +5.0 m CD					
		a.	Reclamation through	151,170,000	Cum	570	86,166,900,000

			marine borrow pit				
		b.	Reclamation through dredged material	7,010,000	Cum	300	2,103,000,000
	2.2	Offshore land (Ph 1) upto +5.0 to +6.8 m CD (Terminal areas)					
		a.	Reclamation through marine borrow pit	4,917,559	Cum	570	2,803,008,402
	2.3	Offshore land (Ph 2) upto +5.0 m CD					
		a.	Reclamation through marine borrow pit	37,420,725	Cum	570	21,329,813,250
		b.	Reclamation through dredged material	20,056,511	Cum	300	6,016,953,300
	2.4	Offshore land (Ph 2) upto +5.0 to +6.8 m CD (Terminal Areas)					

		a.	Reclamation through marine borrow pit	5,205,712	Cum	570	2,967,255,612
	Total (2)						**121,386,930,564**
3.0	**SHORE PROTECTION WORKS**						
	3.1	Offshore reclaimed land protection works (Ph 1 - 17 km of bund with crest level @ +7.0 m CD)					
		a.	Rock				
			Rock Armour 0.06-0.3T	866,800	MT	1,729	1,498,265,808
			Rock 0.3 to 1 MT	501,183	MT	1,763	883,587,128
			Rock 1 to 3 MT	697,040	MT	1,809	1,260,946,961
		b	Core and Bedding				
			Toe Protection - 1-500 Kg	156,352	MT	1,300	203,258,052
			Core 10 to 100 kg	10,430,453	MT	1,300	13,559,588,850
			Geotextile	1,220,298	Sq. m	211	257,482,959

		c.	Crown Wall, Cast-In-Situ M40 Mass Concrete	41,543	Cum	10,000	415,433,750
	3.2	Offshore reclaimed land protection works (Ph 2 - 5.5 km of bund with crest level @ 7.0 m CD)					
		a.	5T - Accropode	35,122	Cum	13,750	482,927,500
		b.	Rock Armour 0.06-0.3T	201,376	MT	1,729	348,079,024
		c.	Rock 0.3 to 1 MT	606,348	MT	1,763	1,068,993,354
		d.	Quarry run bund	6,956,184	MT	1,300	9,043,039,200
		e.	Geotextile	734,383	Sq. m	225	165,236,175
	Total (3)						**29,186,838,760**
4	**COMMON PORT INFRASTRUCTURE**						
	4.1	Earthworks for Sub-base preparation (Filling from +5.0 mCD to +6.8mCD)					
			Borrowed earth	3,177,666	Cum	570	1,811,269,620

	4.2	Roads (at 7.6 m)				
		Primary roads within the port	1,105,013	Sq. m	6,225	6,878,846,124
		Asphalt roads within the port	168,626	Sq. m	3,262	550,027,203
		Parking Area	438,472	Sq. m	4,281	1,877,100,173
	4.3	Drainage and sewerage	1	LS	1,788,888,292	1,788,888,292
	4.4	Utilities				
		Utility Trenches	1	LS	396,105,796	396,105,796
		Cabling	1	LS	20,000,000	20,000,000
		Illumination and lighting	1	LS	110,577,000	110,577,000
	Total (4)					**13,432,814,207**
5	**RAILWAYS**					
	5.1	Earthworks for Sub-base preparation (Filling from +5.0 mCD to +6.8mCD)	5,233,875	Cum	850	4,448,793,750
	5.2	Rail yard ground development - (Filling from				

		+6.8m CD to +7.6m CD)					
		a.	Granular Fill 300mm thk	870,000	Cum	1,839	1,599,930,000
		b.	Sub Grade 300mm thk	870,000	Cum	2,200	1,914,000,000
		c.	Crushed Rock Sub Base 150mm thk	435,000	Cum	2,474	1,076,190,000
	Total (5)						**9,038,913,750**
	Total (1+2+3+4+5)						**182,405,497,281**
A	Total in crores						18,241
B	IC/Pre-operative expenses @1% of (A)						182.41
C	Financing Cost (1% of debt amount)						52.44
D	Interest during Construction (@ 11.10%)						522.51
E	**Estimated Project Cost (A+B+C+D)**						**18,997.90**
F	GST @ 18% on (A+B+C)						3,325.57
G	**Estimated Project Cost including GST (E+F)**						**22,323.47**

*****