

**Minutes of the 318<sup>th</sup> meeting of Expert Appraisal Committee held on 12<sup>th</sup>-13<sup>th</sup> January, 2023 Video Conference for the projects related to Infrastructure Development, all Ship breaking yards including ship breaking units 7(b); Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes7(c); Ports, harbors, breakwaters, dredging7(e) and National Highways 7(f).**

The 318<sup>th</sup> Meeting of Expert Appraisal Committee (EAC) of Infra-1 (IA-III) was held through Video Conference during 12<sup>th</sup>-13<sup>th</sup> January, 2023 under the Chairmanship of Dr. Deepak Arun Apte. A list of participants is annexed as **Annexure-A**.

### **1. OPENING REMARKS OF THE CHAIRMAN**

At the outset, Dr. Deepak Arun Apte, Chairman, EAC welcomed the Members of the EAC and requested Shri Amardeep Raju, the Member Secretary of the EAC to initiate the proceedings of the meeting with a brief account of the activities undertaken by the Ministry under Infra-1 Division.

### **2. CONFIRMATION OF THE MINUTES OF THE LAST MEETING**

The Committee confirmed the Minutes of 318<sup>th</sup> EAC Meeting held on 03<sup>rd</sup>-4<sup>th</sup> November, 2022 with the following inadvertent typographical errors.

Sl. No	Inadvertent Typographical Error	Read as following.
1	At Agenda No. 3.15, Para no. iv in table serial no.12 instead of Molasses inadvertently it was mentioned Automobiles.	At Agenda No. 3.15, Para no.iv in table serial no.12 may be read as Molasses.
2	Agenda No. 3.5 The Name of the EIA Consultant inadvertently mentioned that M/s Mantras Green Resources Ltd. (formerly known as Mantras Resources) instead of M/s Enviro Infra Solutions Pvt. Ltd	The Name of the EIA Consultant may be read as M/s Enviro Infra Solutions Pvt. Ltd

### **AGENDA WISE CONSIDERATION OF PROPOSALS:**

Agenda wise details of proposals discussed and decided in the meeting are as following:

**3.1 Development of 6-lane (Greenfield) access control Economic Corridor (Greenfield Alignment) of Bengaluru–Kadapa–Vijayawada (BKV) Section (Package-I) starts from Koduru Village on NH-44 (Design Ch. 0.000) and ends near Kothapalle Village (Design Ch. 160.000) under Bharatmala Pariyojana phase-II (Lot 10) in the State of Andhra Pradesh (total length–160.000 km) by M/s National Highways Authority of India – Environmental Clearance.**

**Proposal No. IA/AP/INFRA1/412477/2022 and File No. 10/7/2022-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their

knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.1.1. The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup>–13<sup>th</sup> January 2023. The project proponent along with the EIA Consultant M/s Aarvee Associates Architects, Engineers and Consultants Pvt. Ltd made a presentation through Video Conferencing and provided the following information –

3.1.2. The proposed project is for Development of 6-lane (Greenfield) access control Economic Corridor (Greenfield Alignment) of Bengaluru–Kadapa–Vijayawada (BKV)Section (Package-I) starts from Koduru Village on NH-44 (Design Ch. 0.000, Lat: 13°53'21.50", Long:77°42'20.55"E) and ends near Kothapalle Village (Design Ch. 160.000 Lat: 14°49'46.17"N, Long: 78°46'31.14"E under Bharatmala Pariyojana phase-II(Lot 10) in the State of Andhra Pradesh. The total length of the project alignment is 160.0 km and total proposed land area is 7463.44 Ha.

3.1.3. The proposed project falls under Schedule 7(f), Highway, Category "A" of EIA Notification 2006. Total estimated cost of the project is about Rs. 4325.51Crores.

3.1.4. Terms of References (ToR): ToR was recommended by the EAC in its 289<sup>th</sup> EAC meeting held on 17<sup>th</sup>-18<sup>th</sup> February, 2022 and EAC in its 296<sup>th</sup> EAC meeting held on 28<sup>th</sup>-29<sup>th</sup> April 2022 it was granted vide letter No. 10/7/2022-IA.III dated 25<sup>th</sup> May, 2022 and ToR amendment was recommended by the EAC in its 308<sup>th</sup> EAC meeting held on 15<sup>th</sup>-16<sup>th</sup> September, 2022 and it was granted vide letter No. 10/7/2022-IA.III dated 19<sup>th</sup> October, 2022.

3.1.5. Public hearing: Public hearing was conducted in YSR district and Puttaparthi Sri Sathya Sai District by Andhra Pradesh Pollution Control Board. The details are as following.

S.No	Date	Venue	District	Chaired by
1	25.11.2022	Premises of the Thasildar office Mydukuru(M)	YSR District	District Revenue Officer & Additional District Magistrate.
2	26.11.2022	Collectorate Conference Hall, Puttaparthi Sri Sathya Sai District	Puttaparthi Sri Sathya Sai District	District Revenue Officer & Additional District Magistrate.

3.1.6. Land use /Land breakup of the proposed project site: The details of Land use/ Land cover of project is as below.

S.No	Land Use/Land Cover	Area (Ha)	Percentage (%)
1	Built up	-	-
2	Agriculture	1052.48	65.97
3	Forest	38.70	2.43
4	Barren	478.85	30.00
5	Others	25.52	1.60
	Total	1595.65	100

3.1.7. Right of Way (RoW): The proposed Right of Way (RoW) is 70 meters in non-forest area and 60 meters in forest areas.

3.1.8. Terrain and topographical features: Terrain is plain terrain followed by rolling terrain, very few rolling terrain in forest/WLD locations and a mixed land use of agricultural, barren, forests can be seen throughout the corridor.

3.1.9. Water bodies: The proposed alignment is passing across River Chitravathi at KM 4.250(4+250), Penna River at Km 135.200(135+200) and Kundu river at Km 141.300(141+300). Water bodies abutting the proposed project stretch the details are as following-

S.no	Type of Water Body	Chainage	Distance From ROW	RHS/LHS
1	Patha Kunta	0.9000 km	300m	LHS
2	Chitravathi River	3.950	Crossing	
3	Kathireddipalli cheruvu	8.000 km	360m	LHS
4	Kaganipalli cheruvu	9.000 km	442m	RHS
5	Pasaloni Kunta	Pasaloni Kunta	312m	LHS
6	Vanavolu Tank	19.400 km	472m	LHS
7	Dasiramma Kunta	20.500 km	275m	LHS
8	Jakkasamudram Tank	21.400 km	85m	RHS
9	Eguva kunta	21.200 km	352m	LHS
10	Bommareddypalli Cheruvu	22.200 km	338m	RHS
11	Vasanthrao cheruvu	22.500 km	136m	RHS
12	Doddagatla cheruvu	23.600 km	190m	RHS
13	Gopana kunta	29.800 km	360m	RHS
14	Pantanayuni cheruvu	31.400 km	300m	RHS

15	Eguvakunta	40.700 km	100m	LHS
16	Byravani cheruvu	43.100 km	130m	LHS
17	Mudanapalli cheruvu	43.100 km	351m	RHS
18	Burakayala kunta	45.900 km	420m	LHS
19	Mudichinappa kunta	48.700 km	135m	LHS
20	Diguva cheruvu	53.000 km	433m	LHS
21	Yerra kunta	53.700 km	347m	LHS
22	Malakavemala Big Tank	55.700 km	306m	RHS
23	Bellapally Supply Channel	58.300 km	410m	410m
24	Dampalli Cheruvu	68.200 km	260m	RHS
25	Moila Cheruvu	102.700 km	220m	LHS
26	Penna River Crossing	135.350 km	Crossing	
27	Kundu river crossing	141.600 km	Crossing	
28	Lingaladinne Tank	152.800 km	472m	RHS
29	Utchalavaram Tank	154.100 km	366m	RHS
30	Telugu Ganga Canal	157.800 km	156m	LHS

3.1.10. There are no water bodies which are being directly affected by the proposed project. However, thirteen (13) major bridges, fifty-four (54) minor bridges and 485 culverts (new) are proposed to maintain Natural slope during the site preparation to avoid any effect on the natural drainage pattern of the site. All safety measures will be provided as per NHA Safety Manual and IRC:SP-88 and Expressway Manual IRC:SP-99.

3.1.11. Water requirement: The proposed project water requirement during the construction phase is around 4,260 KLD and the same may be obtained through tankers after taking necessary statutory clearances. For operation phase, approx. 447 KLD may be required for the plantation proposed in the proposed. Contractor will obtain permission from Irrigation & CAD Department, GoAP. The water requirement for the proposed project shall be met through tankers and if there is any requirement for ground water extraction, the same shall be obtained by the contractor after getting NOC/clearance from the CGWA/State Ground Water Department.

Waste management: The quantity of domestic solid waste to be generated in the camp site is around 365 TPA and shall be disposed in the nearest Municipal dumping yards operated and maintained by the respective municipalities. **Bio-medical Waste:** The quantity of bio-medical waste to be generated is approx. 1.09 TPA from the worker/labour camps. The same

shall be disposed through APPCB approved vendors/Agencies meant for safe collection and disposal of the bio-medical waste. **Oil and Grease:** The waste Oil and grease to be generated from the proposed project is around 0.03 TPA which shall be disposed through APPCB Approved Vendors/Agencies meant for safe collection and disposal of the Oil & Grease wastes.

**Construction & Demolition wastes:** The Construction & Demolition waste to be generated from the proposed project is around 536 TPA which shall be disposed at Municipal Dump Yards/ identified low lying areas.

3.1.12. Diversion of Forest Land: about 37.55ha is involved for diversion forest land. The application for forest clearance is yet to be submitted. The proposed project is not falling within the notified Eco-Sensitive (ESZ) or Eco-Sensitive Area(ESA).

**3.1.13.** The Bio-diversity assessment and Conservation study has been carried out by ZSI, Kolkata for the Greenfield Expressway Project of Bangalore - Kadapa –Vijayawada stretch cumulatively. The following Schedule-I species are identified based on the research in Package-I; the species are *Indian Pangolin(Manis crassicaudata)*, *Eurasian Marsh Harrier(Circus aeruginosus)*, *White-bellied Sea Eagle(Haliaeetus leucogaster)*, *Black Eagle(Ictinaetus malayensis)*, *Black Kite(Milvus migrans)*, *Indian peafowl(Pavo cristatus)*, *Indian golden gecko(Calodactylodes aureus)*, *Indian Monitor Lizard(Varanus bengalensis)* based on the schedule-I species and other wild life species ZSI has been prepared the cumulative wild life conservation plan for Package-I,II&III with the budget of Rs. 849 lakh (8.49 Crore).

3.1.14. Local plantation models with a composite of all three grasses, shrubs, and trees should be adopted for plantation in the area. In the case of trees and shrubs, preference should be given to local fruit-bearing species used by the wildlife species. Species such as Sambar, Four-horned Antelope, Indian Chevrotain and Chital were the important ungulate in the landscape, In which Sambar and Chital is known to be involved in conflict with local communities by way of depredating on crops hence to mitigate such crops losses to the local communities plantation of suitable fodder species in designated forest lands will be helpful. Further, promoting non-palatable crops with high economic values among the local communities with significantly reduce such types of damages.

3.1.15. Tree cutting: about 11905 nos (Non forest areas: 10899 trees + Forest Areas: 1006 trees) of trees are to be felled in the proposed alignment. The detail of development of green belt will be prepared as per IRC:SP-21: 2009 and NHAI Green Highway Policy 2015.

3.1.16. Rain Water Harvesting: About 580 nos. of rain water harvesting structures have been proposed in the project corridor on either side of the project road at an interval of 500 m. These rainwater harvesting pits have 1.5 m diameter and 3.8 m depth. Budget provision is made in the EMP for the RWH structures at a rate of Rs. 20,000/pit and the total amount is estimated to be Rs. 98 lakhs.

3.1.17. Land acquisition and R&R issues: The proposed project road would require land of approx. 1595.65 hectares. The project affected families (PAF) is approximately 10 nos. The exact number of likely to be affected households and thereby magnitude of impact can be

determined after the completion of survey. All the affected properties belonging to legitimate owners shall be incorporated in the subsequent reports.

3.1.18. Employment details: During the construction of the project around 1600 persons would be employed. Generally, locals are employed by the contractor.

3.1.19. Benefits of the project: The proposed green field corridor is very much required as it reduces substantial length, travelling time and fuel consumption. This proposed corridor is also intended to augment the transport infrastructure in the states of Andhra Pradesh and Karnataka and boost the industrial, freight movement and tourism sectors by providing faster inter-region connectivity. The project road will cause several benefits to local people both during construction and operation stage. Besides providing better mode and frequency of transport, access to quality health care facilities, educational and other infrastructural facilities will increase economic activities especially supporting transport like gasoline station, automotive repair shops, lodging and restaurants.

3.1.20. Details of the Court cases: No Court cases are pending against the proposed project.

3.1.21. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Environmental Clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Conservation and mitigation action plan prepared by ZSI for all schedule-I species shall be implemented in consultation with the State Forest Department; the status of the implementation shall be submitted to the IRO, MoEF&CC along with the EC Compliance report. Necessary underpasses and overpasses of sufficient length as suggested by ZSI be constructed in consultation with ZSI and State forest department.
- ii. PP shall obtain the NBWL clearance from the National Board of Wild Life if Applicable.
- iii. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted).
- iv. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. NOC from the state forest department in this regard be sought and submitted to the regional office of MoEFCC.
- v. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by

the private contractor. Green belt must be developed using exclusively native species. No exotic species to be used for the same.

- vi. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- vii. The landscape planning should include plantation of native species only. The species with heavy foliage, broad leaves and wide canopy cover such as Ficus trees are desirable. Water intensive and/or invasive species should not be used for landscaping.
- viii. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for Borrow area operation and rehabilitation given in EIA report shall be followed.
- ix. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area. Details for Quarry area operation and rehabilitation given the EIA report shall be followed.
- x. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipments used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xi. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.
- xii. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
- xiii. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chainage wise.
- xiv. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
- xv. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by

them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.

- xvi. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Major water bodies have been observed in the vicinity of the proposed road alignment & may be potential human elephant conflict points, appropriate number of animal safe passages as per the guideline framed by the Wildlife Institute of India and in consultation with Chief Wildlife Warden.
- xvii. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. xvi. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment. xvii. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.

**3.2 Development of 6 lane Access Controlled Economic Corridor (Greenfield Alignment) of Bengaluru–Kadapa – Vijayawada (BKV) Section - Package II Starts near Kothapalle Village (Design Ch.160.000) and Ends near Uppalapadu Village (Design Ch. 226.000) under Bharatmala Pariyojana Phase-II (Lot 10) in the State of Andhra Pradesh (Total Length - 66.000km)**

**Proposal No: IA/AP/INFRA1/412479/2022; File No 10/8/2022-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.2.1. The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup>–13<sup>th</sup> January 2023. The project proponent along with the EIA Consultant M/s Aarvee Associates Architects, Engineers and Consultants Pvt. Ltd made a presentation through Video Conferencing and provided the following information –

3.2.2. The proposed project is for Development of 6 lane (Greenfield) access Control expressway from Bengaluru-Kadapa-Vijayawada (BKV) Section Package-2: Start near Kothapalle Village (Design Ch. 160.000; Latitude: 14°49'46.25"N, Longitude:78°46'31.07"E) and Ends near Uppalapadu Village (Design Ch.226.000; Latitude:15°9'41.39"N, Latitude: 79°14'24.42"E) in the State of Andhra Pradesh. Total Length of the project is 66.000 km.



3.2.3. Terms of References (ToR): ToR was recommended by the EAC in its 289<sup>th</sup> EAC meeting held on 17<sup>th</sup>-18<sup>th</sup> February, 2022 and EAC in its 296<sup>th</sup> EAC meeting held on 28<sup>th</sup>-29<sup>th</sup> April 2022 it was granted vide letter No. 10/8/2022-IA.III dated 30<sup>th</sup> May, 2022 and ToR amendment was recommended by the EAC in its 308<sup>th</sup> EAC meeting held on 15<sup>th</sup>-16<sup>th</sup> September, 2022 and it was granted vide letter No. 10/8/2022-IA.III dated 19<sup>th</sup> October, 2022.

3.2.4. The proposed project falls under Schedule 7(f), Highway, Category "A" of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 3901.92 Crores.

3.2.5. Public hearing: Public hearing: Public hearing was conducted in YSR district, Prakasam District and SPSR Nellore by Andhra Pradesh Pollution Control Board. The details are as following.

S.No	Date	Venue	District	Chaired by
1	25.11.2022	Premises of the Tehsildar Office, Mydukur(M),	YSR District	District Revenue Officer, Additional District Magistrate
2	30.11.2022	Premises of the Tehsildar Office, CS Puram	Prakasam District	Joint Collector & Additional District Magistrate
3	01.12.2022	Premises of the Tehsildar Office, Seetharamapuram	SPSR Nellore	Joint Collector & Additional District Magistrate

3.2.6. Land use /Land breakup of the proposed project site is as following:-

S.no	Land use/Land cover	Area (ha)	Percentage %
1	Built up	-	-
2	Agriculture	362.83	61.45
3	Forest	83.62	14.16
4	Barren	132.15	22.38
5	Others	11.88	2.01
6	Total	590.48	100

3.2.7. Right of Way (RoW): The proposed Right of Way (RoW) is 70 meters in non-forest area and 60 meters in forest areas.

3.2.8. Terrain and topographical features: Terrain is plain terrain followed by rolling terrain, very few rolling terrain in forest/WLD locations and a mixed land use of agricultural, barren, forests can be seen throughout the corridor.

3.2.9. Water bodies: The proposed project has been designed considering all the possibilities to avoid the rivers, streams, lakes and ponds. However, some of the major rivers and streams abutting or crossing the project stretch (entire stretch) which are as following:

S.No	Type of Water Body	Side	Remarks
1	Telugu Ganga Canal	163 km	Crossing
2	Mudireddypalli Tank	165 km	215m LHS
3	Kotha Kunta	172.7 km	180m RHS
4	Lingaladinnepalli Tank	173.4 km	88m LHS
5	Stream	178.6 km	128m LHS
6	Peerammagaripalli Tank	187.7 km	440m RHS
7	Chinnayapalli Kunta	191.8 km	425m RHS
8	Rajasaheb Kinta	193.3 km	440m LHS
9	Amadakunta Tank	195.7 km	450m LHS

3.2.10. Three(3) major bridges and 49 nos. of minor bridges are proposed, no major and minor bridges will be dismantled and reconstructed and 94 culverts(new) are proposed to avoid any impact on local hydrology. All safety measures will be provided as per NHA Safety Manual and IRC:SP-88 and Expressway Manual IRC:SP-99.

Water requirement: The proposed project water requirement during the construction phase is around 1,230 KLD and the same may be obtained through tankers after taking necessary statutory clearances. For operation phase, approx. 174 KLD may be required for the plantation proposed in the proposed. Contractor will obtain permission from Irrigation & CAD Department, GoAP. The water requirement for the proposed project shall be met through tankers and if there is any requirement for ground water extraction, the same shall be obtained by the contractor after getting NOC/clearance from the CGWA/State Ground Water Department.

3.2.11. Forest Land: The proposed project involves diversion of 110.87 ha of forest land. Forest Clearance is yet to be obtained. The proposed project is not falling within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

3.2.12. This alignment is passing 16 km away from Lanka Malleswaram WLS and 54 km from Gundla Brahmeswara, WLS. However, it is passing through the proposed Tiger Corridor of Nagarjunasagar-Srisailam Tiger Reserve NSSTR.

3.2.13. The proposed Bangalore - Kadapa - Vijayawada Express way is not passing in the areas of Critically Endangered Jerdon's Courser birde (*Rhinoptilus bitorquatus*). It is passing approximately at a distance of 16 Km from the boundary of Sri Lankamallesrvara Wildlife Sanctuary, which is habitat of Critically Endangered Jerdon's Courser bird. The proposed express way from Kottapalli to lallepalli (Chainage 162.00 Km to 173.00 Km) approximately over a length of 5.00 Km (Chainage 166.00 Km to 171.00 Km) is passing through the Tiger Corridor connecting of NSTR (Nagarjuna Sagar Tiger Reserve, Srisailam) and SVNP (Sri Venkateswara National Park, Tinipathi). TLLe proposed express way is passing on LHS of existing BT road from Mydukur to Porumamilla. The road falls in Compt. No. 144 and 145 of K. K. Dasaripalli RF, Mudireddypatli Beat in Onipenta RarLge and Compt. No. 158 of K. K. Dasaripalli RF, Mallepalli Beat in Porumamilla Range. Further it is submitted that, the proposed express way is also passing in the Reserve forest area from Chainage 196.00 Km to 198.5 Km certaining to Proddatur (WL) Division, which is approximately 2.50 Km. This patch of road falls in Compt. No. 250, Kavalakuntla South RF, Siddavaniin Beat and in Compt. No. 253, Kavalakuntla Extn. A & B ItF, Tekurpeta Beat in Porumamilla Range. This patch of road does not fall in Tiger Corridor as per the area details mentioned in the corridor plan, but it falls in Tiger Corridor as per the map. Approximately over a length of 7.50 Km of express way road falls in Proddatur (WL) Division.

3.2.14. The Bio-diversity assessment and Conservation study has been carried out by ZSI, Kolkata for the Greenfield Expressway Project of Bangalore - Kadapa –Vijayawada stretch cumulatively. Based on the study in the Package-II the following Schedule-I species are identified *Blackbuck Antelope (Antelope cervicapra)*, *Indian Bison Gaur (Bos gaurus)*, *Wolf (Canis lupus)*, *Chinkara (Black Buck) (Gazella bennetti)*, *Indian Pangolin (Manis crassicaudata)*, *Tiger (Panthera Tigris)*, *Rusty Spotted Cat (Prionailurus rubiginosus)*, *Four-horned Antelope (Tetracerus quadricornis)*, *Shikra(Accipiter badius)*, *Great Indian Bustard(Ardeotis nigriceps)*, *Eurasian Marsh Harrier(Circus aeruginosus)*, *Black-shouldered Kite(Elanus caeruleus)*, *Black Eagle(Ictinaetus malayensis)*, *Black Kite(Milvus migrans)*, *Indian Peafowl(Pavo cristatus)*, *Lesser Florican(Sypheotides indicus)*, *Indian golden gecko(Calodactylodes aureus)*, *Indian Monitor Lizard(Varanus bengalensis)* based on the schedule-I species and other wild life species ZSI has been prepared the cumulative wild life conservation plan for Package-I,II&III with the budget of Rs. 849 lakh (8.49 Crore).

3.2.15. The User Agency agreed to the construction of canal crossings/tunnels/ bridges/ Animal crossing zones etc. Box culverts/ pipe culverts are proposed in the project duly meeting the requirements of "Eco-friendly Mitigation Measures suggested for Linear Projects by WII, May 2016". Construction of site suitable engineering structures in the reserve forest areas (Nellore Division. Seetharamapuum RF) (Giddalur Division: Bhairavakonda RF) (Anantapuram Division: Dokalakonda RF). The details are as following:

i. Forest Stretch from Km 166.200 to Km 170.920.

S.No	From (Km)	To (Km)	Structure Details	Width of opening(m)	Vertical Clearance
1	166.22		Animal	10	4m and

			underpass		above
2	166.30		Animal underpass	10	4m and above
3	166.40		Animal underpass	10	4m and above
4	166.52		Animal underpass	10	4m and above
5	166.76	166.88	Tunnel	130	
6	167.04	167.28	Viaduct	240	5m and above
7	167.38	168.19	Viaduct	810	5m and above
8	168.48	168.62	Tunnel	140	5m and above
9	168.69	169.02	Viaduct	330	5m and above
10	169.31	169.79	Tunnel	485	
11	169.96	170.88	Viaduct	915	5m and above

ii. Forest Stretch from Km.195.000 to KM 201.813

S.No	From (Km)	To (Km)	Structure Details	Width of opening(m)	Vertical Clearance
	190.300	191.200	Tunnel		
1	195.01		Box Culvert	5	4m and above
2	195.82		Box Culvert	4	4m and above
3	195.60		Minor Bridge	10	4m and above
4	196.14		Box Culvert	4	4m and above
5	196.28		Box Culvert	4	4m and above
6	196.34		Box Culvert	5	4m and above
7	196.42		Box Structure	4	4m and above

8	196.72		Box Structure	4	4m and above
9	196.73		Box Culvert	4.5	4m and above
10	197.08	200.76	Tunnel	3680	
11	210.09		Minor Bridge	40	5m and above
12	201.62	201.80	Viaduct	180	5m and above

iii. Forest Stretch from Km.195.000 to KM 201.813.

S.No	From (Km)	To (Km)	Structure Details	Width of opening(m)	Vertical Clearance
1	223.45		Box Culvert	5	4m and above
2	223.88		Box Culvert	4	4m and above
3	223.94		Minor Bridge	10	5m and above
4	224.04		Box Culvert	4	4m and above
5	224.29		Box Culvert	4	4m and above
6	224.53		Box Culvert	5	4m and above
12	224.700	224.960	Tunnel	260	

3.2.16. Tree cutting: The proposed alignment requires cutting of approximately 23,898. In the instant alignment requires cutting of approximately 5722 nos (in Non-forest areas 3548 and in Forest Areas 2174) of trees in proposed RoW. Three rows of avenue plantations on both sides are proposed along the project corridor. Around 46,840 Nos. of trees as avenue plantation are proposed to be planted and Median Plantation: The number of median plantations proposed are around 33,300 Nos. The budget allocation in EMP for the median plantation is Rs.133.00 lakhs. The budget allocation for the avenue plantation is Rs.4.50 crores. The detail of development of green belt will be prepared as per IRC:SP-21: 2009.

3.2.17. Rain Water Harvesting: The rain water harvesting pits are proposed in the project throughout the length at an interval of 500 m on either side of the proposed alignment. There are around 1028 nos. of RHW pits are proposed on either side of the road at an interval of 500 m through-out the stretch (Table 24). The proposed RWHs are having dia. of 1.5 m with a depth of 3.8 m. These proposed structures shall be periodically cleaned and maintained to ensure its proper functionality. A budget provision of Rs. 205.6 lakhs is made for the same in the EMP. As per IRC: SP 42- 2014.

Waste management: **Domestic Waste:** The quantity of domestic solid waste to be generated in the camp site is around 183 TPA and shall be disposed in the nearest Municipal dumping yards operated and maintained by the respective municipalities. **Bio-medical Waste:** The quantity of bio-medical waste to be generated is approx. 0.54 TPA from the worker/labour camps. The same shall be disposed through APPCB approved vendors/Agencies meant for safe collection and disposal of the bio-medical waste. **Oil and Grease:** The waste Oil and grease to be generated from the proposed project is around 0.02 TPA which shall be disposed through APPCB Approved Vendors/Agencies meant for safe collection and disposal of the Oil & Grease wastes. **Construction & Demolition wastes:** The Construction & Demolition waste to be generated from the proposed project is around 20 TPA which shall be disposed at Municipal Dump Yards/ identified low lying areas.

3.2.18. Land acquisition and R&R issues: The alignment is passing through 18 villages of YSR Kadapa District, 05 villages in Nellore District and 04 villages in Prakasam District. The Project Affected Persons (PAPs) identified in the project are 947nos with an extent of land 529.4Ha as per 3D Notification published in the project.

3.2.19. Employment details: During the construction of the project around 700 persons would be employed. Generally, locals are employed by the contractor.

3.2.20. Benefits of the project: The proposed green field corridor is very much required as it reduces substantial length, travelling time and fuel consumption. This proposed corridor is also intended to augment the Transport Infrastructure in the states of Andhra Pradesh and Karnataka and boost the industrial, freight movement and tourism sectors by providing faster inter-region connectivity. The project road will cause several benefits to local people both during construction and operation stage. Besides providing better mode and frequency of transport, access to quality health care facilities, educational and other industrial infrastructure facilities will increase economic activities especially supporting transport, gasoline station, automotive repair shops, lodging and restaurants. Increase Agro-industrial activities are also expected to take an advantage of improved access to urban centres, where there are higher demands and better prices for agricultural products. Further, tourism activities in the area and state will be enhanced which in many terms will boost the local economy and build better investment climate for industries creating more employment opportunities to local people.

3.2.21. Details of court cases: No court cases are pending against the proposed project.

3.2.22. During the deliberation, the EAC noted the following:

- i. The alignment segment from Chainage no. 166800 to 171600, are identified as an important area for the package I in terms of possible wildlife movement for entire stretch. Hence, precautionary management strategies such as improvement of habitat for wildlife species should be taken up by the National Highway Authority with the active support of the local Forest Department of Andhra Pradesh.
- ii. The habitat improvement activities includes the creation of waterholes in few sites, plantation of local species of shrubs, herbs and trees in the 10 km radius of the Chainage no. 166800 to 171600 and 5 km radius of Chainage no 220500 to 225000 shall under take. The aim is to ensure water and food availability for the wildlife species in the landscape because linear structures results in fragmentation and degradation of habitat.
- iii. Approximately over a length of 5.00 Km (Chainage 166.00 Km to 171.00 Km) is passing through the Tiger Corridor connecting of NSTR (Nagarjuna Sagar Tiger Reserve, Srisailam) and SVNP (Sri Venkateswara National Park, Tinipathi).

3.2.23. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Environmental Clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Conservation and mitigation action plan prepared by ZSI for all schedule-I species shall be implemented in consultation with the State Forest Department; the status of the implementation shall be submitted to the IRO, MoEF&CC along with the EC Compliance report.
- ii. The habitat improvement activities include the creation of waterholes in few sites, plantation of local species of shrubs, herbs and trees in the 10 km radius of the Chainage no. 166800 to 171600, 197500 to 201900 and 5 km radius of Chainage no 220500 to 225000 shall be undertake. The aim is to ensure water and food availability for the wildlife species in the landscape because linear structures results in fragmentation and degradation of habitat.
- iii. In between for forest stretch from KM 166.200 to Km 170.920 user agency shall provide following structure for animal and wild life movement at 166.22Km, 166.30Km, 166.40Km,166.52Km Animal underpass with a width of 10m and 4m above vertical clearance shall be provided apart from this tunnel from 166.76 Km to 166.88 Km, from168.48Km to 168.62Km and, 169.31km to 169.79 tunnel with the above 4m vertical clearance shall be provided. Also the User agency shall be provide viaducts as following from 167.04Km to 167.28Km with the width of 240 m and 5m above vertical clearance, from 167.38Km to168.19Km with the width of 810m and 5m above vertical clearance, from168.69Km to 169.02Km with the width of 330m and 5m above vertical clearance, 169.96Km to 170.88Km with the width of 915 m and 5m above vertical clearance.
- iv. In between For forest stretch from KM 195.000 to Km 201.813 user agency shall provide following structure for animal and wild life movement at 190.300km to

191.200km tunnel, 195.01Km, 195.82Km, 196.14Km, 196.28Km, 196.34Km, 196.73Km Box culvert shall provide, further,196.42Km and 196.72Km Box structure shall be provided and 195.60 Minor Bridge at 197.08Km to 200.76Km tunnel with the width of 3680m and at 201.61km to 201.80 viaduct with the width of 180m and 5m above.

- v. In between for forest stretch from KM 195.000 to Km 201.813 user agency shall provide following structure for animal and wild life movement at 223.45Km, 224.04Km, 224.53Km shall provide Box Culvert, 223.88Km, 224.29km shall provide Box structure and at 223.94Km Minor Bridge and 224.206km to 224.960km with the width of 260m.
- vi. Approximately over a length of 5.00 Km (Chainage 166.00 Km to 171.00 Km) is passing through the Tiger Corridor connecting of NSTR (Nagarjuna Sagar Tiger Reserve, Srisailam) and SVNP (Sri Venkateswara National Park, Tinipathi). Elevated corridor for an appropriate length shall be provided to avoid any hindrance for the wildlife movement.
- vii. At 190.300km to 191.200km tunnel, 195.01Km, 195.82Km,196.14Km,196.28Km, 196.34Km,196.73Km Box culvert shall provide, further,196.42Km and 196.72Km Box structure shall be provided and 195.60 Minor Bridge at 197.08Km to 200.76Km tunnel with the width of 3680m and at 201.61km to 201.80 viaduct with the width of 180m and 5m above shall be provided for animal and wildlife movement.
- viii. Box cutting at ends of tunnels should be converted into viaduct through cut and cover method so that maximum space can be provided to wild animals for crossing at edges of tunnel and any possibility of wild animals mortality due to steep slopes of box cutting at the end of tunnel can be avoided.
- ix. PP shall obtain the NBWL clearance from the National Board of Wild Life if Applicable.
- x. The alignment segment from Chainage no. 166800 to 171600, 197500 to 201900 and 220500 to 225000 are identified as an important area in terms of possible wildlife movement. Hence, precautionary management strategies such as improvement of habitat for wildlife species should be taken up by the National Highway Authority with the active support of the local Forest Department of Andhra Pradesh.
- xi. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted).



- xii. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. NOC from the state forest department in this regard be sought and submitted to the regional office of MoEFCC.
- xiii. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by the private contractor. Green belt must be developed using exclusively native species. No exotic species to be used for the same.
- xiv. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- xv. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover such as Ficus sp are desirable. Water intensive and/or invasive species should not be used for landscaping.
- xvi. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for Borrow area operation and rehabilitation given in EIA report shall be followed.
- xvii. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area. Details for Quarry area operation and rehabilitation given the EIA report shall be followed.
- xviii. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipments used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xix. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.
- xx. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
- xxi. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for

protecting giant trees, and locally important trees (having cultural importance) and should be identified chainage wise.

- xxii. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
- xxiii. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.
- xxiv. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Major water bodies have been observed in the vicinity of the proposed road alignment & may be potential human elephant conflict points, appropriate number of animal safe passages as per the guideline framed by the Wildlife Institute of India and in consultation with Chief Wildlife Warden.
- xxv. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. xvi. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment. xvii. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.

**3.3. Development of 6-lane (Greenfield) access control Economic corridor from Bengaluru–Kadappa–Vijayawada (BKV) Section Package III: Starts near Uppalapadu village (Design Ch. 226.000) and ends near Muppavaram village on NH-16 (Design Ch. 342.500) in the state of Andhra Pradesh, Total Length - 116.5 km in the state of Andhra Pradesh, Total Length-116.5 km by M/s National Highways Authority of India – Environmental Clearance.**

**Proposal No. IA/AP/INFRA1/412483/2022 and File No.10/9/2022-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.3.1. The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup> – 13<sup>th</sup> January 2023. The project proponent along with the EIA Consultant M/s Aarvee Associates Architects, Engineers and Consultants Pvt. Ltd made a presentation through Video Conferencing and provided the following information –

3.3.2. The proposed project is for Development of 6-lane (Greenfield) access control Economic Corridor (Greenfield Alignment) of Bengaluru–Kadapa–Vijayawada (BKV)Section (Package-III) starts near Uppalapadu Village (Design Ch. 226.000; Lat: 15°9'41.63"N; 79°14'24.51"E) and ends near Muppavaram Village on NH-16(Design Ch. 342.500; Lat: 15°50'7.30"N, Long: 80°2'53.55"E under Bharatmala Pariyojana phase-II(Lot 10) in the State of Andhra Pradesh; and in the State of Andhra Pradesh. The total length of the project alignment is 160.0 km and total proposed land area is 7463.44 Ha.

3.3.3. The proposed Right of Way (RoW) is 70 meters in non-forest area and 60 meters in forest areas.

3.3.4. Terms of References (ToR) was granted vide letter No. 10/9/2022-IA.III dated 30<sup>th</sup> May,2022 during the 289<sup>th</sup> EAC meeting held on 17<sup>th</sup>-18<sup>th</sup> February, 2022 and obtained amendment in ToR vide letter even no dated 19<sup>th</sup> October, 2022.

3.3.5. The proposed project falls under Schedule 7(f), Highway, Category "A" of EIA Notification 2006. Total estimated cost of the project is about Rs. 3460.17 Crores.

3.3.6. Land use /Land breakup of the proposed project site is as following:-

S.no	Land Use/Land cover	Area(ha)	Percentage%
1	Built up	-	-
2	Agriculture	808.82	69.18
3	Forest	12.60	1.08
4	Barren	328.98	28.16
5	Others	18.00	1.58
Total		1169.90	100

3.3.7. Public Hearing was conducted in Prakasham District and Bapatla districts in the states of Andhra Pradesh. The details are following:

S.no	Date	Venue	Chaired by	District
1	30.11.2022	PremisisesTahasildar Office, Kanigiri, Prakasam District.	Joint Collector & Additional District Magistrate	Prakasham District
2	03.12.2022	MDO Office, NSP Colony, Addanki, Bapatla	Joint Collector & Additional District	Bapatla District

		District.	Magistrate	
--	--	-----------	------------	--

3.3.8. The right of way (RoW) of 90 m is considered for the non-Forest areas and 60 m for the Forest areas throughout the project length.

3.3.9. Terrain and topographical features: Terrain and topographical features: Terrain is plain terrain followed by rolling terrain, very few rolling terrain in forest/WLD locations and a mixed land use of agricultural, barren, forests can be seen throughout the corridor.

3.3.10. Forest Land: The proposed project passes through Pulimikonda R.F for a length of 1.800 Kms. The proposed project involves diversion of 12.60 ha of forest land. The application for forest clearance yet to be submitted.

3.3.11. ESZ/National Park/Sanctuary: The proposed alignment is not passing through Wildlife Sanctuary falling within 15 km. However, the proposed project passes through Pulimikonda R.F for a length of 1.800 Kms. PP submitted that, the proposed Bangalore - Kadapa -Vijayawada Express way is not passing in the areas of Critically Endangered Jerdon's Courser birde (*Rhinoptilus bitorquatus*). It is passing approximately at a distance of 16 Km from the boundary of Sri Lankamallesrvara Wildlife Sanctuary, which is habitat of Critically Endangered Jerdon's Courser bird The proposed express way from Kottapalli to Ilallepalli (Chainage 16:2.00 Km to 173.00 Km) approximately over a length of 5.00 Km (Chainage 166.00 Km to 171.00 Km) is passing through the Tiger Corridor connecting of NSTR (Naga-rjuna Sagar Tiger Reserve, Srisailam) and SVNP (Sri Venkateswara National Park, Tirupathi). The proposed express way is passing on LHS of existing BT road from Mydukur to Porumamilla. The road falls in Compt. No. 144 and 145 of K. K. Dasaripalli RF, Mudireddypatli Beat in Onipenta and Compt. No. 158 of K. K. Dasaripalli RF, Mallepalli Beat in Porumamilla Range. Further it is submitted that, the proposed express way is also passing in the Reserve forest area from Chainage 196.00 Km to 198.5 Km' certaining to Proddatur (WL) Division, which is approximately 2.50 Km. This patch of road falls in Compt. No. 250, Kavalakuntla South RF, Siddavat11111 Beat and in Compt. No. 253, Kavalakuntla Extn. A & B ItF, Tekurpeta Beat in Porumamilla Range. This patch of road does not fall in Tiger Corridor as per the area details mentioned in the corridor plan, but it falls in Tiger Corridor as per the map. Approximately over a length of 7.50 Km of express way road falls in Proddatur (WL) Division.

3.3.12. The Bio-diversity assessment and Conservation study has been carried out by ZSI, Kolkata for the Greenfield Expressway Project of Bangalore - Kadapa –Vijayawada stretch cumulatively. Based on the study in the Package-III the following Schedule-I species are identified *Shikra (Accipiter badius)*, *Great Indian Bustard (Ardeotis nigriceps)*, *Eurasian Marsh Harrier (Circus aeruginosus)*, *Black-shouldered Kite (Elanus caeruleus)* *White-bellied Sea Eagle, (Haliaeetus leucogaster)*, *Black Eagle (Ictinaetus malayensis)*, *Black Kite (Milvus migrans)*, *Indian Peafowl (Pavo cristatus)*, *Lesser Florican (Syphoetides indicus)*, *Indian golden gecko (Calodactylodes aureus)*, *Indian Monitor Lizard (Varanus bengalensis)* based on the schedule-I species and other wild life species ZSI has been prepared the

cumulative wild life conservation plan for Package-I,II&III with the budget of Rs. 849 lakh (8.49 Crore).

3.2.24. Water bodies: The alignment is crossing Musi river and Gundlakamma reservoir. There are no water bodies which are being directly affected by the proposed project. At all these locations Nineteen (19) major bridges and thirty-three (33) minor bridges are proposed and 329 culverts (new) are proposed to avoid any impact on local hydrology. All safety measures will be provided as per NHA Safety Manual and IRC:SP-88 and Expressway Manual IRC:SP-99.

Water requirement: The proposed project water requirement during the construction phase is around 3,405 KLD and the same may be obtained through tankers after taking necessary statutory clearances. For operation phase, approx. 325.3 KLD may be required for the plantation proposed in the proposed. Contractor will obtain permission from Irrigation & CAD Department, GoAP. The water requirement for the proposed project shall be met through tankers and if there is any requirement for ground water extraction, the same shall be obtained by the contractor after getting NOC/clearance from the CGWA/State Ground Water Department.

Waste Management: The quantity of domestic solid waste to be generated in the camp site is around 330 TPA and shall be disposed in the nearest Municipal dumping yards operated and maintained by the respective municipalities. **Bio-medical Waste:** The quantity of bio-medical waste to be generated is approx. 0.99 TPA from the worker/labour camps. The same shall be disposed through APPCB approved vendors/Agencies meant for safe collection and disposal of the bio-medical waste. **Oil and Grease:** The waste Oil and grease to be generated from the proposed project is around 0.06 TPA which shall be disposed through APPCB Approved Vendors/Agencies meant for safe collection and disposal of the Oil & Grease wastes. **Construction & Demolition wastes:** The Construction & Demolition waste to be generated from the proposed project is around 228 TPA which shall be disposed at Municipal Dump Yards/ identified low lying areas.

3.3.13. The User Agency agreed to the construction of canal crossings/tunnels/ bridges/ Animal crossing zones etc. Box culverts/ pipe culverts are proposed in the project duly meeting the requirements of "Eco-friendly Mitigation Measures suggested for Linear Projects by WII, May 2016". Construction of site suitable engineering structures in the reserve forest areas are as following:

S.No	From (Km)	To(Km)	Structure Details
13	239.900	240.400	Tunnel

3.3.14. Tree cutting: The proposed alignment requires cutting of approximately 8429 nos (in Non-forest areas 8101 and in Forest Areas 328) of trees in proposed RoW. The detail of development of green belt will be prepared as per IRC: SP-21: 2009 after approval of alignment.

3.3.15. Rain Water Harvesting.350 Rain Water Harvesting (RWH) pits of dia. 1.5 m with a depth of 3.8 m at an interval of 500 m either side of the road are proposed in the project with budgetary provision of Rs. 70 Lakhs in the EMP budget

3.3.16. Land acquisition and R&R issues: The proposed project road would require land of ai4prox. 1169.90 hectares. The project affected families (PAF) is approximately 30 nos. The exact number of likely to be affected households and thereby magnitude of impact can be determined after the completion of survey. All the affected properties belonging to legitimate owners shall be incorporated in the subsequent reports.

3.3.17. Employment details: During the construction of the project around 1200 persons would be employed. Generally, locals are employed by the contractor.

3.3.18. Benefits of the project: The proposed green field corridor is very much required as it reduces substantial length, travelling time and fuel consumption. This proposed corridor is also intended to augment the Transport Infrastructure in the states of Andhra Pradesh and Karnataka and boost the industrial, freight movement and tourism sectors by providing faster inter-region connectivity. The project road will cause several benefits to local people both during construction and operation stage. Besides providing better mode and frequency of transport, access to quality health care facilities, educational and other infrastructural facilities will increase economic activities especially supporting transport like gasoline station, automotive repair shops, lodging and restaurants. Increase agro industrial activities are also expected to take an advantage of improved access to urban centres, where there are higher demands and better prices for agricultural products. Further, tourism activities in the area and state will be enhanced which in many terms will boost the local economy and build better investment climate for industries creating mote employment opportunities to local people.

3.3.19. Details of court cases: No court cases are pending against the proposed project

3.3.20. During the deliberation, the EAC observed and noted the following.

- i. Canal crossings/tunnels/bridges/Animal crossing zones has to be constructed wherever necessary.

3.3.21. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Environmental Clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Conservation and mitigation action plan prepared by ZSI for all schedule-I species shall be implemented in consultation with the State Forest Department; the status of the implementation shall be submitted to the IRO, MoEF&CC along with the EC Compliance report.
- ii. The user agency shall provide tunnel at 239.900km to 240.400km for animal and wildlife movement. Canal crossings/tunnels/bridges/Animal crossing zones has to be constructed wherever necessary

- iii. PP shall obtain the NBWL clearance from the National Board of Wild Life if Applicable.
- iv. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted).
- v. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. NOC from the state forest department in this regard be sought and submitted to the regional office of MoEFCC.
- vi. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by the private contractor. Green belt must be developed using exclusively native species. No exotic species to be used for the same.
- vii. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- viii. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover such as Ficus sp are desirable. Water intensive and/or invasive species should not be used for landscaping.
- ix. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for Borrow area operation and rehabilitation given in EIA report shall be followed.
- x. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area. Details for Quarry area operation and rehabilitation given the EIA report shall be followed.
- xi. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipments used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xii. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers,

- studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.
- xiii. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
  - xiv. Box cutting at ends of tunnels should be converted into viaduct through cut and cover method so that maximum space can be provided to wild animals for crossing at edges of tunnel and any possibility of wild animals mortality due to steep slopes of box cutting at the end of tunnel can be avoided.
  - xv. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chainage wise.
  - xvi. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
  - xvii. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.
  - xviii. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Major water bodies have been observed in the vicinity of the proposed road alignment & may be potential human elephant conflict points, appropriate number of animal safe passages as per the guideline framed by the Wildlife Institute of India and in consultation with Chief Wildlife Warden.
  - xix. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. xvi. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment. xvii. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.



**3.4 Development of 4/6 Lane Ayodhya Bypass starting from NH-28 (chainage 139+928) near Village Maheshpur, District Gonda and end at NH-28 (153+281) near Village Majhauva Dubey, District Basti in the State of Uttar Pradesh (total length - 67.572 km) by M/s National Highways Authority of India–Environmental Clearance Proposal No. IA/UP/INFRA1/409388/2022 and File No. 10/44/2021-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.4.1. The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup>–13<sup>th</sup> January 2023. The project proponent along with the EIA Consultant M/s P and M Solutions made a presentation through Video Conferencing and provided the following information –

3.4.2. Development of 4/6 Lane Ayodhya Bypass, Total length of 67.572km (Northern Ayodhya Bypass starting at km 112+540, ending at km 139+928 of NH–28 and Southern Ayodhya Bypass starting at km 112+540, ending at km 153+281 of NH-28) under NHDP Phase-VII in the State of Uttar Pradesh.

3.4.3. Proposed bypass has been divided in two sections *viz.* Northern Ayodhya Bypass and Southern Ayodhya Bypass. End point of Northern Ayodhya Bypass is at NH-28 (chainage 139+928) near Village Maheshpur (26°49'28.08"N, 82°13'4.78"E) in District Gonda and end point of Southern Ayodhya Bypass is at NH-28 (153+281) near Village Majhauva Dubey (26°47'57.55"N, 82°19'24.58"E) in District Basti in the State of Uttar Pradesh. Project alignment is passing through 37 revenue Villages of District Ayodhya, 13 revenue Villages of District Basti and 12 revenue Villages of District Gonda in the State of Uttar Pradesh.

3.4.4. Terms of References (ToR) Details: The proposed project has been recommended for Terms of References vide proposal no.IA/UP/NCP229054/2021 and File no. 10/44/2021-IA.III in 275<sup>th</sup> EAC meeting held during 29<sup>th</sup> September, 2021 and ToR letter was issued on 22<sup>nd</sup> October, 2021.

3.4.5. The proposed project falls under 7(f), Category-A, Highway as per EIA notification 2006. Total investment/cost of the project is Rs 4740.59 Crores.

3.4.6. Public Hearing was conducted in Ayodhya District, Gonda District and Basti district in the states of Andhra Pradesh. The details are following:

S.no	Date	Venue	Chaired by	District
1	12.05.2022	Collectorate Sabhagar, Ayodhya	Additional District Magistrate	AYODHYA
2	13.05.2022	Zila Panchayat	Additional District	GONDA

		Sabhagar, Gonda	Magistrate	
3	18.05.2022	Tehsil Office, Haraiya, Basti	Additional District Magistrate	BASTI

3.4.7. Land use/Land cover of the project site/area is as following:

S. No.	Land use / Landcover	Area (ha)	Area in %
1	Agriculture Land	431.90	94.30
2	Built-up	0.37	0.08
3	Water-body (River, Canal, etc.)	21.33	4.66
4	Road	0.91	0.20
5	Open Scrub	3.48	0.76
Total		457.99	100.0

3.4.8. Terrain and Topography: The proposed alignment is predominantly in plain terrain. The elevation varies from ~87m to ~108 m above MSL at different locations. Average elevation of the project stretch is ~96 m above MSL.

3.4.9. Right of Way (RoW): Proposed ROW is 60 meter. The total length of the project is 67.572 km.

3.4.10. Water requirements: The total water requirement during construction period is about 2700 KLD. Water will be sourced from surface water bodies through tankers after necessary approval. No groundwater extraction is proposed. However, if potable water is required same shall be extracted after necessary permission from appropriate authority.

3.4.11. Waste Management: Construction and demolition waste due to construction activities and demolition of existing structures shall be reused and managed as per Construction and Demolition Waste Management Rules, 2016. Municipal wastes generated from the construction workers camp shall be managed as per Solid Waste Management Rules, 2016. Hazardous wastes generated due to activities like maintenance and repair work on vehicles shall be managed as per Hazardous and Other Wastes (Management, & Trans-boundary Movement) Rules, 2016.

3.4.12. Forest Diversion: Project involves diversion of 2.48 ha of Protected Forest (roadside and railway line side plantations declared as Forest). Application for Forest Clearance has been submitted for In-Principle Approval.

3.4.13. Water Bodies: The proposed alignment is crossing 2 Rivers and 24 Canals / irrigation minor / drains.

3.4.14. The proposed alignment is not passing through any National Park / Wildlife Sanctuary / other protected area under Wildlife (Protection) Act, 1972. Parvati Arga Wildlife Sanctuary

is located at approx. 7 km aerial distance from the proposed alignment. However, the ESZ boundary of the Sanctuary is approx. 6 km away from the proposed project alignment.

3.4.15. The proposed alignment will have 11 Major Bridges, 13 minor Bridges, 11 flyovers, 11 VUPs and 47 box culverts are proposed along the proposed highway. These crossing shall provide safe passage for the Cattle/Wild animals and peoples residing near the alignment.

3.4.16. Tree cutting/Green Belt: Approx. 319 trees are likely to be felled due to proposed highway within RoW. Approx. 7000 trees as Avenue Plantation and 45003 shrubs in Median shall be planted on available RoW as per IRC:SP:21:2009 “Guidelines on Landscaping & Tree Plantation” and NHAI Green Highway Policy, 2015.

3.4.17. Land Acquisition/ R&R Issues: About 457.99 ha of land shall be acquired for the project as per NH Act, 1956 and compensation and R&R shall be as per the RFCTLARR Act, 2013.

3.4.18. Employment potential: During the construction of the road project around 12000 persons would be employed temporarily for a period of 2.5 years. During operation of bypass about 150 persons will be employed for patrolling, management & maintenance activities, etc. The total manpower required for the project is 1350. Preference will be given to local people for employment.

3.4.19. Benefits: The proposed bypass would act as the prime artery for the economic flow to this region. It will enhance economic development, provide employment opportunity to locals, strengthen tourist development, ensure road safety, and provide employment opportunities to locals, strengthen tourist development, ensure road safety, and provide better transportation facilities and other facilities such as way side amenities.

3.4.20. Details of court cases: No court cases are pending against the proposed project.

3.4.21. During the deliberation, the EAC observed and noted the following.

*It is observed that there are certain areas along the alignment having water logging problem. PP had carried out Hydraulic and Hydrological parameters, and the report has specifically indicated the measures to be taken to prevent waterlogging or floodplain management. The recommendations of the report shall be implemented in letter and spirit and the implementation status shall be submitted to IRO, MoEFCC along with 6 Monthly EC compliance report.*

3.4.22. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Environmental Clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. The recommendations of the Hydraulic and Hydrological report shall be implemented in letter and spirit and the implementation status shall be submitted to IRO, MoEFCC along with 6 Monthly EC compliance report.
- ii. PP shall obtain the NBWL clearance if Applicable.

- iii. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted).
- iv. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. NOC from the state forest department in this regard be sought and submitted to the regional office of MoEFCC.
- v. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by the private contractor. Green belt must be developed using exclusively native species. No exotic species to be used for the same.
- vi. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- vii. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover such as Ficus sp are desirable. Water intensive and/or invasive species should not be used for landscaping.
- viii. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for Borrow area operation and rehabilitation given in EIA report shall be followed.
- ix. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area. Details for Quarry area operation and rehabilitation given the EIA report shall be followed.
- x. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipments used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xi. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and

Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.

- xii. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
- xiii. Span of the bridges in the river be kept maximum possible to reduce the number of pillars in the river bed and floodplain areas.
- xiv. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chainage wise.
- xv. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
- xvi. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.
- xvii. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Major water bodies have been observed in the vicinity of the proposed road alignment & may be potential human elephant conflict points, appropriate number of animal safe passages as per the guideline framed by the Wildlife Institute of India and in consultation with Chief Wildlife Warden.
- xviii. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. xvi. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment.
- xix. xvii. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.

**3.5 Development of 4 lane Bakarpur-Manikpur Section, starting from design km 0.000 at Sitalpur bypass of NH-19 near village Bakarpur in District Saran and terminate at design km 38.813 near village Manikpur merge into SH-74 in District Mujaffarpur in**

**the State of Bihar (total length – 38.813 km) by M/s National Highways Authority of India–Terms of Reference Proposal No. IA/BR/INFRA1/409319/2022 and File No. 10/2/2023-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.5.1 The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup> – 13<sup>th</sup> January 2023. The project proponent made a presentation through Video Conferencing and provided the following information –

3.5.2 Construction of 4 Lane Bakarpur-Manikpur Section. The proposed project starts from village Bakarpur, design Ch. 0+000 (Start Location: 25°43'23.05"N, 85° 8'18.61"E) at Sitalpur bypass of NH-19 in district Saran and ends near Manikpur village, Design Ch. 38+813(End Location: 26° 1'38.15"N, 85° 7'54.47"E) merge into SH-74 in Muzaffarpur district in the state of Bihar. The alignment falls in 03 districts i.e., “Saran, Vaishali and Muzaffarpur” in the state of Bihar. Right of Way (RoW):45m.

3.5.3 The proposed project falls under 7(f), Category-A, Highway as per EIA notification 2006. Total investment/cost of the project is 134446 Lakhs.

3.5.4 Land use/ Land cover (approx. area) of the project site in tabular form:

S. No.	Land use / Land cover	Area (ha)	Percentage %	Remarks if any
1.	Private land	189.3762	93.1965	Agriculture Land
2.	Government land	9.7168	4.7819	Agriculture / Barren / other Land
3.	Forest land	4.108	2.0216	Protected Forest land (Vacant land of crossing of link roads and river.
	Total	203.201	100	-

3.5.5 Terrain and topographical features: The terrain of the alignment is basically plain.

3.5.6 Details of water bodies: The proposed alignment is crossing through 1 nos. of river. The balancing culverts shall be provided to ensure no water logging in the area and all storm water shall be channelized systematically to the nearest natural stream.

3.5.7 Water requirements: Approx. 1250 KLD Water will be extracted from suitable surface sources (river/canals). Ground water proposed to be used only for camp site for transient period after obtaining the permissions from appropriate authority. or ground water after obtaining necessary permissions from the competent authority.

3.5.8 Tree cutting: About 1678 trees are likely to be affected due to proposed RoW of 60 m out of which approx. 540 nos. of trees fall in protected forest land (vacant space on both sides of existing crossing roads & River has been notified as Protected Forest) and remaining 1138 falls in the private agriculture field. The actual no. of trees proposed to be cut will be provided in the EIA after joint enumeration with appropriate authorities of respective State Government. Efforts will be made to minimize the trees loss by restricting trees cutting within formation width/toe lane. Avenue plantation shall be carried out as IRC: SP: 21:2009.

3.5.9 Diversion of forest land: The proposed project highway will require diversion of 4.108 ha. of Protected Forest land in district Saran, Vaishali & Muzaffarpur in the state of Bihar. The forest proposal shall be prepared after consultation with concerned forest officer. The proposed project is not passing through any Protected Area (PA) including National Parks, Sanctuaries and tiger Reserves etc.

3.5.10 Land acquisition and R&R issues involved: The proposed project alignment falls in 03 districts i.e., “Saran, Vaishali and Muzaffarpur” in the state of Bihar. The Project requires approx. 199.093 ha of land except of 4.108 ha. Forest land. About 172 nos. of structures (Pucca Building, temporary sheds, huts etc.) will be affected due to proposed highway. Compensation shall be paid as per NH Act, 1956 and RFCTLARR Act, 2013.

3.5.11 Employment potential: During the construction of the road project around 120 persons/day would be employed temporarily for a period of 2.5 years. However due to construction of toll plazas approx. 10 persons will be employed on permanent basis and 50 nos. of employees on temporary basis. The Preference will be given to local people for employment.

3.5.12 Benefits of the project: Patna city is connected with several peripheral towns like Muzaffarpur, Bettiah, Motihari, Vaishali etc. through mix of two-lane highways and four lane highways. Due to huge increment of traffic, now a day’s huge traffic jam is common phenomenon in this existing two-lane road (Adalwari-Manikpur). Hence, it becomes necessary to connect Patna city with the peripheral towns through proper four lane roads. Hence, proposal for connecting Patna city and Rampur with four lane corridors has been entrusted by the authority by several segments of road projects.

3.5.13 Details of court cases: No court cases are pending against the proposed project.

4. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 318<sup>th</sup> meeting during 12<sup>th</sup> -13<sup>th</sup> January 2023 and **recommended** the proposal for grant of Terms of references with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.

- ii. Road safety audit (along with accident/black spots analysis) by any third-party competent organization at all stages namely at detailed design stage, construction stage and pre-opening stage to ensure that the project road has been constructed considering all the elements of road safety.
- iii. Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.
- iv. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will be identified chainage wise and presented in EIA-EMP
- v. The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. Alignment also should be such that it will avoid cutting old and large and heritage trees if any. All such trees should be geo-tagged, photographed and details be submitted in the EIA –EMP report.
- vi. The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people’s dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels.
- vii. As per the Ministry’s Office Memorandum F. No. 22-65/2017-IA.III dated 30<sup>th</sup> September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
- viii. In pursuance of Ministry's OM no stated above the project proponent shall add one annexure in the EIA Report indicating all the commitments made by the PP to the public during public hearing and submit it to the Ministry and the EAC.
- ix. The Action Plan on the compliance of the recommendations of the CAG as per Ministry’s Circular No. J-11013/71/2016-IA. I (M), dated 25<sup>th</sup> October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
- x. Passage for animal movement has to be detailed in the report (if alignment is passing through Forest area).



- xi. A comprehensive plan for plantation of three rows of native species, as per IRC guidelines, shall be provided. Such plantation alongside of forest stretch will be over and above the compensatory afforestation. Tree species should be same as per the forest type. Plantation should be done by the state forest department and a proposal for the same should be annexed in the EIA-EMP.
- xii. The PP shall not use groundwater/surface water without obtaining approval from CGWA/SGWA as the case may be. The project proponent shall apply to the Central Ground Water Authority (CGWA)/State Ground Water Authority (SGWA)/Competent Authority, as the case may be, for obtaining No Objection Certificate (NOC), for withdrawal of ground water.
- xiii. Detailed Biodiversity assessment and conservation/mitigation plan be developed by a nationally reputed institute or by a team of expert of national repute.
- xiv. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.

**3.6 Development of 4 lane National Highway starts from Kanamalopalli village (Ch: 0+000) to Kothapalem village (Ch: 120+849) in Y.S.R Kadapa and Chittoor districts 4 of Andhra Pradesh under Bharatmala Pariyojana (Lot-5/Package-1) by M/s National Highways Authority of India (Total length - 120.849 km) – Amendments in Terms of Reference.**

**Proposal No. IA/AP/NCP/296112/2022 and File No. 10/53/2021-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in PFR/DPR/Form-1/Annexure-III. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.6.1. The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup> – 13<sup>th</sup> January 2023. The project proponent made a presentation through Video Conferencing and provided the following information –

3.6.2. Terms of References (ToR) ToR details: was recommended by the EAC in its 281<sup>st</sup> meeting held on 24<sup>th</sup> – 25<sup>th</sup> November, 2021 September 2021 and it was granted vide letter No. 10/53/2021-IA.III dated 6<sup>th</sup> January, 2022.

3.6.3. The proponent has requested for the following amendments in the ToR letter No. 10/53/2021-IA.III dated 6<sup>th</sup> January, 2022.

Ref.No	Approved ToR	Request for amendment
Subject	Development of 4 lane highway starts from Kanamalopalli village (Ch: 0+000) to Kothapalem village	Development of 4 lane highway starts from Chinnachowk village (Ch: 0+000) to Kothapalem village (Ch: 121+935) in

	(Ch: 120+849) in Y.S.R Kadapa and Chittoor districts of Andhra Pradesh (Total length-120.849 km) under Bharatmala Prayojana (Lot-5/Package-1	Y.S.R Kadapa, Annamayya and Tirupati districts of Andhra Pradesh (Total length-121.935 km) under Bharatmala Prayojana (Lot-5/Package-1).
Point No 3 sub point (i)	Proposed project starts near Kanamalopalli village (Ch: 0+000) (14°26'33.66"N, 78°53'32.49"E) in Kadapa district and ends at Kothapalem village in Chittoor district (Ch: 120+849) (13°38'55.05"N, 79°31'54.53"E.) of Andhra Pradesh	The proposed project starts from Chinnachowk village (Ch: 0+000) (14°26'55.35"N, 78°53'4.19"E) to Kothapalem village (Ch: 121+935) (13°38'54.97"N, 79°31'54.53"E) in Y.S.R Kadapa, Annamayya and Tirupati districts of Andhra Pradesh
Point No 3 sub point (iii)	Total length of the project is 120.89 km with 45m right of way in open area and 30 m right of way in forest area	Total length of the project is 121.935 km with 45m right of way in open area and 30 m right of way in forest area
Point No 3 sub point (xiii)	Land Acquisition/R&R Issues: the proposed alignment requires 120.849 km land with ROW of 45m in open area and 30 m in forest area	The proposed alignment requires 497.12 Ha. land with ROW of 45m in open area and 30 m in forest area
Point No. 5	The Ministry of Environment, Forest and Climate Change has considered the based on the recommendations of the expert appraisal committee (infrastructure, CRZ and other miscellaneous projects) and hereby decided to grant the term of reference for the Development of 4 lane highway starts from Kanamalopalli village (Ch: 0+000) to Kothapalem village (Ch: 120+849) in Y.S.R Kadapa and Chittoor districts of Andhra Pradesh (Total length-120.849 km) under Bharatmala Prayojana (Lot-5/Package-1) by M/s National Highway Authority of India (Total length 120.849 km)	The Ministry of Environment, Forest and Climate Change has considered the based on the recommendations of the expert appraisal committee (infrastructure, CRZ and other miscellaneous projects) and hereby decided to grant the term of reference for the Development of 4-lane highway starts from Chinnachowk village (Ch: 0+000) to Kothapalem village (Ch: 121+935) in Y.S.R Kadapa, Annamayya and Tirupati districts of Andhra Pradesh (Total length - 121.935 km) under Bharatmala Pariyojana (Lot-5/Package-1). by M/s National Highway Authority of India (Total length 121.935 km)

3.6.4. Reason for the Amendment: As a safety point of view, a VUP with slip road at the starting point of the project i.e. near Kanamalopalli has been proposed in view of the existing

T-junction with Kadapa bypass road along with additional LVUPs/VUPs at other locations. Since, VUP at Kanamalopalli village with service road has to be designed with proper merging / demerging with existing road keeping in view of road users safety, it has become necessary to extend the project for a length of about 1Km. towards Chinnachowk village.

3.6.5. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 318th meeting on 12<sup>th</sup> - 13<sup>th</sup> January, 2023 and recommended the proposal for grant of Amendment in Terms of Reference as mentioned in the table above with the same terms and conditions mentioned in the ToR letter dated 6<sup>th</sup> January, 2022.

**3.7 Construction of 4/6 Laning of Palakkad—Kozhikode of NH-966 (Greenfield) from Km 0.000 to Km 121.006 (Total Length-121.006 km) in the state of Kerala under Bharatmala Pariyojana on HAM mode by M/s National Highways Authority of India—Amendment in Terms of Reference.**

**Proposal No. IA/KL/NCP/296161/2023 and File No. 10/20/2022-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in PFR/DPR/Form-1/Annexure-III. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.7.1 The proposed project is a development of 4/6 lane Greenfield highway to ease the infrastructure asymmetry and improve the efficiency of freight movement under Bharatmala Pariyojana. Total length of the proposed highway is 121.006 km. The alignment will start from Ch 0+000 (10° 46' 30.53" N, 76°42' 6.25" E) at NH-544 (Salem-Kochi-Kanyakumari Highway) at Marutharode Village, Palakkad District and traverses entirely through plain/rolling terrain and it will end at Ch 121+006 (11° 14' 16.19" N, 75° 50' 30.19" E) of NH-66 at Olavanna Village, Kozhikode District. The proposed project will cover Palakkad, Malappuram and Kozhikode districts in Kerala State.

3.7.2 Terms of References (ToR) ToR details: was recommended by the EAC in its 313<sup>rd</sup> meeting held on 22<sup>nd</sup> November, 2022 and it was granted vide letter No. 10/20/2022-IA.III dated 29<sup>th</sup> December, 2022.

3.7.3 The proponent has requested for the following amendments in the ToR letter No. 10/20/2022-IA.III dated 29<sup>th</sup> December, 2022.

Specific ToR.	Approved ToR	Request for amendment	remarks
xxvi	Detailed Biodiversity assessment and conservation/mitigation plan be developed by a reputed institute either SACON or Wildlife Institute	Detailed Biodiversity assessment and conservation/mitigation plan be developed by a nationally reputed institute having significant	

	of India duly endorsed by state forest department.	experience on the study of Elephant ecology and movement and related conflicts duly endorsed by state forest department.																																																	
xxvii	A specific study on elephant movement and impact of proposed project on the same be studied by SACON including mitigation plan duly endorsed by state forest department	A specific study on elephant movement and impact of proposed project on the same be studied by a nationally reputed institute having significant experience on the study of Elephant ecology and movement including mitigation plan duly endorsed by state forest department.																																																	
3iii	<table border="1"> <thead> <tr> <th>Sl..N O</th> <th>LU/LC</th> <th>Area (Ha)</th> <th>Area (%)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Agricultural Land</td> <td>455.935</td> <td>83.29</td> </tr> <tr> <td>2</td> <td>Built up Land</td> <td>91.472</td> <td>16.71</td> </tr> <tr> <td>3</td> <td>Barren Land</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>4</td> <td>Forest</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td></td> <td>Total</td> <td>547.407</td> <td>100.00</td> </tr> </tbody> </table>	Sl..N O	LU/LC	Area (Ha)	Area (%)	1	Agricultural Land	455.935	83.29	2	Built up Land	91.472	16.71	3	Barren Land	0.000	0.000	4	Forest	0.000	0.000		Total	547.407	100.00	<table border="1"> <thead> <tr> <th>Sl.n o</th> <th>LU/LC</th> <th>Area (Ha)</th> <th>Area (%)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Agriculture Land</td> <td>463.784</td> <td>81.70</td> </tr> <tr> <td>2</td> <td>Built up</td> <td>93.772</td> <td>16.52</td> </tr> <tr> <td>3</td> <td>Barren Land</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>4</td> <td>Forest</td> <td>10.118</td> <td>1.78</td> </tr> <tr> <td></td> <td>Total</td> <td>567.674</td> <td>100.00</td> </tr> </tbody> </table>	Sl.n o	LU/LC	Area (Ha)	Area (%)	1	Agriculture Land	463.784	81.70	2	Built up	93.772	16.52	3	Barren Land	0.000	0.000	4	Forest	10.118	1.78		Total	567.674	100.00	
Sl..N O	LU/LC	Area (Ha)	Area (%)																																																
1	Agricultural Land	455.935	83.29																																																
2	Built up Land	91.472	16.71																																																
3	Barren Land	0.000	0.000																																																
4	Forest	0.000	0.000																																																
	Total	547.407	100.00																																																
Sl.n o	LU/LC	Area (Ha)	Area (%)																																																
1	Agriculture Land	463.784	81.70																																																
2	Built up	93.772	16.52																																																
3	Barren Land	0.000	0.000																																																
4	Forest	10.118	1.78																																																
	Total	567.674	100.00																																																
3vii	Forest land diversion: there is no diversion of forest land	Forest Land Diversion: there is diversion of 10.118 ha	During the detailed design and survey, slight revisions in these details were observed																																																

			ed
--	--	--	----

3.7.4 Reason for the Amendment: the project is being built for easing the congested freight movement between the northern districts of Kerala with other states. The project is one of the High priority projects under Bharatmala Pariyojana Phase-I and had approached both institutes, SACON & Wildlife Institute of India (WII), for their quotation. One of the institutes stated that they need 18 months for conducting the above study and the other institute sought time period of 6 months in their proposal thus in order to delay in conducting the detailed biodiversity study, conservation/mitigation plan will delay the above highway infrastructure project which is National importance. The delay in completion of construction will compromise the safety of road users travelling in the existing congested NH-966 highway.

3.7.5 The EAC however expressed concerned that without due studies, how would NHAI develop mitigation strategies? Taking into account the submission made by the project proponent, had a detailed deliberation in its 318th meeting on 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Amendment in Terms of Reference as mentioned in the table above along with the following specific conditions, in addition to all standard conditions applicable for such projects:

- i. Detailed Biodiversity assessment and conservation/mitigation plan be developed by a ZSI or nationally reputed institute having significant experience on the study of Elephant ecology and movement duly endorsed by state forest department as well as from Project Elephant, MoEFCC.

**3.8. Augmentation of Liquid Cargo Handling Capacity from 8 MMTPA to 23.8 MMTPA through modernization of existing pipeline network at Oil Jetty Area, Deendayal Port Trust, Kandla by M/s Kandla Port Trust – Environmental and CRZ Clearance**

**Proposal No. IA/GJ/NCP/280634/2018 and File No. 10-26/2018-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in PFR/DPR/Form-1/Annexure-III. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.8.1 The Proposed Project is for Augmentation of Liquid Cargo Handling Capacity from 8 MMTPA to 23.8 MMTPA through modernization of Existing Pipeline network at Oil Jetty Area, Deendayal Port Authority, Kandla. The five oil jetties presently have a total of 167 nos. pipelines. Of these, 125 pipelines will be scrapped and the remaining 42 pipelines will be retained. 84 new higher capacity pipelines for improving the efficiency and safety over the existing trestle will be laid. The work also envisages replacing inspection of the steel trestles over which the pipelines run and replacing the damaged trestles. Entire project area located

within existing Oil Jetty Area of Deendayal Port Authority, Kandla. The project shall not involve any new construction or dredging.

3.8.2 The proposed project falls under category 'A' of item 7 (e) i.e. 'Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments. The total project cost is estimated to be Rs. 170.42 Crores.

3.8.3 Terms of References (ToR): ToR was recommended by the EAC (infra-2) in its 30<sup>th</sup> meeting held on 18<sup>th</sup> -20<sup>th</sup> April, 2018 and it was granted vide letter No. 10-26/2018-IA.III dated 14<sup>th</sup> June, 2018. Amendment in ToR was recommended by the EAC (infra-2) in its 51<sup>st</sup> meeting held on 21<sup>th</sup> -22<sup>nd</sup> May, 2020 and it was granted vide letter even no dated 11<sup>th</sup> June, 2020.

3.8.4 Deendayal Port, Kandla is a major port located at the north-western apex of the Gulf of Kutch in Gandhidham Taluk of Kutch District of Gujarat. The port is presently handling 105 Million Tonnes per Year (Mt/yr) of cargo which is the highest amongst all Indian Ports. The cargo handled at Deendayal Port comprises of a mix of liquid cargo (crude oil, POL Products, chemicals, edible oil etc.) and dry cargo (coal, ores, fertilisers & fertiliser raw materials, steel goods, containerised cargo etc.).

3.8.5 Presently Deendayal Port Trust has six nos. of oil jetties located on the western side of Kandla Creek. The jetties themselves are located.

3.8.6 ~130 m - ~220 m offshore. The Jetties are linked to the shore by concrete bridges which also carry power lines and pipelines. The pipelines from the six oil jetties converge at "Y Junction" on the shore from where pipes lead to various storage facilities.

3.8.7 Deendayal Port Trust has decided to revamp the existing pipeline network leading from Oil Jetties, 1, 2, 3 & 4. Some of the existing pipelines along with allied structures leading from Oil Jetties to the Y-Junction will be scrapped. It has been estimated that ~3500 tonnes of pipes and allied structures will be scrapped. These will be replaced by pipelines of higher capacity for improving the efficiency and safety for handling Edible Oils, Chemicals and utilities as Air & Water. This will not only increase cargo throughput (from 8 to 10 million tonnes per year) but also increase cargo-mix.

3.8.8 The entire project area is located on the bank of Kandla Creek and is within the Oil Jetty Area of Deendayal Port. The project area is entirely within Deendayal Port Trust's possession. No clearance of vegetation will be required. The proposed revamping and replacement of pipelines will be done on already existing Oil Jetty area.

3.8.9 The only raw materials required for the proposed revamping and replacement activity are LPG, Oxygen and diesel. These will be required for cutting away the decommissioned pipelines. It has been estimated that 14 t of LPG and 63000 Nm<sup>3</sup> Oxygen [@4 kg LPG and 18 Nm<sup>3</sup> Oxygen per tonne of pipes scrapped] shall be consumed for scrapping of pipelines. In addition, HSD will be required for various diesel powered machinery, mobile cranes, trucks etc.

3.8.10 The scrapped pipelines will be sold off as scrap metal. The existing pipe-bridges will be utilized for laying the new pipelines. Slops will be collected, treated and utilized for spraying on roads (for suppression of fugitive dust).

3.8.11 Water Requirement: The domestic water requirement for the existing Oil jetty area is 200 KLD and it will remain unchanged after proposed revamping and replacement of the pipelines. The potable water is supplied mostly by Gujarat Water Supply and Sewerage Board (GWSSB), an agency of the Government of Gujarat. If there is any shortfall the water is supplied in tankers. Sewage generated at the township is treated in sewage treatment plant. The entire quantity of treated sewage (700 m<sup>3</sup> /day) is reused in existing Deendayal Port for miscellaneous purposes. The pipeline revamping and replacement project is not expected to lead to any increase in water demand.

3.8.12 The power requirement: for the proposed activity of replacement & revamping of existing pipelines will not change from existing requirement and will not require any additional power. The total power supply situation of existing Deendayal port is as follows:

3.8.13 Existing contract demand for electricity is 4.1 MW. Maximum monthly electricity consumption during April, 2016 – November, 2017 was ~1.31 million units (in May, 2017).

3.8.14 Presently Deendayal Port Trust employs 2634 persons. It is expected that maximum ~200 workers will be directly engaged at any given time during construction. These will be contractors' workers. The revamped pipelines will be operated by an external O&M agency hired by DPT.

3.8.15 The Project will be implemented in three phases:

Phase 1: Removal of marine unloading arms, their connected airlines in Oil Jetty 1 & Oil Jetty 4 and Flushing Lines in Oil Jetty and asking M/s HPCL (now taken over by M/s ONGC Ltd.), M/S BPCL, M/S IOCL, M/S IFFCO, M/S Synthetics & Chemicals to remove their redundant pipelines.

Phase 2: Commissioning of Newly Laid Edible Oil Pipelines and subsequently removal of Existing Edible Oil Pipelines by the respective stakeholders. This will be taken up during the final stages of completion of Phase 1.

Phase 3: Removal of Existing Chemical pipelines by the respective stakeholders and laying of New chemical pipelines.

3.8.16 Land Use Land Cover of the Project site is.

S.No.	Landuse/Landcover	Area(ha)	%	Remarks, if any
1	Built-up Area on dry land	8.0	21.16	Entirely within Customs Bonded Area of the port
2	Creek	24.0	63.49	
3	Inter-tidal Zone / Mudflat	3.55	9.39	
4	Mangrove	2.25	5.95	

<b>TOTAL</b>	<b>37.8</b>	<b>100</b>	
--------------	-------------	------------	--

3.8.17 The layout on CRZ map of 1:4000 scale prepared by IRS Chennai. MCZMA recommended the project to MoEF& CC vide letter no. ENV-10-2021-41-T dated 25<sup>th</sup> August, 2022. As per the MCZMA recommendations. The Project Falls in CRZ I(A) (Mangrove), CRZ-I(B), CRZ-III and CRZ-IV. The proposed activities are permissible activities as per the provisions of CRZ Notification 2011.

- i. Benefits of the project: Some of existing marine unloading arms and pipelines are no longer in use. They are occupying valuable space. The space freed by scrapping of redundant pipelines can be put to other valuable use.
- ii. Deendayal Port Trust has decided to revamp the existing pipeline network leading from Oil Jetties, 1, 2, 3 & 4. Some of the existing pipelines along with allied structures leading from Oil Jetties to the Y-Junction will be scrapped. It has been estimated that-3500 tonnes of pipes and allied structures will be scrapped. These will be replaced by pipelines of higher capacity for improving the efficiency and safety for handling Edible Oils, Chemicals and utilities as Air & Water. This will not only increase cargo-throughput (from 8 to 10 million tonnes per year) but also increase cargo-mix.
- iii. The proposed revamping and replacement of pipelines will be done on already existing Oil Jetty area.
- iv. Over the years, the steel supports may have weakened due to corrosion. The proposed project also envisages thorough inspection, maintenance and repair of the steel support system, which will restore the entire system's integrity.
- v. New higher capacity pipelines will be installed enabling handling of almost 200% more cargo. This in turn will reduce turn round time of ships, which will benefit both shipping companies as well as port users.
- vi. The port will also be able to handle a greater mix of cargo.
- vii. The new chemical pipelines will be of stainless steel which is more corrosion resistant. The new pipelines will be designed with improved leak detection and control measures.
- viii. The layout of the new pipelines have been designed in a manner to provide easy access for regular inspection & maintenance and for firefighting and repair personnel & equipment in case of accidents and or failures.
- ix. The scrap steel generated on account of scrapping old pipelines and corroded steel supports will be recycled for secondary manufacture of steel, which will conserve valuable natural resources.
- x. During the construction period several highly skilled, skilled as well as unskilled workers and other personnel will be employed.
- xi. As part of its Corporate Environmental Responsibility (CER), DPT shall implement social infrastructure improvement projects in the area in consultation with local people.

3.8.18 Details of Court cases: No Court case is pending against the Project.



3.8.19 The EAC, taking into account the submission made by the project proponent was deeply concerned about the appalling state of existing network of pipelines and the hazard risk these possess and wondered how PP allowed this to happen. However, the replacement of pipelines will require rigorous and well thought through planning including full closure of port operations if necessary during the replacement of pipelines. EAC had a detailed deliberation in its 318th meeting on 12<sup>th</sup>-13<sup>th</sup> January, 2023 and deferred the proposal in view of the following:

- i. The clear details of the Existing facilities as per the EC and CTE/CTE in a tabular form along with the supporting documents.
- ii. Status of CRZ clearance to various pipelines with details
- iii. The Baseline data was carried out during the period of March - May, 2018 (Summer Season). The baseline data shall not be more than three years old at the time of submission of application for consideration of EC. A fresh baseline study for a period of one season shall be conducted and analysis based on the old data and the new data shall be submitted.
- iv. Latest Environmental and CRZ Clearance Compliance report from the IRO, MOEF&CC shall submit.
- v. Timeline of operational & maintenance along with the time schedule shall be submit.
- vi. Categorisation of the type of cargo handling in the pipeline need to be submitted.
- vii. Existing installation of pipelines and its approvals along with the EC & CRZ clearances chronology wise need to submit.
- viii. Details of Removal of Existing Chemical pipelines by the respective stakeholders and laying of new chemical pipelines.
- ix. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point shall be submitted.
- x. DPT in their original proposal had proposed "Augmentation of Liquid Cargo Handling Capacity from 8 MMTPA to 10 MMTPA through modernization of existing pipeline network of Oil Jetty area". MoEF&CC had issued ToR to their original proposal vide letter no. F. No. 10-26/2018-IA-III dated 14.06.2018 on basis of recommendations of EAC (Infra 2) given in the meeting held on 20.04.2018. Assessment NTCPCW- IIT Chennai has indicated shortcomings in present modernization plan and recommend revised plan of capacity enhancement to 23.8 MTPA after revamping & replacement of existing pipeline network through scenario calculations based on various factors viz. guidelines issued by the Tariff Authority of major Ports. However, the proposal involved the modernisation and expansion and thus PP shall submit the clear details of the modernisation and expansion in tabular format.

- xi. The details of the mudflats and mangroves of the area at proposed project area. The project proponent shall study the impacts of the proposed work on the mangroves, mudflats, creeks, and marine biology of the area.
- xii. The detailed methodology for laying the pipeline shall be submitted.

**3.9 Development of Greenfield Non-major Port at Machilipatnam, Krishna District, Andhra Pradesh by M/s Andhra Pradesh Maritime Board – Further consideration for Environmental and CRZ Clearance Proposal No. IA/AP/INFRA1/405711/2022 and File No. 10-62/2020-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.9.1 The proposed project is for Development of Green-Field Non- Major Port at Machilipatnam, Krishna District, Andhra Pradesh with the capacity of 115.97 MMTPA with 16 number of Berths in an area of 2935 acres (including 225 acres for road/ rail connectivity and 155 acres for dredging on land side). Initially under Phase -I, 35 MMTPA handling capacity is envisaged with four (4) numbers of berths and rest of 80.97 MMTPA handling capacity is envisaged with twelve (12) numbers of berths and corresponding infrastructure facilities will be carried out in subsequent phases". The total length of the sea front is 3.5 km. A continuous southern breakwater of 2075m length and a northern breakwater of 250m are proposed to establish a tranquil harbour basin. An Approach/Entrance channel of length about 12.6 km and width 200m and having a depth - 17.10m below CD is proposed. Turning basin of diameter 450 m and depth-16.4m below CD is proposed. During the initial phase, the port will receive 80,000 DWT vessels.

3.9.2 The proposed project falls under 7(e), Category-A, Ports, Harbours as per EIA notification 2006. Total investment/cost of the project is Rs 1146400 Crore. 3.5.5.

3.9.3 The ToR for the proposed project was issued by MoEF&CC vide letter No. 10-62/2020-IA-III dated 17th February, 2021.

3.9.4 The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 313<sup>th</sup> meeting during 18<sup>th</sup> November, 2022 and deferred the want of additional information/documents.

3.9.5 At this instance, the aforementioned proposal was further placed before the EAC during 318<sup>th</sup> meeting on 12<sup>th</sup>- 13<sup>th</sup> January, 2023. The project proponent along with the EIA consultant M/s SV Enviro Labs & Consultants has made a presentation through Video Conferencing and provided the following information-

Query raised during 314 <sup>th</sup> meeting during 18 <sup>th</sup> November, 2022	Reply submitted by PP during 318 <sup>th</sup> meeting on 12 <sup>th</sup> - 13 <sup>th</sup> January, 2023.
A detailed map of proposed reclamation area	PP submitted that the reclamation area will

<p>with the proposed land use of the reclamation land should be submitted.</p>	<p>be 702 acres. PP also submitted the detailed map for proposed backfilling area and land use of the backfilling area.</p>
<p>The proposed project site is cyclone prone area and the Machilipatnam bay, south side of the beach is backed by low lying land which is prone to flooding which is sensitive nature, thus, a subcommittee will make a site visit before considering the proposal for further consideration.</p>	<p>EAC sub-committee a site visit by the Subcommittee was conducted on 20<sup>th</sup> November, 2022 for the proposed project. Placed at Annexure-B</p> <p>As per the observations of EAC, the Subcommittee conducted site visit for the proposed project on 20<sup>th</sup> November, 2022, and the proposal was further placed before EAC in its 318<sup>th</sup> EAC Meeting on 12<sup>th</sup>- 13<sup>th</sup> January, 2023. The report of the subcommittee has been presented to the before the Committee which is placed at Annexure-B. On the request of the PP and approval of Chairman, EAC, the report was discussed in the EAC. The Committee recommended the proposal for grant of EC subject to the conditions prescribed in the report of the EAC Sub-Committee as enclosed at Annexure-B; in addition to all standard conditions applicable for such projects.</p>
<p>Coal and Cement other hazardous materials storage are proposed in the NDZ area which is not allowed as per the CRZ Notification, 2011 which shall be avoided and a revised layout shall be submitted.</p>	<p>PP submitted that in CRZ- I areas, no cargo handling (both hazardous &amp; non-hazardous) is proposed. In CRZ-I areas, only marine facilities such as berths, break waters, groynes, approach channel, road &amp; rail connectivity and dock basin are proposed. It is clearly evident from the local level CRZ maps &amp; report prepared and furnished by the NCSCM, Chennai. As per para 8 (i) (III) A (i) of Coastal Regulation Zone (CRZ) Notification, 2011, the NDZ, shall not be applicable to proposed Machilipatnam Port since it is falling in the notified port limits of Machilipatnam. The Machilipatnam Port is notified vide G.O MS No: 36, Infrastructure &amp; Investment (Ports I) Department, Dated 27.08.2008.</p>

	As verified from the NCSCM report, sheet no. 5 & table 2, it is observed that only 0.16 Ha of coal stackyard is falling in NDZ area. However, the AP Maritime Board has proposed to build Machilipatnam Port as environmentally friendly, the AP Maritime Board is committed “not to store/ handle coal or any other hazardous cargo in the said 0.16 Ha of area, which is falling in NDZ also”.
Desalination plant is proposed outside the port area shall be removed from the current proposal and a revised layout shall be submitted.	PP submitted that the Desalination plant is not envisaged either inside or outside the proposed port areas in entire master plan. However, with reference to replies to the Public Hearing & Consultation, in serial no. 12, the Chief Executive Officer, AP Maritime Board has clarified to the public that Desalination Plant will be established in this area to overcome drinking water problem, if any and will be dealt separately based on the feasibility studies. As per requirement drinking water shall be supplied through tankers and budget vide EMP allocated covers the cost of providing the drinking water through tankers also.
Coal is proposed in open stack and proposed in the CRZ area which shall be avoided and coal stacks shall be kept under covered shed the stacks area shall be outside the CRZ area. Details on this aspect shall be submitted.	As advised by the Hon’ble Expert Appraisal Committee, the AP Maritime Board commits to store the Coal in a covered storage shed accommodated with a Stacker reclaimer inside provided with DFS (Atomised Automatic Sprinkling System) including peripheral drainage system, internal roads, fire fighting system duly complying with the statutory obligations as applicable in an area of 250mx50mx50m. Thus the coal covered sheds are outside the CRZ areas.
Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales, which is not available on the Parivesh.	Layout superimposed on the HTL/LTL map demarcated by NCSCM, Chennai on 1:4000 scale (grid maps) are submitted.
Submit superimposing of latest CZMP as per CRZ Notification (2011) on the CRZ map.	Layout superimposed on CZMP prepared as per CRZ Notification, 2011 by NCSCM,

	Chennai on 1:25000 scale are submitted.
Detailed modelling studies for Disaster Management covering the aspects of cyclone, floods can withstand severe cyclones and develop design in accordance to due safety measures.	<p>The DMP has been prepared as per the DM act 2005, and DMP has been covered with following aspects: 1. Cyclone: Modelling has been carried out by MIKE 21 NSW model considering surge levels. 2. Floods: Flood vulnerability study as per NDMA &amp; APSDM guidelines.</p> <p>The off shore structural designed as per ISO standards. Detailed modelling studies are enclosed and further mutual aid agreement during Natural calamities from APSDMA and Disaster management plan.</p>
Details and status of court case pending against the project.	<p>The details and status of court are as following: <b>Case: 1</b> - W.P No 12980 of 2019 filed by earlier Concessionaire M/s Navayuga Machilipatnam Port Ltd against the Government/APMB was dismissed by Hon'ble High Court of A.P on 25.08.22.</p> <p><b>Case: 2</b> - W.A No 672/2022 filed against the Judgement dated 25.08.22 in the Hon'ble High Court of A.P. Final hearing posted on 12.12.2022 in W.A. No. 672 of 2022 at Hon'ble High Court of Andhra Pradesh Judicature was not listed on 12.12.2022.</p>
The actual distance from the turtle nesting site and other wild life sanctuaries to the existing and proposed project site shall be submitted.	<p>There are two turtle nesting centres viz., Lankavanidibba and Elachetladibba, which are located at a distance of 61.13 Km and 63.34 Km respectively from the proposed project site. The same are located at a distance of 57.65Km and 60.3Km respectively from the existing Bandar Port site.</p> <p>The Krishna Wildlife Sanctuary is located at a distance of 20.87 Km and 16.6 Km respectively from the proposed project site and existing Bandar Port.</p>
List of flora and fauna, endangered, endemic and RET Species existed in the core and buffer area of the project shall be submitted	List of flora, fauna, Endangered, endemic and RET species in the core and buffer area of the project by the concerned State Forest

<p>the list of species duly authenticated by the DFO, State forest/Wild life Department and based on such species present in the core and buffer zone of the project location, conservation plan for the all the Schedule-I species shall be submitted.</p>	<p>Department.</p>
<p>Detailed layout for the Phase-I along with the KML file shall be submitted.</p>	<p>Detailed Machilipatnam Port layout for the Phase-I is submitted.</p> <p>Initially under Phase-I, 35 MMTPA handling capacity is envisaged with four (4) number of berths. The berthing jetty will be 300 m long x34 m wide and 28 m wide.</p>
<p>Clear details infrastructure and port facility to be planned shall be demarcated in the lay out and need to submit.</p>	<p>All the infrastructure and facilities required and essential for Port are planned properly and demarcated in the Master Plan layout and submitted.</p>
<p>A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.</p>	<p>At core area, there are no mangroves. It is submitted that there is no proposal either for removal of mangroves or likely to be removed. Hence there is no need of compensatory plantation to the project. However, the AP Maritime Board has prepared a comprehensive conservation plan for Mangroves, which are outside the project boundary</p>
<p>Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted.</p>	<p>Shoreline evolution model was executed for both options. While both options were serving as good protection measures against erosion, option 1 has exhibited blocking of the Manginapudi creek north of the northern breakwater, whereas that was not observed</p> <p>In option 2, the groynes G1 and G2 will progressively reduce the longshore drift, while G3 and G4 will serve as training walls. Hence OPTION 2 is recommended for construction. Prior to executing the work, it is strongly required that the IITM be informed the planning of the construction sequence of the groynes and breakwaters as it would depend on the prevailing seasons. Numerical model of the shoreline evolution</p>

	<p>due to the shore-connected structures has been used to predict the shoreline changes due to the proposed groynes. Numerical model was executed for the most frequently occurring wave characteristics for the different months. The shoreline prediction has been made at the end of 1 year, 5years, 10years, 15 years, 20 years and 25 years after the construction of the groynes and has been presented by superimposing the shoreline patterns.</p> <p>Protection measures: G1 of length 340m at 340m distance, G2 of length 200m at 680m distance, and G3 of length 50m at 930m distance and G4 of length at 1180m distance towards North of Northern Breakwater. The groynes G1 and G2 will progressively reduce the longshore drift, while G3 and G4 will serve as training walls. Further shore will be protected by means of Rip Rap along the shore for a length of 6 km on northern side of Northern Breakwater and Southern side of South Breakwater. Erosion and accretion study near the mouth of creek for Machilipatnam Port was conducted by Dept. of Ocean Engineering, IIT, Chennai</p>
<p>Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact due to coal stacks. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.</p>	<p>A detailed air modelling study was carried out to assess the cumulative impacts of the port operations on the surrounding environment. Local meteorology was considered and air modeling was carried out using AERMOD model which has been approved by MoEF &amp;CC&amp; USEPA. ARAI emissions factors were considered for calculating vehicular emissions. In order to predict the Ground Level concentrations of dust at different distances under the present conditions with the existing emission sources, the following, data that are required, have been considered.</p>

3.9.6 The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and **recommended** the proposal for grant of Environmental Clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. PP shall monitor the ground water within 6 km radius of port to ensure to protect from salt water ingress. Accordingly plan for the same will be required from PP. The report shall submit the IRO, MOEFCC along with the EC compliance report.
- ii. PP shall prepare the comprehensive plan to protect the natural aquifers in the area and reclamation/disposal of dredge spoil to be monitored by national reputed institute for suspended sediment concentration the report shall submit the IRO, MOEFCC along with the EC compliance report.
- iii. The marine ecology within breakwater area, entrance channel and disposal location shall monitor systematically.
- iv. Mangroves which are located south of port should remain untouched by the development with adequate buffer between project boundary.
- v. Shoreline changes before, after port to be monitored by nationally reputed institute and same to be continued annually to ensure suitable shore protection on north of port using soft solutions like beach nourishment are employed.
- vi. All port structures should be designed considering future trajectories of climate change, storm surge and sea-level rise
- vii. Green-belt development plan needs to be developed with focus exclusively on native and local species including the measures to protect large and tall trees within project boundary.
- viii. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- ix. All the recommendations and conditions specified by the Andhra Pradesh State Coastal Zone Management Authority (APCZMA) vide letter No CRZ 2020/CR 65/TC 4 dated 1st December 2020 shall be complied with.
- x. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- xi. The project proponent shall comply with the air pollution mitigation measures as submitted.
- xii. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.
- xiii. No underwater blasting is permitted.
- xiv. Necessary approvals to be taken during implementation and commissioning from statutory bodies concerned.
- xv. Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.



- xvi. Continuous online monitoring of air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance reports to the regional office of MoEF&CC.
- xvii. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
- xviii. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xix. Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E-Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.
- xx. Dredging, etc will be carried out in the confined manner to reduce the impacts on marine environment. Dredged material shall be disposed safely in the designated areas as per CWPRS recommendations,
- xxi. Dredging shall not be carried out during the fish breeding season.
- xxii. While carrying out dredging, an independent monitoring shall be carried out by Government Agency/Institute to check the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
- xxiii. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
- xxiv. The schedule of implementation for the recommendations of the rapid risk assessment report, disaster management plan and safety guidelines shall be prepared and submitted to the Ministry within 3 months. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented in time bound manner. The compliance to the recommendations as per schedule shall be submitted along with 6 monthly compliance reports to the regional office of MoEF&CC. Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.
- xxv. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

**3.10. Development of Greenfield Port at Vadhavan, District Palghar, Maharashtra by M/s Jawaharlal Nehru Port Trust (JNPT)–Amendments in Terms of Reference Proposal No.IA/MH/NCP/295375/2022 and File No. 10-52/2020-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.10.1 The project proponent along with the EIA consultant M/s. Enkay Enviro Services Pvt. Ltd., Jaipur made a presentation through Video Conferencing and provided the following information:-

3.10.2 The proposed project is for amendment in ToR for the proposed development of Greenfield Port at Vadhavan, District Palghar, Maharashtra by M/s Jawaharlal Nehru Port Trust (JNPT)

3.10.3 The proposed project falls under 7(e) Ports, Harbours Category: A, as per EIA notification 2006.

3.10.4 The proposal was earlier considered by EAC in its 241<sup>st</sup> meeting on 25<sup>th</sup>-26<sup>th</sup> August, 2020 and ToR was granted vide letter no. 10-52/2020-IA.III dated 07<sup>th</sup> October, 2020 in favour of JNPT.

3.10.5 The proponent has requested for the following amendments in the ToR letter No. 10-52/2020-IA.III dated 07<sup>th</sup> October, 2020.

3.10.6 In the ToR, it was mentioned that, the reclamation and land filling of 1,473ha. of land would be carried out by murrum filling/earth which required 86.88M cum. However, based on the actual requirement for the same the requirement of reclamation is about 200M cum for the proposed layout of the port. Considering the substantial amount of reclamation requirement, it was decided to extract the fill material through marine borrow pit as against the earth filling in view of the ecological sensitivity of the region. The marine borrow pit was identified in the offshore of the daman coast about 50km from the Vadhavan port site at a depth varying from 20m to 25m.

3.10.7 Also, the rail and road connectivity are also envisaged for the project and EIA study will cover 34km stretch of the road and 12 km of rail connectivity and all the compliances under the standard ToR to be incorporated in the EIA report to appraise and approve the comprehensive approval for the port development at Vadhavan.

3.10.8 The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and **return the proposal in present form** is of the view that the instant amendment PP has changed the entire scope of the earlier TOR dated 07<sup>th</sup> October, 2020 and the amount of the reclamation in the instant proposal is 200M cum and in the earlier ToR mentioned that 86.88M cum also. EAC also

noted that the marine borrow pit was identified in the offshore of the daman coast about 50km from the Vadhavan port site at a depth varying from 20m to 25m. Also, the location of the port was changed from onshore to offshore port requiring large scale of reclamation. Thus, the Committee opined that the instant proposal cannot be considered at this moment as the entire scope and configuration has changed and PP shall revise the total PFR considering the current scope of the work with all the parameters and submit it to the Ministry for further consideration. The information so provided shall be presented before the committee so that additional ToRs can be considered for the project in due course.

### **3.11 Development of Sarathi Kurubarahalli Industrial Area 149.33 Ha (369 Acres) at Sarathi and Kurubarahalli villages, Harihar Taluk, Davanagare District, Karnataka by M/s Karnataka Industrial Areas Development Board (KIADB)–Environmental Clearance**

#### **Proposal No. IA/KA/INFRA1/409488/2022 and File No. 21-88/2020-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EM P report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.11.1 The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup>–13<sup>th</sup> January 2023. The project proponent along with the EIA Consultant M/s Hubert Enviro Care Systems made a presentation through Video Conferencing and provided the following information –

3.11.2 The proposed project is for development of Sarathi- Kurubarahalli Industrial Area at Sarathi & Kurubarahalli Villages, Harihar Taluk, Davanagare District, Karnataka State in an area of 149.33 Ha (369 Acres). Proposed Land has already been acquired by KIADB.

3.11.3 The proposal was considered by the Expert Appraisal Committee (EAC) in its 247<sup>th</sup> meeting held on 23<sup>rd</sup>-24<sup>th</sup> November, 2020 for the ToR. The ToR was issued vide F. No. 21-88/2020-IA.III dated 15<sup>th</sup> December, 2020.

3.11.4 The proposed project falls under Schedule 7(C), Category “A” of EIA Notification 2006. Total investment/cost of the project is about Rs 5,322/- Lakhs.

3.11.5 Public Hearing was conducted in Davangere District the details are following:

S.no	Date	Venue	Chaired by	District
1	24.02.2022	Project Site of Sarathi-Kurubarahalli Industrial Area, Sarathi-Kurubarahalli Village, Harihara Tehsil,	Deputy Commissioner	Davangere District

		Davangere District.		
--	--	---------------------	--	--

3.11.6 Land use /Land cover of the proposed project site is as following-.

S.No	Type of Area	Area in Acres	Area in Acres	Area in %
1	Industrial	189.87	76.84	65.39
2	Commercial	8.02	3.25	2.77
3	Roads	31.33	12.68	10.80
4	Vehicle Parking	14.73	5.96	5.08
5	Parks and Open area (Will be developed as green belt)	15.12	6.12	5.20
6	Buffer (Will be developed as green belt)	14.25	5.77	4.91
7	Canal	2.32	0.94	0.80
8	Utilities	8.73	3.53	3.00
9	Amenities	5.98	2.41	2.05
	Total	290.35	117.50	100
1	Proposed for KSSIDC (Bulk)	50	20.24	-
2	Existing KSSIDC	28.65	11.59	-
Total Area Acquired		369.00	149.33	-

3.11.7 The probable list of upcoming industries along with its CPCB categorization is as below:

S. No	Type of industry	Anticipated Types of Industries	Categorization of industry as per EIA notification	Categorization as per CPCB	Plot numbers	Area (Acres)	Area (ha)	% of plotted area
1	Fabricated Metal products	Manufacturing of pressure vessels	Not Applicable	Orange	121, 132, 141, 142, 151	9.95	4.03	3.7
2	Automobile	Manufacture of parts	Not Applicable	Orange, green,	1, 2, 3, 4, 5, 6, 7, 8,	38.59	15.62	14.4

	components	and accessories for motor vehicles such as Engine, Gear box parts, Drive axle, steering and suspension, breaks, Seats, Tyres, rubber products etc		white	9			
3	Glue	Glue from starch (physical mixing) with Gas/ electrically operated oven/ boiler	Nil	Green	133, 134, 135, 136, 137, 138, 139, 140, 143, 144, 145, 146, 147, 148, 149, 150	4	1.62	1.5
4	Paints	Blending and mixing	Nil	Orange	10, 11, 12, 13, 14, 15, 16	35	14.16	13.0
		Mixing and blending (Ball mill)	Nil	Orange	17, 18, 19, 20, 21, 22, 23	33	13.35	12.3
5	Manufacturing of tooth paste, tooth powder, cosmetics	Manufacturing of tooth paste, tooth powder, cosmetics	Nil	Orange	KSSIDC Area	10	4.05	3.7
6	Soaps & detergents	Synthetic detergents and soaps manufacturing	Nil	Orange	KSSIDC Area	10	3.72	3.4

7		Handmade soaps without boiler	Nil	Green	KSSIDC Area	5	2.02	1.9
		Detergents Formulation	Nil	Green	KSSIDC Area	5	2.02	1.9
8	Silk screen printing/ Textile printing	Silk screen printing/ Textile printing	Nil	Orange	KSSIDC Area	10	4.05	3.7
9	Flakes from rejected PET bottles	Flakes from rejected PET bottles	Nil	Orange	KSSIDC Area	5	2.02	1.9
10	Reprocessing of waste plastics including PVC	Reprocessing of waste plastics including PVC	Nil	Orange	KSSIDC Area	5	2.02	1.9
11	Secondary Metallurgical processing industries < 30,000 TPA	Foundries (	Nil	Orange	24-35	12	4.86	4.5
12	Secondary Metallurgical processing industries	Aluminium and copper extraction from scrap using oil fired furnace (dry process)	Nil	Orange	36-47	12	4.86	4.5
13	Secondary	Ferrous and	Nil	Orange	48, 82, 83	6	2.43	2.2

	y Metallurgical processing industries	non ferrous metal extraction using furnaces through melting/refining/reprocessing etc						
14	Secondary Metallurgical processing industries	Forging of ferrous and non ferrous metals (oil and gas fired furnaces)	Nil	Orange	49-65	8.5	3.44	3.2
15	Secondary Metallurgical processing industries	Rolling mill	Nil	Orange	66-81	8.5	3.44	3.2
16	Secondary Metallurgical processing industries < 30,000 TPA	Steel and steel products using furnaces	Nil	Orange	84-91	4	1.62	1.5
17	Ceramics & Refractories	Ceramics & Refractories	Nil	Orange	92-96	10.32	4.18	3.8
18	Fertilizers	Granulation, formulation and blending	Nil	Orange	122-131	2.5	1.01	0.9

		only						
		Bio fertilizers and bio pesticides without using inorganic chemicals	Nil	White	97-120	6	2.43	2.2
19	Electric lamps and CFL manufacturing by assembling only	Electric lamps and CFL manufacturing by assembling only	Nil	White	92-96	10.32	4.18	3.8
20	Electrical & electronics Assembling	Electrical & electronics Assembling	Nil	White	KSSIDC Area	10	2.02	1.9
21	Manufacturing of optical lenses (using electrical furnaces)	Manufacturing of optical lenses (using electrical furnaces)	Nil	Green	KSSIDC Area	8.65	3.5	3.2
22	Biomass briquettes	Biomass briquettes (sun drying) without using toxic hazardous waste	Nil	Green	KSSIDC Area	10	2.02	1.9
23	CETP	CETP is proposed for treatment of effluent generated	Schedule 7(h)	Red	Proposed as a common facility for the industries within the Industrial area			



		from the industries						
Total						268.52	268.52	100

3.11.8 Details of water bodies: Two water bodies namely Duggavatti Halla and Karala Halla are adjacent to the site towards the North & south of project site. Also there is a distributary within the site which crosses the site in East- west direction. The water bodies near the site & within the site are seasonal and was almost dry during hydrogeological study period (February 2021). The detail of water bodies/Rivers e.t.c.

S.no	Water Bodies	~ Distance (km)	Directi on
1	Canal	Within the Site	
2	Karala Halla	Adjacent to Site	S
3	Duggavatti Halla	Adjacent to Site	N
4	Canal near Dittur	0.98	WSW
5	Tungabhadra R	2.42	WSW
6	Budala/Bettur Halla	6.53	SSE
7	Harpanahalli Main Distributary Canal	6.53	SSE
8	Syagali Halla	10.29	SSW

3.11.9 Total Water requirement during the construction phase is estimated to be 65 KLD (Source will be from private tankers). During the operation phase, total water requirement for the project is 4400 KLD. Fresh water requirement is 2350 KLD. Fresh water requirement during the operation phase will be met from Tungabhadra River which is ~2.42 km towards WSW of the project site. 2050 KLD will be met from recycling of treated wastewater. Sewage generation of 243 KLD and will be treated in common STP of 300 KLD and treated sewage of 243 KLD will be recycled for green belt development. The trade effluent generation of 1830 KLD will be treated in CETP of 2000 KLD followed by UF, RO, MEE & ATFD. Treated effluent of 1634 KLD will be recycled for utilities and process.

3.11.10 Diversion of forest land: Proposed project site does not involve forest land.

3.11.11 ESZ/Protected area: The protected areas such as Ranebennur Blackbuck Sanctuary Core Boundary is ~4.67 Km (W) from the project site and Ranebennur Blackbuck Sanctuary ESZ is ~3.6Km (W) from the project site.

3.11.12 Waste Management: Effluent quantity – 1820 KLD of which effluent from Process is estimated to be 1450 KLD and utilities 350 KLD. The effluent will be treated in CETP of 2000 KLD followed by RO, MEE and ATFD. Individual industries will be mandated to treat

the effluent and send to CETP through conveying system. Sewage generated is estimated to be 243 KLD. This will be treated in CSTP of 250 KLD. Zero Liquid Discharge (ZLD) system is proposed. Hence the treated effluent and treated sewage will be reused, which will minimise the impact on the land environment.

3.11.13 Tree cutting: No tree cutting is required. A capital cost of INR 12 Lakhs shall be earmarked for this purpose and INR of 3.0 Lakhs/annum will be allotted for recurring expenses towards green belt development and maintenance. It is proposed to plant 59,136 (1200 trees / ha) no of trees in the Industrial Area premises.

3.11.14 Rainwater harvesting: total 281 no's Rainwater Harvesting pits are proposed with the budget of 50 Lakhs (Capita cost) and 5 Lakhs (Recurring Cost) for rain water harvesting pits included in the EMP

3.11.15 Land acquisition and R&R issues: There is no R&R involved in the project GO has been issued by Karnataka Government for 260.09 Acres of land for the development of Industrial Area. Additional land of 108.91 Acres has been acquired by KIADB.

3.11.16 Employment potential: Total man power requirement during construction phase will be about 100 persons. During operation phase of the project, direct & indirect employment generated will be 6000 people, respectively. Local People will be employed from the surrounding villages.

3.11.17 Benefits of the project: The proposed project location is in Davanagare District. Its nearness to Davanagare city ( $\approx 12.6$  km SSE from site) and direct access to other parts of state by SH25 (Shimoga- Hospet adjacent to site E), Ports (Karwar Port  $\approx 185.74$  km W) and Railways (Telgi Railway station  $\approx 8.86$  km SSW) are the major advantages for the present proposal by KIADB. The project will help in increasing its contribution to the overall development of the area as well as the Country's share in the international business

3.11.18 The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023 and **deferred** the proposal for want of following information:

- i. List of Flora and Fauna along with the Schedule of the Species and conservation plan for Schedule-I species shall submit with authentication of the State Forest/Wild life Department.
- ii. EIA report along with List annexure shall upload in the PARIVESH Portal.
- iii. Revised EMP budget considering all the parameters like Greenbelt, rainwater harvesting e.t.c.
- iv. M/s Hubert Enviro Care Systems Pvt Ltd is having the NABET accreditation is valid till Oct 13, 2022 if any extension is there the same shall be upload in the PARIVESH Portal.

**3.12 Development of Kakinada SEZ Multiproduct Industrial Park (KSEZ MIP) in an area of 1648.14 Ha at Ponnada and Ramankkapeta Villages in U. Kothapalli Mandal;**

**and A.V.Nagaram and Thondangi Villages in Thondangi Mandal, Kakinada District, Andhra Pradesh by M/s Kakinada SEZ Limited – Amendment in Terms of Reference**

**Proposal No. IA/AP/NCP/294673/2022 and File No. 10/32/2022-IA.III.**

“The EAC noted that the Project Proponent and the consultant have given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in PFR/DPR/Form-1/Annexure-III. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and ToR/Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.12.1 The abovementioned proposal was placed before the EAC in its 318<sup>th</sup> meeting on 12<sup>th</sup>–13<sup>th</sup> January 2023. The project proponent and EIA consultant Team Labs and Consultant Team Labs and Consultants has made a presentation through Video Conferencing.

3.12.2 Terms of References (ToR) details: ToR was recommended by the EAC in its 304<sup>th</sup> meeting held on 21<sup>st</sup> – 22<sup>nd</sup> July, 2022 and it was granted vide letter No. 10/32/2022-IA.III dated 23<sup>rd</sup> August, 2022.

3.12.3 The proponent has requested for the following amendments in the ToR letter No. 10/32/2022-IA.III dated 23<sup>rd</sup> August, 2022.

S.no	Approved ToR	Request for amendment
1	42.17 ha was proposed in the Southern Boundary of the industrial estate during the TOR Appraisal.	Due to change in project boundary and survey numbers an area of 42.17 ha is removed from the Southern Boundary and same extent of 42.71ha is added towards northern boundary. The total area of the Industrial Estate area will remain same i.e. 1648.14ha.
2	Capacity of boilers (TPH) in common facilities is 2 x75 TPH	Capacity of boilers (TPH) in common facilities 6 x 100 TPH and 2 x 50 TPH (1 x 100 TPH and 1 x 50
3	Existing Cogeneration from boilers in common facilities is 25 MW	Cogeneration from boilers in common facilities is 90 MW (in modules).

3.12.4 Reason for the Amendment: An area of about 42.71 ha is removed from the southern boundary and same area of 42.71 ha is added towards northern boundary. Therefore, there is a change in the project boundary and list of survey numbers. Capacity of boilers (TPH) in common facilities: 6 x 100 TPH and 2 x 50 TPH (1 x 100 TPH and 1 x 50 TPH boilers are kept as standby). This will reduce no. of stacks from individual units as it is proposed to provide common steam header for individual Synthetic Organic Chemical industries.

Cogeneration from boilers in common facilities: 90 MW (in modules). This will reduce grid dependency for electricity. However, there is no change in the Overall Area for which ToR issued.

3.12.5 The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 318<sup>th</sup> meeting on 12<sup>th</sup>-13<sup>th</sup> January, 2023 and recommended the proposal for grant of Amendment in Terms of Reference as mentioned in the table above subject to following conditions:

- i. EIA/EMP shall be prepared considering the final configuration as mentioned above.
- ii. PP shall also submit the revised layout map for the said industrial estate.

**3.13 Development of 4/6 lane of Paniyala-Alwar-Barodameo Economic Corridors, Inter Corridors and feeder routes to improve the efficiency of freight movement in India under Bharatmala Pariyojana (Lot-6/Package-4) by M/s National Highways Authority of India (Length – 86.10 km) – Further consideration for Environmental Clearance.**

Proposal No. IA/RJ/INFRA1/406049/2022 and File No. 10/48/2021-IA.III.

“The EAC noted that the Project Proponent and the consultant have submitted undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.13.1 The above mentioned proposal was placed before the EAC in its 316<sup>th</sup> meeting on 15<sup>th</sup> –16<sup>th</sup> December, 2022. The proposal was deferred for want of requisite information/documents. PP has submitted the information on PARIVESH Portal. At this instance, the aforementioned proposal was further placed before the EAC in its 318<sup>th</sup> meeting during 12<sup>th</sup>-13<sup>th</sup> January, 2023. The project proponent along with the EIA Consultant M/s Chaitanya Projects Consultancy Pvt. Ltd. made a presentation through Video Conferencing and provided the following information:-

S.No	Information sought during 316 <sup>th</sup> meeting on 15 <sup>th</sup> – 16 <sup>th</sup> December, 2022	Reply submitted by PP during 316 <sup>th</sup> Meeting during 12 <sup>th</sup> -13 <sup>th</sup> January, 2023
1	The alignment option no 4 should be detailed out further in terms of wildlife movement.	Zoological Survey of India, Kolkata has carried out intensive field work during the project implementation duration using the best of science and tools available to document the presence and movement of wildlife species. Furthermore, the present study is holistic in terms of landscape ecology principles where landscapes suitable are evaluated to understand the existence of possible suitable habitats and the connections among them which can facilitate animal movement.

	<p>Therefore, the study suggested intervention such as construction of a viaduct in segment of proposed alignment and also to have animal passage culverts in the entire alignment at a regular interval to mitigate the plausible impacts of the linear infrastructure on the wildlife.</p> <p>In further ZSI, Kolkata has studied in detail both the alignment option, i.e Option-2 and Option-4 with an aim to understand the local biodiversity of the landscape and also to understand wildlife movement, corridors connectivity if existing in the proposed alignment option options. In this regard it is clarified that during the study both options were explored to understand the status of wildlife presence and the suitability of the area for the proposed road alignments. After the field based survey we recommend option 2 because of the least ecological cost as well as to prevent human displacement which is expected to be more option-4.</p> <p>Further they found that the Option-2 alignment is relatively poor in terms of biodiversity which is corroborated with the fact that the landscape is largely dominated by agricultural croplands, degraded land and rural human habitations. A small, degraded forest patch is present in a hilly belt near to Pillar no.41 of the proposed alignment option-2 which is relatively less in ecological cost than the option-4. Furthermore, there are already roads (State Highway, Village roads), railway line in the option-2 alignment which is recommended in place of option -4 since the later one posses more ecological cost in terms of tree loss, virgin mountain as well as also the project will result in more displacement. The ecological cost can be understood with the fact that about 8.3 ha of RF/PF will be impacted in option-4 whereas in option-2 only 0.76ha for the deemed forest with be impacted. Moreover, additional 2600 trees will be removed in option-4. Therefore, we suggest option-2 over option-4 considering the less ecological as well as social impacts. Moreover, our report provides</p>
--	---

		mitigation measures to minimize the impacts.
2	The alignment opting no 4 should be further studied for re-alignment further towards north to avoid hilly terrain	<p>In total 4 alignments were studied 2 were rejected as they were passing through or close to the Sariska WLS. Finally, the Hon'ble EAC suggested to study Option 2 and 4 and both the options were further taken up for detailed, Environmental, Social-Economic and other studies. In public hearing also both the alignments were presented to all the stakeholders. The proposed alignment is designed to connect the Trans Haryana Highway i.e. NH-152D coming from Ambala up to Narnaul and further connecting through NH 148 B from Narnaul to Alwar to the new Delhi-Vadodara-Mumbai Expressway. The proposed highway will further enhance the connection to Mathura in Uttar Pradesh.</p> <p>Taking the alignment further North will defeat the purpose of the new Highway design as there is no connecting NH in that region, and the plan to connect the Trans Haryana highway to the Delhi-Mumbai Expressway is optimised at this location only. The detailed studies and date for both options i.e. 2 and 4 is enclosed as annexure-2 in the letter dated 20.12.2022.</p>

3.13.2 The user agency agreed for construction of following structures for animal and wild life movement based on the biodiversity and landscape studies conducted by the ZSI study.

- i. A Total of 50+20 (70) structure openings have been provided in the stretch from Ch.41 to 57.
- ii. Total width of opening provided is 1868.50 m.
- iii. All the kutcha roads have also been provided with SVUP and will be used by cattle and other animals.
- iv. Per km number of openings provided is >3.5.
- v. All the culverts will also be used by small animals and reptiles, etc
- Vi. Details of the structures provided between Ch.41 to 56.

S. No	Design Chainage (In Km)	Type	No. of span x Horizontal x Vertical (m)	Total Width (in m)
1	41+157	AUP	1x10.0x4.0	10
2	41+360	AUP	1x10.0x4.0	10

3	41+557	AUP	1x10.0x4.0	10
4	41+800	AUP	1x10.0x3.0	10
5	42+300	Culvert	1x2.0x2.0	2
6	42+614	SVUP	1x7.0x4.0	7
7	42+980	Culvert	1x2.0x2.0	2
8	43+320	Culvert	1x2.0x2.0	2
9	43+689	Minor Bridge	1x25	25
10	44+030	Culvert	1x3.0x3.0	3
11	44+379	LVUP	1x12.0x4.5	12
12	44+600	AUP	1x10.0x3.0	10
13	44+766	AUP	1x10.0x4.0	10
14	45+000	Culvert	1x2.0x2.0	2
15	45+210	Minor Bridge	1x8.0x4.0	8
16	45+505	AUP	1x10.0x3.0	8
17	45+960	Culvert	1x2.0x2.0	2
18	46+630	Culvert	1x2.0x2.0	2
19	46+852	SVUP	1x7.0x4.0	7
20	47+177	AUP	1x10.0x3.0	10
21	47+376	Minor Bridge	1x8.0x4.0	8
22	47+760	Culvert	1x2.0x2.0	2
23	48+230	AUP	1x10.0x3.5	10
24	48+779	AUP	1x10.0x3.0	10
25	49+091	Major Bridge	4x25.0	100
26	49+340	AUP	1x10.0x4.0	10
27	49+440	AUP	1x10.0x3.0	10
28	49+835	Major Bridge	3x25.0	75
29	50+071	AUP	1x10.0x4.0	10
30	50+290	AUP	1x10.0x4.0	10
31	50+534	LVUP	1x12.0x4.5	12
32	50+660	AUP	1x10.0x4.0	10
33	50+950	Culvert	1x2.0x2.0	2
34	51+183	Minor Bridge	2x8.0x4.0	16
35	51+303	SVUP	1x7.0x4.0	7
36	51+303A	Minor Bridge	2x5.0x2.5	10
37	51+440	AUP	1x10.0x4.0	10
38	51+600	AUP	1x10.0x4.0	10
39	51+918	Major Bridge	9x35.0	315
40	52+220	AUP	1x10.0x4.0	10
41	52+740	Culvert	1x2.0x2.0	2
42	53+225	Major Bridge	4x20.0	80
43	53+700	AUP	1x10.0x4.0	10
44	54+260	AUP	1x10.0x4.0	10
45	54+420	Major Bridge	2x35.0	70

46	54+556	AUP	1x10.0x4.0	10
47	54+912	LVUP	1x12.0x4.5	12
48	55+200	AUP	1x10.0x3.5	10
49	55+620	AUP	1x10.0x3.0	10
50	56+519	ROB	10x35.0 + 1x25.0+ 1x45.480 + 1x25.0 + 10x35.0	795.48
			Proposed Opening	1808.48
There is a provision of 20 Additional culverts of size 1x3.0mx3.0m in this stretch as per requirements. Additional opening of 60m				60
Total Openings				1868.48

3.1.2. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 316<sup>th</sup> meeting during 12<sup>th</sup> - 13<sup>th</sup> January, 2023 and **recommended** the proposal for grant of environmental clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

- i. The EAC is recommended for Option-2 for the proposed alignment.
- ii. All the recommendations proposed in the biodiversity and landscape studies conducted by the ZSI for Option-2 shall be implemented in consultation with the State Forest Department; the status of the implementation shall be submitted to the IRO, MoEF&CC along with the EC Compliance report.
- iii. In between stretch from KM 41 to Km 56 the user agency shall provide structures as proposed in the para no 3.13.2 above.
- iv. Box cutting at ends of tunnels should be converted into viaduct through cut and cover method so that maximum space can be provided to wild animals for crossing at edges of tunnel and any possibility of wild animals mortality due to steep slopes of box cutting at the end of tunnel can be avoided.
- v. PP shall obtain the NBWL clearance from the National Board of Wild Life if Applicable.
- vi. The alignment segment from Chainage no. 41km to 56km are identified as an important area in terms of possible wildlife movement. Hence, precautionary management strategies such as improvement of habitat for wildlife species should be taken up by the National Highway Authority with the active support of the local Forest Department of Rajasthan and Haryana.
- vii. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as



may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted).

- viii. Trees with heronry (breeding ground for herons), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. NOC from the state forest department in this regard be sought and submitted to the regional office of MoEFCC.
- ix. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by the private contractor. Green belt must be developed using exclusively native species. No exotic species to be used for the same.
- x. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- xi. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover such as Ficus sp are desirable. Water intensive and/or invasive species should not be used for landscaping.
- xii. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for Borrow area operation and rehabilitation given in EIA report shall be followed.
- xiii. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area. Details for Quarry area operation and rehabilitation given the EIA report shall be followed.
- xiv. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipments used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xv. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.

- xvi. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
- xvii. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chainage wise.
- xviii. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
- xix. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.
- xx. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Major water bodies have been observed in the vicinity of the proposed road alignment & may be potential human elephant conflict points, appropriate number of animal safe passages as per the guideline framed by the Wildlife Institute of India and in consultation with Chief Wildlife Warden.
- xxi. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. xvi. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment. xvii. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.

\*\*\*

Annexure-A Following members were present during the 318<sup>th</sup> EAC (Infra-1) meeting held on 12<sup>th</sup> -13<sup>th</sup> January, 2023.

S. No.	Name	Designation	12 <sup>th</sup> January, 2023.	13 <sup>th</sup> January, 2022.	Remarks
1.	Dr. Deepak Arun Apte	Chairman	Present	Present	-
2.	Sh. S. Jeyakrishnan	Member	Present	Present	-
3.	Sh. Manmohan Singh Negi	Member	Present	Present	-
4.	Sh. Sham Wagh	Member	Present	Present	-
5.	Dr. Mukesh Khare	Member	Absent	Absent	Conveyed inability to attend
6.	Dr. Ashok Kumar Pachauri	Member	Absent	Absent	Conveyed inability to attend
7.	Dr. V. K Jain	Member	Present	Present	-
8.	Dr. Manoranjan Hota	Member	Present	Present	-
9.	Representative of CPCB	Member	Absent	Absent	-
10.	Representative of CGWA	Member	Absent	Absent	-
11.	Dr. M. V Ramana Murthy	Member	Present	Present	-
12.	Dr. Nirmalendu Kumar	Member	Present	Present	-
13.	Dr. Niraj Sharma	Member	Present	Present	-
14.	Sh. Amardeep Raju	Scientist 'E' & MS - EAC (Infra-1)	Present	Present	-

**A sub-committee of the following members participated in the visit of Machilipatnam Port, Andhra Pradesh. A Site visit report of EAC (Infra-1 & CRZ) sub-committee, Ministry of Environment, Forest & Climate Change, New Delhi-India for a proposed project “Development of Greenfield Non-Major Port at Machilipatnam, Krishna District of Andhra Pradesh State by M/s Andhra Pradesh Maritime Board Proposal No. IA/AP/INFRA1/405711/2022 and File No. 10-62/2020-IA.III”.**

---

## **1.0 Background of the Proposal.**

1.1 The proposed project is for development of Green- Field Non- Major Port at Machilipatnam, Krishna District, Andhra Pradesh with the capacity of 115.97 MMTPA with 16 number of Berths in an area of 2935 acres (including 225 acres for road/ rail connectivity and 155 acres for dredging on land side). Initially under Phase -I, 35 MMTPA handling capacity is envisaged with four (4) number of berths and rest of 80.97 MMTPA handling capacity is envisaged with twelve (12) number of berths and corresponding infrastructure facilities will be carried out in subsequent phases". The total length of the sea front is 3.5 km. A continuous southern breakwater of 2075m length and a northern breakwater of 250m are proposed to establish a tranquil harbour basin. An Approach/Entrance channel of length about 12.6 km and width 200m and having a depth - 17.10m below CD is proposed into the land and the Turning basin of diameter 450m and depth -16.4m below CD is proposed. During the initial phase, the port will receive 80,000 DWT vessels. The ToR for the proposed project was issued by MoEF&CC *vide* letter No. 10-62/2020-IA-III dated 17<sup>th</sup> February, 2021.

1.2 The above-mentioned proposal was earlier placed before the EAC during its **314<sup>th</sup>** meeting on **18<sup>th</sup> November, 2022** and deferred the proposal for grant of Terms of Reference for the want of following documents/ information:

- i. The proposed project site is cyclone prone area and the Machilipatnam bay, south side of the beach is backed by low lying land which is prone to flooding which is sensitive nature, thus, a subcommittee will make a site visit before considering the proposal for further consideration.

## **2.0 Site Visit and Brief of Project.**

2.1 Accordingly, a site visit by the Sub-committee was conducted on 20<sup>th</sup> November, 2022 for the proposed project. Andhra Pradesh Maritime Board. The composition of subcommittee and members who attended the site visit is as under.

### **Sub Committee**

1. Dr. Deepak Arun Apte
2. Dr. M.V. Ramana Murthy
3. Dr. Ramesh, A.
4. Dr. Suresh Babu Representative from IRO, Vijayawada, Andhra Pradesh
4. Officers/Official from A.P Maritime Board and district administration.

**The background the project is given below.**

1. Machilipatnam is situated in the coastal Andhra Pradesh in Krishna District. It is connected to the rest of the country through NH-65(Old NH -9), NH-216 (Old NH-214) & NH-216A (NH-214A) and other major district roads. Machilipatnam is connected to Gudiwada and Vijayawada by road. For road connectivity, from port area to beach road, a length of 2.6km is considered for connecting Sagarmala Central Port Road and from beach road to NH-216, a length of 3.9km is considered for land requirement computation. Total land requirement is about 175 acres for road connectivity
2. As per the Master plan, the port will be developed in the overall area of 2935 acres, i.e., 800 acres during Phase I and 2135 acres in sub sequent phases. A layout map and the Phase-I and sub sequent phases of the proposed project was explained and informed that they will develop greenbelt in 264 Acres during phase-1 and 704.55 Acres during subsequent phase's development of port. Finally the committee enquired about greenbelt details.
3. The quantity of cargo to be handled is 35 MMTPA through 4 berths in phase I and 80.97 MMTPA in subsequent phases through 12 berths. A conveyor system covered with steel sheeting and MDSS is used as dust controlling measure. The dredging and disposal of dredging details is as follows.

Phase	Total volume	
	Capital dredging ( $\times 10^6$ m <sup>3</sup> )	Maintenance dredging ( $\times 10^6$ m <sup>3</sup> per year)
Phase –I	46.606	6.0
Subsequent phases	11.297	6.0

The dredged material will be used for reclamation of project site at the designated area as given below.

Phase	Volume ( $\times 10^6$ m <sup>3</sup> )	Total volume ( $\times 10^6$ m <sup>3</sup> )
Phase –I	5.90	11.90
Subsequent phases	6.0	

Further, it was explained that Dock basin and berths are proposed on landward side. The dock basin developed by constructing 5 number of rows of piles and top deck slab of 500mm for berthing of vessels and also proposed to construct Diaphragm wall for entire dock basin and Rip Rap is also proposed on either side of the approach channel area to avoid the salinity ingress. As marine soil strata is very poor having low strength up to -18m soil depth, the

basin and turning circle is proposed landward side, which is different than conventional harbour. The shore-connected breakwaters of short length will also be required to provide tranquillity to the harbour basin and also to protect siltation in the basin. The the south break water of length 2075 m and North Breakwater of length 250 m is designed due to the large channel and turning circle to be positioned into the coastal region. The anticipated seawater intrusion into the adjoining areas proposed to be minimized by providing geotextile layer protection below the riprap on the side slope of the channel. This protective layer would cover on all sides such that the intrusion along the horizontal gradient would be minimized. In addition to the above PP also stated that the Department of Ocean engineering, IIT Madras has been conducted the hydrodynamic modelling and simulation studies and M/s Royal Hoskoning, Netherlands for design of port layout.

### **3.0 Observations of the Sub-Committee.**

1. The basin, turning circle and berths are located on the land, which is different from the conventional harbours and the maximum depth of excavation would be -18 m. Hence committee advised to monitor the ground water within 6 km radius of port to ensure to protect from salt water ingress. Accordingly plan for the same will be required from PP
2. The port involves capital dredging of 47 m<sup>3</sup> and hence comprehensive plan will be required to protect natural aquifers in the area and reclamation/disposal of dredge spoil to be monitored by national reputed institute for suspended sediment concentration
3. The marine ecology within breakwater area, entrance channel and disposal location will require systematic monitoring
4. Mangroves which are located south of port should remain untouched by the development with adequate buffer between project boundary.
5. Shoreline changes before, after port to be monitored by nationally reputed institute and same to be continued annually to ensure suitable shore protection on north of port using soft solutions like beach nourishment are employed
6. All port structures should be designed considering future trajectories of climate change, storm surge and sea-level rise
7. Green-belt development plan needs to be submitted to EAC with focus exclusively on native and local species including the measures to protect large and tall trees within project boundary.

\*\*\*\*\*

Annexure -A: An EAC sub-committee of MoEF&CC, New Delhi members participated in the site visit Machilipatnam Port, Andhra Pradesh.

<b>S.No.</b>	<b>Name</b>	<b>Designation</b>
1	Dr. Deepak Arun Apte	Chairman, EAC (Infra 1)
2	Dr. M.V. Ramana Murthy	Member, EAC (Infra 1)
3	Dr. Ramesh, A.	RO, MoEF&CC
4	Dr. Suresh Babu	Representative from IRO, Vijayawada, Andhra Pradesh

The following are the members from **M/s Andhra Pradesh Maritime Board**, Andhra Pradesh and consultants side were present:

<b>S.No.</b>	<b>Name</b>	<b>Designation</b>
1	Sri S. Shan Mohan	CEO, Andhra Pradesh Maritime Board
2	Sri Srinivasulu	DFO on Deputation to Andhra Pradesh Maritime Board
3	Sri Y. Vidya Sankar	MD, Machilipatnam Port
4	Sri B. Rajagopala Rao	Chief Engineer, Andhra Pradesh Maritime Board
5	Sri A.C. Siva Shankar	Senior Marine Advisor, Andhra Pradesh Maritime Bioard
6	Sri S.A.Sannasiraj	Department of Ocean engineering, IIT Madras
6	Sri Guruling Gani	Team Leader, RITES
7	Sri M. Murali Krishna	SV Enviro Labs & Consultants

**Annexure -B: Project Map and Site Visit Photographs**







\*\*\*