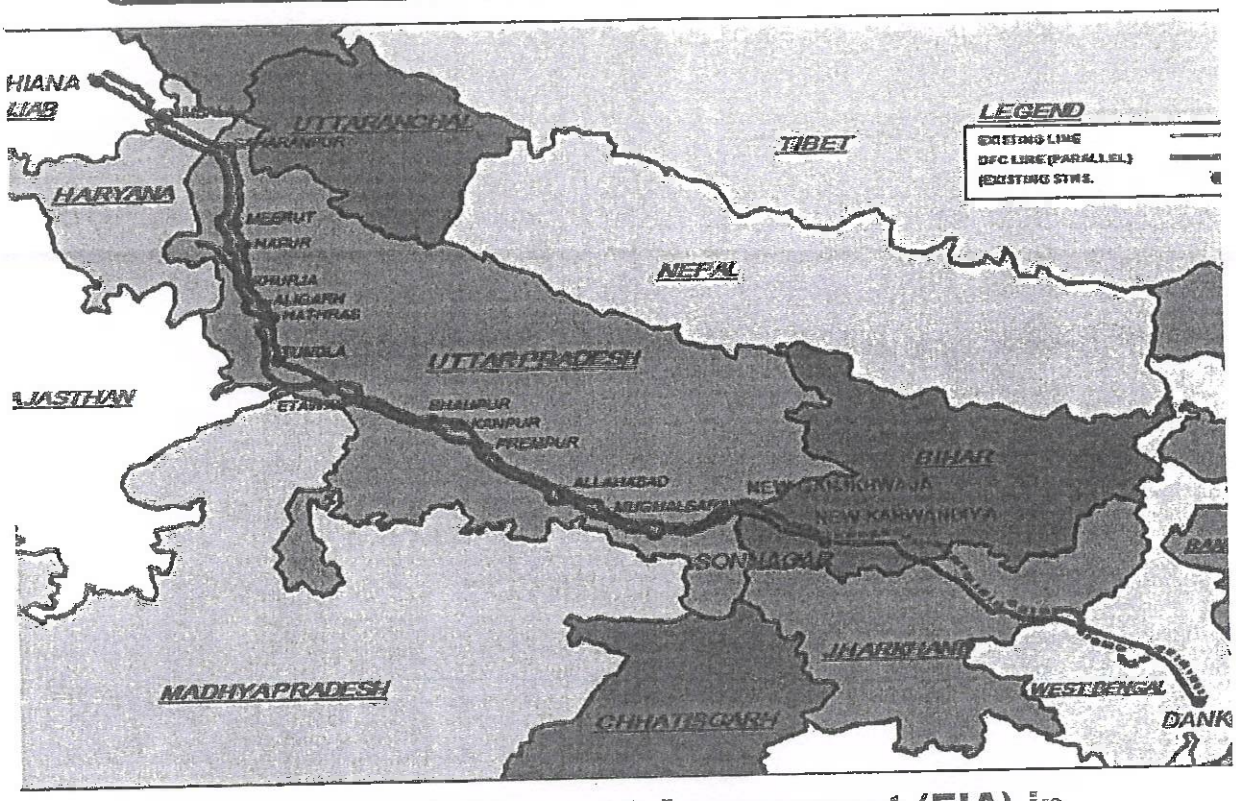
Annexure-V

डेडीकेटेड फ्रेट कोरीडोर

INCEPTION REPORT



Environmental Impact Assessment (EIA) in approximately 203 villages (about 259.854 KM) of Gomoh to Sonenagar Section of Eastern Dedicated Freight Corridor under the jurisdiction of CGM/Kolkata.

FEBRUARY, 2020

Prepared By,

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GENERAL MANAGER / Co-ordination
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Dedicated Freight Corridor Corporation of India Limited
भारत सरकार (रेल मंत्रालय) का उपक्रम
A Govt. of India (Ministry of Railways) Enterprises
कोलकाता / KOLKATA

LIST OF ABBREVIATIONS

CO	Carbon Monoxide
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
EDFC	Eastern Dedicated Freight Corridor
EIA	Environment Impact Assessment
EMP	Environment Management Plan
EMF	Environment Management Framework
EC	Environmental Clearance
MoEF&CC	Ministry of Environment, Forest & Climate Change
NOX	Oxides of Nitrogen
PM10	Particulate Matters of size 10 micron
PM2.5	Particulate Matters of size 2.5 micron
PPP	Public-Private Partnership
SO2	Sulphur Dioxide
TOR	Terms of Reference

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1.0. INTRODUCTION:

Eastern Dedicated Freight Corridor (EDFC) extends from Ludhiana in Punjab to Dankuni near Kolkata, West Bengal. Gomoh to Sonenagar section is being considered for funding by the PPP mode. This section being highly congested, development of DFC will significantly improve efficiency of both freight and passenger traffic and associated industrial and economic benefits. Though as per Ministry of Environment and Forests (MoE&F) EIA notification, 2006, railway project does not require conducting EIA and obtaining Environmental Clearance (EC) however considering the magnitude of entire DFC activities and funding process DFCCIL intends to conduct EIA of 259 km in Gomoh–Sonenagar section as per scope of work given below by engaging an independent consultants for the purpose.

1.1. Project Features:

DFC alignment traverses a route length of **2.77 km** in Dhanbad District. Acquisition of 43.42 Ha land is involved in 01 village of Dhanbad district out of which an approximate area of 3.40 Ha is Govt. Land and 40.02 Ha is private land. There is no forest land/reserve forest/wildlife sanctuary falling on or DFCCIL alignment in this district under phase-I

DFC alignment traverses a route length of 47.274 Km in Giridih District. Acquisition of 25.99 Ha land is involved in 27 villages of Giridih district out of which an approximate area of 3.05 Ha is Govt. Land and 12.10 Ha is private land. There is 10.84 Ha forest land/ reserve forest falling on or DFCCIL alignment in this district.

DFC alignment traverses a route length of 34.739 Km in Hazaribagh District. Acquisition of 211.70 Ha land is involved in 21 villages of Hazaribagh district out of which an approximate area of 2.36 Ha is Govt. Land and 5.54 Ha is private land. In Hazaribagh district the alignment falls on 203.80 Ha of forest land/reserve forest/wildlife sanctuary.

DFC alignment traverses a route length of 42.664 Km in Koderma District. Acquisition of 130.25 Ha land is involved in 29 villages of Koderma district out of which an approximate area of 8.26 Ha is Govt. Land and 32.30 Ha is private land. There is 89.69 Ha forest land/reserve forest in Koderma district falling under Phase-I.

DFC alignment traverses a route length of 94.836 Km in Gaya District. Acquisition of 277.41 Ha land is involved in 80 villages of Gaya district out of which an approximate area of 39.88 Ha is Govt. Land and 116.54 Ha is

private land. In Gaya district the alignment falls on 120.99 Ha of forest land/reserve forest/wildlife sanctuary.

DFC alignment traverses a route length of 41.422 km in Aurangabad District. Acquisition of 69.29 Ha land is involved in 47 village of Aurangabad district out of which an approximate area of 15.25 Ha is Govt. Land and 54.04 Ha is private land. There is no forest land/reserve forest/wildlife sanctuary falling on or DFCCIL alignment in this district under phase-I

The layout plans has been enclosed as "Annexure – A".

1.2. GEOGRAPHICALBREAKUP

i) Gomoh-Sonnagar Section traverses through two States and 6 Districts as under:

Sta	Approx Route KM	District
Jharkhand	2.77	Dhanbad
	47.274	Giridih
	34.739	Hazaribagh
	42.664	Koderma
Bihar	94.836	Gaya
	41.422	Aurangabad

ii) The proposed route falls under the jurisdiction of two Divisions of one Zonal Railway as mentioned below:

Sl.No.	Division	Zonal Railway	Approx Route KM
1	Dhanbad	East Central Railway	162.125
2	Mugalsarai		101.58

iii) The entire length of 263.71km from Gomoh to Sonnagar has been divided into five sections as given below:

Sl.No.	From station	To station	Parallel/ detour	Approx Route Km
1	Gomoh	Koderma	Parallel	93.467
2	Koderma	Paharpur	Detour	56.624
3	Paharpur	Manpur	Parallel	31.974
4	Manpur	Kastha	Detour	13.200

5	Kastha	Chirailaputhu	Parallel	68.440

DISTRICT WISE DETAIL OF LAND REQUIRED for DFC ALIGNMENT

Sl. No	District	No. Of Village	Area Proposed For Acquisition			
			Private Land (in Ha)	Govt. Land (in Ha)	Forest Land (in Ha)	Total Land required (in Ha)
1	Dhanbad	01	40.02	3.40	0.00	43.42
2	Giridih	27	12.10	3.05	10.84	25.99
3	Hazaribagh	21	5.54	2.36	203.80	211.70
4	Koderma	29	32.30	8.26	89.69	130.25
5	Gaya	80	116.54	39.88	120.99	277.41
6	Aurangabad	47	54.04	15.25	0.00	69.29
	Total	**205**	**260.54**	**72.20**	**425.32**	**758.06**

Note: The land details has been taken as per the updated cost estimate.

However, area of land may be changed as per project requirement. The updated land detail as per current requirement is mentioned as below:

Sl. No	District	No. Of Village	Area Proposed For Acquisition			
			Private Land (in Ha)	Govt. Land (in Ha)	Forest Land (in Ha)	Total Land required (in Ha)
1	Dhanbad	01	12.32	3.40	0.00	15.72
2	Giridih	27	20.1	3.05	10.84	33.99
3	Hazaribagh	21	5.54	2.36	203.80	211.7
4	Koderma	29	34.99	8.26	89.69	132.94
5	Gaya	80	114.48	39.88	120.99	275.35
6	Aurangabad	47	53.84	15.25	0.00	69.09
	Total	**205**	**241.27**	**72.20**	**425.32**	**738.79**

1.3. Details of the existing IR stations in this section

There are 34 IR stations between Gomoh and Sonnagar on the existing lines. In this section, six crossing stations are proposed namely New Keshwari, New Hirodih, New Koderma, New Paharpur, New Kastha and New Raniganj. At Junction station ChirailaPuthu (stage-II), remodelling of yard to be done to make entry to it from Dankuni end.

a) Details of the existing IR stations in this section

SL. NO	NAME OF STATION	STATION CODE	DISTANCE FROM HWH	INTER STATION DISTANCE
1	BHOLIDIH	BLME	304.99	
2	NIMIAGHAT	NMG	310.51	5.52
3	PARASNATH	PNME	318.10	7.59
4	CHEGRO BH	CEME	323.83	5.73
5	CHAUDHURIBANDH	CDB	327.34	3.51
6	KARMABAD BH	KRMB	331.09	3.75
7	CHICHAKI	CCK	335.43	4.34
8	GAREA BIHAR BH	GRBH	339.90	4.47
9	HAZARIBAGH RD	HZD	345.17	5.27
10	KESHWARI BH	KSHR	350.91	5.74
11	CHAUBE	CBH	355.73	4.82
12	DASARAH BH	DSME	360.62	4.89
13	PARSABAD	PSB	367.17	6.55
14	YADUDIH BH	YDD	371.81	4.64
15	SARMATANR	SMND	376.54	4.73
16	HIRODIH	HRE	384.29	7.75
17	LARABAD BH	LRB	388.79	4.50
18	KODERMA	KQR	393.55	4.76
19	PAHARPUR	PRP	437.30	43.75
20	BANSINALA HALT	BNSL	443.86	6.56
21	TANKUPPA	TKN	449.72	5.86
22	BANDHUA	BNF	457.35	7.63
23	KASTHA	KSTA	478.08	13.68
24	PARAIA	PRY	485.22	7.14
25	GURARU	GRRU	491.17	5.95
26	ISMAILPUR	IMGE	498.06	6.89
27	RAFIGUNJ	RFJ	507.12	9.06
28	DEO RD BH	DEOROAD	515.06	7.94

SL. NO	NAME OF STATION	STATION CODE	DISTANCE FROM HWH	INTER STATION DISTANCE
29	JHAKHIM	JHN	518.30	3.24
30	BAGHAIKUSA	BHKH	524.76	6.46
31	FESAR	PES	529.29	4.53
32	DEORIA KURHMA NARESH (H)	DKMN	534.76	5.47
33	ANUGRAHANARAYAN RD	AUBR	538.24	3.48
34	CHIRAILAPATHU BH	CPBH	543.64	5.40

b) List of proposed crossing stations and Junction station are as under:

Proposed DFCCIL Crossing and Junction station in this section

Sl.No.	Name of Station	Type of Station	Chainage (Ex. HWH)	Inter station Distance (in Km.)
1	New Gomoh	Junction	305.600	0.9Km (From Gomoh)
2	New Keshwari	Crossing	350.000	44.400
3	New Hirodih	Crossing	383.300	33.300
4	New Koderma	Junction	393.55	10.25
5	New Paharpur	Crossing	439.366	61.704 (due to detour)
6	New Kastha	Crossing	481.666	42.300
7	New Rafiganj	Crossing	521.000	39.334

1.4. Planning and design norms

1.4.1. Planning Parameters

The Rail System shall be constructed as per the Specifications and Standards.

SALIENT DESIGN FEATURES

Sl. No.	Description	Details
1	Moving dimensions height	5.1 m
2	Width of container stack	3.66m
3	Loop length	750 m/1500 m
4	Train load	13000 T
5	Axle load	Track Structure fit for 25 Tonneand

Sl. No.	Description	Details
		Bridges &formation fit for 32.5 Tonne.
6	Track loading density	12 T/m
7	Maximum speed	100 KMPH
8	Grade	1 in 200 (compensated)
9	Curvature	Upto 2.5 Degree
10	Traction	25KV AT Feeding System
11	Station spacing	Approx. 40 Km
12	Signalling	Automatic with 2 Km nominal spacing
13	Communication	Mobile train radio.

These are further discussed in detail asunder:

i) The nominal DFC track gauge shall be 1676 mm measured at 14 mm below the top of the rail.

ii) The Formation and Bridges shall conform to DFC Loading (32.5T Axle Load) as per Annexure XXV (in 4 sheets) of IR Bridge Rules. However, the track structure shall be suitable for 25T loading 2008 as per Annexure XXII (in 4 sheets) of IR Bridge Rules.

iii) DFC section will have double line track.

iv) At Junction stations, yard layouts should suit the requirement of long haul (2x750 m) as planned in EDFC.

v) Crossing stations shall have minimum two loops (one UP & one DN) with 1500 m CSR.

vi) Entire rolling stock shall be owned/operated and maintained by MOR/DFCCIL.

vii) All operations shall be under MOR/DFCCIL.

viii) Role of Concessionaire shall be limited to constructing and maintaining fixed infrastructure.

ix) Construction of ROB in lieu of level crossings within Dankuni - Gomoh section is not included in the scope of concessionaire. However, construction of RUB/LHS in lieu of level crossings will continue to be within the scope of Concessionaire.

x) Traction System shall be 25 KV AT Feeding systems.

xi) SCADA system shall be provided for remote monitoring and controlling the Traction Power Supply System from Remote Control Centre (RCC).

xii) Signaling system for entire Gomoh – Sonnagar section will be automatic signaling with nominal 2 Km distances between signals.

xiii) Schedule of Dimensions for Broad Gauge shall conform to SOD for EDFC.

1.3. ENGINEERING SURVEY

1.3.1 The proposed alignment is generally parallel and falling on north & south side of existing IR alignment in various stretches as detailedbelow:

Gomoh to Koderma - North side.
Koderma to Paharpur - South side.
Paharpur to Chirailapathu - North side.

The alignment has been decided to minimize the relocation / reconstruction of major stations and to minimize displacements of residential and commercial areas falling in vicinity of Railway Land.

2.0 OBJECTIVE:

The objectives of the EIA and EMP will be to-

(i) Identify potential environmental impacts to be considered in the design of Gomoh to Sonenagar section and recommend specific measures to avoid/mitigate the impacts.

(ii) Formulate an implementable Environmental Management Plan (EMP) integrating the measures to avoid the identified impacts and an appropriate monitoring and supervision mechanism to ensure EMP implementation.

(iii) Review the proposed alignment and other components and identify possible environmental issues to be addressed during planning, design, construction and operation of the project.

(iv) Develop an Environmental Management Framework that provides guidance to DFCCIL design and supervision consultant and the contractors for integrating environmental issues at all stages of construction and operation of this section.

(v) Recommend suitable institutional mechanisms to monitor and supervise effective implementation of EMP.

2.1 The specific EMP will be developed for the section and integrated into the respective contrives and BOQs for implementation and operation of DFC to ensure its adequate implementation. EMF will be adopted and implemented in Sonenagar – Gomoh section for the developments and operational phases.

3.0 OUTLINE OF TASKS:

(i) As outlined in the project objective the study essentially comprises of the following two components:-

- Comprises Environmental Assessment and preparation of Environmental Management Plan for section.
- Development of EMF for Gomoh to Sonenagar section

(ii) The EA for the subject stretch to be prepared addressing all the environmental aspects associated with the project complying fully with the environmental assessment requirements of Safeguard policies of the relevant organisation as decided by DFCCIL. The EA will also include an Environmental Management Plan (EMP) incorporating measures to avoid/mitigate various environmental impacts and enhance positive impacts as identified, associated costs, implementation, management and monitoring arrangements for the implementation of EMP.

(iii) The EMF component of the study would take input from EA study of Gomoh to Sonenagar section, will review the entire section and develop a generic environmental management plan and framework to address environmental issues during planning, design, construction and operation phase. The EMF will establish the criteria to identify the level of EA required for subsequent phases/components of EDFC. The EMF will also itself suggest the operationalization of EMF, appropriate institutional mechanism and specific training/capacity building needs (if any)

The scope of work is carrying out EA study will include but not limited to the following-

3.1 Environmental Assessment

This component of the study will identify all the environmental issue that may have negative/ positive impacts on the project influence area during various stages of project design, construction and operation. The study will focus both on direct and indirect impacts on environmental components such as land, air, water, noise, vibration, ecology, natural habitats, human health, safety, socio economic impact and assess their magnitude and significance. The assessment will be based on detailed one season base line environmental

monitoring surveys depending on the sensitivity of the component and potential impact), available secondary data and field investigations.

During the assessment process, the consultant would also review various environment safeguard polices of relevant organisation as prescribed by DFCCIL and carry out the assessment complying with the above safeguard policies. The key components of the EA study are given below.

i. **Brief Description of the proposed alignment** comprising various activities proposed their implementation phasing and their inter-linkages with regard to environmental impact.

ii. **Detailed Environmental Profile of the Project Influence Area** (within 5 km on either side of the proposed alignment) with details of all the environmental features such as Reserve Forests, Sanctuaries/ National Parks, Rivers, Lakes/ Ponds, Religious Structures, Archeological monuments, Natural Habitats, School, irrigation Canals, utility Lines, other sensitive receptors, etc. The environmental profile will be presented on a suitable map clearly indicating the location of each of features in relation to the project alignment.

iii. **Detailed Field Reconnaissance of the Proposed Alignment,** with strip map if required by DFCC presenting all the environmental features and sensitive receptors (trees and structures in the ROW, Structures Reserve Forests, Sanctuaries/ National Park, Rivers, Lakes/ Ponds, Religious Structures, Archeological monuments, Natural Habitats, Schools, Irrigation Canals, utility Lines, other sensitive structures) along the project corridor. The environmental features will be clearly recorded on the strip map indicating their distance from the center line of the proposed alignment. For this purpose the satellite imageries and the topographic survey data available with DFCCIL will be utilized. The final strip maps developed in this task will be suitable to be integrated with the data base management systems/ GIS platform.

iv. **Detailed Base Line Environmental Monitoring** of various Environmental Attributes such as ambient air quality, noise levels, water quality (surface & groundwater), ecological profile, etc. The monitoring surveys shall be carried out for one season only depending on the sensitivity of the environmental attribute (such as settlements, schools, cultural/heritage sites, etc.) and the possible impacts of the project on the same. Base line survey should specifically focus on noise and vibration levels at sensitive locations due to the existing rail line and the monitoring program should be designed in such a way that the

continuous noise levels and vibrations at appropriate intervals are recorded for assessing the future impacts due to the proposed project. The overall base line environmental profile should present the profile of the project area, using a combination of primary and secondary data. Noise, Air, Water vibration and soil test shall have to be carried out at each location. This will be reviewed by SEMU dept. of DFCCIL in corporate office. Actual detailed environment monitoring surveys shall be presented in the 'progress report' and shall be carried out after approval of the monitoring plan by DFCCIL.

v. **Assessment of Environmental Impacts** of the project will be carried out for both 'with the project' and scenarios. The assessment will be clearly focused on various components of the corridor such as bridges, culverts, terminal stations, junction stations, signaling stations, electrical substations, etc. and their impacts on physical, ecological and socio-economic environment. The impacts will be predicted for all the alternative scenarios using appropriate air/water/noise/ecological models of impact prediction or other analytical techniques and ensure that they are comprehensive in their coverage.

This task should also evaluate the impacts during construction phase of the project, such as development of borrow areas, quarry sites, material storage yards, plant/equipment sites, debris disposal sites, construction/labour camps, health and safety aspects, etc. The assessment will also include linked or common facilities such as freight storage yards, container stations etc. and their impacts. During the operation phase of the project, the assessment should evaluate various activities of corridor operation such as freight operations, corridor maintenance (major and minor), material handling, signaling, provision of sewerage and solid waste management facilities, etc. While evaluating the impacts environmental issues will be prioritize by establishing linkages with the activities during both design and implementation stage.

vi. **Measures for the Mitigation of Environmental Impacts and opportunities for enhancement, with associated detailed cost estimates (wherever applicable), for all the impacts identified**. The measures for the mitigation of impacts will consider options such as minor modifications in alignments, reduction of ROW and engineering measures such as noise barriers/attenuation measures, RUBs/ROBs, protection of water bodies, conservation of archaeological/ heritage structures, etc. Opportunities for enhancement of environmental resources, cultural properties or common property resources will also be explored and

appropriate measures will be recommended for implementation. All the recommended mitigation and enhancement measures will be supported by detailed cost estimates, bill of quantities and necessary drawings for the implementation of the same.

vii. **Public Consultation and Disclosure** of the project and its impacts will be carried out as per the operational policies of relevant organization as prescribed by DFCCIL. This will include conducting public consultation with all stake holders immediately after commencing the project to identify the environmental concerns in the project area. Inputs from this consultation will be considered in assessing the environmental impacts, designing EMP and associated monitoring mechanism. After the draft EA report, another consultation will be addressed in the EA and share how stakeholders concerns have been incorporated in the project design. The consultation will take place at appropriate places so as to ensure that all the stake-holders in the project area have reasonable opportunity to attend such consultation. Public consultation will be planned by referring all the consultations carried out as a part of JICA study/any other study so as to complement the earlier consultation. All the consultations will be documented in detail with information on minutes of the consultation, details of people attended the consultation, and issues raised and will be supported by photographs.

viii. **Environmental Management and Monitoring Plan,** comprising a set of remedial (prevention, mitigation and compensation) measures will be developed ensuring that these are commensurate with nature, scale and potential of the anticipated environmental impacts. The components of EMP will be supported by detailed cost estimates, bill of quantities and necessary drawings (wherever necessary) for implementation. The EMP will also include a monitoring and supervision plan for the implementation of EMP and shall clearly identify the responsibilities of the contractors, owners engineer and DFCCIL.

ix. **Institutional Mechanism** for the implementation and monitoring of EMP, will also be formulated in the EA study and the mechanism will clearly identify the role of all the agencies involved in the project implementation.

x. While carrying out the EA study co-ordination with other teams carrying out R&R studies will be maintained, so as to ensure integration of environmental and social issues in the respective studies.

3.2 Development of Environmental Management Framework:-

Development of Environmental Management Framework (EMF) for DFCC will obtain inputs from the EA study for Gomoh to Sonenagar Section of EDFC and would set out the clear framework for integrating environmental management

in the planning designing, construction and operation of other section of EDFC. In performing the task the focus will be essentially on the following aspects.

- Environmental profile of the remaining section of EDFC (based on field reconnaissance survey and secondary data)
- Typical project cycle (to identify the requirements to identify environmental aspects at appropriate stages of projects).
- Proposed components/ phases of the project.
- Potential environmental impacts of Gomoh to Sonenagar, as emerged during EA study for Gomoh to Sonenagar section, and subsequent analysis with respect to other sections of EDFC.

Based on the above analysis EMF for EDFC will be developed comprising the following components

- **Environmental Policy** for the development of EDFC, that clearly sets out the policy agenda of environment management at DFCCIL
- **Detailed review of policies and regulations** of Govt. of India, Indian Railways and operational policies of DFCCIL or relevant organization and their applicability to the development of Gomoh to Sonenagar Section. The review will clearly set out the policies requirements at various stages of developing Gomoh to Sonenagar section and the set of actions/ initiatives/ measures to be taken up by agencies involved in Gomoh to Sonenagar section development.
- **Review The Project Development Cycle** of Gomoh to Sonenagar Section comprising planning, designing, implementation and operation phases and identifies opportunities for the integration of environmental management measures at appropriate stages of Gomoh to Sonenagar Section.
- **Identify Environmental Issues** associated with the various component based on detailed EA carried out for Gomoh to Sonenagar Section. Wherever possible available secondary information may be used for identifying potential environmental impacts due to the development of Gomoh to Sonenagar Section.
- **Formulate Environmental Management Framework Comprising The Following**
  - **Screening and scoping criteria** for assessing the environmental significance for various projects/ Sub project of Gomoh to Sonenagar Section and detailed out the approach to carry out screening and scoping exercise.
  - **Categorization of projects/ Sub-Projects/ component of Gomoh to Sonenagar Section**, such as construction of track, detour lines, Bridges,

RUB's/ROB's, Signaling systems, freight stations , electric sub- station and ancillary facilities etc. Since the subsequent phases of Gomoh to Sonenagar Section, will involve construction of above components either individually or combined, the categorization shall be based on potential environmental significance and the level EA required for each of the above projects/ Sub-Projects/ components.

- **Outline of methodology to carry out EA** or integration of environmental aspects for each category of the project identified above. This will include the draft terms of reference for carrying out EA exercise (as applicable) or appropriate guidelines for integration of environmental management measures, including generic environmental management plans for components to which EA studies are not required. This will also outline the responsibilities of various internal /external agencies.
- **Guidance on securing various clearances** for the project and during construction/ operation.
- **Systems, policies and procedures** for environmental management during operation and maintenance of Gomoh to Sonenagar Section, including health and safety aspects.

- **Institutional mechanism** for the implementation and monitoring of environmental management of Gomoh to Sonenagar Section. This will be also including monitoring mechanisms/ procedures for environmental management with outline of performance indicators that are measurable and replicable at specific stages of construction and operation.
- **Training and capacity building** requirement for the implementation and operationalization of the EMF.

4.0 STUDY OUTPUTS AND TIME LINES

(i) The study is expected to be carried out over a period of 16weeks shall comprise the following outputs.

- **Inception Report** to be submitted within 02 weeks of commencement of the project, outlining the detailed approach and methodology, schedule of monitoring surveys and filled activities.
- **Interim Report** to be submitted within 4 weeks of the commencement of the project, summarizing the details of field surveys carried out and he progress of various activities.
- **Provide Specific Inputs to the Bid Documents and EMP** to be incorporated in the of EPC contract of the project at the end of 8 weeks.

- **Draft Environmental Assessment Report**, to be submitted within 12 weeks of commencement of the project, with a detailed assessment of environmental impacts of Gomoh to Sonenagar section and the proposed Environmental Management Plan.
- **Draft Environmental Management Framework**, to be submitted with 12 weeks of commencement of the project, comprising generic environmental management plan and framework of Environmental Management for Gomoh to Sonenagar Section.
- **FINAL EA AND EMF REPORTS** to be submitted within 14 weeks of commencement of the project, duly incorporating the comments and suggestions of the DFCCIL and other relevant organization.

The activity schedule has been enclosed as "Annexure – B".

(ii) The consultant is also expected to conduct two workshops, one after the submission of Draft EA and EMF Report with an objective to solicit inputs for DFCCIL, Owner's Engineers, Contractions other agencies on EA/EMP/EMF and the other after finalization of EA/EMF report aimed at the disseminating the EA/EMP and EMF recommendations.

5.0 CONSULTANT QUALIFICATIONS AND STUDY TEAM

Consultant should give details of each expert duly signed by expert/ firm's authorized representative in the format given in Annexure-3

6.0 OUTPUTS:

Consultants will prepare one consolidated book containing EA report of contents of report may be:

(i) Introduction (ii) Regulatory framework (iii) Anticipated environmental impacts & mitigation measures (iv) Baseline environmental profile (v) Environmental impact assessment (vi) Mitigation measures for environmental impacts (vii) Public consultation & disclosure (viii) Environment management plan (ix) Environment management framework (x) Map of project influence area.

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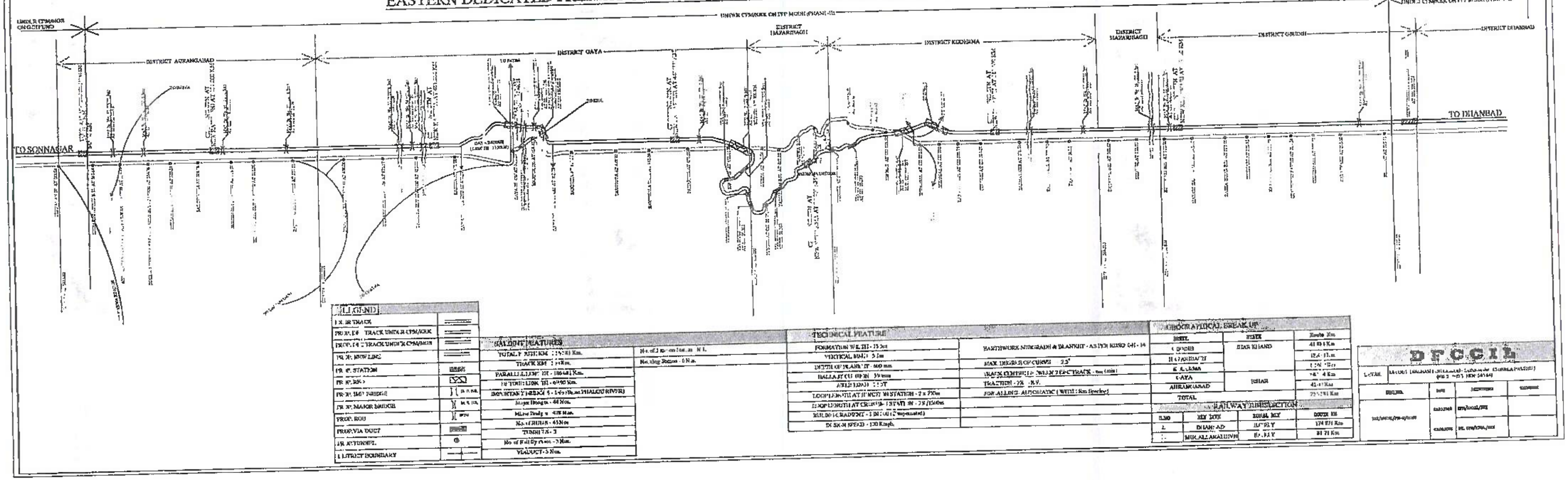
ANNEXURE - A

EASTERN DEDICATED FREIGHT CORRIDOR ALIGNMENT FOR GOMOH - SONNAGAR(CHIRAILA PAUTHU)



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S. NO.	ACTIVITIES	W1	W2	W3	W4	W5
A	**INCEPTION REPORT**					
	Project Inception Study					
A-1	Mobilization					
A-2	Kick – off Meetings					
A-3	Establishment of Communication Lines					
A-4	Study of approved PFR/DPR/Maps					
A-5	Reconnaissance Survey					
A-6	Finalization of Reports Format					
A-7	Requirement of Data					
A-8	Fine- tuning of Approach & Methodology					
A-9	Collection of necessary secondary data for a preliminary environmental assessment and screening					
A-10	Assessment of baseline Enironmental Condition and Screening of Environmental aspects					
A-11	Verification of Project Categorization as per law of land and as per MFIs Safeguard policies					
	Submission of Inception Report					
B	**Interim Report**					
B-1	Establishment of Baseline data collection					
B-2	Applicable policies and guidelines					
B-3	Aseesment of Existing Landuse Landcover Pattern					
B-4	Approval of Format for Focus Group Discussion					
B-5	Assessment of Baseline Socio-Economic Information on Income and Expenditure Pattern, literacy, type of workers, women involvment in decision making, attitude towards girl child and income generation activities					
B-6	Anticipated Impact of proposed project					
	Preparation and Submission of Interim Report					
C	**Submission of ESMP Report**					
C-1	Present and discuss possible alternatives to project design to reduce adverse impacts on nearby environment					
C-2	Collection of baseline Environmental parameters like Air Quality, Water Quality, Noise Quality and existing solid waste management					
C-3	Review and assessment of available geotechnical and seismic data and information and hazard analysis					
C-4	Analysis of Geomorphology study					
C-5	Asseessment of Impact on DPIA and IPIA					
C-6	Review and assessment of presence of any natural forest, wildlife sanctuary, national park along the project stretch and within the project study area (10km from either side of proposed project corridor)					
C-7	Counting of trees along the project corridor which are potential to be affected as part of the project					
C-8	Assessment of environmental impact due to ancillary activities					
C-9	Approach Road condition and understanding the engineering design and pollution abatement measures (both existing and proposed)					
C-10	Assessment of potential air quality and noise quality impacts from project stretch through modeling study, if required					
C-11	Analysis of potential impacts and suggestion of mitigation measures					
C-12	Preparation of a Environment and Social Management Plan (ESMP)and Matrix					
	Submission of Draft ESMP Report along with executive summary					
D	**Submission of Draft ESIA Report**					
D-1	Monitoring plan for the compliance of ESIA and ESMP					
D-2	Submission of ESIA and ESMP Report along with presentation of records of consultation with stakeholders					
	Submission of Draft ESIA Report along with executive summary					
E	**Submission of Final ESIA Report**					
E-1	Receipt of observation from DFCCIL on the draft ESIA, ESMP Report					
E-2	Workshop- I as stakeholder consultation to receive suggestion/comments on proposed project					
E-3	Workshop- II as stakeholder consultation to receive suggestion/comments on proposed project					
	Submission of Final ESIA with executive summary including compliance of Workshop- I&II along with DFCCIL suggestions					

महाप्रबंधक / समन्वय
GENERAL MANAGER / Co-ordination
डेडीकेटेड फ्रेट कॉरिडोर कॉर्पोरेशन ऑफ इंडिया लि.
Dedicated Freight Corridor Corporation of India Limited
भारत सरकार (रेल मंत्रालय) का उपक्रम
A Govt. of India (Ministry of Railways) Enterprises
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