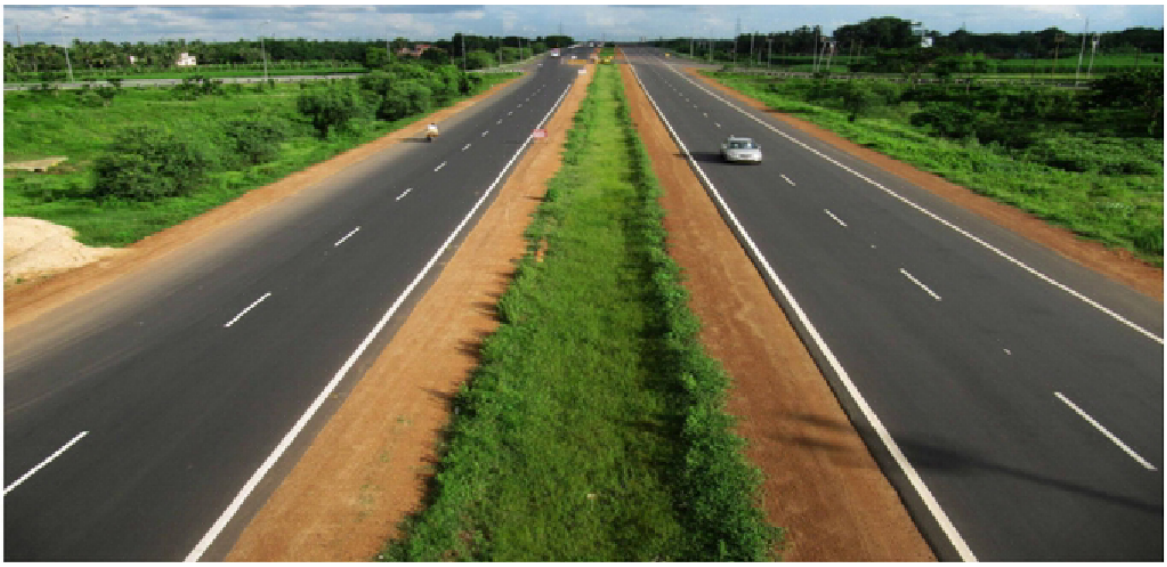
Ashoka Highways (Bhandara) Limited



Environment, Social and Safety Management Plan (ESSMP)

as per IFC Guideline and SBIM requirement

Rev.02	**Prepared by**	**Reviewed and Recommended By**	**Approved by**
Date 2 Feb-2015	Amol Deore HSE Officer	Anil Shimpi Head-HSE	Mr. Sham Lokhande Project Head

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Chapter – I: Brief Introduction of Project

The National Highway No. 6 originates from Kolkata and transverse through the states of West Bengal, Jharkhand, Orissa, Chattisgarh, Maharashtra, Gujarat and Terminates at Hazira in Gujarat. The project relates to widening to four lanes and strengthening of the existing 2 lane carriageways from km 405/000 to km 485/000 (80 kms) in the district of Gondia and Bhandara in the state of Maharashtra.

This Concessionaire is to comply with the O & M requirements set out in the operation and Maintenance manual and is ensuring that the project highway and facilities are maintained to the standards and specifications

Salient Features of the Contract :

Independent Consultants Details :

Sr. No.	Particulars	Description
1	Name of Contract	Independent Consultancy services for 4 laning Chattishgarh / Maharashtra Boarder – Wainganga Bridge (Km 405/000 to km 485/000 of NH-6 in the State of Maharashtra under NHDP Phase IIIA on Build, Operate & Transfer (BOT) Basis.
2	Authority	National Highways Authority of India
3	Independent Consultant	Zaidun – Leeng Sdn. Bhd. - Artefact Projects Ltd., J.V.
4	Concessionaire	Ashoka Highways Bhandara Limited (AHBL)
5	Date of Commencement of IC Consultancy	25th February 2008
6	Consultancy Period (48 Months)	O & M Period : 18th Month
7	Completion date of Consultancy Period	24th February 2012

Concessionaire Details

Sr. No.	Particulars	Description
1	Name **of** Contract	Independent Consultancy services for 4 laning Chattishgarh / Maharashtra Boarder – Wainganga Bridge (Km 405/000 to km 485/000 of NH-6 in the State of Maharashtra under NHDP Phase IIIA on Build, Operate & Transfer (BOT) Basis.
2	Authority	National Highways Authority of India
3	Independent Consultant	Zaidun – Leeng Sdn. Bhd. - Artefact Projects Ltd., J.V.
4	Concessionaire	Ashoka Highways Bhandara Limited (AHBL)
5	Date of CA Signing	18th September 2007
6	Appointed Date	15th Mar ch 2008
7	Concession Period	20 Years

The project facilities include the following:

Sr. No.	Particulars	Description
1	Length of Project	72.06 km
2	Length of Service Road	28.40 km
3	Toll Plaza	01 Nos.
4	Bus Bays	30 Nos.
5	Major Junctions	05 Nos.
6	Major Bridges	13 Nos.
7	Minor Bridges	13 Nos.
8	Vehicular Underpasses	08 Nos.
9	Pedestrian/ Animal Underpass	03 Nos.
10	Culverts	Box Culverts = 60, Pipe Culverts = 65
11	Pavement Composition	Flexible for main carriage way and service road; rigid for Toll plaza

Chapter – II : Policy and Objective

ASHOKA

QHSE Policy

We, at ASHOKA BUILDCON LTD. are committed to become an icon in infrastructure development, through innovation, professionalism, active leadership in product quality and sustained growth by delivering value to our customers.

We shall conduct our operations in a manner so that we protect people, property and the environment by identifying, controlling and reducing all associated risks to a level As Low As Reasonably Practicable.

This will be achieved by: -

1. Our commitment to continual improvement of quality, environmental, occupational health & safety management system performance.
2. Commitment to prevention of pollution, injury and ill health.
3. Complying with all applicable legal and contractual requirements.
4. Adopting state of art technology available.
5. Communicating and consulting all associated stakeholders for establishing organizational objectives.

Ashok Katariya
Chairman

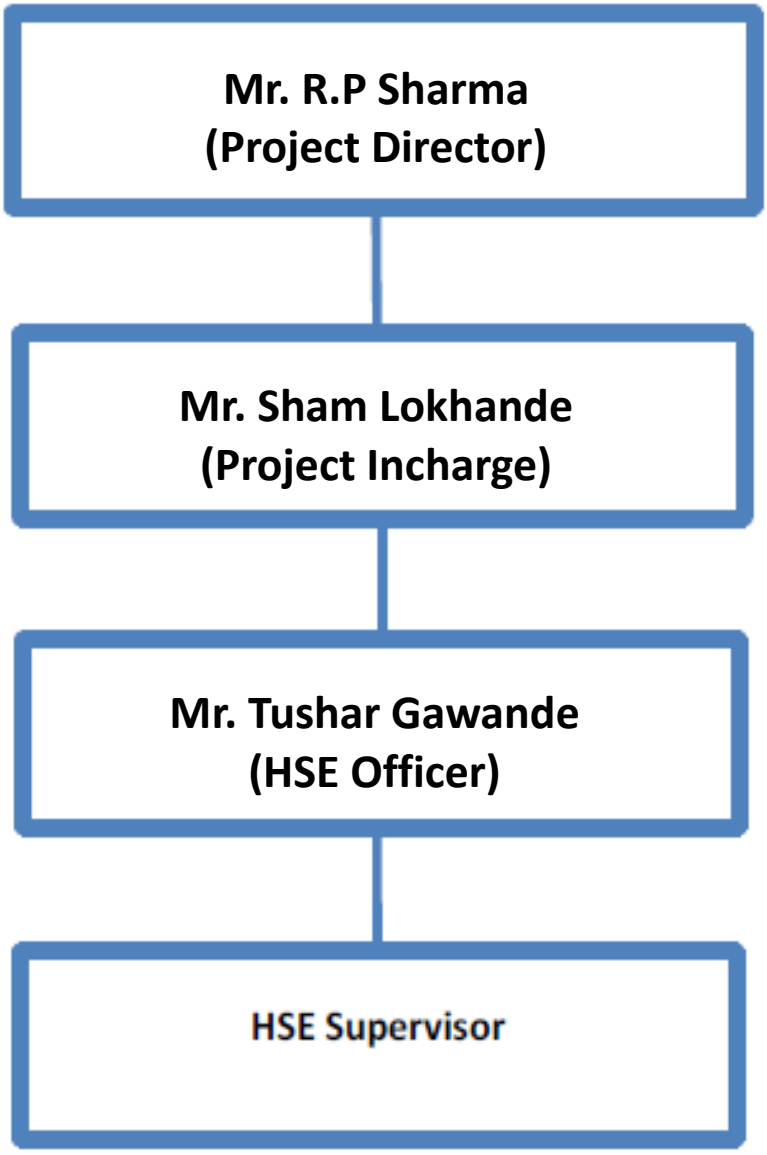
Date: 1st August 2013

This Policy will be implemented by the AHBL project Site and Management prior to commencement of construction of the Project. A copy will be provided to every employee of the company and will form part of the contract with sub-contractors engaged in activities associated with design, preconstruction, construction and operation and maintenance.

Objectives and Targets

Chapter – III : Organizational Set up

Project Site HSE Organization Chart :



ROLES & RESPONSIBILITIES

The responsibility of implementation of the Environmental Management Plan rests with the following personnel involved in the implementation of the project.

PROJECT DIRECTOR

The Project Director is responsible for the overall implementation of the project. In the present case, the EPC contractors are also members of the SPV, VHPL, and hence the Project Director is responsible for undertaking the engineering, procurement and construction of the project.

- Guiding the formation of Policy & its Approval
- Giving the guideline for the Budget & its Approval
- Review of the safety & Environment Procedure & its Approval
- To provide guideline for All legal aspect of project & comply all environment legal rules & regulation.
- To provide guidance for the implementation of OHSAS & EMS System

PROJECT INCHARGE / SR. GENERAL MANGER

The Project Incharge / Sr. General Manager is responsible for the overall implementation of the project. The Project Incharge / SGM is responsible for undertaking the engineering, procurement and construction of the project. The SGM shall oversee the implementation of the ESSMP by assigning the necessary resources and periodically review the effective use of the ESSMP on site.

HSE Officer:-

- Implementing the HSE&S Manual, Environment Safety and Social Management Plan, Emergency preparedness plan and EPC HSE-Work Instructions;
- Train the workers and employee as per the training programs ;
- Prepare the HSE Training program as per the site specific requirement;
- Provide the Safety & Environmental awareness /Induction training to employee (EPC and subcontract employees) after getting the formal information from the HR & Admin Department;
- Carry out HIRA (Hazard identification and risk assessment) & EAI (Environmental Aspects and its Impacts) and prepare mitigation measures and approve it from Head- HSE&S ;
- Identify the IDLH /Risk and guide to process owner of risk for control measures.
- Daily Safety Observation Tour, Work place Monitoring, Safety Findings to be recorded & Informed to site Project Incharge and Process Owners;
- Conducting Safety Committee Meeting including preparation of agenda, near miss & accidents reports & forward to Corporate Office before 3rd of every month;
- Monthly HSE Report sending to be sent HSE- Corporate Manager before 3rd day of every month;
- Emergency preparedness plan and its effectiveness report (i.e. Mockdrill Report) on quarterly basis;
- Visit the labour camp, Workers canteen to do the audit on welfare provided and required.
- Accident reporting within 12 hours as per the Corporate guidelines to concern Govt. Authority and Head- HSE & S.

RESIDENT ENGINEER (RE) - ROAD AND BRIDGE WORKS

The Project Engineer - Road Works shall be responsible for implementation of the ESSMP during the construction of the road works. He being responsible for day to day operations with regards to road works shall supervise and oversee construction activities such as site clearances, stripping of top soil, excavations. Filling and laying material etc. which necessitates the operation of construction equipment and machinery at the site.
These activities would have environmental effects in terms of impairment to noise and air quality, tree cutting and severances and hence shall be responsible for implementing the ESSMP in the day to day activities of road construction. The Project Engineer – Bridge Works shall be responsible for implementation of the ESSMP during the construction of bridge works. These activities would necessitate diversion of roads, cutting of trees and diversion to natural drainage paths which would have a bearing on the environmental quality of the area. The RE (bridge works) shall be responsible for implementation of ESSMP with respect to environmental aspects during bridge construction.

SITE ENGINEERS/SUPERVISORS

The site engineers/supervisors report to the RE and are responsible for day to day operations of construction works in their respective areas. They supervise and oversee the construction activities and hence shall be made responsible for ground the ESSMP and minimize the impacts during construction. Some of the key aspects that shall be taken up by the site engineers/ supervisors shall include periodic sprinkling of water in inhabited areas during transportation of material and operation of construction machinery.

SUBCONTRACTORS

Sub contractors shall be sensitized on environmental aspects as they form part of the road construction in terms of transportation, earthwork, concrete and form work.
The environmental effects due to and transportation of material, debris removal and residues shall be properly conducted to minimise damage to the environment. The site engineers/supervisors shall be responsible for monitoring the implementation of ESSMP at this level.

Overall Responsibility - All Employees

Overall responsibility for the environment, social, occupational health and safety management system lies with the Project Head of the SPV who will establish and maintain an organisational structure that defines roles, responsibilities, and authority to implement the ESSMP. This will include the designation of in-house personnel during the different phases of the Project as described below.
The HSE &S activities will be carried out by SPV, EPC and/or O&M contractor and third parties. All these activities will be undertaken under contract with company and will be supervised by company which will ensure that all contracts include terms and conditions requiring contractors to adopt management systems which comply with the ISO 14001, OHSAS 18001 and with the ESSMP requirements.

Various Committees and Working

Project site management has formed various committees to implement the ESSMP smoothly. To address and resolve the issues related to Safety, Health, Environment, mess, labour camp, Employees grievances and public grievances, These committees will meet on following schedules

Sl. No.	Name of Committee	Committee Head/Chairman	Functional Responsibility	Frequency
01.	HSE Committee	Project In-Charge	HSE Officer	***Monthly***
02.	Canteen Committee	Project In-Charge	Base Camp HR In-Charge	***Monthly***
03.	Grievance Committee	Project In-Charge	Site HR Office/ Liaisoning Officer	***Quarterly***
04.	Emergency Response Team	Camp In-Charge/Project Manager	HSE Officer/ HSE Supervisor	***Quarterly***

All the Committees do meet as per the Frequency stipulated and necessary decisions & implementations are monitored strictly by the Committee members. Also the grievances are resolved on priority.

HSE COMMITTEE AHBL PROJECT

CHAIRMAN : **Mr. Sham Lokhande (Project Incharge)**

MEMBERS : **Mr. Pritam Kotche (HR Dept) : Mr. Ravi Makade (EQA)**

: **Mr. Ashish Dahake (P&M Dept) : Mr. Rajiv Gupta (Lab Dept)**

: **Mr. S. Chokhandre (Stores Dept)**

SECRETARY : **Mr. Tushar Gawande (HSE-Officer)**

CANTEEN COMMITTEE AHBL PROJECT

CHAIRMAN : **Mr. Sham Lokhande (Project Incharge)**

MEMBERS : **Mr. Tushar Gawande (HSE Dept) : Mr. Ravi Makade (EQA)**

: **Mr. Ashish Dahake (P&M Dept) : Mr. Rajiv Gupta (Lab Dept)**

: **Mr. S. Chokhandre (Stores Dept)**

SECRETARY : **Mr. Pritam Kotche (HR Dept.)**

GRIEVANCE COMMITTEE AHBL PROJECT

CHAIRMAN : **Mr. Sham Lokhande (Project Incharge)**

MEMBERS : **Mr. Tushar Gawande (HSE Dept) : Mr. Ravi Makade (EQA)**

: **Mr. Ashish Dahake (P&M Dept) : Mr. Rajiv Gupta (Lab Dept)**

: **Mr. S. Chokhandre (Stores Dept)**

SECRETARY : **Mr. Pritam Kotche (HR Dept.)**


ASHOKA
Ashoka Buildcon Limited
Camp 469 Km. NH-06 Bhandara (M.S.)
Safety Communittee In - Charge
Mr. S. M. Lokhande
Mob.No.8805981615
Fire Fighting Team
Rescue Team
First Aid Team
Team In-charge
Mr. Ashish Dahake
Mob.No.9922999352
Team In-charge
Mr. Rajiv Gupta
Mob.No.9763712555
Team In-charge
Mr. Pritam Koche
Mob.No.9767895915
1) T. Able
2) Sanjay Chokhandre
3) Vinod Yadav
4) Sunil Khawas
1) Wasim Sheikh
2) Kamlesh Kohad
3) Vinod Yadav
4) Sunil Khawas
1) Ramkrushna Gadhawe
2) Subhash Bhure
3) Nitesh Nagrikar
4) Ravi Makde

Chapter – IV : Statutory Clearances / License Details

Legal and Regulatory Requirements and Applicable International Standards :
Company and its EPC, Sub-contractors are governed by the various legislative rules and regulation set by Ministry of Environment and Forest (MoEF) and concerned pollution control boards.

The following Rules and Regulation are applicable for AHBL Project :-

- MOEF Requirement Road construction -- EIA Report & Environment clearance from MOEF – Not Applicable
- Environment Protection Act :1986 - – Applicable
- The Water (Prevention & control of pollution) Act, 1974 - – Applicable
- The Water (Prevention & Control of pollution) Cess Act, 1977, including rules, 1978 - – Applicable
- The Air (Prevention & control of pollution) Act, 1984 - – Applicable
- The Hazardous Waste (Management & Handling) Rules, 2000 - – Not Applicable
- Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989 - – Applicable
- Forest clearance for tree cutting (Local, State and Center if required) –- Applicable
- Local authority or *Grampanchyat* permission (NOC) for establishment of plant - – Applicable
- District Industry Center permission for industry - – Applicable
- Factory Act: 1948 (Crusher VSI & HMP) Plant Establishment - – Applicable
- State Factory Rule (Director of Industrial Safety and Health requirement) - – Applicable
- Building and Other Construction worker Act, 1996 –Not Applicable
- The Mines & Minerals Act, 1957 –- Not Applicable
- Mineral Concession Rules, 1960 - – Not Applicable
- Land acquisition Rule-1998 – Not Applicable
- Petroleum Rules, 1976 (Petroleum & Explosive Department) - – Applicable
- The Indian Electricity Rules, 1956 - – Applicable
- Batteries Act, 1989 - – Applicable
- Minimum Wages Act, 1948 - – Applicable

Various Statutory Clearances / Licenses have been obtained by AHBL. The latest Renewed Copy, Renewal Applications which are under process and the Legal Matrix are attached below:

Legal Matrix (Camps) :

The Quarterly Legal Compliance report under Environment protection Act and Consent to Operate permissions /licenses is also done as per the following Format for the same:

Sr.No	Name of the Licensing/ Registration Authority	Purpose	Number and Date of Registration/License	Validity Period		Update on any issu if any
Camp: Lakhani (Manegaon)				From	To	
1	Manegaon Grampanchayat Village	for NOC H.M. Plant & Crusher Installation	-	26/12/2011		one time permission
2	Maharashtra pollution Control Board, Bhandara	For Consent to establishment of HMP	65-CC/1591/2012 Date: 13 Aug,2012	13/08/2012	12/08/2017	one time permission
3	Maharashtra pollution Control Board, Bhandara	For Consent to operate of HMP	MPCB/14/56/cc-249/2014	30/08/2013	31/08/2014	Applied for renewal on date 01/09/2014.
5	District Industries Centre, Bhandara	For HMP installation & permission	27010.22.0005/ Dated 05 Dec, 2012 (Part-2)	05/12/2012		one time permission
6	District Industries Centre, Bhandara	For Crusher Installation & permission	27010110487 / Dt. 18.12.2014 (Part-2)	18/12/2014		one time permission
7	Regional Labour Commissioner, Nagpur		ALCN/45(L)/13/2008/CL	13/05/2014	13/05/2015	
12	Deputy Director Industrial, Safety & Health Bhandara	For Hot Mix Plant				Application Submitted for Ne Factory licence to industrial office on Dt. 23.08.13 & Licence is in process

Labour, WC, Minimum Wages, Contractor Labour, Employment License Details:-

The Company, SPV and EPC will base the employment relationship on the principle of equal opportunity and fair treatment, and will not discriminate with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, and promotion, termination of employment or retirement, and disciplinary practices.

The Company takes measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to women. The Company will ensure that all workers receive notice of dismissal and severance payments mandated by Indian labour law and collective agreements in a timely manner.

All outstanding back pay and social security benefits and pension contributions and benefits will be paid

(i) On or before termination of the working relationship to the workers,
(ii) Where appropriate, for the benefit of the workers, or
(iii) Payment will be made in accordance with a timeline agreed through a collective agreement. Where payments are made for the benefit of workers, workers will be provided with evidence of such payments.

The Company will provide a grievance mechanism for worker to raise workplace concerns. The company will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. In Project office and Camp area grievance box for easy and immediate communication. The Company will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the project work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of hazards.

We are already in possession with the License for 1000 manpower & 300 Contract Labour in this project and an application has been filed in the O/o The Dy. Chief Labour Commissioner (C), GoI, Bhubaneswar for another 300 manpower increase in this project. We do also cover the Workmen Compensation act, 1923.

A number of Safety Signage's are on display near Educational Institutions along with several Safety Alert Signage's along the Project Stretch. Also we have provided Hard Barricading near High Risk Areas/Deep Excavation Areas along the Stretch.

Chapter V: All HSE Policies

Further we do follow the Applicable Policies & Guidelines framed by the Management and those are summarized below :

Sr. No.	Document Details	Document Code	Main objective of Document
1	Integrated Management System Manual	ACL/IMS (L-1)	1. Apex manual for IMS and ISO Standard requirement interlinking of clauses.
			2. Level One (L-1) Document for all Department heads. In this manual Scope, Company Profile and SPV companies and detailed procedure related to QMS, EMS & OHSAS has been mentioned.
			3. ACL Document control procedural guideline.
2	HSE Work Instruction	ACL /IMS/HSE/01	HSE Work Instruction for CO-HSE department, In CO-HSE department is having 10 Process. This Manual is applicable for All ACL-HSE Department with their defined Roles and responsibility.
3	Environment Social & Safety Management System Manual	ACL/ESSMSM (L-2)	1. Guideline for the Environment, Social & Safety Management as per the National Rule and Regulations applicable for the National Highway Projects & IFC Performance Standard.
			2. This Manual for ready reference for SPV & EPC contractor for implementation at project site.
4	Environment & Social management Plan - Standard operating Procedure	ACL/ESMP (L-2)	1. Operating procedure for SPV/ EPC to attend the Environment and Social issues related to National Highway Construction.
			2. Role & Responsibility has defined to take care of the process related environmental issues and resolve the E&S issue on the priority.

Sr. No.	Document Details	Document Code	Main objective of Document
6	Guideline for Traffic Management Plan	ACL/HSE&S/ESMP/ GTMP/01	Safety of road users and project workers is a vital requirement which has to be attended during the contract period under the contract agreement; site design, planning, traffic diversion and procurement management are key controls for reducing the accidents caused by the vehicles.
7	PPE Matrix for road & bridge construction worker	ACL/HSE&S/ESMP/PPE Matrix/01	1. Awareness of employees about the use of PPE's as per theirs working activity.
			2. Information of PPE's about their life, IS Code and approx market rate.
			3. Guidance of process owners and store, purchasing staffs to communication with suppliers and workers
8	Emergency Response Plan	ACL/HSE&S/ERP/01	1. To define and implement an effective organization to respond and manage emergency to protect life, environment and properties
			2. To provide an effective and efficient response to and control emergency that may occur.
			3. To identify the individuals responsible for directing the activities required to contain, control and manage an emergency situation.
9	Tree Plantation Guideline for National Highway Projects	ACL/HSE&S/ESMP-TPGNHP/01	1. Reducing the impacts of air pollution
			2. Natural noise barrier
			3. Arrest of land erosion
			4. Providing much needed shade during the daytime
			5. Prevention of vehicle glare from vehicles coming from opposite direction
			6. Enhancement of an esthetic view of the corridors
			7. Climatic amelioration
			8. Defining of ROW especially at sharp curves during night.

Sr. No.	Document Details	Document Code	Main objective of Document
10	Guideline for Grievance Redressal Mechanism for SPV/EPC	ACL/HSE&S/ESMP-GGRM/01	1. To establish, maintain and improve the employee-employer relationship. 2. To facilitate for the restoring/improving the living of displaced persons. 3. To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impact from land acquisition or restrictions on land use in consultation with the NHAI and State revenue Department.
11	IT Disaster response plan	ACL/HSE&S/IT-DRP/01	1. To define and implement an effective organization to respond and manage emergency to protect life, environment and properties. 2. To provide an effective and efficient response to and control emergencies that may occur. 3. To achieve the zero down time.
12	Guideline for Disposal of Construction Waste	ACL/HSE&S/ESMP/GDCW/01	1. Guideline for site people to dispose the construction waste during the construction of road activity.
13	Environment Monitoring Plan	ACL/HSE&S/ESMP/GEMP/01	1. Guideline for to monitor the Ambient Air Quality, Noise, Stack monitoring during the construction phase, Normal water & Drinking water quality.
15	Guideline for Tool Box	ACL/HSE&S/TOOL BOX TALK/01	ACL Corporate HSE department has prepared the 67 HSE related training modules for SPV /EPC's HSE Office for the implementation of HSE Training at Working site. One Consolidated Tool Box Talk on 22 Topic has been prepared for SPV /EPC Contractor's HSE Officer for the implementation.
16	Guideline for Monsoon Safety	Soft copy	ACL Corporate HSE department has prepared the Monsoon Safety for SPV /EPC contractor.

Sr. No.	Document Details	Document Code	Main objective of Document
17	AVOIDING DANGER FROM OVERHEAD POWER LINES	Soft copy	This guidance is for people who may be planning to work near overhead lines where there is a risk of contact with the wires, and describes the steps you should take to prevent contact with them. It is primarily aimed at employers and employees who are supervising or in control of work near live overhead lines, but it will also be useful for those who are carrying out the work.
18	Safety Posters for awareness of SPV and EPC employees	Soft copy	1. Camp Entrance safety posters
			2. Canteen related safety posters
			3. Office Entrance & Premises safety posters
			4. P&M, Workshop & Premises safety posters
			5. P&M, Plant area safety posters
			6. QA/QC Lab related safety posters
			7. Security Cabin related safety posters
			8. Store, storage related safety posters

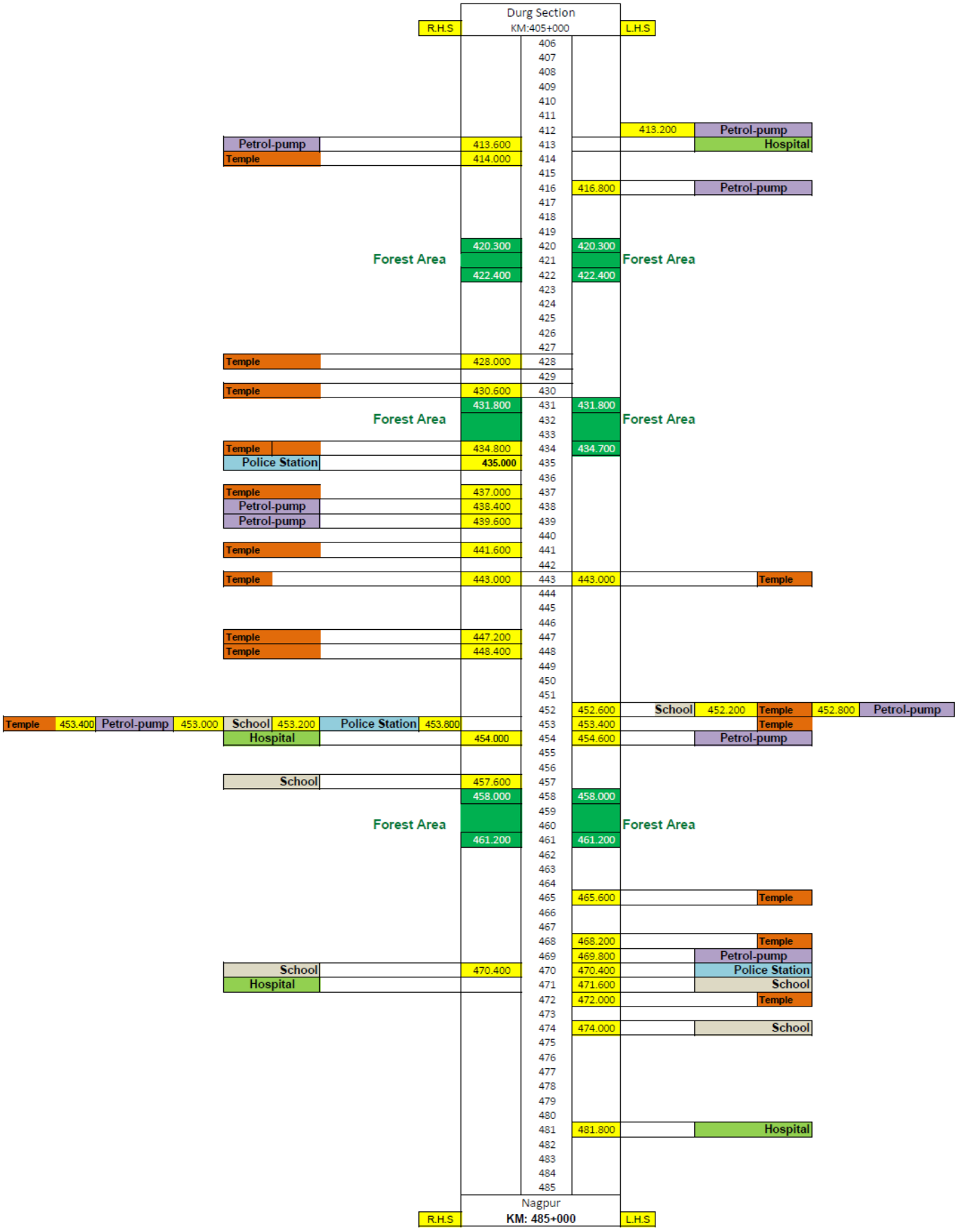
Chapter – VI : Project Chainage wise Hot Spot Challenges:-

NH-06 Bhandara (MS) Km. 405 to 485

Chainage Wise Hot Spot Summary

Sr. No.	Police Station		Hospital		School		Patrol Pump		Temple	
	Chainage	Location	Chainage	Location	Chainage	Location	Chainage	Location	Chainage	Location
1	435.000	RHS	413.000	LHS	452.600	LHS	413.200	RHS	414.000	RHS
2	453.800	RHS	454.000	RHS	453.200	RHS	413.600	LHS	428.000	RHS
3	470.400	LHS	471.800	RHS	457.600	RHS	416.800	LHS	430.600	RHS
4	-	-	481.800	LHS	470.400	RHS	438.400	RHS	434.800	RHS
5	-	-	-	-	471.600	LHS	439.600	RHS	437.000	RHS
6	-	-	-	-	474.000	LHS	452.800	LHS	441.600	RHS
7	-	-	-	-	-	-	453.000	RHS	443.000	Both
8	-	-	-	-	-	-	454.600	LHS	447.200	RHS
9	-	-	-	-	-	-	469.800	LHS	448.400	RHS
10	-	-	-	-	-	-	471.800	LHS	452.200	LHS
11	-	-	-	-	-	-	-	-	453.400	RHS
12	-	-	-	-	-	-	-	-	465.600	LHS
13	-	-	-	-	-	-	-	-	468.200	LHS
14	-	-	-	-	-	-	-	-	472.000	LHS

Bar Chart:


Durg Section
KM:405+000
R.H.S
L.H.S
Petrol-pump 413.600
Temple 414.000
413.200 Petrol-pump
Hospital
416.800 Petrol-pump
420.300
Forest Area
422.400
420.300
Forest Area
422.400
Temple 428.000
Temple 430.600
431.800
Forest Area
431.800
Forest Area
Temple 434.800
Police Station 435.000
434.700
Temple 437.000
Petrol-pump 438.400
Petrol-pump 439.600
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Hospital 454.000
452.600 School 452.200 Temple 452.800 Petrol-pump
453.400 Temple
454.600 Petrol-pump
School 457.600
458.000
458.000
Forest Area
461.200
Forest Area
461.200
465.600 Temple
468.200 Temple
469.800 Petrol-pump
School 470.400
Hospital
470.400 Police Station
471.600 School
472.000 Temple
474.000 School
481.800 Hospital
Nagpur
KM: 485+000
R.H.S
L.H.S

Safety Control Measures at Hot Spot

Police Station
Safety precautions at Hot Spots


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board

Provision of stop sign before hot spot zone.

Provision of Police station sign board

Hospital's
Safety precautions at Hot Spots

Provision of Hospital Ahead Sign Board


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before hot spot zone.


Provision of Solar Blinker before hot spot zone.

School / College =
Applicable preventive measures taken at hot spot location

Provision of School Ahead Sign Board


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before school zone.


Provision of Solar Blinker before school

Petrol Pump = Safety precautions at Hot Spots

Provision of Petrol pump sign board

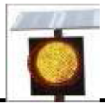

Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before school zone.


Provision of Solar Blinker before school

Project:- NH-06 Bhandara (Road Accidents Compliance Report)					
Sr. No.	No of Chainages	No of Accidents	Reason of Accidents	Existing Safety Facilities	Spot Evidence
1	444	2	Unauthorized Median Opening	Unauthorized Median Opening Closed	
2	447	2	Unauthorized Median Opening	Unauthorized Median Opening Closed	
3	448	2	Height of Median Plants is more than 1.5 mt. near median opening	Height of Median Plants is now cut up to 1.0 mt.	
4	449	3	Height of Median Plants is more than 1.5 mt. near median opening	Height of Median Plants is now cut up to 1.0 mt.	
5	451	2	Padastrains & Cycles Are Travelling on 4 Lane	Service Road is alredy Provided. Padastrains & Cycles Should be Travell on Service Road. & Highway Police. Should Chalan & Insist to Public for use of Service Road.	
6	452	4			
7	453	2			
8	454	2			
9	460	2	Forest Delink Area	Existing 2 Lane Road Should be 4 Lane	
10	465	4	Padastrains & Cycles Are Travelling on 4 Lane	Service Road is alredy Provided. Padastrains & Cycles Should be Travell on Service Road. & Highway Police. Should Chalan & Insist to Public for use of Service Road.	
11	466	2	Unauthorized Median Opening	Unauthorized Median Opening Closed	
12	477	2	Unauthorized Median Opening	Unauthorized Median Opening Closed	

o/c

ASHOKA

Ashoka Buildcon Limited

To,
The Police Inspector,
Deori Police Station,
Deori; Dist. Gondia.

Date :- 30.01.2015

Subject :- Violation of Traffic Rules by local Public at NH.No-...06.

Dear Sir,

With reference to above subject, our Patrolling team has observed that the causes of Road Accidents are listed below:

1) Wrong side vehicles movement nearby petrol pump, hotels, dhabas etc.
2) Unauthorized opening near residential area & commercial places & its public movement.
3) Unauthorized parking on NH-06
4) Overloaded vehicle on NH-06
5) Slow Motion Vehicles like Tractors, Tri -wheelers etc.

We would like to request you that, please look into this matter and identify violator to reduce the Road Accidents if this type violations identified and enforcement activity activated for challen/ fine the public will follow the right track with right speed and follow the traffic rule and regulations.

The chainages where repetitive accidents were found are listed below:

Accident Prone Places	Chainages No
Petrol pump, hotels, dhabas (Where we found wrong side vehicles movement)	
1. Petrol Pump :	407, 417, 438.
2. Hotel:	406, 407, 411.
3. Dhabas :	407, 424, 426, 439.
4. Other places (Religious Places) :	-
Unauthorized opening near residential area & commercial places	407, 411, 420, 426, 438.
Unauthorized Parking	442.

For, **Ashoka Highways (Bhandara) Ltd.**

पोलीस निरिक्षक
पो.स्टे. देवरी जि.

Authorised Signatory

Copy to: The Traffic Incharge Highway Police Duggipar, Dist. Gondia.

ASHOKA

o/c

Ashoka Buildcon Limited

To,
The Police Inspector,
Sakoli Police Station,
Sakoli; Dist. Bhandara

Date :- 30.01.2015

Subject :- Violation of Traffic Rules by local Public at NH.No-...06.

Dear Sir,

With reference to above subject, our Patrolling team has observed that the causes of Road Accidents are listed below:

1) Wrong side vehicles movement nearby petrol pump, hotels, dhabas etc.
2) Unauthorized opening near residential area & commercial places & its public movement.
3) Unauthorized parking on NH-06
4) Overloaded vehicle on NH-06
5) Slow Motion Vehicles like Tractors, Tri -wheelers etc.

We would like to request you that, please look into this matter and identify violator to reduce the Road Accidents if this type violations identified and enforcement activity activated for challen/ fine the public will follow the right track with right speed and follow the traffic rule and regulations.

The chainages where repetitive accidents were found are listed below:

Accident Prone Places	Chainages No
Petrol pump, hotels, dhabas (Where we found wrong side vehicles movement)	
1. Petrol Pump :	469, 471.
2. Hotel:	455.
3. Dhabas :	467.
4. Other places (Religious Places) :	-
Unauthorized opening near residential area & commercial places	446, 447, 452, 453, 464, 465, 466, 470, 471, 472, 474, 478.
Unauthorized Parking	485.

For, Ashoka Highways (Bhandara) Ltd.

Authorised Signatory

Copy to: The Traffic Incharge Highway Police Gadegaon, Dist. Bhandara.

AHBL Site Good Practices

Incident Management Team

HSE Awareness Poster displayed at camp premises

Chapter – VII : Natural Resources

Minerals, Aggregates and Soil resource management

Land use Change and Loss of productive/top soil

- To the extent non-agricultural areas to be used as borrow areas
- Top soil to be preserved and laid over either on the embankment slope for growing vegetation to protect soil erosion.
- The Stockpile shall be designed such the slope does not exceed 1:2 (Vertical to horizontal) and the height of the pile will be restricted to 2m
- To prevent any compaction of soil in the adjoining productive lands, the movement of construction vehicles, machinery and equipment will restricted to corridor

The stored topsoil will be utilized for:

- Top dressing of the road embankments and fill slopes.
- Filling up of tree pits, proposed part of compensatory plantation.
- The contractor shall be responsible for working out haul roads with the minimal loss of productive soils, in consultation with the Supervision Consultants

Slope protection and Soil erosion due to construction activities, earthwork, and cut and fill etc.

- Prepare Construction schedule for bridges during non-monsoon season.
- Bio-turning of embankments to protect slopes.
- Slope protection by providing frames, dry stone pitching, masonry retaining walls, planting of grass and trees.
- The side slopes of all cut and fill areas will be graded and covered with stone pitching, grass and shrub as per design specifications.

Soil erosion at earth stockpiles

- The earth stockpiles to be provided with gentle slopes to prevent soil erosion.
- Retention wall/bund to be provided around the storage areas for excavated soil and other construction material to check the flow of solid with storm water in case of rain;

Borrow areas

- Non-productive, barren lands, upland shall be used for borrowing earth with the necessary permissions/consents from land owner and necessary local authorities.
- Depths of borrow pits to be regulated (should not more than 2 Meter).
- Topsoil to be stockpiled and protected for use at the rehabilitation stage.
- Silted/Sediment Lakes, Ponds should be selected as borrow area;
- Use of fly Ash should be done at embankments and other earth work to reduce the

use of Borrow area
- Transportation of earth materials through covered vehicles.
- No Borrow area to be located within ROW
- IRC recommended practice for borrow pits (IRC 10: 1961).
- Borrow areas not to be dug continuously.
- To the extent borrow areas shall be sited away from habituated areas. Borrow areas shall be leveled with salvaged material or other filling materials which do not pose contamination of soil. Else, it shall be converted into fishpond in consultation with land owner/community. Rehabilitation of the borrow areas as per Guidelines for redevelopment of Borrow Areas.

Quarry Operations

- Aggregates will be sourced from existing licensed quarries only.
- Copies of consent/ approval / rehabilitation plan for a new quarry or use of existing source will be verified and their regular compliance to be checked.
- The quarry operations will be undertaken within the rules and regulations in force in the state.

Borrow Areas and Quarries Management Plan:

- The sources for borrow materials, metal quarry and sand quarry shall identified and samples should be tested to determine their suitability.
- Location of source of supply of materials for embankment of sub-grade and the procedure for excavation or transport of material shall be in compliance with the environmental requirements of the MoRTH and as specified in IRC:10-1961.
- The following precautions have to be taken
- To restrict unauthorized borrowing by the contractor No borrow area shall be opened without permission of the supervision Consultant.
- The borrowing shall not be carried out from cultivable lands, unless and until, it shall be agreed upon by the supervision consultant that there is no suitable uncultivable land in the vicinity for borrowing or private landowners are willing to allow borrowing on their fields.
- To avoid any embankment slippage, the borrow areas Will not be dug continuously, and the size and shape of borrow pits will be decided by the Supervision Consultant.
- Redevelopment of the borrow areas to mitigate the impacts will be the responsibility of EPC and Sub Contractor.
- Precautionary measures as the covering of vehicles will be taken to avoid spillage
- During transport of borrow materials. The unpaved surfaces used for the haulage of borrow material will be maintained properly.
- The haul roads and borrows areas will be managed and maintained. Since dust rising is the only impact along the haul roads sprinkling of water will be carried out twice a day along such roads during their period of use.

Borrowing of earth shall be carried out at location recommended as follows:

- **Non-Cultivable Lands:** Borrowing of earth will be carried out up to a depth of 2.0 m from the existing ground level. Borrowing of earth shall not be done continuously. Ridges of not less than 8m width shall be left at intervals not exceeding 300 m. Small drains shall be cut though the ridges, if necessary, to facilitate drainage. Borrow pits shall have slopes not steep than 1 vertical in 4 horizontal.
- **Productive Lands:** Borrowing of earth shall be avoided on productive lands. However, in the event of borrowing from productive lands, under circumstances as described above, topsoil shall be pressed in stockpiles. The conservation of topsoil shall be carried out. At such locations, the depth of borrow pits shall not exceed 45 cm and it may be dug out to a depth of not more than 30 cm after stripping the 15 cm top soil Aside. Elevated lands: at locations where private owners desire their fields to be leveled, the borrowing shall be done to depth of not more than 2 m or up to the level of surrounding fields.
- **Borrow Pits Along Roadside:** Borrow pits shall be located 5m away from the toe of the embankment.
- Depth of the pit should be such that the bottom of the pit shall not fall within an imaginary line of slope 1 vertical to 4 horizontal projected for the edge of the final section of the bank. Borrow pits should not be dug continuously. Ridges of not less than 8 m width should be left at intervals not exceeding 300 m. Small drains should be cut through the ridges to facilitate drainage.
- **Community/Private Ponds:** Borrowing can be carried out at locations, where the private owners (or in some cases, the community) desire to develop lands (mostly low-lying areas) for pisciculture purposes and for use as fishponds.
- **Borrow Areas Near Settlements:** Borrow pit location shall be located at least 1 km from villages and settlements. If unavoidable, they should not be dug for more than 30 cm and should be drained.

Compaction of soil due to movement of vehicles and equipments.

- Construction vehicles, machinery, and equipment to be stationed in the designated ROW to avoid compaction.
- Approach roads/haulage roads shall be designed along the barren and hard soil area to reduce the compaction.
- Transportation of quarry material to the dumping sites through heavy vehicles shall be done through existing major roads to the extent possible to restrict wear and tear to the village/minor roads.
- Damaged village roads/haul road should be restored immediately;
- Land taken for construction camp and other temporary facility shall be restored to its original conditions;
- Provision of dedicated path within the site for exclusive entry and exit of the construction vehicles;

Contamination of soil due to leakage/spillage of oil, bituminous and non

bituminous debris generated from demolition and road construction.

- Construction vehicles and equipment will be maintained and refueled in such a fashion that oil/diesel spillage does not contaminate the soil.
- Fuel storage and refueling sites to be kept away from drainage channels/ water bodies (river, pond lakes, community water resources).
- Unusable construction demolition debris shall be dumped in ditches and low lying areas.
- Waste oil and oil soaked cotton/ cloth shall be stored in containers labeled 'Waste Oil' and 'Hazardous' sold off to MoEF/SPCB authorized vendors;
- Oil, grease, fuel and chemicals should be stored on concrete plat form with HDPE sheet,
- Non-bituminous wastes to be dumped in borrow pits with the concurrence of landowner and covered with a layer of topsoil conserved from opening the pit.
- Scarified bituminous should be milled and reused on embankment and other rural roads;
- Bituminous wastes will be disposed off in an identified dumping site approved by the State Pollution Control Board
- Soil quality monitoring to be under taken as per monitoring plan, SPCB, MoEF requirements

Contamination due to use of fly ash

- Use and disposal of fly ash as per fly ash notification.
- Fly ash to be used sandwiched between good earth layers after the proper approval from NHAI Consultant / Independent Engineer / NHAI PIU.

Water resource strategy

Construction water

Source the requirement of water preferentially from ground water but with prior permission from the concerned authority.

- Take all precaution to minimize the wastage of water in the construction process/ operation.
- Water intensive activities should not to be undertaken during summer period (April, May June)
- Monitor and Measure the Water

Alteration in surface water hydrology due to embankment

- Existing drainage system to be maintained and further enhanced.
- Provision of adequate size and number of cross drainage structures.
- Sections of the corridor to be raised suitably along flood prone areas with the cross drainage structures and adequate side drains to be built.

Siltation in water bodies due to construction activities/earthwork

- Bridge construction in non-perennial streams to be limited to the dry season.
- Silt/Sediment trap to be provided.
- Embankment slopes to be modified suitably to restrict the soil debris entering water bodies.
- Provision of Silt fencing shall be made at water bodies.
- Silt/sediment should be collected and stockpiled for possible reuse as surfacing of slopes where they have to be re-vegetated;
- Construction material and demolition waste of existing bridges etc shall be periodically removed and no material shall be stored at the river bed during monsoon or water flow in the rivers;
- Natural flow of the river should not be disturbed;
- Earthworks and stone works to be prevented from impeding natural flow of rivers, streams and water canals or existing drainage system.

Deterioration in Surface water quality due to leakage from vehicles and equipments

- No vehicles or equipment should be parked or refueled near water-bodies, so as to avoid contamination from fuel and lubricants;
- Oil and grease traps and fueling platforms to be provided at re-fueling locations.
- All chemicals and oil shall be stored away from water and concreted platform with catchment pit for spills collection;
- Construction material and other waste from river bed/ channel, other water bodies should be removed,
- Storage of material shall be away from the water bodies,
- All equipment operators, drivers, and warehouse personnel will be trained in immediate response for spill containment and eventual cleanup.
- Construction camp to be sited away from water bodies
- Wastes must be collected, stored and taken to approve disposal site only.
- Water quality shall be monitored periodically as per the requirement of SPCB/ MoEF/EIA.

Air Quality improvement

Climate and Air Quality

Site Project In-charge will

- Do Compensatory Plantation (1:3) and as per the guideline of Divisional forest department. Tree Plantation Guideline is attached
- Do the additional plantation on river banks, borrow areas and sensitive locations will also prevent deterioration of the local climatic conditions
- Avoid of use of wood as fuel in labor camps and Project site office etc.
- Make Provision of kerosene and/or LPG gas for cooking at labor camp;
- Do Plantation of pollutant absorbing trees at congestion locations and /or whenever applicable.
- Make Provision of junctions at major intersections and flyovers, ROB for congestion free movement of traffic as per Schedule-B of concession Agreement.

Dust generations due to construction activities and transport, storage and

handling of construction materials.

- Site development during construction of Project office, Labor Camps, HMP, WMM, Crusher Plants, Stockyard etc.
- Transportation, loading and unloading of loose and fine materials through covered vehicles.
- Storage areas to be located downwind of the habitation area.
- All stockpiles to be covered while uncovered stockpiles and transfer points will be periodically water sprinkled to minimize fugitive dust generation.
- Dust generating activities to be avoided in conditions of high wind (particularly during summer season) and loose construction material to be covered at construction site
- Vehicle speed to be restricted to 15 km/hr at site, haul roads to minimize potential for dust generation in the surroundings
- Trucks/ dumpers to be covered by tarpaulin sheets during off site transportation of friable construction materials and spoil
- Water sprinkling on unpaved roads within the Proposed Project site and Haul road to avoid dust generation;
- Housekeeping of the area (Project site, Camp site, Labor camps, Stockyard, etc) to be maintained by deputing sweepers to remove dirt/debris from the floors/sites on daily basis
- Water sprinkling on earthworks, unpaved haulage roads and other dust prone areas at regular interval.
- Development of green belt around Crushers, and other Plants and Machineries
- Provision of PPEs to workers.

Emissions from vehicles, equipment and Machineries

- Regular maintenance of machinery and equipment
- Preventive Maintenance Schedule and All Machinery Should have it own History Sheet
- Ensure that all the vehicles entering the site will have valid PUC (Pollution under control) certificate; Idling should not be allowed. Machinery to be turned off when not in use
- Crusher, RMC Plant, asphalt mixing plants, CRMB Plant at downwind (1km) direction from the nearest settlement.
- All Plant and Machinery Such as Crusher, WMM, HMP, RMC, DG Set & CRMB Plant licensed by the Local Authority, SPCB and Factory Inspectorate shall be used.
- Diesel generators meant for emergency power supply to be regularly maintained so as to ensure that emissions from fuel combustion remain at design levels. Also to ensure stack height of 1.5 m above the roof level of the shed meant for diesel generators to meet the stack height requirement as specified by CPCB;
- Low sulphur fuel to be used for operation of DG set and other plants and machineries.
- Regular Ambient air quality and stack monitoring should be carried out as per the ACL –Environmental Monitoring Plan for Road Project, Camp sites, & Toll Plaza. ACL

–Environment monitoring Plan for Air, Water, Soil and Noise is prepared

Noise from construction vehicle, equipment and machinery.

- All equipment to be timely serviced and properly maintained & carry out the preventive maintenance of machineries and vehicles.
- Bottlenecks to be removed, major intersections to be provided with interchange / flyovers as per schedule-B Concessions Agreement.
- Construction equipment and machinery to be fitted with noise silencers and maintained properly.
- Timing of noisy construction activities shall be done during night time and weekends when there are no activities by the sensitive receptor, concurrent noisy operations may be separated to reduce the total noise generated, and if possible re-route traffic during construction to avoid the accumulation of noise beyond standards. Else provision of temporary noise barrier at sensitive locations;
- Initiation of multi-layered plantation, to serve as mitigation option for operation phase
- Provision of rubber puddings/ noise isolators at equipment /machinery used for construction;
- Noise prone activities need to be restricted to the extent possible during night to reduce the noise impact. There is also requirement of providing make shift noise barriers surrounding the high noise generating construction equipment;
- Site workers working near high noise equipment to use personal protective devices to minimize their exposure to high noise levels;
- Honking restrictions near sensitive receptors;
- Noise monitoring should be carried our as per ACL Environmental Monitoring Plan
- In high noise area, use of Ear Plug / Ear Muff is compulsory.

Sr. No.	Particular	Impact	Reason	Mitigation/Enhancement
1	Meteorological factors and climate	Meager Impacts	Conversion of land in to paved surface	• Avenue of tree plantation
2	Dust generation	Short term	Site clearance activities, removal of trees and loading/unloading of construction material	• Sprinkling of water • Use of tarpaulin to cover the fine material • Construction plant will be installed in downwind direction
3	Gaseous pollutants	Long term	Construction plant, vehicles etc.	• All the vehicles should be warranted with Pollution under control certificate. • Proper maintenance of the vehicles.

Plantation

Forest & Plantation:

According to the Environmental Protection Act (enacted by MoEF, GoI), the entire linear stretches of roadside plantation along the state/national highways were declared as protected forest. Although the land is under the control of Public Works department, due to it protected status, approval of Central or State government for using the land for widening and rehabilitation must be granted. The above act was amended in 1980 in an attempt to check the rapid deforestation occurring throughout India. At the State level the Government was empowered to declare reserve and protected forest and was also given the authority to acquire land for extension and preservation of the forest. The Act was modified in 1998 by the MoEF. The spirit behind the act was conservation of natural forest and not strip plantation lost.
In case of the road side plantation, the clearance now may be given by the concerned regional offices of the MoE&F, irrespective of the area of plantation lost. While issuing the approval, the normal provision of compensatory afforestation, it stipulates a condition that for every tree cut at least two trees should be planted.

Flora and Fauna :

- The trees to be cleared in course of construction should be replaced by double in number.
- Species suitable to the locality and climate should be planted.
- Two-year-old seedlings of fast growing species are chosen. Advance plantation prior to the road construction will help in establishment of the plantations. The species like *Mangifera indica, Azadirachta indica, Acacia auriculiformis, Ficus bengalensis, Ficus religiosa* etc should be planted. The budget for such afforestation should be provided.
- Multi row planting should be encouraged than single row. The vegetal cover along the row near to the settlements should cover at least 10 meters both sides.

Plantation

- Depending on the availability of Right of way, plantation pattern should be as follows:
- 1. The first row along the highways will be of small to medium sized ornamental trees.
- 2. Subsequent rows, depending on the availability of width, will comprise of ornamental and or shade bearing species of more height than those in the first row.
- 3. planting of dwarf shrub in the median, provide glare free travel to the road user during night time.
- 4. Planting of herbaceous species are ground cover in the median , special landscape and the embankment slopes.
- 5. Turfing with grass in the median , special landscape and embankments.

Tree plantation on the road side:

- The first and second row of plantations along the highway, except the last row , should be worked out based on the land availability of the RoW along the various sections. Following are recommended species for Roadside plantation :

Sr. No.	Soil	Botanical Name	Local Name	Flowering month/Colour
1	Normal loamy soil	*Acacia auriculiformis*	Vilayati babool	Sep-Oct/yellow
2		*Bauhinia Sps*	Kachnar	Femar/pink
3		*Cassia fistula*	Amaltas	May/Yellow
4		*Cassia nodusa*	Cassia	May-june/pink
5		*Delonix regia*	Gulmohar	May/yellow
6		*Jacaranda mimosarfolia*	Jacaranda	April/blue
7		*Peltophorum ferrugineum*	peltophorum	Oct/yellow
8	Water logged areas	*Cordial dictma*	lasoda	
9		*Syzygium cumini*	Jamun	
10		*Terminalia arjun*	Arjun	
11	Alkaline soils	*Albizzia lebbek*	Kalasiris	
12		*Pongamia pinnata*	Kanji	
13		*Terminalia arjun*	Arjun	

Species recommended for second and Subsequent row:

Sr. No.	Soil	Botanical Name	Local Name
1	Normal Loamy Soil	*Albizzia lebbek*	kalasiris
2		*Pongamia pinnata*	kanji
3		*Terminalia arjun*	Arjun
4		*Malia azadiracta*	Bakain
5		*Dalbergia sissoo*	Shisham
6		*Gravilea robusta*	Silver Oak

Project :- NH - 06 Bhandara (MS) Km. 405 to 485											
Statement Showing The Present Status of Avenue & Median Plantation											
Sr. No.	KM		Avenue Plantation						Median Plantation		Remark
			Total No of Plants Required			Actual Plants as on Date			Total No of Plants Required	Actual Plants as on Date	
	From	To	LHS	RHS	Total	LHS	RHS	Total	Median	Median	
1	405.000	406.000	17	17	34	0	0	0	667	760	
2	406.000	407.000	84	84	168	50	21	71	667	760	
3	407.000	408.000	84	84	168	65	10	75	667	853	
4	408.000	409.000	84	84	168	50	0	50	667	753	
5	409.000	410.000	84	84	168	35	0	35	667	894	
6	410.000	411.000	84	84	168	42	0	42	667	916	
7	411.000	412.000	84	84	168	49	0	49	667	843	
8	412.000	413.000	84	84	168	25	0	25	667	600	
9	413.000	414.000	0	0	0	0	0	0	667	421	Arban Area
10	414.000	415.000	84	84	168	0	18	18	667	814	
11	415.000	416.000	84	84	168	22	0	22	667	760	
12	416.000	417.000	84	84	168	8	0	8	667	673	
13	417.000	418.000	84	84	168	69	26	95	667	903	
14	418.000	419.000	84	84	168	0	0	0	667	929	
15	419.000	420.000	84	84	168	36	7	43	667	762	
15	419.000	420.000	84	84	168	36	7	43	667	762	
16	420.000	421.000	0	0	0	0	0	0		300	Delink Forest Area
17	421.000	422.000	0	0	0	0	0	0			Delink Forest Area
18	422.000	423.000	84	84	168	0	0	0	667	436	
19	423.000	424.000	84	84	168	0	0	0	667	819	
20	424.000	425.000	84	84	168	0	0	0	667	687	
21	425.000	426.000	84	84	168	0	0	0	667	730	
22	426.000	427.000	84	84	168	27	18	45	667	646	
23	427.000	428.000	84	84	168	45	0	45	667	603	
24	428.000	429.000	84	84	168	71	13	84	667	816	
25	429.000	430.000	84	84	168	70	39	109	667	688	
26	430.000	431.000	84	84	168	40	5	45	667	711	
27	431.000	432.000	84	84	168	30	0	30	667	508	
28	432.000	433.000	0	0	0	0	0	0			Delink Forest Area
29	433.000	434.000	0	0	0	0	0	0			Delink Forest Area
30	434.000	435.000	0	0	0	0	0	0		175	Delink Forest Area
31	435.000	436.000	0	0	0	11	15	26	667	836	Arban Area
32	436.000	437.000	0	0	0	49	39	88	667	706	Arban Area
33	437.000	438.000	0	0	0	18	44	62	667	812	Arban Area
34	438.000	439.000	84	84	168	25	54	79	667	694	
35	439.000	440.000	84	84	168	34	57	91	667	565	
36	440.000	441.000	0	0	0	0	0	0	667	577	

36	440.000	441.000	0	0	0	0	0	0	667	577	
37	441.000	442.000	0	0	0	0	0	0	667	307	
38	442.000	443.000	0	0	0	0	0	0	667	65	Arban Area
39	443.000	444.000	0	0	0	0	0	0	667	568	
40	444.000	445.000	84	84	168	0	15	15	667	704	
41	445.000	446.000	84	84	168	23	31	54	667	818	
42	446.000	447.000	84	84	168	27	45	72	667	682	
43	447.000	448.000	84	84	168	43	48	91	667	787	
44	448.000	449.000	84	84	168	41	65	106	667	634	
45	449.000	450.000	84	84	168	534	339	873	667	312	
46	450.000	451.000	84	84	168	562	378	940	667	495	
47	451.000	452.000	0	0	0	0	0	0	667	300	Arban Area
48	452.000	453.000	0	0	0	0	0	0	667	175	Arban Area
49	453.000	454.000	0	0	0	0	0	0	667	204	Arban Area
50	454.000	455.000	0	0	0	20	15	35	667	225	
51	455.000	456.000	78	78	156	60	71	131	667	712	
52	456.000	457.000	84	84	168	61	80	141	667	819	
53	457.000	458.000	84	84	168	57	85	142	667	736	
54	458.000	459.000	0	0	0	0	0	0			Delink Forest Area
55	459.000	460.000	0	0	0	0	0	0			Delink Forest Area
56	460.000	461.000	0	0	0	0	0	0			Delink Forest Area
57	461.000	462.000	84	84	168	29	79	108	667	602	

69	473.000	474.000	84	84	168	67	94	161	667	681	
70	474.000	475.000	84	84	168	92	79	171	667	702	
71	475.000	476.000	84	84	168	43	90	133	667	639	
72	476.000	477.000	84	84	168	0	42	42	667	725	
73	477.000	478.000	84	84	168	0	0	0	667	702	
74	478.000	479.000	0	0	0	35	44	79	667	862	Arban Area
75	479.000	480.000	0	0	0	39	49	88	667	659	Arban Area
76	480.000	481.000	84	84	168	37	28	65	667	754	
77	481.000	482.000	0	0	0	88	24	112	667	667	Arban Area
78	482.000	483.000	0	0	0	67	46	113	667	619	Arban Area
79	483.000	484.000	84	84	168	105	85	190	667	713	
80	484.000	485.000	84	84	168	145	164	309	667	836	
81	Exesting Plants Maintained By ABL Along Highway		0	0	0	540	337	877	0	0	
82	Plantation at verious Schools,Hospitals , Aanganwadi, Grampanchayat along Highway		0	0	0	262	158	420	0	0	
83	Plantation at Lakhani Camp Area		0	0	0	0	559	559	0	0	
	Total		**4295**	**4295**	**8590**	**4494**	**3998**	**8492**	**48000**	**47638**	

Chapter – VIII : Environment Monitoring / Water Testing

The project site Environmental performance is monitored, measured and verified by the Govt. approved and accredited Environmental Laboratory. Every quarter, the Environmental Analysis (Water, Air & Noise) has been carried out at our Project Site.

Environmental Monitoring Plan for Toll Plaza, Road & Bridge Project

Sr.No	Description of Parameters	Schedule and duration of monitoring
	1. Ambient Air Quality (SPM, RPM, CO, SO_2, NOx)	
1A	During construction phase , In the project camp boundry Four Samples from South, North, East and west sides One sample near admin and project office.	Over 24 hours continuous duration, Frequency :- quarterly basis Total five samples
1B	During construcion phase & operation phase, Village, Urban area, Signal etc	Over 24 hours continuous duration, Frequency :- quarterly basis One Sample
1C	During operation phase At Toll plaza surrounding area	Frequency :- quarterly basis One sample
1D	During operation phase At Suitable Intersection	Frequency :- quarterly basis One sample
	2. Ambient Noise	
2A	During construction phase , In the project camp boundry Four Samples from South, North, East and west sides One sample near Admin and proejct office.	Over 24 hours continuous duration, Frequency :- quarterly basis Total five samples
2B	During construcion phase & operation phase, Village, Urban area, Intersection (Signal) etc	Over 24 hours continuous duration, Frequency :- quarterly basis One sample
2C	During operation phase At Toll plaza surrorunding area	Quarterly basis - One sample
2D	DG Set (Above 50 KVA)	Quaterly basis - One Sample
2E	During construction phase , Crusher	Quaterly basis - One Sample
2F	During construction phase , HMP Plant	Quaterly basis - One Sample
2G	During construction phase , WMM Plant	Quaterly basis - One Sample
2H	During construction phase , RMC Plant	Quaterly basis - One Sample
2I	CRMP Plant	Quaterly basis - One Sample

3. Stack Monitoring (PM, CO, SO_2, NOx) During construcion phase ,		
3A	DG Set (Above 50 KVA)	Quaterly basis - One Sample
3B	Hot Mix Plant - Stack	Quaterly basis - One Sample
4. Water quality (pH, Odour, TDS, TSS, O&G, Sulphide, Sulphate, COD, BOD and O&G, Heavy Metals etc) During construction phase ,		
4A	RMC Waste water and Treated water	Quaterly basis- One Sample
4B	Down stream of Camp-Leachet	Quaterly basis - One Sample
5.Drinking Water quality as per WHO Standard, During construcion phase, During construcion phase		
5A	Labour camp	Monthly basis - One Sample
5B	Project camp and Office	Monthly basis - One Sample
6.Soil Quality (pH, Alkalinity, Acidity, Sulphite, C, N, P, K etc) During construcion phase		
6A	Labour camp	Half yearly - One Sample
	Project camp and Office	Half yearly - One Sample

Consultancy Details for Environmental Monitoring

Enviro
ISO 9001 : 2008

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.
NABET Accredited & MoEF (Govt. of India) approved

B - 1003, Enviro House, Western Edge II, Western Express Highway, Borivali (E), Mumbai - 400 066
Tel.: +91 22 2854 1647 / 48 / 49 / 67 / 68 Fax : +91 22 2854 1290 E-mail : info@eaepl.com
Website : www.eaepl.com / www.enviroanalysts.com

ISO 9001 : 2008

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Tel.: +91 22 2854 1647 / 48 / 49 / 67 / 68 Fax : +91 22 2854 1290 E-mail : info@eaepl.com
Website : www.eaepl.com / www.enviroanalysts.com
CIN : U28900MH1995PTC093129

EAEPL/W/2014-15/080/1 Date: 18.10.2014

ISSUED TO:
Ashoka Buildcon Limited,
Four laning of MH Section of NH-06 from Km 405.000 to km 485.000 in the state of Maharashtra.

Sample Particulars: **Bore Well water at camp km470.00**

Sample Registration Date	: 10.10.2014	Analysis Starting Date :	11.10.2014
Quantity received	: 1 lit	Analysis Completion Date :	17.10.2014
Sampled by	: EAEPL Representative		

TEST RESULTS

Sr. No	Test Parameters	Unit	Method	As per IS : 10500 : 2012 (Drinking Water - Specification)		Results
				Desirable Requirement	Permissible Requirement	
1	Turbidity NTU	NTU	IS : 3025 (Part 10)-1984	5	10	0.2
2	pH Value	-	IS : 3025 (Part 11)-1983	6.5 to 8.5	No relaxation	7.35 at 28°C
3	Total Hardness as ($CaCO_3$)	mg / l	IS : 3025 (Part 21)-1983	300	600	240
4	Iron (as Fe)	mg / l	IS : 3025 (Part II)-2004	0.3	1.0	0.08
5	Chlorides (as Cl)	mg / l	IS : 3025 (Part 32)-1988	250	1000	15.5
6	Total Dissolved Solids (TDS)	mg / l	IS : 3025 (Part 16)-1984	500	2000	430
7	Calcium (as Ca)	mg / l	IS : 3025 (Part 40)-1991	75	200	65.8
8	Magnesium (as Mg)	mg / l	IS : 3025 (Part 46)-1994	30	100	18.3
9	Sulphate (as SO_4)	mg / l	IS : 3025 (Part 24)-1986	200	400	10.8
10	Nitrates (as NO_3)	mg / l	IS : 3025 (Part 34)-1988	45	100	< 0.1
11	Fluoride (as F)	mg / l	IS : 3025 1964	1.0	1.5	0.40
12	Total Alkalinity as ($CaCO_3$)	mg / l	IS : 3025 (Part 23)-1986	200	600	161
13	E. Conductivity at 25°C	µs/cm	IS : 3025 (Part 14)-1984	-	-	618
14	Total Coliform	MPN/100 ml	IS : 1622-1981	Nil	10	Nil

Note: Results relate to tested sample only

REMARKS: Analysis result shows it below the permissible standard hence that it can be used for drinking purpose.

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

Nasik Branch :
Janaki Heights
5, Sambhaji Nagar
Opp. Krishi Nagar Jogging Track
Canal Road, Nasik - 422 005

Nagpur Branch :
Shiv Kunj, Bunglow No. 65
Old Verma Layout
Ambazari
Nagpur - 440 010

Pune Branch :
S. No. 61/1, Bandal Complex
Flat No. 25, Bldg. No. B - 5
Paud Road, Kothrud

Factory :
Plot No. E - 122
MIDC, Tarapur
Boisar

ISO 9001 : 2008

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

NABET Accredited & MoEF (Govt. of India) approved

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Tel.: +91 22 2854 1647 / 48 / 49 / 67 / 68 Fax : +91 22 2854 1290 E-mail : info@eaepl.com
Website : www.eaepl.com / www.enviroanalysts.com

CIN : U28900MH1995PTC093129

EAEPL/Air/ABL/2014-15/080/1 Date: 10.10.2014

Issued to	:	Ashoka Buildcon Limited Four laning of MH Section of NH-06 from Km 405.000 to km 485.000 in the state of Maharashtra.
Sample Particulars	:	Ambient Air Quality
Date of sampling	:	10.10.2014
Duration of sampling	:	24 Hrly Sample collected by : Representative of EAEPL

AMBIENT AIR MONITORING RESULTS

SR. NO.	LOCATION	SPM $\mu g/m^3$	PM 10 $\mu g/m^3$	PM 2.5 $\mu g/m^3$	SO_2 $\mu g/m^3$	NO_x $\mu g/m^3$
1	At Camp Km 470.00	197	59	32	5.5	15.9
2	At Toll Plaza km 449.000	224	63	35	5.2	24.0
Method		IS: 5182 (Part-4) 1999	IS:5182(Part-23) 2006	IS:5182	IS: 5182 (Part-2) 2001	IS: 5182 (Part-6) 2006
CPCB Standards Industrial, Residential, Rural and other Area		-	100	60	80	80

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

Nasik Branch :
Janaki Heights
5, Sambhaji Nagar
Opp. Krishi Nagar Jogging Track
Canal Road, Nasik - 422 005
Tel. : (0253) 2318957, Fax : 2318958

Nagpur Branch :
Shiv Kunj, Bunglow No. 65
Old Verma Layout
Ambazari
Nagpur - 440 010
Tel. : 0712 - 2241835, Telefax : 2241836

Pune Branch :
S. No. 81/1, Bandal Complex
Flat No. 25, Bldg. No. B - 5
Paud Road, Kothrud
Pune - 411 038
Tel.: 020 - 25284408, Telefax : 25284412

Factory :
Plot No. E - 122
MIDC, Tarapur
Boisar
Thane - 401 506
Tel. : 02525 - 261181

ISO 9001 : 2008

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

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B - 1003, Enviro House, Western Edge II, Western Express Highway, Borivali (E), Mumbai - 400 066
Tel.: +91 22 2854 1647 / 48 / 49 / 67 / 68 Fax : +91 22 2854 1290 E-mail : info@eaepl.com
Website : www.eaepl.com / www.enviroanalysts.com

CIN : U28900MH1995PTC093129

EAEPL/N/ABL/2014-15/ 080/1 Date : 10.10.2014

Issued to	:	Ashoka Buildcon Limited Four laning of MH Section of NH-06 from Km 405.000 to km 485.000 in the state of Maharashtra.
Sample collected by	:	Representative of EAEPL

Noise Monitoring Report

Date of Sampling : 10.10.2014

SL. NO.	LOCATION	RESULT (dBA)	
		DAY	NIGHT
1.	At camp km 470.00	51	39
2.	Near Toll Plaza at km 449.000	60	46
CPCB Standards			
	Industrial Area	75	70
	Residential Area	55	45

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

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Janaki Heights
5, Sambhaji Nagar
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Tel.: 020 - 25284408, Telefax : 25284412

Factory :
Plot No. E - 122
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Thane - 401 506
Tel. : 02525 - 261181

Chapter – IX : Safety Performance

PPE Matrix :

ASHOKA
Ashoka Concessions Ltd, Nasik

PPE Matrix for Road & Bridge Construction Worker

Personal Protective Equipment	Working Location details	Life of PPE	IS Code	Approx Prices in Rs
Safety Helmet	Is compulsory for all working activities	One & half year	IS:2925-1984	200- 350
Safety Shoes	Is compulsory for all working activities	One & half year	IS 1989 –1 986 (Pt.2)	350- 750
Reflective Vest	Is compulsory for all working activities	Three Months		150- 300
Dust Mask	Is compulsory for Crusher, WMM, HMP. CRMB and RMC Workers and employees	Ten Days	IS 9473 – 2002	15- 65
Ear Plug	Is compulsory for Crusher, WMM, and HMP. CRMB, RMC and DG Set Workers and employees	Ten Days	IS 9167 – 1979	10-70
Ear Muff	is compulsory if Noise Level is high greater than 85 dB	Two Year	IS 9167 – 1979	350- 1250
Safety goggle	Is compulsory for Crusher, WMM, and HMP. CRMB, RMC and DG Set Workers and employees	Six Months	IS 8940 – 1978 / IS 1179 – 1967	150 - 350
Cotton Coverall / Dungaree	Petrol pump operator and fuelling operator	One year	IS 8519 – 1977	350 - 500
Hand Gloves	Store Person- Cotton Hand Gloves for Bitumen & Concrete laying – Rubber Hand gloves For Electrical work – Shock proof Hand gloves For Welding Work – Heat proof	Ten Days Six Months One Year One Year	IS 4770 – 1968 / IS 2573 – 1986/ IS 6994 – 1973 part I	10 – 25 30 – 60 150- 450 100- 200
Gumboot (Thermal Proof)	Is compulsory for Bitumen & Concrete laying (Gumboot -Heat proof activity and Concreting activity Rubber-gumboot)	Six Months		300 - 500
Welding Glass	Is compulsory for all welding and cutting activity	One year	IS 8940 – 1978 / IS 1179 – 1967	150- 300
Full Body Harness	Is compulsory for working at height above 1.8 M Should be compulsory for Bridge workers who are working at height.	Two Years	IS 3521 – 1999	750 – 1250

Note: - After Issuing the PPE to worker/staff , Self declaration letter should taken from worker/Staff. If Employee/staff/worker found without PPE'S at work zone area or during the working, He will be penalised and warning letter will be issued immediately. Warning letter format is enclosed herewith.

Anilkumar Shimpi
Prepared, Checked and recommended By

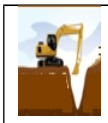
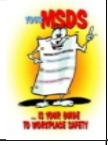
Ashish Kataria
Approved By

Tool Box Talk Form :

Date:	Conducted By :
Project Name:	Location:

Points Discussed :	Job Related Problem Areas/Concerns :
…… …… …… …… …… ……	…… …… …… …… …… ……

election of topic by tick (√):

											
Excavation	Concrete Work Safety	Work With Moving Equipment	Electrical Safety	PPE Matrix	Working At Height	Safety Precautions Of Driving	Work Place Monitoring (Slips And Falls)	Material Safety Data Sheet	Preventive Maintenance Of Vehicles	Material Handling Safety	Flagging Traffic at Work / Flagman Work
(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)

											
Road Barricading And Signage's	Welding Work Safety	Working Near Overhead Lines	Road Maintenance Work	Incident / Accident Reporting	Crane Safety	Lifting & Carrying Safety	Emergency Preparedness	Fire Extinguishers Use	Prevent Oil / Chemical Spillage	5 S System	General First Aid Treatment
(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)

Attendees:

Sr. No.	Name of Employee	Designation	Sign
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

Sign of Area Incharge / Supervisor **HSE Officer** **Section Incharge**

HSE Training

Training are given to employees on various aspects of Environment, Safety and Health. Various training modules are prepared and Training are given as per the training calendar prepared by site safety supervisor and corporate HSE Team

List of Training Modules

Sr. no.	Training Topic
1	ROAD WORKER SAFETY DURING WORKING (Hindi Version) DVD DuPont Sustainable Solution
2	LEADER'S GUIDE & POWERPOINT DVD DuPont Sustainable Solution
3	COMMERCIAL DRIVER CERTIFICATION A License To Drive - (Hindi Version) DVD DuPont Sustainable Solution
4	SAFE DRIVING Real, Real – Life - DVD DuPont Sustainable Solution
5	DEFENSIVE DRIVING A Crash Course (Hindi Version) DVD DuPont Sustainable Solution
6	PRO-ACTIVE SAFETY ATTITUDES Looking Out For Number One (Hindi Version) DVD By Coastal safety solutions
7	CONTRACTOR SAFETY General Requirements (Hindi Version) DVD By Coastal safety solutions
8	SAFETY ORIENTATION It Takes a Winning Attitude (Hindi Version) DVD By Coastal safety solutions
9	AWARENESS ON FIRE, FIRE EXTINGUISHERS By CASEFIRE INDUTRIES LTD
10	BREATH OF AIR By VENUS SAFETY & HEALTH PVT.LTD.
11	HSE for Sustainable Growth National Safety Council
12	ESMS:- Standard Operating Procedure ESSMS:- Environment Safety and Social Management System
13	FIRE FIGHTING, RESCUE, SAFETY AND PPE's BY FOREMOST TECHNICO PVT LTD.
14	CONVEYOR SAFETY 1. General Type 2. Safe Operating Procedure 3. Operating Precautions
15	CRANE OPERATING SAFETY PRECAUTIONS
16	5S AWARENESS TRAINING PROGRAMME
17	ELECTRICAL SAFETY AWARENESS TRAINING
18	EMERGENCY RESPONSE PLAN
19	FIRE EXTINGUISHERS AND ITS USE
20	FIRST AID ON ROAD ACCIDENTS
21	AWARENESS ON HIRA
22	TRAINING PROGRAMME ON MSDS
23	SAFETY PRECAUTIONS AT WORK ZONE
24	QHSE MANAGEMENT SYSTEM
25	TRAINING ON MACHINE GAURDING
26	GENERAL SAFETY RULES AND USE OF PPE
27	ENVIRONMENTAL IMPACTS OF CONSTRUCTION ACTIVITY AND SITE CONTROL PRACTICES
28	WORKING AT HEIGHTS
29	SAFE STORAGE AND HANDLING OF GAS CYLINDERS
30	Monsoon Safety Tips
31	IFC HSE Management Systems
32	Environmental Aspects of Construction

IDLH / HIRA and Control Measures

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK – 422 011			
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/03	REF.: WI/CO/DO/PR/HSE/27		Pages : 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date : 1st Aug, 2013
Title : Hazard Identification, Risk Assessment and determining controls (Risk Register)			
SITE:	Road Project		

Sr. No.	Dept/ Area	Activity	Hazard	RISK RATING				Control /Remark /SOP
				S	P	Risk Level	Significance	
1	Store	Diesel Store Yard	Fire / explosion	4	3	12	Moderate	SOP No.33
2	Store	Computer Operating	Electric shock due the current leakage	3	2	6	Low	SOP No. 23
3	Store	Storage of Diesel	Fire explosion	4	3	12	Moderate	SOP No. 43
4	Store	Transporting -Internal Truck & dumper	Trap / engulfment	4	3	12	Moderate	SOP No.30
5	Store	Shuttering stacking	Trap / Struck	2	2	4	Low	
6	Store	Cement Bag Stacking	Trap / Engulfment	3	2	6	Low	
7	Store	Consumable Items Stacking	Trap / engulfment	3	2	6	Low	
8	Store	Waste Oil Separation & Storing	Fire / explosion	4	3	12	Moderate	SOP No.34
9	Store	Office work - Office chair & table	Back pain	3	3	9	Low	SOP No.02
10	Store	Office work - Continuous working on Computer	Visual defect - Radiation Hazard	3	3	9	Low	SOP No. 38
11	Q. C. LAB	Testing, usage of chemicals	Inhalation of gases/ vapors	3	2	6	Low	Use of Chemical Mask while Working
12	Q. C. LAB	Handling of cubes	Fall of objects / Body Injury	3	2	6	Low	SOP No. 02
13	Q. C. LAB	Aggregate Test / Soil Test	Exposure of Dust	3	2	6	Low	Use of Proper PPE (Dust mask, Goggle)
14	Q. C. LAB	Bitumen Test	Exposure of Gas / Dust	3	2	6	Low	Use of Chemical Mask while Working
15	Q. C. LAB	Sample Collection from side	Trap / Struck / Fall hazard	3	2	6	Low	
16	Q. C. LAB	Storage of Chemical	Fall /skin irritation due to Leakage	3	2	6	Low	
17	Q. C. LAB	Working on the CBR Machine	Exposure of High Noise / Vibration	3	2	6	Low	Use of Proper PPE (Ear plug / muff if needs)
18	Q. C. LAB	Heating of Chemical & material on Hot plate	Exposure of Heat	3	2	6	Low	
19	Q. C. LAB	Handling of Benzene & Flam-mable Chemicals in Laboratory	Fire / Explosion	3	3	9	Low	SOP No.28, Follow MSDS
20	Q. C. LAB	Bitumen dry material	Inhalation / skin irritation	3	2	6	Low	
21	Q. C. LAB	Handling Bitumen Cube	Burn / Injury	2	2	4	Low	
22	HR & Admn.	Office work - Office chair & table	Back pain	3	3	9	Low	SOP No.38
23	HR & Admn.	Office work - Continuous working on Computer	Visual defect - Radiation Hazard	3	3	9	Low	SOP No.38
24	HR & Admn.	Travelling for Out Duty	Accidents	3	3	9	Low	SOP No. 31
25	Canteen	Cooking (Leakage of Gas)	Fire Hazard	3	2	6	Low	Adequate Ventilation
26	P & M	Running of DG Set	Exposure of High Noise	3	3	9	Low	SOP No.38
27	P & M	working at height	Fall Hazard	4	3	12	Moderate	SOP No.5
28	P & M	Electrical maintenance	Slip, Trips & falls, electric shock from electrically operated machines	4	3	12	Moderate	SOP No.24
29	P & M	Maintenance of machines	Minor injury while working with un guarded machines	2	2	4	low	SOP No.10
30	P & M	Vehicle movement (Truck, Dumper, Excavator, Earth movers)	Serious accident while the movement	4	3	12	Moderate	SOP No.16
31	P & M	Material handling Loading / Un-loading Process	Falling of material,	4	2	8	low	SOP No.03
32	P & M	Cutting and Welding Operation	FIRE HAZARD	4	3	12	Low	SOP No.23
33	P & M	Cutting and Welding Operation	Electric Shock / gas inhalation/Radi-ation	3	3	9	Low	SOP No.27
34	I T	Installation of system and main-tenance	Electric Shock	3	2	6	Low	
35	I T	Programing and support	Visual defect - Radiation Hazard	3	2	6	Low	
36	I T	Refilling of ink in cartridge	Exposure to Ink	2	2	4	Low	
52	Milling ma-chine	Scratch for exiting road	object from machine	2	2	4	Low	
54	SURVEY	Working along the road site	Struck Hazard	2	3	6	Low	OHSMP No.1
55	SURVEY	Movement on road for Survey	Struck hazard	2	3	6	Low	
56	EQA	Tree Cutting	Falling/ Engulfment	2	2	4	Low	
57	EQA	Wood Transportation	Struck and Trip Hazard	2	2	4	Low	
58	EQA	Excavation	Slippery	2	2	4	Low	SOP NO. 9
59	EQA	Excavation	Cave inn /collapse of sides	2	2	4	Low	Benching or shoring should be provided
60	EQA	Excavation	Radioactive, gases, Vapors	2	2	4	Low	
61	EQA	Concerting	Mechanical	2	2	4	Low	
62	EQA	Loading/unloading of cements	Inhalation of dust particles	3	3	9	Medium	OHSMP No.1
63	EQA	EXCAVATION	Falling of person under the pits, minor injury, injury requiring first aid	2	2	4	Low	SOP NO. 9
64	EQA	Shuttering	Trap hazard	2	2	4	Low	
65	EQA	Centering	Slippery	2	2	4	Low	
66	EQA	Shifting Material	Machine Breakdown	2	2	4	Low	
67	EQA	Concreting	Slippery	2	2	4	Low	
68	EQA	Convency	Firing	2	2	4	Low	

69	EQA	Work at height	Fall of person	2	2	4	Low	safety belt / safety helmet / safety net etc.
70	EQA	Crane installation	Fall down material	3	2	6	Low	
71	EQA	Material handing	Friction / cuts	2	2	4	Low	Hand gloves
72	EQA	scaffolding fixing	Spelt hand	3	2	6	Low	
73	EQA	Diversion	Roads Accidents	3	2	6	Low	Solar Blinker for night .
74	EQA	RE - Wall fixing	Accidents	3	2	6	Low	Fixing for wood box with nut bolts & supports wooden bel-lies.
75	EQA	H.D.P Pipe work waterline	Fire	2	2	4	Low	Provide fire Extinguisher site security.
76	HOT MIX PLANT	Bitumen unloading	Fire (Due to static Electricity)	2	3	6	Low	
77	HOT MIX PLANT	Bitumen Heating in the tank	Fire (Due to the over heating & leak-age))	3	2	6	low	
78	HOT MIX PLANT	Supply of Electrical energy	Short circuit due electrical appliances	4	2	8	Low	
79	HOT MIX PLANT	Inspection & Routine Maintenance	Falling from Height	4	2	8	Low	SOP NO.5
80	HOT MIX PLANT	Loading of Hot mix	Exposure of Heat	4	2	8	Low	
81	LABORAT-ORY	Test Soil Density Gauge	Radiation (NDT Machine)	2	2	4	Low	

Risk Matrix							
Severity	High	4	4	8	12	16	20
		3	3	6	9	12	15
		2	2	4	6	8	10
		1	1	2	3	4	5
	Low	0	1	2	3	4	5
	Low						High
	Probability						

Colour Code	Rating	Risk Level
High	16 to 20	HIGH IMPACT RISK – Must implement extensive risk controls.
Moderate	10 to 15	MODERATE RISK – Conduct formal risk analysis; may require risk controls
Low	< 9	LOW RISK – Some risk controls may still be justified

Environmental Aspect Impact and Control Measures

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK – 422 011			
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/01	REF.: WI/CO/DO/PR/HSE/28		Pages : 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date :
Title : Identification of Environmental Aspects and Impacts and control significant impacts (Environment Aspects register)			
SITE			Road Project

Sr. No	Dept/ Area	Activity	Aspect	Direct / Indirect D/I	Impact	Condition	Rating						Significance	Control Measures
							A	B	C	D	E	F		
							Legislation	Impact	Occurrence	Control	Detection	F=BxCxDxE		
1	HR/ADMIN	House Keeping	Dust Inhalation	I	Air Pollution	N	N	1	2	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
2	HR/ADMIN	Urinal Facility	Biodegradable waste generation	I	Water Pollution and Land Contamination	AN	N	2	1	1	1	2	Low	SOP No. 44
3	HR/ADMIN	Depositing of Biodegradable waste	Biodegradable waste generation	D	Contamination of land and water	N	N	1	2	1	1	2	Low	SOP No. 44
4	HR/ADMIN	Usage of Electricity	Usage of Natural Resources	D	Resource wastage	N	N	1	2	1	1	2	Low	Energy Saving Tips
5	EQA	Concreting	Generation of Cement Dust	I	Air Pollution	N	NA	1	2	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
6	P & M	DG Set Running	Generation of Noise	D	Noise Pollution	N	Y	1	3	2	1	6	HIGH	Chapter N.7, Environment Management Practices / DG Set kept at isolated area, with lock & key
7	P & M	Transportation of vehicles	Generation of Noise	D	Noise Pollution	N	Y	1	3	2	1	6	HIGH	Chapter N.7, Environment Management Practices- Noise Level Management
8	P & M	Drilling / Cutting	Fumes and Sound generation	D	Noise Pollution	AN	NA	1	2	1	1	2	Low	Chapter N.7, Environment Management Practices- Noise Level Management
9	P & M	Welding, Gas Cutting	Fumes and Sound generation	D	Air Pollution	N	NA	1	1	2	1	2	Low	
10	P & M	Preventive Maintenance	Usage of Oil, Diesel	D	Land Contamination	N	YES	2	1	1	2	4	HIGH	Disposal through Authorized Dealer
11	P & M	Running of RMC Plant : Loading of Aggregate to Feeding point by Dozen	Generation of Dust	D	Air Pollution	N	YES	2	1	1	1	2	HIGH	SOP No. 45
12	P & M	Running of RMC Plant : Loading of Aggregate to Feeding point by Dozen	Generation of Noise	D	Noise Pollution	N	YES	2	1	1	1	2	HIGH	
13	P & M	Running of Conveyor Belt Manufacturing of RMC-	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual the conveyor belt is completely covered)
14	P & M	Diesel Distribution	Leakages, Spillages	D	Land Contamination	AN	N	2	1	1	1	2	Low	
15	P & M	Depositing of Non-bio-degradable waste	Electrical wastages, wire pieces etc.	D	Contamination of land and water	N	N	2	1	1	1	2	Low	
16	P & M	D.G. Set Chimney Operation	Chimney height, air pollution	D	Smoke Emission (Air Pollution)	N	N	1	2	1	1	2	Low	
17	P & M	Maintenance work	Wastage after the maintenance such as Oil soak cotton waste, Engine oil container	D	Land Contamination	N	Y	1	2	1	1	2	Low	Disposal through Authorized Dealer

18	P & M	Maintenance work	Waste Oil generation	D	Land Contamination	N	Y	1	2	1	1	2	Low	Disposal through Authorized Dealer
19	P & M	Transportation of RMC by TM	Dust generation	D	Air Pollution	N	N	1	4	1	2	8	High	EMP. No. 5
20	P & M	TM Cleaning	waste water generation	D	Water pollution	N	Y	1	4	1	2	8	High	As EMP No 1 conventional treatment was fail due to this New EMP No.4
21	P & M	Vehicle Movement	Dust generation	D	Air Pollution	N	N	1	4	1	2	8	High	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
22	RMC-Operation	Manufacturing of RMC- Transportation of Aggregate by Dumper	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
23	RMC-Operation	Manufacturing of RMC- Transportation of Aggregate by conveyor belt	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual the conveyor belt is completely covered)
24	RMC-Operation	Manufacturing of RMC - Feeding of cement	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
25	RMC-Operation	Manufacturing of RMC - Washing of RMC Plant	Generation of waste water	D	Water Pollution	N	Y	2	2	1	1	4	Low	EMP. No. 1
26	RMC-Operation	Use of Admixtures	Generation of Empty barrels of Admixture	D	Land Contamination	N	Y	1	2	1	1	2	Low	Sending to Authorized Dealer
27	RMC-Operation	Use of Cement Bags	Generation of waste cement bags	D	Land Contamination	N	N	1	2	1	1	2	Low	Clean it is ETP Area, Reuse for store/ sending it to authorized person
28	ROAD MAINTENANCE	Repair Work of Block & Panel Crack	Dust Inhalation	I	Air Pollution	AN	N	2	1	1	1	2	Low	
29	ROAD MAINTENANCE	Concreting	Damage of top Soil	D	Land Contamination	N	N	2	1	1	1	2	Low	
30	STORE	Storage of Chemicals	Leakages, Spillages	I	Land Pollution	AN	YES	3	1	1	1	3	Low	Chapter No. 10 _Environment Management Manual for RMC Manual (Selling to Authorized vender)
31	STORE	Storage of Cement Bags	Generation of Dust	D	Air Pollution	N	YES	2	1	1	1	2	Low	
32	STORE	Transporting	Dust generation	D	Air Pollution	AN	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual (Vehicle Movement)
33	STORE	Transporting	Use of Natural Resource	I	Air/ Natural Resource	N	NA	1	1	1	1	1	Low	
34	STORE	Storage of Diesel	Spillage of diesel	I	Air, Land	N	NA	1	2	1	1	2	Low	Chapter No. 10 _Environment Management Manual for RMC Manual (Selling to Authorized vender)
35	STORE	Cement Loading/Unloading	Generation of Dust	I	Air, Land	N	NA	1	2	2	1	4	Low	
36	STORE	Diesel Distribution	Leakages, Spillages	D	Land Contamination	AN	NA	1	2	1	1	2	Low	
37	STORE	Storage of LPG cylinders	Leakages, Spillages	D	Air Pollution	E	NA	2	1	1	1	2	Low	
38	STORE	Diesel storage	storage	D	Plant & Machinery.	N	Y	2	1	1	1	2	Low	Chapter No. 10 _Environment Management Manual for RMC Manual
39	STORE	Usage of paper	Improper & unplanned paper consumption	D	Resource wastage	N	N	1	1	1	1	1	Low	
40	STORE	Usage of Electricity	Consumption of Energy	D	Resource wastage	N	N	1	1	2	1	2	Low	

Memorandum :

ASHOKA CONCESSIONS LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK- 422011			
Health, Safety and Environment Work Instructions			
Doc. No.: ABL/FR/CO/DO/PR/HSE/12	REF.: WI/CO/DO/PR/HSE/23		Pages: Page 1 of 1
Issue No: 01	Issue Date: 4th Jan, 2014	Rev. No.: 00	Revision Date : 4th Jan, 2014
Title : Violation Letter			

MEMORANDUM

PROJECT: - Memo. No:

Department:

CONTRACTOR/A.B.L.: Date: Time: Ch. No:

NAME OF EMPLOYEE:

DESIGNATION/TRADE:

MEMORANDUM NO: (A) 1st [ ] (B) 2nd [ ] (C) 3rd [ ] (D) 4th [ ]

TYPE OF VIOLATION (To be Written by HSE Officer):-
(HSE Officer shall attach the evidence of violence such as photograph and IOC issued)

- **Not using the following PPE on duty time.** (Use {√} mark as proper violence option below.)

1) SAFETY JACKET. ☐ 2) SAFETY HELMET. ☐ 3) NOSE MASK. ☐ 4) SAFETY SHOES. ☐
5) HAND GLOVES. ☐ 6) GOGGLES. ☐ 7) EAR PLUG. ☐
8) RUBBER HANDGLOVES ☐
9) WELDING SCREEN. ☐ 10) SAFETY BELT. ☐ 11) GUMBOOT. ☐

- **Any other violence :-**

- **Department Head action against the violator:-**

Sign of employee Sign. Of DH/ Supervisor Sign of HSE Officer Sign of Project In charge

HSE & S and HR & Admin. Department

Head HSE & S Comments:-

DGM (HR & Admin.) Comments:-

IMS Director Comments:-

1st Violation – Warning and information for employee personal file.
2nd Violation – Counseling by project in charge/safety committee.
3rd Violation – Will be treated as monetary loss one day.
4th Violation – Will be treated as suspension letter or final counseling by IMS director.

I. It should be against the Risk Register, Environmental Impact Register, Risk is IDLH (immediate danger to life and health) and legal requirement.
II. Site HSE Officer should write a report and after comments from DH and project in charge should sent to head HSE & S and DGM - HR & Admin.

MASTER COPY
ONLY IF IN RED

Management Representative	
Issued By	

Incident Reporting :

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK –422 011			ASHOKA
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/08	REF.: WI/CO/DO/PR/HSE/32		Pages. 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date : 1st Aug, 2013
Title: Incident / Accident Investigation Report			

"Incident " Report

Name of Project:-		Report No.:
Location:		Date:

Description of the Incident /Accident /Near miss: (Explain what happened -Attach Incident photographs and Use attachment such as sketch if necessary)

Reported By:	Signature:	Time of incident:		Date:

Estimate of Loss Potential (What injuries / losses might have occurred.)

Injuries: -
Property / Equipment Damage:
Environmental Damage: --
Others: -

IMMEDIATE CAUSES				BASIC CAUSES	
1. SUBSTANDARD ACTS/PRACTICES		**2. SUBSTANDARD CONDITIONS**		**3. PERSONAL FACTORS**	
A. Operating equipment without authority	☐	A. Inadequate guards or barriers	☐	A. Capability	☐
B. Failure to warn / secure / barricading	☐	B. Defective tools, equipment, substances	☐	B. Lack of Knowledge	☐
C. Operating / working at improper speed	☐	C. Inadequate tools, equipment, substances	☐	C. Lack of Skill	☐
D. Defeating / removing a safety device	☐	D. Poor access	☐	D. Stress	☐
E. Using defective equipment	☐	E. Inadequate warning system or notice	☐	E. Motivation	☐
F. Using equipment improperly	☐	F. Fire and explosion hazards	☐	**4. JOB/SYSTEM FACTORS**	
G. Failure to use PPE properly	☐	G. Substandard housekeeping	☐	A. Inadequate Leadership	☐
H. Improper loading or positioning	☐	H. Hazardous gases, dust, fumes	☐	B. Inadequate Engineering	☐
I. Improper lifting/loading/Material Handling	☐	I. Excessive noise	☐	C. Purchasing	☐
J. Improper replacement/position for task	☐	J. Radiation exposures / Extrem Tempeture	☐	D. Inadequate Maintenance	☐
K. Servicing equipment in operation	☐	K. Inadequate ventilation / illumination	☐	E. Tools & Equipment	☐
L. Horseplay	☐	L. Weather conditions	☐	F. Procedures & Practices	☐
M. Drinkings or drugs	☐	M. Other (specify) _____	☐	G. Wear & Tear	☐
N. Failure to Comply with PTW	☐			H. Abuse or Misuse	☐
O. Others(specify)	☐			I. Inadequate Supervision	☐

Action/s Taken:

Name of Department Head:-		Signature:	Date /Time:	
Name of Safety Officer:-		Signature:	Date /Time:	

Suggested Further Actions (where appropriate) - To prevent recurrence

HSE committee Secretary:	Signature:	Date:

Comments/Recommendations:

Project Incharge :	Signature:	Date:

Distribution: **Original Copy (Signed)** -with Project site, Scan colour copy:- Head HSE&S, Insurance Head, DGM- HR& Admin

Management Representative	
Issued By	

MASTER COPY
ONLY IF IN RED

Road accident statistics

ASHOKA

Ashoka Concessions Ltd,

Ashoka House, Ashoka Marg Nashik

Format -ACL /FR/HSE/07

National Highways Authority of India

National Highway No : 222. Month : Oct-2014

Sr. No.	Date	Time of Accident pm /am	A	B	C	D	E	F	G	H	Vehicle Responsible	No. of affected persons				Nos. of animals killed if any	Help provided by ambulance / private vehicle	Remarks
			Accident Location	Nature of Accident	Classification of accident	Causes	Road features	Road conditions	Intersection type	Weather conditions		Fatal	Grievous	Minor	Non Injured			
1																		
2																		
3																		
4																		
5																		

A: Urban/Rural and details of surrounding land use.
B: 1) Overturning 2) Head on collision 3) Rear end collision 4) Collision brush side swift 5) Right turn collision 6) Skidding 7) Others (Pl. Specific)
C: 1) Fatal 2) Grievous injury 3) Minor injured 4) Non injury.
D: 1) Drunken 2) Overspeeding 3) Vehicle out of control 4) Fault of driver of motor vehicle/ driver of other vehicle 5) Defect in mechanical condition of motor vehicle.
E: 1) Single lane; 2) Two Lane; 3) Three Lane or more without central divider (median); 4) four lanes or more with central divider.
F: 1) Straight road 2) Slight curve 3) Sharp curve 4) Flat road 5) Gentle incline 6) Steep incline 7) Hump & dip.
G: 1) T Junction 2) Y Junction 3) Four arm junction 4) Staggered junction 5) Junction with more than four arms 6) Round about junction 7) Manned rail crossing 8) Unmanned rail crossing.
H: 1) Fog 2) Mist/fog 3) Cloudy 4) Light Rain 5) Heavy Rain 6) Hail or sleet 7) Snow and strong wind 8) Dust strom 9) Very Hot 10) Other extraordinary weather condition.

Awards

Monthly Safety Awards

Objective-

1. To promote improvements in workplace safety.
2. 100% incident free zone.
3. To create awareness in employees.
4. To change the attitudes and behaviours of employees.
5. To enhance motivation of employees.

Criteria for the monthly safety award to the Employee:		**Ranking**	
1	100% use of PPE's		
2	Implementation of site safety measures		
3	Positive Attitude- Employee must demonstrate a positive attitude about safety, Health & Environment.		
4	Leadership/Initiative- Employee must possess leadership/initiative, employee actively raises and closed safety issues.		
5	Punctuality- Employee must be in good standing with maintaining Safety Health & Environment policy on time and attendance.		
6	Job Performance- Employee must be fulfil the job requirement.		
7	Promotion of Safety – Innovative ideas created by employee to improve safety, Health & Environment.		
8	Relationships- To maintain good relationship with supervisors, co-workers etc.		
9	Performance- Effectiveness and implementation on safety , Health & Environment & motivate to other employees for safety.		
10	Authorise- Employee should be authorised for the particular work. (eg. Driver should be license holder).		
11	Contribute to safety in the work area- Employee should be participate in safety week or any safety programmes.		
12	Communication- Employee recognizes a recurring safety hazard at work area, and communicates the hazard to their supervisor, Safety officer and others, and takes action to properly secure the area from the hazard,		
13	Reporting- Employee must be report about unsafe act, unsafe condition & identification of Hazard/risk to supervisor, safety officer		
14	Near miss reporting		
15	Employee must be non violating of HSE practices.		

Total Marks obtained

%

Percentage for wining Safety Awards.

60 % to 70% - Employee failed for award
70% to 75% - Employee nominate for award
75 % to 85 % - Good Employee
85 % to 90% - Best Employee
90% and above - Excellent Employee

Chapter – X : Emergency Response Plan/ District Disaster Management Plan

The Emergency Response plan is necessary as a moral and legal obligation of management to protect the safety people, property and environment. The objective of this "Emergency Response Plan" is to provide the organizational guidelines and directions to ensure fast and effective response in any emergency situation in order to save life, property and environment.

At any time, it may be necessary to minimize harm to personal, the environment and business operations. Please remember that saving life and property is only possible if the emergency response procedure is effectively followed. This plan shall be followed in all cases of emergency. Therefore, it is imperative that every employee must be familiar and knowledgeable of what to do in case of emergency.

We have formed our Emergency Response Team in each Base Camp to combat with the Emergency situations.

EMERGENCY PROCEDURES

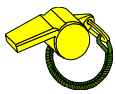
REMOVE

Anyone in immediate danger

ONLY IF SAFE TO DO SO!

ALERT

Others in immediate area
Fire Wardens
Activate Whistle, Air Horn, Bell, Siren etc. **3 times for 30 sec.**
Other Tenants and Adjacent Neighbours

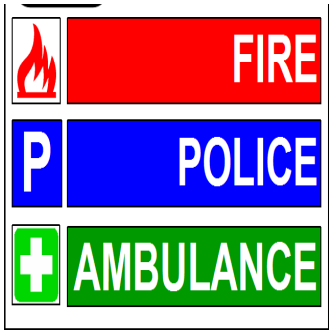



RING THE EMERGENCY SERVICES

☎ Fire Brigade, Police or Ambulance.

- *Advise Site:*
- *Advise address:*
- *Advise nearest cross street:*
- *Provide your Name & phone number.....*
- *Provide details of incident.....*

DO NOT HANG UP UNTIL THE ADDRESS HAS BEEN REPEATED



CONTAIN THE FIRE

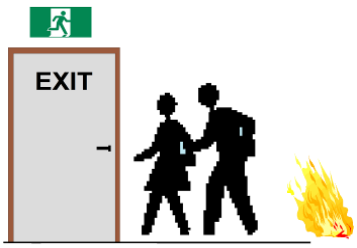
Use correct Fire Extinguisher or Fire Hose Reel
Turn OFF Electricity, Air Conditioning
Close doors and windows to contain fire

ALL IF ONLY IF SAFE TO DO SO!



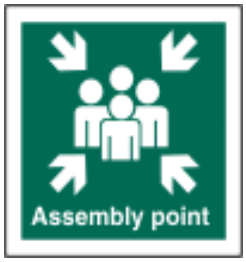

EVACUATE

Proceed to the nearest exit.
Gather together at Exit, if safe to do so, *then*
Evacuate via exit and proceed to the Assembly Area



ASSEMBLY AREA

Conduct Head count, Roll call.
Report to the Emergency Services -Advise missing, provide details of incident.
Do not leave the Emergency Assembly Area or attempt to re-enter the building until given the "All Clear" by the Emergency Services.
Long siren of 1 minute.



First Aid Points Summary

Sr. No.	Location	First aider
1	Camp Office(Store Room)	Mr. Sanjay Chokhandre
2	Security (Camp Entrance)	Security Supervisor
3	HMP Plant / QA-QC Lab	Mr. Ashish Dahake / Mr. Rajiv Gupta
4	With Bitumen browser	Concern person
5	With Ambulance	Ambulance- Paramedical staff
6	Toll Plaza Office	Plaza Paramedical staff

Fire Points Summary

Sr. No.	Location	Fire Extinguishers	Fire Buckets
Fire Point No. 01	Camp Office	5 kg ABC type – 2 nos.	2 nos.
Fire Point No. 02	Diesel Storage Yard	5 kg ABC type – 2 nos.	2 nos.
Fire Point No. 03	HMP plant	5 kg ABC type – 2 nos.	2 nos.

Chapter – XI : Community Engagement Plan

During the construction phase & operation phase, Project affected family/person (PAF/PAP) may get employment in EPC / SPV as per project requirement. At Road Development Projects there is always requirement of manpower and labours during the construction and operation phase, where PAP can get employment. Whenever there is manpower requirement, the company gives the priority to Local community / PAP / PAF.

Company /EPC / SPVs will make a provision of employment for local community and PAP as per capabilities, education and experience, some trades are as follows:

Security	Cook	Machine Helper
Flagmen	Office Boy/Peon	Skilled Labour
Gardener	Driver/Helper	Unskilled Labour

Chapter – XII : Bio-Diversity

The organization has implemented the directives and guidelines stipulated in environment clearness issued by MoEF and State Pollution Control Board, Govt. of Odisha. During the construction phase, various adverse impacts on the ecosystem are anticipated in the surrounding areas of the project in terms of increased noise levels, land vibrations during tunneling and blasting, release of air and water pollutants, etc. Mammals are the most vulnerable group affected by these negative impacts, which affect their movement, behaviour and breeding habit. To avoid and minimize the negative impacts of these activities, we do follow strict guidelines as below:

1. Strict instructions (warnings) have been imposed on the workers at project sites to ensure that they do not harvest any species and/ or produce from the forests and cause any danger or harm to the animals and birds at project territory and forest section.
2. Minimum levels of noise during construction activities are maintained.
3. The fuel wood to the labours are not provided from tree cutting meant for the purpose and/or the provision made for the supply of the free/subsidized kerosene/LPG from the depots being set up for this purpose to avoid forest degradation and destruction of animal habitats.
4. To avoid the deterioration of water quality and release of pollutants into the river, proper sanitation facilities and garbage disposal bins have been provided to the workers camp areas.
5. The interference of human population would be kept to a minimum in the adjacent forested areas and no labour camps have been set up in the vicinity of forests and wilderness areas.
6. We strictly adhere to the rules and regulations of the Wildlife (Protection) Act (1972), Biological Diversity Act (2002), Forest (Conservation) Act (1980), Environment (Protection) Act (1986) and guidelines of State Biodiversity Conservation Strategy Action Plans for the preservation of habitats and protection of wild animals.
7. In case any wildlife found having taken up a refugee in any space in project territory, all construction labours have been instructed to leave that place immediately, trained personnel from Department of Forests and Wildlife Warden's office and approved experts shall be intimated for rescue of such wildlife. Any construction activities to be taken up only after any trapped wildlife finds its safe escape.

8. It has been ensured that the noise levels are kept as minimum as possible in the project area, particularly where human and wildlife habitats are located. For the strict blasting regime, i.e. controlled blasting under constant and strict surveillance are being followed:

   Some of the implemented methodologies for reduction and mitigation of noise so as to cause as little disturbance to the animals as possible are given below:

- Only well maintained/new equipment that produces lesser noise has been installed at the work sites.
- The best way to control the noise is at source. Certain equipment that needs to be placed permanently at one place like generators, etc. are housed in enclosed structures to cut off the noise.
- The heavy equipments, like rotating or impacting machines, are mounted on anti-vibration mountings.
- Wherever combustion engines are required, they are fitted with silencers.
- There are provisions of wind barrier around three sides of storage piles. All storage piles are wetted and covered with plastic sheets. The grading operation remains suspended when speed of wind is very high.

Chapter – XIII : Cultural Heritage

In this project corridor, there is neither any Tribal Community nor Cultural Heritage in the immediate vicinity of the RoW (up to 500 Mtrs).

Chapter – XIV : Checklist of Report Submitted to HO

The detail descriptions of the Reports submitted to HO as per the Frequency are displayed below:

ACL Formats :

Sr. No.	ACL Format No	Detail Description	Frequency
01.	***ACL/FR/HSE/01***	Environment & Social Management Plan	Quarterly
02.	***ACL/FR/HSE/02***	Land Acquisition Summary Report	Quarterly
03.	***ACL/FR/HSE/03***	Hot Spot Details And Issue Report	Quarterly
04.	***ACL/FR/HSE/04***	Legal Matrix Report	Monthly
05.	***ACL/FR/HSE/05***	Legal Compliance	Quarterly
06.	***ACL/FR/HSE/06***	Project Water Consumption Report	Quarterly
07.	***ACL/FR/HSE/07***	Road Accident Summary Report	Monthly
08.	***ACL/FR/HSE/08***	ACL-HSE-Monthly Report	Monthly
09.	***ACL/FR/HSE/09***	Incident Report Format	As and when happen immediate within in 24 hrs
10.	***ACL/FR/HSE/10***	Tree Plantation	Quarterly
11.	***ACL/FR/HSE/11***	NCR-HSE Complaint Summary Report	Monthly
12	***ACL/FR/HSE/12***	Emergency Report (Mock Drill Report)	Quarterly
13.	***ACL/FR/HSE/13***	Road Project GHG Tool	Monthly
14.	***ACL/FR/HSE/14***	Complaint Register	Monthly

HSE Work Instruction Report Formats :

ISO 14064.1
International Standards Certifications

ISO 14064.1:2006

CERTIFICATE OF VERIFICATION

ISO 14064.1:2006 - Greenhouse Gases Part 1

THIS IS TO CERTIFY THAT
THE GREENHOUSE GASES OF

Ashoka Buildcon Ltd.

Head Office
Ashoka House, Ashoka Marg,
Nashik 422 011,
Maharashtra
INDIA

Organisational Boundaries:
Operations & Maintenance Project
Road Constructions Projects
Power Infrastructure Project
Ready Mix Concrete Plants
Toll Operations

Has undergone the verification process and has been verified as complying with the requirements of the Standard shown above for the following Verification Statement:-

Verification of Greenhouse Gas Emission and Removals at the Organization Level for Quantification and Reporting as per ISO 14064 Part - 1.

Ashoka Buildcon Ltd. has established 2013 as its base year for GHG inventory in accordance with GHG policy of measuring, monitoring and minimizing its GHG inventory. The GHG inventory for the base year is 24,541 Tonnes of CO2 and 3,257 Tonnes of "CO2 under Direct Emission and Energy Indirect Emissions respectively" for the period January to December 2013.

Tony Wilde
Group Chairman
ISC Pty Ltd, A.B.N. 31 245 846 984

Registration Number: GHG/R91/0014
Verification Date: 08-Apr-2014

ISC Pty Ltd., 2/10 Gladstone Road, Castle Hill NSW 2154, Sydney, Australia.

ISC INTERNATIONAL STANDARDS CERTIFICATIONS

This certificate is valid until the Expiry Date on the condition that audits are conducted and paid for as per the Certification Agreement. Should this condition not be met, cancellation procedures will be initiated. This Certificate remains the property of International Standards Certifications Pty Ltd and must be returned upon request. It must not be altered in any way. Intentional misuse of this certificate will result in cancellation without prior notification.

Sr. No.	Work Instruction Format No	Detail Description	Frequency
01.	***FR/CO/DO/PR/HSE/01***	Environment Aspects & Impacts Register	Monthly
02.	***FR/CO/DO/PR/HSE/02***	Environment Management Program	Monthly
03.	***FR/CO/DO/PR/HSE/03***	Hazard Identification, Risk Assessment & Determining Controls (Risk Register)	Monthly
04.	***FR/CO/DO/PR/HSE/04***	Occupational Health & Safety Management Program	Monthly
05.	***FR/CO/DO/PR/HSE/05***	Legal Matrix Register	Monthly
06.	***FR/CO/DO/PR/HSE/06***	Waste Management Register	Monthly
07.	***FR/CO/DO/PR/HSE/07***	Waste Water Statistics Register	Monthly
08.	***FR/CO/DO/PR/HSE/08***	Incident/Accident Investigation Report	As and when happen immediate within in 24 Hrs
09.	***FR/CO/DO/PR/HSE/09***	Monthly HSE Report	Monthly
10.	***FR/CO/DO/PR/HSE/10***	HSE & S Monthly Meeting Agenda – HSE – MOM Format	Monthly
11.	***FR/CO/DO/PR/HSE/11***	Weekly HSE Report	Monthly

Last, but not the least, We are glad enough to declare that our organization is IMS certified with Greenhouse Gases Certification.

CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT THE
INTERGRATED MANAGEMENT SYSTEMS OF

Ashoka Buildcon Ltd.

Head Office:
Ashoka House, Ashoka Marg,
Nashik Maharashtra 422 011
INDIA

Has been assessed and registered as complying with the requirements of the International Standards shown below for the following Goods and Services: -

Design, Development, Construction of Roads, Bridges, Industrial Buildings , Residential & Commercial Complexes, Production & Sale of Ready-Mix Concrete, Operations & Maintenance of Road Infrastructure Projects, Power Infrastructure Projects.

ISO 9001
International Standards Certifications

ISO 9001:2008

ISO 14001
International Standards Certifications

ISO 14001:2004

OHSAS 18001
International Standards Certifications

OHSAS 18001:2007

Registration No:	QMS/R91/0014	EMS/R91/0014	OHS/R91/0014
Original Registration Date	10-Dec-2009	22-Oct-2007	15-Jul-2008
Recertification Date:	15-Oct-2013	15-Oct-2013	15-Oct-2013
Expiry Date:	15-Oct-2016	15-Oct-2016	15-Oct-2016

Tony Wilde
Group Chairman
ISC Pty Ltd, A.B.N. 31 245 846 984

ISC INTERNATIONAL STANDARDS CERTIFICATIONS

JAS-ANZ
www.jas-anz.org/register

ISC Pty Ltd., Unit 2/10 Gladstone Road, Castle Hill NSW 2154, Sydney, Australia.

This certificate is valid for 3 years from the date of certification on the condition that audits are conducted and paid for as per the Certification Agreement. Should this condition not be met, cancellation procedures will be initiated and the client will be removed from the JAS-ANZ register. This Certificate remains the property of International Standards Certifications Pty Ltd and must be returned upon request. It must not be altered in any way. Intentional misuse of this certificate will result in cancellation without prior notification. Certificates can be checked through certcheck@isc-worldwide.com