EXECUTIVE SUMMARY

of

Draft Environmental Impact Assessment & Environmental Management Plan Report

(Submitted for Public Hearing as per the provisions of
EIA Notification 2006 & amendments thereof)

For

PROPOSED 3.0 MTPA
CEMENT GRINDING & PACKING UNIT

(Project Area: 26.10 Ha)

Located at

Plot No. 3, Nardana Industrial Area, MIDC Phase 1
Village : Waghode, Tehsil : Shindkhede District - Dhule
(Maharashtra)

Project Proponent:

Ultratech Cement Limited

Registered Address: B-Wing, Ahura Center, 2nd Floor,
Mahakali Caves Road, Andheri (E), Mumbai

Environmental Consultant

Creative Enviro Services

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EXECUTIVE SUMMARY

1.1 INTRODUCTION

UltraTech Cement Ltd is the largest manufacturer of grey cement, ready mix concrete (RMC) and white cement in India. It is also one of the leading cement producers globally, and the only cement company globally (outside of China) to have more than 100 million tonne capacity in one country.
It has a consolidated capacity of 117.35 Million Tonnes Per Annum (MTPA) of grey cement. UltraTech Cement has 23 integrated plants, 1 clinkerisation plant, 27 grinding units and 7 bulk terminals. Its operations span across India, UAE, Bahrain, Bangladesh and Sri Lanka.

M/s UltraTech Cement Limited has applied for Environmental Clearance for its proposed 3.0 MTPA Cement Grinding & Packing Unit located in 26.10 Ha area in Plot No. 3, Nardana (Industrial Area), MIDC Phase 1, Village : Waghode, Tehsil : Shindkhede District - Dhule (Maharashtra). The Maharashtra State Govt. through its undertaking Maharashtra Industrial Development Corporation (MIDC) has allotted land admeasuring 2,56,400 Sq. Mts. to UltraTech Cement Limited vide letter No. MIDC/RO(DHL)/NAR/LMS-353/4435 dated 28th September 2015,. MIDC has also allotted land admeasuring 4,647 Sq. Mts. To UltraTech Cement Limited vide letter No. MIDC/RO(DHL)/NAR/LMS-1/1006 dated 31st March, 2016, agreement has been signed on 8th October 2018. The land will be used to set up Cement Grinding & Packing Unit. The proposal is for establishing a Cement grinding & Packing unit of 3.0 MTPA capacity in an area of 26.10 Ha. As per EIA Notification 2006 and subsequent amendments, the project falls in Schedule 3 (b) in Category 'B' and needs Environmental Clearance from SEIAA.

The salient features of the project are given below:

Salient Features of the Project

Name of the Project	Cement Grinding & Packing Plant
Capacity	3.0 MTPA
Project Area	26.10 Hectare
Type of Land/Ownership	Industrial Land (MIDC Nardana, Phase – I)
Site Elevation	187m to 192 m AMSL
Location	Plot No. 3, MIDC Area Nardana Phase I, Village- Malich & Waghode, Tehsil- Sindkheda, District – Dhule,

	Maharashtra
Geographical Co-ordinates	1. 21° 8'53.71"N, 74°51'03.04"E 2. 21° 9'23.76"N, 74°51'13.82"E 3. 21° 9'27.48"N, 74°51'02.07"E 4. 21° 8'57.44"N, 74°50'51.43"E
Nearest Village habitation	Waghode village: 0.6 km S Jatoda Village : 1.25 Km, N Sindkheda Town : 17Km NW Dhule City: 28 Km S Nardana Town 4.25 kms NW
Nearest Town	Sindkheda Town : 17Km NW
Approch Road	State Highway 6: 0.8 km S Mumbai Agra National Highway, NH-3 : 3.5Km W
Nearest Railway Station	Nardana Railway Station, 3.25 km, NW Betawad Railway Station, 3.5 km, NE
Nearest Airport	Shirpur Airport : 25 km N Dhule Airport: 30 km S Indore airport : 200 km N.
Ecologically sensitive zone	No notified ecologically sensitive zone within 10 km radius
Reserved/ Protected forests	R.F.: 8.2 km SW
Historical/tourist places	Songir Fort, 10 km SW
Nearest Industries	Project site falls within MIDC area. Thermal Power plant is being established by M/s Shirpur Power Pvt. Ltd (SPPL) adjacent to the proposed Cement Grinding & Packing Plant.
Nearest water bodies	Panjra River: 4 Km E Tapi River: 12 Km N Lendi Nadi: 3.60 Km W Sagarmoti Nala: 0.120 Km S Lav ki Nadi (9.0 km in SE Direction) Gundal Nallah (1.5 km in East Direction) Doka Nallah: (3.0 km in North Direction) Gangadi Nallah (9.5 km in NE Direction) Dongargaon Village Pond: 8.20 Km S Babhalde Village pond: 7.2 Km SW
Seismic zone	The area is not known for these natural hazards. Seismically, this area is categorized under Zone-III as

	per IS-1893 (Part-1)-2002 having Moderate Damage Risk Zone. In Medvedev–Sponheuer–Karnik scale (MSK) the area falls in MSK VII.

1.2 PROJECT DESCRIPTION

1.2.1 Raw Material requirement & Source

The required clinker shall be sourced from nearby cement plant of the company at Dhar/Awarpur. Required Fly ash will be received by means of pneumatic conveying system / bulk tankers at plant site from M/s Shirpur Power Pvt. Ltd (SPPL) or received through closed tanker from nearest TPP.

REQUIREMENT & SOURCES OF RAW MATERIAL

Sr. No.	Raw Material	Quantity MTPA	Source	Distance in Km.	Mode of Transport	Basis for assessment			
						PPC	OPC	PSC Slag	Composite
1.	Clinker	1.5 to 2.0	UTCL Plants – Dhar, Vikram etc.	~250 km	Rail & Road	65%	95%	45%	55%
2.	Fly ash	0.4 to 0.80	Power Plants	10 to 200 km	Road	28-35%	-	-	20%
3.	Gypsum	0.15	Rajasthan/Chemical Gypsum	600 km	Road	5%	5%	5%	5%
4.	Slag	0.35 to 0.70	Essar Steel/other steel plants	~350 km	Rail & Road	-	-	50%	20%

1.2.2 Process Details

Clinker transport & storage: Clinker will be transported from the integrated Cement Unit of UltraTech Located in Madhya Pradesh (Manawar, Dhar & Vikram Cement Neemuch) and Maharashtra (Awarpur) and other units of UTCL by road/railway to the proposed grinding unit. The clinker will be unloaded through truck tipplers/wagon tippler and a surface feeder which is further conveyed to clinker storage silo of capacity (30,000 Ton) through Conveyor Belt.

Gypsum transport & storage: Gypsum received will be transported through road/rail and unloaded by truck tippler/wagon tippler to belt conveyor and stacked in the covered gypsum stock yard. The required quantity of gypsum shall be fed to steel hoppers through series of belt conveyors.

Fly ash: Fly ash can be sourced from the adjacent Power plant (SPPL) through the pneumatic conveying system into the silo/hopper or received through closed tanker from nearest TPP and further pump to silo/hoppers.

Slag Storage & Handling: Slag will be received through road and will be unloaded and transported to storage by a belt conveyor. Slag will reclaim by pay loader / dozer and fed to hopper for further conveying to Mill hoppers.

Cement grinding: Clinker, Fly ash/Slag and Gypsum is grounded in Ball Mill/VRM and Roller Press. UTCL has proposed to install Ball Mill/VRM with roller press. The required quantities of Raw materials will be fed to the roller press in proportion, high efficiency separator and then to the ball mill. The fly ash shall be fed into the separator directly. The 70 -75 % of the grinding will be done by the roller press and the grounded material will be separated by High efficiency separator and the rejects from the separator will be fed to the ball mill for further grinding. A high efficiency circulating fan will be operated to collect the ground material in the system. The collected ground material will be taken into the cement silos with the help of series of air slides and Bucket elevators. To minimise the pollution, the exhaust of circulating fan is connected with bag filter. Product collected at bag filter shall be transported to the cement silo through a set of air slides and bucket elevator.

Cement storage: Two nos. RCC silo each of capacity 7500 t shall be constructed for storage of cement.

Cement packing: The cement from silos will be extracted and fed to the installed 4 no's of electronic packers, eight spout, single discharge with a capacity of 120 tph each through air slides, bucket elevators and screens. Each packer will be connected with 6 nos. truck/trailer loaders for loading packed cement bags. Railway siding is also considered for raw material and final product transportation through wagon loaders.

Phase-II

In first phase, railway siding is considered with only basic needs, in second phase extension are planned. A full fledged railway loading and unloading system will be considered in Phase-II.

Employment Potential:

The Proposed Clinker Grinding Unit project will generate Direct Employment for about ~ 120 Regular employees during the operational phase and ~ 200-250 contractual labors. Employment based on the eligibility criteria. Unskilled/ semi skilled

manpowercan be sourced from the local area and skilled manpower shall have to be sourced from outside/ local.

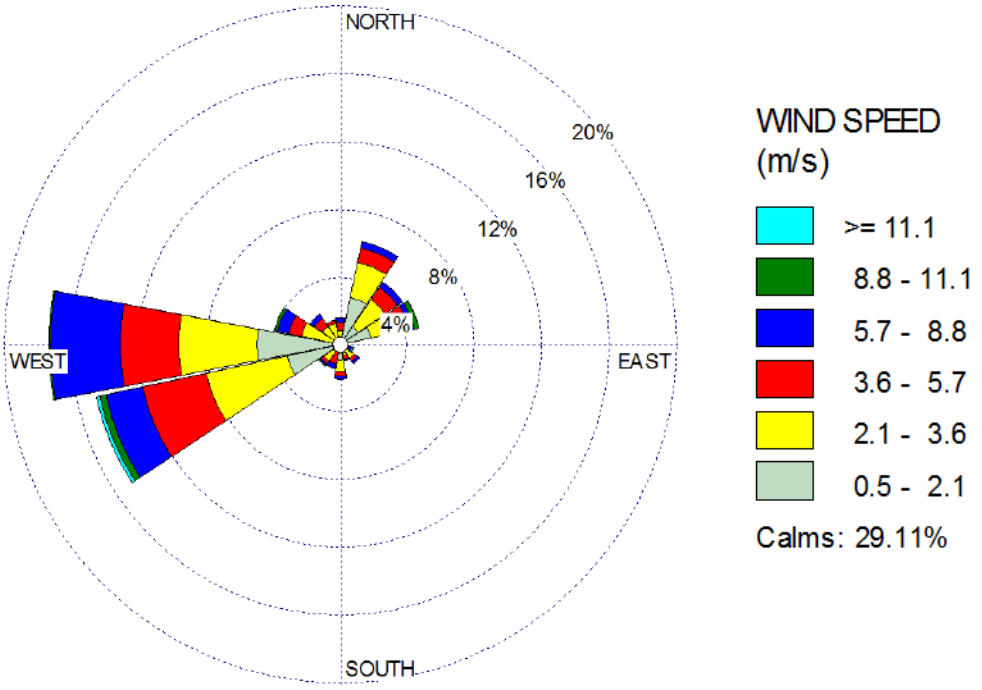
Water Requirement

The water requirement for the proposed Cement Grinding & Packing Unit has been estimated as 350 m^3/ day considering for phase-II of wagon loading etc. Water is required for process, equipment cooling, drinking, sanitation, etc. Primarily, water requirements for the unit shall be met by MIDC supply water (treated). In addition to this further requirement some more raw water will be sourced from the ground. Necessary permission will be obtained from CGWA for drawal of ground water in future, if any required.

1.3 DESCRIPTION OF THE ENVIRONMENT

The existing environmental status of the area surrounding the project area of proposed Cement Grinding & Packing Unit for various environmental attributes has been studied for the core zone and buffer zone of the project. For environmental monitoring, the proposed plant area was considered as the 'core zone' and area within 10 km radius from the plant boundary was considered as the 'buffer zone'. The Core zone and Buffer zone together forms the study area of the project. Baseline data for the project was collected during the Post Monsoon season of 2019 (October– December 2019) for various environmental attributes.

WIND ROSE DIAGRAM: POST MONSOON SEASON 2019 (OCT-DEC 2019)



1.3.1 Air Environment

Baseline Ambient Air Quality was monitored at 8 locations including 1 in core zone and 7 in nearby villages. The summary of ambient air quality results for post monsoon season 2019 is given below:

Summary of Ambient Air Quality Results (Max. values)

Code	Monitoring Location	PM_{10}, µg/m³	$PM_{2.5}$, µg/m³	SO_2, µg/m³	NO_x, µg/m³	CO (mg/m³)
A1	Project Site	63.3	31.5	15.6	23.2	0.474
A2	Vilage Malich	58.5	31.5	17.1	18.6	0.453
A3	Village Kalmadi	52.5	30.3	16.3	23.9	0.404
A4	Village Vaghadi Budrukh	49.3	26.5	12.4	21.4	0.397
A5	Village Vaipur	59.4	31.8	21.2	31.5	0.457
A6	Village Nardana	60.9	35.7	22.9	37.4	0.453
A7	Village Pashte	50.2	29.7	16.2	24.9	0.396
A8	Village Shahapur	54.2	29.1	14.1	20.7	0.397
NAAQ Standards		**100**	**60**	**80**	**80**	**4**

The ambient air quality observed during the study period is well within the prescribed National Ambient Air Quality Standards.

Impacts on Ambient Air Quality

Cumulative air pollution modelling have been carried out for the study period for proposed Cement Grinding & Packing unit and adjacent 2x150 MW thermal power plant using multi-stack dispersion modelling using double Gaussian diffusion equation : IS 8829-1978 as per guidelines issued by CPCB. The maximum predicted increase in Ground Level Concentration of PM_{10} due to proposed cement grinding unit and thermal power plant would be about 0.79 µg/m³ at a distance of about 4.0 km E. Thus, it was observed that no significant impact will be caused on ambient air quality of the area.

Proposed Air Pollution Control Measures

- Installation of bag filter systems for the following main equipments along with ventilation systems to control the fugitive dust generated from the material handling areas.
    - Hydraulic Truck Tipplers hopper
    - Clinker hopper

- Weigh feeders for Clinker, Gypsum and Solid flow meter for flyash.
- Clinker Grinding mill
- Packing machines

- All the flue gas outlets will be provided with state of art air pollution control equipment to maintain the particulate emission level below 50 mg/Nm^3.
- The cement mill will be provided with a Bag filter with an outlet emission of less than 30 mg/Nm^3.
- The dust collected in the pollution control devices is recycled back to the grinding unit.
- The roads in the plant will be paved to prevent dust emissions.
- To control the dust emissions from dropping/transfer points of the belt and bucket conveyors, Bag filters will be provided at various locations of the transfer points.
- Fly ash and cement will be stored in RCC Silos and clinker will be stored in covered stockpile.
- Development of thick green belt inside and around the plant premises, around tailing dump to arrest fugitive dust emissions.
- Provision of dust masks, goggles to workers exposed to high dust generating areas.
- Conducting Health and safety awareness and training programmes for plant employees.
- Regular air quality monitoring inside plant area and in nearby villages

1.3.2 Noise Environment & Traffic Infrastructure

The ambient noise levels were measured at 8 locations. The results obtained are given below:

Summary of Noise Levels (Post Monsoon Season 2019)

Station Code	Monitoring stations	Distance (km) & Direction w.r.t. plant area	Noise levels [Leq in dB (A)]			
			Min	Max	L_{eq}day	L_{eq}night
N1	Project Site	-	42.8	53.5	48.28	43.01
N2	Vilage Malich	2.35 km W	42.9	52.7	48.59	42.62
N3	Village Kalmadi	3.4 km SW	43.9	51.8	48.06	42.27
N4	Village Vaghadi Budrukh	5.3 km SSW	39.8	48.3	43.68	38.87
N5	Village Vaipur	7.1 km WSW	40.7	50	43.92	39.75

N6	Village Nardana	4.5 km NW	43.3	53.7	48.87	42.41
N7	Village Pashte	7.5 km NE	39.8	48.1	44.26	39.37
N8	Village Shahapur	8.5 km ENE	42.3	51.9	48.09	41.54

It is observed that the noise values recorded were well within the prescribed Ambient Air Quality Standards with respect to Noise.

Impact on Ambient Noise Levels

Noise modeling has been carried out to assess the impact on surrounding ambient noise levels. Mining machinery like drills, loaders, dozers and dumpers generate noise in the working areas. 'DHWANI' Noise Modelling Software developed by NEERI and approved by CPCB was used to predict the ambient noise levels around the mine lease boundary. From the modeling results, it is observed that the maximum resultant noise levels near the plant boundary will be about 65 dB(A). The noise levels will be further reduced and the predicted resultant noise levels at the nearest village habitation i.e. Vaghode village will be about 50 dB(A). However, this model does not take into account the attenuation of noise levels due to noise barriers like vegetation, hillocks, etc and also the natural factors like altitude, wind direction, temperature, etc. Thus, the actual noise levels will be lower than the estimated noise levels using this model.

Impacts on Traffic Infrastructure

The proposed Cement Grinding & Packing Unit is well connected with road and rail network. Mumbai – Agra National Highway -3 is located at 3.5 km W of the plant site and State Highway -6 is located at 0.8 km South of the plant site. The state highway is connected to the plant site through MIDC road. Also, there is a proposal of railway siding for transport of raw material and finished product for the Cement Grinding & Packing Unit, for which, In-principal approval has been granted by Western Railway. Till the construction of railway siding, the raw materials and finished product (cement) and gypsum will be transported by Road. Fly ash will be transported through pneumatic pipelines from adjacent thermal power plant of SPPL. About 220 trips per day of 25 Tonne capacity truks will be required for transport of cement produced from the plant during initial phase of the project.

Proposed Control Measures for Noise Pollution

- During selection of equipments and machines, their source noise will be kept minimum as per standards.

- Provision of acoustic & vibration dampeners in foundations and insulators in the interiors
- DG sets will be housed in a separate building / accoustic enclosure.
- Plantation of thick greenbelt around the plant boundary to act as noise attenuator.
- Provision of earmuffs and ear plugs to personnel working in high noise areas.
- Acoustically insulated cubicles will be provided to operators working near high noise generation sources.
- Effective preventive maintenance and vibration measurement of all rotating equipment will help in the improvement of plant life and also reduce noise.
- Vibration absorbing platforms will be provided for heavy machines.
- Periodic job rotation of workers engaged in operations that involve exposure to high noise or vibration.
- During initial phase when rail infrastructure is not complete, truck transport in batch system will be implemented to minimise disturbance to local people.
- Periodic monitoring of ambient noise levels in the plant premises and in surrounding villages.

Proposed Traffic Management Measures

- Regulating speed of the transport vehicles. Overspeeding will be strictly prohibited.
- Transportation of material through trucks covered with tarpaulin. No open transport will be permitted.
- Overloading will be strictly prohibited.
- Periodic maintenance of transport roads from plant site to State Highway.
- Periodic water sprinkling on transport road from plant to state highway to control dust emission.
- Posting of traffic regulator at MIDC road - State highway Junction to avoid traffic jams.
- Construction of speed breakers at strategic locations such as near village habitation, school, etc.
- Batch transport system will be adopted to minimise traffic congestion.
- Railway siding work will be taken up simultaneously and material transport through railway will be commenced as early as possible.

1.3.3 Water Resources & Quality

Water Quality

For assessing the existing water quality in the area, five surface water and eight ground water samples were collected during the study period. Physico-chemical analysis of water samples was carried out.

Groundwater Quality

The pH of the water samples collected ranged from 7.1 to 7.5 and within the acceptable limit of 6.5 to 8.5.The total dissolved solids were found in the range of 308 - 668 mg/l in all samples.The total hardness varied between 216 - 645 mg/l for all samples collected at 8 locations. In all samples, iron content varied in between 0.09 - 0.18 mg/l, Nitrate in between 1.3–3.6 mg/l, fluoride varied between 0.2 - 0.4 mg/l, chloride 38.9–48.7 mg/l, Sulphate 32.1–72.3 mg/l, alkalinity 187 - 324 mg/l, calcium 38.2–54.7 mg/l and magnesium in between 27.4–37.9 mg/l. The overall ground water quality was found to be mineralized with respect to TDS & hardness with moderate buffering capacity. The levels of heavy metals content were found to be within permissible limits.

Surface Water Quality

The pH of the surface water samples collected was 7.2 to 8.2 and within the acceptable limit of 6.5-8.5. The total dissolved solids were found to be 239 - 823 mg/l. Total hardness was observed between 127 - 364 mg/l. Sulphates concentration in the surface water samples varied from 18.7 mg/l to 78.1 mg/l. Iron content in all samples was found in the range of 0.11-0.57 mg/l, concentration of nitrate was0.14- 0.45 mg/l. The fluoride concentration was found to be 0.3 to 0.4 mg/l and chloride concentration was varied between 33.2 – 294.5 mg/l.The variation in alkalinity recorded was in the range of 123 - 308 mg/l, magnesium was found to be in the range of 18.2 to 56.8 mg/l in all samples. Dissolved oxygen was observed to be 4.8 to 6.6 mg/l.BOD of the surface water samples was observed in the range of <3 to 14 mg/l and COD was recorded as 68 to 113 mg/l. It was observed from the analysis that, the physico-chemical characteristics of the surface water samples are within the permissible limits of drinking water standards.

Bacteriological Characteristics

In groundwater samples, total coliform were observed to be < 3 MPN/100 ml in all the samples. Whereas surface water was found to be contaminated by coliform bacteria.

From the results, it was observed that, groundwater is suitable for drinking and domestic uses in absence of alternate drinking water source whereas surface water was not suitable for drinking uses without treatment.

Impacts on Water Resources & Quality

There is no surface water stream flowing in or adjacent to the proposed Cement Grinding & Packing Unit. There is no proposal for use of surface water or ground water in the proposed plant.

The water requirement for the proposed Cement Grinding & Packing Unit has been estimated as 350 m^3/day considering for phase-II of wagon loading. This requirement will be met from the MIDC supply water (treated) or from SPPL extension water line with prior approvals. Hence, no impact is envisaged on the water resources of the area.

In grinding unit, water is used for cooling at various stages. This water is totally absorbed in the process which undergoes evaporation and hence no process effluent will be released outside the plant premisses. Only domestic effluent will be generated from the proposed Cement Grinding & Packing Unit, which will be treated in STP. Hence, no impact is envisaged on ground water quality of the area.

Proposed Water Pollution Control Measures

There is no process effluent generation in the proposed Cement Grinding & Packing Unit. Hence, no industrial wastewater treatment system is required. Domestic waste water generated from the plant premises will be treated in the STP and treated water will be used for green belt development.

Rainwater Harvesting:

UltraTech Cement has designed the storm water network for the entire area of 26.10 Ha. This will have a potential of harvesting 152361.36 m^3/annum rainwater into the ground. This will help in recharging the ground water table of the area.

1.3.4 Soil Quality

Soil samples were collected from 3 locations from the core and buffer zone to evaluate the soil quality in the study area.

- pH of the soil samples varied from 6.8 to 7.4 indicating normal soils
- Texture of the soil was observed as Silt Loam, Silt Clay Loam and Loam.
- Bulk density of the soil samples varied from 1.32 to 1.56 g/cc indicating hard soils difficult for germination.
- Organic matter in the soil samples varied from 0.15 to 1.46%
- Total Nitrogen in the soil samples varied from 62 to 570 kg/Ha

- Total Phosphorus in the soil samples varied from 27.8 to 47.9 kg/Ha
- Total potassium in the soil samples varied from 108.2 to 295.0kg/Ha

From the analysis results of the soil samples, it was observed that the soil was low to medium fertile and having low productivity. The soil in the study area needs additional fertilizers for improving the fertility status and increase in crop productivity. The Bulk Density was found in the range of 1.32 to 1.56gm/cc indicating dense soils difficult for germination. Overall the soil quality in the area was found to poor to medium fertile with moderate productivity.

1.3.5 Land Environment

Proposed Plant Area

The grinding unit will be located in an area of 26.10 Ha located in MIDC area Nardana Phase-I in Dhule District. The land is already acquired by MIDC for industrial use and is allocated to UltraTech Cement Ltd. for establishing Cement Grinding & Packing Unit. There is no habitation and hence, no displacement of people is involved. The site is free from vegetation and no cutting and uprooting of trees is involved. Thus, no significant impact is envisaged on the land environment of the project site.

Land Use pattern of Study Area

Land use pattern of the villages in the study area was studied based on the published data in Census Handbook. The category-wise break up of the land use pattern of the study area is given below:

Land Use Pattern of Study Area (Based on Census Handbook 2011)

S. No.	Category	Area (Hectares)	%
1	Forest Area	764	2.93
2	Irrigated Area	882	3.38
3	Unirrigated Area	20,869	80.03
4	Culturable Waste	730	2.80
5	Area not available for cultivation	2,833	10.86
	Total	**26,078**	**100.00**

Impact on Land Environment

The proposed land utilization pattern of the plant area is given below:

Proposed Land Use Pattern of the Plant Area

Sr. No.	Description	Area in Ha.	Area in %
1.	Plant & Building	7.80	29.9
2.	Roads & Open Space	4.50	17.3
3.	Future Railway Provision	2.80	10.7
4.	Truck Parking	2.40	9.2
5.	Green Belt	8.60	33
	Total	**26.10**	**100.0**

Proposed Measures for Land Environment

M/s UltraTech Cement Ltd. will carry out thick plantation on more than 8.6 Ha area. Plantation will be carried out along the plant boundary along internal roads, around site office, sheds, railway siding, etc. Thus, a good amount of green cover will be developed in the area. Thus the aesthetic view of the plant site will be improved.

Top Soil Management

Top soil from the area proposed for construction will be separately scrapped and will be directly spread over area proposed under green belt. Thus, the loss of fertile soil cover will be avoided and the soil will be beneficial for improving the survival rate of the plantation. Immediate plantation will be taken up in the green belt area from 1st year itself. This will minimise soil erosion from the plant premises.

1.3.6 Biological Environment

The core zone is a barren land plot in industrial area. There is no vegetation except some grasses. There is no forest land in or nearby the proposed project site. A Reserved Forest is located at 8.2 km SW from the project site. Hence, no wild animals are observed in the core zone. Some birds like house crow, myna, house sparrow, cattle egret, blue rock piegeon, etc. are observed occassionaly in the core zone. Reptiles like Garden lizard, three stripped squirrel are also observed sometimes in the area. There is no Schedule I Fauna observed in the study area. No endemic or endangered flora species were observed within the study area.

Impacts on Biological environment

The area proposed for Cement Grinding & Packing Unit is located in MIDC industrial area and comprise of industrial land. There is no forest land in or adjacent to the

proposed Cement Grinding & Packing Unit site. The plant is proposed in MIDC area and is surrounded by industrial land. There is no vegetation in the area proposed for Cement Grinding & Packing Unit. Thus, no significant impact is envisaged on the biological environment due to the proposed project. In fact, the proposed plantation over more than 8.6 Ha area would improve the green cover and attract small animals and birds towards it, thereby improving the biological environment of the area.

However, the dust emissions from plant operation and material transportation activities may affect agriculture crops located in the vicinity of plant area and along transport road, if adequate control measures are not adopted.

Biological Environment Protection Measures

It is proposed to develop a thick green belt over more than 8.6 Ha area. Trees of various species will be used for development of green belt. Thus a good biodiversity will be developed within the plant site and this will attract small animals and birds towards it.

Adequate air pollution control measures will be adopted in the Cement Grinding & Packing Unit to control dust emissions. Also, material transport will be carried out through covered trucks to avoid fugitive emissions. Overloading and overspeeding will be strictly prevented to minimise spillage and dust emissions.

1.3.7 Waste Management

Solid Waste Generation & Management

The main solid waste generated from the grinding unit is cement dust (approx. 0.5 T/day) collected from various pollution control devices which will be recycled back to the process. Hence no solid waste for disposal will be available in the plant.

Sludge cakes generated from Sewage Treatment Plant (STP) will be spread in green belt area as manure. No fly ash, muck, slurry, sludge material disposal are involved in the project. No other solid waste is generated from the plant operations and processes.

Hazardous Waste Management

UltraTech Cement Ltd. will store the hazardous waste in a designated area. This area will be isolated from the other utility areas. The storage area will have concrete floor to avoid percolation of spillage to ground.

Spent Oil from the gear boxes and automobile batteries will be disposed to the authorized recycling vendors as per the Hazardous Wastes (Management and Handling) Amendment Rules, 2010.

1.3.8 Socio-Economic Environment

There is no private land or habitation within the proposed plant area. The information on socio-economic aspects of the study area (10 km radius) has been compiled from field studies and various secondary sources including various government and semi-government offices and Census Handbook 2011. A summary of the same is given below:

Socio-Economic Details of the Study Area (As per Census 2011)

Description	Numbers	%
Demography		
Total Revenue Villages	34	
Total no. of House Hold	14962	
Total Population	70642	
Total Male Population	36243	51.3%
Total Female Population	34399	48.7%
Total ST Population	15689	22.2%
Total SC Population	5200	7.3%
Literacy Level		
Total Literate Population	47891	67.8%
Employment Pattern		
Total Main Workers	30924	43.8%
Cultivators	9009	29.1%
Agricultural Labour	16780	54.3%
House Hold Workers	900	2.9%
Other Workers	4235	13.7%
Total Marginal Workers	4706	6.7%
Total Non Workers	35012	49.5%

Impacts on Socio-economy

There is no private land or habitation in the proposed project area. Hence, there is no rehabilitation and resettlement is involved in the project. The proposed project will cause positive impacts on the socio-economic status of the nearby villages. The

proposed Cement grinding & Packing plant project activities may cause following impacts on the villagers in the nearby villages.

- The Proposed Clinker Grinding Unit project will generate Direct Employment for about ~ 120 Regular employees during the operational phase and ~ 200-250 contractual labors. Employment based on the eligibility criteria. Unskilled/ semi skilled manpowercan be sourced from the local area and skilled manpower shall have to be sourced from outside/ local.
- Jobs in plant will increase the per capita income of the villagers.
- Increase in infrastructure facilities in the nearby villages.
- Financial assistance will be provided for conducting local sports, religious and cultural activities. Medical camps will be arranged regularly for the villagers.

Proposed Socio-Economic Welfare Measures

As per the Corporate Social Responsibility and need based assessment carried out in the surrounding villages, the company will work in following sectors to improve the socio-economic status of the villages:

- Sustainable Development & Livelihood
- Education
- Health & medical facilities
- Drinking Water facility
- Drainage and sanitation
- Roads

"As per the MoEF&CC Office memorandum dated 1st May 2018, the budget of Rs. 4.725 has been earmarked for Corporate Environment Responsibility (CER) i.e. 1.5% of the project cost". The amount earmarked in the budget will be separately kept and will not be used for any other purposes. The budget may be increased as per the actual requirement during the implementation stage.

1.3.9 Occupational Health and Safety

The exposure to various operations in the Cement Grinding & Packing Unit involves Occupational & Safety Hazards to the employed workforce. Necessary protective measures for Occupational Safety & Health hazards to keep exposure within permissible exposure level so as to protect health of workers will be implemented. Pre-employment

and periodic health check ups will be conducted for every worker employed in the plant.

UltraTech Cement Limited proposes to formulate an integrated management plan for safeguarding the occupational health and safety of all personnel working in the grinding unit including contract and sub contract workers.

The Plant Manager will ensure that Health (H) and Safety (S) clauses are included in contractors agreements, and that contractors' personnel H & S behaviour and performance on site is properly monitored, evaluated and made a criterion for contractors' selection

All persons working for or on behalf of the organization including of contractor, sub-contractor & their employees by displaying at all strategic locations and distributed them. Regular Training Programs are held for "Understanding" by all the functions throughout the organization including contractors.

1.4 ENVIRONMENTAL MONITORING PROGRAMME

Discipline	**Locations**	**Parameter**	**Frequency**
Meteorology (Met-station)	One	Max. and Min. Temp, Rain fall, Relative Humidity, Atm. Pressure, Wind speed and wind direction	Hourly
Ambient Air Quality	Plant boundary	PM_{10}, $PM_{2.5}$, $S0_2$, NOx, CO,	As per NAAQS, Nov. 2009
Stack Emissions	One	PM	Monthly and Continuous online monitoring
Ground Water Quality	Four locations in nearby villages	As per IS:10500 standards	Quarterly
Ambient Noise Levels	Plant boundary	Day-and Night time noise Levels	Quarterly

1.5 PROJECT BENEFITS

This project has a substantial benefit in the form of revenue to the State Government. There shall be employment generation and business opportunities for the local populace that would reduce migration. There will also be a noticeable improvement in the socio-economic index of the villages around the project site. The local people will benefit from the project in following ways:

- Preference to local people in employment in plant and transport related activities
- Conducting other economic upliftment measures
- Formation of Community Groups/ Self Help Groups
- Improvement in educational facilities
- Improvement in healthcare facilities
- Improvement in drinking water and irrigation facilities
- Improvement in drainage and sanitation facilities
- Improvement in roads and transport facilities

1.6 BUDGET FOR ENVIRONMENTAL MANAGEMENT PLAN

Budget Provision for Implementation of EMP (Rs. in Crores)

Sr. No.	Description of Item	Capital Cost	Recurring Expenditure /annum
1	Environmental Pollution Control Measures (Bag House, Bag filters, Vacuum Sweepers, AC cabins, Accoustic Enclosures, STP, Water sprinkler, road construction, Covered Shed and Covered conveyor etc)	21.00	0.50
2	Rain water harvesting measures	1.00	0.20
3	Environmental Monitoring	0.58	0.28
4	Occupational Safety and Health	0.40	0.05
5	Socio-Economic Welfare Measures	1.00	0.10
6	Green belt & Plantation	0.80	0.08
7	Miscellaneous	0.22	0.04
	Total	**25.00**	**1.25**

1.7 CONCLUSION

The proposed Cement Grinding & Packing Plant will primarily help in the sustainable development of the nearby areas. There will be improvement of road, educational, medical and infrastructural facilities in the area. The plant and allied activities will provide direct and secondary employment opportunities for local people. This will lead to the improvement of economic status of the nearby villages. The plant will also benefit the state Govt. by way of excise duty.

During the plant operation, the pollution will be controlled within permissible limits by way of adopting various pollution control and mitigation measures.

A sum of Rs. 25 Crores as capital cost and Rs 1.25 Crores/annum as recurring budget for environmental protection has been proposed to achieve the environmental quality as desired. Hence, it can be summarized that the development of the plant will have a positive impact on the socio-economic environment of the area and will lead to sustainable development of the region.

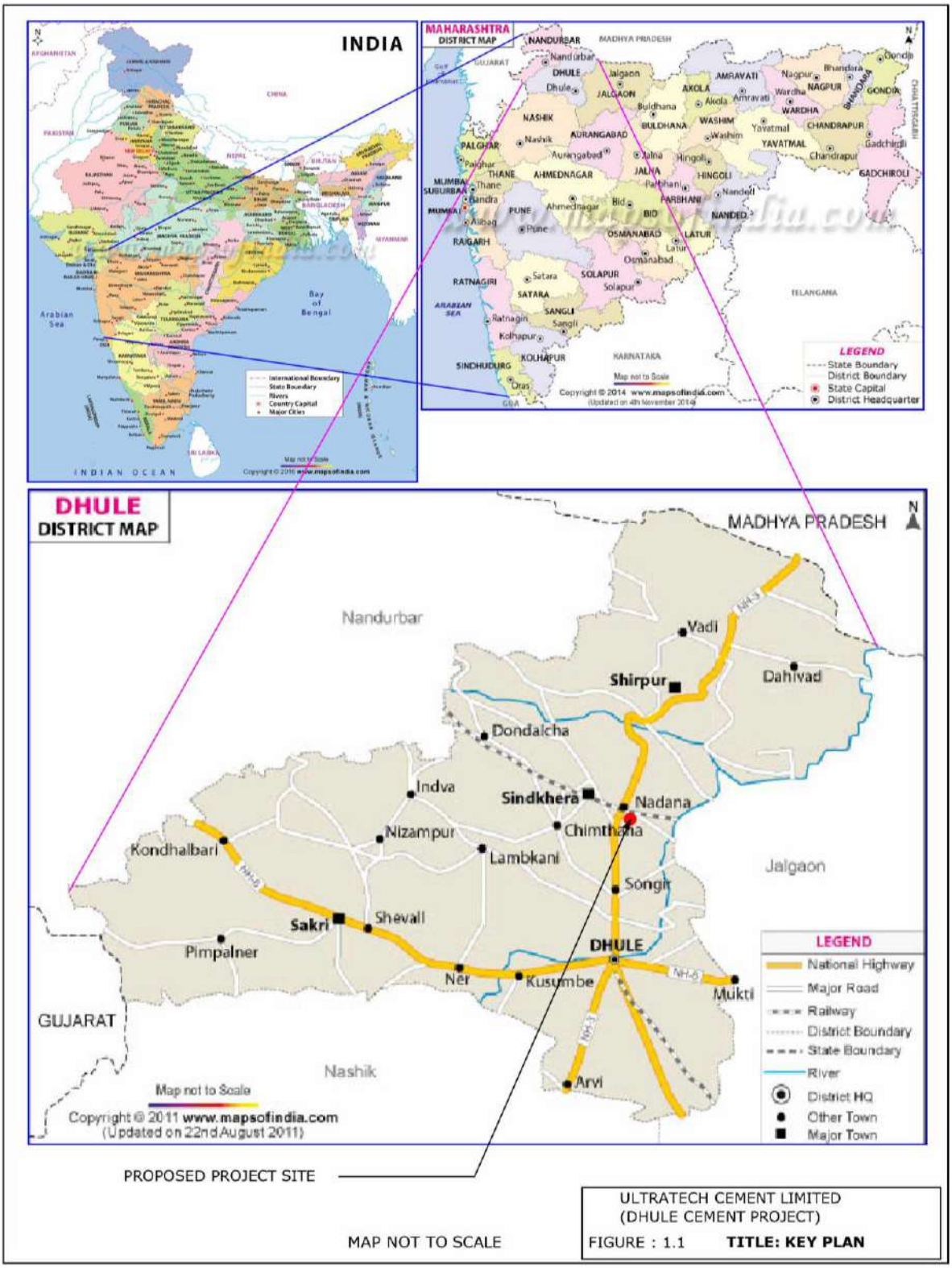


Figure 1: Project Location Map

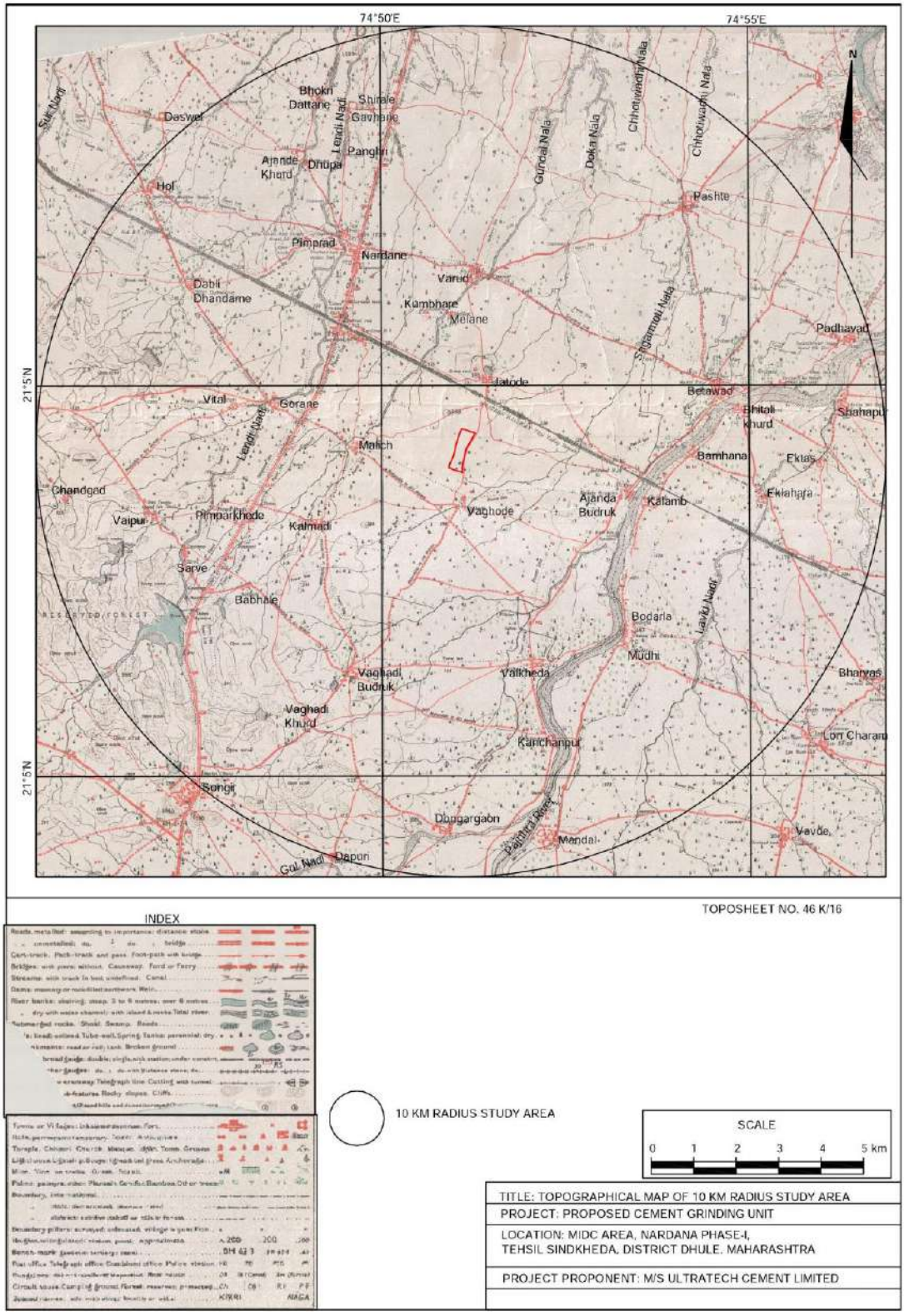


Figure 2: 10 km radius study area map

Sr. NO.	DESCRIPTION
1	PLANT MAIN GATE
2	PERSONNAL GATE
3	SECURITY / TIME OFFICE
4	SECURITY POST AT GATE
5	WIEIGH BRIDGE
6	WEIGH BRIDGE CONTROL ROOM
7	CAR PARKING
8	ADMIN BUILDING
9	SWITCH YARD
10	WAGON TIPPLER
11	BRU UNLOADING FOR RAW MATERIAL
12	GYPSUM CRUSHER
13	CLINKER SILO (ø35M DIA / 30000 TON)
14	GYPSUM / ADDITIVE STORAGE
15	BRU FOR ADDITIVE
16	CLINKER HOPPER BLDG
17	CEMENT MILL WITH BAG HOUSE
18	FLY ASH SILO
19	FLY ASH UNLOADING
20	HAG

Sr. NO.	DESCRIPTION
21	CEMENT SILO 1
22	CEMENT SILO 2
23	---
24	CEMENT BULK LOADING (IN PACKING PLANT)
25	PACKING PLANT
26	PACKING PLANT SUBSTATION
27	CCR WITH SUBSTATION
28	PUMP HOUSE
29	STORES / WORKSHOP / OFFCIES/OPENSTORAGE
30	DG SET
31	COMPRESSOR ROOM BELOW BAG HOUSE
32	RAIL ENTRY GATE
33	WAGON LOADING PLATFROM
34	LOCO SHED FOR RAILWAY ENGINE(NOT SHOWN)
35	SUBSTAION FOR WAGON TIPPLER
36	GATE FOR SWITCHYARD / MRSS ROOM
37	OIL TANK
38	CANTEEN
39	AMBULANCE / DISPENSARY/FIREFIGHTING
40	SCOOTER / CYCLE PARKING OUTSIDE PLANT

Sr. NO.	DESCRIPTION
41	TEA BOOTH / REST ROOM AT PACKING PLANT
42	PORTA CABIN OFFICE FOR PROJECT(NOT SHOWN)
43	RAIN WATER HARVESTING POND
44	SEWAGE TREATMENT PLANT
45	EMERGENCY EXIT GATE

AREA CALCULATION

DESCRIPTION	AREA (HA.)
PLANT & BUILDING	7.80
ROADS & OPEN SPACE	4.50
RAILWAY PROVISION	2.80
TRUCK PARKING	2.40
GREEN BELT	8.60
TOTAL	26.10

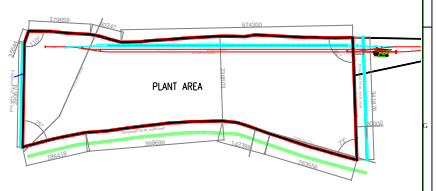
ASSEMBLY POINT

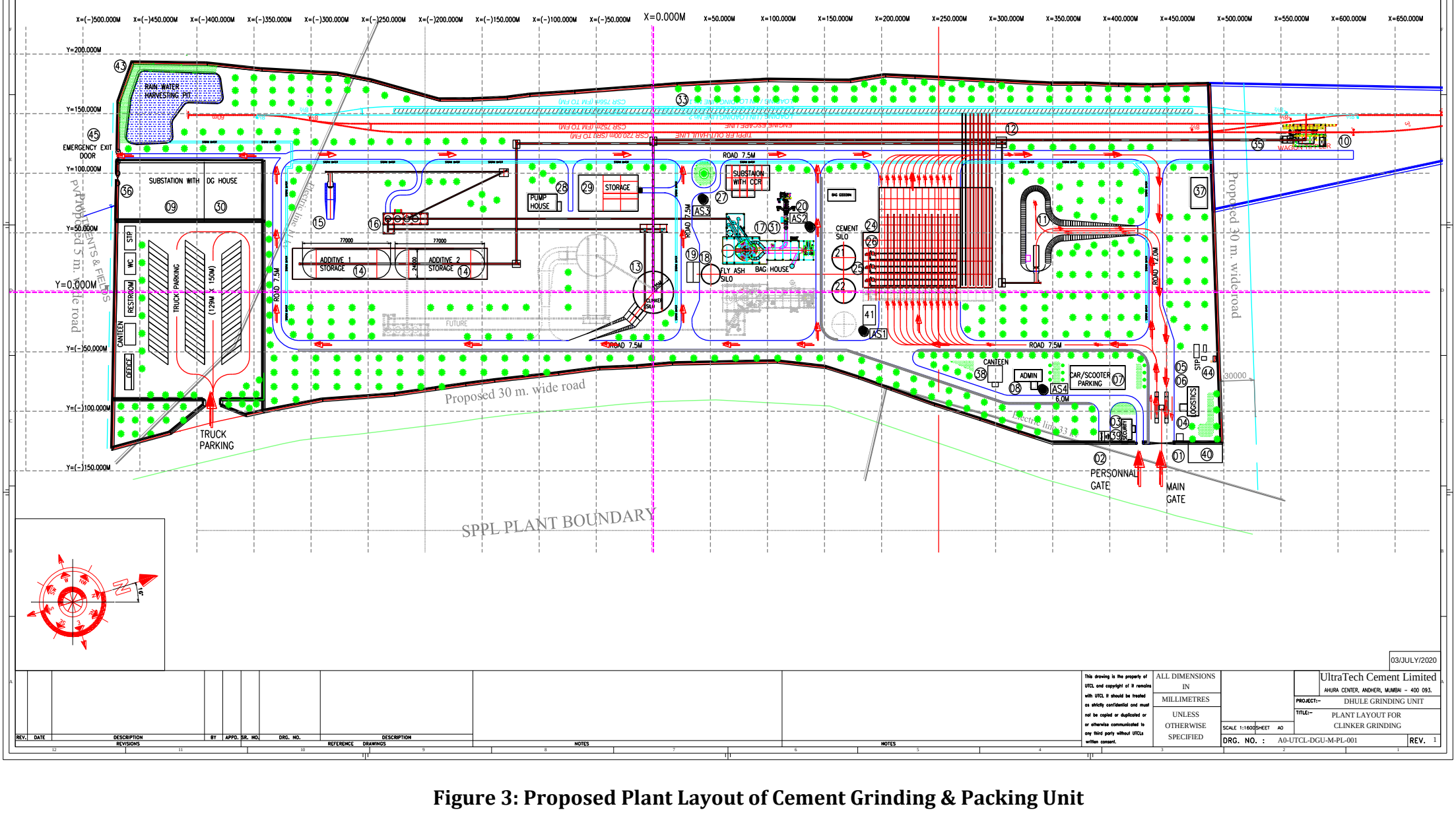
AREA (HA.)	DESCRIPTION
AS1	NEAR PACKING PLANT
AS2	NEAR CEMENT MILL
AS3	NEAR CCR
AS4	NEAR ADMIN BUILDING

DO NOT SCALE , IF IN DOUBT ASK

KEY PLAN FOR LAND AREA

(AREA FOR RAILWAY SIDING AS SHOWN INSIDE PLANT IS CONSIDERED)





REV.	DATE	DESCRIPTION	BY	APPD.	SR. NO.	DRG. NO.	DESCRIPTION
REVISIONS						REFERENCE DRAWINGS	

NOTES

NOTES

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED

SCALE 1:1600 SHEET A0

03/JULY/2020

UltraTech Cement Limited
AHURA CENTER, ANDHERI, MUMBAI - 400 093.

PROJECT:- DHULE GRINDING UNIT

TITLE:- PLANT LAYOUT FOR CLINKER GRINDING

DRG. NO. : A0-UTCL-DGU-M-PL-001

REV. 1

Figure 3: Proposed Plant Layout of Cement Grinding & Packing Unit