MICRO PLAN OF NON – ATTAINMENT CITY SURAT

Submitted on behalf of State of Gujarat

Gujarat Pollution Control Board

APRIL 21

GUJARAT POLLUTION CONTROL BOARD

338, Belgium square, Ring road, Japan market, Begampura, surat, Gujarat395003

INDEX

1. BASIC INFORMATION

Name of Non-Attainment City	**Surat**
Sate/ Union Territory	**Gujarat**
Name of Nodal Officer at PCB/ PCC	**P U Dave, Regional Officer**
Email Id	**ro-gpcb-sura@gujarat.gov.in**
Contact Number	**7574827442**

Action Point Code	Sector	Total Number of Actions	Number of Actions Completed	Number of Actions Under Progress
CB	CAPACITY BUILDING, MONITORING NETWORK AND SOURCE APPORTIONMENT	10	7	3
PO	PUBLIC OUTREACH	7	2	5
RD/ C&D	ROAD DUST AND CONTRUCTION & DEMOLITION	26	8	18
VE	VEHICLES	42		
IP	INDUSTRIES	116	86(*)	30
BB/DF	WASTE AND BIOMASS- DUMPING AND BURNING	21	11	10
AQ	AIR QUALITY DATA	9	8	1

2. CAPACITY BUILDING, MONITORING NETWORK AND SOURCE APPORTIONMENT

Action Point Code	Action Point	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
CB1	**Installation & Commissioning of Monitoring Stations**												
CB1.1	CAAQMS	2 Nos. of sensor based AQMS already installed in Surat city at Varachha and Limbayat Zone Office. Under AQMS SMC and GPCB planned to install 7 air quality monitoring stations within city boundaries in which, 4 are installed by SMC and 3 are installed by GPCB.by SMC has already started installation of 4 stations in city.	7 Nos. of CAAQMS	June 2022	Yes	04 Nos.	Number	Yes	Detail of 2 No. of sensor based AQMS installed and Detailed Micro Plan for installation of 07 Nos. of AQMS is attached as **Annexure CB-1.1**	6.0 Cr	0	0	0

CB1.2	Manual Stations	10 Manual Stations are established and are functional at following locations: 1. SVNIT, Ichchhanath 2.Darshan Baug, Udhana3. Surat Muncipal Pathology Lab, Kotsafil Road 4. , GIDC, Pandesara 5. Dhamanwala service complex, GIDC, Pandesara 6. chalthan, Palsana 7.New Palsana Industrial co.op.soc., Vill- Baleshwar, Ta:- Palsana 8. Delhi Gate Police station, Surat 9.GIDC – Sachin 10.Kadodra, Surat - Bardoli Road	Completed	Completed	Ongoing No deviation for additional station	Completed	Number	YES	Detail of 10 No. of manual Station established is attached as **Annexure- CB-1.2.**	Work under by GPCB	Not required	Not required	Not required

Action Point Code	Action Point	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
CB3	**Assessment of sources**												
CB 3.1	Emissions Inventory	EI study has been completed by WRI-TERI	EI Report competed on Feb-21	Completed	No	Completed	Study	YES	Dispersion Modelling and Emission Inventory for Surat District and City EI is attached. **Annex CB -3.1**	Funds not required. It is done by WRI-TERI and is supported by Bloomberg Philanthropies and Shakti Sustainable Energy Foundation (SSEF) as a support to NCAP.	Not required	**Not required**	**Not required**
CB 3.2	Emissions Tracking System	**DETAILS TO BE PROVIDED BY GPCB**											

Action Point Code	Action Point	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
CB 3.3	Source Apportionment Study	SA study has been completed by WRII-TERI	SA Report competed on Feb-21	Completed	No	Completed	Study	**Yes**	Dispersion Modelling and Emission Inventory for Surat District and City SA study is attached. **Annex CB 3.3**	Funds not required. It is done by WRI-TERI and is supported by Bloomberg Philanthropies and Shakti Sustainable Energy Foundation (SSEF) as a support to NCAP	Not required	Not required	Not required
CB 3.4	Heath Impact Study	Heath Risk Assessment Study completed by WRI	Health Risk Assessment Study competed on Feb-21	Completed	No	Completed	Study	**Yes**	Dispersion Modelling and Emission Inventory for Surat District and City HRA study is attached. **Annexure: CB 3.4**	Funds not required. It is done by WRI-TERI	Not required	Not required	Not required
CB4	**Training & Capacity Building**												
CB4.1	Training & skill development of public officials	Could not be organized due to COVID-19 pandemic condition. Will be organized in 2021-22 as per training calendar	As per the Training calendar 2021-22(copy enclosed)	Monthly	As per the Training calendar 2021-22(copy enclosed)	Training & skill development of publicto aware	text	yes	Training calendar 2021-22 is attached as **Annexure: CB 4.1**	0	0	0	0

		enclosed.				about air pollution.							
CB4.2	Infrastructure development (Laboratory/ AQM Cell	As per the Guideline issued by ministry of finance AQM cell For Surat municipal corporation has been established.	Already established and functional from 8th March-2021	Completed	Completed	Completed	Completed	Yes	Office order under sign by Commissioner Surat Municipal Corporation as **Annexure CB4.2**	Not required	Not required	Not required	Not required
CB 4.3	Enforcement Units	To be provided by GPCB											
CB4.4	Organization of meeting of District Environment Committee for sensitizing the Line Departments for advance preparedness of implementation of Action Plan and following action points	District level committee under the Commissioner shri with AQM cell members, GPCB members, TERI members and WRI members meetings are held on monthly basis for reviewing the implementation of City Clean Air Action Plan. meetings held on the following dates: 16/02/2021 17/03/2021-State level 22/03/2021 26/03/2021-video conference 12/05/2021	Monthly	Regular	No	12	Number	Yes	All MOM are available as **Annexure: CB 4.4**	Not required	Not required	Not required	Not required

CB 5	**Emergency Response System**	GPCB will take steps for all 4 Non-Attainment cities of Gujarat at state/national level.											

3. PUBLICOUTREACH

Action Point Code	Action Point	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
PO1	**Public Outreach**												
PO1.1	Daily Air Quality Public Information Dissemination System	Real time data on Air quality is being made available on 5 Display which is installed in surat and on GPCB website	Continuously monitoring	Daily	NA	365 days	Number	Yes,	Real time data display locations detail **Annexure: PO 1.1**	Not required	Not required	Not required	Not required
PO1.2	Social Media Platforms	Surat Municipal Corporation is already active on social media such as Facebook , twitter and Instagram	Regular activity	Daily	NA	365 days	Number	NA	NA	Not required	Not required	Not required	Not required
PO1.3	Issue public advisory for prevention and control of air pollution	Surat Municipal Corporation is regularly issues public advisory through social media as well as through IEC activities	Regular activity	Daily	NA	365 days	Number	NA	NA	Not required	Not required	Not required	Not required

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PO 1.4	Deeper public engagement and consultation, (workshops/ programme in schools/ colleges)	WRI in collaboration with SMC and GPCB has conducted 5 major workshops on mitigation measures to improve emissions from construction sector, Municipal Solid Waste Management Sector, Industry Sector, City Level Clean Air Action Preparation, and Residential Cooking Sector.	NA	Feb-21	no	NA	numbers	Minutes of Meeting for each workshop conducted	Stakeholders speeches and interaction details on the requirement for sector specific mitigation measures	NA	NA	NA	NA
PO 1.5	Launch mobile app to update public about status of air quality	SMC is continuously displaying the Status of Air Quality on the official website of SMC Hence, Mobile app is not launched till date. Work under progress for the launching of Mobile app.	Mobile app	Dec-22	Yes	Not defined	Application	YES	Details of display status as URL and Photos shown in **Annexure: PO1.5**	`NA	NA	NA	ISD

Action Point Code	Action Point	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
PO2	**Public Grievance Redressal System**												
PO2.1	App Based System	On the web portal of SMC is provided facility for complaint. In portal different categories of complaint given in which air quality related complaints are also received.	Regular activity	Daily	NA	365 days	Number	YES	Complaint Webportal URLhttps://www.suratmunicipal.gov.in/OnlineServices/Account/OnlineServices and Screenshot DATA on Complaints as **Annexure: PO2.1**	Not required	Not required	Not required	Not required
PO 2.2	Helpline Number	SMC has already zone wised helpline numbers provided for complaints.	Regular activity	Daily	NA	365 days	Number	YES	Details of helpline numbers URL:https://www.suratmunicipal.gov.in/Home/EmergencyContactNo **Annexure: PO2.2**	Not required	Not required	Not required	Not required

4. ROAD DUST AND CONTRUCTION & DEMOLITION

Action Point Code	Action Points	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
RD1.1	Immediate lifting of solid waste generated from desilting and cleaning of municipal drains for its disposal	Regular desilting and cleaning of municipal drain is carried out with help of machines. SMC already purchased 115 drain cleaning machineries and work at different zones wise. SMC has planned to purchase another 67 machineries as per zone wise requirements. Process of purchasing of 39 machineries already started.SMC gave work order of 4 nos recycler machine with 7 years O &M.	100% lifting & disposal of solid waste in all Drain of all zones in the city with help of machineries.	Regular activity	NA	A per requirement SMC planned to purchase another 67 machineries with advance techniques. SMC gave work order of 4 nos recycler machine with 7 years O &M.	Number	yes	Zone wise drain cleaning machineries list as **Annexure:RD1.1**	0	0	0	18.16 cr
RD1.2	Maintain potholes free roads	Total 100 Nos. roads with 450+ potholes repaired in the last quarter.	Total road network in the city	90 days (March 2021 and on day to day regular basis)	No	Nos. of roads and portholes	Nos. of roads	No	Nil	0	0	0	3.00 Cr. approx expense

RD1.2		Remaining 25% of the roads and emergency repairing work arising due to monsoon.	Total road network in the city	90 days (July 2021 and on day to day regular basis)	yes (July 2021)	Nos. of roads and portholes	Nos. of roads	No	Nil				

Action Point Code	Action Points	Present status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
RD1.3 &RD1.6	Regular cleaning ofstreet surfaces and spraying of water to suppressdust.& To take appropriate action to remove road dust/silt regularly by using mechanical sweepers	1. 21 numbers of sweepers Machine are in the operation 2. 448 KM of road has been covered with the wet spraying machine 3. Night Scrapping and Sweeping Activities Numbers for morethan 14500Km 4. Night Wet Sprinkling Machine used - 6 days a week for 392 km of road SMC has planned to increase 19 Nos. of Mechanized Sweeper Machines	800 KM of roads to be cleaned . all the CC road having width of morethan 30 m	Daily	no	SMC planned to increase minimum 16 nos of sweeper machines as per requirement for cleaning of road in the city.	Text	Yes	Report on No of days the wet spraying machines employed - Human Resources Employed - Reports on Campaign Days done for dust mitigation as **Annexure: RD1.3**	12.80 cr.	0	0	6.00 cr.
RD1.4	Black topping of unpaved road	A total of 279 roads having length of 88.069 Km have been black topped	Length of the road	365 days (March 2022 and on regular basis as regular activity)	no	Length in Km	Length of the road	Yes	Zone wise details of road black topped by Surat Municipal Corporation as **Annexure: 1.4**	594.45 Cr.	93.50 Cr.	21.10 Cr.	0
RD 1.5	Minimize earth cutting from the hills to prevent dust generation.	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA

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RD 1.7	End-to-end paving of the road	Total identified 29 Nos. of roads have been widened and paved wall to wall .	Nos. of roads	365 days (March 2022 and on regular basis)	no	No of road paved end to end	Text	NA	NA	0	0	0	5.00 Cr. approx
RD 1.8	Road design improvement	The Bituminous road design for construction of bituminous roads within the city categorized based on road width has been revised in the year 2017 in consultant with Sardar Vallabhbhai National institute of Technology, Surat. The design was revised as per latest Ministry of road Transport & Highway standards and specification (2013) fifth revision. The design of Cement Concrete Constructed within the city is derived after carrying out necessary Traffic survey on the particular stretch of the road. And all the latest codes and standards are taken into consideration before designing concrete pavement.	NA	Continuous process	NA	NA	Text	Yes	Copy of resolution of design improvement carried out by Surat Municipal Corporation As **Annexure RD1.8**	0	0	0	10.00 lacs

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RD 1.9	Introduce water fountain at major traffic intersection	15 nos of water fountains has been working in different part of city SMC has already planned Water Fountain at Traffic Island-12Nos. in 15th FC	Target set for the quarter - SMC's side in days - for the installation and operation of the fountains	completed	regular activity after installation	NA	Number	na	Details of the major intersections where installed	13.0Cr.	1.0 Cr.	0	0
RD 1.10	Widening of Roads	Total of 29 Nos. of roads have been widened in the last financial year SMC has already planned Outer Ring Road	Nos. of roads	365 days (March 2021 and as and when required)	no	no	Text	yes	Zone wise details of road widened by Surat Municipal Corporation as **Annexure: RD 1.10**	157 .0 Cr.	25.0 Cr.	0	5 cr. approx expense

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RD1.11	Improvement of infrastructure for decongestion of road.	1. Retrofitting of junctions for traffic control :59 2. ITMS implementation 3. Infrastructure level improvement - road network (3783 Km) - 4. Flyover construction and management -113 nos 5. Traffic island:194 nos	6 nos. of bridge to be construc ted	Mar-24	Bridge Projects are under feasibility Stage & Tender Stage	-	-	Annexure Bridge	NA	101.0 Cr.	**1.10 Cr.**	0	0
		4. Flyover construction and management -114nos											
		Widening of Dr. Hedgewar Creek Bridge.	Dec-23	Dec-23	Tender Stage	SMC gas planned further Improvement of infrastructure for decongestion of road at given different location of city.	-	**Annexure: RD1.11**	NA	0	0	0	14 cr.
		Construction of creek bridge connecting Mithi khadi to Limbayat zone office on 18 m wide TP road in South East (Limbayat) Zone, Surat.	Dec-23	Dec-23	Tender Stage		-		NA	0	0	0	22 cr.
		Creek Bridge in TP 21 (Sarthana Simada) near Shyam Dham Soc.	Mar-24	Mar-24	Estimate Stage		-		NA	0	0	0	10 cr.
		Construction/Widening of existing Bridge across Kankra Creek at Parvat near Sharda Hindi Vidhyalay, Surat.	Mar-24	Mar-24	Feasibility Stage		-		NA	0	0	0	15 cr.
		Widening of Creek bridge on 45.0 mt road at TP 38 (Nana Varachha) & TP 68 (Puna) & 12 mt wide road at TP 38 (Nana Varachha) in east zone area.	Mar-24	Mar-24	Feasibility Stage		-		NA	0	0	0	15 cr.
		Construction of Creek bridge connecting Shree Ramnagar soc. and Saketdham soc.in East Zone	Mar-24	Mar-24	Feasibility Stage		-		NA	0	0	0	25 cr.

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RD 1.12	Designing and Construction of environment friendly roads	1.Bituminous roads using approximate 100 ton of shredded Plastic waste as per IRC waste plastic has been used in road construction 2. The use of RAP (Reclaimed Asphalt Pavement) Material has been done for producing Approximant 8000 M.T. Patch work material by Surat Municipal Corporation. 3. SMC has already planned to design Polymeric/CGBM in different Zones	Continuous process	NA	NA	NA	Text	yes	List of roads resurfaced using shredded plastic waste as **Annexure:RD1.12**	**32.2** Cr.	**4.40 Cr.**	3.42 Cr.	0
RD 1.13	Implement truck loading guidelines; use of appropriate enclosures for haul trucks; gravel paving for all haul routes.	1. Mention monitoring mechanism - covering rear end of the construction and demolition waste trucks 2. mention any specific paved stations are provided while loading and unloading of the construction and demolition waste trucks 3. mention of 'Clean Construction Practices Guidelines Handbook 2020' for the reference on construction and demolition waste management options	NA	NA	NA	NA	Text	Yes	1. Checklist and technical details of the monitoring mechanism can be provided - SGPPL operations 2. Handbook of Clean Construction Practices Under SCAP project can be attached				

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RD1.14	Identify road stretches with high dust generation	1. zones with highest dust generation - Source Apportionment Report by TERI - should be mentioned here. 2. Road stretches with high traffic inflow and outflow can be named here. 3. Mention name and stretch of the roads which have been covered under mechanical sweeping programme for more than 20 days in a month 4. mention name and stretch of the roads wherein wet sprinklers have been installed - traffic department	NA	NA	Completed	NA	NA	yes	Source Apportionment Report Section of - Road Dust Resuspension				
RD1.15	Create Proper Pedestrian Infrastructure	Total of 16 Nos. of roads have been widened in the last financial year	16 Nos. of roads widened	365 days (March 2021 and as and when required)	no	no	Text	NA	**NA**	0	0	**0**	0.50 cr. approx expense
RD1.16	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	Canal Raod Redevelopment Project Details to be filled	NA	NA	Completed	NA	Text	Yes	DPR of the Canal Road Redevelopment	NA	NA	NA	NA

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RD 2	**Creation of green cover**												
RD 2.2	Creation of green buffers along the traffic corridors and their maintenance	In 2019 , Surat Municipal Corporation has Planted more than 1,75,000 tress for increasing green cover.	175000	Oct-19	Completed	No	Text	No	-	-	-	-	-
		Surat municipal corporation has saplings and created oxygen park , Ashokvan in city garden	100 % Maintenance & Planted trees.	Oct-19	Completed	No	Text	No	-	-	-	-	-
		Surat municipal corporation has Planned development of lakes/lake gardens / gardens & Bio-Diversity park in 108 hecters for next 5 years	-	Dec.-26	-	-	-	Yes, List of Works	Annexure-RD 2.2	213.5 Cr	1.50 Cr	0.70 Cr	0
RD2.3	Necessary changes in byelaws- Greening of open areas, gardens, community places, schools and housing societies	it is mandatory to have 25%green area in all housing projects	NA	-	-	-	-	No	-	-	-	-	-
RD2.4	Urban Greening with vertical garden	verticals gardens have been created at all possible locations	12 Nos.	March.-21	Completed	12 Nos.	Urban Greening	Yes	verticals gardens list as Annexure-RD 2.4	-	-	-	-
RD2.5	Builders should leave 25%/33% area for green belt in residential colonies to be made mandatory.	No Such Provisions in Prevailing Comprehensive General Development Control Regulations (CGDCR) of Gujarat States.	-	-	-	-	No	No	-	-	-	-	-
RD2.6	Adopt street design guidelines for paving of	Notification issued or not	-	-	-	-	No	No	-	-	-	-	-

	roads and footpaths (hard and soft paving) and vegetative barriers.												
RD2.7	Implementation of maintaining at least 33% forest cover area in the city in master plan.	Surat City has 38.31 % of Green Cover.	Completed	Completed	-	-	Urban Greening Area	Yes, Green Cover of Surat City	Annexure-RD 2.7	-	-	-	-
RD 3	**Installation of WAYU (Wind Augmentation and Purifying Units) at urban traffic intersection.**												

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C&D 1	**Construction Activities**												
C&D 1.1	Ensure transportation of construction materials in covered vehicles	10 nos of dedicated vehicles deployed SMC has planned to purchase 15 nos. e- vehicles	Regular activity	Regular activity	No	Depending on the requirement SMC will purchase more numbers of vehicle with advance technique	Number	Yes	Details of Vehicle Deployed as **Annexure-K-**	7.50 cr	0.50 cr	0	0
C&D 1.2	Strict enforcement of CPCB guidelines for construction (use of green screens, side covering of digging sites, etc.)	Yes, notification issued Yes, notification issued Yes, notification issued	100% ensure that all users strictly follow guidelines for construction and demolition work and Continuously monitoring	Continuously monitoring	NA	Regular monitoring and strictly take follow up from users. And take appropriate action if guidelines are not follow up by users	Text	Yes	Notification shown as **Annexure-O**	Not Required	Not Required	Not Required	Not Required
C&D 1.3	Restriction on storage of construction materials along the road.												
C&D 1.4	Covering of construction site												
C&D 1.5	To create separate space/zone to handle solid waste, C&D waste and other waste in the city	Yes, 8 nos temporary storage area developed and declared. SMC gas already planned to construct Separate zone wise waste handle plants City limit	100% separate handling of different waste in different zones of city	2024	NA	SMC will construct other plant as per requirements with advance technique.	Number	Yes	Notification shown as **Annexure-M**	0	0	0	2.0 Cr

C&D 1.6	To mandate facility of tar road inside the construction site for movement of vehicles carrying construction material	Yes, notification issued	Continuously monitoring and taken 100% follow-up as per notification	Continuously monitoring	NA	If necessary SMC will issued another notifications with more strict rules.	Text	Yes	Notification shown as **Annexure-O**	Not Required	Not Required	Not Required	Not Required
C&D 1.7	Promotion of the use of prefabricated blocks for building construction	Yes,On request of the contractor Surat Green Precast Pvt. Ltd, consultancy work, for preparing detailed report including rate analysis and specification for use of various recycled C&D waste product, was awarded to Civil Engineering Department, SVNIT Surat.	Report prepared by SVNIT surat for rate analysis and specification for use in march-2021	Dec-21	20%	SMC will Achieve 100% in the use of prefabricated blocks for building construction as it reduce air pollution	Text	Yes	Report prepared by SVNIT surat for rate analysis and specification for use as **Annexure-N**	Not Required	Not Required	Not Required	Not Required
C&D 1.8	Enforcement of Construction and Demolition Waste Rules	Yes, notification issued	Continuously monitoring and taken 100%follow-up as per notification	Continuously monitoring	NA	Regular monitoring and strictly take follow up from users. And take appropriate action if guidelines are not follow up by users	Text	Yes	notification issued **Annexure-L**	Not Required	Not Required	Not Required	Not Required
C&D 1.9	Control measures for fugitive emissions from material handling-conveying and screening operations	Yes, notification issued	Continuously monitoring and taken 100% follow-up as per notification	Continuously monitoring	NA	Regular monitoring and strictly take follow up from users. And take appropriate action if guidelines are not follow up by users	Text	Yes	notification issued **Annexure-O**	Not Required	Not Required	Not Required	Not Required

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C&D 1.10	Develop and implement dust control measures for all types of construction activities -- buildings and infrastructure.	Yes, notification issued	Continuously monitoring and taken 100% follow-up as per notification	Continuously monitoring	NA	Regular monitoring and strictly take follow up from users. And take appropriate action if guidelines are not follow up by users	Text	Yes	notification issued **Annexure-O**	Not Required	Not Required	Not Required	Not Required
C&D 1.11	Enforce restrictions on construction activities within urban air shed zones during high pollution period	Yes, notification issued	Continuously monitoring and taken 100%follow-up as per notification	Continuously monitoring	NA	Regular monitoring and strictly take follow up from users. And take appropriate action if guidelines are not follow up by users	Text	Yes	notification issued **Annexure-L**	Not Required	Not Required	Not Required	Not Required
C&D 1.12	Frame and implement policy for segregation of construction and demolition waste and provide a network of decentralized C&D waste segregation and collection sites across the city.												
C&D 1.13	Promote recycling of construction and demolition waste.	SMC has already undertaken technical and financial analysis and its being implemented SMC planned upgraded Plant as per the recycle products requirement and	Numbers of promotions done Foruse of recycling constructi	2024	NA	SMC will construct other plant as per the recycle products requirements with advance technique and will also	Text	Yes	Promotion photos and sales receipt recycli	0	0	0	10 Crs

		central sale store for recycle product needed to be develop.	on and demolition waste.			upgrade existing plant with new n better technique.And also planned to construct central sale store for recycle product as per need.			ng C&D waste as **Annexure-P**				

5. VEHICLES

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE1	**Improve and strengthen PUC programme**												
VE1.1	Number of PUC centers in the city	A total of 230 PUC centers are currently operational in surat.	230 PUC centers	Continuous process	NA	NA	Text(Link)	Yes	The following Link can be referred i.e., https://vahan.parivahan.gov.in/puc/views/PUCCenterList.x html	-	-	-	-
VE1.2	Regular checking of Vehicular emission and issue of Pollution under Control Certificate (PUC)	Total 5009 Of challans issued for lack of PUC certificate during 1-4-2020 to 30-3-2021	Regular Activity	Continuous process	NA	Daily	NA	Yes	As per the present status	-	-	-	-
VE 1.3	Auditing and reform of Pollution Under Control (PUC) certification	Renewal time audit and surprise audit on complain is managed. Total 4 PUC center suspended in last financial year	Regular Activity	Continuous process	NA	Daily	NA	NA	NA	-	-	-	-

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VE1.4	Linking of PUC centers with remote server and eliminate manual intervention in PUC testing.	A total of 230 PUC canters are currently operational in Surat and are linked with parivahan software by MINISTRY OF ROAD TRANSPORT & HIGHWAYS	Linking of 230 PUC Centers	Continuous process	NA	NA	Text(Link)	Yes	The following Link can be referred i.e., https://vahan.parivahan.gov.in/puc/views/PUCCenterList.x html	-	-	-	-
VE 1.5	Integrate on-board diagnostic (OBD) system fitted in new vehicles with vehicle inspection.												
VE 1.6	Link PUC certificates with annual vehicle insurance	linking PUC certificates with annual vehicle insurance is done	Linking of 230 PUC Centers	Continuous process	NA	NA	Text(Link)	Yes	The following Link can be referred i.e., https://vahan.parivahan.gov.in/puc/views/PUCCenterList.x html	-	-	-	-
VE 2	**Vehicle labeling or sticker programme : Total 88443 BS 6 Vehicles from 01/04/2020 to 31/03/2021**												

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 3	**Freight transport**												
VE 3.1	Use of off-peak passenger travel times to move freight and restrict the entry of heavy vehicles into cities during the day to continue	A notification has been issued by the Commissioner of police, Surat cities Prohibiting the entry of heavy vehicle is surat city.	Continuously monitoring	Continuous process	NA	Daily	text	no	Notification **ANNEXURE: VE 3.1**	-	-	-	-
VE 3.2	Provide truck rest areas/parks along national and state highways to prevent entry of trucks into cities during peak hours.	There is no official parking arrangement for truck parking in surat city.	NA	NA	NA	NA	NA	NA	NA	-	-	-	-
VE 3.3	Diversion of truck traffic	100% heavy vehicles are diverted coming from Mumbai towards Vadodara through Northern National Highway passage	Continuously monitoring	completed	No	NA	Text	No	NA	-	-	-	-

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE3.4	Check overloading: Use weigh-in-motion bridges / machines (WIM) and Weigh bridges at entry points to the city to check the payload of commercial vehicles. As per the CMVR, a penalty of 10 times the applicable rate for overloaded vehicles is applicable.												
VE 3.5	Define routes, permits, fares, vehicle design and safety standards, and vehicle technology standards for para-transit vehicles.	The Comprehensive Mobility Plan for Surat 2046 defines the sought parameters	Continuously monitoring	Completed	Completed	NA	Text	No	NA	-	-	-	-

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE4	**Clean fuel and fuel Quality**												
VE4.1	Check on fuel adulteration and random monitoring of fuel quality data	Weekly tests and monthly inspections done by the district teams of fuel companies across city	Continuously monitoring	NA	No. Regular enforcement Activity	NA	Text	No	NA	-	-	-	-
VE4.2	Alternative clean fuel policy for vehicle	Policy will finalize within 6 months. 54 CNG station in and around surat(33 within SMC limit) out of 54 station , 47(including all CNG stations located within SMC limits) are online station/mother station and 7 are daughter booster station	Notification of policy forclean fuel vehicles.	Within 6 months	Notification of policy forclean fuel vehicles.	Notification of policy forclean fuel vehicles.	Number	Yes	**ANNEXURE:VE 4.2**	Not required	Not required	Not required	Not required
VE 4.3	Bio fuel policy	Based on Clean fuel like, CNG,LPG, biofuel, electric 1.Total numbers of buses-74 2. Total numbers of taxis-1417 3. Total numbers App-based Cabs-515 4. Total numbers of App-based two wheelers-13274 5. Total numbers of Autos-102649 6. Total numbers of E-rickshaw-8 7. Total numbers of Privately operated buses-159	Completed	Continuously monitoring	NA	Continuous process	Number	Yes	**ANNEXURE VE4.3**	-	-	-	-

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE5	**Parking Management**												
VE5.1	Prevent parking of vehicles in the non-designated areas	Surat presently has 79authorized parking sites. Of these, 31 are surface parking, 11 are multilevel remaining 37 are either below flyovers or on-street parking.	Regular Activity	As regular activity	No	Ongoing	Number	Yes	As per the Present status	Not Required	Not Required	Not Required	Not Required
VE5.2	Development of Multi-level parking	There are 11 multilevel parking constructed. Also 9 multilevel parking are under planning	11	By the end of year 2023	NA	NA	Number	yes	**ANNEXURE-VE5.2**	20.00 Cr	2.00 Cr	0.00 Cr	14.96 Cr
VE 5.3	Penalize parking of vehicles in non-designated areas	1- Nov- 4959 case 2- Dec-2020 case 3- Jan-5634 case Total: 12613 cases of penalty action November-3471750 fine December-4875550 fine January- 3872650 fine Total:	Regular activity	Regular activity	No	Regular activity	Number	Yes	As per present status	Not Required	Not Required	Not Required	Not Required

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE6	**Strengthening of Public Transportation**												
VE 6.1	Regulate the taxi industry	Parking policy and bye laws has been sanction by the GoG. Preliminary work has been done.	NA	NA	No	regular activity	Text	Yes	Surat City Parking Policy	-	-	-	-
VE 6.2	Assess and introduce a city bus system of appropriate fleet size of small buses and desirable bus type replete with GPS tracking, ETVMs for fare collection and Passenger Information Systems.	1. Surat city wide BRTS system is operational 2. Surat Sitilink covers about 90% of SMC built up area via 166 BRTS and 575 City buses with networks of about 108 kms and 450.5 kms respectively serving over 1.4 lacs passengers of BRTS and over 1.35 lacs passengers of City bus system every day. 3. All buses are being tracked with all routes have ITMS principles applied which is being controlled through SMAC centre SMC Muglisara main office	150 new EV based buses will be operational with appropriate charging infrastructure	by the end of 2021	No	On-going	Text	Yes	Map showing bus stations and locations of BRT movement **ANNEXURE: VE6.2**	0.00 Cr	0.00 Cr	0.00 Cr	0.00 Cr
		4. BRTS corridor & bus shelter along SVNIT to Pal umra bridge work in progress.	SVNIT to Pal umra bridge corridor	June 2021	No	NA	Text	No	NA	0.00 Cr	0.00 Cr	0.00 Cr	1.18 Cr
		5. Pal Ichchhapor BRTS corridor under planning	Pal Ichchhapor BRTS corridor	Planning stage	No	NA	Text	No	NA	0.00 Cr	0.00 Cr	0.00 Cr	24.00 Cr

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 6.3	Develop route plan for bus operation; target trunk roads	As per Above	As per Above	As per Above	As per Above	As per Above	As per Above	As per Above	As per Above **Annexure: VE6.3**	-	-	-	-
VE 6.4	Intermediate public transport (IPT) and bus system	There are about 102649 autos in the city. .	NA	NA	No	On-going	Number	No	As per present status	-	-	-	-
VE6.5	Introduction of new electric buses (with proper infrastructure facilities such as charging stations) and CNG buses for public transport which will reduce plying of private vehicles on road and help to curb tail-pipe emissions.	150 nos of electric buses work awarded. Presently 12 nos of electric buses are in operation.And 150 nos of electric buses tender work under process	150 Electric Buses	150 nos bus by the end of 2021 & another 150 nos by end of the year 2022	No	150	Number	No	As per present status	-	-	-	-
		Infrastructure facilities for charging station work are in progress. H.T Lines for E-Bus Charging	4 Bus Depot	By the end of 2023	No	NA	Text	No	Details of Bus depot	31.00 Cr	2.0Cr	0	16.36 Cr

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 6.6	CNG infrastructure for auto gas supply in the city and transition of public transportvehicles to CNG mode Introduction of e-buses for Public transport in metro cities	Auto Rickshaw registered only on CNG mode. Registered CNG Auto Rikshaws-88594. CNG private buses-246, LPG LMV-23486, LPG motor cycles-12939 Policy will finalize within 6 months. 54 CNG station in and around surat(33 within SMC limit) out of 54 station , 47(including all CNG stations located within SMC limits) are online station/mother station and 7 are daughter booster station	NA	Within 6 months	No	Continuous process	Number	No	As per present status **Annexure : VE6.6**	Not Required	Not Required	Not Required	Not Required
VE6.7	Steps for promoting battery operated vehicles like E-rickshaw/E- Cart	Under Planning stage	50	By the end of year 2023	No	NA	Number	No	NA	Not Required	Not Required	Not Required	Not Required

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 7	**Traffic Congestion**												
VE 7.1	Conducting audit of traffic intersections and install functional traffic signals at all major intersections	79 Major traffic intersections has been identifying and geometric design work allocated.	79 Intersection	NA	No	NA	Number	Yes	As per present status	Not Required	Not Required	Not Required	Not Required
VE 7.2	Synchronize traffic movements /Introduce intelligent traffic system for lane-driving	Work is in progress. Adaptive traffic control system will be implemented at 276 intersections within city. Currently this system has been implemented at 36 intersections.	276 Intersection	by the end of March-2022	NA	NA	Text	Yes	**Annexure : VE 7.2**	-	-	-	-

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE7.3	Prepare plan for construction of diversion ways/ bypasses to avoid congestion due to non-destined vehicles.	Surat had total 115 Bridges in Municipal Area. [River Br.-14, Railway Over/Under Br.-12, Flyover Br.-28 & Creek Br-61] There are 07 New Bridges are under construction and 16 more are in Planning/Estimate/Tender Stage.	16	2024-25	NA	-	Text	-	List of Under Progress & Planning/ Estimate/ Tender stage are attached.	390 Cr. (SJMMSVY)	39 Cr.	-	
VE 7.4	Prepare plan for widening of road and improvement of infrastructure for decongestion of road.	Total of 29 different roads were widened across the city in this financial year. Also 13 river bridge,61 creek bridge, 28 flyover bridge,12 ROB/RUB constructed for decongestion of road	Decongestion of road	Continuous process	NA	NA	Text	yes	As per present status	0	0	0	0

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE8	**Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.**												
VE 9	**Periodic calibration test of vehicular emission monitoring instrument.**												
VE 10	**To check the calibration of emission monitoring equipment's, housed in Emission Testing Centers (ETCs) once in 6 months to know the status of equipment's**												
VE 11	**Phase out old vehicles and vehicle scrappage policy**												
VE 11.1	Inspection /maintenance to all BSII & BS III	Total BS2 & BS3 Vehicles 41184 As per vahan report	NA	NA	No	NA	Number	Yes	AS per present status	Not Required	Not Required	Not Required	Not Required
VE11.2	Restriction on plying and phasing out of 15 years old commercial diesel driven vehicles.												
VE11.3	Enforcement of law against visibly polluting vehicles: remove them from road, impose penalty, and launch extensive awareness drive against polluting vehicles.												

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 11.4	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available.												
VE11.5	To increase fine on vehicle owners (not drivers) where the visible smoke is emitted and noticed.												
VE11.6	Examine existing framework for removing broken down buses or trucks from roads and create a system forspeedy removal and ensuring minimal disruption to traffic from such buses or trucks.												

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 11.7	The restriction on use of two stroke vehicles in phased manner (2-Stroke, 3-stroke)												

Action Point Code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	AnnualTarget	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
VE 12	**NMT**												
VE12.1	Introducing cycle tracks along with the roads	Total number of 15 yr old diesel vehicles : 18750 (As per Vahan report between 01/1980 to 07/2006 registration)	phasing out of 15 years old diesel Vehicles.	NA	No	NA.	Number	Yes	As per present status	Not Required	Not Required	Not Required	Not Required
VE 12.2	Prepare and implement zonal plans to develop an NMT network	Total 5009 Of challans issued during 1-4-2020 to 30-3-2021	Regular Activity	NA	NO	Regular Activity	Number	No	As per present status	Not Required	Not Required	Not Required	Not Required

6. INDUSTRIES

IP1	Industrial air pollution control	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
IP1.1	To intensify monitoring of industries to reduce of emission by the industries.	In February 2021: Red= 296 Orange= 43 Green= 19	Continuance Process	Regular activity	NA	NA	Number	No		No	No	No	No
IP1.2	Action against non-complying industrial units	Total actions taken by board for violation of environmental laws in April - June-2021: Closure Direction= 28 Notice of Direction= 31 Show Cause Notice= 98					Number (2)						
IP1.3	Shifting of Polluting Industries	----					Number (2)						
IP1.4	Ban on Polluting Industries	GPCB has restricted to use high sulphur content fuel usage in NACs					Number						
IP1.5	Random auditing for Air pollution measures and Online reporting systems in the industries	Yes- Regularly &continuously conducted	Continuance Process	Regular activity			Number	Yes	Action taken based on audits				
IP1.6	Conversion to side-hood suction in furnaces	Yes-Wherever applicable, Implemented					Number (2)						

IP1.7	Identification of air polluting industries and their regular monitoring including use of designated fuel	Yes- Monitored regularly & accordingly action taken against defaulting industries					Text	Yes	Details on the steps				
IP1.8	Promoting cleaner production in industries.	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.9	Fugitive emission control	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.10	Ensuring installation/Up-gradation and operation of air pollution control devices in industries	Yes-Wherever applicable, Implemented	Guidelines are prepared for APCDs				Text	Yes	Details on the steps				
IP1.11	Action/closure against defaulting/unauthorized industrial units.	Total actions taken by board for violation of environmental laws in April - June-2021: Closure Direction= 28 Notice of Direction= 31 Show Cause Notice= 98					Number (2)						
IP1.12	Ensuring emission standards in industries	Yes- Regularly &continuously conducted	Continuance Process	Regular activity			Text	Yes	Details on the steps				
IP1.13	Disposal of all non-hazardous wastes into the designated dumping sites	SMC has Secured landfill site for non-hazardous waste disposal					Number (2)	Yes	Details on dumping sites including their capacity				
IP1.14	Location specific Emission reduction.	Pilot ETS Scheme implemented in Sachin&Pandesara cluster					Number	Yes	Details of locations considered				
IP1.15	Industries allowed with stringent Environmental norms only.	Stipulated in conset wherever applicable					Number	Yes	Details of such industries				

IP1.16	Industry shall prepare plant wise inventory of vents and ensure that it is routed to vapour recovery system followed by flare system, wherever applicable.	Yes-Its prepared by the industry					Yes/No	eEs	Details on the data analysis				
IP1.17	Suitable size Condenser, receiver may be provided for recoveries of high volatiles, wherever required.	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.18	Industry should adopt “Recognized and Generally Accepted Good Engineering Practices" (RAGAGEP)	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.19	Industry should share Hydrocarbon loss data within a month time audit completion along-with past trend data with clearly highlighting the increase or decrease in the Hydrocarbon emissions.	----					Yes/No	Yes	Details on the data analysis				
IP1.20	Regeneration frequency of Adsorption / absorption system / Activated carbon bed should be clearly defined as per the trend data of previous cycles and should be documented.	----					Text	Yes	Details on the steps				
IP1.21	Appropriate inline sensor may be explored to gauge the efficiency of treatment system.	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.22	In line monitoring may be explored to indicate the breakeven point of Activated carbon bed	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				

	(Vapour recovery system), this will minimize the losses.												
IP1.23	Industry should include a special training module regarding “fugitive emissions and its health impacts on individual and surrounding communities” for its staff, operating personnel & Drivers to spread awareness about risk/hazard associated with spills and leaks of various chemicals.	Yes-Workshop conducted as a part of Surat clean Air action plan					Yes/No	Yes	Details on the training undertaken				
IP1.24	Industry may devise an internal system to increase the vigilance on tankers stationed / parked near the factory premise to ensure that even empty tankers closed properly.	Yes-Implemented by industry as applicable					Yes/No	Yes	Details on the action undertaken				
IP1.25	Initiated Star Rating Programme	----					Yes/No						
IP1.26	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries.	Yes- GPCB has devised BG Policy					Yes/No						
IP1.27	Improved Combustion technology	Yes-Wherever applicable, Implemented					Text	Yes	Details on the steps				
IP1.28	Implementation of SOx and NOx standards notified by MOEF&CC	Yes- Norms prescibed in Consents					Yes/No						
IP1.29	Prepare and implement local area action plan for pollution hotspots and strict enforcement of air pollution control	Pilot ETS Scheme implemented in industrial cluster					Yes/No	Yes	Details on the action undertaken				

	measures in all industries, including those located in unauthorized areas.												
IP1.30	Assess the number of industrial units that are non-compliant and prepare unit/plant wise action plan for time bound compliance or be shut down.	Yes- Regularly conducted					Yes/No	Yes	Details on the action undertaken				
IP1.31	Carry out pollution load estimation from industrial sector to enable setting of target for emission	Yes-SAS is conducted for surat city					Yes/No	Yes	Details on the action undertaken				
IP1.32	Industrial units to install water spraying system of internal roads and washing of tyres of vehicles	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2	**Material Storage and handling in industrial**												
IP2.1	Industry should Store and handle all A class petroleum products & Solvents in the tanks having floating roof.	Yes-Wherever applicable, Implemented					Yes/No						
IP2.2	Industry should devise time bound plan, to switch over the existing A class solvent storage from fixed roof to floating roof	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2.3	Styrene, Xylene (Class-B) should be stored and handled similar to class-A products considering their concentrations in the atmosphere.	Yes-Wherever applicable, Implemented					Yes/No						

IP2.4	All Floating roof tanks should be provided with double seals with suitable preventive maintenance procedure in place for seals to maintain the sealing efficiency.	Yes-Wherever applicable, Implemented					Yes/No						
IP2.5	Industry should evolve an internal monitoring system for cleaning of major tanks of Class-A & others (Styrene and Xylene), which may include supervision of cleaning activity by representative of Environment dept. of respective industry.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2.6	Industry may also evolve a system of work-zone VOC monitoring pre and post cleaning of tank.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2.7	Industry should devise time bound plan, to switch over the existing tanker filling from top filling to bottom filling	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2.8	Industry should evaluate the existing facility or Design new facility for the suction of fumes/ solvents vapours during tanker filling operation from technically competent agency for efficient handling of fugitive emissions.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP2.9	Industry should identify the sources of low potential emission rate and plan the suitable adsorption / absorption	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				

	system for vapour treatment.												
IP3	**OCEMS in Industries**												
IP3.1	There should be provision to use CEMS data as legal evidence and a policy be framed in consultation with Central Pollution Control Board.	----					Yes/No	Yes	Policy copy				
IP3.2	Implement Continuous Emission Monitoring System (CEMS) across all targeted and applicable polluting industry	CEMS Device installed in @350 industries for ETS Project					Number						
IP3.3	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	It is under consideration.					Yes/No	Yes	Details on the action undertaken				
IP3.4	Live camera feed and to take action against non-complying industrial units	It is already implemented					Yes/No	Yes	Details on the action undertaken				
IP4	**Clean fuel in industries**												
IP4.1	Introduction and shifting towards cleaner fuels in industries	Yes- It is being implemented					Yes/No	Yes	Details on the action undertaken				
IP4.2	Conversion to CNG/PNG from pet coke /wood / coal and urgent ban on furnace oil, pet coke, which are dirty industrial fuels with high sulphur and heavy metals	Yes- Implemented, Notification issued					Number Yes/No	Yes	Notification copy				
IP4.3	Strict enforcement against illegal use of such fuels, including fuels	Yes- Continuously monitored					Yes/No	Yes	Details on the action undertaken				

	which do not have specifications laid down or are included in the acceptable fuels as mandated by state pollution control boards												
IP4.4	Establish a protocol for using cleaner fuels & technology in industries	Yes- implemented, Notification issued					Yes/No	Yes	Protocol copy				
IP4.5	Restriction on using un-authorised fuels in industries	Yes-Continuously monitored					Yes/No	Yes	Details on the action undertaken				
IP4.6	Sulphur reduction in fuel	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP4.7	Alternate fuel- Hotel industry directed to change fuel patten from HSD to Natural Gas.	Yes-Already Implemented					Yes/No Number (2)	Yes	Copy of direction				
IP5	**Control of air pollution from Brick kilns**												
IP5.1	Adapting new technologies for Brick kilns	Yes-Wherever applicable, Implemented					Number (2)						
IP5.2	identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Yes					Yes/No	Yes	Details on the action undertaken				
IP5.3	Conversion of natural draft brick kilns to Force/ induced draft.	Yes-Wherever applicable, Implemented					Number (2)						
IP5.4	Closure of unauthorized units by seeking the possibility for shifting of kilns outside corporation limits	Yes-Wherever applicable, Implemented					Number (2)						
IP5.5	Prescribe design specifications for	-----					Yes/No	Yes	Details on the action				

	improved kilns and ensure compliance checking to know that conversion has actually taken place.								undertaken				
IP6	**Control of air pollution from Thermal Power Plants and coal handling units**												
IP6.1	Regular audit of stack emissionsfor QA/QC	Conducted as per monitoring criteria					Yes/No	Yes	Details on the action undertaken				
IP6.2	Sprinkling arrangements at Siding/Permanent Transportation routes/Coal Dumps	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.3	The covering of loaded transport vehicles will be compulsory in TPP and coke units	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.4	All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca	Continuously improving					Yes/No	Yes	Details on the action undertaken				
IP6.5	All ash dumps will be enclosed by pucca boundary to prevent entry through them.	Continuously improving					Yes/No	Yes	Details on the action undertaken				
IP6.6	All processing of ash will be done in covered space.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.7	The chimneys of all boilers will be equipped with ESPs with on line monitoring systems.	Already implemented					Yes/No	Yes	Details on the action undertaken				
IP6.8	Dry ash collection system shall be installed and dry ash sale cement mills shall be resumed.	Already implemented					Yes/No	Yes	Details on the action undertaken				

IP6.9	All ash shall be disposed of by utilization or sale and it will be continued from.	Already implemented					Yes/No	Yes	Details on the action undertaken				
IP6.10	The plantation of saplings for creation of tree and forest cover of local species in TPP	Continuously improving					Yes/No	Yes	Details on the action undertaken				
IP6.11	The conversion of abandoned / inoperative mines into water bodies.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.12	The space of processing of coal or coke will be kept covered in coke units.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.13	Sulphur reduction in fuel by using low sulhur content Imported coal in Thermal Power plant.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.14	Installation/ up gradation of air pollution control systems in Thermal and Petrochemical industries.	Already implemented					Yes/No	Yes	Details on the action undertaken				
IP6.15	Use of high grade coal made compulsory in thermal power plant.	----					Yes/No	Yes	Copy of notification				
IP6.16	Action plan to address emissions from thermal power plant by installing FGD plant	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.17	Implementation of new thermal power plant standards in all powerplants	Already implemented					Number (2)						
IP6.18	Check status of compliance and prepare a transition plan for each power plant to meet the new standards	Already implemented					Yes/No	Yes	Details on the action undertaken				
IP6.19	Plants found not meeting set emission reduction targets to be penalized	Yes-Wherever applicable, Implemented					Number						

IP6.20	Chart a roadmap for cleaner plants and Incentivize their operation by giving them the priority over other polluting plants	----					Yes/No	Yes	Details on the action undertaken				
IP6.21	Adopting cleaner technology in coal based thermal power plants	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP6.22	Switching to power generation from existing wind and solar plants (renewable source) to reduce operation of coal based power plants	Self Switch over intiaited by units					Number (2)						
IP6.23	Permanent closure of old TPP or move towards cleaner natural gas.	It will be implemented as the case may be					Number (2)						
IP7	**Control of air pollution from Coke ovens**												
IP7.1	Coal fired boilers to be converted to oil/gas fired driers, preferably with coal bed methane (CBM)	Yes-Wherever applicable, Implemented					Number (2)						
IP7.2	Switch to coke dry quenching system (CDQ)	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP7.3	Increasing carbonization chamber height	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP7.4	High pressure ammonia liquor aspiration	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP7.5	Wet oxidative desulphurization of coke oven gas	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP7.6	Stationary land-based pushing emission control	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				

IP8	**Control of fugitive emissions in industries**												
IP8.1	Use of hoods and enclosure for all process equipment, hooding of emission controls of the blast furnace tapping operations and discharge of molten metal and slag, covering of ladles containing molten metal	Yes–Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP8.2	Scrap management programme for the prevention or minimization of contaminants in steel scrap and other feed materials	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP8.3	Use of covered or enclosed conveyors and transfer points	Yes					Yes/No	Yes	Details on the action undertaken				
IP8.4	Enclosures for emission controls of the charging and tapping operations .	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP8.5	Minimising the number of flanges by welding piping connections wherever possible and using appropriate sealing for flanges and valves	Yes					Yes/No	Yes	Details on the action undertaken				
IP8.6	Wet quenching of coke as opposed to conventional quenching	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP8.7	Use of larger oven chambers and regulation of pressure within oven chambers	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9	**Control of air pollution from Iron and Steel industry:**												

IP9.1	Use of desulphurized coal	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.2	Use of pulverized coal injection method	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.3	Installation of coke dry quenching (CDQ)	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.4	Installation of top gas recovery Turbine (TRT)	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.5	Introduction of coal dust injection (CDI)	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.6	Introduction of coal dust injection (CDI); waste heat recovery in Sinter Plant; waste heat recovery at blast furnace stove	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.7	Use of byproduct fuel for power generation	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.8	Waste heat recovery in Sinter Plant; Waste heat recovery at blast furnace stove	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.9	Switch to Direct Reduction Electric Arc Furnace from basic oxygen furnace	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP9.10	Upgradation of Air Pollution Control System	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP10	**Control of air pollution from mining area**												
IP10.1	Maintenance of mine area roads	Yes-Conditions laid down in permissions/guidelines					Yes/No	Yes	Details on the action undertaken				
IP10.2	Greenbelt for activity zone and the buffer zone	Yes-Conditions laid down in					Yes/No	Yes	Details on the action				

	for each mining area	permissions/guidelines							undertaken				
IP10.3	Effort for good mining practices	Yes-Conditions laid down in permissions/guidelines					Yes/No	Yes	Details on the action undertaken				
IP10.4	Control of fugitive emission in Open Cast Mine by use of mechanized sweeping machine, long range fogging machine.	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP11	**Control of air pollution from generator sets**												
IP11.1	Allow only DG sets meeting emission and design of chimney/ exhaust, acoustic enclosures standards to operate	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP11.2	Curtail use of DG Sets in social events by providing temporary electric connections	Yes-Wherever applicable, Implemented					Yes/No	Yes	Details on the action undertaken				
IP11.3	Ensure access to quality electricity supply	Mostly uniterrupted power supply in city					Number						
IP11.4	Discourage use of DG sets in cellular towers. Promote use of alternate power	Yes-Wherever applicable, Implemented					Number(2)						
IP11.5	Levarage rooftop solar programme to reduce dependance on DG sets	Yes- State govt. has launched scheme					Yes/No	Yes	Details on the action undertaken				
IP12	**Control of air pollution from waste incineration**												
IP12.1	Strong siting policy for Waste to Energy Plants	Yes					Yes/No	Yes	Copy of policy				
IP12.2	Strong siting policy for Biomedical Incineration Plants	Yes					Yes/No	Yes	Copy of policy				

IP12.2	Implement CEMS for incinerators and provide data on emissions on an open platform	Yes					Number(2) Yes						
IP13	**Renewable Energy**												
IP13.1	Link energy requirments for solar power plants to shift to zero emission target	Yes- State govt. has launched scheme					Yes/No	Yes	Details on the action undertaken				
IP13.2	Identify and target commercial and industrial establishments for installation of roof top solar system	Yes- State govt. has launched scheme					Number	Yes	Details on the action undertaken				
IP13.3	Identify canals and open spaces for installation of solar systems	it is under consideration					Number (2)						
IP13.4	Organise consumer outreach programme for roof top solar programme	Yes- State govt. has launched scheme					Yes/No	Yes	Details on the action undertaken				

7. WASTE AND BIOMASS- DUMPING AND BURNING

BB1	Biomass Burning	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
BB1.1	Regular check and control of burning of municipal solid wastes	Burning of Municipal Solid waste- Continuous daily inspections are conducted at Zone level by Zone level officers in their zone boundaries randomly.	No Burning of MSW	Continuously monitoring	No, Regular Enforcement Activity	Regular Activity. Dedicated site workers.	Number	No	Nil	Not Required	Not Required	Not Required	Not Required
BB1.2	Defaulters for open burning to be imposed fines	Penalty imposed is Rs 5,000/- per month	Continuously monitored	Continuously monitoring	No, Regular Enforcement Activity	50,000/- Annual average	Number	yes	Penalty imposed from different zone are as **Annexure: BB1.2**	Not Required	Not Required	Not Required	Not Required
BB1.3	Identify Garbage burning locations and	2 nos of garbage burning locations are, Khajod disposal site and Bhatar	Continuously monitored	Continuously monitoring	No, Regular Enforcement Activity	Continuously monitoring and reduce burning up to zero	Number	no	Nil	Not Required	Not Required	Not Required	Not Required

BB1.4	Prohibition/complete ban on garbage burning.	According to 'Public-Health Bye-laws 2015' for The Surat Municipal Corporation of Gujarat State charges for Open burning of waste.	Regular Activity	Continuously monitored	No. Regular Enforcement Activity	Completed. Complete ban imposed and monitored regularly	Number	yes	Notification copy of open burning charges as **Annexure-BB1.4**	Not Required	Not Required	Not Required	Not Required
BB1.5	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	All the officers, zonal sanitary officers, CSFI and SFIs are authorized to impose fines on person responsible to stringently enforce/stop garbage burning in landfills and other places. A sum of Rs. 50,000/- has been collected as penalty/fine in the last financial year 2019- 2020,	Regular Activity	Continuously monitored	No	Completed	Number	No	Nil	Not Required	Not Required	Not Required	Not Required

BB1	Biomass Burning	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
BB1.6	Construction of advanced waste management Site.	Surat municipal corporation constructed 16 nos of waste management site and already in functional position. Whereas SMC is Planning to develop a centralized Waste Management Park for the future requirement as per the SWM rules 2016	100% Waste Processing	Dec-2024	No	Continuously monitoring and construct sufficient numbers of waste management sites with advance techniques.	Yes	Yes	List of advanced waste management site with location, capacity as **Annexure-BB1.6**	250.00 cr	0.00 cr	0.00 cr	145.00 cr
BB1.7	Regular collection and control of municipal solid wastes.	Regular collection and control of municipal solid wastes by SMC as Generation 1)1621.91TPD Collection 2)1582.3 TPD of waste from city. Whereas SMC is Planning to develop the alternate arrangement for the collection of MSW utilizing the Electronic vehicle Modes.	50% shifting to alternative Arrangement	2025	No	Regular activity. For newly added area of surat city collection activities will be carry out and old waste collector vehicles will be converted with new technique into e vehicles in a phase manner	Percentage Base	yes	Details of generated and collected type of process shown in **Annexure-BB1.7**	229.00 cr	20.00 cr	0.02 cr	40.00 cr

BB1.8	Providing Organic Waste Compost machines, decentralization of processing of Waste, dry waste collection centers.	Surat municipal corporation already established 1)81(Organic waste Converter machines) 2)03(Decentralization of processing of waste) 3)08(MRF),06(Dry waste). Whereas more number of machines will be installed as per the requirements and SMC is planning to develop a decentralized OWC plant under the SATAT Scheme of Central Govt.	100% On source treatment	Dec-2024	No	Regular activity. Establish new Organic converter machines for processing of wet waste and construct new MRF facility with advance technique for waste process. SMC is planning to develop a decentralized OWC plant under the SATAT Scheme of Central Govt.	Number	Yes	Details of the sites and machines including location, waste collected/processed per day as **Annexure-BB1.8**	**5.0 cr**	0.00 cr	0.00 cr	10.00 cr
BB1.9	Awareness for controlling of burning of agricultural waste and crop residues.	As SMC is least agriculture base region, No such activity is required to be carried on. Whereas SMC is regularly informing the citizens for burning of waste.	Continuously monitored	2024	Regular Activity	Regular activity	NA	NA	NA	Not Required	Not Required	Not Required	Not Required
BB1.10	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	220 nos of gardens already developed by SMC and further identified other open area for construction	Continuously monitored	2024	NA	Identify minimum 15 nos of open plot area for plantation to improve air quality of the city	Number	Yes	List of garden with location shown in **Annexure-BB1.10**	Not Required	Not Required	Not Required	Not Required

BB1	Biomass Burning	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
BB1.11	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	Presently SMC has Conventional Plant for the disposal of Dead Bodies of Animals on PPP basis. Whereas SMC has planned to establish 5 tpd capacityBio methanation and Incineration plant with suitable technology for collection, treatment and processing of offal waste including small and big dead animals as per the provisions of solid waste management rules 2016 including design, construction, erection, testing and commisoning along with successive operation and maintenance for the period of 20 years in surat	Long term Plant for the Animal Dead Bodies	Dec-22	No	Bio methanation and Incineration Plant establish for processing of offal waste including small and big dead animals.	Number	yes	Detail of Bio methanation and Incineration plant with its area layout plan shown in **Annexure-1.11**	6.0 cr	0.00 cr	0.00 cr	4.00 cr

BB2	**Ensure segregation of waste at source**	65 nos. of RWA is implementing along with onsite processing. IEC activities done to educate people for segregation of waste at source. whereas SMC will be implementing the RAG PICKERS SHAMIk YOJNAJNA..... Machinized MRF at new locations added in municipal boundary of C	100% segregation	2024	NA	Implement other Resident's welfare association (RWA) for segregation and for onsite processing of waste at source.	Number	Yes	Details of implemented Resident's welfare association (RWA) with its location shown in **Annexure-BB2**	0.00 cr	0.00 cr	0.00 cr	40.00 cr
BB3	**Proper collection of Horticulture waste and its disposal following composting-cumgardening approach**	02 vermi compost plant for disposal of garden waste at chowk char Rasta and causeway singanpore surat.	completed	Continuously monitoring	NA	Continuously monitoring	Number	Yes	Details of the sites with location as in Annexure-BB3	0.00 cr	0.00 cr	0.00 cr	0.00 cr
BB4	**Recycling plants for dry waste.**	6 nos Recycling plants for dry waste already functional in surat. SMC has planned for centralized recycling plant for different dry wastes i.e. Industrial Waste Management, Plastic waste management on EPR basis, For C&D waste production, selling and recycling of waste.	2024	Dec-22	No	Construct another dry waste recycling plant with advance techniques for better and convenient process. And plan to construct centralized dry waste processing and recycling with advance technique plant.	Number	Yes	Details of the plants with location and capacity shown in Annexure-BB4	100.00 cr	0.00 cr	0.00 cr	20.00 cr

BB5	**Ambient air quality monitoring of municipal dumping sites and parks**	Yes, Ambient air quality monitoring of municipal at khajod disposal plant.	Continuously monitoring	Continuously monitoring	NA	Identify dumping sites and parks for establish Ambient air quality monitoring	Number	Yes	Khajod Disposal site	Not Required	Not Required	Not Required	Not Required

BB1	Biomass Burning	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
BB6	Check/stop on Stubble Burning	As per clause of Operation Maintenance and Management of Sanitary Landfill Facility at Khajod Solid Waste Disposal Site for Five years tender,i) If any FIRE incident take place in the premises and boundary of Operational Sanitary Landfill Cell then, Penalty as per prevailing Hon. NGT directions or as directed by competent authority of SMC will be levied on Bidder. ii. In addition to the penalty, the contractor shall be liable for any	Daily(365 days) checking up to zero burning	Regular activity	Regular Enforcement Activity	Daily checking up to Zero Stubble burning	Number	Yes	Detail explanation of clause regarding burning/fire penalty shown in Annexure-BB6	Not required	Not required	Not required	Not required

		legal proceeding imposed by pollution control boards, NGT, Similar authority, etc. are apply where burning take place.											
BB7	Action plan to minimize the forest fire	NA	NA	NA	NA	NA	NA	Yes	NA	Not required	Not required	Not required	Not required
BB8	Use of Piped Natural Gas (PNG) for Human cremation.	All major cremation like Umra, Kurushretra and ashwinikumar has been connection with Natural gas piped network	NA	NA	NA	NA	NA	Yes	NA	Not required	Not required	Not required	Not required
BB9	Use of satellite based monitoring as well as mobile spot check squads for enforcement	Monitoring through CCTV camera in association with Surat Police is established	Daily	Regular activity	NA	Regular activity	NA	NA	NA	Not required	Not required	Not required	Not required
BB10	Landfill fire	As per clause of Operation Maintenance and Management of Sanitary Landfill Facility at Khajod Solid Waste Disposal Site for Five years tender,i) If any FIRE incident take place in the premises and boundary of Operational Sanitary	Daily(365 days) checking up to zero burning	Regular activity	Regular Enforcement Activity	Daily checking up to Zero Stubble burning	Number	Yes	Detail explanation of clause regarding burning/fire penalty shown in Annexure-BB6	Not required	Not required	Not required	Not required
BB10.1	Proper management of landfill sites to prevent spontaneous fire												

		Landfill Cell then, Penalty as per prevailing Hon. NGT directions or as directed by competent authority of SMC will be levied on Bidder. ii. In addition to the penalty, the contractor shall be liable for any legal proceeding imposed by pollution control boards, NGT, Similar authority, etc. are apply where burning take place.										

BB1	Biomass Burning	Present Status	Target	Target Date	Deviation from Approved Action Plan Target	Annual Target	Field type	Attachment	Attachment Contents	Total Funds Allocated	Funds released	Funds Utilized	Additional Funds Required
BB10.2	Adopt roadmap for zero landfill policy to promote decentralized waste segregation, reuse and recycling	Yes, for reduce landfill SMC introduce long term and short term plan for onsite composting of organic waste which convert into compost and established numbers of Organic waste converter machines for wet waste to compost generation and it is used in garden to grow plants. SMC ensure that people use clothes bag instead of plastic bag. Different colors bin installed at every location of city so people directly put segregated waste into that bin.	Continuously monitoring	Dec-25	NA	Regular enforcement activity	Yes/No	Yes	Khajod Disposal site	Not required	Not required	Not required	Not required
BB11	Fire crackers—regulate to control their usage	As per Hon'ble Supreme Court's directions, sale of firecrackers was banned during the diwali festivals	Regular activity	Regular activity	NA	Completed	numbers	NA	NA	Not required	Not required	Not required	Not required

Action Points code	Action Points	Present Status	Target	Target Date	Deviation from Approved Action	Annual Target	Field Type	Attachment	Attachment Content	Total Funds Allocated	Funds released	Funds Utilized	Funds Required
DF1	**Domestic Fuel**												
DF1.1	Increasing the LPG connections in low income strata.	29,07,682 of LPG connections in the city to low income strata (EWS) Total number of EWS families					Number (2)						
DF1.2	Ensuring promotion and use of cleaner fuel (i.e. LPG) instead of coal fired chulas or fire-woods in the hotels and open spaces	Steps taken					Text	Yes	Details on the steps				
DF1.3	Introduce schemes for providing subsidized LPG connections as well as providing means of finance to small tea vendors/hawkers using kerosene stoves in order to reduce emissions from burning of kerosene	Pradhan MantriUjjwalaYojana (PMUY) , LPG Subsidy, PAHAL Scheme					Text	Yes	Details on the scheme				
DF1.4	To mandate LPG/Bio gas in commercial eateries.	Whether notification issued					Yes/No	Yes	Notification copy				

DF1.5	Ensuring 100% electrification and uninterrupted electric supply with in the city.	100% electrification in the city Number of electricity outtage hours per month					Number (2)						
DF1.6	Ensure easy availability of affordable cleaner cooking fuels (LPG in urban areas & biogas in rural areas)	Steps taken					Text	Yes	Details on the steps				
DF1.7	Introduction of improved chullahs (low emission chullahs)	Steps taken					Text	Yes	Details on the steps				
DF1.8	Implementation of Pradhan MantriUjjwalaYojana (PMUY)	yes,3,83,415 connection given under this scheme					Text	Yes	Details on the steps				
DF1.9	Shift to LPG from solid fuel & kerosene for domestic applications	89% of domestic users switched to LPG in the year					Number						
DF1.10	Use of LPG in Bakeries	Number of Bakeries switched to LPG Total number of bakeries					Number (2)						
DF1.11	Adopting Better construction practices with PM reduction of 50%	Notification has been issued for barricading of construction site along with regular water sprinkling, and closed conveyor system and closed material handling	NA	Regular monitoring along with compliance report has to be submitted before issue of BUC	NA	NA	NA	NA	NA	NA	NA	NA	NA

8. AIR QUALITY DATA

Action Code	Action Point	Field type	Attachment	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Attachment
AQ1.1	Monthly averages for PM2.5 (In µg/m3)	Number (12)	_													_
AQ1.2	Monthly averages for PM10 (In µg/m3)	Number (12)	_													_
AQ1.3	Monthly averages for SO2 (In µg/m3)	Number (12)	_													_
AQ1.4	Monthly averages for NO2 (In µg/m3)	Number (12)	_													_
AQ1.5	Annual averages for PM2.5 (In µg/m3)	Number (1)	_													_
AQ1.6	Annual averages for PM10 (In µg/m3)	Number (1)	_													_
AQ1.7	Annual averages for SO2 (In µg/m3)	Number (1)	_													_
AQ1.8	Annual averages for NO2 (In µg/m3)	Number (1)	_													_
AQ1.9	Monthly Meteorological Data	AT	^{O}C													_
		RH	%													_
		SR	W/m^2													_
		BP	mmHg													_
		VWS	m/s													_
		WS	m/s													_

		WD	Deg													–
		RF	mm													–

9. Annexure

Gujarat Pollution Control Board

Gujarat pollution control board

❖ CAPACITYBUILDING,MONITORINGNETWORKANDSOURCEAPPORTIONMENT

Annexure CB-1.1

CAAQMS

Already installed 2 Air monitoring stations

Type of data base (display monitor,app,websiteetc)	Details	Frequency with which data base is updated (live,hourly,dailyetc)
Stations		
Varachha Zone Office	Latitude:21.20335 Longitude:72.846603	Live,hourly,daily,weekly,monthlyetc
Limbayat Zone Office	Latitude:21.183652 Longitude:72.860154	

List of 4 air monitoring station with location which is installed by SMC,

Sr . no	Zone office	location
1	Central zone	Rang Upvan, Nanpura
2	North zone	Water Distribution Centre, Fulpada
3	West zone	Sanjiv kumar Auditorium

4	South zone	Dindoli Fire Station, Limbayat area

List of 3 air monitoring station with location which is installed by GPCB

Sr . no	**Zone office**	**location**
1	South west zone	Kavi Veer Narmad Library, ghod dod road
2	South zone	Pandesara
3	East zone	Varachha zone office

Air quality monitoring network

Action point	**Time target**	**Implementation agencies**
Air quality index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	30 days and thereafter as regular activity	GPCB and SMC

Micro level planning

Project name	Details of work	Target reduction	Total cost(in Lacs)	Project timeline	Source of Funding	Funds released	Additional fund Requirement	Responsible Officers
Installation of AQMS in Surat	**2 nos. Of sensor based AQMS already installed in surat city at varachha and limbayat zone office.** **Under AQMS SMC and GPCB planned to install 7 air quality monitoring stations within city boundaries in which, 4 are installed by SMC and 3 are installed by GPCB. SMC has already started installation of 4 stations in city.**	**Low**	**8.0 cr.**	**June2022**	**NCAP and 15thfinance**	**Under 15thfinance.**	**Not required**	**Exe. Engineer (drainage) SMC and regional officer GPCB**

Time lines for the project–Installation of AQMS in Surat

Activity	Sub-Activity	Timeline										Remarks
		Jan-21	Feb-21	March-21	April-21	May-21	June-21	July-21	Aug -21	Sep-21 may -22	June-22	
Pre bidding stage	Preparation of tender document											Completed
Bidding stage	Calling of bids & its approval											Completed
	Release of work order											Under process
Project execution	Procurement of AQMS											Under process
	Selection of location											Completed
	Installation of AQMS											Under process
	Connecting AQMS to the online GPCB server for real time monitoring											Under process
	Calibration of AQMSs	Regular activity										

Annexure CB1.2

Manual Air monitoring Stations installed by GPCB in Surat city

Lists of manual air monitoring station with location

No	Location address	Latitude and Longitude:
1	Abovewatersump,Nr.S.V.R.Eng.College,GuestHouseBldg.,SVNIT,Ichchhanath,Magdalla Road	21°10'00.7"N72°46'54.2"E
2	Darshan Processer, Darshan Baug, Udhana	21°09'29.7"N72°50'30.1"E
3	AirIndiaBuilding,AboveSuratMuncipalPathologyLab,KotsafilRoad,Surat	21°11'45.2"N72°49'48.0"E
4	GuptatexprintspvtLtd,PlotNo-413,,GIDC,Pandesara	21°08'05.2"N72°50'11.9"E
5	TerraceofbuildingatSGPTAofficebuildingatplotno.200,Dhamanwalaservicecomplex,GIDC,Pandesara	21°08'39.4"N72°50'51.3"E
6	PremisesofChaltanSugar-Shreechalthanvibhagkhandudyogsahakarimandali,chalthan,Palsana	21°09'30.9"N72°57'36.0"E
7	Premises of CETP of New Palsana Industrial co.op.soc.,Vill-Baleshwar,Ta:-Palsana	21°06'04.4"N72°58'09.7"E
8	Delhi Gate Police station ,Nr. Railway station, Surat	21°12'11.0"N72°50'19.1"E
9	HighChoiceProceserPvt.Ltd.,PlotNo.264,RoadNo.2,GIDC– Sachin	21°06'00.7"N72°51'06.6"E
10	Garden Silk Mills, PFY Plant, Village Jolava, NH.No.-6, |Kadodra, Surat-BardoliRoad	21°09'49.7"N72°59'16.7"E

Manual Ambient air quality monitoring stations in the city-GPCB

Annexure: 3.1 & 3.3

Emissions Inventory

Knowledge and data base augmentation –Source apportionment studies (Monthly)

Action point	Time Target	Implementation agencies
SourceApportionment,EmissionInventory&CarryingCapacityAssessment	EIR report competed onFeb-21	WRI

Timelines for the Comprehensive SA study for Surat

Activity	Sub-Activity	Timeline					Remarks
		March-20	April-June20	July-september-202	October-dec-21	Jan –feb-21	
		25%		25%	25%	25%	
Proposal stage	Release of work order						Completed
Project execution	Data collection and compilation of monitored data for the 10years						Under process
	Preparation of emission inventory						Completed
	Application of dispersion model						Under process
	Literature review and protocol for CC						Under process
	Data interpretation &compilation						

	Final report preparation & submission						
	Presentation & discussion on the submitted report						

Dispersion Modeling and Emission Inventory for Surat District and City prepared by WRI

Micro Level Plan & Identification Of Hot spots for Surat City

Introduction

The air qualities in cities are influenced by regional-level activities and meteorological conditions. During certain period in a year, due to high intensity activities and adverse metrological conditions, the air quality deteriorates to such an extreme level that it poses significant health risk. Particularly the elderly people, sick persons, women, and children are worst affected. Air quality is measured through several parameters. To present the air quality in a comprehensive and simple manner, the Central pollution Control Board (CPCB) has developed an Air Quality Index (AQI) that is used across the country. The AQI classifies the air quality in a scale ranging from 'Good' to 'Severe' following a protocol that uses PM10, PM2.5, SO2 and NOx as the input air quality parameters. Due to intense urban activities, air qualities in urban areas are observed to be falling below 'satisfactory' quality in unfavorable meteorological condition, particularly during winters at a greater frequency. Therefore, an appropriate intervention mechanism has become essential to put a check on further deterioration and to restore air quality including precautionary measure to minimize health risk. Management of air quality involves multiple agencies like, State Pollution Control Board, Forest & Environment Department, District Administration, Urban Local Bodies, Traffic Police, Transport Department and Education Department etc. This document outlines the actions to be taken for different ward level hotspots identified for SMC as a part of the Surat Clean Air Action Plan Project by WRI India.

The city level clean air action plan is further broken down at micro-level, i.e., ward level. The micro plan is an area specific plan containing details of local hotspots and their sources of air pollution, measures to be taken to control them, and how these steps would be implemented. The micro plans are necessary because monthly data on pollution levels available with SMC and GPCB from across 10 air quality monitoring stations in Surat show that not only the levels of pollution differ from place to place within the city, but even the nature of pollutants is different. The sector specific micro area plans prepared under the Surat Clean Air Action Plan are as follows.

Sectors Identified as Emission Sources

Under the Surat Clean Air Action Plan preparation process, source apportionment study was carried out wherein different sectors were attributed with the particulate emissions generation potential. Following were the major sources identified,

1. Industries Sector
2. Construction Sector
3. Transportation Sector
4. Household Cooking Sector
5. Eateries Sector
6. MSW Open Burning Sector

Industries Sector

1. On the basis of assessment done from the representative sample provided by the GPCB, wards such as Udhana, Pandesara, Ved Road, Bhestan, Sachin and Katargam has heavy agglomeration of medium and small industries which are using coal and wood for firing up their processing vessels(**Figure1**).

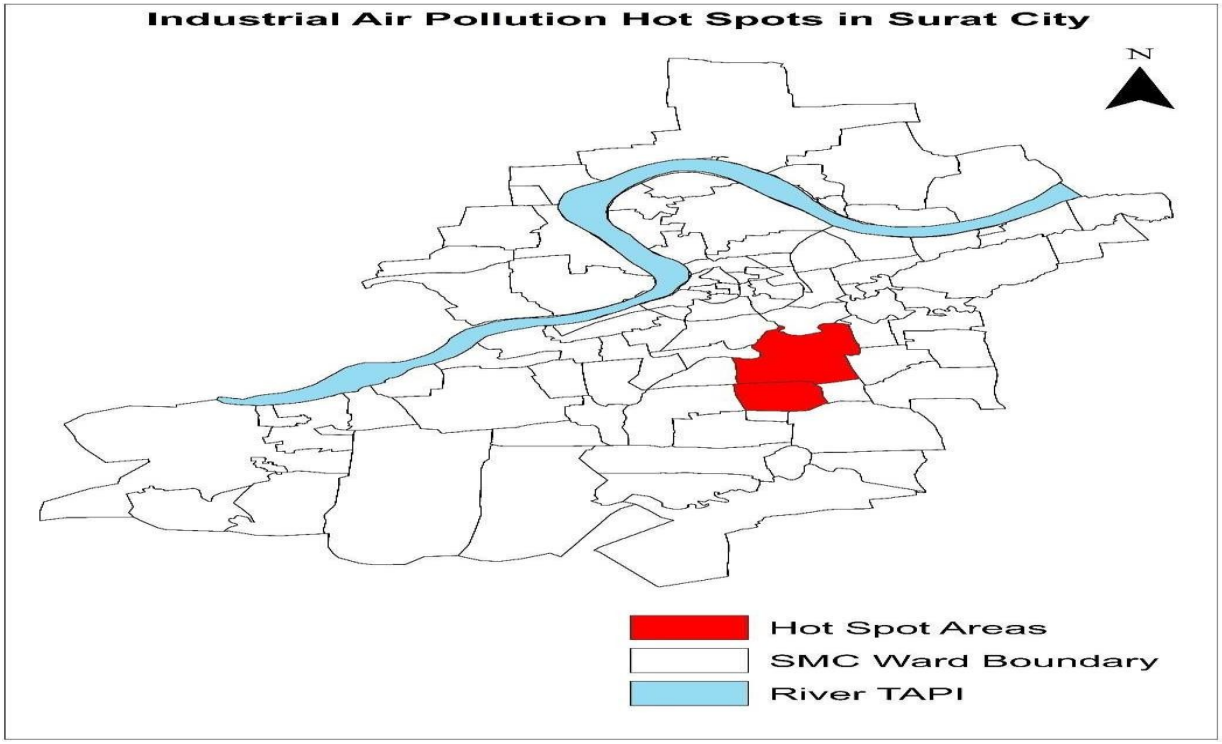


Figure1:MicroAreaPlan-EmissionHotspotsforSuratCity–IndustriesSector

1. All these wards are also having access to major routes and one national highway passing in proximity (Sachin) to them making the floating or visiting population vulnerable to emissions from industrial hotspots.
2. Wards such as Foolpada, Kapodara and Katargam are having Tapi river passing through them. This may generate chances that small textile and chemical processing units will be able to pollute the river waters making the surrounding air not to be treated with the humidity from river waters. This is because the water hyacinth has damaging effect on sequestration effects and chemical pollution would increase the oxygen demand of Tapi river, hindering the pollution sequestration in long run.
3. The fuel alteration scenario will be helpful in wards which are yet to accommodate more numbers of units since wards such as Unn, Adajan, Bhimrad and Sarsana along with Amroli-Utran power generation belt has better road access as well as lesser industrial units density. This is important for the non-conventional fuel infrastructure development since interventions such as community boilers and processing vessels monitoring equipment installations would need space – finance – behavior agreement. Thus, to focus on fuel alterations, it will be better to have a pilot in the new developing sites.
4. In addition to above points, it will be important to increase green cover in surrounding areas of the hotspots mentioned in above points. As indicated in assessment, wood is still forming a major portion of industrial fuel consumption and surrounding area green cover reduction in recent year has been due to illegal cutting of trees for industrial and commercial burning. By increasing green cover, sequestration in the hotspot areas will be ensured.

Residential Cooking Sector

The available primary and secondary data was analyzed at ward level for carrying out the micro level planning for SMC. The Census (2011) and NSSO, (76th round, 2018) data was used to estimate the cooking fuel used by households of SMC in year 2019, at the ward level. We have

identified the hotspots for the household sector, considering the wards where the dissemination of LPG is less than 50%. These identified hotspots (highlighted in red color- **Figure 2)** can be used to focus as primary preferable wards for the implementation of suggested interventions and increasing the LPG coverage. The identified wards are: Vadod, Vadod (part) and Sarsana.

Mitigation Measure

1. Increase the LPG/PNG penetration with the help of various Central and State Government Schemes.
2. Carry out awareness on negative health effects of using solid fuels and kerosene for cooking to discourage people to use these fuels.

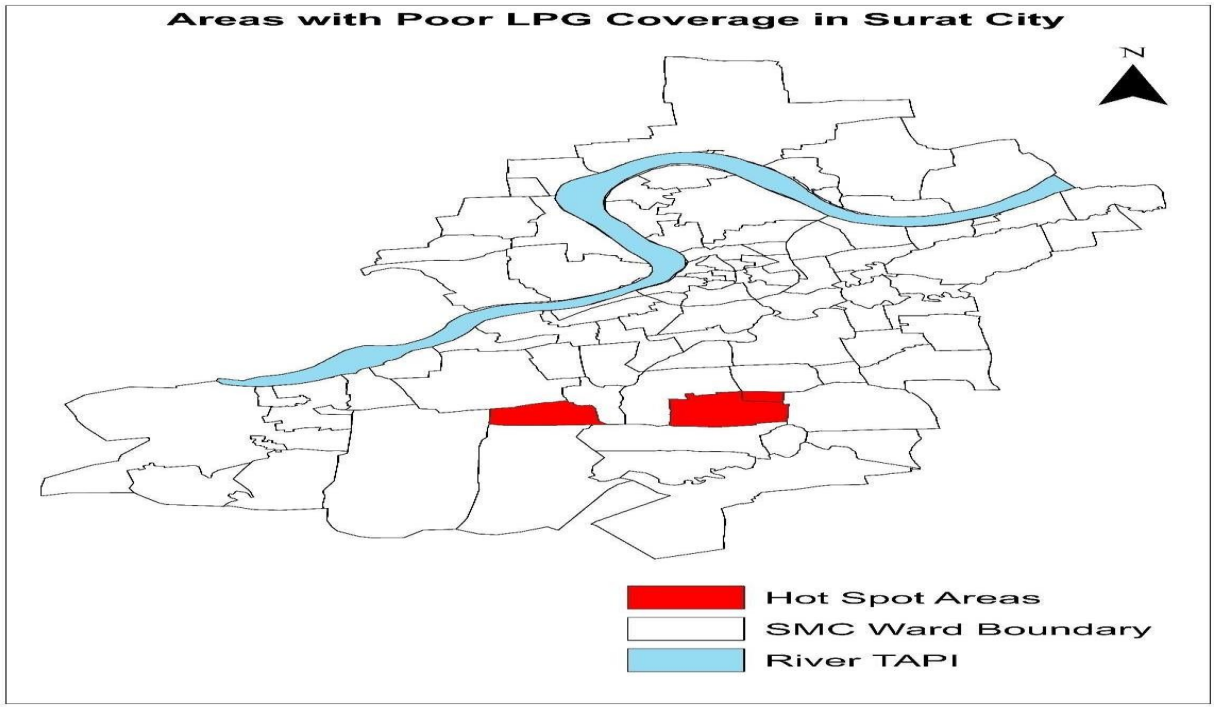


Figure2:MicroAreaPlan-EmissionHotspotsforSuratCity-HouseholdCookingSector

Municipal Solid Waste Burning

Micro level plan at ward level was carried out to identify preferable special focus areas. The micro level plan is based on the findings in primary survey, where high waste burning incidence in both summer and winter were found in SMC in the year 2019 and 2020 respectively. These identified hotspots wards (High waste burning(Hot Spot Areas)highlighted in red Colour in

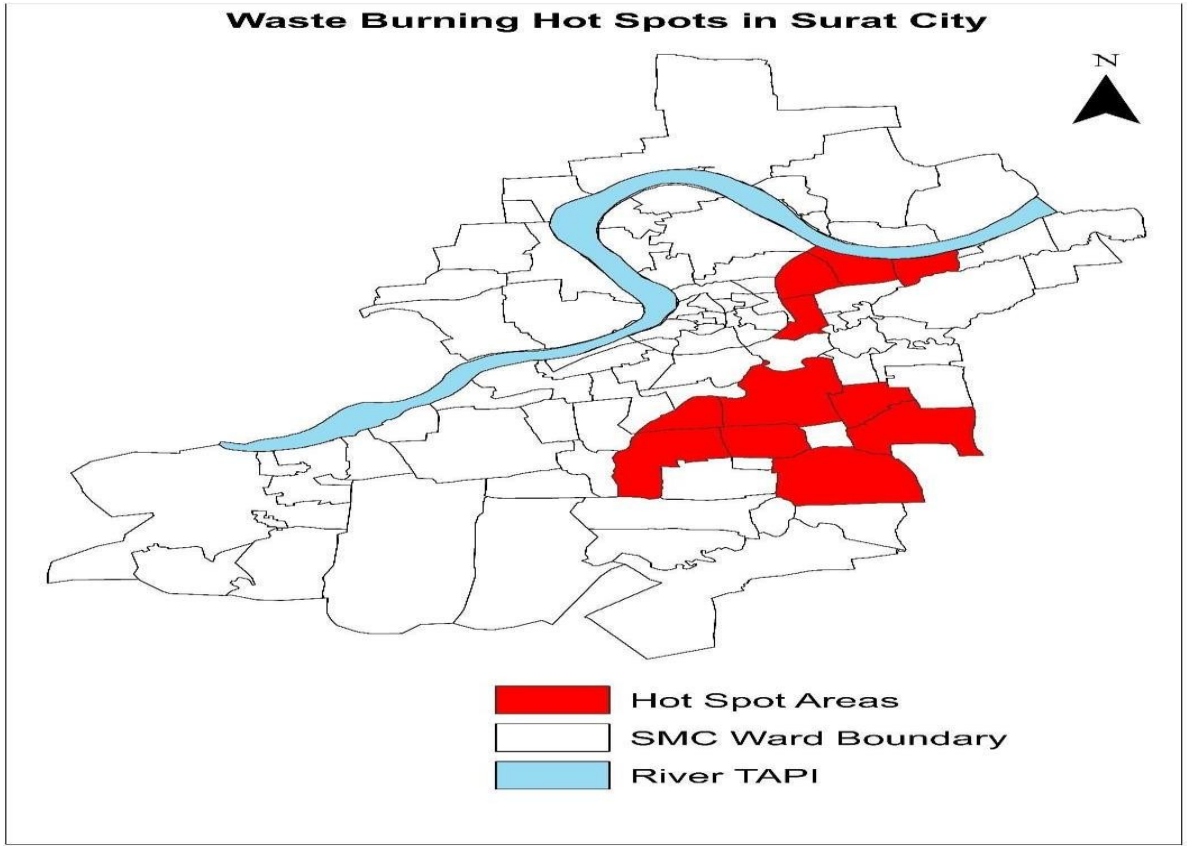


Figure3:MicroAreaPlan-EmissionHotspotsforSuratCity-MSWOpenBurningSector

Figure 3 can be the primary and preferable focus for implementation of suggested mitigation measures. The identified wards are namely, TPS - 4, Ashvanikumar Navagam,, TPS - 8 Umarwada, Fulpada, Kapadra, Dindoli (52), Bhestan, Pandesara, Udhana, Bamroli, Dindoli part (81), Bamroli (Part). In above wards some of wards having Industrial areas such as Bhestan, Pandesara, Udhana, Ashvanikumar Navagam, Kapadra which seeks special focus since highest burning incidences were observed in these industrial areas.

Mitigation Measure:

1. Mass awareness campaigns in these areas to discourage community to burn their waste.
2. Regular inspection to be carried out by SMC officials to impose fines on waste burning.
3. Involvement of informal waste sector and Increase the facility of MRF at decentralized level for MSW management for recyclable resource recovery and prevention from burning.
4. Implementation of Waste to Compost Plant, Organic waste converter for Compostable waste. Every year survey for MSW Burning to analyses the scale of reduction and impact of Mitigation measures of waste burning.
5. Identify the gaps in waste management system and try to rectify the gaps identified

Eateries Sector

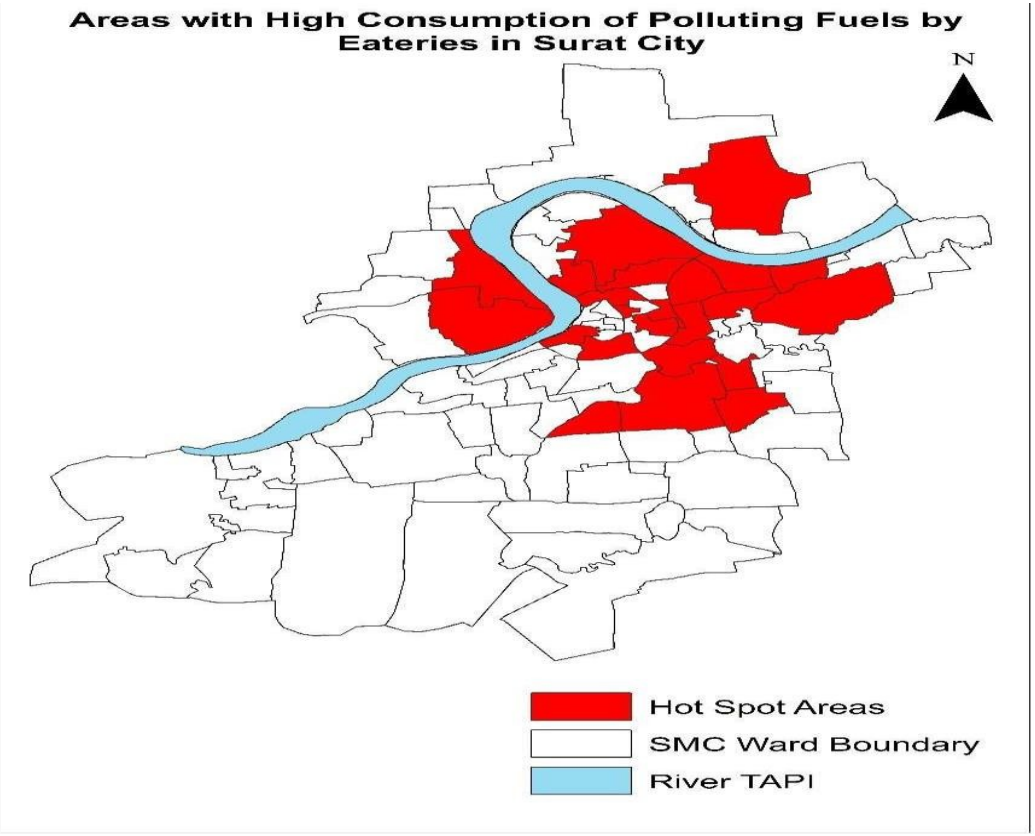


Figure4:MicroAreaPlan-EmissionHotspotsforSuratCity-EateriesSector

To identify the focus area with respect to implementing clean air strategies in the SMC area, we have mapped the small and large eateries having less than five and more than five employees, respectively. As most coal and fire-wood burning are observed in small eateries, the focus can be first given to wards where small eateries are in large numbers. With respect to awareness building, inventory development, and policy implementation, the red-colored wards highlighted in the map (**Figure 4**) can be the hotspots to initiate any interventions.

The identified wards are namely Nanpura, Sagrampura, Begumpura, Haripura, Saiyadpura, Rander, Adajan, TPS - 3 Katargam Gotalawadi, TPS - 4 Ashvanikuma Navagam, TPS - 7 Anjana, TPS - 8 Umarwada, Tunki, Katargam, Fulpada, Kapadra, Karanj, Limbayat, Dindoli, Udhana, Bamroli, Kosad, Puna.

Mitigation Measures:

1. Efforts need to carry out to provide incentives to eateries to switch to LPG/PNG
2. Increase awareness on negative health effects of using coal for cooking to discourage people to use these fuels

Construction Sector

1. The residential price index of wards situated in south, south west and towards eastern part of south zone has been significantly higher. In **Figure 5** one can see that, wards such as Pal, Adajan, Kataargam, Piplod and Vesu (area) are coming up with new construction areas and have been in forefront of passing out new TP schemes in a year.
2. The city is expanding its economic grasp over her citizens and consumers from other states and cities through providing better opportunities in putting up manufacturing and production businesses in textile, chemical, allied chemicals, and engineering units. This economic expansion is happening in zones such as off- site community exposure monitoring would work in these areas which are becoming new settlements for commercial

and residential activities alike in Surat.

3. For the intervention such as providing a pilot site for citizens as well as a knowledge group from builders' association and Surat Municipal Corporation, one has to decide a site which is surrounded by high density area or population. The reason being, such sites would be used as a flagship projects to enhance technical understanding of knowledge partners (responsible in setting up Central Command Centre) and if would cater a larger set of audience, would be beneficial for the administrative rectification of emissions from construction sites.

4. Interventions such as providing wet sprinkling machines would be easy to install or operationalize in areas such as Vesu, Rander and Tunki which are not only expanding rapidly but also are near to the Tapi river. Their proximity to river would suffice the need of supplying water from the river during high tide days as well as other processes such as treatment of surfaces with water within construction sites, would become easy.

5. Taking reference from above point, construction sites which are present in or near wards such as Dindoli and Pandesara (also part of hotspots) can be supplied with the treated water from the tertiary treatment plants owned by SMC and Pandesara Industries Association.

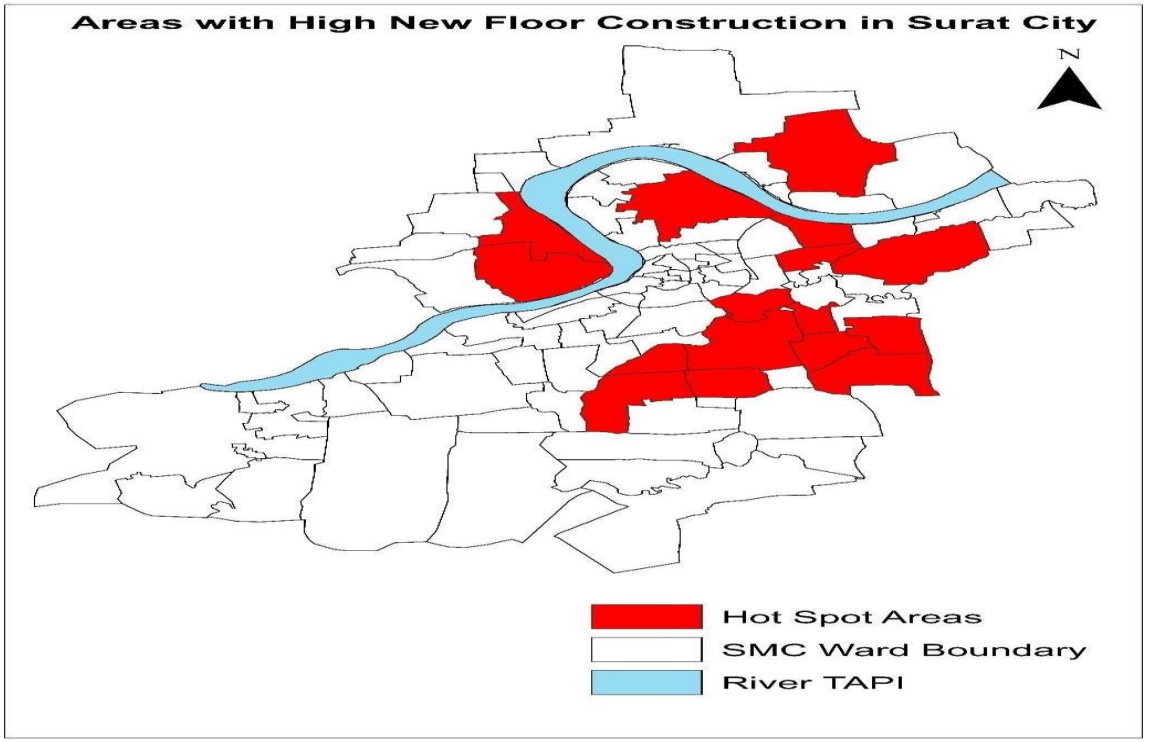


Figure5:MicroAreaPlan-EmissionHotspotsforSurat City-ConstructionSector

Transportation Sector

For the uptake of public transport, it is interesting to observe the penetration of public transport services in the SMC region. While the Comprehensive Mobility Plan suggests that public transport coverage is about 87% of the city, these calculations have been arrived at using the Euclidean distances from the transit corridor. The road network measurements from public transit corridors provide more real estimates of coverage. The road network assessment reveals that public transit covers 76% of the SMC region. This essentially indicates that a quarter of the city is not services well by city buses.

Figure6:Hot Spot Identification-Coverage Calculations-Transport Sector

1. While investments must be made for the city as a whole, special attention must be preferred to these two zones. Further assessment reveals th following characteristics of the South and South west zones:
2. About half of the built-up area in these two zones is residential (South: 44%; South west: 51%)
3. The south and south west zones put together contribute to 1/3rd (33.6%) of the total residential land use in the SMC region.
4. Nearly 70% (68.3%) of all industrial land use is in these two regions with the South particularly contributing to 62%.

Further, a closer look at zones and coverage of public transit as a percentage of built-up area of zones identifies the South and the South west zones to b severely underserved. This is exhibited in the table below.

Table1:Transport Sector-HotspotIdentification-NMTCoverageCalculations

ZONE	500METERCOVERAGE	AVERAGESMCCOVERAGE
East	85.4%	
North	91.1%	
South	67.6%	
SouthEast	86.4%	
SouthWest	60.5%	
Central	84.8%	
West	76.3%	**75.9%**

Annexure: CB 3.4

Heath Risk Assessment

Heath Risk Assessment Study completed by WRI

Health Risk Assessment and Value of Statistical Life for Emissions Effects for Surat City

1.1 INTRODUCTION

Ambient fine particulate matter (PM2.5) is a major risk factor for ill health and death. As indicated in the literature review, there were many national and international case studies included in assessment which have established robust causal associations between long-term exposure to PM2.5 and premature mortality from endpoints such as heart disease, stroke, respiratory diseases, and lung cancer, thereby substantially reducing life expectancy. In the Global Burden of Disease (GBD) 2019 comparative risk assessment, 5.5 million deaths were attributed to ambient air pollution[1], ranking it even higher risk factor for mortalities than global epidemic such as HIV-AIDS[2]. Following section explains the approach used for carrying out Health Risk Assessment related to exposure to PM2.5 under SCAP and subsequent economic costs which have been evaluated based on GBD 2019 data.

1.2 METHODOLOGY

1.2.1DispersionModelling

TERI could conduct dispersion modelling by conducting primary assessment of 10 different locations in the city of Surat. The modelled summer and winter concentrations specifically in the months of December and January were averaged to estimate winter seasons concentration. Similarly, ambient PM2.5 concentration in May and June were averaged for Summer seasons spatial PM2.5 concentration map. It is evident that PM2.5 concentrations are much higher during winter due to meteorological adversity-low wind speeds and shallow inversion heights. In summers with higher amount of dispersive character in the atmosphere we see a dip in the ambient PM2.5 concertation when compared with winter season.

Thereafter, the modelled results were validated against the observed measurements collected by TERI at multiple locations around the city. **Figure 1** shows the comparison of observed and modelled values of PM2.5. The average ratio of simulated to observed values is found to

be ~ 1.08, which can be considered quite satisfactory. The validation of model established that the model could reproduce physical and chemical processes which define pollutant concentrations, and it can be further utilized for running sensitivities of different sources.

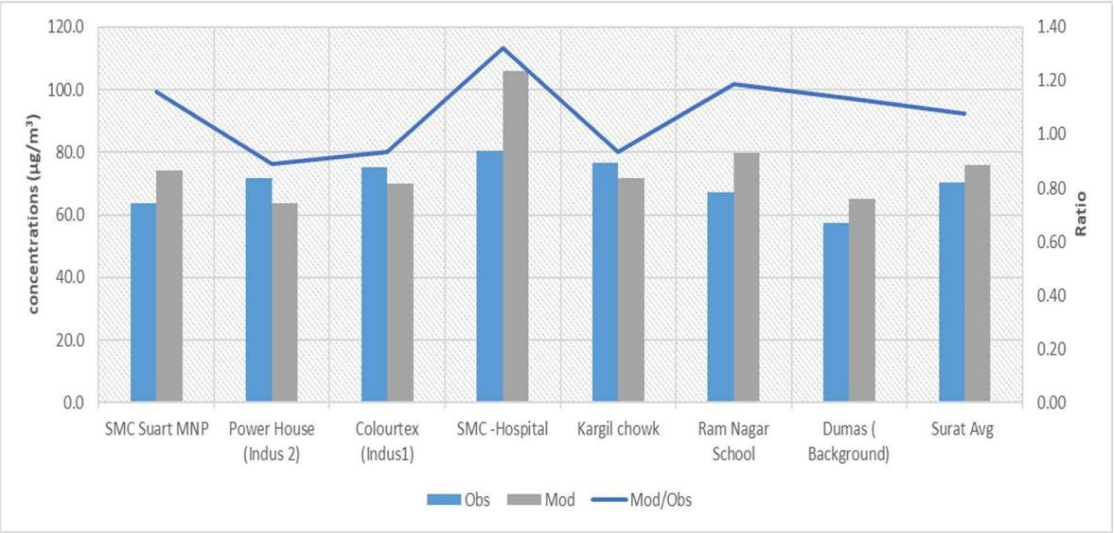


Figure 1: SimulatedResultsforDifferentPrimaryStationsandAverageConcentrationsforthecityofSurat-µg/m3

1.2.2 Source Apportionment–Part of Emissions Inventories

The source sensitivity analysis was performed to estimate the contributions from different sources impacting the air quality in Surat district using dispersion model. The simulation has been performed for the same period in which monitoring was performed in Surat by TERI's team. The results are charted in **Figure 2**. The winter season in table is averaged from Dec 2019 and Jan 2020, while summer is averaged from

May 2019 and Jun 2019 as explained in above section. The total emissions for the city of Surat has been estimated to be 8.68 KT/Year for the base year 2019 in the emissions inventory prepared by TERI taking basis from the dispersion modelling.

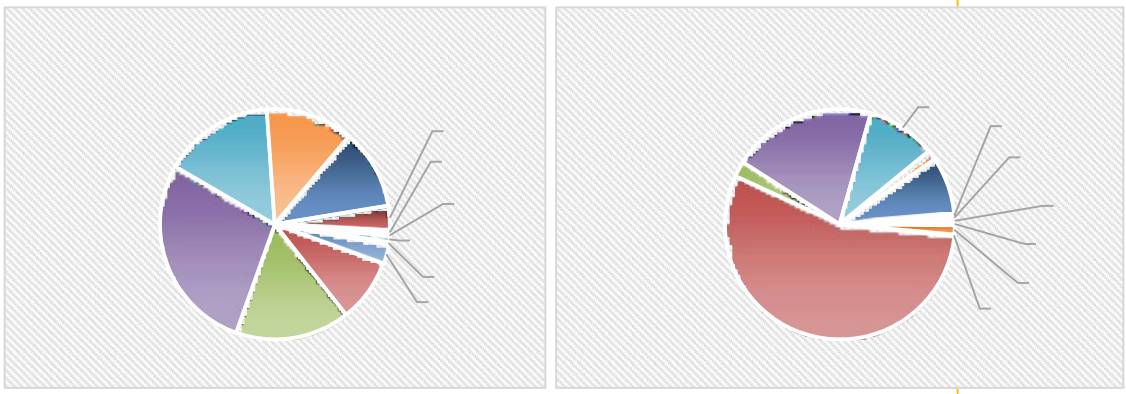


Figure2:Seasonalaveragedcontributionaveragedfrom6monitoringlocationsonthedatesofmonitoring

1.2.3 Mortalities Assessment–Part of Health Risk Assessment

To understand the consequences of exposure and subsequent economic costs, the World Health Organization has used tools such as Health Risk Assessment. Health Risk Assessment helps to evaluate risks associated with toxic pollutants and helps the government to set regulatory policies to govern the causes and effects of these toxic pollutants. This may vary for different countries but as a thumb rule public health agency evaluate risk to determine what damage ambient air pollutants can have over normal functioning of body systems of adults and young adults in the urban agglomerations worldwide. The earlier understanding to severity can give sufficient time for the authorities to take mitigation actions for curbing ambient air pollution. In addition to this, the HRA tool can give statistical associations with health effects due to prolonged exposure to different pollutants, making the interventions quite target specific with respect to locations, concentrations, and age-sex group of exposed personnel.

The inferences of the HRA tool could give away premature mortalities due to prolonged exposure to certain harmful pollutants which is life threatening and disabling diseases. One must note that these diseases formed basis for mortalities attribution to $PM_{2.5}$ concentrations in Surat city. However, in further cause-effect assessment, other ailments and combined effects of listed ailments can be performed. Having mentioned that, following diseases have been considered as standalone developmental issues leading to death or permanent disability in SCAP project.

- Chronic obstructive pulmonary disease (COPD)
- Ischemic heart disease (IHD)
- Acute respiratory lung infection (ALRI)
- Cerebrovascular disease (stroke) and
- Lung cancer (LC)

Table 1 gives fractional contribution of different sectors' attribution to mortality / due to their $PM_{2.5}$ generating capacity in the present mitigation options and desired implementation of programmes which have been explained separately for each chapter in the latter section of the report.

Table1:Sector'sContributionandAssociatedMortalities

Sector	**%Contribution** *(PM2.5–Average for Summers and Winters)*	**Mortality caused**
HH Cooking	11	321
Industries	38	1096
Transportation	20	580
Power Plants	8	225
Brick Kilns	2	48
Waste burning	2	48
Road Dust	2	48
Agriculture	2	48
Construction	1	32
DG Sets	1	32
Other*(*)*	15	435
Total	100	2914

1. *(*) - Others include - Crematoria, Surat Port, Eateries, Landfills, Biogenic GasesFor the '**Eateries'** sector which has been considered as part of '**Others'** in the dispersion modelling results, separate assessment has been done for taking out emissions, mitigation interventions andtechno-economic analysis-based project identification. However, the dispersion modelling includes only large restaurants and hotels but small eateries which is not being attributed to separate mortality count*

and have been estimated with other sectors as per above point no.1.

1.3 Associated Economic Costs–VSL Method[3]

Any mortality would generate some kind of economic impact irrespective of its contribution towards the cause creating the situation, here the cause would be air pollution and effect would be healthy people's exposure to PM2.5 which are coming out from different sectors as mentioned in above sections as well as in **Chapter 2,** in details. After thorough assessments, two approaches to valuing the costs of premature mortality were taken out,

- A **welfare-based approach** that monetizes the increased fatality risk from air pollution according to individuals' willingness to pay (WTP); and
- A **labor share-based approach**[4] that equates the financial cost of premature mortality with the present value of forgone lifetime earnings in direct correlation of working population to regional (state) and national earning capacities.

As indicated in **Table 2** were the reference criteria considered for the assessment of above two approaches for the base year 2019.

Table2: Reference Criteria for Calculations-VSLandLSO

Sr. No.	Criteria	Response	Source
1	GDP PC – USA (USD)	65297.52	WBG
2	GDP PC – INDIA (USD)	2099.599	WBG
3	GDP PC – GUJARAT (USD)	2788.73	CAG Gujarat

		2	Report
4	GDP PC – Surat (USD)	2610	Smart city Cell, SMC
5	VSL Base Value for USA (USD)	9815791	IHME VSL database
6	Labour Share – 'α'	0.456	Penn World Table 10.0
7	Working Population of Surat – No	6604514	Smart city Cell, SMC
8	GDP Share of Surat – Total (USD)	5.98E+10	Smart city Cell, SMC
9	Attributed Total Mortalities for the city of Surat – No	2978	WRI's Assessment – HRA
10	Total Affected Population due to air pollution in India - No	5.5 Mn	State of Global Air report 2020
11	Total Mortalities due to ambient air pollution in India - No	980000	State GBD Study 2020
12	Income Elasticity – 'e'	1.2	GBD2019 database

[3] *The Cost of Air Pollution – Strengthening Economic Case for Actions, IHME*

[4] *Value of Statistical Life in India: A Hedonic Wage Approach, A Majumder*

1.3.1 Welfare Based Approach–Part of VSL Assessments

In the welfare-based approach Value of Statistical Life forms an important factor for reference. From the assessment provided by the IHME reports (2019) considering GBD 2019 numbers, following can be the formula to take out VSL for India,

VSL for India in 2019 = VSL for USA * (GDP PC of India in 2019/GDP PC of USA in 2019) ^1.2

Similarly, for creating reference points to avail VSLs for the state of Gujarat and for the city of Surat at constant PPP and depreciation adjusted for the assessment year, following two formulas were plotted.

VSL for Gujarat in 2019 = VSL for India in 2019 * (GDP PC of Gujarat in 2019/GDP PC of India in 2019) ^1.2

VSL for Surat in 2019 = VSL for Gujarat in 2019 * (GDP PC of Surat in 2019/GDP PC of Gujarat in 2019) ^1.2

The similar assessment can be done for any other state or the city within the state since it is for creating a reference point in VSL value and transferring the risk attribution of losing economic gain due to mortality from a higher constant value of VSL.[5]

Considering above assessment factors and taking reference from a national level policy brief on cleaner fuel subsidy assessment, following formula was used to take out 'affected population group's willingness to pay' for the ill effects of air pollution ($PM_{2.5}$) in the city of Surat,

Affected Population Group's WTP = Mortalities Accounted in Emissions Inventory * VSL for Surat (USD) * Exchange Rate (USD to INR) in assessment year (2019) / Total Population of Surat in assessment year (2019)
Surat in assessment year(2019)

From above formula, the average WTP for Surat city is coming to **Rs. 6500** which can be considered as per person's cost (without medical expenses) per capita annual income as the value of one DALY, to determine the upper bound of the amount for the government to spend on

health interventions.[6]

[5] *IHME assessment for different departmental parameters attributed for VSL in an assessment year*

[6] *Smith et al, WHO CHOICE Method 2014*

1.2.6. Labour Share Based Approach–Par to fVSL Assessments

Labor's share of GDP (α) was computed for the country, based on the Penn World Tables 10.0.1. The labor's share of GDP at market prices measured in 2019 was multiplied by an adjustment factor that reflects the ratio of GDP at basic prices to GDP at market prices. This adjustment factor[7] was computed to be α = 0.456 for India.[8]

Based on above assessment, the Labor Share factor then computed against total GDP of urban dwelling (here Surat city) and total working population of the unit, which is 99.5 as per the SMC reports for the year 2019.[9] Following formula was used to take out 'Output Losses Associated with Air Pollution Mortalities' in the city of Surat for the year 2019 for a single attributed death.

Output Losses Associated with Air Pollution Mortalities = (Labor Share of GDP – α (constant) *TotalGDPShareofSuratcitytowardsstatefortheyear2019)/WorkingPopulationofSuratcityfo

While multiplying the result with exchange rate in assessment year, the approx. value came out to be **Rs. 290000** for a single death including medical expenses since medical services to do contribute towards the city's GDP and it can't not be excluded in calculations. However, an average person pays **Rs. 70000** exclusively for illnesses mentioned above in the city of Surat[10]. Also, the age factor must be

accounted for the mortalities to take out more precise numbers.

Considering the results of above two methods, the per capita 'Willingness to Pay' in the city of Surat is Rs. 6500 in the base year of 2019 while their actual cost considering labor share in the city's GDP towards state is coming to be Rs. 290000 for a single mortality attributed by the exposure to $PM_{2.5}$.

1.3 CHALLENGES

One of the major challenges in assessing the VSL and LSO is the age and gender factors of mortalities reported or assessed. There are studies available for India level[11], which accounts these factors along

[7] *Robert Inklaar et al, 2018*

[8] *State GBD Study 2020*

[9] *Reports suggested 100% employment, in the assessment 0.5% has been left to include the gender – age depreciation for economic contributions.*

[10] *SMIMER Study, 2017*

[11] *Health and economic impact of air pollution in the states of India: the Global Burden of Disease Study 2019*

1.4 IMPROVEMENT WORTHY INFERENCES

For Industries Sector

- Majority of the city's workforce is related to industrial production directly or indirectly. Thus, with significant attribution to industries' contribution to city's production and economy, having a healthy workforce can be boon to the city's future.
- The labor laws and rules pertaining to the workers in Gujarat state are quite elaborated and can be effective if implemented properly. Yet, the monitoring for the industrial workers' health is not being done properly. This leads to not only ambient air pollution exposure to

these workers but also, they get exposed to occupational air borne hazards. However, no attribution has been made to occupational exposure to certain air borne hazards against ambient air pollutants.

- Usage of industrial fuel is the major criteria for the generation of different pollutants from the industrial agglomerations in Surat city. As we have seen in above points, fuel options such as wood, coal, furnace oil, High Speed Diesel Oil and Natural Gas are still in common usage for generating more calorific value heat for processes, abatements of emissions from industries will not be an easy task.

For Transportation Sector

- Tail Pipe and Road Dust Resuspension has the highest emissions contributions in above assessment[12]. In addition to this, there was no considerations given to tail pipe till the year of 2016 wherein the EVs were started to internalize in the city's development process along with other non- motorized transport options. With respect to the road dust resuspension issues, the SMC has been able to procure more than 16 mechanical sweepers in the first lot which are operational since 2013.
- The city of Surat also houses highest per capita two wheelers in the state, which are responsible for daily movements of large number of workers of the city. Policies for the capping of two wheelers can be a difficult task for the city. However, this can be achieved through robust interventions in EVs introduction in public utility vehicles and other government sponsored vehicular movements.
- To curb the issue of road dust resuspension, wet processing, and maintenance of the busiest roads along with green paving of sideways and green path development in collaboration with local forest department can prove to be boon for the city.

Household Cooking

- Though the government has been promoting cleaner fuel options traditional fuel users are still there who are using coal and wood for cooking and heating purposes.
- The above point does not define ill outreach of interventions related to LPG since it has been observed in the studies[13] that though the lower economic status population pockets have access to LPG cylinders, they prefer coal and wood for partial cooking and heating purpose to conserve financial resources.
- In above point, to free the 'deserving' population groups from the worry of saving their financial resources, the government has

introduced interventions such as Ujjawala Yojana, which has already been discussed in existing capacities to abate ill effects of emissions related with household cooking.

- Knowledge impartment is utmost necessary for the promotion of cleaner fuel and eventual replacement of traditional fuel for cooking with the same.
- In addition to above all, protection from indoor air pollution is not as generalized as protection from outdoor air pollution.

- Construction

- For construction practices improvement in Surat, the Clean Construction Practices Guidelines(2020) are available to curb the emissions from the construction sites. However, this cannot beensuredunlessthetwomajorauthorities [14] in thecitytakeuptheseSOPsintheirregularimplementations.

1.4.4 Open MSW burning

- At times, these units are seen burning waste and also found that it's attitude behavioral problem.This cannot be considered as a good practice since these waste articles would only add up to co-morbidities of the exposed population as well as it is contributing to ambient air pollutionsignificantly.

Annexure: CB 4.1

Training & skill development of public officials

Training Calendar

Training and Capacity building of SMC and Other Stakeholders

S. No.	Training Topics	Mode of Training	Training Agency	Duration	Tentative Schedule	Tentative Number of Participants
1	Training on non-exhaust emissions and impact on air quality	Online	WRI India	One day	July-Aug 2021	All concerned employees of Transport and Traffic Dept
2	Training of Sanitation dept on Waste Burning and impact on air quality	Online	WRI India	One day	Aug-Sep 2021	All concerned employees of Solid Waste Dept
3	Training of Garden dept on plantation to improve air quality	Online	WRI India	One day	Sep-Oct 2021	All concerned employees of Garden dept
4	Training on Mitigation and Control of Dust Pollution at Construction Projects	Offline	WRI India	One day	Oct-Nov 2021	For Site In charge and Supervisors of All operative construction projects
5	For Air Pollution Control System (APCS) Operators & Supervisors in Industries for effective functioning of APCS	Offline	WRI India/ GPCB	One day	Nov-Dec 2021	Industry Association
6	Efficient & Pollution free operation of Boilers installed in the industries	Offline	WRI India/ GPCB	One Day	Jan-Feb 2022	For Boilers Operators Industry Association

Annexure: CB4.2 & 4.3

Infrastructure development (Laboratory/ AQM Cell)

As per the Guideline issued by ministry of finance AQM cellForSuratMunicipalCorporationhasbeenestablished.**Officeorderundersign by Commissioner Surat Municipal Corporation as**

No.GAD/EST/ 6193
Central Estt.Department,
Municipal Corporation,
Surat. Dtd.08/03/2021

OFFICE ORDER:

1. In exercise of power vested with the undersigned, under the provision of section 53 (3) of the BPMC Act 1949, I hereby issue the order for the formation of AIR QUALITY MONITORING CELL(AQM CELL) as per the operational guidelines issued by Ministry of Finance for implementation of 15th FC recommendations and NCAP(National Clean Air Program).
2. The above cell should work under the direct administrative control of City Engineer, SMC
3. Ketan B. Desai, Dy Engineer(CE Spl Cell), should act as a Nodal Officer for
   a. Grant and Finance related work pertaining to 15th Finance Commission
   b. He should look after the work for developing the City plan/DPR, for capacity development and address infrastructural issues for meeting SLBs as per the 15th FC recommendations, in Co-ordination with AQM Cell
4. Following employee shall work in the said AQM Cell in addition to existing duties, coordination with their existing department and put up all documents/paper through respective department heads.

Sr.No.	Designation	Department	Duties
1	Jwalant N. Naik Emp. No. 36639 Environment Engineer	Drainage Department (Environment Cell / Solid Waste Management)	• Technical Aspect of entire DPR • Implementation of Solid waste Projects • Co-ordination with Ministry pertaining to Technical Aspects of 15th Finance Commission. • Act as Nodal Officer for NCAP.
2	Hareshkumar M. Gadhiya Emp. No. 37047 Assistant Engineer	Drainage Department (Environment Cell)	• Setting up the Air quality monitoring station • Preparation of Various baseline reports as per requirement of 15th Finance Commission.
3	Samirkumar C. Patel Emp. No. 36516 Instrument Engineer	Hydraulic Department	Operation and maintenance of all Air quality monitoring stations established in the entire Surat City
4	Vrushank D. Vaghela Emp. No. 37471 Assistant Engineer	BRTS / Traffic Cell	• Identification and implementation of project under 15th Finance Commission. • Submission of respective Progress report as and when required to City engineer special cell • Submission of respective Utilization certification as and when required to City engineer special cell • Re-appropriation of respective department projects (if required).
5	Mudaasar M. Shirgar Emp. No. 36917 Assistant Engineer	Road Development Department	
6	Snehal B. Kaniya Emp. No. 37044 Assistant Engineer	Bridge Department	
7	Nikunj P. Modi Emp. No. 42496 Junior Engineer	Garden Department/ Garden Project Cell	

5. The above order should come into force with immediate effect.

Sd/-
Municipal Commissioner
Surat Municipal Corporation

Copy s.w.rs. to : CE | DMC(H.& H.) | AMC & I/c.DMC | I/c.Exe.Engr.(C.E.Spl Cell) | Advisor (C) | Add.City Engineer | I/c.MCA Shri..... for information.

Copy f.w.cs.to : Dy.Engr.(Shri K.B.Desai-C.E.Spl Cell) | Exe.Engr.(Drainage Deptt.-Environment Cell-Solid Waste Management) | Exe. Engr. (Hydraulic-Traffic-B.R.T.S Project Cell-Road Development Deptt. -Bridge Cell) | Garden Supr.| Ch. Accountant| VIO| DIO| PPS to MC Shri....for information & necessary action pl.

Copy to : Concerned Employees Shri.... for necessary action pl.

Asstt.Muni.Commissioner &
I/c.Dy.Muni.Commissioner,
Surat Municipal Corporation.

Annexure: CB4.4

Organization of meeting of District Environment Committee for sensitizing the Line Departments for advance preparedness of implementation of Action Plan and following action points

List of district level meetings and its agenda shown as,

Sr. no	Date of meetings	Action
1	16/02/2021	Discuss about criteria of perform evaluation for FY 2020-21and micro level action point of air related with AQM cell members, WRI members, GPCB members and city engineer. Minutes of meeting are as below.
2	17/03/2021-State level	Discuss about Utilization certificate of grant year 2020-21 as shown below.
3	22/03/2021	Meeting arranged for department wise submission of micro level action plan with all AQM cell members
4	26/03/2021-video conference	Meeting arranged regarding criteria of perform evaluation for FY 2020-21 and discussed MoU with GPCB, TERI and SMC.
5	12/05/2021-video conference	Meeting arranged for department wise submission of micro level action plan with all AQM cell members

GPCB

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar-382 010
Phone : (079) 23226295
Fax : (079) 23232156
Website : www.gpcb.gov.in

By RPAD

No: GPCB/SRT/A-3(1)/ 588027 Date: 08 APR 2021

To,
City Engineer,
Surat Municipal Corporation,
Surat Mahanagar Seva Sadan,
Gordhandas Chokhawala Marg,
Muglisara, Surat-395003

DE(K)
CE
12-4-2021

Sub: Submission of Utilization Certificate of remaining 1st installment fund disbursed for implementation of Air Action Plan under NCAP for FY 2019-20-reg.

Ref: i) CPCB Letter No.- B-19014/41/UC/AQM-NCAP/AQM/2020-21/6029 dated 11.03.2021.
ii) CPCB Letter No.- B-19014/41/UC/AQM-NCAP/AQM/2020-21/17264 dated 24.03.2021.
iii) MoEF&CC letter dated 07.04.2021

CE/IN/NO. 802
DATE :- 12/4/2021

Sir,

With regard to above mentioned subject and reference, as you are aware that MoEF&CC has sanctioned an amount of Rs. 6 Crore as 1st installment under NCAP which was being transferred to SMC vide Sanction Order No: GPCB/Air Action-03(1)/552039 dated 23/01/2020 by the Board.

Till now, the Board has received Utilization Certificate for 1.06 Crores only dated 20/11/2020. Further, you are requested to submit the full Utilization Certificate towards the entire grant of 6.0 Cr, along with the statement of expenditure, physical and financial progress of fund as per approved allocation of the funds sanctioned. You are required to submit the UC against actual and committed expenditure so that next installment shall be release. You are also requested to specify the interest earned against sanctioned fund also.

15/04/2021

The copy of the letter by CPCB, Delhi and MoEF&CC are enclosed herewith for y reference.

Therefore, you are requested to submit the UC at earliest of rest of the fund und NCAP for further submission to MoEF&CC as it is required for further disbursement o fund.

Thanking You.

For and on behalf of GPCB,

D-M-Thaker
8/4/2014

(D. M. Thaker)
Environment Engineer
Convener-Air Action Plan

Encl: As above

Copy To:

1. **Mr. Jwalant Naik, Engineer,**
   Surat Municipal Corporation,
   Surat Mahanagar Seva Sadan,
   Muglisara, Surat.....requested for early submission.
2. **Mr. B. C. Patani – IAS, Chief Executive Officer, Gujarat Municipal Finance Board,** G.M.F.B Building, CHH Road, Sector -10 - A, near Police Bhavan, Gandhinagar, Gujarat 382010 ..... with a request to co-ordinate with Surat Municipal Corporation for the submission of UC.
3. **Regional Officer, RO, Surat**.....For information please and follow-up with SMC for submission of the same.
4. **Unit Head, Surat**..... For information please and follow-up with SMC for submission of the same.
5. **PS-MS**.....For your information please.

મીટીંગનો સારાંશ

વિષય : **Performance Evaluation performance of Million plus cities for FY-2020-21 under Fifteen Finance Commission (FC-XV) Grant regarding.**

તારીખ અને સમય :— ૧૬/૦૩/૨૦૨૧ ના રોજ ૧૧ : ૦૦ કલાકે

સ્થળ:— રૂમ નં.૮૮ (કોન્ફરન્સ રૂમ), મુગલીસરા

હાજર રહેનાર:— (૧) મા. ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી (સિવિલ)
(૨) કાર્યપાલક ઈજનેરશ્રી (ડ્રેનેજ)
(૩) ડે. ઈજનેરશ્રી (સી.ઈ.સ્પે. સેલ)
(૪) ડે.ઈજનેરશ્રી (ગાર્ડન વિભાગ)
(૫) એન્વાયરોમેન્ટ ઈજનેરશ્રી (એન્વાયરોમેન્ટ સેલ)
(૬) આસી. ઈજનેરશ્રી (રોડ ડેવલોપમેન્ટ સેલ)
(૭) આસી. ઈજનેરશ્રી (બ્રીજ વિભાગ)
(૮) WRI ના અધ્યક્ષ
(૯) પ્રાદેશિક અધિકારી,ગુજરાત પ્રદુષણ કંટ્રોલ બોર્ડ (GPCB)અને તેમની ટીમ.

મા. ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી (સિવિલ)ની અધ્યક્ષતામાં ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ (GPCB)ના પ્રાદેશિક અધિકારી તથા ઉપર જણાવેલ તમામ સભ્યો સાથે થયેલ ચર્ચાના મુદ્દાઓ નો સારાંશ નીચે મુજબ છે.

(૧) મા.ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી ની અધ્યક્ષતામાં મિનિસ્ટ્રી ઓફ એન્વાયરોમેન્ટ, ફોરેસ્ટ તથા કલાઈમેન્ટ ચેન્જ ધ્વારા ૧૫ માં નાણાપંચ અન્વયે ફાઈનાન્સીયલ વર્ષ ૨૦૨૦—૨૧ હેઠળ મળેલ ગ્રાંટના પર્ફોમેન્સ અંગે નકકી કરેલ ૭ માપદંડોની ચર્ચા કરવામાં આવેલ. જે માહિતી તા.૧૮/૦૩/૨૦૨૧ સુધીમાં ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડને મોકલવાની રહે છે. જે અન્વયે સુરત મહાનગરપાલિકાને લાગતી પાંચ મુદ્દાની માહિતી ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ને મોકલેલ હોવાનું જણાવેલ.

વધુમાં, ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ના પ્રતિનિધિએ મુદ્દા નં.૫ (Establishment of IT enable data management system) તેમજ મુદ્દા નં.૭ (Development of Emergency Response system) ની કામગીરી રાજય સરકારશ્રી / ઉચ્ચકક્ષાએ એકસુત્રતા જણવાય રહે તે હેતુસર ગુજરાત ના ચારે શહેરો(અમદાવાદ,સુરત,રાજકોટ,વડોદરા) માટે નિશ્ચિત થયે આગળની કાર્યવાહી હાથ ધરાશે.

(૨) આમ, હાલ તુરંત મિનિસ્ટ્રી ઓફ એન્વાયરોમેન્ટ, ફોરેસ્ટ તથા કલાઈમેન્ટ ચેન્જ તરફથી ઉપરોકત ૭ માપદંડો અંગેની માહિતી તા.૧૮/૦૨/૨૦૨૧ ના પત્ર થી મંગાવવામાં આવેલ, માહિતી પૈકીની સુરત મહાનગરપાલિકાને લગતી પાંચ મુદ્દાની માહિતી ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ને મળેલ છે. જે અન્વયે જો કોઈ વધારાની માહિતી ની જરૂરીયાત હશે તો તેઓશ્રી ધ્વારા સુરત મહાનગરપાલિકા પાસેથી મંગાવવામાં આવશે.તથા અન્ય વિભાગની માહિતીઓ જેમ કે, આર.ટી.ઓ.,ઈન્ડસ્ટ્રીયલ વિગેરે એકત્રિત કરી ગુજરાત

(૩) આ ઉપરાંત સુરત મહાનગરપાલિકા તરફે સુરત શહેરમાં પ્રસ્થાપિત કરવા જોગ એર કવોલીટી સ્ટેશન બાબતની વિગતવાર ચર્ચા બાદ નીચે મુજબનો નિર્ણય લેવાયેલ.

- હાલમાં સુરત મહાનગરપાલિકા દ્વારા પ્રસ્થાપિત થયેલ વરાછા અને લિંબાયત ખાતેના બે સ્ટેશનો સેન્સર બેઈઝ હોય,નવા માપદંડની પરિભાષા મુજબના ન હોય, ગણતરીમાં લેવામાં આવશે નહિ.
- સુરત શહેરમાં કુલ્લે ૭ જેટલા એર કવોલીટી સ્ટેશનની જરૂરીયાત હોય, ત્રણ સ્ટેશનો (નર્મદ લાઈબ્રેરી,પાંડેસરા,વરાછા) ખાતે ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ દ્વારા નેશનલ કલીન એર પ્રોગ્રામ (NCAP) ની ગ્રાંટમાંથી પ્રસ્થાપિત કરવામાં આવશે. જયારે બાકીના ૪ સ્ટેશનો (સંજીવકુમાર ઓડીટોરીયમ,રંગ ઉપવન,લિંબાયત,WDS કુલપાડા)સુરત મહાનગરપાલિકા દ્વારા ૧૫ માં નાણાપંચ ની ગ્રાંટ માંથી ખરીદી કરી શકશે.આમ,સુરત મહાનગરપાલિકા દ્વારા પ્રસ્થાપિત થનાર ચાર સ્ટેશનો પ્રસ્થાપિત કરવા માટે ટેન્ડરીંગ પ્રકિયા સુરત મહાનગરપાલિકા દ્વારા કરવાનું નકકી કરવામાં આવશે.

(૪) નેશનલ કલીન એર પ્રોગ્રામ (NCAP) હેઠળ મિકેનીકલ સ્વીપર માટે મળેલ ગ્રાન્ટમાં કેપીટલ ખર્ચ નો સમાવેશ થતો હોય, સદર બાબતે વિસ્તૃત ચર્ચાને અંતે ટેન્ડરીંગ પ્રકિયા હાથ ધરી હાલના સુરત મહાનગરપાલિકાના વિસ્તાર માટે મિકેનીકલ સ્વીપર મશીન આ ગ્રાન્ટ હેઠળ ખરીદવાનું નકકી કરવામાં આવેલ.

(૫) સુરત મહાનગરપાલિકા તરફથી ૧૫માં નાણાપંચની જોગવાઈ અંતર્ગત સુરત શહેર માટે નિયુકત કરવા જોગ થર્ડ પાર્ટી ઈન્સપેકશન એજન્સી(Third Party Inspection Agency) અને તેમના ટર્મ ઓફ રેફરન્સ (Term Of Reference) અન્વયે ગુજરાત પ્રદુષણ કંટ્રોલ બોર્ડ દ્વારા વડી કચેરી સાથે સંકલન કરી ટુંક સમયમાં જણાવવામાં આવશે. એવું જણાવેલ.

(૬) મા.ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી દ્વારા ૧૫ માં નાણાપંચની યોજના હેઠળ ગુજરાત મ્યુનિસિપલ ફાયનાન્સ બોર્ડ, ગાંધીનગર તરફથી મુકવાયેલા ગ્રાંટ કામોનો અંદાજીત ખર્ચ , કામગીરી હાલ કયા તબકકે, વર્ષ ૨૦૨૦–૨૧ દરમિયાન કયા કામો હેઠળ ખર્ચ કરવામાં આવ્યો તથા કામ શરૂ થયેલ ન હોય તો શરૂ થવાની તથા પૂર્ણ થવાની તારીખ વિગેરે માહિતી અંગે દરેક વિભાગ સાથે ચર્ચા કરવામાં આવેલ તથા સંપૂર્ણ માહિતી નિયત સમયમર્યાદા માં સીટી ઈજનેરશ્રી (સ્પે.સેલ) ને મોકલવા જણાવવામાં આવેલ.

(૭) વધુમાં,મા.ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી દ્વારા બ્રીજ વિભાગને તથા રોડ વિભાગને તાત્કાલિક ધોરણે તેઓના પ્રોજેકટોની ગતિ ધીમી હોય તેઓના પ્રોજેકટને વેગ આપી કામોને આગળ વધારવા જણાવેલ.

આમ, ,મા.ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી દ્વારા હાજર રહેલ ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ, WRI તથા સુરત મહાનગરપાલિકાના તમામ સભ્યોને એર કવોલીટી બાબતના તમામ પ્રોજેકટોની કામગીરી યોગ્ય સંકલનમાં કરી, સુરત શહેરની એર કવોલીટી માં સુધારો થાય તથા સુરત મહાનગરપાલિકા ના ૧૫ માં નાણાપંચની ગ્રાંટ નો મહત્તમ ફાયદો ઉઠાવી શકે તે અનુસારની કામગીરી કરવા અનુરોધ કરેલ તથા મિટીંગને આભારસહ પૂર્ણ કરેલ.

ઉપરોક્ત , મિટીંગના સારાંશ પર મા.ઈ.ચા. સીટી ઈજનેરશ્રી અને એડી સીટી ઈજનેરશ્રી ની સહી થઈ આવવા વિનંતી.

17/3/21

આસી.ઈજનેર

17-3-21

એન્વાયરોમેન્ટ ઈજનેરશ્રી,(એન્વા.સેલ)

18/3/2021

ડે.ઈજનેરશ્રી (સી.ઈ.સ્પે.સેલ)

કાર્યપાલક ઈજનેરશ્રી (ડ્રેનેજ), 17/3/21

પ્રાદેશિક અધિકારીશ્રી (GPCB),

...મ. સીટી ઈજનેરશ્રી ...

4 APR 2021

❖ PUBLICOUTREACH

Annexure: PO1.1

Daily Air Quality Public Information Dissemination System

Real time data display locations detail study as,

SUB: Report on site survey concerning installation of Display Screens forAirQualityMonitoringProject.

SurveyParticipants:

Mr. Grimar Joshi (iLAB Informatics

Pvt Ltd)

Mr.KetanPatel(SMC)

Mr.Haresh (SMC)

Mr.MihirVegad(SMC)

Date: 25.06.2018

SiteLocation1:NearCrossRoadRestaurantonSuratBardoliRoadtowardsLimbayat

SitePhotograph:

Wall Mount/stand arrangement on the Wall of Bridge (Centre) to get view from 3 sides of the Traffic.NearestPowerSourceshallbe in300-400Mtrs.

PermissionfromBridgeDepartmentandpoweravailabilityshallbeprovidedbySMC.

SiteLocation2:KamelaDarwajaIntersection on Ring Road towards Limbayat

Site Photograph:

Wall Mount/Stand arrangement on the Wall/pillar of Bridge (Centre) to get view from 3 sides of theTraffic. Two possibilities to mount either on wall of bridge (height approx. 18 Ft.) or on the pillar(ideal)NearestPower Source shallbein300-400Mtrs.

Permission from Bridge Department and power availability shall be provided by SMC.

SiteLocation3:NearCapitalSquareonMiddleRing Road

Site Photograph:

Stand Mount arrangement on the Top of BRT bus stop.NearestPower Source shallfromBRTSBus stop.

PermissionfromBRTSfortheinstallationandpoweravailabilityshallbeprovidedbySMC.

Site Photograph:

Pole based Providedment on the divider towards lambe hanuman. Alternate arrangement to mountonthecentercircle, if permissionis possible.

NearestPower Source shallbein100Mtrs.

PermissionforpoleinstallationandpoweravailabilityshallbeprovidedbySMC.

Site Location 4 : Near SMC Varaccha Zonal Office towards lambe Hanuman

Site Photograph:

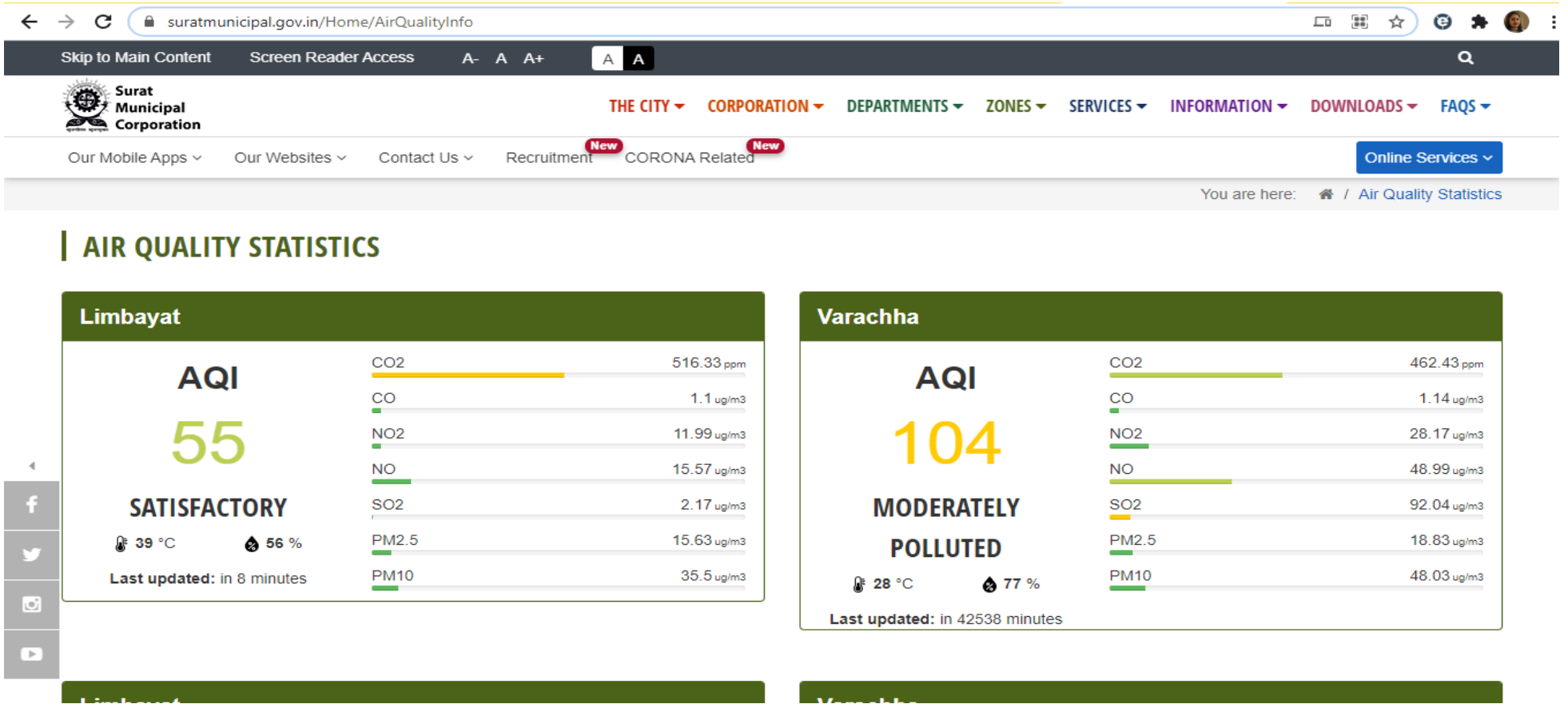
Stand Mount Providedment on the Top of BRT bus stop. Nearest Power Source shall from BRTS Bus stop.

Permission from BRTS for the installation and power availability shall be provided by SMC.

Annexure: PO1.5

Launch mobile app to update public about status of air quality

Details of display status as URLhttps://www.suratmunicipal.gov.in/Home/AirQualityInfo and Photos shown as


suratmunicipal.gov.in/Home/AirQualityInfo
Skip to Main Content
Screen Reader Access
A- A A+
Surat Municipal Corporation
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Recruitment
New
CORONA Related
New
Online Services
You are here: / Air Quality Statistics
AIR QUALITY STATISTICS
Limbayat
AQI
55
SATISFACTORY
39 °C
56 %
Last updated: in 8 minutes
CO2 516.33 ppm
CO 1.1 ug/m3
NO2 11.99 ug/m3
NO 15.57 ug/m3
SO2 2.17 ug/m3
PM2.5 15.63 ug/m3
PM10 35.5 ug/m3
Varachha
AQI
104
MODERATELY POLLUTED
28 °C
77 %
Last updated: in 42538 minutes
CO2 462.43 ppm
CO 1.14 ug/m3
NO2 28.17 ug/m3
NO 48.99 ug/m3
SO2 92.04 ug/m3
PM2.5 18.83 ug/m3
PM10 48.03 ug/m3

suratmunicipal.gov.in/Home/AirQualityInfo

Surat Municipal Corporation

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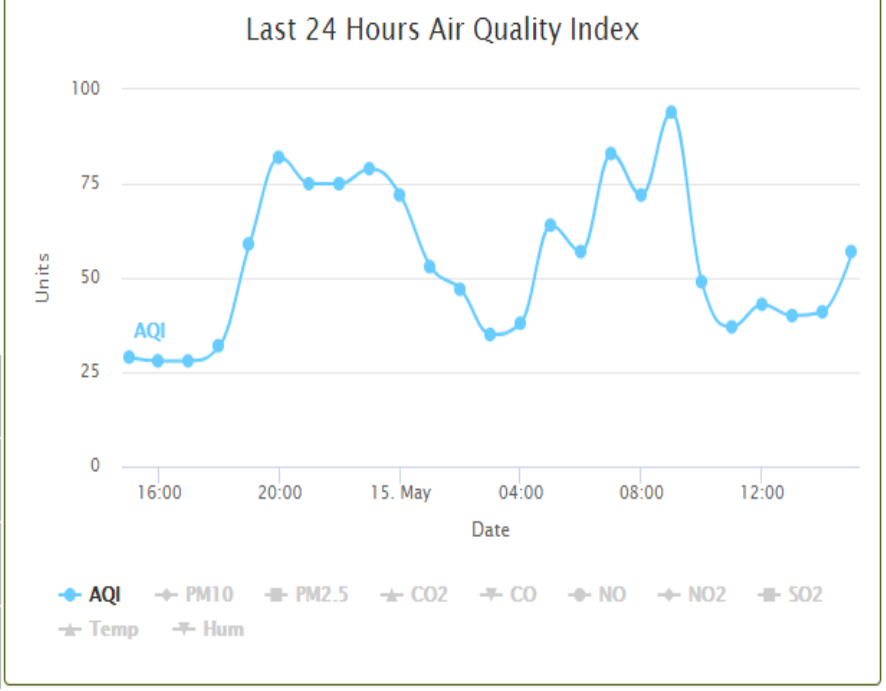
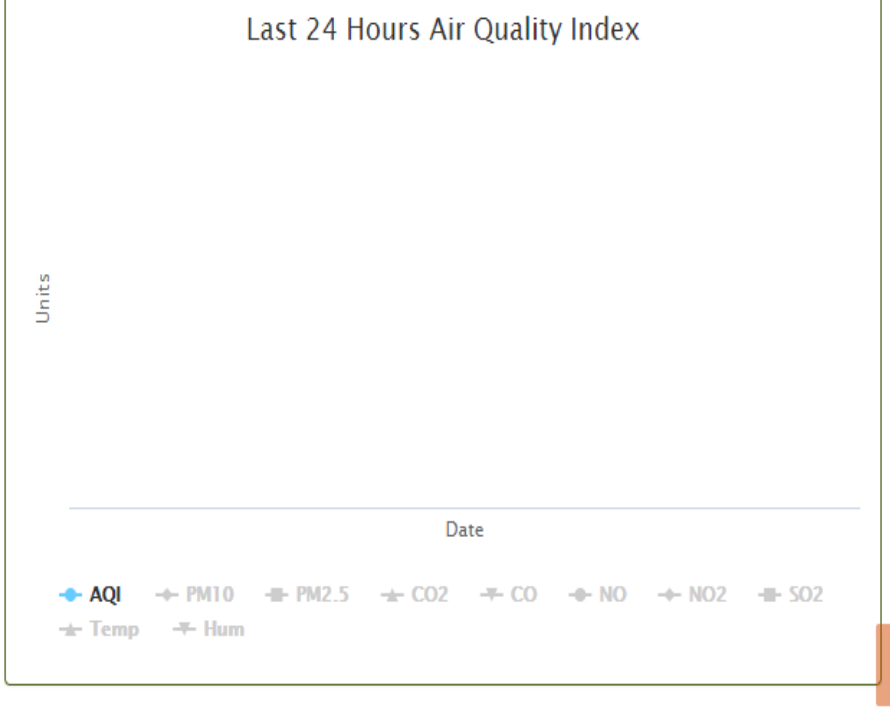
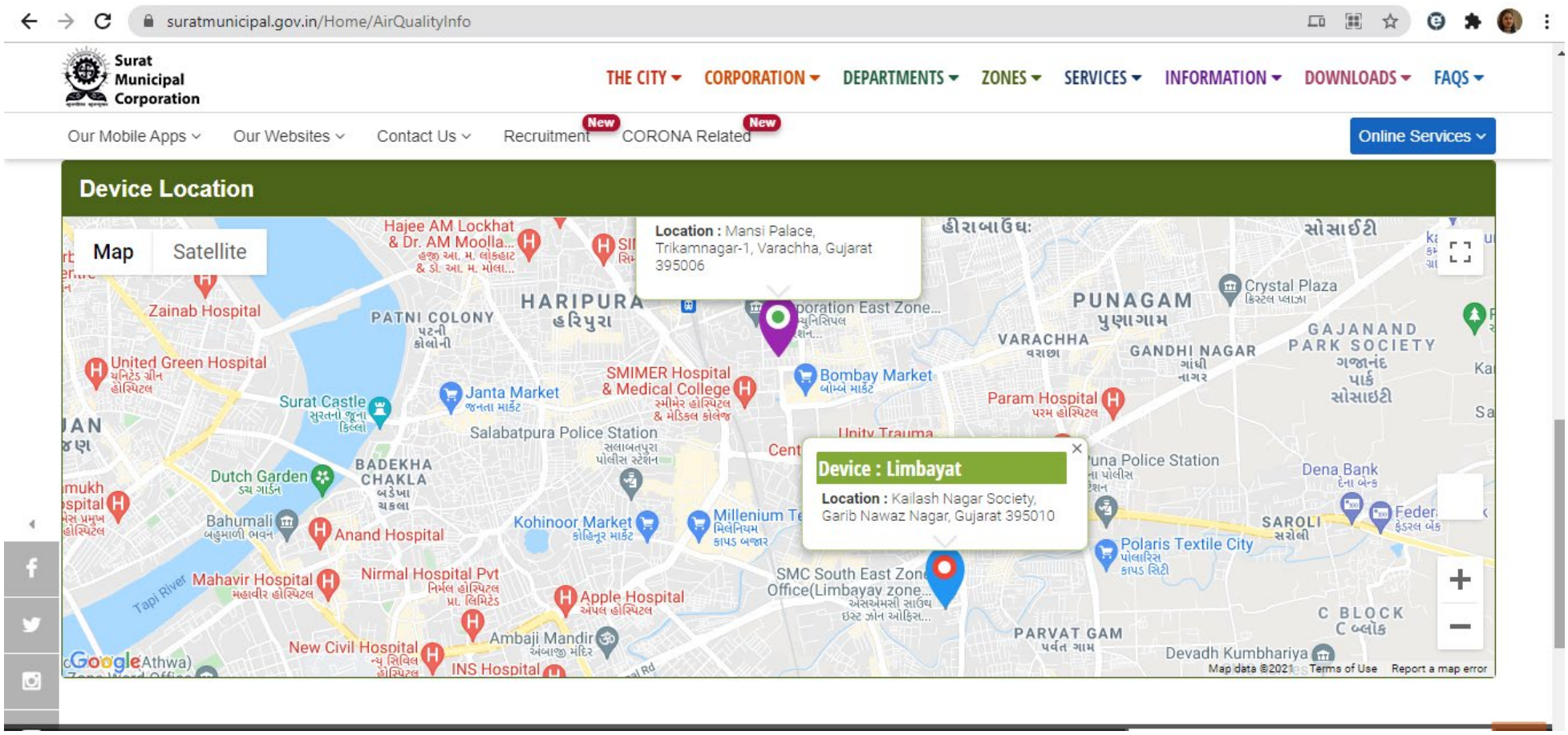
Last updated: in 42538 minutes

Limbayat



Varachha

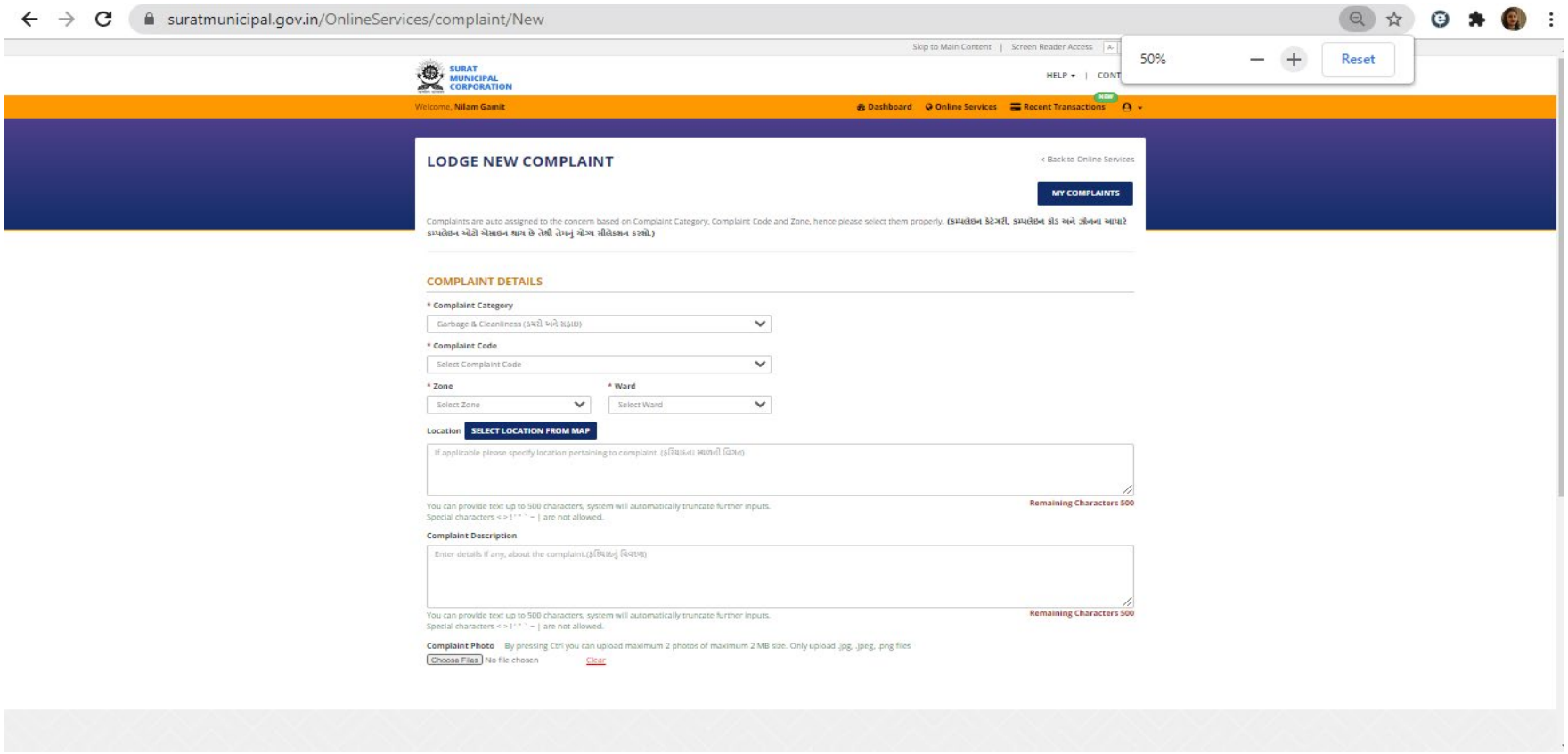


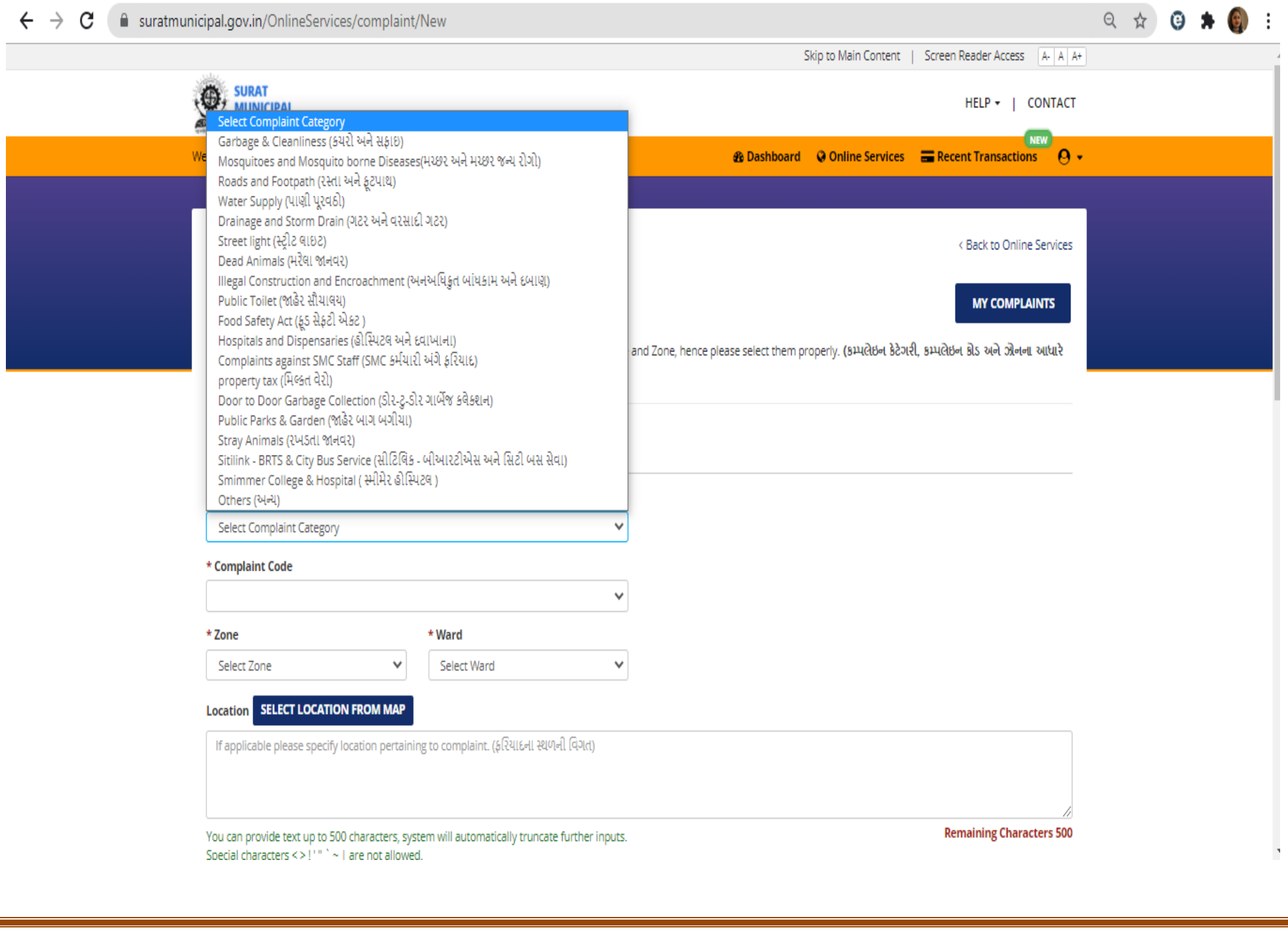


Annexure: PO2.1

App based system

Complaint Web portal URLhttps://www.suratmunicipal.gov.in/OnlineServices/Account/OnlineServicesand Screenshot data of Complaints are


suratmunicipal.gov.in/OnlineServices/complaint/New
Skip to Main Content | Screen Reader Access
50%
Reset
SURAT MUNICIPAL CORPORATION
HELP | CONT
Welcome, Nilam Gamit
Dashboard
Online Services
Recent Transactions
LODGE NEW COMPLAINT
‹ Back to Online Services
MY COMPLAINTS
Complaints are auto assigned to the concern based on Complaint Category, Complaint Code and Zone, hence please select them properly. (કમ્પ્લેઇન કેટેગરી, કમ્પ્લેઇન કોડ અને ઝોનના આધારે કમ્પ્લેઇન ઓટો એસાઇન થાય છે તેથી તેમનું યોગ્ય સીલેકશન કરશો.)
COMPLAINT DETAILS
* Complaint Category
Garbage & Cleanliness (કચરો અને સફાઇ)
* Complaint Code
Select Complaint Code
* Zone
Select Zone
* Ward
Select Ward
Location
SELECT LOCATION FROM MAP
If applicable please specify location pertaining to complaint. (ફરિયાદના સ્થળની વિગત)
You can provide text up to 500 characters, system will automatically truncate further inputs.
Special characters < > ! " ' ~ | are not allowed.
Remaining Characters 500
Complaint Description
Enter details if any, about the complaint.(ફરિયાદનું વિવરણ)
You can provide text up to 500 characters, system will automatically truncate further inputs.
Special characters < > ! " ' ~ | are not allowed.
Remaining Characters 500
Complaint Photo
By pressing Ctrl you can upload maximum 2 photos of maximum 2 MB size. Only upload .jpg, .jpeg, .png files
Choose Files
No file chosen
Clear


suratmunicipal.gov.in/OnlineServices/complaint/New
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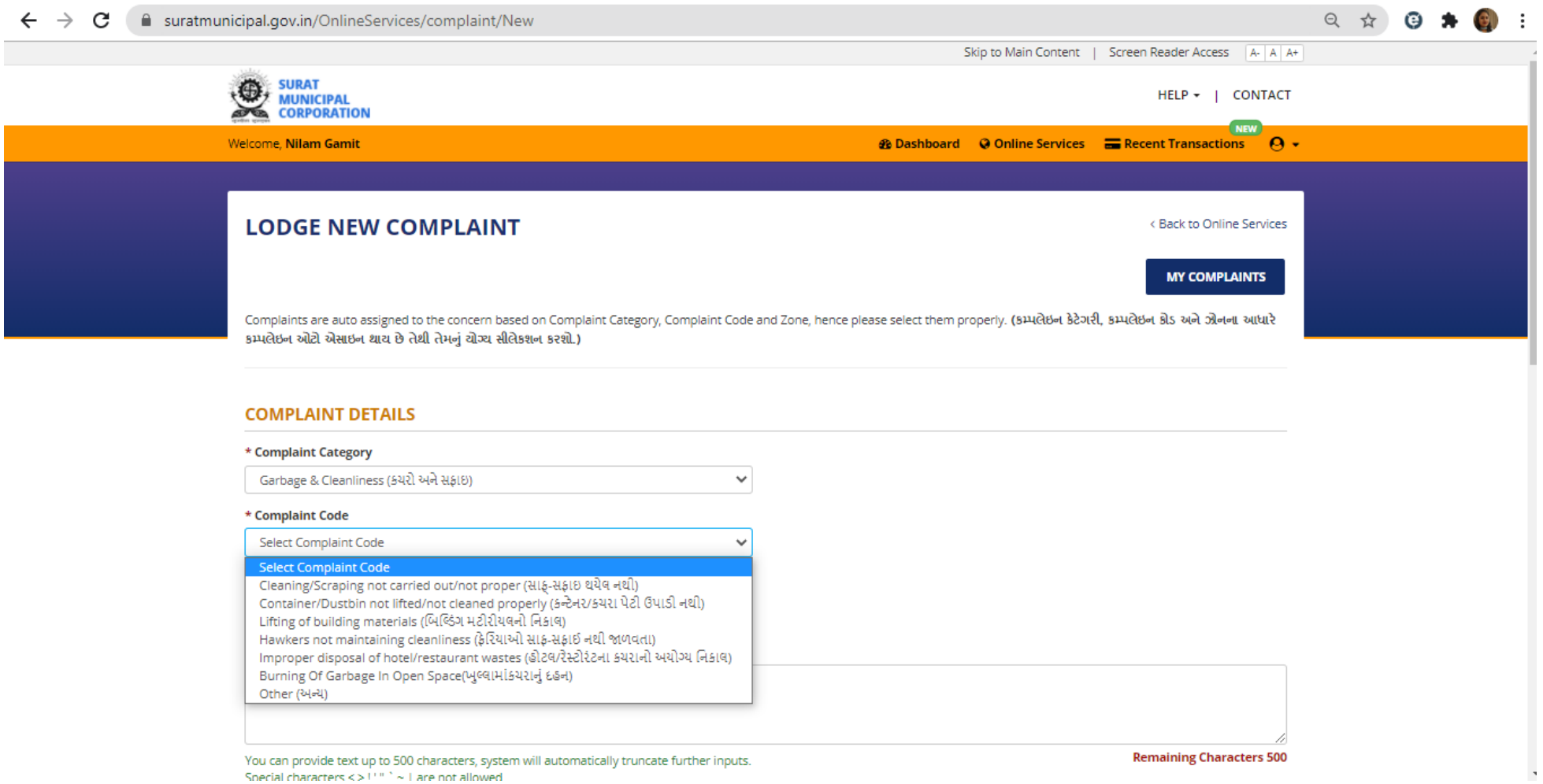
Recent Transactions
NEW
‹ Back to Online Services
MY COMPLAINTS
and Zone, hence please select them properly. (કમ્પલેઇન કેટેગરી, કમ્પલેઇન કોડ અને ઝોનના આધારે
Select Complaint Category
Garbage & Cleanliness (કચરો અને સફાઇ)
Mosquitoes and Mosquito borne Diseases(મચ્છર અને મચ્છર જન્ય રોગો)
Roads and Footpath (રસ્તા અને ફૂટપાથ)
Water Supply (પાણી પૂરવઠો)
Drainage and Storm Drain (ગટર અને વરસાદી ગટર)
Street light (સ્ટ્રીટ લાઇટ)
Dead Animals (મરેલા જાનવર)
Illegal Construction and Encroachment (અનઅધિકૃત બાંધકામ અને દબાણ)
Public Toilet (જાહેર સૌચાલય)
Food Safety Act (ફૂડ સેફટી એક્ટ)
Hospitals and Dispensaries (હોસ્પિટલ અને દવાખાના)
Complaints against SMC Staff (SMC કર્મચારી અંગે ફરિયાદ)
property tax (મિલ્કત વેરો)
Door to Door Garbage Collection (ડોર-ટુ-ડોર ગાર્બેજ કલેક્શન)
Public Parks & Garden (જાહેર બાગ બગીચા)
Stray Animals (રખડતા જાનવર)
Sitilink - BRTS & City Bus Service (સીટિલિંક - બીઆરટીએસ અને સિટી બસ સેવા)
Smimmer College & Hospital (સ્મીમેર હોસ્પિટલ)
Others (અન્ય)
Select Complaint Category
* Complaint Code
* Zone
Select Zone
* Ward
Select Ward
Location
SELECT LOCATION FROM MAP
If applicable please specify location pertaining to complaint. (ફરિયાદના સ્થળની વિગત)
You can provide text up to 500 characters, system will automatically truncate further inputs.
Special characters < > ! ' " ` ~ | are not allowed.
Remaining Characters 500


suratmunicipal.gov.in/OnlineServices/complaint/New
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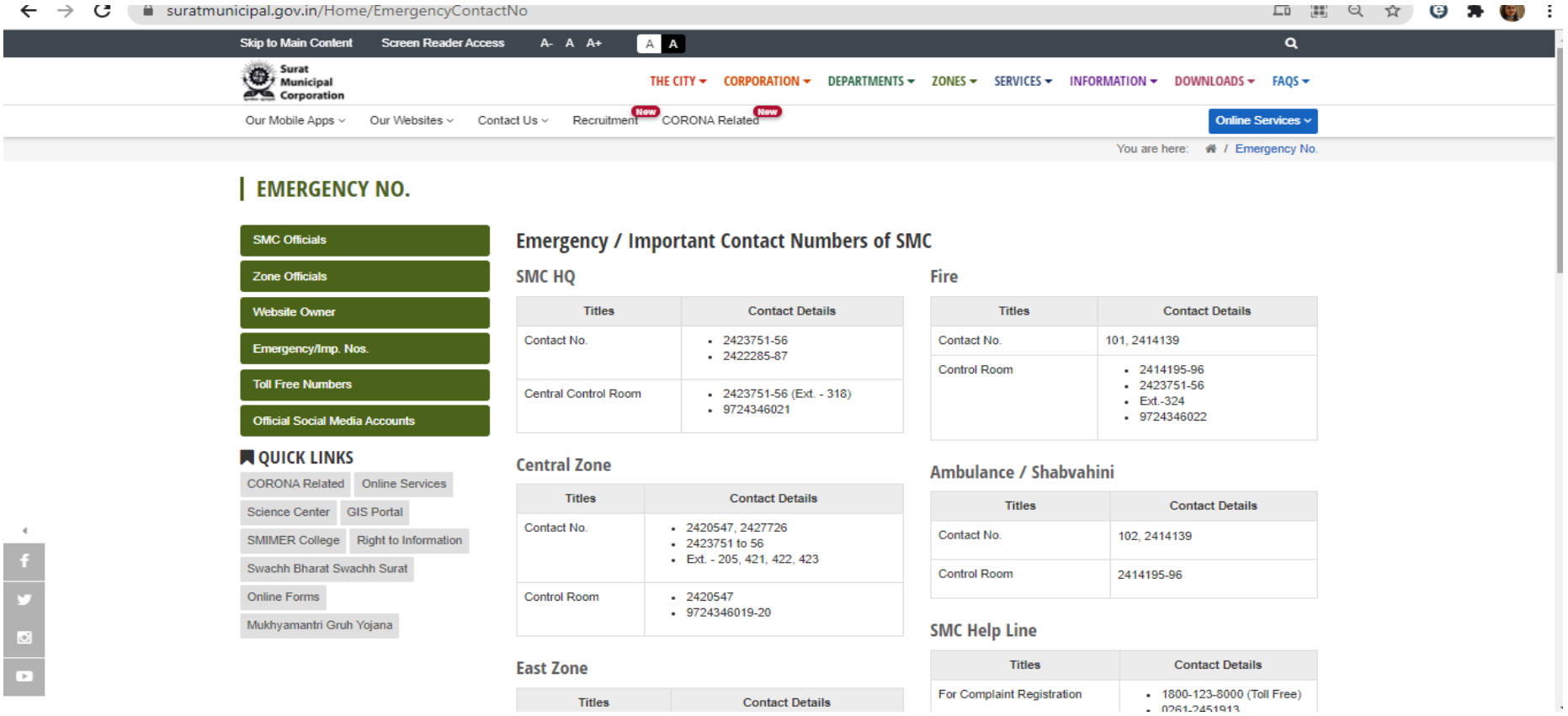
NEW
LODGE NEW COMPLAINT
Back to Online Services
MY COMPLAINTS
Complaints are auto assigned to the concern based on Complaint Category, Complaint Code and Zone, hence please select them properly. (કમ્પલેઇન કેટેગરી, કમ્પલેઇન કોડ અને ઝોનના આધારે કમ્પલેઇન ઓટો એસાઇન થાય છે તેથી તેમનું યોગ્ય સીલેકશન કરશો.)
COMPLAINT DETAILS
* Complaint Category
Garbage & Cleanliness (કચરો અને સફાઇ)
* Complaint Code
Select Complaint Code
Select Complaint Code
Cleaning/Scraping not carried out/not proper (સાફ-સફાઇ થયેલ નથી)
Container/Dustbin not lifted/not cleaned properly (કન્ટેનર/કચરા પેટી ઉપાડી નથી)
Lifting of building materials (બિલ્ડિંગ મટીરીયલનો નિકાલ)
Hawkers not maintaining cleanliness (ફેરિયાઓ સાફ-સફાઇ નથી જાળવતા)
Improper disposal of hotel/restaurant wastes (હોટલ/રેસ્ટોરંટના કચરાનો અયોગ્ય નિકાલ)
Burning Of Garbage In Open Space(ખુલ્લામાંકચરાનું દહન)
Other (અન્ય)
You can provide text up to 500 characters, system will automatically truncate further inputs.
Special characters < > ! ' " ` ~ | are not allowed
Remaining Characters 500

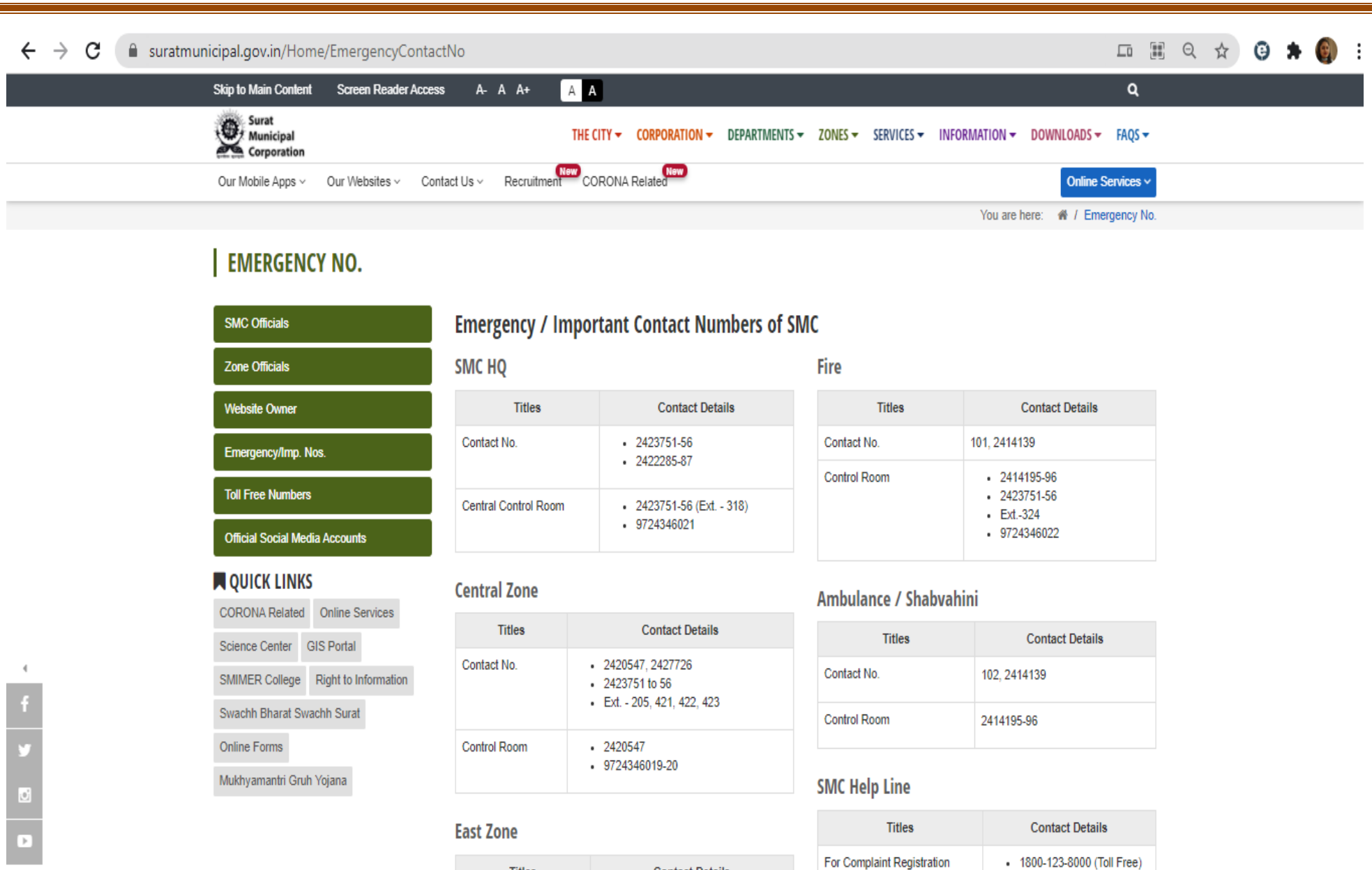
Annexure: PO2.2

Helpline Number

Details of zone wise help line number with URL as below

https://www.suratmunicipal.gov.in/Home/EmergencyContactNo




suratmunicipal.gov.in/Home/EmergencyContactNo
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EMERGENCY NO.
SMC Officials
Zone Officials
Website Owner
Emergency/Imp. Nos.
Toll Free Numbers
Official Social Media Accounts
QUICK LINKS
CORONA Related
Online Services
Science Center
GIS Portal
SMIMER College
Right to Information
Swachh Bharat Swachh Surat
Online Forms
Mukhyamantri Gruh Yojana
Emergency / Important Contact Numbers of SMC
SMC HQ
Titles
Contact Details
Contact No.
2423751-56
2422285-87
Central Control Room
2423751-56 (Ext. - 318)
9724346021
Central Zone
Titles
Contact Details
Contact No.
2420547, 2427726
2423751 to 56
Ext. - 205, 421, 422, 423
Control Room
2420547
9724346019-20
East Zone
Titles
Contact Details
Fire
Titles
Contact Details
Contact No.
101, 2414139
Control Room
2414195-96
2423751-56
Ext.-324
9724346022
Ambulance / Shabvahini
Titles
Contact Details
Contact No.
102, 2414139
Control Room
2414195-96
SMC Help Line
Titles
Contact Details
For Complaint Registration
1800-123-8000 (Toll Free)

South Zone

Titles	Contact Details
Contact No.	• 2278429 • 2276145, 2277043
Control Room	• 3991804 • 9724346060-61

South East Zone

Titles	Contact Details
Contact No.	2331903 to 05
Control Room	9724346049-52

❖ Road Department- Air Quality Improvement

Annexure: RD 1.1

Zone wise drain cleaning machineries list as ,

SURAT MUNICIPAL CORPORATION
DRAINAGE DEPARTMENT
WORKSHOP DEPARTMENT TO BE PROCURED MACHINERIES

SR. NO.	Zone	8 KL Jetting	3.5 KL Jetting	4 KL Jetting	Grab Bucket	Super Sucker	TOTAL
		Demand	Demand	Demand	Demand	Demand	
1	EAST ZONE A	-	-	-	6	-	6
2	EAST ZONE B	-	1	-	4	1	6
3	NORTH ZONE	2	-	3	7	-	12
4	SOUTH ZONE	-	1	-	2	-	3
5	CENTRAL ZONE	-	5	4	3	-	12
6	SOUTH WEST ZONE	-	-	-	-	-	-
7	WEST ZONE	-	-	-	-	-	-
8	SOUTH EAST ZONE	-	-	-	-	-	-
Total		2	7	7	22	1	39

Executive Engineer
Drainage Department
Surat Municipal Corporation

SURAT MUNICIPAL CORPORATION

DRAINAGE DEPARTMENT

ZONE WISE TOTAL MACHINERIS FOR SEWER LINE CLEANING WORK

Sr.No.	Zone	Sewer Jetting Machine (In Nos.)		GULPER Machine (In Nos.)	Desiltmen (In Nos.)	Total (In Nos.	Super Sucker (In Nos.)	Soak pit tanker	ROBOT
		8000 Ltr. Capacity	3500 Ltr. TO 1000 ltr. Capacity						
1	SOUTH ZONE	05	04	04	02	15	01	01	
2	SOUTH EAST ZONE	05	02	05	05	17	01	01	
3	NORTH ZONE	05	01	04	02	12	01	01	
4	EAST ZONE A	02	03	02	01	8	01	01	
5	EAST ZONE B	02	0	02	01	5			
6	WEST ZONE	02	04	02	03	11	01	01	
7	SOUTH WEST ZONE	03	04	04	02	13	01	01	
8	CENTRAL ZONE	07	03	07	03	20	01	0	01
	Total	**29**	**21**	**28**	**18**	**101**	**7**	**6**	**1**
						115			

Executive Engineer
Drainage Department
Surat Municipal Corporation

SURAT MUNICIPAL CORPORATION
DRAINAGE DEPARTMENT
ZONE WISE TOTAL MACHINERIS FOR SEWER LINE CLEANING WORK

Sr.No.	Zone	Sewer Jetting Machine (In Nos.)				GULPER Machine (In Nos.)		Desiltmen (In Nos.)		Total (In Nos.	Super Sucker (In Nos.)		Soak pit tanker	ROBOT
		8000 Ltr. Capacity		3500 Ltr. TO 1000 ltr.										
		AVAILABLE	ZONE DEMAND	AVAILABLE	ZONE DEMAND	AVAILABLE	ZONE DEMAND	AVAILABLE	ZONE DEMAND		AVAILABLE	ZONE DEMAND		
1	SOUTH ZONE	05	2	04	2	04	4	02	10	15	01	0	01	
2	SOUTH EAST ZONE	05	0	02	0	05	0	05	0	17	01	0	01	
3	NORTH ZONE	05	0	01	2	04	3	02	7	12	01	0	01	
4	EAST ZONE A	02	0	03	0	02	0	01	6	8	01	0	01	
5	EAST ZONE B	02	0	0	1	02	0	01	4	5		1		
6	WEST ZONE	02	0	04	2	02	0	03	5	11	01	0	01	
7	SOUTH WEST ZONE	03	1	04	0	04	1	02	4	13	01	0	01	
8	CENTRAL ZONE	07	2	03	3	07	4	03	3	20	01	0	0	01
	Total	31	5	21	10	30	12	19	39	101	7	1	6	1

AVAILABLE	115
ZONE DEMAND	67

Executive Engineer
Drainage Department
Surat Municipal Corporation

Annexure: RD 1.3&1.6

Regular cleaning of street surfaces and spraying of water to suppress dust.

Mechanized sweeper machines information

Sr. No	City Name	Current Population	No. of Mechanized Sweepers	Mode of Procurement (ULB/Hired/Outsourced through tender/any other)	Estimated Road length to be swept/day in km	Actual Road length swept/day in km	Frequency of cleaning/ day(once/ twice)	Avg. length of road swept/machine/day in km	No. of working hours/day/ machine	Manpower employed for mechanized sweeping
1	Surat	44 ,66,826	14	Outsourced through tender	392	392	once	28	08	80

Annexure: RD 1.2

Maintain potholes free roads

Zone	No. of Roads Repaired				No. of Potholes Repaired			
	2017-18	2018-19	2019-20	2020-21*	2017-18	2018-19	2019-20	2020-21*
CZ	222	285	164	146	3827	4919	2826	2515
EZ-A	22	25	33	26	824	1129	1608	517
EZ-B	22	49	22	15	2154	3901	205	802
NZ	20	38	80	45	2750	3251	3246	2475
SEZ	35	42	24	39	1125	1298	926	612
SWZ	116	54	34	42	312	170	150	148
SZ	18	20	20	24	1780	1845	2061	3420
WZ	78	84	66	69	1780	2111	1625	1875
Total	**533**	**597**	**443**	**406**	**14552**	**18624**	**12647**	**12364**

Annexure: RD 1.4

Black topping of unpaved roads

Zone	No. of Roads Black topped				Km. of Roads Black topped			
	2017-18	2018-19	2019-20	2020-21*	2017-18	2018-19	2019-20	2020-21*
CZ	16	36	10	70	2.40	5.54	1.34	10.38
EZ-A	52	116	60	53	15.68	35.93	19.25	16.05
EZ-B	48	0	25	9	15.81	0.00	10.68	3.04
NZ	32	21	47	35	13.02	5.88	16.59	11.08
SEZ	23	40	32	36	10.20	14.37	15.38	16.29
SWZ	110	54	63	10	45.49	49.52	27.59	3.00
SZ	77	72	41	36	41.32	31.51	9.19	15.43
WZ	70	91	75	30	29.66	27.6	27.46	12.8
Total	**428**	**430**	**353**	**279**	**173.58**	**170.35**	**127.48**	**88.069**

Annexure: RD 1.8

Road Design improvement

The Bituminous road design for construction of bituminous roads within the city categorized based on road width has been revised in the year 2017 in consultant with SardarVallabhbhai National institute of Technology, Surat. The design was revised as per latest Ministry of road Transport & Highway standards and specification (2013) fifth revision. The design of Cement Concrete Constructed within the city is derived after carrying out necessary Traffic survey on the particular stretch of the road. And all the latest codes and standards are taken into consideration before designing concrete pavement. Surat Municipal Corporation has also prepared road design manual which guides municipal engineers with respect to road planning, intersection design, junction design, road markings and road signals etc.

The resolution of the same has been attached separately as Annexure,

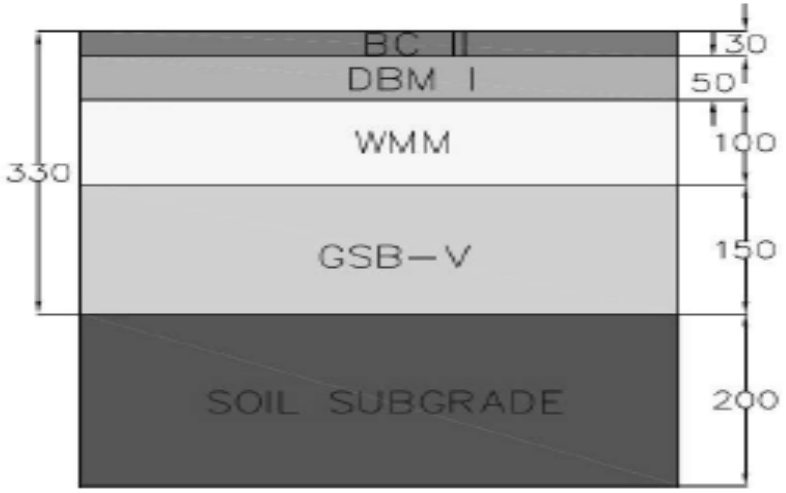
સુરત મહાનગરપાલિકાની સ્થાયી સમિતિની તા.૨૭–૪–૨૦૧૭ ના
રોજ મળેલ સભામાં નીચે મુજબનો ઠરાવ પસાર થયો હતો :–

* * * * * *

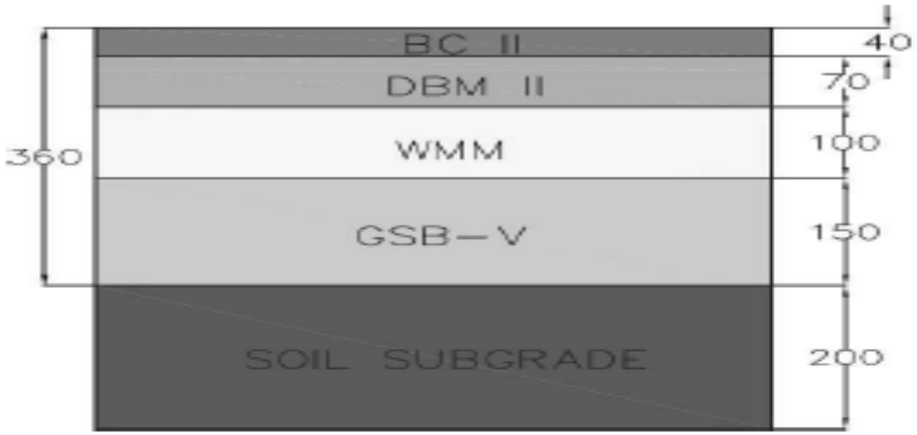
મ્યુ.કમિશનરશ્રીના તા.૧૮–૪–૧૭ના પત્ર નં.સી.સ્થા.સ./૫૭ થી વિદિત થઈ, સુરત મહાનગરપાલિકાના વિસ્તારમાં સને ૨૦૦૩–૨૦૦૪ ના વર્ષના ટ્રાફિક તથા સુરત શહેરની ભૌગોલિક પરિસ્થિતિ વિગેરે ધ્યાનમાં રાખી બીટયુમીનસ કોર્સ(બાઈન્ડર કોર્સ અને વેરીંગ કોર્સ)ની ડીઝાઈન સરકાર માન્ય સંસ્થા એસ.વી.એન.આઈ.ટી.,સુરતના રીટાર્યડ પ્રોફેસર પાસે તે સમયના I.R.C. નોમ્સ તથા MoRTH –2001 (Fourth Revision) મુજબ તૈયાર કરવામાં આવેલ તથા સુરત શહેર વિસ્તારના વિવિધ રસ્તાઓને રસ્તાની પહોળાઈને અનુલક્ષીને તથા સુરત શહેરની કાળીમાટીના ગુણધર્મોને લક્ષમાં રાખી (૧),(૨),(૩),(૪) કેટેગરી મેટલ ગ્રાઉટીંગ કરવા માટે સ્થાયી સમિતિ ઠરાવ નં.૧૪૩૩/૨૦૦૪,તા.૧૬/૦૧/૨૦૦૪ થી મંજુર કરવામાં આવેલ. જે મુજબ હાલમાં ચાલતી પ્રેકટીસ મુજબની ડીઝાઈનના તમામ ૪ (ચાર) કેટેગરીઓના રોડ બનાવવાની કામગીરી દરમ્યાન મેટલ ગ્રાઉટીંગ તથા બીટયુમીનસ કોર્સ(બાઈન્ડર કોર્સ અને વેરીંગ કોર્સ) માં દરખાસ્તમાં જણાવેલ પ્રશ્ન ઉપસ્થિત થતો હોય સદર ડીઝાઈન રીવ્યુ કરી રસ્તા બનાવવા અંગે પ્રવર્તમાન I.R.C નોમ્સ તથા રોડ બનાવવાની (MoRTH) –2013 ગાઈડલાઈન્સ તેમજ સ્પેશીફીકેશન મુજબ નવી ડીઝાઈન તૈયાર કરવા સરકાર માન્ય સંસ્થા એસ.વી.એન.આઈ.ટી. સુરતની તા.૨૪–૧૧–૧૬ થી નિમણુંક કરવામાં આવેલ જે સંદર્ભે એસ.વી.એન.આઈ.ટી.સુરતે તેમના તા.૧૦–૪–૧૭ ના રીપોર્ટથી I.R.C. ના નોમ્સ તથા મીનીસ્ટ્રી ઓફ રોડ ટ્રાન્સપોર્ટેશન એન્ડ હાઈવેઝ(MoRTH) -2013 (Fifth Revison) ની ગાઈડલાઈન મુજબ નવી ડીઝાઈન

અંગે ફાયનલ રીપોર્ટ રજુ કરેલ તે જોતાં જુની ડીઝાઈનની સરખામણીમાં નવી ડીઝાઈનનું અમલીકરણ કરવું વધુ હિતાવહ/ફાયદાકારક જણાય છે સુરત શહેરના વિવિધ રસ્તાઓને ચોમાસા દરમ્યાન વરસાદના કારણે થતા નુકશાન તથા વધતા જતા ટ્રાફીક ભારણ અને સાઉથ ગુજરાતની કાળી માટીના ગુણધર્મોને ધ્યાનમાં રાખી તથા સરકારશ્રીના Road & Building Department તથા NHAI તેમજ રાજયની અન્ય મહાનગરપાલિકામાં કાર્યરત એવી પ્રવર્તમાન I.R.C. ના નોમ્સ તથા MoRTH - 2013 (Fifth Revision) ની ગાઈડ લાઈન્સ મુજબ એસ.વી.એન.આઈ.ટી, સુરત ધ્વારા તૈયાર કરવામાં આવેલ નીચે જણાવેલ નવી ડીઝાઈન મુજબ રસ્તા બનાવવાની કામગીરી કરવાનું તેમજ તે અંગે નીચે જણાવેલ નિર્ણયો લેવાનું ઠરાવવામાં આવે છે.

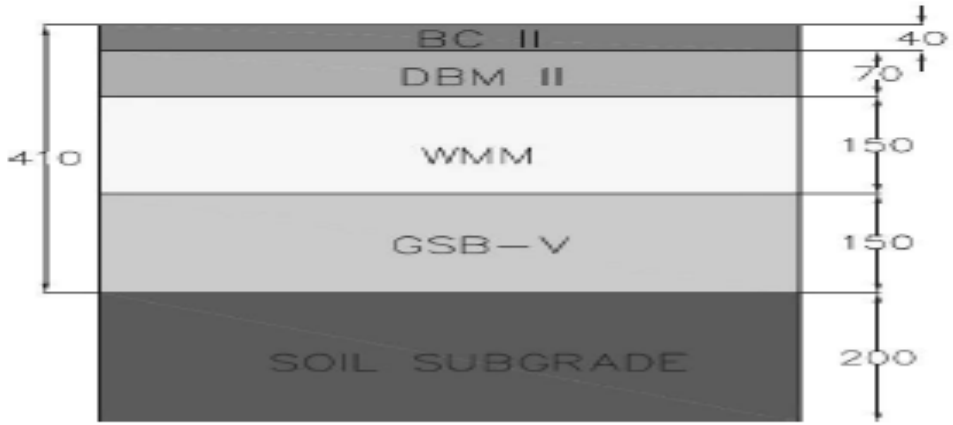
(૧)રેસીડેનશીયલ રોડઃ—



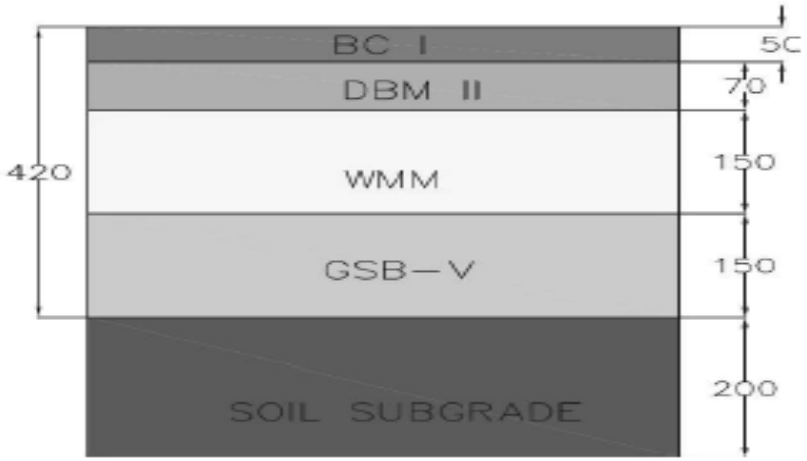
(૨)કલેકટર રોડઃ—



(૩)સબ આર્ટીયલ રોડઃ—



(૪) આર્ટીયલ રોડઃ—



૧. સુરત મહાનગરપાલિકાના હદ વિસ્તારમાં હવે પછી બનાવવામાં આવનાર નવા રસ્તાઓને સબ ગ્રેડથી લઈ ટોપ કોર્સ (બાઈન્ડર કોર્સ અને વેરીંગ કોર્સ) સુધીની તમામ કામગીરી એક સાથે નવી ડીઝાઈન મુજબ કરવી.

૨. જુની ડીઝાઈન મુજબ મેટલ ગ્રાઉટેડ રસ્તાઓ પર જુની ડીઝાઈન મુજબના કારપેટના મંજુર ટેન્ડરમાંથી બાઈન્ડર કોર્સ અને વેરીંગ કોર્સ કરવા.

૩. જે રસ્તાઓના મેટલ ગ્રાઉટીંગ કરવાના કામના ટેન્ડર મંજુર થયેલ હોય, તેવા રસ્તાઓ પર ટેન્ડર પુર્ણ થયેથી અથવા સમાવિષ્ટ રસ્તાઓને મેટલ ગ્રાઉટીંગ પૂર્ણ થાય ત્યાં સુધી જુની ડીઝાઈન મુજબ મેટલ ગ્રાઉટીંગ કરી તેની ઉપર જુની ડીઝાઈન મુજબ કારપેટના મંજુર ટેન્ડરમાંથી બાઈન્ડર કોર્સ અને વેરીંગ કોર્સ કરવા.

૪. જે રસ્તાઓના મેટલ ગ્રાઉટીંગના માત્ર અંદાજ મંજુર થયેલ હોય અથવા ટેન્ડર મંગાવવામાં આવેલ હોય, પરંતુ ટેન્ડર મંજુર થવાના બાકી હોય તેવા રસ્તાઓના અંદાજને નવી ડીઝાઈન મુજબ અંદાજ મજુર ગણી બહાલી આપી, બીટયુમીનસ કોર્સના અંદાજ અલગથી મંજુર કરાવી નવી ડીઝાઈન મુજબ સબ ગ્રેડ લેયરથી ટોપ કોર્સ સુધી તમામ કામગીરી એક સાથે કરવી.

૫. જુની ડીઝાઈન મુજબ એક વર્ષથી વધુ સમય પહેલા મેટલ ગ્રાઉટેડ રસ્તાઓ અથવા કારપેટ કરવાના કામે અગાઉ જુની ડીઝાઈન મુજબ મંજુર ટેન્ડરમાંથી કારપેટીંગ કરવાના બાકી રહી ગયેલ રસ્તાઓ ઉપર ૭૫ મી.મી. W.M.M નો લેયર કરી નવી ડીઝાઈન મુજબ બીટયુમીનસ કોર્સ સાથોસાથ કરવા.

૬. જે રસ્તાઓના રીકારપેટ કરવાના ટેન્ડર મંજુર થયેલ હોય તેવા રસ્તાઓને ટેન્ડર પૂર્ણ થયેથી અથવા ટેન્ડરમાં સમાવિષ્ટ રસ્તાઓને રીકારપેટની કામગીરી પૂર્ણ થાય ત્યાં સુધી જુની ડીઝાઈન મુજબ રીકારપેટ કરવા.

૭. જે રસ્તાઓના રીકારપેટ કરવાના અંદાજ મંજુર થયેલ પરંતુ ટેન્ડર મંજુર થવાના બાકી હોય તેવા રસ્તાઓના અંદાજ નવી ડીઝાઈન મુજબ મંજુર ગણી બહાલી આપી, નવી ડીઝાઈન મુજબ ટેન્ડર પ્રસિધ્ધ કરવા આગળની કામગીરી કરવી.

૮. જુની ડીઝાઈન પ્રમાણે કારપેટ/રીકારપેટ થયેલ રસ્તાઓ પર નવી ડીઝાઈન મુજબ કારપેટ કરતા પહેલા પ્રોફાઈલ કરેકશન તેમજ કેમ્બર કરેકશન માટે D.B.M. નો જરૂરીયાત મુજબનું લેયર કરી B.C. નો વેરીંગ કોર્સ કરવા.

૯. જે રસ્તાઓ કે જેના પર સુરત મહાનગરપાલિકાની ડીઝાઈન સિવાય અન્ય ડીઝાઈન (જેવી કે R & B, જીલ્લા પંચાયત, અન્ય) મુજબ મેટલ ગ્રાઉટીંગ કરવામાં આવેલ હોય, તેવા રસ્તાઓ પર ૭૫ મી.મી. W.M.M કરી બીટયુમીનસ કોર્સની કામગીરી કરવી.

૧૦. જે રસ્તાઓનું વાઈડનીંગ કરવામાં આવનાર હોય, તેવા રસ્તાઓના બાકીના ભાગમાં નવી ડીઝાઈન મુજબ કામગીરી કરવાની રહેશે પરંતુ જુની ડીઝાઈન મુજબ તૈયાર કરવામાં આવેલ રસ્તાઓના ટોપ લેવલ તેમજ નવી ડીઝાઈન મુજબ વાઈડનીંગ કરવામાં આવનાર રસ્તાઓનું લેવલ જરૂરી કેમ્બર મુજબ જાળવી રાખવું.

૧૧. ટ્રેન્ચ રીઈન્સ્ટેટમેન્ટ કરવાની કામગીરી નવી ડીઝાઈન મુજબ કરવાની રહેશે પરંતુ જો કોઈ સંજોગોમાં મેન્યુઅલી મટીરીયલ પાથરવાનું થાય તો તે સંજોગોમાં પ્રોપર કોમ્પેકશન કરવાની કાળજી રાખવી.

૧૨. સુરત મહાનગરપાલિકા ધ્વારા નવી ડીઝાઈન મુજબ બનાવવામાં આવનાર તમામ રસ્તાઓ માટે ટેન્ડર કવોલિફીકેશન ક્રાઈટેરીયા નકકી કરવા,સ્પેશીફીકેશન તૈયાર કરવા ઉકત કાર્ય પધ્ધતિમાં જરૂર જણાય ત્યારે ફેરફાર કરવા તથા તેને આનુસાંગિક તમામ કાર્યવાહી કરવા મ્યુ.કમિશનરશ્રીને અધિકૃત કરવામાં આવે છે.

ઠરાવ નં.૫૯૨/૨૦૧૭ સર્વાનુમતે મંજુર.

સ.૨.મ્યુ.કમિશનરશ્રી પ્રતિ,

ઈ.ચા. સે ક્રે ટ રી,
સુરત મહાનગરપાલિકા
તા. –૫–૨૦૧૭.

UMP

Annexure: RD 1.11

Improvement of infrastructure for decongestion of road.

Bridges in Surat City

Surat City may be known as a 'Diamond City' or 'Silk City' or 'The Green City'. Though the city has created its one more identity as a 'Bridge City'. 60 lakhs people of this dynamic city needs best transportation facility. Thus, the city owns total 114 bridges around them. City covered vast area so the city always needs the better transportation and inter connecting links between its part for the development of its own. City currently owns massive road network. Yet it always needs to grow.

Current Bridges in Surat-

Sr NO.	Type of Bridge	Nos of Bridges in city	Approx. Project Cost in Cr.
01	River Bridge	13	803.31
02	Flyover Bridge	61	165.12
03	Railway Over/Under Bridge	28	940.55
04	Creek Bridge	12	471.63
	Total	114	2380.62

Proposed Project's Financial Timeline

Sr No.	List of Projetct	Zone	Project Cost in Cr.	Year Wise Breakup For Fund Requirement (in Cr.)				
				2020-21	2021-22	2022-23	2023-24	2024-25
1	Widening of Dr. Hedgewar Creek Bridge.	South Zone	14	1	5	5	3	0
2	Construction of creek bridge connecting Mithi khadi to Limbayat zone office on 18 m wide TP road in South East (Limbayat) Zone, Surat.	South East Zone	22	0.1	6	10	5.9	0
3	Creek Bridge in TP 21 (Sarthana Simada) near Shyam Dham Soc.	East Zone	10	0	2	4	4	0
4	Construction/Widening of existing Bridge across Kankra Creek at Parvat near Sharda Hindi Vidhyalay, Surat.	South East Zone	15	0	3	7	5	0
5	Widening of Creek bridge on 45.0 mt road at TP 38 (Nana Varachha) & TP 68 (Puna) & 12 mt wide road at TP 38 (Nana Varachha) in east zone area.	East Zone	15	0	3	7	5	0
6	Construction of Creek bridge connecting Shree Ramnagar soc. and Saketdham soc.in East Zone	East Zone	25	0	4	10	6	0
Total			101	1.1	23	43	28.9	0

Satellite image showing Location of Proposed Bridges-

Annexure: RD 1.12

Widening of roads

After all the basic utility networks such as water supply drainage, electric supply etc. has been laid by respective departments/zone of Surat Municipal Corporation and also the private service providers, widening of roads are carried out by Surat Municipal Corporation. Total of 29 different roads were widened all across the city in this financial year.

Zone	No. of Roads Widened			
	2017-18	2018-19	2019-20	2020-21*
CZ	0	0	0	0
EZ-A	0	1	5	1
EZ-B	1	3	2	0
NZ	2	5	0	10
SEZ	2	7	4	4
SWZ	10	14	8	4
SZ	3	3	3	3
WZ	3	1	2	7
Total	**21**	**34**	**24**	**29**

Annexure: RD 1.12

Designing and Construction of environment friendly roads:

For areas catering heavy vehicular movement as well as areas experiencing water logging issue, bituminous roads using shredded Plastic waste as per IRC standards are being constructed by Surat Municipal Corporation. Till date approximate 100 ton of waste plastic has been used in road construction by Surat Municipal Corporation.

During Construction of Cement Concrete as well as bituminous roads, to ensure natural minerals like aggregate available from the existing pavement are not wasted, excavated aggregates are being used in base and sub-base of road construction. Also construction & demolition waste is used for construction of road works.

RAP (Reclaimed Asphalt Pavement) Material obtained from Milling Different Roads within Surat City is utilized for providing Patch work material for Road Repairing works. The use of RAP (Reclaimed Asphalt Pavement) Material has been done for producing Approximate 8000 M.T. Patch work material by Surat Municipal Corporation.

The list of roads resurfaced using shredded plastic waste is attached as Annexure,

પ્લાસ્ટીક રોડની વિગત

અ.નં.	રસ્તાનું નામ	કામ પૂર્ણ થયાનું વર્ષ	કામ પૂર્ણ કર્યાની તારીખ	રસ્તાની લંબાઈ (કિ.મી. માં)
૧	ઉધના ઝોન વિસ્તારમાં સુરત–નવસારી રોડથી ભેંસ્તાન રેલ્વે ફાટક સુધીના રસ્તાને કારપેટ કરવાનું કામ.(૨૪.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૬–૧૭	૦૬/૦૨/૨૦૧૭	0.70
૨	ઉધના ઝોન વિસ્તારમાં સચીન–મગદલ્લા હાઈવેથી સાબરી નગર સુધીના રસ્તાને કારપેટ કરવાનું કામ.(૨૪.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૬–૧૭	૧૬/૦૨/૨૦૧૭	0.65
૩	અઠવા ઝોન વિસ્તારમાં સચીન–મગદલ્લા હાઈવેથી મગદલ્લા પોર્ટ સુધીના રસ્તાને કારપેટ કરવાનું કામ.(૩૬.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૬–૧૭	૨૫/૦૨/૨૦૧૭	1.12
૪	ભુસાવલ રેલ્વે ટ્રેકથી ડીંડોલી ખરવાસા રોડ(લિંબાયત ઝોન)(૪૫.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૬–૧૭	૦૭/૦૩/૨૦૧૭	2.22
૫	અઠવા ઝોન વિસ્તારમાં ખજોદ પેટ્રોલ પંપથી વી.આઈ.પી. રોડ સુધીના રસ્તાને રીકારપેટ કરવાનું કામ.(૨૪.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૬–૧૭	૩૦/૦૩/૨૦૧૭	1.50
૬	ઉધના ઝોન વિસ્તારમાં ડ્રા.ટી.પી.સ્કીમ નં.૬૩(વડોદ), બાપુનગર સોસાયટીના રસ્તાને કારપેટ કરવાનું કામ.(૩૬.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૭–૧૮	૩૦/૦૪/૨૦૧૭	1.00
૭	વરાછા ઝોન વિસ્તારમાં હીરા બાગ સર્કલથી વૈશાલી જંકશન સુધી વરાછા મેઈન રોડ રીકારપેટ કરવાનું કામ.(૪૫.૦૦ મી. થી ૬૦.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૭–૧૮	૦૧/૦૫/૨૦૧૭	4.52

અ.નં.	રસ્તાનું નામ	કામ પૂર્ણ થયાનું વર્ષ	કામ પૂર્ણ કર્યાની તારીખ	રસ્તાની લંબાઈ (કિ.મી. માં)
૮	વેસ્ટ ઝોનમાં અડાજણ પાટીયા, ધનમોરા કોમ્પલેક્ષથી જીલાની બ્રીજ સુધીના રસ્તાને રીકારપેટ કરવાનું કામ(૨૪.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૭–૧૮	૦૭/૦૬/૨૦૧૭	0.50
૯	કલાકુંજ સોસાયટીથી જવાહરનગર વસાહત સુધીનો રસ્તો રીકારપેટ(વરાછા ઝોન)(૩૬.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૭–૧૮	૦૮/૧૧/૨૦૧૭	2.80
૧૦	જવાહર નગર વસાહતથી રચના સોસાયટી સુધીના બી.આર.ટી.એસ. રોડ(મેઈન્ટેનન્સ કામ)(વરાછા ઝોન)	૨૦૧૭–૧૮	૧૬/૧૨/૨૦૧૭	0.40
૧૧	આંજણા રેલ્વે ફલાયઓવર બ્રીજ એપ્રોચ રોડ(રીકારપેટ) ફકત બી.સી.	૨૦૧૭–૧૮	૧૯/૧૨/૨૦૧૭	-
૧૨	સુરત–ડુમસ રોડ પર ભીમપોર વિલેજ ગેટથી લંગર ડુમસ સુધીનો રસ્તો(૬૦.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૯–૨૦	૦૮/૦૫/૨૦૧૯	1.00
૧૩	સુરત–ડુમસ રોડ પર ભીમપોર વિલેજ ગેટથી એરપોર્ટ પાસેના સી.સી. રોડ સુધીનો રસ્તો(૬૦.૦૦ મી. પહોળાઈનો રસ્તો)	૨૦૧૯–૨૦	કામગીરી પ્રગતિ હેઠળ	2.00
			કુલ..	18.41

Annexure: RD 1.15

Create Proper Pedestrian Infrastructure:

In order to ensure good pedestrian facilities to the road users, continuous footpath of suitable width as proposed in the IRC guidelines are being developed all along the major road corridors. Footpaths and pedestrian infrastructure over 51 new roads have been provided by Surat Municipal Corporation and also improvements of pedestrian facilities on roads are carried out at regular intervals.

Surat Municipal Corporation has also prepared guidelines regarding construction of footpaths which includes footpath width, material to be used etc.

Zone	**Nos. of roads on which pedestrian infrastructure is provided**			
	2017-18	2018-19	2019-20	2020-21*
CZ	0	1	0	0
EZ-A	6	5	0	1
EZ-B	4	0	4	1
NZ	6	6	9	6
SEZ	0	2	1	1
SWZ	0	7	12	3
SZ	1	2	2	2
WZ	7	5	7	2
Total	**24**	**28**	**35**	**16**

❖ Solid waste management Documents

Annexure: BB1.2

Defaulters for open burning to be imposed fines

- Penalty imposed from different zone for open burning are

SWACHH SERVEKSHAN-2021
Surat Municipal Corporation
South Zone (Udhna)
Open Burning of scrap/waste

Sr.No	Month	No of Penalty	No Of Notice	Fine amount(Rs)
1	Dec-20	1	0	2000
2	Jan-21	1	1	1000
3	Feb-21	1	1	1000
4	Mar-21	0	1	0

સાઉથ ઈસ્ટ ઝોન(લિંબાયત)			
જાહેર સ્થળોએ કચરો સળગાવનાર પાસેથી લીધેલ દંડની વિગત			
સુરત મહાનગરપાલિકા			
અ.નં.	મહિનો	ઈસમની સંખ્યા	પેનલ્ટીની રકમ(રૂા.માં)
૧	એપ્રિલ	1	100
૨	મે		
૩	જુન	1	200
૪	જુલાઈ	1	200
૫	ઓગષ્ટ	1	200
૬	સપ્ટેમ્બર		
૭	ઓકટોબર	1	200
૮	નવેમ્બર	3	500
૯	ડિસેમ્બર	6	900
૧૦	જાન્યુઆરી	5	1600
૧૧	ફેબ્રુઆરી	7	1700
કુલ		**26**	**5600**

Annexure: BB1.4

Prohibition/complete ban on garbage burning Notifications

- According to 'Public-Health Bye-laws 2015' for The Surat Municipal Corporation of Gujarat State Following charges are applicable for open burning of waste.

Solid waste Rule Violation						
By-laws no	**Offense**	**Application to**	**Compromise fee(Rs.)**		**Admin Charges(Rs.)**	
			Min.	**Max.**	**Min.**	**Max.**
60.1(8)	**Open burning of waste**	**Offender**	**250/-**	**500/-**	**500/-**	**1000/-**
		Contractor/Agency	**250/-**	**500/-**	**2000/-**	**5000/-**

Annexure: BB1.6

Construction of advanced waste management Site

Sr. No.	WARD NO.	PLANT NAME	PLANT TYPE	DESIGNED PLANT CAPACITY(Per Day)	LANDMARK

1	2	C&D Waste Recycling	C&DWaste Recycling	300	Kosad Transfer Station
2	22	Biomedical/Domestic Hazardous/Sanitary Treatment	Domestic Hazardous/Sanitary Treatment Facilities	Dom.Haz.-4 / San- 2	Bhatar Transfer Station
4	22	Plastic Waste Processing Facility	Material Recovery Facility (MRF)	75	Bhatar Sewage Treatment Plant
5	22	MRF-BHATAR	Material Recovery Facility	50	Bhatar Transfer Station
6	18	MRF-ANJANA	Material Recovery Facility	40	Anjana Transfer Station
7	9	MRF-KATARGAM	Material Recovery Facility	45	Katargam Transfer Station
8	2	MRF-KOSAD	Material Recovery Facility	40	Kosad Transfer Station
9	26	MRF-DINDOLI	Material Recovery Facility	30	Dindoli Transfer Station
10	13	MRF-VARACHHA	Material Recovery Facility	65	Varachha Transfer Station
11	27	MRF-BHESTAN	Material Recovery Facility	40	Bhestan Transfer Station
12	9	MRF-PAL	Material Recovery Facility (MRF)	50	Pal Transfer Station
13	22	Processing Plant_UFL	Solid Waste Processing Plant(for Mixed Waste)	550	Khajod Solid Waste Disposal Site
14	22	Processing Plant_UFL 2	Waste to Compost	800	Khajod Solid Waste Disposal Site
15	17	APMC_BIOGAS	Waste to Energy	50	APMC Market
16	29	Textile waste processing facility	Waste to Energy	100	UdhanaMagdalla Road

Time line for micro level planning of centralized Waste Management Park for the future requirement

Activity	Sub- Activity	timeline				Remarks
		Jan- Dec 21	Jan- June 22	June22- Dec 23	Jan- Dec 24	
Prebidding stage	Problem identified					Under process
	Selection of site for construction					
	Preparation of tender document					
Bidding stage	Calling of bids& its approval					Under process
	Release of work order					Under process
Project execution	Site inspection					Under process
	Construction of infrastructure					Under process
	Processing beginning					Under process
	Calibration and inspection of plants	Regular activity				

Annexure: BB 1.7

Regular collection and control of municipal solid wastes.

Micro level action planning for purchasing new municipal solid waste collector e-vehicles

Activity	Sub- Activity	timeline				Remarks
		Jan- Dec 22	Jan- Dec 23	Jan Dec 24	Jan- Dec 25	
Prebidding stage	Identified No of e- vehicles require					Under process
	Preparation of tender document					
Bidding stage	Calling of bids& its approval					Under process
	Release of work order					Under process
Project execution	Purchasing of e- vehicle from qualified bidder					Under process
	Calibration and inspection of e- vehicles	Regular activity				

Waste type	Plant name	MSW in ton per day
Wet Waste	SEPPL COMPOST PLANT (in M.T.)	201.87
	UFL Plant	654.98
	APMC (in M.T.)	53.11
	Decentralized OWC Machines	19.64
Dry Waste Processed in Centralized Processing plants & MRF	SEPPL RDF plant (in M.T.)	86.95
	UFL-RDF	266.86
	Plastic Waste (in M.T.)	64.98
	Textile	56.93
	MRF-Anjana	19.18
	MRF-Bhatar	20.68
	MRF-Bhestan	20.00
	MRF-Dindoli	21.48
	MRF-Katargam	25.31
	MRF-Kosad	16.71
	MRF-Pal	18.37
	MRF-Varachha	30.53

Dry Waste Processed in Decentralized Processing Units	E-Waste	1.05
	Domestic Hazardous (in M.T.)	2.70
	Sanitary waste (in M.T.)	0.94
C&D Waste	*C&D Waste from Bulk sources (in M.T.)*	79.59
	C&D Waste from Non-Bulk sources (in M.T.)	183.12
	C&D Waste from ULBs(in M.T.)	0.00
	Total C&D Waste (in M.T.)	262.72
	Total Waste Collected & processed (excluding C&D)(in M.T.)	1582.27
	Total Waste Collected & processed (including C&D)(in M.T.)	1844.99
	Home Composting	39.63
	Actual Generation	1621.90

Annexure: BB1.8

Providing Organic Waste Compost machines, decentralization of processing of Waste, dry waste collection centers.

Microlevel planning for purchasing processing machine and construction of processing plant

Activity	Sub- Activity	timeline				Remarks
		Jan- Dec 21	Jan- June 22	June22- Dec 23	Jan- Dec 24	
Prebidding stage	Problem identified /requirements of numbers of machine/plant					As per requirements
	Selection of site for construction					
	Preparation of tender document					
Bidding stage	Calling of bids& its approval					As per requirements
	Release of work order					As per requirements
Project execution	Site inspection					As per requirements
	Construction of infrastructure/Purchasing of machine					As per requirements
	Processing beginning					As per requirements
	Calibration and inspection of plants	Regular activity				

Sr. No.	WARD NO.	MIS PLANT ID	PLANT NAME	PLANT TYPE	DESIGNED PLANT CAPACITY(Per Day)	LANDMARK
1	2	C & D	C&D Waste Recycling	C&DWaste Recycling	300	Kosad Transfer Station
2	22	Biomedical1	Biomedical/Domestic Hazardous/Sanitary Treatment	Domestic Hazardous/Sanitary Treatment Facilities	Dom.Haz.-4 / San- 2	Bhatar Transfer Station
3	29	E Waste	Material Recovery Facility	Material Recovery Facility	1	Gabheni
4	22	Plastic	Plastic Waste Processing Facility	Material Recovery Facility (MRF)	75	Bhatar Sewage Treatment Plant
5	22	MRF-BHATAR	MRF-BHATAR	Material Recovery Facility	50	Bhatar Transfer Station
6	18	MRF-ANJANA	MRF-ANJANA	Material Recovery Facility	40	Anjana Transfer Station
7	9	MRF-KATARG	MRF-KATARGAM	Material Recovery Facility	45	Katargam Transfer Station
8	2	MRF-KOSAD	MRF-KOSAD	Material Recovery Facility	40	Kosad Transfer Station
9	26	MRF-DINDOL	MRF-DINDOLI	Material Recovery Facility	30	Dindoli Transfer Station
10	13	MRF-VARACH	MRF-VARACHHA	Material Recovery Facility	65	Varachha Transfer Station
11	27	MRF-BHESTA	MRF-BHESTAN	Material Recovery Facility	40	Bhestan Transfer Station
12	9	MRF-PAL	MRF-PAL	Material Recovery Facility (MRF)	50	Pal Transfer Station
13	22	SMC	Processing Plant_UFL	Solid Waste Processing Plant(for Mixed Waste)	550	Khajod Solid Waste Disposal Site
		Compost & RDF-1 UFL				
14	22	SMC RDF	SEPPL	Solid Waste	650	Khajod Disposal Site

		&COMPOST – 2		Processing Plant(for Mixed Waste)		
31	22	W2C V-1	OWC Althan	Waste To Compost	0.1	Althan Community Hall
32	27	W2C V-2	OWC-Sonalward	Waste To Compost	0.25	Sonalward Vegetable Market
33	28	W2C V-3	OWC-Pandesara Housing	Waste To Compost	0.1	Pandesara Housing Market
34	9	W2C V-4	OWC-Palm Garden	Waste To Compost	0.1	Palm Garden
35	26	W2C V-5	OWC-Dindoli	Waste To Compost	0.25	Dindoli Vegetable Market
36	6	W2C V-6	OWC-Singanpore	Waste To Compost	0.25	Singanpore Vegetable Market
37	9	W2C V-7	OWC-Sarojini	Waste To Compost	0.25	Sarojini Naidu Vegetable Market
38	2	OWC_EWS 1	Organic Waste Converter_SumanMandir	Waste to Compost	0.4	UtranPower House
39	3	W2C V-8	OWC-Sarthana	Waste To Compost	0.25	Sarthana Nature Park
40	18	SMC W2C 1	OWC-Anjana	Waste to Compost	1	Anjana Transfer Station
41	2	W2C V-9	OWC-Paras	Waste To Compost	0.1	Paras Vegetable Market
42	13	W2C V-10	OWC-Smimer	Waste To Compost	0.1	Smimer Hospital
43	6	OWC_EWS 2	Organic Waste Converter_Suman Pratik	Waste to Compost	0.25	SMVS Temple Road
44	2	OWC_EWS 3	Organic Waste Converter_SumanSwarg	Waste to Compost	0.3	Utran
45	3	OWC_EWS 4	Organic Waste Converter_SumanSahkar	Waste to Compost	0.3	Aastha Square
46	8	OWC_EWS 6	Organic Waste Converter_SumanNisarg	Waste to Compost	0.15	Singanpore STP
47	2	OWC_EWS 8	Organic Waste Converter_SumanSangath	Waste to Compost	0.2	UtranPower House
48	2	OWC_EWS 7	Organic Waste Converter_SumanSath	Waste to Compost	0.2	Ambey Valley

49	26	OWC_EWS 10	Organic Waste Converter_SumanDham	Waste to Compost	0.1	NavagamDindoli
50	14	OWC_EWS 9	Organic Waste Converter_SumanSangit	Waste to Compost	0.3	Parvatmagob
51	14	OWC_EWS 11	Organic Waste Converter_SumanPrahar	Waste to Compost	0.3	Saphire Square
52	3	OWC_EWS 12	Organic Waste Converter_SumanNiwas	Waste to Compost	0.3	Maharaja Farm
53	14	OWC_EWS 13	Organic Waste Converter_SumanSangini	Waste to Compost	0.5	Amazia Water Park
54	14	OWC_EWS 14	Organic Waste Converter_SumanPRabhat	Waste to Compost	0.125	Midas Square
55	6	OWC_EWS 15	Organic Waste Converter_SumanNiketan	Waste to Compost	0.075	LalitaChowkdi
56	8	OWC_EWS 16	Organic Waste Converter_SumanMangal	Waste to Compost	0.1	Bharimata Temple
57	21	OWC_EWS 17	Organic Waste Converter_Suman Malhar2	Waste to Compost	0.05	Rahul Raj Mall
58	21	OWC_EWS 5	Organic Waste Converter_Suman Malhar1	Waste to Compost	0.05	Rahul Raj Mall
59	22	SMC RDF & COMPOST 2 UFL	Processing Plant_UFL 2	Waste to Compost	800	Khajod Solid Waste Disposal Site
60	22	SMC Compost & RDF	Processing Plant_SEPPL	Waste to Compost	900	Khajod Disposal Site
61	18	MOBITRASH	Mobitrash Van (Waste to Compost)	Waste to Compost	2	NA
62	1	OWC/WZ/001	OWC_RangrajResidency	Waste To Compost	0.25	Jahangirpura
63	1	OWC/WZ/002	OWC_Sharanam Residency	Waste To Compost	0.1	Jahangirpura
64	1	OWC/WZ/003	OWC_Sangini Gardenia	Waste To Compost	0.1	Jahangirpura
65	10	OWC/WZ/004	OWC_RajhansElita	Waste To Compost	0.25	Pal

66	21	OWC/AZ/001	OWC_Gateway Hotel	Waste To Compost	1	Parlepoint
67	21	OWC/AZ/002	OWC_TGB	Waste To Compost	1	Dumas Chokdi
68	21	OWC/AZ/003	OWC_V R Mall	Waste To Compost	0.3	Y Junction
69	21	OWC/AZ/004	OWC_Rajhans Prime Cinema	Waste To Compost	0.05	Piplod
70	21	OWC/AZ/005	OWC_AgrasenBhawan	Waste To Compost	0.3	City light
71	21	OWC/AZ/006	OWC_TerapanthBhawan	Waste To Compost	0.3	City light
72	21	OWC/AZ/007	OWC_Utopia Club	Waste To Compost	1	Slient Zone
73	21	OWC/AZ/008	OWC_IBC	Waste To Compost	1	Piplod
74	21	OWC/AZ/009	OWC_Florencce	Waste To Compost	0.1	Ghanghor Circle, Vesu
75	21	OWC/AZ/010	OWC_Phoenix Tower	Waste To Compost	0.1	Ghanghor Circle
76	21	OWC/AZ/011	OWC_VastuLaxuria	Waste To Compost	0.2	Nr.Y Junction
77	21	OWC/AZ/012	OWC_HappyElanza	Waste To Compost	0.05	Jolly Residency, Vesu
78	22	OWC/AZ/013	OWC_Green Victory	Waste To Compost	0.1	Althan-Bhimrad Canal Road
79	22	OWC/AZ/014	OWC_Sentosa	Waste To Compost	0.1	Althan-Bhimrad Canal Road
80	22	OWC/AZ/015	OWC_Shreton Luxury	Waste To Compost	0.1	ShyamMandir, VIP Road
81	22	OWC/AZ/016	OWC_SanginiSolitare	Waste To Compost	0.1	Vesu
82	22	OWC/AZ/017	OWC_Capital Greens	Waste To Compost	0.2	Ashirwad Villa
83	22	OWC/AZ/018	OWC_Rajhans Zion	Waste To Compost	0.1	Canal Road, Vesu
84	22	OWC/AZ/019	OWC_Spring Valley	Waste To Compost	0.1	Nr. Pushpvatika Hall
85	4	OWC/EZ-A/1	OWC_Kapodra Multipurpose Hall	Waste To Compost	0.1	Nr.Sagar Society, kapodra
86	5	OWC/EZ-A/2	OWC_Vallabhacharya Community Hall	Waste To Compost	0.1	Hirabaug
87	13	OWC/EZ-A/3	OWC_L H Community Hall	Waste To Compost	0.1	Lambe Hanuman Road
88	14	OWC/EZ-A/4	OWC_Shyama Prasad Mukharjee Community Hall	Waste To Compost	0.1	D R World

89	23	OWC/SZ/001	OWC_Vijayanagar Veg. Market	Waste To Compost	0.25	Nr. Vijyanagar Health Center
90	29	OWC/SZ/002	OWC_Bhestan Vegetable Market	Waste To Compost	0.1	Bhestan Gam
91	28	OWC/SZ/003	OWC_Rameshwar Hills	Waste To Compost	0.04	Near AlthanKhadi BRTS
92	28	OWC/SZ/004	OWC_Rameshwar Green	Waste To Compost	0.06	Near AlthanKhadi BRTS
93	27	OWC/SZ/005	OWC_Colourtex Industry Mess	Waste To Compost	0.05	
94	29	OWC/SZ/006	OWC_Navin Fluorine	Waste To Compost	0.05	
95	12	OWC/CZ/001	OWC_Kansiwad	Waste To Compost	1	Kansiwad
96	11	VERMI-CZ	VERMI-CZ	Waste To Compost	1	Chok Char Rasta
97	8	VERMI-NZ	VERMI-NZ	Waste To Compost	0.8	Causeway Singanpore
98	26	OWC/SEZ/01	OWC_Mark Point	Waste To Compost	1	DindoliKharvasa Road
99	17	OWC/SEZ/02	OWC_PramukhAranya	Waste To Compost	0.1	ParvatPatiya
100	18	OWC/SEZ/03	OWC_ShubhVatika	Waste To Compost	0.25	Dindoli
101	26	OWC/SEZ/04	OWC_Regent Plaza	Waste To Compost	0.15	Dindoli
102	6	OWC/NZ/001	OWC_Divyajyot Vegetable Market	Waste To Compost	0.1	Gotalawadi
103	6	OWC/NZ/002	OWC_Venus Diamond	Waste To Compost	0.1	Patel Wadi
104	6	OWC/NZ/003	OWC_J B Diamond	Waste To Compost	0.1	Opp. Soham Society
105	6	OWC/NZ/004	OWC_SilverPalace	Waste To Compost	0.1	Kapodra-Utran Bridge, Uttran
106	8	OWC/NZ/005	OWC_Shukan Heights	Waste To Compost	0.1	D Mart, Singanpore
107	6	OWC/NZ/006	OWC_Soham Residency	Waste To Compost	0.1	
108	3	OWC/EZ-B/1	OWC_Sarthana Community Hall	Waste To Compost	0.1	Bhagawan Nagar Society Rd
109	2	OWC/EZ-B/2	OWC_MotaVarachha Community Hall	Waste To Compost	0.1	SudamaChowk
110	3	OWC/EZ-B/3	OWC_NanaVarachha Community Hall	Waste To Compost	0.1	Nana Varachha
111	15	OWC/EZ-B/4	OWC_YogiChowk	Waste To Compost	0.1	Yogi Chowk

			Community Hall			
112	2	OWC/EZ-B/5	OWC_River View Heights	Waste To Compost	0.21	LajamniChowk
113	3	OWC/EZ-B/6	OWC_Saavan Plaza	Waste To Compost	0.11	Simada
114	3	OWC/EZ-B/7	OWC_Sarthana Nature Park	Waste To Compost	0.1	Sarthana Nature Park
115	17	APMC MARKE	APMC_BIOGAS	Waste to Energy	50	APMC Market
116	29	SMCW2E 2	Waste to Energy_Abellon	Waste to Energy	RDF- 1200	Bamroli Tertiary Treatment Plant
117	29	TEXTILE	Textile waste processing facility	Waste to Energy	100	UdhanaMagdalla Road

Annexure: BB1.10

No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.

Sr no.	Name of garden	area_sqkm	zone
1	SHANTIVAN	0.00124776287	South Zone
2	105.Khatodara Lake Garden	0.01118596946	South Zone
3	100.Shantivan	0.00152227449	South Zone
4	104.Unn Lake Garden (31790 Lake Area)	0.04296527978	South Zone
5	SHANTIVAN	0.00853706273	South Zone
6	SHANTIKUJ	0.00966884171	South Zone
7	8.Seth Shree Navinchandra Mafatlal Udhyan	0.09067407698	South Zone
8	7.Shree UmiyamataUdhyan	0.00314542521	South Zone
9	1.Zansi Ki Rani LaxmibaiUdhyan	0.00437894625	South Zone
10	2. SyamjiKrushnaVarma Lake Garden	0.01256431079	South Zone
11	3.Shree MadanlalDhigraUdhyan	0.01075083054	South Zone
12	4.Shree ChanakyaUdhyan	0.00359722091	South Zone

13	5. SanteshwarUdhyan	0.00387617503	South Zone
14	6. Shantivan Garden	0.00675894062	South Zone
15	9. Shantivan Garden	0.00221496148	South Zone
16	17.Sahityakar Shree ManubhaiPancholi	0.00249419905	South West Zone
17	11.Killolo Kunj Garden	0.00063273887	South West Zone
18	25. BhaktShreeJalaramUdhyan	0.00670314762	South West Zone
19	18. RAVISANKAR MAHARAJ MAHARAJ UDHYAN	0.00530049105	South West Zone
20	KHAJOD LAKE GARDEN	0.01334658189	South West Zone
21	MARKAND DAVE UDHYAN	0.00347867964	South West Zone
22	SHANTIKUNJ	0.00069094859	South West Zone
23	SHANTIKUNJ	0.00055857637	South West Zone
24	8.Shantiva Park (Athwa)	0.00039135414	South West Zone
25	16.Kavivar Umashankar Joshi Udhyan	0.00104651305	South West Zone
26	2.Kanaiyalal MunshiBaug	0.00085866205	South West Zone
27	20.Shantivan Garden	0.00043890931	South West Zone
28	24.Shree GouriShankar Joshi Udhyan	0.00590383289	South West Zone
29	6.CHILDREN TRAFFIC PARK	0.01603016445	South West Zone
30	9. SiddharajJaysinhUdhyan	0.03514030629	South West Zone
31	7.Swami VivekanandUdhyan	0.00839697119	South West Zone
32	5.Shivaji Park	0.00307100092	South West Zone
33	4.Priyadarshani IndiragandhiUdhyan	0.00406277594	South West Zone
34	3.Lakeview Garden	0.02865826181	South West Zone
35	23. Shantikunj Garden	0.00109098061	South West Zone
36	22.Medam Kama Udhyan	0.00333662294	South West Zone
37	21.Kundnika KapadiyaUdhyan	0.00414364477	South West Zone
38	19.Kavishree Navalram Pandya Floral Park	0.01486712928	South West Zone
39	15.Sarojni NayduUdhyan	0.01802886252	South West Zone
40	14.ARADESHAR KOTVAL BAUG	0.00787212634	South West Zone
41	13.Chiranjivi Udhyan	0.00097814846	South West Zone
42	12, Maharaja AgrasenUdhyan	0.00895981801	South West Zone
43	10.Vrundavan Baug	0.00202380312	South West Zone
44	1.JawaharLal Nehru Udhyan	0.03289913603	South West Zone
45	Shantikunj	0.00115449859	South East Zone

46	1.Sant KabirBaug	0.00199709569	South East Zone
47	Shantikunj	0.00243268969	South East Zone
48	Shantikunj	0.00109284164	South East Zone
49	Shantikunj	0.00053004254	South East Zone
50	3. LokmanyaTilakUdhyan	0.00126251592	South East Zone
51	6. MaharshiAashtikRushi Lake Garden	0.00979566394	South East Zone
52	Shantikunj And Children Park	0.00396403421	South East Zone
53	2.Balaji Udhyan	0.00163306810	South East Zone
54	garden	0.00590779660	South East Zone
55	SHANTIKUNJ	0.00164153057	North Zone
56	13.Shant Shree TukaramUdhyan	0.01191496083	North Zone
57	14. UTRAN LAKE GARDEN	0.00921509145	East Zone - A
58	2.Mahadevbhai Desai Baug	0.00103267956	North Zone
59	3.Kunj Gali Garden	0.00070084293	North Zone
60	4. Dholakiya Garden	0.00376881034	North Zone
61	5.Veer SavarkarUdhyan	0.00759268187	North Zone
62	LOK NAYAK JAYPRAKASH NARAYAN UDHAYAN	0.00257301405	North Zone
63	SHANTIKUNJ	0.00705962526	North Zone
64	8. DABHOLI LAKE GARDEN	0.01871418558	North Zone
65	SHANTIKUNJ	0.00134040477	North Zone
66	SHANTIKUNJ	0.00097588362	North Zone
67	7.Munshi PremchandUdhyan	0.00377430949	North Zone
68	12.Lake Garden	0.00992250247	North Zone
69	Fragraenc Garden	0.00456162509	North Zone
70	SHANTIVAN	0.00190488748	North Zone
71	11.Mangal Pandey Udhyan	0.03039037718	North Zone
72	2.SAHID VIR BHAGATSINH GARDEN	0.00633806518	East Zone - A
73	1.Prushti Udhyan	0.01119673302	East Zone - A
74	SANT TULSIDAS UDHYAN	0.00491006713	East Zone - A
75	Garden	0.00278892797	East Zone - B
76	1.Maharana PratapUdhyan	0.06024736109	East Zone - B
77	3.Zawerchand MeghaniUdhyan	0.01614741973	East Zone - A
78	SHANTIKUNJ BUAG	0.00030445532	East Zone - A

79	SHANTIKUNJ BUAG	0.00064613488	East Zone - A
80	4. ShantivanBaug	0.00170784061	East Zone - A
81	SHANTIKUNJ BUAG	0.00049688023	East Zone - B
82	SHANTIKUNJ BUAG	0.00131915983	East Zone - B
83	5.Kavi Shree Ramesh Parekh Udhyan	0.00264588523	East Zone - B
84	JUBILI LAKE GARDEN	0.00695775334	East Zone - B
85	SWAMI DAYANAND SARSWTI GARDEN	0.00924062031	East Zone - A
86	5.Gunvantrai AacharyaUdhyan	0.00449014720	East Zone - B
87	SHANTIKUNJ	0.00038168597	East Zone - A
88	SHANTIKUNJ BUAG	0.00072146420	East Zone - A
89	SHANTIKUNJ	0.00046706625	East Zone - A
90	SHANTIKUNJ	0.00473454101	East Zone - A
91	SHANTIVAN / SHANTIKUNJ D.T.P.S NO-21 (SARATHANA-SIMADA), F.P-144	0.00121180218	East Zone - B
92	6.Shantivan - Shantikunj	0.00056157073	East Zone - B
93	7.Shantivan - Shantikunj	0.00196965978	East Zone - A
94	SHANTIKUNJ	0.00365064271	East Zone - B
95	T.P.S NO-12 (PUNA), F.P-R 100	0.00193123722	East Zone - A
96	Garden	0.00621529155	East Zone - A
97	6. MotaVarachha Lake Garden	0.01097185897	East Zone - B
98	47.Adajan Children Park	0.00603598378	West Zone
99	59.Shantikunj	0.00025651543	West Zone
100	60.Shantikunj	0.01601013912	West Zone
101	SHANTIVAN / SHANTIKUJ	0.00047403130	West Zone
102	NANA NANI PARK	0.00081222427	West Zone
103	SHREE RASIKLAL PARIKH UDHAYAN	0.00160548790	West Zone
104	NETAJI SUBHASHCHANER BOZ UDHAYAN SUBHASH SAROVAR	0.02080527616	West Zone
105	SHANTIVAN / SHANTIKUJ	0.00062050594	West Zone
106	SHANTIVAN / SHANTIKUJ	0.00092277119	West Zone
107	SHANTIVAN / SHANTIKUJ	0.00087980308	West Zone

108	SHANTIKUJ (RANDER)	0.00059878691	West Zone
109	CHILDREN PLAY PARK (SHANTIVAN / SHANTIKUJ)	0.00072630846	West Zone
110	MORAJI DESAI UDHAYAN	0.00605547007	West Zone
111	ATESWAR BUAG	0.00024793766	West Zone
112	SHANTIVAN / SHANTIKUJ	0.00064021374	West Zone
113	SHISHUVIHAR	0.00133681967	West Zone
114	ROZ GARDEN (T.P.S NO-46(JANHIPURA) FP-93)	0.01001644536	West Zone
115	SHANTIKUJ	0.00026734453	West Zone
116	MAULANA ABDUL KALAM AZAD UDHAYAN	0.00053534321	West Zone
117	PAM GARDEN (T.P.S-9 PALANPUR - BHESAN) FP-165 & T.P.S NO-8(PALANPUR) FP-28	0.01144107991	West Zone
118	IXORA GARDEN TP-14, (RANDER-ADAJAN) FP-9	0.00562487256	West Zone
119	GANIBHAI DAHIWALA UDHAYAN	0.00679319941	West Zone
120	JYOTINEAR DAVE UDHAYAN	0.05634076385	West Zone
121	CHANDAVAVADAN CHIMANLAL MAHTA UDHAYAN	0.00162989458	West Zone
122	NARSINH MAHTA UDHAYAN	0.00033911832	West Zone
123	KAVI SHREE NARMAD BUAG	0.00172653503	West Zone
124	KAVI SHIVANAD SWAMI UDHAYAN	0.00088269771	West Zone
125	PANDIT DINDAYAL UPADHYAY UDHAYAN	0.00674253925	West Zone
126	BAGAWAN SHREE PARASURAM UDHAYAN	0.00276749645	West Zone
127	SHANTIVAN	0.00062446415	West Zone
128	MEERABAI UDHAYAN	0.00678230538	West Zone
129	PUJAY MOTA (HARI OM) VARISTH PARIVAR PARK	0.00153174226	West Zone
130	SHANTIKUJ	0.00038285163	West Zone
131	SHID ASAFAK ULLAKHAN BUAG	0.00213183142	West Zone
132	SHREE GORAT HANUMAN	0.00293360768	West Zone

	UDHAYAN		
133	KAVI SHREE ZINABHAI RATANJI DESAI (SNEH RASMI) BOTONICAL GARDEN	0.12654982357	West Zone
134	SHANTIVAN	0.00095133142	West Zone
135	SHREE SOMESWAR MAHADEV BUAG	0.00804781888	West Zone
136	SHANTIVAN	0.00042316281	West Zone
137	SHANTIVAN / SHANTIKUJ	0.00090821767	West Zone
138	SHANTIVAN / SHANTIKUJ	0.00246006956	West Zone
139	SHANTIVAN / SHANTIKUJ	0.00051665354	West Zone
140	SHANTIVAN / SHANTIKUJ	0.00768352109	West Zone
141	SHANTIVAN / SHANTIKUJ SWAMI TEURAM UDHAYAN	0.00144218843	West Zone
142	KAVI KALAPI GARDEN	0.03087663168	West Zone
143	RAM BAUG	0.00778362469	Central Zone
144	DR.BABASAHEB AMBEDKAR UDHYAN	0.00015379512	Central Zone
145	DADABHAI NAVROJI UDHYAN	0.00236987591	Central Zone
146	SHREE RANG AVDHUT BAUG	0.00036738886	Central Zone
147	SURYAPUTRI UDHYAN	0.00068447377	Central Zone
148	GANDHI BAUG	0.02906900397	Central Zone
149	DAYALJI BAUG	0.00458756551	Central Zone
150	LALA LAJPATRAI BUAG	0.00303897303	Central Zone
151	BAL GANGADHAR TILAK UDHYAN	0.00438031323	Central Zone
152	SNEHMILAN	0.00719749369	Central Zone
153	SHANTIKUJ (BHAGATALAV)	0.00025450811	Central Zone
154	KAVI SHREE JAYANT PATHAK KRIDANGAN	0.00362739824	Central Zone
155	MAHAVIR KUNJ	0.00018267909	Central Zone
156	Bharthana Lake Garden	0.01369943380	South West Zone
157	Shree Vasudev B. Smart Udhyan	0.00829016310	South West Zone
158	Vesu Lake Garden	0.00739812513	South West Zone
159	GopiTalav	0.09803227652	Central Zone

160	Pal Lake Garden	0.03501484253	West Zone
161	T.P.S.NO.9(PALANPORE-BHESAN) fp.178 (shantikunj)	0.02541726603	West Zone
162	Vadod Lake Garden	0.00813159336	South Zone
163	Dindolichhathsarovar garden	0.07650910340	South East Zone
164	Shyama Prasad Mukhrji Lake Garden	0.06473684436	North Zone
165	Shantikunj	0.00022953716	West Zone
166	Multi Activity Zone	0.00940622495	West Zone
167	Ugat To Mashal Circle Walk way	0.02584842663	West Zone
168	Bhesan Lake Garden	0.05452459166	
169	ShantikunjDindoli Gam	0.00302089390	South East Zone
170	ShantikunjFulpada	0.00111908394	North Zone
171	Pal Walk Way	0.02875681790	West Zone
172	VallabhacharyWalk Way	0.00333350798	East Zone - A
173	KosadWalk Way	0.01191806738	North Zone
174	GanitshashtriAaryabhatt Garden	0.00397318797	West Zone
175	Padmabhushan Shri HomiJahangirbhabah Garden	0.00409755504	West Zone
176	Ayodhyanagari Children Park	0.00213470753	West Zone
177	GanitshashtriLilavatiUdhyan	0.00199843718	West Zone
178	DodvirShriNathubhaiPahadeUdhyan	0.00155888039	West Zone
179	SahityakarshriGunvant Shah Udhyan	0.00611089976	West Zone
180	Dr. A. P.J. Abdul KalamUdhyan	0.00167213618	West Zone
181	Shantikunj, Shilpi Society	0.00050227839	West Zone
182	Private Green Space	0.00050227839	West Zone
183	T.P.11 (Adajan) F.P.No.19, Sak Market play ground	0.00107156192	West Zone
184	NatyakarshriJyotiVaidhyaUdhyan	0.00140341422	South West Zone
185	Maze Garden	0.00807421913	South West Zone
186	Dhanvantrri Herbal Udhyan	0.00742520598	South West Zone
187	ShantikunjMancharpura	0.00060109626	Central Zone
188	Ram Baug, Rampura	0.00014444409	Central Zone
189	Bhimrad Oxygen Park	0.00679854173	South West Zone
190	C. V. Raman Udhyan	0.00131567084	South West Zone

191	Bharthanavesu children park	0.00193705449	South West Zone
192	Shantikunj (umra)	0.00117383700	South West Zone
193	T.P.43 (Bhimrad)4f.p.no.103(Garden) & f.p.63(lake) Garden	0.01129587069	South West Zone
194	Dr. vikramsarabhaimudhyan	0.00224831817	North Zone
195	Oxygen Park	0.00596899466	East Zone - A
196	4.Shanti Kunj	0.00238197016	South East Zone
197	Shantikunj (Ramipark)	0.00032542615	South East Zone
198	Shantikunj (sanjaynagar)	0.00059854082	South East Zone
199	Shantikunj	0.00024945555	South East Zone
200	Kaka KalelkarUdhyan	0.01042429472	South East Zone
201	TPS.61 (PARVAT-DODADRA) FP.11 topiary garden	0.00649515493	South East Zone
202	Magob Garden	0.00253887417	South East Zone
203	RushipatniAhaliyaUdhyan	0.00447596846	South East Zone
204	TejajiMaharaj	0.00505618136	South East Zone
205	TP.61 (parvat-Godadra), FP.15	0.00072037440	South East Zone
206	Floral Garden	0.04612015349	South East Zone
207	PremanandBaug	0.00539377483	North Zone
208	Mosaic Garden	0.01369317233	West Zone
209	Shantikuj(coral hights)	0.00039269053	West Zone
210	Shantikunj (hariomnagarF	0.00080777679	West Zone
211	Butter Fly Garden Opp. D- Mart, Motavarachha	0.00303312376	East Zone - B
212	Daynasore garden, Opp. Golden Plaza Apt., MotaVarachha	0.00697060661	East Zone - B
213	Piano Garedn , Opp. Maharaja Farm, Motaac	0.00126028128	East Zone - B
214	Abrama Garden	0.00666975593	East Zone - B
215	Shiv Park ShantikunjMotaVarachha	0.00034591861	East Zone - B
216	Vikram Sarabhai Udhyan	0.00469711499	North Zone
217	Shantikunj, Chhaparabhatha	0.00038617943	North Zone
218	Shantikunj, Cross Road	0.00045433041	North Zone
219	Moon garden, Utran	0.02391189328	East Zone - A

220	Bio-Diversity Park	0.08317676528	South West Zone

Annexure: BB1.11

Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc.

Project name	Project detail	Project cost in lacs	Stage of project	timeline	Department responsible
Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	Establishing 5 tpd capacity of plant with suitable technology for collection, treatment and processing of offal waste including small and big dead animals as per the provisions of solid waste management rules 2016 including design, construction, erection, testing and commisoning along with successive operation and maintenance for the period of 20 years in surat.	600.00	Planning stage, estimate sanction under process	Dec-2023	Solid waste management

Micro level planning timeline for installation of plant

Activity	Sub- Activity	timeline				Remarks
		Jan-sep 21	Sep-Dec 21	Jan-Dec22	Jan-23	
Prebidding stage	requirements of numbers of plant					As per requirements
	Selection of site for construction					
	Preparation of tender document					
Bidding stage	Calling of bids& its approval					As per requirements
	Release of work order					As per requirements
Project execution	Site inspection					As per requirements
	Construction of infrastructure/Purchasing of machine					As per requirements
	Processing beginning					As per requirements
	Calibration and inspection of plants	Regular activity				

Information on carcass disposal

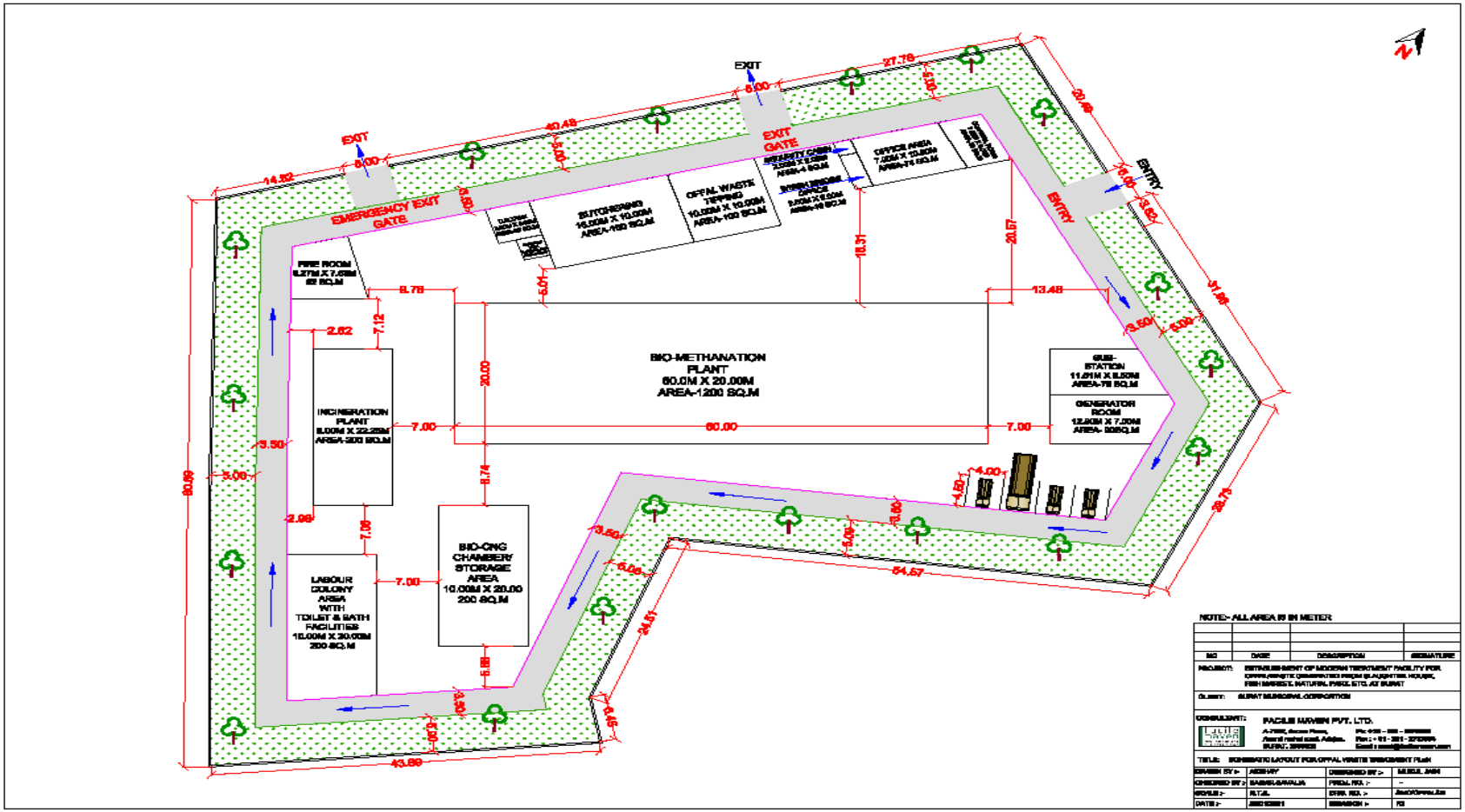
Name of Regional Office: Surat

Number of Local Bodies: 5

Sr. No	Name of Local Body	Carcass disposal facility provided? (Yes/ No)	If yes, please provide the following information			
			Capacity	Technology adopted	Authorization issued (Yes/ No)	Complying with stipulated standards
1	Surat Municipal Corporation	Yes	Skin/hide: 200 nos/month Horn/Hoof: 2.5 MT/ month Meat meal/ Meat cum bone meal: 2 ton /Month Bone: 8 MT/Month Fat: 0.8 MT/month Bio fertiliser/proteins/ Vitamins: 5 MT/month	Burial of animals after recovery of valuable material	Yes (AW64541)	Yes
	Remarks	SMC has planned a state of Art plant with biomethanation and incineration system in the 15th finance commission and it shall be functional by end of 2023.				

- **TENDER FOR ESTABLISHING 5 TPD CAPACITY OF PLANT WITH SUITABLE TECHNOLOGY FOR COLLECTION, TREATMENT AND PROCESSING OF OFFAL WASTE INCLUDING SMALL AND BIG DEAD ANIMALS AS PER THE PROVISIONS OF SOLID WASTE MANAGEMENT RULES 2016 INCLUDING DESIGN, CONSTRUCTION, ERECTION, TESTING AND COMMISONING ALONG WITH SUCCESSIVE OPERATION AND MAINTENANCE FOR THE PERIOD OF 20 YEARS IN SURAT.**

➢ Offal waste treatment plant area layout



Annexure: BB 2

Ensure segregation of waste at source

Sr. No.	WARD	NAME	TYPE
1	RANDER - JAHANGIRPURA-VARIYAV	Rangrag Residency	RWAs
2	KOSHAD- AMROLI	River View Heights	RWAs
3	VARACHHA-SARTHANA-SIMADA	Savan Plaza	RWAs
4	KATARGAM	SOHAM RESIDANCY	RWAs
5	KATARGAM- VED	SUMAN NIKETAN E.W.S. AWAS	RWAs
6	DABHOLI- SINGANPOR	SHUKAN HEIGHTS	RWAs
7	ADAJAN - PAL-PALANPOR	Stuti Empress	RWAs
8	ADAJAN - PAL-PALANPOR	VaishnodeviLife Style	RWAs
9	ADAJAN - PAL-PALANPOR	RajhansElita	RWAs
10	ICHHANATH- DUMAS	RajhansBelizza	RWAs
11	ICHHANATH- DUMAS	Florencce	RWAs
12	ICHHANATH- DUMAS	VastuLuxuria	RWAs
13	ICHHANATH- DUMAS	Happy Elenza	RWAs
14	ICHHANATH- DUMAS	L & T Colony	RWAs
15	ICHHANATH- DUMAS	Vastugram Residency	RWAs
16	ICHHANATH- DUMAS	Phoenix Tower Near Florance	RWAs
17	ALTHAN- BHATAR	Green Victory	RWAs
18	ALTHAN- BHATAR	SwarSangini	RWAs
19	ALTHAN- BHATAR	Sheraton Luxury	RWAs
20	ALTHAN- BHATAR	Sangini Solitaire	RWAs
21	ALTHAN- BHATAR	Capital Greens	RWAs
22	ALTHAN- BHATAR	Rajhans Zion	RWAs

23	ALTHAN- BHATAR	Shaligram Height	RWAs
24	ALTHAN- BHATAR	Spring Valley	RWAs
25	ALTHAN- BHATAR	Sentosa	RWAs
26	UMARWADA- MATAVADI	SMIMER	Hospitals/Nursing Homes
27	ADAJAN - PAL-PALANPOR	Bay leaf Restaurent And Fastfood	Hotels & Restaurants
28	SALABATPURA- NAVAPURA-MAHIDHARPURA	Kabir Restaurant	Hotels & Restaurants
29	SALABATPURA- NAVAPURA-MAHIDHARPURA	Roopa Restaurant	Hotels & Restaurants
30	SALABATPURA- NAVAPURA-MAHIDHARPURA	Geetha Restaurant	Hotels &Restaurants
31	DUMBHAL - PARVAT	Cross Road Hotel, AaimataChowk,Magob	Hotels & Restaurants
32	DUMBHAL - PARVAT	Sarvottam Hotel, Neara.P.M.C.Market,Magob	Hotels & Restaurants
33	DUMBHAL - PARVAT	Tulsi Hotel Near A.P.M.C.Market	Hotels & Restaurants
34	AANJANA - KHATODRA	Taste Of Bhagavati, Sahara Darwaja	Hotels & Restaurants
35	AANJANA - KHATODRA	TexPlazo, Surat Textile Market	Hotels & Restaurants
36	SONI FALIYA- NANPURA- ATHWA	Sasuma Gujarati Thali	Hotels & Restaurants
37	ICHHANATH- DUMAS	Taste Of Bhagvati, GhodDod Road	Hotels & Restaurants
38	ICHHANATH- DUMAS	Center Court	Hotels & Restaurants
39	ICHHANATH- DUMAS	Orange Megastructure LLP	Hotels & Restaurants
40	ICHHANATH- DUMAS	Surat Marriott Hotel	Hotels &Restaurants
41	ICHHANATH- DUMAS	Avadh Utopia Club	Hotels & Restaurants
42	KATARGAM	Venus Diamond	Industries
43	KATARGAM	J.B. Diamond	Industries
44	ICHHANATH- DUMAS	Rajhans Prime Cinema	Malls/Cinema Buildings
45	ICHHANATH- DUMAS	VR Mall	Malls/Cinema Buildings
46	KATARGAM	Paras Veg. Market	Markets/Mandi
47	DABHOLI- SINGANPOR	Singanpur Veg. Market	Markets/Mandi
48	KATARGAM	Divyajyot Market	Markets/Mandi
49	ADAJAN - PAL-PALANPOR	SarojiniNaydu Vegetable Market	Markets/Mandi
50	UDHNA (SOUTH)- UDHYOGNAGAR	Vijyanagar vegetable Market	Markets/Mandi
51	BAMROLI	Pandesara Vegetable Market	Markets/Mandi

52	DINDOLI (SOUTH)	Dindoli-2 Veg.Market	Markets/Mandi
53	ICHHANATH- DUMAS	IBC Building	Others
54	KAPODRA	Sagar Multipurpose Hall	Others
55	FULPADA - ASHVANIKUMAR	Vallabhacharya Community Hall	Others
56	KARANJ - MAGOB	Shyama Prasad Mukherajee Community Hall	Others
57	PUNA (WEST)	L H Community Hall	Others
58	ICHHANATH- DUMAS	AgrasenBhavan	Others
59	ICHHANATH- DUMAS	TerapanthBhavan	Others
60	SAGRAMPURA-RUSTAMPURA-UDHNA	ICC Building	Others
61	DABHOLI- SINGANPOR	SUMAN MANGAL MUKHYAMANTRI AWAS	RWAs
62	PANDESARA- BHESTAN	Sonal Vegetable Market	Markets/Mandi
63	PANDESARA- BHESTAN	Colourtex Industry Mess	Industries
64	VADOD- JIAAU-UNN	NavinFlorine	Industries
65	VADOD- JIAAU-UNN	Bhestan Vegetable Market	Markets/Mandi

Annexure: BB 3

Proper collection of Horticulture waste and its disposal following composting-cum gardening approach

Sr. No.	WARD NO.	MIS PLANT ID	PLANT NAME	PLANT TYPE	DESIGNED PLANT CAPACITY(Per Day)	LANDMARK
1	11	VERMI-CZ	VERMI-CZ	Waste To Compost	1	Chowk Char Rasta
2	8	VERMI-NZ	VERMI-NZ	Waste To Compost	0.8	Causeway Singanpore

Annexure: BB 4

Recycling plants for dry waste.

Time line for micro level planning for construction of recycling plant for dry waste i.e. industrial waste, plastic, C&D waste

Activity	Sub- Activity	timeline				Remarks
		Jan- oct 22	Nov 22- feb- 23	Feb-23- Dec 24	Jan 25	
Prebidding stage	Problem identified /requirements of numbers of machine/plant					As per requirements
	Selection of site for construction					
	Preparation of tender document					
Bidding stage	Calling of bids& its approval					As per requirements
	Release of work order					As per requirements
Project execution	Site inspection					As per requirements

	Construction of infrastructure/Purchasing of machine					As per requirements
	Processing beginning					As per requirements
	Calibration and inspection of plants	Regular activity				

Sr. No.	WARD NO.	MIS PLANT ID	PLANT NAME	PLANT TYPE	DESIGNED PLANT CAPACITY(Per Day)	LANDMARK
1	2	C & D	C&D Waste Recycling	C&DWaste Recycling	300	Kosad Transfer Station
2	22	Biomedical1	Biomedical/Domestic Hazardous/Sanitary Treatment	Domestic Hazardous/Sanitary Treatment Facilities	Dom.Haz.-4 / San- 2	Bhatar Transfer Station
3	29	E Waste	Material Recovery Facility	Material Recovery Facility	1	Gabheni
4	22	Plastic	Plastic Waste Processing Facility	Material Recovery Facility (MRF)	75	Bhatar Sewage Treatment Plant
5	22	SMC Compost & RDF-1 UFL	Processing Plant_UFL	Solid Waste Processing Plant(for Mixed Waste)	550	Khajod Solid Waste Disposal Site
6	29	TEXTILE	Textile waste processing facility	Waste to Energy	100	Udhana Magdalla Road

Annexure: BB 6, BB10& BB10.1

Check/stop on Stubble Burning & Landfill fire

Tender: Operation Maintenance and Management of Sanitary Landfill Facility at Khajod Solid Waste Disposal Site for Five years

- No material should be burnt on or close to the boundaries of the Landfillsite. On no account should litter pickers or other persons burn collectedwastes on site. Fires in landfills should be regarded as emergencies and deal with immediately. Necessary measures for fire prevention and provision forextinguishing fires in Landfills should be taken by the contractor withoutextra cost.
- **ENVIRONMENTAL COMPLAINCE**

  The Contractor shall, at all times, ensure that all aspects of the Project Facilities andprocesses employed in the operation and maintenance thereof shall conform with thelaws pertaining to the environment, health, safety aspects including rules such as butnot limited to SWM Rules, policies and guidelines related thereto.

- **B. Penalty for Fire at Landfill Site :-**

  i) If any FIRE incident take place in the premises and boundary of Operational Sanitary Landfill Cell then, Penalty as per prevailing Hon. NGT directions or as directed by competent authority of SMC will be levied on Bidder.

  ii. In addition to the penalty, the contractor shall be liable for any legal proceedingimposed by pollution control boards, NGT, Similar authority,etc.

  iii. If during the fire incident, Contractor does not extinguish fire and control the smoke SMC may enforce to deploy its own machinery, manpower, fire brigades,and other necessary resources in order to control the fire. In such scenario, theContractor shall without demur pay on demand 125 % of the costs incurredby SMC on account of such activities within 7 (seven) working days ofreceipt of SMC claim thereof.

Failure to pay shall entitle SMC to recoversuch costs from any dues payable by SMC to the Contractor and/ or fromthe performance guarantee provided by the Contractor.

❖ C & D Waste

Annexure-K

C & D 1.1 Ensure transportation of construction materials in covered vehicles

TO WHOMESOEVER IT MAY CONCERN

Date :-24/01/2021

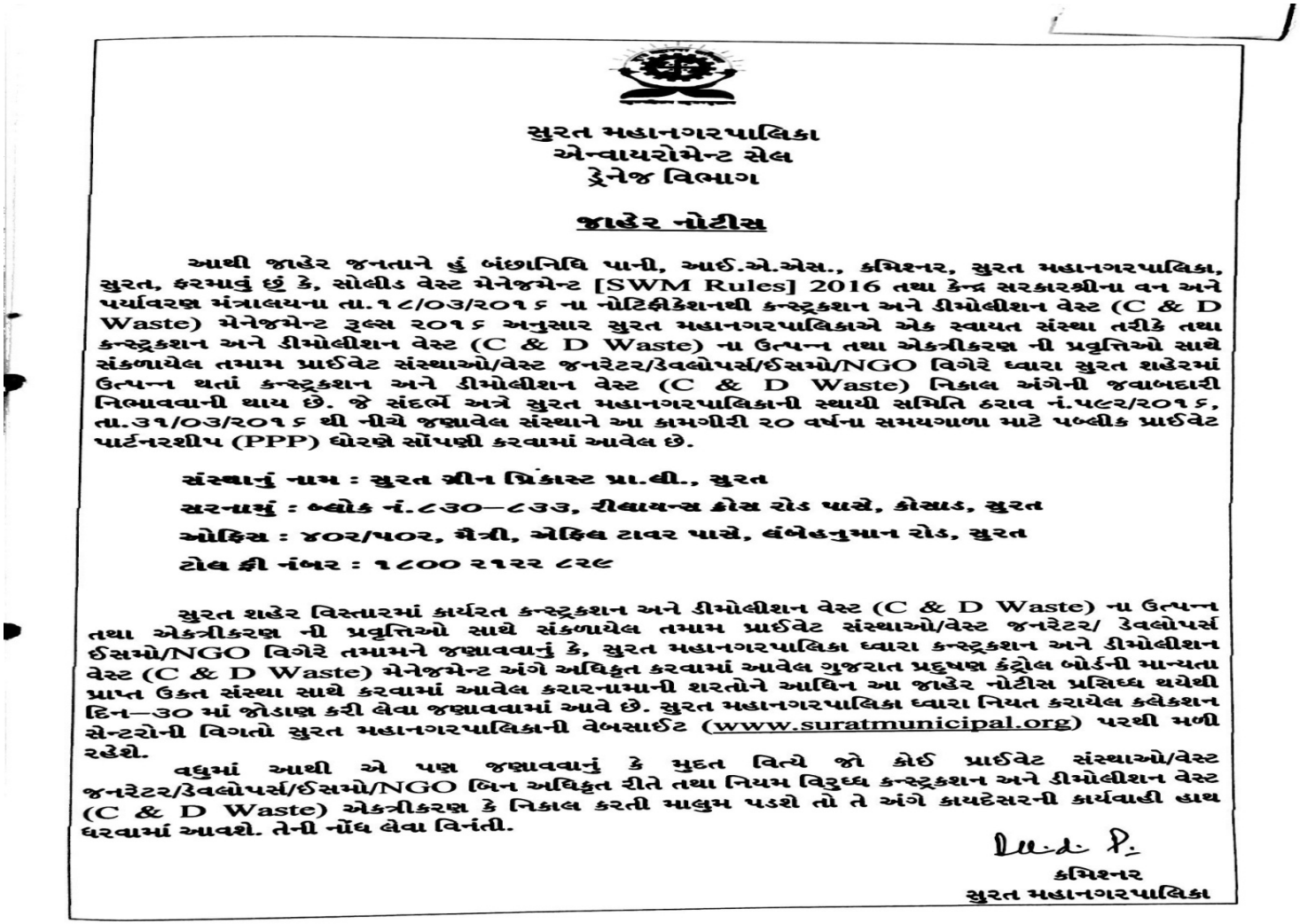
This is to certify that the work for Setting-up Construction and Demolition Waste Management Facility on PPP Basis was awarded work order no:- DNG / OUT / MO.W / 67. Date :- 01/06/2016 and in the said work, following Vehicles / Driver has been deployed for the period of APR-2020 to DEC-2020 for proper collection of C & D Waste from City.

Sr. No.	Zone	Area	Ward	Collection Number	Type of vehicle	Model	Vehicle Number	Driver Name	Mobile Number
1	Central Zone	Rudrapura	2/C	Rudrapura Technical Vahan Depo	Truck	Aiwa	GJ05GV 1090	jatin patel	99247 32955
2	East-A Zone	Kapodara	32	Rudrapura Technical Vahan Depo	Truck	Aiwa	GJ05GV 1168	rajesh patel	82007 88756
3	East-B Zone	Sarthana	15	TP 16, Kapodara, FP 14	Truck	Aiwa	GJ05GV 1259	ramesh patel	99256 59453
4	West Zone	Jahangirabad	12	TP 22,FP 66, Sarthana (Valak)	Truck	Aiwa	GJ05GV 1224	mahendra patel	97140 55385
5	North Zone	Kosad	17	44 Jahangirabad FP 47 Distric Center	Truck	Aiwa	GJ05GV 1227	dharmesh patel	98792 36876
6	South Zone	Bhatar	13-B	Kosad C&D Waste Plant	Truck	Aiwa	GJ05GV 1482	jitin chuadhary	99092 09907
7	South West Zone	Althan	13-B	TP 1, FP F 122, Beside Sosiyo Circle	Truck	Aiwa	GJ05GV 1077	jitendra patel	87807 92105
8	South East Zone	Godadra	21	NR.DGVCL Office, Aventis farm	Truck	Aiwa	GJ05GV 1038	nimesh patel	99256 74955
9	spare vehicle	all zone			Tractor	Mahindra	GJ01RN 2173	Rajesh Patel	98864 23525
10	spare vehicle	all zone			Tractor	Mahindra	GJ01RN 2097	jinish Parmar	99090 17269

For, Surat Green Precast Pvt. Ltd.

Annexure-L

C & D 1.8, 1.11 &1.12 Enforcement of Construction and Demolition Waste Rules



સુરત મહાનગરપાલિકા
એન્વાયરોમેન્ટ સેલ
ડ્રેનેજ વિભાગ

જાહેર નોટીસ

આથી જાહેર જનતાને હું બંછાનિધિ પાની, આઈ.એ.એસ., કમિશ્નર, સુરત મહાનગરપાલિકા, સુરત, ફરમાવું છું કે, સોલીડ વેસ્ટ મેનેજમેન્ટ [SWM Rules] 2016 તથા કેન્દ્ર સરકારશ્રીના વન અને પર્યાવરણ મંત્રાલયના તા.૧૮/૦૩/૨૦૧૬ ના નોટિફીકેશનથી કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) મેનેજમેન્ટ રૂલ્સ ૨૦૧૬ અનુસાર સુરત મહાનગરપાલિકાએ એક સ્વાયત સંસ્થા તરીકે તથા કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) ના ઉત્પન્ન તથા એકત્રીકરણ ની પ્રવૃત્તિઓ સાથે સંકળાયેલ તમામ પ્રાઈવેટ સંસ્થાઓ/વેસ્ટ જનરેટર/ડેવલોપર્સ/ઈસમો/NGO વિગેરે ધ્વારા સુરત શહેરમાં ઉત્પન્ન થતાં કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) નિકાલ અંગેની જવાબદારી નિભાવવાની થાય છે. જે સંદર્ભે અત્રે સુરત મહાનગરપાલિકાની સ્થાયી સમિતિ ઠરાવ નં.૫૯૨/૨૦૧૬, તા.૩૧/૦૩/૨૦૧૬ થી નીચે જણાવેલ સંસ્થાને આ કામગીરી ૨૦ વર્ષના સમયગાળા માટે પબ્લીક પ્રાઈવેટ પાર્ટનરશીપ (PPP) ધોરણે સોંપણી કરવામાં આવેલ છે.

સંસ્થાનું નામ : સુરત ગ્રીન પ્રિકાસ્ટ પ્રા.લી., સુરત

સરનામું : બ્લોક નં.૮૩૦—૮૩૩, રીલાયન્સ ક્રોસ રોડ પાસે, કોસાડ, સુરત

ઓફિસ : ૪૦૨/૫૦૨, મૈત્રી, એફિલ ટાવર પાસે, લંબેહનુમાન રોડ, સુરત

ટોલ ફ્રી નંબર : ૧૮૦૦ ૨૧૨૨ ૮૨૯

સુરત શહેર વિસ્તારમાં કાર્યરત કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) ના ઉત્પન્ન તથા એકત્રીકરણ ની પ્રવૃત્તિઓ સાથે સંકળાયેલ તમામ પ્રાઈવેટ સંસ્થાઓ/વેસ્ટ જનરેટર/ ડેવલોપર્સ ઈસમો/NGO વિગેરે તમામને જણાવવાનું કે, સુરત મહાનગરપાલિકા ધ્વારા કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) મેનેજમેન્ટ અંગે અધિકૃત કરવામાં આવેલ ગુજરાત પ્રદુષણ કંટ્રોલ બોર્ડની માન્યતા પ્રાપ્ત ઉકત સંસ્થા સાથે કરવામાં આવેલ કરારનામાની શરતોને આધિન આ જાહેર નોટીસ પ્રસિધ્ધ થયેથી દિન—૩૦ માં જોડાણ કરી લેવા જણાવવામાં આવે છે. સુરત મહાનગરપાલિકા ધ્વારા નિયત કરાયેલ કલેકશન સેન્ટરોની વિગતો સુરત મહાનગરપાલિકાની વેબસાઈટ (www.suratmunicipal.org) પરથી મળી રહેશે.

વધુમાં આથી એ પણ જણાવવાનું કે મુદત વિત્યે જો કોઈ પ્રાઈવેટ સંસ્થાઓ/વેસ્ટ જનરેટર/ડેવલોપર્સ/ઈસમો/NGO બિન અધિકૃત રીતે તથા નિયમ વિરુધ્ધ કન્સ્ટ્રકશન અને ડીમોલીશન વેસ્ટ (C & D Waste) એકત્રીકરણ કે નિકાલ કરતી માલુમ પડશે તો તે અંગે કાયદેસરની કાર્યવાહી હાથ ધરવામાં આવશે. તેની નોંધ લેવા વિનંતી.

કમિશ્નર
સુરત મહાનગરપાલિકા

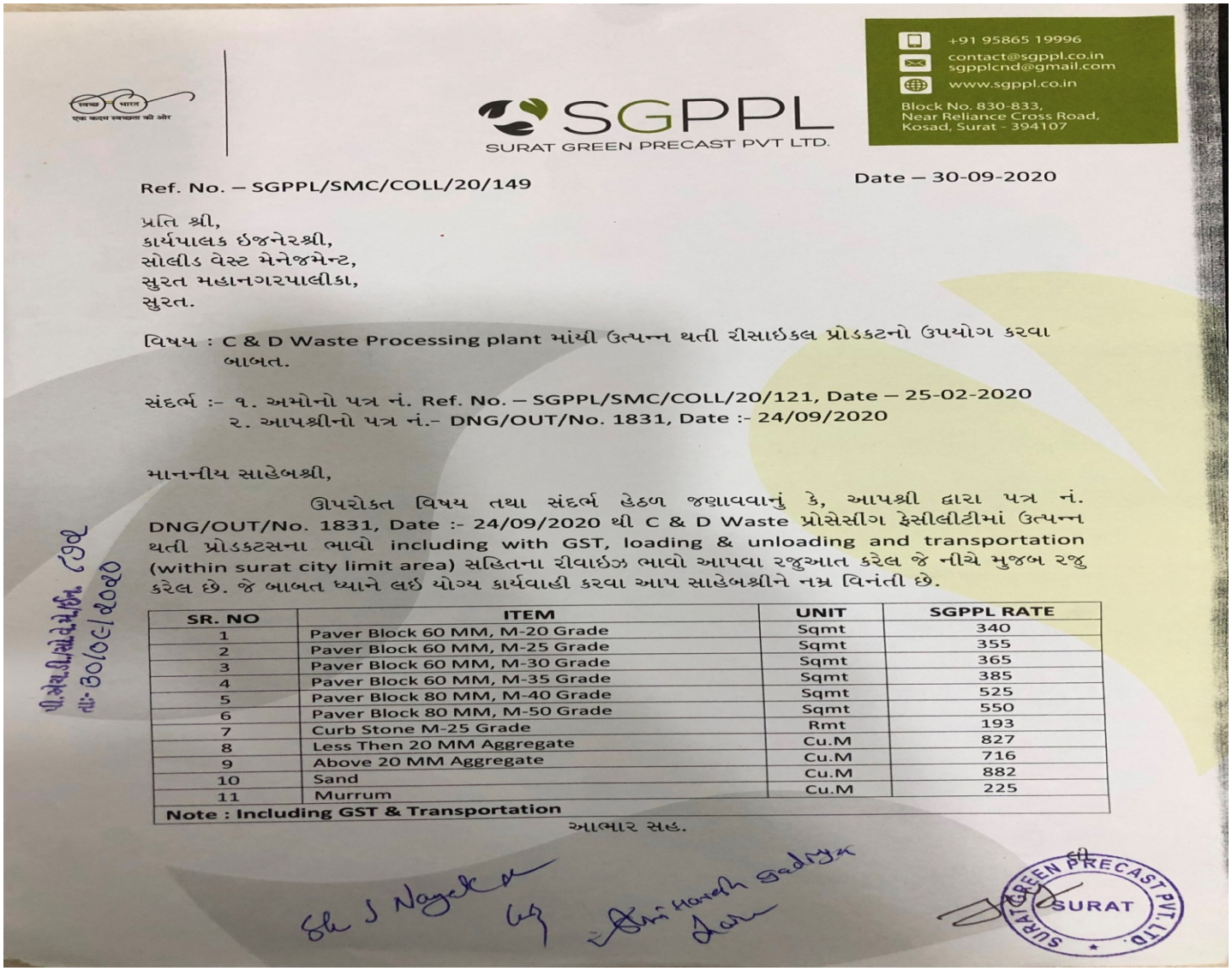
Annexure-M

C & D 1.5 To create separate space/zone to handle solid waste, C&D waste and other waste in the city

Sr.No	Name of Zone	Ward No.	Collection Center	longitude	latitude	Pincode
1	Central Zone	12	Rudrapura Technical VahanDepo	21.1864475	72.8190598	395001
2	East-A Zone	4	TP 16, Kapodara, FP 14	21.218588	72.8727823	395006
3	East-B Zone	3	TP 22,FP 66, Sarthana (Valak)	21.2575617	72.9387527	395006
4	West Zone	1	44 Jahangirabad FP 47 DistricCenter	21.2098019	72.8681763	395009
5	North Zone	2	Kosad C&D Waste Plant	21.2546242	72.8620698	395004
6	South Zone	23	TP 1, FP F 122, Beside Sosiyo Circle	21.171721	72.8271319	395002
7	South West Zone	22	1) NR.DGVCL Office, Aventis farm 2) Uttar Gujarat VahanDepo	21.1770443	72.8046801	395007
8	South East Zone	25	1) TP 61 FP61 Man Society Road, Godadra 2) Near Ashtik Party Plot, Parvat	21.2160849 21.18003	72.8556058 72.8324568	395010

Annexure-N

C & D 1.7 Promotion of the use of prefabricated blocks for building construction



SGPPL
SURAT GREEN PRECAST PVT LTD.

+91 95865 19996
contact@sgppl.co.in
sgpplcnd@gmail.com
www.sgppl.co.in
Block No. 830-833,
Near Reliance Cross Road,
Kosad, Surat - 394107

Ref. No. – SGPPL/SMC/COLL/20/149

Date – 30-09-2020

પ્રતિ શ્રી,
કાર્યપાલક ઇજનેરશ્રી,
સોલીડ વેસ્ટ મેનેજમેન્ટ,
સુરત મહાનગરપાલીકા,
સુરત.

વિષય : C & D Waste Processing plant માંથી ઉત્પન્ન થતી રીસાઇકલ પ્રોડકટનો ઉપયોગ કરવા બાબત.

સંદર્ભ :- ૧. અમોનો પત્ર નં. Ref. No. – SGPPL/SMC/COLL/20/121, Date – 25-02-2020
૨. આપશ્રીનો પત્ર નં.- DNG/OUT/No. 1831, Date :- 24/09/2020

માનનીય સાહેબશ્રી,

ઉપરોકત વિષય તથા સંદર્ભ હેઠળ જણાવવાનું કે, આપશ્રી દ્વારા પત્ર નં. DNG/OUT/No. 1831, Date :- 24/09/2020 થી C & D Waste પ્રોસેસીંગ ફેસીલીટીમાં ઉત્પન્ન થતી પ્રોડકટસના ભાવો including with GST, loading & unloading and transportation (within surat city limit area) સહિતના રીવાઇઝ ભાવો આપવા રજુઆત કરેલ જે નીચે મુજબ રજુ કરેલ છે. જે બાબત ધ્યાને લઈ યોગ્ય કાર્યવાહી કરવા આપ સાહેબશ્રીને નમ્ર વિનંતી છે.

SR. NO	ITEM	UNIT	SGPPL RATE
1	Paver Block 60 MM, M-20 Grade	Sqmt	340
2	Paver Block 60 MM, M-25 Grade	Sqmt	355
3	Paver Block 60 MM, M-30 Grade	Sqmt	365
4	Paver Block 60 MM, M-35 Grade	Sqmt	385
5	Paver Block 80 MM, M-40 Grade	Sqmt	525
6	Paver Block 80 MM, M-50 Grade	Sqmt	550
7	Curb Stone M-25 Grade	Rmt	193
8	Less Then 20 MM Aggregate	Cu.M	827
9	Above 20 MM Aggregate	Cu.M	716
10	Sand	Cu.M	882
11	Murrum	Cu.M	225
Note : Including GST & Transportation			

આભાર સહ.

SURAT GREEN PRECAST PVT. LTD. SURAT

- On request of the contractor Surat Green Precast Pvt. Ltd, consultancy work, for preparing detailed report including rate analysis and specification for use of various recycled C&D waste product, was awarded to Civil Engineering Department, SVNIT Surat.

PREPARATION OF THE SPECIFICATIONS AND RATE ANALYSIS OF PAVER BLOCKS AND KERBSTONES

1. NEED OF THE STUDY

Surat Municipal Corporation (SMC) Surat created an SPV named 'Surat Green Precast Pvt. Lt. (SGPPL)' at Kosad for the management of construction and demolition waste (CDW) on a Build, Own, Operate and Transfer (BOOT) basis in March 2018. CDW management includes the collection and transportation of CDW and its treatment (processing) in the plant.

Regarding the Gazette of India, (Part-II, Section-3, Sub-section (ii)) Ministry of Environment, Forest and Climate Change New Delhi dated 29.3.2016, the 29th March 2016, it directs that "Procurement of materials made from construction and demolition waste (CDW) shall be made mandatory to a certain percentage (say 10-20%) in municipal and Government contracts subject to strict quality control".

This report is prepared about Work Order (DNG: O.N./w/16/27.11.2020 dated) issued by Executive Engineer, Drainage Department, SMC Surat. This report presents the specifications of constituent materials, product requirements, and test methods for manufacturing solid unreinforced precast concrete paver-blocks and kerbstones utilizing the use of construction and demolition waste (CDW), mainly recycled aggregate (RA) and recycled concrete aggregate (RCA). The specification of these materials, products, and test requirements are briefly described in the following sub-sections.

2. SPECIFICATIONS MANUFACTURING OF INTERLOCKING PAVER-BLOCK FROM CONSTRUCTION AND DEMOLITION (C&D) WASTE

These recycled aggregates are obtained for the CDW. The concrete paver block specifications using the Recycled Aggregate (RA) and Recycled Concrete Aggregate (RCA) are given here. RA is made from CDW, which may comprise concrete, brick, tiles, stone, etc., and RCA is derived from concrete after requisite processing. Recycled concrete aggregate (RCA) includes original aggregate and hydrated cement paste adhering to its surface. This paste reduces the specific gravity and increases the porosity compared to similar virgin aggregates. The concrete rubble must be processed appropriately, including scrubbing to remove the adhered hydrated cement as much as possible. Then this can be used as coarse aggregate, and RCA can be used as coarse and fine aggregates following standards.

A. Materials for Manufacturing Concrete Paver Block

- **Cement**

The following cement will be used to manufacture the concrete paver block.

a. 33 grade Ordinary Portland Cement (OPC) as per BIS 269: 2013,

b. 43 grade Ordinary Portland Cement (OPC) as per BIS 8112: 2013,
c. 53 grade Ordinary Portland Cement (OPC) as per BIS 12269: 2013
d. Portland slag cement as per BIS 455: 1989
e. Portland-pozzolana cement (fly ash based) as per BIS 1489: 1991 (Part-1),
f. Portland-pozzolana cement (calcined clay based) as per BIS 1489: 1991 (Part-2)
g. Rapid hardening Portland cement as per BIS 8041: 1990

- **Coarse Aggregates**

Coarse aggregates shall comply with the requirements of IS 383:2016. As far as possible crushed semi-crushed aggregates shall be used. For ensuring adequate durability, the aggregate used for the production of blocks shall be sound and free of soft or honeycombed particles. Coarse aggregate shall be specified as stone aggregate, gravel, or brick Aggregate, and it shall be obtained from approved/ authorized sources.

Other types of aggregates such as RA, RCA, slag and crushed, over-burnt brick or tile that may be suitable concerning strength, durability of concrete, and freedom from harmful effects may be used to prepare concrete for the production of paver blocks. However, such aggregates shall not contain more than 0.5 percent of Sulphates as SO_3 and shall not absorb more than 2 percent of their own mass of water.

Heavyweight aggregates or lightweight aggregates such as bloated clay aggregates and sintered fly ash aggregates may also be used provided the purchaser is satisfied with the data on the properties of concrete made with them. The nominal maximum size of coarse aggregates used in the production of paver blocks shall be 12 mm.

- **Fine Aggregates**

Fine aggregates shall conform to the requirements of IS 383. Both river/quarry sand, recycled sand (RS), and stone dust meeting the needs can be used.

- **Water**

The water used in the production of paving blocks shall conform to the requirements specified in IS 456.

- **Admixtures**

Admixtures, when used, shall conform to IS 9103. Previous experience with and data on such materials should be considered about the specified standards of mechanization, supervision, and workmanship to manufacture blocks. They may be added for specific requirements without affecting other quality parameters.

- **Pigments**

Synthetic or natural pigments may be used in the concrete mix to obtain paver-blocks with desired shades of colors. The used pigment should result in durable colors of paver-bocks. It shall not contain matters detrimental to concrete. Pigments given in Table 1 may be

preferred, either singly or in combination, conforming to the following Indian Standards.

Table 1. Types of pigments preferred in manufacturing paver-blocks
(BIS 15658: 2006, pp. 3)

Sr. No.	Pigments	Relevant Indian Standard
1	Black or Red or Brown pigment	BIS 44: 1991
2	Green Pigment	BIS 54: 1998
3	Blue Pigment	BIS 55: 1970 or 56: 1993
4	White Pigment	BIS 411: 1991
5	Yellow Pigment	BIS 50: 1980

Pigment quantity is to be restricted to a maximum of nine percent by the weight of cement content. The pigment should be more refined than the cement (fineness value between 2-15 m^2/kg). The pigments shall not contain zinc compounds or organic dyes. Lead pigments shall not be used unless otherwise specified by the purchaser.

B. Physical requirements

As per BIS 15658: 2006, Paver Blocks' physical requirements are categorized into obligatory and optional requirements.

- **Obligatory requirements**

As per BIS 15658: 2006, all paver blocks shall be sound and free of cracks or other visual defects which will interfere with the proper paving of the unit or impair the strength or performance of the pavement constructed with the paver blocks.

When two-layer paver blocks are manufactured, there shall be proper bonding between the layers. Delamination between the layers shall not be permitted. The compressive strength of the two-layer blocks shall meet the specified requirements.

When paver blocks with false joints, surface reliefs, or projections are supplied, the same shall be specified. Also, the surface features shall be well-formed and be devoid of any defects.

- **Visual Inspection**

Visual inspection of the quality of paver blocks shall be carried out in natural daylight before the other properties' tests. The examination shall be conducted by the purchaser and the manufacturer jointly at allocation agreed to between them, generally at the site or factory. Visual inspection shall be conducted as per clause 7.1 in BIS 15658:2006.

- **Dimensions and Tolerances**

The recommended dimensions and tolerances for paver blocks, measured as per the Annexure B method, of BIS 15658: 2006. Minimum block thickness shall be 50 mm and

maximum 120 mm. The thicknesses60 mm, 80 mm, 100 mm, and 120mm will be considered as standard thicknesses under this specification. All blocks manufactured to meet this specification shall have arris/chamfer as per the dimensions and tolerances are given in BIS 15658: 2006.

- **The thickness of Wearing Layer**

When paver blocks are manufactured in two layers, the wearing layer shall have a minimum thickness specified in BIS 15658: 2006. The thickness of the wearing layer shall be measured at several points along the paver blocks' periphery. The arithmetic mean of the lowest two values shall be the minimum thickness of the wearing layer.

- **Water Absorption**

The water absorption is the average of three units when determined in the manner described in Annexure C of BIS 15658: 2006, shall not be more than six percent by mass, and in individual samples, the water absorption should be restricted to seven percent.

- **Compressive Strength**

The compressive strength of paver blocks shall be determined as per the method given in Annexure D of BIS 15658: 2006. Paver block strength shall be specified in terms of 28 days compressive strength. In case the compressive strength of paver blocks is determined for ages other than 28 days, the actual age at testing shall be reported. The average 28 days compressive strength of paver blocks shall meet the specified requirement. Individual paver block strength shall not be less than 85 percent of the specified strength. In case blocks of age, less than 28 days are permitted to be supplied, the correlation between 28 days strength and the strength at specified age for identified batch/mix of blocks shall be established.

Table 2 Compressive strength requirements of concrete paver blocks(Source BIS 15658: 2006)

Sr. No.	Grade of Paver-blocks	Minimum average 28 days compressive strength
1	M20	≥f_{ck}+ 0.825 × established standard deviation (round off to nearest 0.5 N/mm^2)
2	M25	
3	M30	
4	M35	
5	M40	
6	M50	

The specified average 28 days compressive strengths of different paver blocks' grades are given in Table 2 and the minimum specified strengths of individual paver blocks are given in the previous paragraph.

- **Abrasion Resistance**

The abrasion resistance of paver blocks should be determined as per the method given in Annexure E of BIS 15658: 2006. The limits to the test results may be specified, which should be complied with by the manufacturer.

C. Optional Requirements

As per BIS 15658: 2006 shall be as per the specific demands of the purchaser. These are described in the following sections.

- **Tensile Splitting Strength**

The tensile splitting strength of paver blocks should be determined as per the method given in Annexure F of BIS 15658: 2006. When required by the purchaser, the test values for tensile splitting strength of paver blocks may be specified by the manufacturer.

- **Flexural Strength**

The flexural strength/breaking load of paver blocks should be determined as per the method given in Annexure G of BIS 15658: 2006. When required by the purchaser, the manufacturer can specify the test values for flexural strength breaking load of paver blocks.

- **Freeze-Thaw Durability**

The freeze-thaw durability test of paver blocks should be conducted as per the method given in Annexure H of BIS 15658: 2006. When required for application in a freeze-thaw environment, the purchaser may specify limits to the test results, which should be complied with by the manufacturer.

- **Colour and Texture**

When required, paver blocks' color and texture should be mutually agreed to between the purchaser and the manufacturer.

D. Grade designation of paver blocks

The grade designation of the paver-blocks is decided based on the compressive strength required in traffic used. Based on the Indian Road Congress (IRC-SP 63: 2004), paver blocks are generally classified based on their use: (1) for heavy traffic areas and (2) in non-traffic areas. Non-traffic areas cover pedestrians, parking, and garden, whereas traffic areas cover light to heavy continuous traffic.BIS 15658: 2006 suggested and briefly described the various paver blocks' grades to be used to construct pavements that have different traffic categories and described in Table 3.

E. Marking

Concrete paver block will be marked with the following information suitably (1) Identification of the manufacturer, (2) Grade of paver blocks, and (3) Date of manufacture. The characteristics of paver-block as per BIS 15658: 2006 are shown briefly in Table 4.

Table 3. Recommended grades of paver-blocks for different traffic categories (Source: BIS 15658:2006, pp. 04)

Sr. No.	Grade designation of paver-blocks	Specified compressive strength of paver-blocks at 28 days (N/mm^2)	Traffic category	Minimum thickness of paver-blocks	Traffic examples of applications
1	M-20	20	Non-traffic	60	Premises of low-cost building, Garden furniture etc.
2	M-25	25	Non-traffic	60	Premises of low to medium cost buildings, pathways, gardens construction and furniture, etc.
3	M-30	30	Non-traffic	50	Building premises, monument premises, landscape, public gardens/parks, domestic drives, paths and patios, embankment slopes, sand stabilization area, etc.
4	M-35	35	Light-traffic	60	Pedestrian plazas, shopping complexes ramp, car parks, office driveways, housing colonies, office complexes, rural roads with low volume traffic, farm houses, beach sites, tourist resorts local authority footways, residential roads, etc.
5	M-40	40	Medium-traffic	80	City streets, small and medium market roads, low volume roads, utility cuts on arterial roads, etc.
6	M-50	50	Heavy-traffic	100	Bus terminals, industrial complexes, mandi houses, roads on expansive soils, factory, industrial pavements, etc.
7	M-55	55	Very heavy-traffic	120	Container terminals, ports, docks yards, mine access roads, bulk cargo handling area, airport pavements, etc.

Table 4 Characteristics of paver-blocks (Source BIS 15658: 2006)

Sr. No.	Characteristics	Properties	Test method as per BIS
1	Compressive Strength (MPa)	30-55	BIS 15658: 2006 (Annex D, pp 12)
2	Abrasion Resistance	As per test results	BIS 15658: 2006 (Annex E, pp 13)
3	Water Absorption (%)	≤ 6	BIS 15658: 2006 (Annex C, pp 13)
5	Split Tensile Strength (MPa)	As per test results	BIS 15658: 2006 (Annex F, pp 14)
6	Flexural Strength (MPa)	2-7	BIS 15658: 2006 (Annex G, pp 16)
7	Freeze-Thaw Durability	As per test results	BIS 15658: 2006 (Annex H, pp 18)

3. SPECIFICATIONS MANUFACTURING OF KERB STONE FROM CONSTRUCTION AND DEMOLITION (C&D) WASTE (BIS 5758: 1984)

A. Materials for Manufacturing of Kerb Stone

- **Cement**

The cement used shall be ordinary and low heat Portland cement conforming to

a. 33 grade Ordinary Portland Cement (OPC) as per BIS 269: 2013,
b. 43 grade Ordinary Portland Cement (OPC) as per BIS 8112: 2013,
c. 53 grade Ordinary Portland Cement (OPC) as per BIS 12269: 2013
d. Hydrophobic Portland Cement as per BIS 8043: 1991
e. Portland slag cement as per BIS 455: 1989
f. Portland-pozzolana cement (fly ash based) as per BIS 1489: 1991 (Part-1),
g. Portland-pozzolana cement (calcined clay based) as per BIS 1489: 1991 (Part-2)
h. Rapid hardening Portland cement as per BIS 8041: 1990

- **Aggregates**

All aggregates shall conform to BIS 383:2016. The aggregate crushing value, aggregate impact value, and aggregate abrasion value shall not exceed the corresponding requirements laid down in BIS 383:2016 for concrete wearing surfaces. The aggregate impact test shall be done only as an alternative test to the aggregate crushing test.

Alternative, coarse aggregate, such as blast furnace slag, which may be found suitable having regard to strength, durability, freedom from harmful properties, may be used, but

Table 4 Characteristics of paver-blocks (Source BIS 15658: 2006)

Sr. No.	Characteristics	Properties	Test method as per BIS
1	Compressive Strength (MPa)	30-55	BIS 15658: 2006 (Annex D, pp 12)
2	Abrasion Resistance	As per test results	BIS 15658: 2006 (Annex E, pp 13)
3	Water Absorption (%)	≤ 6	BIS 15658: 2006 (Annex C, pp 13)
5	Split Tensile Strength (MPa)	As per test results	BIS 15658: 2006 (Annex F, pp 14)
6	Flexural Strength (MPa)	2-7	BIS 15658: 2006 (Annex G, pp 16)
7	Freeze-Thaw Durability	As per test results	BIS 15658: 2006 (Annex H, pp 18)

3. SPECIFICATIONS MANUFACTURING OF KERB STONE FROM CONSTRUCTION AND DEMOLITION (C&D) WASTE (BIS 5758: 1984)

A. Materials for Manufacturing of Kerb Stone

- **Cement**

The cement used shall be ordinary and low heat Portland cement conforming to

a. 33 grade Ordinary Portland Cement (OPC) as per BIS 269: 2013,
b. 43 grade Ordinary Portland Cement (OPC) as per BIS 8112: 2013,
c. 53 grade Ordinary Portland Cement (OPC) as per BIS 12269: 2013
d. Hydrophobic Portland Cement as per BIS 8043: 1991
e. Portland slag cement as per BIS 455: 1989
f. Portland-pozzolana cement (fly ash based) as per BIS 1489: 1991 (Part-1),
g. Portland-pozzolana cement (calcined clay based) as per BIS 1489: 1991 (Part-2)
h. Rapid hardening Portland cement as per BIS 8041: 1990

- **Aggregates**

All aggregates shall conform to BIS 383:2016. The aggregate crushing value, aggregate impact value, and aggregate abrasion value shall not exceed the corresponding requirements laid down in BIS 383:2016 for concrete wearing surfaces. The aggregate impact test shall be done only as an alternative test to the aggregate crushing test.

Alternative, coarse aggregate, such as blast furnace slag, which may be found suitable having regard to strength, durability, freedom from harmful properties, may be used, but

such aggregates shall not contain more than one percent of Sulphate and shall not absorb more than 10 percent of its own mass of water.

The maximum size of coarse aggregates may be as large as possible within limits specified but in no case greater than one-fourth of the minimum thickness of the section.

- **Concrete**

The concrete shall be minimum of M25 grade, with the strength requirements specified in BIS 456: 2000. Air-entrained concrete may also be used for freezing and thawing conditions.

B. Dimensions of Straight Kerbs

Unless otherwise specified, straight kerbs shall be manufactured to a uniform length of one meter and the sections shown in Figure 1.

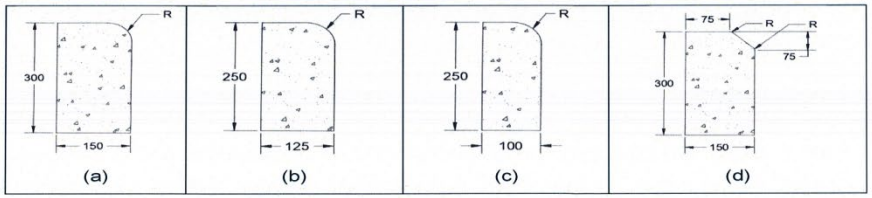
It is recommended that the section is shown in Figure 1d and 1e should not be used where the footway is immediately adjacent to the carriageway. Their use should be confined to cases where a strip of substantial width, but in no case, less than 1500mm, separates the footway from the carriageway.

C. Finish and Colour

Special finishes may be agreed upon between the purchaser and the supplier. Unless otherwise specified by the purchaser, the kerbs shall be supplied in natural color. When these are ordered, the color shall be as agreed to between the purchaser and the supplier when placing the order. These may be coloured throughout or only in a surface layer as agreed to between the purchaser and the supplier and the surface layer shall be not less than 12.5 mm thick.

D. Freedom from Defects

All angles of the precast units except the angles resulting from the splayed or chamfered faces in the sections shown in figures shall be correct. The arises shall be clean and, except the rounded arises, sharp. The wearing surfaces shall be true and out of winding. On being fractured, the interior of the products shall present a clean, homogeneous appearance.



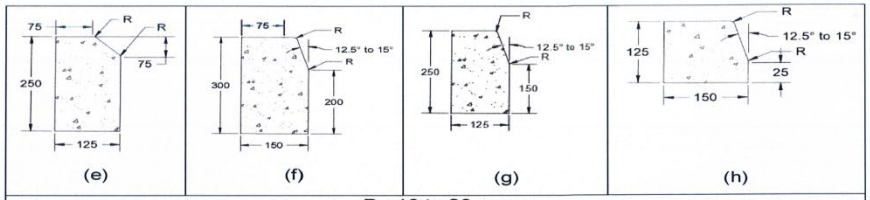


Figure 1. Standard section of concrete kerbs

E. Moulding

The kerbs may be made by any process. If they are made under hydraulic pressure, then the pressure employed shall be not less than 7 MN/m^2 over the entire surface. The escape of the finer particles of cement during the process of pressing shall be prevented as far as practicable.

F. Tests

The sample (s) of the kerbs shall satisfy the following tests for transverse strength and water absorption.

G. Transverse Strength

When tested in the manner described in Appendix A of BIS 5758: 1984, straight kerbs shall support without damage, for at least one minute, the loads given in Table 5. These test loads relate to test for transverse strength carried out 28 days after the kerbs are manufactured.

If test is carried out after a longer period has elapsed, the load to be supported shall be the appropriate load stated in Table 6 multiplied by the following aging factors.

Aging factors for intermediate ages may be obtained by interpolation.

Table 5. Transverse Strength of Straight Kerbstone (Source BIS 5758:1984)

Sr. No.	Type of Kerbs	Figure Nos.	Dimensions (mm)	Load to be supported (N)
1	Rectangle	1a	150 x 300	22750
		1b	125 x 250	13600
		1c	100 x 250	9100
2	Splayed	1d	150 x 300	22750
		1e	125 x 250	13600
3	Half-batter	1f	150 x 300	22750
		1g	125 x 250	13600
4	Hal-section	1h	150 x 125	8200

Table 6. Ageing factors

Age of Sample at Test (Months)	1	3	6	12
Ageing Factor	1.00	1.10	1.15	1.20

H. Absorption of Water

When tested in the manner described in Appendix B of BIS 5758:1984, the average increase in the mass of each group of three specimens by absorption of water in the first then minutes shall not exceed 3.0 percent, and the absorption after 24 hours shall not exceed 8.0 percent, the percentages being calculated on the dry mass of the test pieces.

I. Manufacturer's Certificate

The manufacture shall satisfy himself that the kerbs comply with the requirements of Indian Standard 5758:1984 and, if requested, shall forward a certificate to this effect to the purchaser or his representative. If asked to do so, the manufacturer shall supply a certificate stating the date of manufacture of the products. If the purchaser or his representative requires independent tests, the samples shall be taken before or immediately after delivery at the purchaser's option or his representative. The tests shall be carried out following the standard on the purchaser's written instructions or his representative.

4. RECOMMENDATIONS FOR UTILIZATION OF PRODUCTS GENERATED FROM CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT FACILITY AT SURAT

Based on referred test results and physical properties of CDW, the coarse aggregates (above 20 mm) can be used in the sub-base, granular sub-base (GSB), and water-bound macadam (WMM). The coarse aggregates (4.75 mm to 20 mm) and recycled sand (4.75 mm to 300 microns) can also be used as sub-base material of roads and PCC used for the pedestrian footpath, foundation base, drainage layers, and in construction of non-load-carrying elements of up to grade M 15. There is scope to use recycled fine sand (less than 300 microns) as filler material in mortar and concrete for temporary construction, bed material for flooring work, joint filler, and bed of paver block. The sludge can be useful in gardening work and as an additive material in block manufacturing.

Specifically, the CDW can be used as ingredients in various construction materials and manufactured precast products, as shown in Table 7.

Table 7 Application of CDW in various works

C&D Recycled Materials	Applications	Recommendation to Utilize
Coarse Sand and Fine Sand	PCC Work	10 to 30% material utilize up to M20 Grade
	RCC Work	10% material utilize up to M20 Grade
	Plastering Work (Coarse or fine sand)	Up to 20% of materials utilize
	Flooring Work (Coarse or Fine sand)	100% materials utilized for bedding purpose
	Paver Block laying Bedding work	100% materials utilized for bedding purpose
	Paver block joint filing (Fine sand)	100% materials utilize
	Manufacturing of Precast product	100% materials as per the grade utilize in Precast products like Paver block (M20), Kerbstone (M20), Interlocking Block, Concrete bricks (M20), Manhole covers (M20), Benches, tree guard, flower pot etc.
Coarse aggregate (20 mm above and 20 mm below)	PCC work (20 mm below)	10 to 30% material utilize up to M20 Grade
	RCC work (20 mm below)	10% material utilize up to M20 Grade
	Manufacturing of Precast product	100% materials as per the grade utilize in Precast products like Paver block (M20), Kerbstone (M20), Interlocking Block, Concrete bricks (M20), Manhole covers (M20), Benches, tree guard, flower pot, etc. The products generated from C&D plants can also be used to achieve the M25, M30, and M35 grade for paver blocks by mixing in the appropriate ratio with natural material.

Table 7 Application of CDW in various works

C&D Recycled Materials	Applications	Recommendation to Utilize
Coarse Sand and Fine Sand	PCC Work	10 to 30% material utilize up to M20 Grade
	RCC Work	10% material utilize up to M20 Grade
	Plastering Work (Coarse or fine sand)	Up to 20% of materials utilize
	Flooring Work (Coarse or Fine sand)	100% materials utilized for bedding purpose
	Paver Block laying Bedding work	100% materials utilized for bedding purpose
	Paver block joint filing (Fine sand)	100% materials utilize
	Manufacturing of Precast product	100% materials as per the grade utilize in Precast products like Paver block (M20), Kerbstone (M20), Interlocking Block, Concrete bricks (M20), Manhole covers (M20), Benches, tree guard, flower pot etc.
Coarse aggregate (20 mm above and 20 mm below)	PCC work (20 mm below)	10 to 30% material utilize up to M20 Grade
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As referred IRC: 36-2010 for embankment and subgrade and MORTH-2013 for sub-base, CDW may be mixed and replaced with natural sand and soils used for subgrade, embankment, and can be used as base of roads as given in Table 8.

Table 8 Application of CDW in Road Works

Sr. No.	Name of Material	Suitable for*
1	Sludge	Subgrade
2	BC soil	NIL
3	80% BC soil + 20% sand	Embankment
4	60% BC soil + 40% sand	Embankment
5	40% BC soil + 60% sand	Subgrade
6	20% BC soil + 80% sand	Subgrade
7	100% sand	Subgrade
8	Coarse Aggregate	Subbase

All the recommendations mentioned above are based on the material properties, which may vary upon the receiving CDW from various sites in Surat. Therefore, before applying them, it needs to verify whether the properties of materials are as per quality requirements.

5. RATE ANALYSIS OF VARIOUS PRODUCTS MANUFACTURED USING CDW BY SGPPL KOSAD (SURAT)

As per the Work Order (DNG:O.N./w/16/27.11.2020 dated) issued by Executive Engineer, Drainage Department, SMC, the rate analysis of various materials and products manufactured using the construction demolition waste are derived and presented as shown in Table 9. The related IS codes, research papers, guidelines, testing reports, etc., have been referred to carry out the rate analysis. The above rates of various products and materials are presented by visiting the plant, meeting with concerned persons, and conducting a market survey.

Table 9 shows the rate of products and materials given in R&B SOR (published in 2015-16), rates decided by SGPPL and proposed to SMC Surat, prices derived by market survey, and recommended by SVNIT Surat. The market rates are chosen based on the market survey in Surat. The rates of produced raw materials (Aggregate, sand, murrum) from the CDW processing plant are determined based on the production cost analysis (Annexure I), and

products (paver block, kerbstone) manufactured by SGPPL are estimated based on the incurred cost of man and materials (Annexure-II).

Based on the above study, the following recommendations are submitted for perusal.

1. SMC should promote to use of materials and products manufactured from CDW processing plant (SGPPL). It can be made a compulsion to use 20% items (paver blocks M 20, M 25 and M 30, precast kerbstone M 25) in various SMC works subject to strict quality control.
2. The use of paver blocks (M 35, M40, M50) may be promoted without making any compulsion by fulfilling the requirements of IS codes and specifications of projects.
3. The use of materials produced from CDW processing plant (aggregates, sludge (murrum), and sand), can also be made mandatory of 20% in various works or projects of SMC subject to fulfilments of the specification of the project work.
4. SGPPL does not use inert waste, although it can be used in the manufacturing of bricks. Its further uses can be explored by conducting research.
5. The rate analysis of the above items and products should be reviewed and revisited either every three years or when any significant fluctuations in rates of materials and products are observed in the market.
6. The data regarding the collection, transportation, processing of CDW waste, selling of materials and products should be compiled, analyzed, and regularly reviewed to ensure good CDW management.
7. There is an excellent scope to produce other products from CDW, and so research can be promoted by collaboration with research and academic institutes.
8. The following special conditions may be put in the tender document;
   "The contractor will use 10-20% of quantity (cost) of the products manufactured by Surat Green Precast Pvt. Ltd (SGPPL) Surat. However, it is subjected to the scope of work, matching of the specification, quality control, availability of products, and the approval of the Engineer in Charge."
   "The contractor will maintain the record (bills, invoices, etc.) of purchasing the products from the SGPPL and where these products are used. This record will be presented and submitted to the Engineer In Charge whenever he asks".

This report has been prepared based on the information received from SGPPL, SMC Surat, and the market survey in Surat city. The relevant codes, reports, and guidelines have been referred to make assumptions wherever they are required in this study.

Table 9 Rate Analysis of Various Products Manufactured Using Construction Demolition Waste

Sr. No.	Item	Unit	R&B SOR code (2015-16)		SGPPL Rates	Market Rates	SGPPL Proposed Rates to SMC	Proposed by SVNIT Surat
			Code	Rate (Rs.)	Rate (Rs.)	Rate (Rs.)	Rate (Rs.)	Rate (Rs.)
1	Paver block 60 mm, M20 Grade	Sq.m	Sr.No.1190	390	360	381	340	327
2	Paver block 60 mm, M25 Grade	Sq.m	Sr.No.1191	445	370	394	355	327
3	Paver block 60 mm, M30 Grade	Sq.m	Not available	XXX	390	412	365	338
4	Paver block 60 mm, M35 Grade	Sq.m	Not available	XXX	410	432	385	355
5	Paver block 80 mm, M40 Grade	Sq.m	Not available	XXX	560	584	525	460
6	Paver block 80 mm, M50 Grade	Sq.m	Not available	XXX	595	647	550	484
7	Precast Kerb Stone M25 Grade	Rmt	Sr.No.1189	200	209	215	193	190
8	Less than 20 mm aggregate	Cu.m	Sr.No.458	330	1020	1182	827	581
9	Above 20 mm aggregate	Cu.m	Sr.No.461	319	890	1024	716	476
10	Sludge/Murrum	Cu.m	Sr.No.571	96	260	300	225	165
11	Sand	Cu.m	Sr.No.440	234	1080	1260	882	735
12	Remarks			Rates of R&B are exclusive overhead charges, carriage, etc.	18 % GST, Transportation, Loading, and Unloading cost are included in the rates.	18 % GST, Transportation, Loading, and Unloading cost are included in the rates.	18 % GST, Transportation, Loading, and Unloading cost are included in the rates.	18 % GST, Transportation, Loading, and Unloading cost are included in the rates.

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Annexure II

PRODUCTION COST ANALYSIS OF CDW PROCESSING PLANT SGPPL KOSAD (SURAT)

A	INVESTMENT (OWNERSHIP) COST	INR	
1	Capital expenditure	7,53,24,923	
2	Subsidy	0	
3	Effective Capital Expenditure	7,53,24,923	
4	Capacity (MT/Hour) (Average)	30	
5	Plant operation time (hours) per day	10	
6	Working days per year	350	
7	Total Capacity MT per year	1,05,000	
8	Total Capacity MT per month	8,750	
9	Concession (years)	20	
10	Average per day (March 18-Dec20)	104	
11	O/P per per hour per day	3	
12	Interest+ Risk (0.08+0.04)	0.12	
13	CRP	9.65	
14	USCRP	1,00,84,409	
15	**Ownership cost per MT**	**96**	
B	**OPERATING COST**	**INR**	
16	Man Power (1 operator+ 2 helpers+ 9 labors) per day	31	Per MT
17	Excavator	20	Per MT
18	Loader	15	Per MT
19	Electricity cost	25	Per MT
20	Chemical cost	54	Per MT
21	Maintainance cost	68	Per MT
22	Administrative staff(2 Watchman, 2 Peons, 1 Accountant,1 Supervisor) and miscellenous cost	11	Per MT
23	**Total operating cost per MT**	**224**	
24	**Total Cost (Rs)**	**320**	

C	REVENUE	% O/P	INR/Ton	INR	Density (MT/Cum)	INR/CUM
25	Above 20 mm (Aggregate)	0.37	318	1,23,36,624	1.499	476
26	Above 5 to 20 mm (Aggregate)	0.25	379	99,55,124	1.532	581
27	Less then 5 mm (Sand or fine aggregate)	0.22	388	89,54,905	1.896	735
28	Murrum	0.11	92	10,67,647	1.785	165
29	Waste Inert	0.05		0		
30		1.00				
D	**Sales Revenue**			3,23,14,301		

E	**Collection and Processing Revenue**	0.06	213	13,41,900	(SGPPL/SMC)	230/137
F	**TOTAL REVENUE**		(350-137)	3,36,56,201		
G	**COST**					
35	Raw Material			0		
36	**Total Cost (Operating and Investment) (Rs./MT)**		320	3,36,04,409		
H	**TOTAL COST**			3,36,04,409		
I	**Balance**			51,792		
J	EBITDA/MT			0.49		

Annexure II

RATE ANALYSIS OF PRODUCTS MANUFACTURED FROM CDW PROCESSING PLANT SGPPL KOSAD (SURAT)

Rate analysis of 1 sqm of concrete for manufacturing interlocking paver block having M20-25 grade and 60 mm thickness

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	2.35	kg	4.94	kg	11.61
2	Color (Red, Chocolate, Orange, Buff or Yellow, Red oxide of iron light shade of pigment)	0.151	kg	60.00	kg	9.06
3	Grit-Frees Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	4.55	kg	0.31	kg	1.41
4	Sand-Frees Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	4.17	kg	0.63	kg	2.63
5	Hardener Top Layer (Free flowing thin liquid of light yellow color with water permeability of more than 60%)	4.84	ml	0.15	ml	0.73
6	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	11.43	kg	4.94	kg	56.46
7	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	61.6	kg	0.40	kg	24.64

8	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	38.93	kg	0.35	kg	13.63
9	Chemical Bottom Layer (Viscous liquid of light brownish color and have capability to solute water)	88.77	ml	0.03	ml	2.66
10	Lacquer (Polyester resin which is no soluble in water)	107.6	ml	0.10	ml	10.76
	Total of material cost					**133.59**

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Labour Cost						
1	Mason(s)	0.02	-	679	day	13.58
2	Belder(s)	0.04	-	558	day	22.32
3	Coolie(s)	0.05	-	558	day	27.90
4	Bhisti(s)	0.03	-	617	day	18.51
5	Sundaries	2.5	-	2	L/S	5.00
	Total of labour cost					**87.31**
	Summation of material and labour cost					**220.90**
	Electricity and Water charge					3.31
	Total cost (V)					224.21
	Machinery Maintenance charge					3.36
	Total cost (W)					227.57
	Add GST on total cost (W) (18%)					40.36
	Total cost (X)					267.93
	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					40.19
	Total cost (Z)					308.12
	Add 1% Cess on total cost (Z)					3.08
	Transportation Charges					15.70
					Rate of 1 sqm	**326.9**

Rate analysis of 1 sqm of concrete for manufacturing interlocking paver block having M30 grade and 60 mm thickness

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	2.35	kg	4.94	kg	11.61
2	Colour (Red, Chocolate, Orange, Buff or Yellow, Red oxide of iron light shade of pigment)	0.151	kg	60	kg	9.06
3	Grit Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	4.55	kg	0.31	kg	1.41
4	Sand Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	4.17	kg	0.63	kg	2.63
5	Hardener Top Layer (Free flowing thin liquid of light yellow colour with water permeability of more than 60%)	4.84	ml	0.15	ml	0.73
6	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	12.78	kg	4.94	kg	63.13
7	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	63.26	kg	0.4	kg	25.30
8	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	38.19	kg	0.35	kg	13.37
10	Lacquer (Polyester resin which is no soluble in water)	107.6	ml	0.1	ml	10.76
	Total of material cost					**140.98**
Labour Cost						
1	Mason(s)	0.02	-	679	day	13.58
2	Belder(s)	0.05	-	558	day	27.90
3	Coolie(s)	0.05	-	558	day	27.90
4	Bhisti(s)	0.02	-	617	day	12.34
5	Sundaries	2.5	-	2	L/S	5.00
	Total of labour cost					**86.72**
	Summation of material and labour cost					**227.70**
	Electricity and Water charge					3.42
	Total cost (V)					231.12

	Machinery Maintenance charge					3.47
	Total cost (W)					234.58
	Add GST on total cost (W) (18%)					42.23
	Total cost (X)					276.81
	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					41.52
	Total cost (Z)					318.33
	Add 1% Cess on total cost (Z)					3.18
	Transportation Charges					15.99
					Rate of 1 sqm	**337.50**

Rate analysis of 1 sqm of concrete for manufacturing interlocking paver block having M35 grade and 60 mm thickness

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	2.35	kg	4.94	kg	11.61
2	Colour (Red, Chocolate, Orange, Buff or Yellow, Red oxide of iron ligth shade of pigment)	0.151	kg	60	kg	9.06
3	Grit Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	4.55	kg	0.31	kg	1.41
4	Sand Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	4.17	kg	0.63	kg	2.63
5	Hardener Top Layer (Free flowing thin liquid of light yellow colour with water permeability of more than 60%)	4.84	ml	0.15	ml	0.73
6	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	15.13	kg	4.94	kg	74.74
7	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	61.6	kg	0.4	kg	24.64
8	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	45.4	kg	0.35	kg	15.89
9	Chemical Bottom Layer (Viscous liquid of light brownish colour and have capability to solute water)	118.36	ml	0.03	ml	3.55
10	Lacquer (Polyesterresin which is no soluble in water)	107.6	ml	0.1	ml	10.76
	Total of material cost					**155.02**
Labour Cost						
1	Mason(s)	0.02	-	679	day	13.58
2	Belder(s)	0.05	-	558	day	27.90
3	Coolie(s)	0.05	-	558	day	27.90
4	Bhisti(s)	0.02	-	617	day	12.34
5	Sundaries	2	-	2	L/S	4.00
	Total of labour cost					**85.72**
	Summation of material and labour cost					**240.74**
	Electricity and Water charge					3.61
	Total cost (V)					244.35
	Machinery Maintenance charge					3.67

	Total cost (W)					248.01
	Add GST on total cost (W) (18%)					44.64
	Total cost (X)					292.65
	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					43.90
	Total cost (Z)					336.55
	Add 1% Cess on total cost (Z)					3.37
	Transportation Charges					15.76
					Rate of 1 sqm	**355.68**

Rate analysis of 1 sqm of concrete for manufacturing interlocking paver block having M40 grade and 80 mm thickness

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	2.35	kg	4.94	kg	11.61
2	Colour (Red, Chocolate, Orange, Buff or Yellow, Red oxide of iron ligth shade of pigment)	0.151	kg	60	kg	9.06
3	Grit Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	4.55	kg	0.31	kg	1.41
4	Sand Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	4.17	kg	0.63	kg	2.63
5	Hardener Top Layer (Free flowing thin liquid of light yellow colour with water permeability of more than 60%)	7.2	ml	0.15	ml	1.08
6	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	22.45	kg	4.94	kg	110.90
7	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	31	kg	0.4	kg	12.40
8	Aggregate-20 mm Bottom Layer (Stone aggregate of 20mm nominal size and meeting the requirements of IS 383:2016)	51	kg	0.87	kg	44.37
9	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	52	kg	0.35	kg	18.20
10	Chemical Bottom Layer (Viscous liquid of light brownish colour and have capability to solute water)	128	ml	0.03	ml	3.84
11	Lacquer (Polyesterresin which is no soluble in water)	107.6	ml	0.1	ml	10.76
	Total of material cost					**226.26**
Labour Cost						
1	Mason(s)	0.02	-	679	day	13.58

2	Belder(s)	0.05	-	558	day	27.90
3	Coolie(s)	0.05	-	558	day	27.90
4	Bhisti(s)	0.02	-	617	day	12.34
5	Sundaries	3.5	-	2	L/S	7.00
	Total of labour cost					**88.72**
	Summation of material and labour cost					**314.98**
	Electricity and Water charge					4.72
	Total cost (V)					319.70
	Machinery Maintenance charge					4.80
	Total cost (W)					324.50
	Add GST on total cost (W) (18%)					58.41
	Total cost (X)					382.91
	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					57.44
	Total cost (Z)					440.35
	Add 1% Cess on total cost (Z)					4.40
	Transportation Charges					15.40
				Rate of 1 sqm		**460.15**

Rate analysis of 1 sqm of concrete for manufacturing interlocking paver block having M50 grade and 80 mm thickness

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost(₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	2.35	kg	4.94	kg	11.61
2	Colour (Red, Chocolate, Orange, Buff or Yellow, Red oxide of iron light shade of pigment)	0.151	kg	60	kg	9.06
3	Grit Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	4.55	kg	0.31	kg	1.41
4	Sand Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	4.17	kg	0.63	kg	2.63
5	Hardener Top Layer (Free flowing thin liquid of light yellow colour with water permeability of more than 60%)	7.2	ml	0.15	ml	1.08
6	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	24.95	kg	4.94	kg	123.25
7	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	24	kg	0.4	kg	9.60
8	Aggregate-20 mm Bottom Layer (Stone aggregate of 20mm nominal size and meeting the requirements of IS 383:2016)	60	kg	0.87	kg	52.20
9	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	50	kg	0.35	kg	17.50
10	Chemical Bottom Layer (Viscous liquid of light brownish color and have capability to solute water)	133	ml	0.03	ml	3.99
11	Lacquer (Polyesterresin which is no soluble in water)	107.6	ml	0.1	ml	10.76
	Total of material cost					**243.09**
Labour Cost						
1	Mason(s)	0.025	-	679	day	16.98
2	Belder(s)	0.05	-	558	day	27.90
3	Coolie(s)	0.05	-	558	day	27.90
4	Bhisti(s)	0.02	-	617	day	12.34
5	Sundaries	2	-	2	L/S	4.00
	Total of labour cost					**89.12**
	Summation of material and labour cost					**332.20**
	Electricity and Water charge					4.98
	Total cost (V)					337.19
	Machinery Maintenance charge					5.06
	Total cost (W)					342.25
	Add GST on total cost (W) (18%)					61.60
	Total cost (X)					403.85

	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					60.58
	Total cost (Z)					464.43
	Add 1% Cess on total cost (Z)					4.64
	Transportation Charges					15.76
					Rate of 1 sqm	**484.83**

Rate analysis of Precast Manufactured Kerb Stone (M25) Per RM

Sr. No.	Particular	Quantity	Unit (Quantity)	Rate (₹)	Unit (per cost)	Cost (₹)
Material cost						
1	Cement Top Layer (Ordinary Portland Cement- 43 Grade)	0.75	kg	4.94	kg	3.71
2	Grit Top Layer (Stone grit of less than or equal to 6mm sized, or pea sized gravel)	1.38	kg	0.31	kg	0.43
3	Sand Top Layer (Coarse Sand of zone III and it should passes through 4.75 mm IS sieve)	1.27	kg	0.63	kg	0.80
4	Hardener Top Layer (Free flowing thin liquid of light yellow colour with water permeability of more than 60%)	1.96	ml	0.15	ml	0.29
5	Cement Bottom Layer (Ordinary Portland Cement- 43 Grade)	4.95	kg	4.94	kg	24.45
6	Aggregate-20 mm Recycle Bottom Layer (Recycle Aggregate, Recycle Concrete Aggregate, slag and crushed, over-burnt brick or tile meeting the requirements of IS 383: 2016)	25.63	kg	0.4	kg	10.25
7	Sand Recycle Bottom Layer (Recycled sand (RS) and Stone dust meeting the requirements of IS 383: 2016)	15.47	kg	0.35	kg	5.41
8	Chemical Bottom Layer (Viscous liquid of light brownish colour and have capability to solute water)	40.33	ml	0.03	ml	1.21
	Total of material cost					**46.56**
Labour Cost						
1	Mason(s)	0.02	-	679	day	13.58
2	Belder(s)	0.04	-	558	day	22.32
3	Coolie(s)	0.04	-	558	day	22.32
4	Bhisti(s)	0.02	-	617	day	12.34
5	Sundaries	3	-	2	L/S	6.00
	Total of labour cost					**76.56**
	Summation of material and labour cost					**123.12**
	Electricity and Water charge					1.85
	Total cost (V)					124.96
	Machinery Maintenance charge					1.87
	Total cost (W)					126.84

	Add GST on total cost (W) (18%)					22.83
	Total cost (X)					149.67
	Add 15% Contractor's Profit and Overhead charges (CPOH) on total cost (X)					22.45
	Total cost (Z)					172.12
	Add 1% Cess on total cost (Z)					1.72
	Transportation Charges					15.76
					Rate of 1 Running Meter	**189.60**

K D Yadav 24/2/21

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Annexure -O

C & D 1.2,1.3, 1.4,1.9 & 1.10 Restriction on storage of construction materials along the road & Covering of construction site.

નોંધ :–

ભારત સરકાર શહેરી વિસ્તારમાંના વન અને પર્યાવરણ મંત્રાલય દ્વારા ધુળના રજકણો ના નિયંત્રણ હેતુ પર એન્વાયરોમેન્ટ પ્રોટેકશન એકટ – ૧૯૮૬ માં સુધારા માટે નોટીફિકેશન બહાર પાડવામાં આવેલ છે. જે અન્વયે સુરત શહેરમાં હવાના પ્રદુષણ ને અટકાવવાના હેતુથી નીચે મુજબની કામગીરી સંબંધિત / જણાવેલ ખાતા / ઝોન દ્વારા હાથ ધરવાની રહેશે.

(૧) એન્વાયરોમેન્ટ પ્રોટેકશન એકટ – ૧૯૮૬ એકટના નોટીફિકેશનના મુદ્દા નં. ૧૦૬ અન્વયે જરૂરી કાર્યવાહી માટે મધ્યસ્થ / ઝોન શહેરી વિકાસ વિભાગ દ્વારા તકેદારી રાખવાની રહેશે.

- ➢ No building or infrastructure project requiring Environmental Clearance shall be implemented without approved Environmental Management Plan inclusive of dust mitigation measures.
- ➢ Roads leading to or at construction sites must be paved and blacktopped. (i.e. metallic roads).
- ➢ No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- ➢ No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
- ➢ Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum upto 10 meters shall be provided.
- ➢ Water sprinkling system shall be put in place.
- ➢ Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.

(૨) બિલ્ડીંગ મટીરીયલ્સના Grinding and Cutting ની કામગીરી ખુલ્લા એરીયામાં ન થાય તેની તકેદારી જે તે ઝોનના કાર્યપાલક ઈજનેર / નાયબ આરોગ્ય અધિકારીએ રાખવાની રહેશે.

(૩) C&D વેસ્ટ ઉત્પન્ન કરનાર સંસ્થા / વ્યકિતઓ દ્વારા C&D વેસ્ટનું યોગ્ય રીતે નિકાલ કરવામાં આવે છે કે નહી તેની તકેદારી રાખવા તથા જો કોઈ સંસ્થા / વ્યકિત, C&D વેસ્ટને યોગ્ય રીતે નિકાલ ન કરે તો દરેક કિસ્સામાં સ્થાયી સમિતિ ઠરાવ નં ૧૬૨૧/૨૦૧૬, તા.૦૧/૧૦/૨૦૧૬ થી રૂા.૧૦,૦૦૦/– સુધીનો વહીવટી ચાર્જ વસુલવા ઝોન કક્ષાએ બનાવેલ C&D વેસ્ટ માટેની ટીમ દ્વારા કાર્યવાહી કરવાની રહેશે.

(૪) જો કોઈ સંસ્થા / વ્યકિત પાસેથી વહીવટી ચાર્જ વસુલ્યા બાદ પણ જો નિયમોનું અનુપાલન ન કરે તો, C&D વેસ્ટ રૂલ્સ, ૨૦૧૬ તેમજ EPAct-1986 અન્વયે નિયમોનું ઉલ્લંઘન કરનાર વ્યકિત / ઈસમો / સંસ્થાઓ સામે ફોજદારી રાહે કોર્ટ કેસની કાર્યવાહી જે તે ઝોનના કાર્યપાલક ઈજનેર / નાયબ આરોગ્ય અધિકારી દ્વારા કરવાની રહેશે.

(૫) જો વાહન સંચાલક / વ્યકિત / ઈસમો / સંસ્થા, સુરત શહેરના નદી / નાળા કે ખુલ્લા પ્લોટ માં C&D વેસ્ટનો નિકાલ કરતા પકડાય તો ફોજદારી રાહે પોલીસ કાર્યવાહી જે તે ઝોનના કાર્યપાલક ઈજનેર / નાયબ આરોગ્ય અધિકારી દ્વારા કરવાની રહેશે.

(૬) સુરત શહેરમાં ચાલતા ખાનગી ખુલ્લા વાહનો જેવા કે ટ્રેકટર, ટ્રક કે જેમાં C&D વેસ્ટનું પરીવહન થાય તથા અયોગ્ય રીતે નદી / નાળામાં નિકાલ કરવામાં આવે છે તેના પર પ્રતિબંધ મુકવા માટે યોગ્ય જાહેરનામુ બહાર પાડવાની કાર્યવાહી લો–ઓફિસર દ્વારા કરવાની રહેશે.

ઉપરોકત પધ્ધતિનો બિનચુક અમલ કરવાનો રહેશે.

જા. સી.એન્જી./૮૬૨,
તા. ૫/૦૩/૨૦૨૦

કમિશ્નર
સુરત મહાનગરપાલિકા

નકલ રવાના:– તમામ વિભાગીય વડાશ્રીઓ પ્રતિ...જાણ માટે.
ઈ.ચા.શહેરી વિકાસ અધિકારી પ્રતિ....જાણ તથા અમલ માટે.
કાર્યપાલક ઈજનેર / નાયબ આરોગ્ય અધિકારી (તમામ ઝોન) પ્રતિ...જાણ તથા અમલ માટે.
કાર્યપાલક ઈજનેર (એન્વાયરોમેન્ટ સેલ) પ્રતિ ...જાણ તથા અમલ માટે.
લો–ઓફિસર પ્રતિ ...જાણ તથા અમલ માટે.
ઈ.ચા. સોલીડ વેસ્ટ મેનેજર (સોલીડ વેસ્ટ મેનેજમેન્ટ વિભાગ) પ્રતિ....જાણ તથા અમલ માટે.
નોડલ ઓફિસર (C&D Waste) પ્રતિ ...જાણ તથા અમલ માટે.

Annexure-P

C & D 1.13 Promote recycling of construction and demolition waste


સુરત મહાનગર પાલિકા
SGPPL
C & D WASTE
SWACHH SURVEKSHAN
TATA
78525658
33135053
2015


સુરત મહાનગર પાલિકા
SWACHH SURVEKSHAN 2021
"રી - સાયકલ" પ્રોડક્ટસ વાપરો અને
કુદરતી સ્ત્રોત બચાવો.
સ્વચ્છ સુરત, સુંદર સુરત

➢ Sales reciept of C & D Waste

Surat Green Precast Private Limited			
402,502,Maitri Shops and Offices,			
Rajhans Point to Affil Tower Road,			
Varachha Road, Surat.			
Sales			
Ledger Account			
1-Jul-2020 to 31-Jul-2020			
Date	**Material**	**Quantity**	**Amount**
07-07-2020	Sand	25.23	**6938.25**
07-07-2020	Kapchi -20	3.38	**845.00**
07-07-2020	Kapchi +20	42.05	**7127.48**
08-07-2020	Kapchi +20	39.92	**6786.40**
08-07-2020	Kapchi +20, Kapchi -20	16.26	**3778.60**
09-07-2020	Kapchi +20	21.91	**3713.75**
10-07-2020	Kapchi +20, Sand	297.77	**68830.60**
10-07-2020	Kapchi -20	19.13	**4782.50**
12-07-2020	Sand	177.92	**47148.80**
13-07-2020	Sand	87.9	**23293.50**
15-07-2020	Sand	35.25	**9341.25**
16-07-2020	Sand	34.26	**9078.90**
17-07-2020	Kapchi -20, Sand	39.45	**9505.50**
17-07-2020	Sand	35.28	**9349.20**
18-07-2020	Sand	33.92	**8988.80**
19-07-2020	Kapchi -20, Sand	19.8	**5231.50**
20-07-2020	Kapchi +20, Sand	192.33	**48268.80**
23-07-2020	Sand	21.33	**5865.75**
23-07-2020	Kapchi -20	6.04	**1510.00**
23-07-2020	Kapchi -20	27.99	**6997.50**

24-07-2020	Kapchi +20	34.31	**5832.70**
28-07-2020	Kapchi +20	17.36	**2951.20**
28-07-2020	Kapchi -20, Sand	18.95	**5034.50**
31-07-2020	Kapchi +20, Sand	368.43	**85399.50**
31-07-2020	Sand	66.73	**22251.12**
31-07-2020	Kapchi +20	182.98	**31106.60**
31-07-2020	Kapchi +20	34.49	**5863.30**
31-07-2020	Sand	113.62	**30109.30**
31-07-2020	Kapchi +20	35.28	**11113.20**
31-07-2020	Sand	22.56	**6204.00**
			493247.50
1-Aug-2020 to 31-Aug-2020			
Date	**Material**	**Quantity**	**Amount**
02-08-2020	Kapchi +20	26.66	**4532.20**
05-08-2020	Kapchi +20, Kapchi -20	19.61	**3525.70**
06-08-2020	Kapchi +20	37.61	**6393.70**
07-08-2020	Kapchi -20	10.84	**2710.00**
08-08-2020	Kapchi +20	54.79	**9314.30**
10-08-2020	Kapchi +20, Sand	166.08	**39730.20**
10-08-2020	Sand	41.52	**11002.80**
10-08-2020	Sand	31.13	**8560.75**
11-08-2020	Sand	4.93	**1355.75**
16-08-2020	Kapchi +20	30.36	**5161.20**
16-08-2020	Kapchi -20	35.26	**7757.20**
17-08-2020	Kapchi -20	26.67	**5867.40**
17-08-2020	Kapchi +20, Kapchi -20	12.69	**2973.30**
18-08-2020	Kapchi -20	3.35	**837.50**
18-08-2020	Kapchi -20	38.44	**8456.80**
22-08-2020	Kapchi +20	49.98	**8496.60**
22-08-2020	Kapchi +20	19.33	**3286.10**
24-08-2020	Kapchi +20	39.72	**6752.40**
25-08-2020	Kapchi +20	43.95	**7471.50**
25-08-2020	Kapchi +20	20.27	**3445.90**
27-08-2020	Sand	15.65	**4303.75**
28-08-2020	Kapchi -20, Sand	16.65	**4400.50**
28-08-2020	Kapchi +20	18.65	**3170.50**

31-08-2020	Kapchi +20, Sand	163.63	**33780.50**
31-08-2020	Sand	41.34	**13786.89**
31-08-2020	Kapchi +20	51.92	**8826.40**
31-08-2020	Sand	19.58	**8615.20**
			224515.04
1-Sep-2020 to 30-Sep-2020			
Date	**Material**	**Quantity**	**Amount**
01-09-2020	Kapchi-20, Sand	28.55	**7767.75**
04-09-2020	Kapchi +20	10.01	**1701.70**
07-09-2020	Kapchi +20	32.63	**8810.10**
08-09-2020	Kapchi +20	30.24	**8164.80**
08-09-2020	Kapchi-20, Sand	24.73	**6383.25**
09-09-2020	Kapchi +20	29.52	**7970.40**
10-09-2020	Kapchi +20, Sand	308.04	**69780.90**
10-09-2020	Kapchi +20	28.86	**7792.20**
10-09-2020	Sand	49.29	**13061.85**
16-09-2020	Sand	24.73	**7419.00**
16-09-2020	Sand	14.5	**6380.00**
17-09-2020	Kapchi-20, Sand	17.97	**4861.00**
17-09-2020	Kapchi +20	55.26	**9394.20**
18-09-2020	Kapchi +20	2.42	**411.40**
19-09-2020	Kapchi +20	50.54	**8591.80**
19-09-2020	Kapchi +20, Sand	3.64	**1601.60**
20-09-2020	Kapchi +20, Sand	293.39	**65391.40**
24-09-2020	Sand	24.34	**7302.00**
25-09-2020	Sand	25.11	**7533.00**
26-09-2020	Sand	25.46	**7638.00**
26-09-2020	Kapchi-20, Sand	12.98	**3405.75**
26-09-2020	Kapchi -20	6.31	**1577.50**
26-09-2020	Kapchi +20, Kapchi -20	7.94	**2024.90**
27-09-2020	Sand	20.76	**6643.20**
27-09-2020	Kapchi +20	20.3	**6902.00**
27-09-2020	Kapchi -20	5.32	**1330.00**
27-09-2020	Kapchi -20	3.35	**1005.00**
28-09-2020	Sand	2.97	**816.75**

28-09-2020	Sand	25.22	**7566.00**
30-09-2020	Sand	21.96	**9662.40**
30-09-2020	Kapchi +20, Sand	192.57	**42670.20**
			341560.05
1-Oct-2020 to 31-Oct-2020			
Date	**Material**	**Quantity**	**Amount**
01-10-2020	Kapchi +20, Kapchi -20	20.5	**7670.00**
03-10-2020	Sand	21.98	**9671.20**
03-10-2020	Kapchi +20	78.75	**25200.00**
03-10-2020	Kapchi +20	42.35	**7199.50**
04-10-2020	Kapchi +20	42.02	**7143.40**
05-10-2020	Kapchi -20	30.07	**8720.30**
07-10-2020	Kapchi -20	24.65	**7148.50**
08-10-2020	Sand	10.78	**2964.50**
10-10-2020	Kapchi +20, Sand	155.13	**38437.50**
15-10-2020	Sand	24.45	**9902.25**
17-10-2020	Sand	22.54	**9917.60**
17-10-2020	Sand	19.87	**8047.35**
17-10-2020	Sand	21.67	**7367.80**
17-10-2020	Sand	24.3	**7290.00**
18-10-2020	Sand	25.32	**10634.40**
20-10-2020	Kapchi +20, Sand	281.51	**71450.20**
20-10-2020	Kapchi -20	21.38	**8979.60**
30-10-2020	Sand	19.86	**8738.40**
30-10-2020	Kapchi -20	15.64	**5004.80**
30-10-2020	Kapchi -20	20.92	**7322.00**
30-10-2020	Sand	48.61	**20416.20**
30-10-2020	Kapchi +20	20.43	**6946.20**
31-10-2020	Kapchi +20	20.97	**7129.80**
31-10-2020	Sand	200.54	**52140.40**
31-10-2020	Sand	20.48	**6830.08**
			362271.98
1-Nov-2020 to 30-Nov-2020			
Date	**Material**	**Quantity**	**Amount**
03-11-2020	Kapchi +20	16.15	**5491.00**

06-11-2020	Kapchi +20	9.3	**2325.00**
06-11-2020	Sand	45.01	**19804.40**
07-11-2020	Kapchi -20, Sand	7.46	**2467.60**
08-11-2020	Sand	3.25	**1040.00**
09-11-2020	Sand	12.3	**4182.00**
10-11-2020	Sand	220.63	**57363.80**
11-11-2020	Kapchi +20, Sand	27.86	**8915.20**
13-11-2020	Kapchi +20	29.35	**9392.00**
17-11-2020	Kapchi +20	28.67	**9174.40**
20-11-2020	Sand	28.78	**12087.60**
22-11-2020	Kapchi +20	2.94	**705.60**
23-11-2020	Kapchi +20, Kapchi -20	19.28	**4558.60**
25-11-2020	Sand	83.63	**35124.60**
27-11-2020	Sand	2.96	**1006.40**
30-11-2020	Sand	53.76	**20966.40**
30-11-2020	Sand	29.64	**13041.60**
			207646.20
1-Dec-2020 to 31-Dec-2020			
Date	**Material**	**Quantity**	**Amount**
04-12-2020	Kapchi +20	23.71	**7113.00**
05-12-2020	Kapchi +20	24.24	**7272.00**
08-12-2020	Kapchi +20	24.98	**7494.00**
08-12-2020	Kapchi +20	22.28	**4901.60**
08-12-2020	Sand	2.94	**999.60**
08-12-2020	Kapchi -20	15.63	**6252.00**
08-12-2020	Sand	20.62	**9072.80**
08-12-2020	Kapchi -20	3.65	**1168.00**
09-12-2020	Kapchi -20	22.68	**6804.00**
09-12-2020	Sand	16.84	**7072.80**
10-12-2020	Sand	25.24	**8581.60**
10-12-2020	Kapchi +20	11.39	**3644.80**
10-12-2020	Sand	84.19	**32834.10**
10-12-2020	Sand	27.8	**11676.00**
10-12-2020	Sand	35.24	**10572.00**
10-12-2020	Kapchi -20, Sand	77.72	**31189.00**

10-12-2020	Sand	23.98	**10551.20**
12-12-2020	Kapchi -20	11.68	**5256.00**
13-12-2020	Sand	117.27	**35181.00**
13-12-2020	Sand	22.85	**7769.00**
13-12-2020	Sand	24.63	**7389.00**
15-12-2020	Sand	3.12	**1060.80**
18-12-2020	Kapchi +20, Kapchi -20, Sand	150.22	**62205.80**
23-12-2020	Kapchi +20	22.41	**6812.64**
23-12-2020	Kapchi +20	22.03	**6697.12**
24-12-2020	Kapchi +20	23.13	**7031.52**
24-12-2020	Sand	102.32	**45020.80**
27-12-2020	Kapchi +20	23.73	**7119.00**
27-12-2020	Kapchi -20	3.05	**976.00**
27-12-2020	Sand	25.26	**8588.40**
27-12-2020	Kapchi +20	37.95	**9487.50**
27-12-2020	Sand	22.58	**9935.20**
27-12-2020	Sand	19.25	**8470.00**
27-12-2020	Sand	3.98	**1353.20**
27-12-2020	Kapchi -20, Sand	44.57	**18331.00**
27-12-2020	Sand	12.34	**5429.60**
27-12-2020	Sand	12.99	**3897.00**
28-12-2020	Kapchi +20	23.85	**7155.00**
28-12-2020	Kapchi +20	22.25	**4895.00**
28-12-2020	Kapchi +20	38.09	**9522.50**
28-12-2020	Sand	20.28	**8923.20**
28-12-2020	Kapchi -20	21.91	**9202.20**
28-12-2020	Kapchi +20	20.8	**7072.00**
29-12-2020	Kapchi +20	37.69	**9422.50**
29-12-2020	Sand	19.85	**8734.00**
29-12-2020	Kapchi -20	21.94	**6582.00**
29-12-2020	Kapchi +20	35.99	**8637.60**
29-12-2020	Kapchi +20	23.97	**8149.80**
30-12-2020	Kapchi +20	36.96	**9240.00**
30-12-2020	Sand	21.35	**7259.00**
31-12-2020	Kapchi +20	37.5	**9375.00**

31-12-2020	Kapchi +20, Sand	227.96	**78792.00**
31-12-2020	Sand	23.8	**7140.00**
			625310.88

C & D Waste Recycling Certificates

|| Jay Shree Momai Mataji ||

MADHAV ENTERPRISE

Mobile : 98247 03320
98245 33711
99796 33711

22, Tirth Nagar, B/h. TVS Showroom,
Ankleshwar - 393 002, Gujarat

તારીખ:- ૦૪/૦૨/૨૦૨૧

પ્રમાણપત્ર

સુરત મહાનગરપાલિકા ધ્વારા ઈજારદારશ્રી માધવ એન્ટરપ્રાઈઝને સેનેટરી લેન્ડફીલ સેલના કામે વર્કઓર્ડર નં. DNG/Out/No.174, તા.૧૨/૦૯/૨૦૧૭ થી કામગીરી આપવામાં આવેલ છે. જેના સદર કામે કન્સ્ટ્રકશન એન્ડ ડિમોલિશન (C & D) વેસ્ટ પ્લાન્ટમાંથી બનાવેલ રીસાયકલ મટીરીયલનો ઉપયોગ સેનેટરી લેન્ડફીલ સેલમાં કચરાના દૈનિક કવર માટે કરી રહેલ છે. સદર રીસાયકલ મટીરીયલના ઉપયોગની માહિતી નીચે મુજબ છે.

અ.નં.	મહિનો	જથ્થો (ટન)	રીસાઈકલ મટીરીયલનો પ્રકાર
૧	મે–૨૦૨૦	૮૦	કન્સ્ટ્રકશન એન્ડ ડિમોલિશન (C & D) વેસ્ટ
૨	જુન –૨૦૨૦	૦૦	
૩	જુલાઈ –૨૦૨૦	૧૫૧	
૪	ઓગસ્ટ –૨૦૨૦	૨૩૦	
૫	સપ્ટેમ્બર –૨૦૨૦	૧૨૦	
૬	ઓકટોબર –૨૦૨૦	૯૦	
૭	નવેમ્બર –૨૦૨૦	૧૩૦	
૮	ડિસેમ્બર –૨૦૨૦	૧૦૦	
૯	જાન્યુઆરી –૨૦૨૧	૯૫	
	Total	૯૯૬	
	Daily Average	૩.૬૧	

આભાર સહ,

For, MADHAV ENTERPRISE

Partner / Authorised

JP Structures Pvt. Ltd.
An ISO 9001:2008 and ISO 14001:2004 Company

CIN : U45201GJ2009PTC056661
301, Race Course Plaza,
Race Course Ring Road,
RAJKOT - 360 001. (INDIA)
Ph : 91 281 2453200.
Fax : 91 281 2459500.
www.jpstructures.in
email : jp@jpstructures.in

TO WHOMSOEVER IT MAY CONCERN

It is to inform that, material which is recycleable and generated from construction and Demolition Waste Management Plant of SMC and which is owned and managed by SPV name Surat Green Precast Pvt. Ltd, in the work of Construction of c. C. Pavement & allied works including service road, footpath, street light, street furniture, horticulture, landscaping etc. From **Ram chowk to Abrama check post** in East (Varachha) zone area of surat city limit of Surat City Limit awarded by work order No: RDD/OUT/NO.09, Dt.18/06/2019.

The above recycabale material was used as a filler material to build embankment below the C.C. Pavement from ram chowk to abrama check in East (Varachha) Zone area. The detail of material quanity used is as mentioned below.

SR.NO	MONTH	QUANTUM OF RECYLABLE MATRIAL (M.T.)	TYPE OF RECYCLABLE MATERIAL
1	MAY-2020	640	CONSTUCTION AND DEMOLITION WASTE
2	JUNE-2020	712	
3	JULY-2020	562	
4	AUGUST-2020	1170	
5	SEPTEMBER-2020	1260	
6	OCTOBER-2020	1370	
7	NOVEMBER-2020	877	
8	DECEMBER-2020	920	
9	JANUARY-2021	1255	
TOTAL		**8766**	

For J P Structures Pvt. Ltd.

Authorised Signatory

JP Structures Pvt. Ltd.
An ISO 9001:2008 and ISO 14001:2004 Company

CIN : U45201GJ2009PTC056661
301, Race Course Plaza,
Race Course Ring Road,
RAJKOT - 360 001. (INDIA)
Ph : 91 281 2453200.
Fax : 91 281 2459500.
www.jpstructures.in
email : jp@jpstructures.in

TO WHOMSOEVER IT MAY CONCERN

It is to inform that, material which is recycleable and generated from construction and Demolition Waste Management Plant of SMC and which is owned and managed by SPV name Surat Green Precast Pvt. Ltd, in the work of Construction of C C Pavement & allied works including services road, Footpath, Street light, Horticulture, Landscaping etc. From **VIP Circle to Ram chowk** in East (Varachha) Zone area of Surat City Limit awarded by work order No: RDD/OUT/NO.08, Dt.18/06/2019.

The above recycabale material was used as a filler material to build embankment below the C.C. Pavement from VIP Circle to Ram chowk in East (Varachha) Zone area. The detail of material quanity used is as mentioned below.

SR.NO	MONTH	QUANTUM OF RECYLABLE MATRIAL (M.T.)	TYPE OF RECYCLABLE MATERIAL
1	MAY-2020	260	CONSTUCTION AND DEMOLITION WASTE
2	JUNE-2020	390	
3	JULY-2020	480	
4	AUGUST-2020	870	
5	SEPTEMBER-2020	1040	
6	OCTOBER-2020	920	
7	NOVEMBER-2020	860	
8	DECEMBER-2020	980	
9	JANUARY-2021	1268	
TOTAL		**7068**	

For J P Structures Pvt. Ltd.

Authorised Signatory

Z:\M.M. SHRIGARLET-ENG road..doc

Ref. No. :

Date : 24/02/2021.

M/s D.H.PATEL
engineers and contractor

TO WHOM SO EVER IT MAY CONCERN

This is certify that, we M/s D.H. Patel are using the recyclable material generated from construction and Demolition waste Management Plant of Surat Municipal Corporation which is owned and managed by SPV name Surat Green Precast Pvt. Ltd. In the work of closure of Accumulated waste and Relevant infrastructure work at Khajod Final Disposal site under Swachh Bharat Mission awarded by work order No: DNG/OUT/W/No. 79 Dt: 16/06/2017, Construction of EWS-II Residential Flats & Shops including all internal infrastructure services & site development work at T.P. Scheme No.36 (Variyav) F.P. No. 90 Under "Pradhan Mantri Awas Yojana- AHP" on Engineering-Designing, procurement and construction basis (EPC Mode), Work order No. SUC/OUT/023 Dtd:-28/12/2018.

The said material was used in leveling the Existing Road and infrastructure at Khajod site, in Gas collection Layers and in different base preparation work. The quantum of waste utilized since April 2020 to till date is as mentioned below:

Month	Quantum of Recycle Material (MT)	Type of Recyclable Material
April 2020	-	Construction and Demolition Crushed Waste Free from silt and clay thickness size between 10mm to 40mm)
May 2020	309	
June 2020	670	
July 2020	230	
Aug -2020	740	Daily Average of 100 TPT.
Sep-2020	1030	
Oct-2020	1200	
Nov-2020	800	
Dec-2020	1030	
Jan-2021	1090	
Total	**7099 (MT)**	

Thanking You,
Yours Faithfully,
For M/s D H Patel

M/S. D. H. PATEL ★ 305/306, RATNASAGAR, SURAT. ★

Partner.

KINSFOLK GROUP
excellence unlimited
visit us at www.kinsfolkgroup.com

H.O. : Kinsfolk Group : 305-306, Ratnasagar Apt., Near Varachha Police Station, Varachha Road, Surat-395 006, Gujarat, India.Telefax : +91 261 2558977
Email : dhpatelsurat@gmail.com, info@kinsfolkgroup.com

VIJAY M. MISTRY CONSTRUCTION PVT. LTD.

"Mistry House", 9, Preyas Society, Opp. Gulbai Tekra Police Chowki, Ambawadi,
Ahmedabad - 380 015. Phone : 26302531 / 26302533 / 26302534, Fax : 91-79-26302532

TO WHOM SO EVER IT MAY CONCERN

It is inform you that the work of Construction of River Bridge Across Tapi River and along Varachha creek near Varacha Main Road and near Varachha Water Works (4 Lane)at Surat is entrusted to us by Surat Municipal Corporation by their Work Order No. Bridge Cell/Out/No./2606, Dtd : 22/03/2018. We are here by pleased to inform you that we have utilized recyclable material Generated form Construction and Demolition plant of Surat Municipal Corporation which is owned and managed by SPV name Surat Green Precast Pvt Ltd; Surat in filling in temporary diversion work & temporary ramp for accessibility.

Sr.No	Month	Quantity Utilize	Type of Recyclable material
1	May-2020	640	Construction and Demolition Waste
2	Jun-2020	590	
3	Jul -2020	630	
4	Aug-2020	919	
5	Sep-2020	1060	
6	Oct-2020	1390	
7	Nov-2020	750	
8	Dec-2020	1020	
9	Jan-2021	1250	
Total		**8249**	
Average Daily TPD		**30.55**	

For Vijay M. Mistry Const. (P) Ltd.

Authorised Signatory

ISO9001:2015

CIN : U45201GJ1988PTC011033

E-MAIL : vmchouse@gmail.com WEBSITE : www.vmmcl.com

RANJIT BUILDCON LIMITED

TO WHOM SO EVER IT MAY CONCERN

It is to inform you that the work of Construction of fly over Bridge at Ved Darwaja Junction and Katargam Darwaja Junction at Ring Road in Surat City on E.P.C Basis. (Design, Engineering, Procurement and Construction) is entrusted to us by Surat Municipal Corporation by their work Order No. Bridge Cell/out/No./509, Dtd 05/06/2017. We are here by pleased to inform you that we have utilized recyclable material Generated from Construction and Demolition plant of Surat Municipal Corporation which is owned and managed by SPV name Surat Green Precast Pvt. Ltd; Surat in filling of Trench-line excavated for 2200 mm dia. RCC pipe laying work & RCC Storm Water Box.

Sr. No.	Month (2020/2021)	Quantity Utilize	Type of Recyclable material
1	May 2020	451	Construction and Demolition Waste
2	June 2020	680	
3	July 2020	626	
4	August 2020	920	
5	September 2020	1131	
6	October 2020	1228	
7	November 2020	780	
8	December 2020	1062	
9	January 2021	1280	
Total		**8158**	
Average Daily TPD		**30.21**	

For, Ranjit Buildcon Ltd.

Authorised Signatory

Corporate Office : "Ranjit House" Opp. Sun Residency, B/h. Bhagwat Bunglows, Opp. Lane to Goga Maharaj Temple, Thaltej-Shilaj Road, Thaltej, Ahmedabad - 380 059. Ph. : 079-4020 0555 | Fax : 079-4020 0565 | CIN : U45206GJ2006PLC049570
Regd. Office : Natwarlal Ishwarlal Building & Co. 134-C, Old Market Yard, Unjha - 384 170. Dist. Mehsana, Gujarat, INDIA.
E-mail : ranjit_construction@yahoo.co.in • accounts.rbl@gmail.com • accounts@ranjitbuildcon.com • tenders@ranjitbuildcon.com
Website : ranjitbuildcon.com

❖ Garden department

Annexure:RD 2.2

Creation of green buffers along the traffic corridors and their maintenance

Proportion of Green Cover in Surat					
ZONE	Area in sq. km	Green cover sq. km	Green Cover (%)	Tree Cover sq. km	Tree Cover (%)
CENTRAL	8.18	1.17	14.35	1.00	12.17
SOUTH WEST	111.91	43.90	39.23	20.58	18.39
SOUTH	61.76	24.44	39.57	13.08	21.18
SOUTH EAST	19.49	4.67	23.94	3.09	15.84
EAST	37.53	10.93	29.13	5.84	15.56
NORTH	36.36	14.15	38.91	7.93	21.80
WEST	51.28	25.81	50.34	8.12	15.84
TOTAL	**326.51**	**125.08**	**38.31%**	**59.63**	**18.26 %**

Annexure: RD 2.4

Urban Greening with vertical garden

વર્ટીકલ ગાર્ડન લીસ્ટ

ક્રમ	ઝોન	લોકેશન	એરીયા ચો.મી. (અંદાજીત)
૧	સેન્ટ્રલ	સુ.મ.પા.ની મુખ્ય કચેરી ખાતે	80.00
૨	વેસ્ટ	ગુજરાત ગેસ સર્કલ	1550.00
૩		અર્બન હોર્ટીકલ્ચર સેન્ટર	338.00
૪	સાઉથ વેસ્ટ	અઠવા ગેટ ફલાય ઓવરબ્રીજ નીચે	1192.00
૫		પાર્લે પોઈન્ટ ફલાય ઓવરબ્રીજ નીચે	1164.00
૬		ઓ.એન.જી.સી. ફલાય ઓવરબ્રીજ નીચે	1370.00
૭		અણુવ્રત દ્વાર ફલાય ઓવરબ્રીજ નીચે	1600.00
૮		સાયન્સ સેન્ટર	1080.00
૯		નર્મદ લાયબ્રેરી	400.00
૧૦	સાઉથ	ખરવર નગર બી.આર.ટી.એસ. બસ સ્ટેન્ડ ફલાય ઓવરબ્રીજ નીચે	912.00
૧૧	નોર્થ	અલકાપુરી, સુમુલ ડેરી રેલ્વે ઓવરબ્રીજ નીચે	866.00
ટોટલ			10552.00

Annexure:RD 2.7

Implementation of maintaining at least 33% forest cover area in the city in master plan.

SURAT MUNICIPAL CORPORATION														
15 D]\ GF6F5\R (Ambient Air Quality)(Private Lakes)														
VP G\P	**VFIMHGGL lJUT s5||MH[S8;f**	**V\NFHG L ZSD q 8[g0Z ZSD sSZM0D F\f**	**D\H]ZLG LIJU T**	**5|| MH[S8; 5]6" TF V\U[GL**	**YGFZ BR"GL lJUT sSZM0DF\f**						**8LP5LP:SLD G\PqOFP%,M 8 G\P**	**V[ZLIF RMPDL**	**hMG**	**ZLDF S";**
					2020 -21	**2021 -22**	**2022 -23**	**20 23-24**	**2024 -25**	**2025-26**				

				;\EIJ TTFZ LB JQF"										
1	J[;] BFT[VF.P0LPG\P GJ_URB_05_02_054_VESB FT[T/FJ 0[J,5 SZJFG]\ SFDP	1.90			0.00	0.00	0.00	0.0 0	0.90	1.00	TP No.75(vesu-Magdalla-Gaviar-Abhva) FP No.39	5265.00	V9JF	
2	SM;F0 BFT[VF.P0LPG\P GJ_URB_05_02_018_KOSB FT[T/FJ 0[J,5 SZJFG]\ SFDP	1.90			0.00	0.00	0.00	0.0 0	0.90	1.00	TP No.27(Utran-Kosad) FP No.138	6378.00	STFZU FD	
3	JZLIFJ BFT[VF.P0LPG\P GJ_URB_05_02_042_VAR BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.50			0.00	0.00	0.00	0.0 0	1.50	2.00	R.S.No.1191	12129.00	ZF\N[Z	
4	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_057_DUM BFT[T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	0.00	1.0 0	1.50	0.00	TP No.81(Dumas) FP No.19	6500.00	V9JF	
5	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_059_DUM BFT[T/FJ 0[J,5 SZJFG]\ SFDP	1.25			0.00	0.00	0.00	0.2 5	1.00	0.00	TP No.81(Dumas) FP No.54/A	3700.00	V9JF	
6	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_061_DUM BFT[T/FJ 0[J,5 SZJFG]\ SFDP	0.60			0.00	0.00	0.00	0.0 0	0.30	0.30	TP No.81(Dumas) FP No.58/A+58/B	1108.00	V9JF	
7	5F,L BFT[VF.P0LPG\P GJ_URB_05_02_142_PLIB FT[T/FJ 0[J,5 SZJFG]\ SFDP	0.60			0.00	0.00	0.00	0.0 0	0.30	0.30	R.S.No.60	1800.00	pWGF	
8	B8MNZF BFT[VF.P0LPG\P GJ_URB_05_02_168_KAT BFT[T/FJ 0[J,5 SZJFG]\ SFDP	1.25			0.00	0.00	0.00	0.0 0	0.25	1.00	R.S.No.215	4000.00	pWGF	
	S], o	**13.50**			**0.00**	**0.00**	**0.00**	**1.2**	**6.65**	**5.60**				

								5						

SURAT MUNICIPAL CORPORATION

15 D]\ GF6F5\R (Ambient Air Quality)

VP G\P	VFIMHGGL lJUT s5||MH[S8;f	V\NFH GL ZSD q 8[g0Z ZSD sSZM0 DF\f	D\H]ZLG LlJUT	5|| MH[S8; 5]6" TF V\U[GL ;\ElJ T TFZL B JQF"	YGFZ BR"GL lJUT sSZM0DF\f						8LP5LP:SLD G\PqOFP%, M8 G\P	V[ZLIF RMPDL	hMG
					2020-21	2021-22	2022-23	2023-24	2024-25	2025-26			
1	8LP5LP :SLD G\P& s5L5,MNf4 OFP%,M8 G\P!__ BFT[VFJ[, cc,[SvjI]cc UF0"GG[ZLv0[J,5 SZJFG]\ SFDP	1.80	:YFP;P9ZF J G\P!*#qZ _!)4 TFP!$q_Z q!)		1.00	0.80	0.00	0.00	0.00	0.00	TP No.6(Piplod) FP No.100	28017.00	V9JF
2	8LP5LP:SLD G\P$* sE[:TFGf4 OFP%,M8 G\P(BFT[VFJ[, xIFDHL S'Q6 JDF" ,[S UF0"GG[ZLv0[J,5 SZJFG]\ SFDP	2.90			0.00	1.45	1.45	0.00	0.00	0.00	TP No.47(Bhestan) FP No.08	14142.00	pWGF
3	8LP5LP:SLD G\P!#sJ[;]vEZYF6FvJ[;]f4 OFP%,M8 G\P5* BFT[VFXL"JFN lJ,FGL ;FD[T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	1.00	1.50	0.00	0.00	0.00	TP No.13(Vesu-Bharathana-Vesu) FP No.57	8000.00 (50% part possesion)	V9JF

4	0EM,L UFD BFT[VFJ[, ,[S UF0"G 0[J,5 SZJFG]\ SFDP	2.50			0.00	1.00	1.50	0.00	0.0 0	0.0 0	TP No.51 FP No.121, R.S.No.100/A	18700.0 0	ZF\N[Z
5	8LP5LP:SLD G\P!5 s5F,f4 OFP%,M8 G\P$# BFT[VFJ[, T/FJDF\ JM8Z ZL:8MZ[XG T[DH ZLv0[J,5 SZJFG]\ SFDP	7.50			0.00	2.00	2.00	3.50	0.0 0	0.0 0	TP No.15(Pal) FP No.43	35610.0 0	ZF\N[Z
6	8LP5LP:SLD G\P_) s5F,G5MZvE[\;F6f4 OFP%,M8 G\P!5) VG[!Z& BFT[VFJ[, T/FJDF\ JM8Z ZL:8MZ[XG T[DH ZLv0[J,5 SZJFG]\ SFDP										TP No.09(Palanpor-Bhesan), FP No.159 & 126	25291.0 0	ZF\N[Z
7	;FpYhMGspWGFflJ:TFZDF\ ;DFlJQ8 8LP5LP:SLD G\P! spWGFf4 OFP%,M8 G\P#! BFT[VFJ[, cchF\;L SL ZFGL ,1DLAF. pnFGccG[ZLv0[J,5 SZJFG]\ SFDP	0.90			0.00	0.45	0.45	0.00	0.0 0	0.0 0	TP No.01(Udhana) FP No.31	5295.00	pWGF
8	8LP5LP:SLD G\PZ! s;ZYF6Fv;LDF0Ff4 OFP%,M8 G\P!!& BFT[UF0"G 0[J,5 SZJFG]\ SFDP	4.40			0.00	2.20	2.20	0.00	0.0 0	0.0 0	TP No.21(Sarthana-Simada) FP No.116	6144.00	JZFKF
9	8LP5LP:SLD G\P! sJ[;]f4 OFP%,M8 G\P!(_ BFT[lR<0=G 5FS" AGFJJFG]\ SFDP	1.20			0.00	0.60	0.60	0.00	0.0 0	0.0 0	TP No.01(Vesu) FP No.180	2728.27	V9JF
10	8LP5LP:SLD G\PZ$ sDM8F JZFKFvp+F6f4 V[OP5LP!*# BFT[UF0"G 0[J,5 SZJFG]\ SFD	0.90			0.00	0.45	0.45	0.00	0.0 0	0.0 0	TP No.24(Mota Varachha-Utran) FP No.173	6609.00	JZFKF
11	8LP5LP :SLD G\P!s,F, NZJFHFf4 V[OP5LPv#$ BFT[UF0"G AGFJJFG]\ SFD	0.90			0.00	0.45	0.45	0.00	0.0 0	0.0 0	TP No.01(Lal Darwaja) FP No.34	30981.0 0	;[g8=,
12	8LP5LP :SLD G\P!) sSTFZUFDf4 V[OP5LPv$&	0.50			0.00	0.20	0.30	0.00	0.0 0	0.0 0	TP No.19(Katarg	1602.00	STFZU FD

	BFT[XF\ITS]\H AGFJJFG]\ SFD										am) FP No.46		
13	0]D; Z[P;PG\P(#+(* VG[Z[P;PG\P&$# BFT[VFJ[, T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	0.00	0.00	1.00	1.50	R.S.No.83+87 & R.S.No.643	53925+47753=101678	V9JF
14	0]\0L UFD BFT[VFJ[, T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	0.00	0.00	1.00	1.50			pWGF
15	V9JF hMGlJ:TFZDF\ ;DFlJQ8 8LP5LP:SLD G\P$ s~\-vDUN<,Ff4 OFP%,M8 G\P!(VG[*_ BFT[,[S UF0"G AGFJJFG]\ SFDP	2.50			0.00	0.00	0.00	0.00	1.00	1.50	TP No.04(Rundh-Magdalla) FP No.18 & 70	6300+19393=25693	V9JF
16	J[;] BFT[VF.P0LPG\P GJ_URB_05_02_047_VESBFT [T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	1.00	1.50	0.00	0.00	TP No.2(vesu-Bharathana-Vesu) FP No.5	7847.00	V9JF
17	J[;] BFT[VF.P0LPG\P GJ_URB_05_02_048_VESBFT [T/FJ 0[J,5 SZJFG]\ SFDP	1.25			0.00	0.00	0.50	0.75	0.00	0.00	TP No.2(vesu-Bharathana-Vesu) FP No.24	3144.00	V9JF
18	V0FH6 BFT[VF.P0LPG\P GJ_URB_05_02_029_ADABFT [T/FJ 0[J,5 SZJFG]\ SFDP	1.00			0.00	0.00	0.50	0.50	0.00	0.00	TP No.32(Adajan) FP No.150	2210.00	ZF\N[Z
19	HLVFJ BFT[VF.P0LPG\P GJ_URB_05_02_009_JIABFT[T/FJ 0[J,5 SZJFG]\ SFDP	4.40			0.00	0.00	0.00	2.20	2.20	0.00	R.S.No.352	18721.00	pWGF
20	SM;F0 BFT[VF.P0LPG\P GJ_URB_05_02_020_KOSBFT [T/FJ 0[J,5 SZJFG]\ SFDP	1.50			0.00	0.00	0.00	0.00	0.75	0.75	TP No.66(Kosad-Variyav) FP No.255	3593.00	STFZUFD
21	SM;F0 BFT[VF.P0LPG\P GJ_URB_05_02_022_KOSBFT [T/FJ 0[J,5 SZJFG]\ SFDP	3.00			0.00	0.00	0.00	0.00	1.5	1.5	R.S.No.902	11501.00	STFZUFD
22	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_058_DUMBF	0.60			0.00	0.00	0.00	0.30	0.3	0.00	TP No.81(Duma	2104.00	V9JF

	T[T/FJ 0[J,5 SZJFG]\ SFDP										s) FP No.38		
23	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_060_DUMBF T[T/FJ 0[J,5 SZJFG]\ SFDP	3.00			0.00	0.00	0.00	0.00	1.5	1.5	TP No.79(Sultan abad-Bhimpore) FP No.7	11747.00	V9JF
24	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_067_DUMBF T[T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	0.00	0.00	1.00	1.50	TP No.79(Sultan abad-Bhimpore) FP No.9/B	8178.00	V9JF
25	EZYF6FvJ[;] BFT[VF.P0LPG\P GJ_URB_05_02_122_BHVBFT [T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	1.00	1.50	0.00	0.00	TP No.13(vesu-Bharathana) FP No.49	6688.00	V9JF
26	8LP5LP :SLD G\P!Zs5]6Ff4 V[OP5LPv!Z# BFT[UF0"G AGFJJFG]\ SFD	0.50			0.00	0.20	0.30	0.00	0.00	0.00	TP No.12(Puna) FP No.123		JZFKF
27	HLVFJ BFT[VF.P0LPG\P GJ_URB_05_02_014_JIABFT[T/FJ 0[J,5 SZJFG]\ SFDP	1.50			0.00	0.00	0.00	0.00	0.75	0.75	R.S.No.403	4370.00	pWGF
28	;RLG BFT[VF.P0LPG\P GJ_URB_05_02_131_SACBFT [T/FJ 0[J,5 SZJFG]\ SFDP	1.50			0.00	0.00	0.00	0.00	0.75	0.75	R.S.No.380	4148.00	pWGF
29	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_065_DUM BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.00			0.00	0.00	0.00	0.00	1.50	1.50	TP No.78(Dumas-Bhimpore-Gaviar) FP No.46/A/1+46/A/2	1259.00	V9JF
30	UlJIZBFT[VF.P0LPG\P GJ_URB_05_02_110_GAV BFT[T/FJ 0[J,5 SZJFG]\ SFDP	0.75			0.00	0.00	0.00	0.00	0.30	0.45	TP No.32(Gaviar-Vanta-Magdalla) FP No.142	1935.00	V9JF

31	JZLIFJ BFT[VF.P0LPG\P GJ_URB_05_02_030_VARBFT [T/FJ 0[J,5 SZJFG]\ SFDP	4.40			0.00	0.00	0.00	0.00	2.2	2.20	R.S.No.851	14892.00	ZF\N[Z
32	DM8F JZFKF BFT[VF.P0LPG\P GJ_URB_05_02_002_MVABFT[T/FJ 0[J,5 SZJFG]\ SFDP	4.40			0.00	0.00	2.20	2.20	0.00	0.00	TP No.25(Mota Varachha) FP No.72	15926.00	JZFKF
33	UE[6L BFT[VF.P0LPG\P GJ_URB_05_02_004_GAB BFT[T/FJ 0[J,5 SZJFG]\ SFDP	7.10			0.00	0.00	2.00	2.00	3.10	0.00	R.S.No.460	27880.00	pWGF
34	HLVFJ BFT[VF.P0LPG\P GJ_URB_05_02_006_JIABFT[T/FJ 0[J,5 SZJFG]\ SFDP	8.50			0.00	0.00	0.00	2.00	3.00	3.50	TP No.67(Jiav-Soneri-Gabheni) FP No.4	31653.00	pWGF
35	HLVFJ BFT[VF.P0LPG\P GJ_URB_05_02_010_JIABFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.50			0.00	0.00	0.000	1.50	2.00	0.00	R.S.No.381	11892.00	pWGF
36	A]0LIF BFT[VF.P0LPG\P GJ_URB_05_02_015_BUD BFT[T/FJ 0[J,5 SZJFG]\ SFDP	11.50			0.00	0.00	0.00	4.00	4.00	3.500	R.S.No.353	47146.00	pWGF
37	J0MN BFT[VF.P0LPG\P GJ_URB_05_02_016_VAD BFT[T/FJ 0[J,5 SZJFG]\ SFDP	0.90			0.00	0.00	0.450	0.450	0.00	0.00	TP No.63(Vadod) FP No.98/A	2700.00	pWGF
38	J0MN BFT[VF.P0LPG\P GJ_URB_05_02_017_VAD BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.00			0.00	0.00	1.50	1.50	0.00	0.00	TP No.63(Vadod) FP No.154	5486.00	pWGF
39	~\- BFT[VF.P0LPG\P GJ_URB_05_02_045_RUN BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.40			0.00	0.00	0.00	1.70	1.70	0.00	TP No.04(Rundh-Magdalla) FP No.19	10536.00	V9JF
40	J[;] BFT[VF.P0LPG\P GJ_URB_05_02_049_VESBFT [T/FJ 0[J,5 SZJFG]\ SFDP	1.80			0.00	0.00	0.00	0.90	0.90	0.00	TP No.2(Vesu-Bharathana-Vesu) FP	3824.00	V9JF

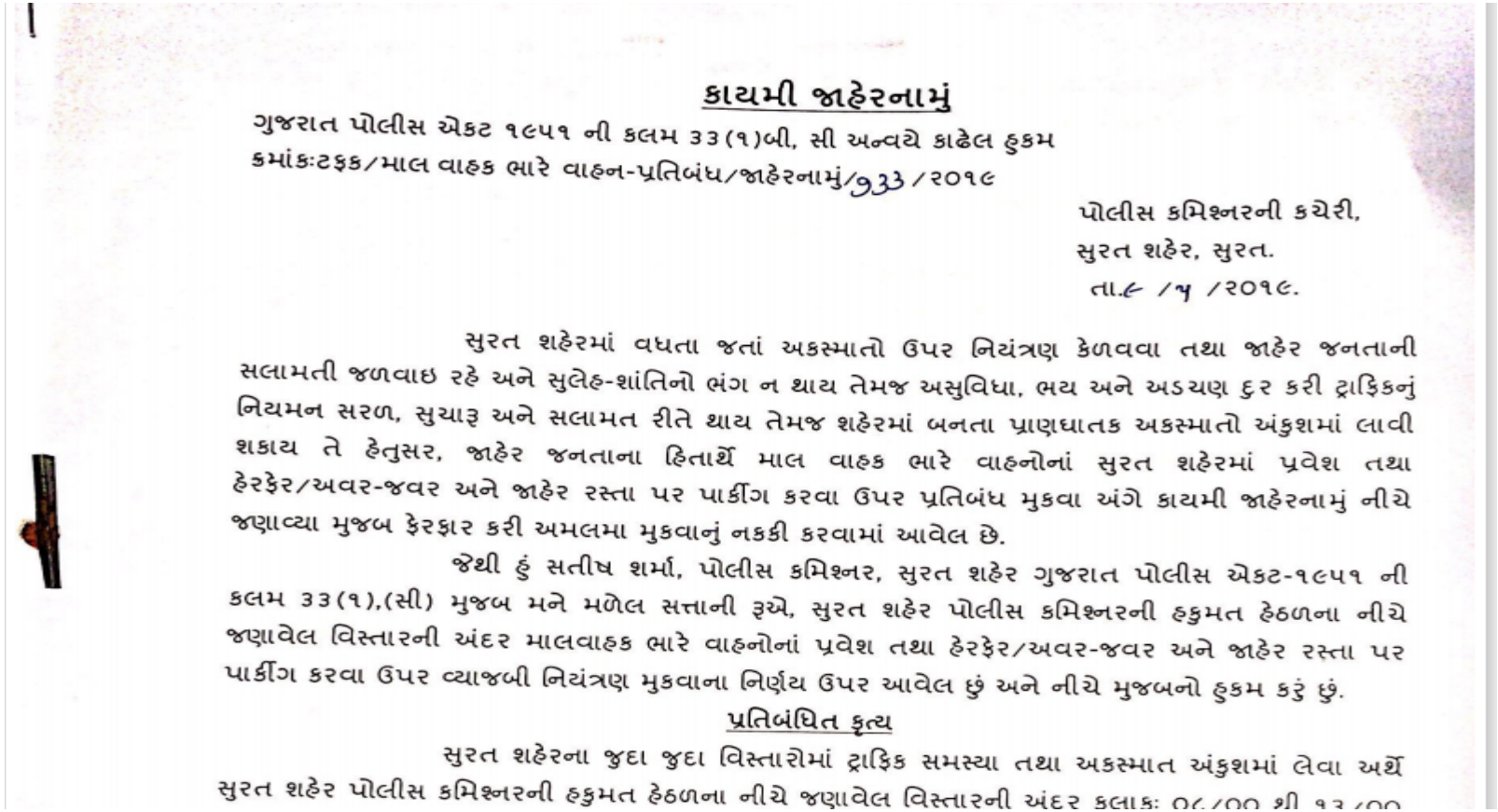
											No.31		
41	0]D; BFT[VF.P0LPG\P GJ_URB_05_02_056_DUM BFT[T/FJ 0[J,5 SZJFG]\ SFDP	1.80			0.00	0.00	0.90	0.90	0.00	0.00	TP No.81(Dumas) FP No.8/A+8/B+7/A+7/B+7/C+12+11+12/59	2367.00	V9JF
42	ELD5MZ BFT[VF.P0LPG\P GJ_URB_05_02_106_BHI BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.50			0.00	0.00	1.50	2.00	0.00	0.00	TP No.81(Dumas) FP No.8/A	7500.00	V9JF
43	VFEJF BFT[VF.P0LPG\P GJ_URB_05_02_118_ABH BFT[T/FJ 0[J,5 SZJFG]\ SFDP	10.00			0.00	0.00	3.00	3.00	4.00	0.00	TP No.26(Abhva) FP No.21	28227.00	V9JF
44	;Z;F6F BFT[VF.P0LPG\P GJ_URB_05_02_125_SAR BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.00			0.00	0.00	1.50	1.50	0.00	0.00	R.S.No.49	10927.00	V9JF
45	0L\0M,L BFT[VF.P0LPG\P GJ_URB_05_02_127_DIN BFT[T/FJ 0[J,5 SZJFG]\ SFDP	3.50			0.00	0.00	1.00	2.50	0.00	0.00	TP No.41(Dindoli) FP No.23	6150.00	,L\AFIT
46	;RLG BFT[VF.P0LPG\P GJ_URB_05_02_128+129_SAC BFT[T/FJ 0[J,5 SZJFG]\ SFDP	12.50			0.00	0.00	0.00	4.00	4.00	4.50	R.S.No.60+63	33032.00	pWGF
47	;RLG BFT[VF.P0LPG\P GJ_URB_05_02_128+129_SAC BFT[T/FJ 0[J,5 SZJFG]\ SFDP												
48	;RLG BFT[VF.P0LPG\P GJ_URB_05_02_130_SAC BFT[T/FJ 0[J,5 SZJFG]\ SFDP	2.50			0.00	0.00	0.00	0.00	1.00	1.50	R.S.No.255/A	6500.00	pWGF

49	SG;F0 BFT[VF.P0LPG\P GJ_URB_05_02_132_KAN BFT[T/FJ 0[J,5 SZJFG]\ SFDP	17.50			0.00	0.00	0.00	0.00	8.00	9.50	R.S.No.691	41000.00	pWGF
50	;[UJF BFT[VF.P0LPG\P GJ_URB_05_02_133_SEG BFT[T/FJ 0[J,5 SZJFG]\ SFDP	9.40			0.00	0.00	0.00	0.00	4.00	5.40	R.S.No.183	24000.00	ZF\N[Z
51	5F,L BFT[VF.P0LPG\P GJ_URB_05_02_141_PLIBFT[T/FJ 0[J,5 SZJFG]\ SFDP	8.00			0.00	0.00	0.00	0.00	4.00	4.00	R.S.No.92	17741.00	pWGF
52	EF9F BFT[VF.P0LPG\P GJ_URB_05_02_146_BTH BFT[T/FJ 0[J,5 SZJFG]\ SFDP	9.40			0.00	0.00	0.00	3.00	3.00	3.40	R.S.No.1	21600.00	ZF\N[Z
	S], o	**192.60**			**1.00**	**10.80**	**28.25**	**43.40**	**58.45**	**50.70**			

❖ Vehicle department

Annexure: VE2.4

Use of off-peak passenger travel times to move freight and restrict the entry of heavy vehicles into cities during the day to continue



કાયમી જાહેરનામું

ગુજરાત પોલીસ એકટ ૧૯૫૧ ની કલમ ૩૩(૧)બી, સી અન્વયે કાઢેલ હુકમ
કમાંકઃટફક/માલ વાહક ભારે વાહન-પ્રતિબંધ/જાહેરનામું/૭૩૩/૨૦૧૯

પોલીસ કમિશ્નરની કચેરી,
સુરત શહેર, સુરત.
તા.૯ /૫ /૨૦૧૯.

સુરત શહેરમાં વધતા જતાં અકસ્માતો ઉપર નિયંત્રણ કેળવવા તથા જાહેર જનતાની સલામતી જળવાઇ રહે અને સુલેહ-શાંતિનો ભંગ ન થાય તેમજ અસુવિધા, ભય અને અડચણ દુર કરી ટ્રાફિકનું નિયમન સરળ, સુચારૂ અને સલામત રીતે થાય તેમજ શહેરમાં બનતા પ્રાણઘાતક અકસ્માતો અંકુશમાં લાવી શકાય તે હેતુસર, જાહેર જનતાના હિતાર્થે માલ વાહક ભારે વાહનોનાં સુરત શહેરમાં પ્રવેશ તથા હેરફેર/અવર-જવર અને જાહેર રસ્તા પર પાર્કીંગ કરવા ઉપર પ્રતિબંધ મુકવા અંગે કાયમી જાહેરનામું નીચે જણાવ્યા મુજબ ફેરફાર કરી અમલમા મુકવાનું નકકી કરવામાં આવેલ છે.

જેથી હું સતીષ શર્મા, પોલીસ કમિશ્નર, સુરત શહેર ગુજરાત પોલીસ એકટ-૧૯૫૧ ની કલમ ૩૩(૧),(સી) મુજબ મને મળેલ સત્તાની રૂએ, સુરત શહેર પોલીસ કમિશ્નરની હકુમત હેઠળના નીચે જણાવેલ વિસ્તારની અંદર માલવાહક ભારે વાહનોનાં પ્રવેશ તથા હેરફેર/અવર-જવર અને જાહેર રસ્તા પર પાર્કીંગ કરવા ઉપર વ્યાજબી નિયંત્રણ મુકવાના નિર્ણય ઉપર આવેલ છું અને નીચે મુજબનો હુકમ કરું છું.

પ્રતિબંધિત કૃત્ય

સુરત શહેરના જુદા જુદા વિસ્તારોમાં ટ્રાફિક સમસ્યા તથા અકસ્માત અંકુશમાં લેવા અર્થે સુરત શહેર પોલીસ કમિશ્નરની હકુમત હેઠળના નીચે જણાવેલ વિસ્તારની અંદર કલાક: ૦૮/૦૦ થી ૧૨/૦૦

તથા ૧૭/૦૦ થી ૨૨/૦૦ દરમ્યાન ભારે માલવાહક વાહનોના પ્રવેશ અવર-જવર તથા જાહેર રોડ ઉપર પાર્કીંગ કરવા ઉપર પ્રતિબંધ ફરમાવવામાં આવે છે. એટલે કે રાત્રે કલાકઃ ૨૨/૦૦ થી સવારે ૦૮/૦૦ તથા બપોર કલાકઃ ૧૩/૦૦ થી ૧૭/૦૦ દરમ્યાન પ્રવેશ તથા હેરફેર/અવર-જવર માટે જાહેરનામામાં જણાવેલ વિસ્તાર મુજબ મુકિત આપવામાં આવે છે. પરંતુ કોઇપણ સંજોગોમાં જાહેર રોડ ઉપર લોડીંગ અનલોડીંગ કે પાર્કીંગ કરી શકાશે નહિ.

અ.નં. માલ વાહક ભારે વાહનો માટે શહેરમાં પ્રવેશવાના પ્રતિબંધિત માર્ગોની વિગત

૧. કામરેજ ચાર રસ્તા તરફથી આવતા ભારે માલવાહક વાહનો વાલક પાટીયા મારૂતી સુઝુકી શો રૂમ સુધી આવી શકશે. પરંતુ મેઇન રોડથી વરાછા વિસ્તારમાં તથા સ્ટેશન તરફ જઇ શકશે નહી.

૨. કામરેજ-વાવ અને કઠોદરા ગામ તરફથી આવતા ભારે માલવાહક વાહનો શિવ પ્લાઝા એપાર્ટમેન્ટ પાસે નંદુભા ચોકથી શહેરમાં પ્રવેશ કરી શકશે નહીં.

૩. કામરેજ-ઉંભેળ થી નહેર ઉપર આવતા ભારે માલવાહક વાહનો સીમાડા ચેક પોસ્ટથી શહેરમાં પ્રવેશી શકશે નહીં.

૪. કડોદરા ચાર રસ્તા તરફથી નિયોલ ચેક પોસ્ટ થઇ આવતા ભારે માલવાહક વાહનો નિયોલ ચેક પોસ્ટ થી શહેરમાં પ્રવેશ કરી શકશે નહી.

૫. વેડછાગામ થી માલવાહક ભારે વાહનો પરવત ગામ લીમ્બાયત થઇ શહેરમાં પ્રવેશ કરી શકશે નહી.

૬. સેઢાવ ગામ ત્રણ રસ્તા થઇ દેવધ-ગોડાદરા આસપાસ ગામ તરફ જતા, ચલથાણ રોડ તરફથી આવતા ભારે માલવાહક વાહનો સેઢાવ ગામ નજીક પ્રધાનમંત્રી ગ્રામ સડક યોજના જી.સુરતના (સેઢાવ-૦૧ કિ.મી.)બોર્ડ પાસેથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૭. ગોજા-મોહીણી અને સણીયા ત્રણ રસ્તાવાળા જંકશનથી ભારે માલવાહક વાહનો સણીયા ગામ તરફ આવતા રોડ થઇ શહેરમાં પ્રવેશ કરી શકશે નહી.

૮. સચીન-પલસાણા હાઇવ-વે થી આવતા ભારે માલવાહક વાહનો ભાટીયા મોસમ હાઇસ્કુલ (ભાટીયા ચેક પોસ્ટ પાસે) થી ખરવાસા-વકતાણા-ઉધના-ડીંડોલી તરફ જતા રોડથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૯. સચીન-પલસાણા હાઇ-વે થી આવતા ભારે માલવાહક વાહનો વાંઝ ગામ જયલક્ષ્મી ફાર્મ પહેલા આવતા રોડથી વાંઝ ગામ થઇ જતા માર્ગેથી શહેરમાં પ્રવેશ કરી શકશે નહી.
(ટોલ પ્લાઝા પહેલા)

૧૦. સચીન-પલસાણા હાઇ-વે થી આવતા ભારે માલવાહક વાહનો વાંઝ ગામ (ખરવાસા-વકતાણા ગામ તરફથી જતા) રોડથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૧૧. સચીન-પલસાણા હાઇ-વે રોડથી આવતા ભારે માલવાહક વાહનો ઇકલેરા ગામવાળા (હોટલ આલ્ફા પહેલા આવતા) રોડથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૧૨. સચીન જી.આઇ.ડી.સી. રોડ, ભારે માલવાહક વાહનો સચીન સાતવલ્લા બ્રીજ પાસે આવેલ આશિષ રેસ્ટોરન્ટ સામેથી (જી.આઇ.ડી.સી. નાકા) થી ઉન-ભેસ્તાન-ઉધના તરફ શહેરમાં પ્રવેશ કરી શકશે નહી.

૧૩. સચીન સાતવલ્લા રેલ્વે ફ્લાય ઓવરબ્રીજથી એસ.કે.નગર ચાર રસ્તા સુધીના હાઇવે રોડની જમણી બાજુએ રોડથી નીચેના કોઇપણ ગલી નાકા કે અન્ય માર્ગોથી શહેરમાં પ્રવેશ કરી શકાશે નહીં.

૧૪. ડુમ્મસ તરફથી આવતા ભારે માલવાહક વાહનો એસ.કે.નગર ચાર રસ્તા થી શહેરમાં પ્રવેશ કરી શકશે નહીં.

૧૫. હજીરા-સચીન હાઇવે ઉપર ઇચ્છાપોર જંકશનથી એસ.કે.નગર ચાર રસ્તા સુધીના રોડ ઉપર ડાબે કિનારેથી કોઇપણ ગલી નાકા કે અન્ય માર્ગોથી શહેરમાં પ્રવેશ કરી શકાશે નહીં.

૧૬. સરોલી બ્રીજથી ઇચ્છાપોર જંકશન સુધીના હાઇવે રોડના ડાબા કિનારાથી કોઇપણ ગલી નાકા કે અન્ય માર્ગોથી શહેરમાં પ્રવેશ કરી શકાશે નહીં.

૧૭. ઓલપાડ તરફથી આવતા ભારે માલવાહક વાહનો સરોલી બ્રીજ ઉતરી હજીરા ઓ.એન.જી.સી તરફ તથા વરીયાવ-સાયણ તરફ જઇ શકશે. પરંતુ સરોલી બ્રીજ થી જહાંગીરપુરા ત્રણ રસ્તાથી રાંદેર મેઇન રોડ તરફ અન્ય માર્ગ પરથી શહેરમાં પ્રવેશ કરી શકશે નહીં.

૧૮. વરીયાવ-સાયણ રોડ તરફથી આવતા ભારે માલવાહક વાહનો વરીયાવ ચેક પોસ્ટ થી (આશારામ આશ્રમ રોડ થઇ) રાંદેર રોડ તરફ તેમજ અન્ય માર્ગ પરથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૧૯. વરીયાવ-સાયણ રોડ તરફથી આવતા ભારે માલવાહક વાહનો છાપરા ભાઠા-અમરોલી રોડ ટી પોઇન્ટથી તેમજ અન્ય માર્ગ પરથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૨૦. સાયણ રોડ તરફથી આવતા ભારે માલવાહક વાહનો અમરોલી તરફ સાયણ ચેક પોસ્ટથી શહેરમાં પ્રવેશી શકશે નહી.

૨૧. ગોથાણ નહેર (બંગાળ ગામ) થી અમરોલી-ઉત્રાણ મોટા વરાછા તરફથી આવતા ભારે માલવાહક વાહનો ઉતરાણ-કાપોદ્રા સવજી કોરાટ તાપી બ્રીજ તરફથી શહેરમાં પ્રવેશ કરી શકશે નહી.

૨૨. કઠોર- અબ્રામા તરફથી આવતા ભારે માલવાહક વાહનો મોટા વરાછા ચેક પોસ્ટ થી શહેરમાં પ્રવેશ કરી શકશે નહી.

૨૩. નવસારી તરફથી ભારે માલવાહક વાહનો કપ્લેથા ચેક પોસ્ટથી સચીન તરફ શહેરમાં પ્રવેશ કરી શકશે નહીં.

પોલીસ કમિશ્નર, સુરત શહેરની હકુમત હેઠળના વિસ્તાર પૈકી નીચેના માર્ગો ઉપર માલ વાહક ભારે વાહનોને ૨૪ કલાક અવર-જવરની છુટ આપવામાં આવે છે.

(૧) હજીરા નોટીફાઇડ એરીયા થી ઓ.એન.જી.સી. સર્કલ, મગદલ્લા બ્રીજ, એસ.કે.નગર ચાર રસ્તા થઇ ડુમ્મસ સુધી તથા એસ.કે.નગર ચાર રસ્તા થી ખજોદ ચોકડી, જીઆવ ચાર રસ્તા, સચીન જી.આઇ.ડી.સી. ત્રણ રસ્તા, સાતવલ્લા રેલ્વે બ્રીજ થઇ પલસાણા ટી પોઇન્ટ, વેસ્મા ચોકડી થઇ નેશનલ હાઇવે નં. ૮ સુધીનો માર્ગ

(૨) ઓ.એન.જી.સી. સર્કલ, ભેસાણ હાઇ-વે થઇ સરોલી ચેક પોસ્ટ થઇ સરોલી બ્રીજથી ઓલપાડ તરફ જઇ શકશે. તેમજ સરોલી બ્રીજ નીચેથી વરીયાવ રોડ થઇ છાપરાભાઠા ટીપોઇન્ટ થી સાયણ ચેક પોસ્ટ થી વસવાડી ફાટક થઇ સાયણ રોડ થઇ નેશનલ હાઇવે નં. ૮ સુધીનો માર્ગ.

(૩) ઓલપાડ તરફથી આવતા ભારે વાહનો સરોલી બ્રીજ ઉતરી જમણી બાજુ વળી ભેંસાણ હાઇ-વે થઇ ઓ.એન.જી.સી. થઇ હજીરા તેમજ એસ.કે.નગર સચીન હાઇવે તરફ જઇ શકશે.

(૪) કામરેજ ચાર રસ્તા તરફથી આવતાં વાહનો શાકભાજી તથા ફુટ લાવતાં ભારે માલ વાહનો સીમાડા ત્રણ રસ્તાથી બી.આર.ટી.એસ. રોડ નહેરે-નહેરે થઇ પરવત પાટીયા થઇ સરદાર માર્કેટ (એ.પી.એમ.સી.માર્કેટ) તથા ફુટ માર્કેટ સર્કલ (કરણી માતા સર્કલ) સુધી આવી શકશે. પરંતુ ખાલી વાહન પ્રતિબંધ સમયમાં રોડ ઉપર અવર-જવર/હેરફેર તેમજ પાર્કીંગ કરી શકશે નહિ.

(૫) કડોદરા તરફથી આવતા શાકભાજી ફુટના ભારે માલ વાહનોને નિયોલ ચેક પોસ્ટ, પુણા કુંભારીયા, પરવત પાટીયા થઇ સરદાર માર્કેટ (એ.પી.એમ.સી.માર્કેટ) તથા ફુટ માર્કેટ સર્કલ સુધી આવી શકશે. પરંત ખાલી વાહનો પ્રતિબંધ સમયમાં રોડ ઉપર અવર-જવર/હેરફેર તેમજ પાર્કીંગ કરી શકશે નહિ.

(૬)આર.ટી.ઓ. કચેરીમાં રજીસ્ટ્રેશન કરાવવા કે ફિટનેશ ટેસ્ટ માટે આવતા ભારે વાહનોને સવાર કલાકઃ૧૧/૦૦ થી ૧૮/૦૦ દરમ્યાન કોટ વિસ્તાર સિવાયના વિસ્તારમાં થઇને આવી જઇ શકશે પરંતુ જરૂરી કાગળો આધાર પુરાવા સાથે રાખવાના રહેશે.

<u>અપવાદ</u>

(૧) રાજય સરકાર, કેન્દ્ર સરકારની માલિકીના, આવશ્યક સેવાના તથા પોલીસ, એમ્બ્યુલન્સ, ફાયર બ્રીગેડ, એસ.ટી.બસ/સીટીબસ/BRTS ના વાહનોને પ્રતિબંધમાંથી મુક્તી આપવામાં આવે છે.

(૨) સુરત મહાનગર સેવા સદનની માલિકાનાં તેમજ સુરત મહાનગર સેવા સદન તરફથી રાખવામાં આવેલ પીવાના પાણીના ટેન્કરોને પ્રતિબંધમાંથી મુક્તિ આપવામાં આવે છે.

(૩) સુરત મહાનગર પાલીકા તરફથી રાખવામાં આવેલ શહેરમાંથી કચરાનુ વહન કરતા વાહનોને પ્રતિબંધમાંથી મુક્તિ આપવામાં આવશે પરંતુ પોલીસની પરમીશન લેવાની રહેશે.

(૪) દુધ વહન કરતા વાહનો તથા સરકારી હોસ્પીટલનાં ભારે માલ વાહક વાહનોને પ્રવેશ અને અવર-જવર માટે મુકિત આપવામાં આવે છે.

(૫) પશુઓને દવાખાને લઇ જતાં વાહનોને મુકિત આપવામાં આવેલ છે.

(૬) ન્યુઝ પ્રિન્ટ તથા વર્તમાનપત્રો (પેપરો) લાવતા લઇ આવતા જતા વાહનોને મુકિત આપવામાં આવે છે.

(૭) જીવન જરૂરીયાતની ચીજવસ્તુઓ કે જેવી કે, રેશનીંગનું કેરોસીન, ડીઝલ-પેટ્રોલ લઇ આવતા જતા ટેન્કરો તથા એલ.પી.જી. ગેસ સીલીન્ડર, ભરીને જતા ભારે માલવાહક વાહનો કે જેઓને માત્ર સુરત શહેરમાં જ વિસ્તરણ કરવાનુ હોય તેવા વાહનોને મુકિત આપવામાં આવે છે.

(૮) સુરત મહાનગર પાલીકા તરફથી રોડ રસ્તા, ગટર, બ્રીજ વિગેરેના કામ અર્થે જે કોન્ટ્રાકટરોને કોન્ટ્રાકટ આપવામાં આવે છે. તેવા કામો માટે કોન્ટ્રાકટરોએ ભારે વાહનોને ઉપયોગમાં લેતી વખતે પોલીસ વિભાગની પરવાનગી લેવાની રહેશે.

(૯) સુરત શહેરમાં રેડીમીક્સ કોંકીટ લાવતા લઇ જતાં માલ વાહક ભારે વાહનો માટે પોલીસ વિભાગની પરવાનગી લેવાની રહેશે.

આ જાહેરનામુ અમલમાં આવતાની સાથે જ આ અગાઉનુ જાહેરનામુ આપો-આપ રદ ગણવામાં આવશે.

ઉપરોકત હુકમનો ભંગ કે ઉલ્લંઘન કરનાર ગુજરાત પોલીસ અધિનિયમ સને-૧૯૫૧ ની કલમ-૧૩૧ બી(૪) હેઠળ શિક્ષાને પાત્ર થશે.

આ હુકમની જાહેરાત ઉપર જણાવેલ વિસ્તારમાં સહેલાઇથી દેખી શકાય તેવી જગ્યાએ તેની નકલો ચોંટાડી, લાઉડ સ્પીકરવાળા વાહન દ્વારા તેમજ સ્થાનીક વર્તમાનપત્રો, આકાશવાણી અને દુરદર્શન કેન્દ્ર ઉપરથી કરાવવા હુકમ કરૂ છું.

આ જાહેરનામું તા. ૨૦/૦૫/૨૦૧૯ કલાકઃ ૦૦/૦૦ થી અમલમાં આવશે.

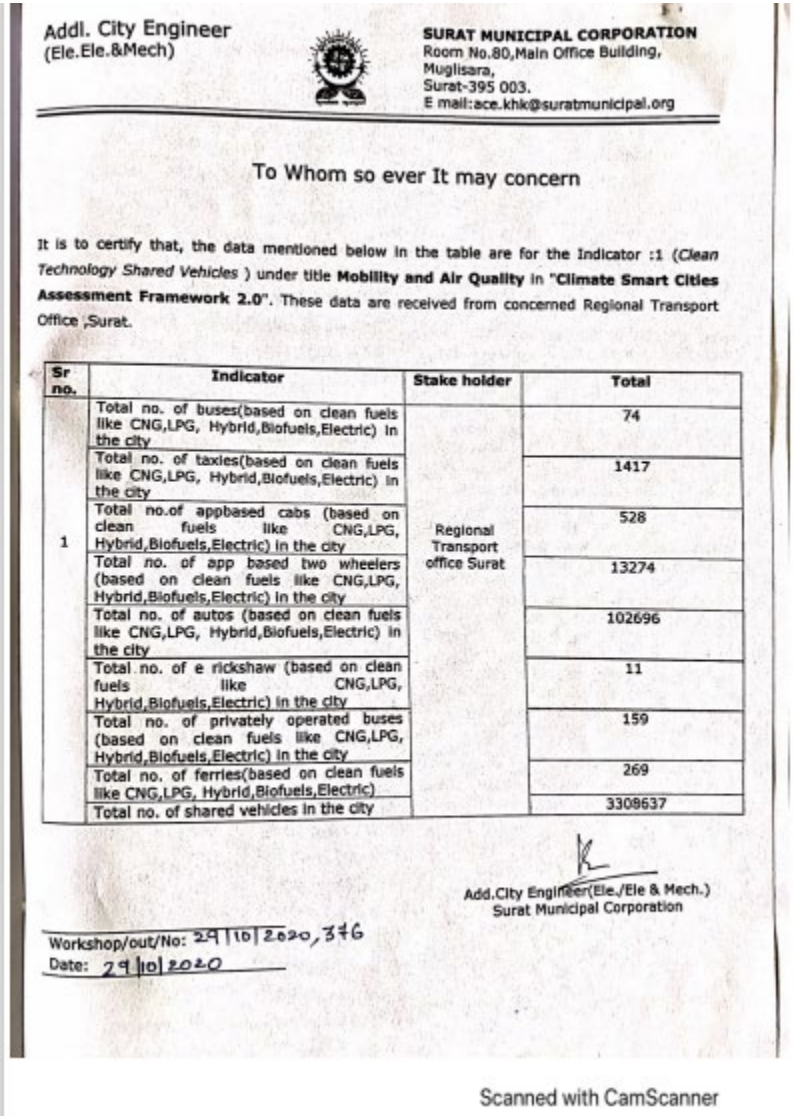
આજરોજ તા.૦૮/ ૭ /૨૦૧૯ ના રોજ મારી સહી અને સિકકો કરી આપેલ છે.

પોલીસ કમિશ્નર
સુરત શહેર

(સતીષ શર્મા)
પોલીસ કમિશ્નર
સુરત શહેર.

Annexure: VE4.2, 4.3& 6.6

Alternative clean fuel policy for vehicle



Addl. City Engineer
(Ele.Ele.&Mech)

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Room No.80,Main Office Building,
Muglisara,
Surat-395 003.
E mail:ace.khk@suratmunicipal.org

To Whom so ever It may concern

It is to certify that, the data mentioned below in the table are for the Indicator :1 (*Clean Technology Shared Vehicles*) under title **Mobility and Air Quality** in **"Climate Smart Cities Assessment Framework 2.0"**. These data are received from concerned Regional Transport Office ,Surat.

Sr no.	Indicator	Stake holder	Total
1	Total no. of buses(based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city	Regional Transport office Surat	74
	Total no. of taxies(based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		1417
	Total no.of appbased cabs (based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		528
	Total no. of app based two wheelers (based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		13274
	Total no. of autos (based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		102696
	Total no. of e rickshaw (based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		11
	Total no. of privately operated buses (based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric) in the city		159
	Total no. of ferries(based on clean fuels like CNG,LPG, Hybrid,Biofuels,Electric)		269
	Total no. of shared vehicles in the city		3309637

Add.City Engineer(Ele./Ele & Mech.)
Surat Municipal Corporation

Workshop/out/No: 29|10|2020,376
Date: 29|10|2020

Scanned with CamScanner

Annexure: VE.5.2

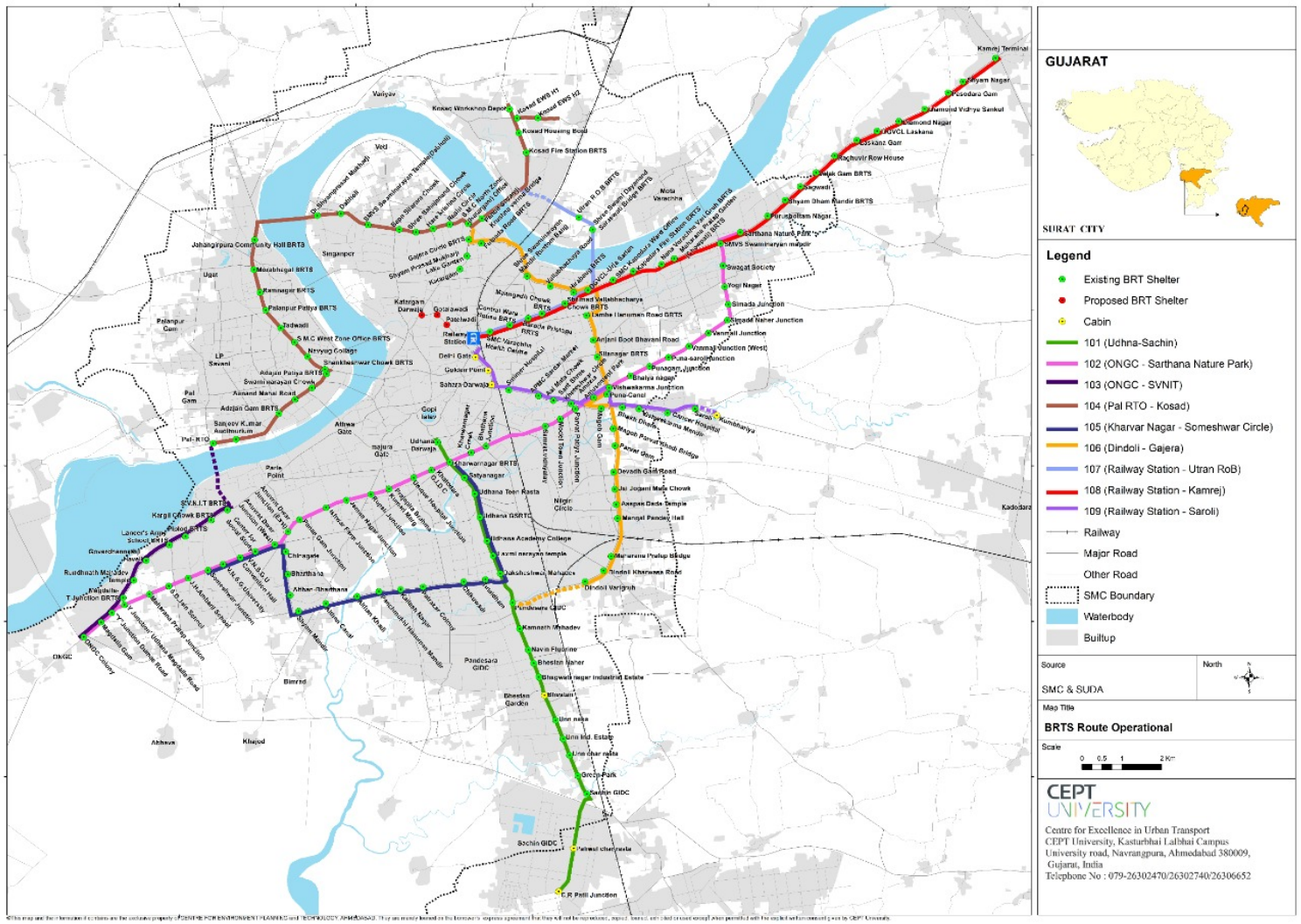
Development of Multi- level parking

Annexure-1	
Details of Multilevel Parking	
Sr. no.	**Location /Name**
Existing Mulitilevel Parkings	
1	Maskti Dhamarth Hospital in Central Zone
2	khan Saheb no Delo, Mahidharpura in Central zone
3	Rang Upavan in Central zone
4	Chautta Bazar near Sai Baba Mandir in Central Zone
5	Near Nanpura Pumping Station in Central Zone
6	Near Gandhi Smurti Bhavan in Central Zone
7	Near Gopi Talav Multi level Parking
8	T.P. S. No. 18(Katargam), F.P. 12
9	T.P. S. No. 04(Ashwanikumar - Navagam), F.P. M-5 MiniBazar
10	T.P. S. No. 04(Ashwanikumar - Navagam), F.P. M-3 Saradar
11	T.P. S. No. 8(Umarwada), F.P. 147
Proposed multilevel Parking	
1	T.P. S. no. 53 (Maghob), F.P. 88
2	T.P. S. no. 3(Karanj), F.P. 108
3	SMIMER Hospital Multilevel Parking
4	T.P. S. no. 02 , F.P. 88
5	T.P. S. No. 31(Adajan), F.P. 198
6	T.P. S. No. 08(Umarwada), F.P. 143
7	T.P. S. No. 04(Rundh- Magdalla), F.P. 69
8	Since the location is fixed in Central zone
9	Central zone, Ward no. 12 (Shahpor) T-08 Lalgate

Annexure: VE6.2,6.3

Assess and introduce a city bus system of appropriate fleet size of small buses and desirable bus type replete with GPS tracking, ETVMs for fare collection and Passenger Information Systems.

Map of BRTS route in Surat



Annexure: VE7.2

Synchronize traffic movements/Introduce intelligent traffic system for lane-driving

Proposed Traffic Signals Location under Smart City - ITCS Project	
Sr No	**Junction name**
1	SHEETAL CHAR RASTA
2	ADAJAN PATIYA
3	SURYAPUR SOCIETY JUNCTION
4	V M SAKARIYA
5	Missile circle(Rocket circle)
6	TADWADI JUNCTION
7	Sona Hotel Circle
8	Palanpur patiya (Ganesh Mandir)
9	RAMNAGAR
10	MORABHAGAL
11	NITABEN SABHYA CIRCLE (Subhash garden circle)
12	Jhangirpura (Iskon temple circle)
13	MAKKAI PUL
14	SWAMINARAYAN CIRCLE
15	GUJARAT GAS CIRCLE
16	BHULKABHAVAN SCHOOL
17	ADAJAN GAM
18	STAR BAZAR JUNCTION
19	PAL JAKAT NAKA
20	PAL NEW RTO
21	Centre point
22	Varun Kidney hospital circle
23	precidency circle
24	Shreeji arcade circle
25	Palanpur patiya circle (Mashhal circle)
26	Jyotindra Dave Garden Tin rasta
27	Union bank , Adajan Gam
28	Jeevan yatra circle
29	D mart teen rasta
30	madhuvan circle
31	Riverdel acadamy (TGB circle
32	Hori om Circle
33	LP Savani Circle
34	Radhe shyam TWP
35	V4U Traffic circle
36	Pal canal Jalaram Temple
37	CLASSIC T-POINT
38	POLICE HQ
39	LOURDES CONVENT T-POINT

40	PARLE POINT
41	JANI FARSAN
42	SARGAM SHOPPING CENTER
43	SVNIT JUNCTION
44	KARGIL CHOWK JUNCTION
45	RAHUL RAJ MALL
46	SHREE SAI MANDIR JUNCTION
47	MAGDALLA GAM JUNCTION
48	MAGDALLA BANDAR T-POINT
49	DUMAS RESORT Y JUNCTION
50	Dumas langar circle
51	Anvrat Near petrol pump
52	Breadliner circle
53	Bhatar char rasta
54	Olive circle
55	navjivan circle
56	Sosyo circle
57	TULI HOSPITAL T-POINT
58	ST.XAVIERS SCHOOL
59	PIZZA HUT
60	CITY BANK CHAR RASTA
61	Science centre
62	Ashok Pan
63	Om Terase
64	Nr. Barthan Primary School Char Rasta
65	Tulshi Dham/ Das Circle
66	Piyush Point
67	Patrakar Colony
68	Kailashnagar Junction
69	Althan Canal Junction
70	Shri Niketan Soc./ Syam baba Temple
71	Rtnasyam Junction
72	J B Diamond Circle
73	Zatkawadi, LH road
74	Matawadi Circle
75	Nr. Matawadi Circle Tin rasta
76	Ghansyam Nagar LH road
77	Labheshwar Bhuvan
78	Santosh nagar /Maruti Chowk
79	Chanchal Nagar
80	Bhaghwati nagar Circle
81	Tapovan School Circle
82	Mahavir Chowk
83	Goldan Circle
84	Umiya Circle
85	Bhavani Gems Circle
86	Ashwani Kumar / Sarswati School Junction

87	Shree Swaminarayan mandir Rustombagh
88	Kailashdham Junction
89	Vallabhacharya Road
90	DKM circle
91	Baba Ramdev Chowk
92	Jahangirpura Bridge, Dabholi
93	Dabholi Gam
94	Katargam North ZOne office/ Laxmi Enclave Circle
95	Katargam Zone office / Gotalawadi
96	Katargam Darwaja
97	Godhani Circle
98	Kasanagar
99	Amroli Char Rasta
100	Mansarowar
101	Kubernagar katargam
102	Ved Darwaja
103	Valinath Chowk
104	Udhana Gam
105	Karni Mata Chowk / New Bombay Market
106	Swami vivek anand circle
107	Swaminarayan Temple
108	Sarthana zoo
109	Navjivan restaurant
110	Devji Nagar T Point
111	Magdalla Government Quarters T Point
112	Minaxi Circle
113	Nilgiri Circle
114	Puna Patiya
115	Kangaroo Circle
116	Ajramar Char rasta
117	Katargam Bridge / Gotalawadi
118	Mangadh chowk
119	Sumul dairy road under alkapuri bridge
120	Mamata Park Circle
121	Ankur Char Rasta

Existing Traffic Signal to be upgraded under ITCS Project

Sr. No.	Name of Junction
1	South Zone Office
2	Udhna Teen Rasta
3	Gurudwar
4	Udhna Academy
5	Laxmi Teen Rasta
6	Laxmi Narayan Temple
7	Daksheshwar Temple

8	Zota House
9	Navin Flourine
10	Bhestan Canal
11	Bhagwati Nagar (Mid Block)
12	Bhestan Char Rasta
13	Bhestan Station Road
14	Unn Ind. Area
15	Unn Char Rasta
16	Green Park
17	Sachin GIDC
18	Y Junction U M Road
19	Maharana Pratap Junction
20	Raghuveer Business Park
21	SD Jain School
22	J H Ambani School
23	Someswar Junction
24	VNSGU Uni.
25	VNSGU Conv. Hall
26	Centre For Social Studies
27	Anuwrat Dwar
28	Panas gam T Point
29	Breadliner T Point
30	Ishwar Farm Junction
31	Vivekanand Garden
32	Jamna Nagar
33	Rupali Canal
34	Prajapita Brahmakumari Marg
35	Unique Hospital
36	Bhatena Char Rasta
37	Near Anjana Bridge Junction
38	Model Town
39	Punagam
40	Puna Saroli
41	Vanmali T Point
42	Simada Canal T Point
43	Simada T Point
44	Bhavna Park
45	SMVS Swaminarayan Temple
46	Dindoli VariGruh(Mid block)
47	Dindoli char rasta
48	Maharana Pratap(Mid block)
49	Mangal Panday(Mid block)
50	Aspas Mandir
51	Jay jogni maa chowk
52	Maharana Pratap Chowk
53	Midas Square
54	Capital Square

55	Sanskruti AC market
56	VIP Junction
57	Royal Square
58	New Bombay market
59	Sardar market
60	Aai Mata chowk
61	Aai Mata chowk (Mid block)
62	Magob (Mid block)
63	Bhakti Dham (Mid block)
64	Cencer Hospital (Mid block)
65	Saroligam (Mid Block)
66	Kheteshwar mahadev (Mid block)
67	Mangadh Chowk(Mid block)
68	Central Ware House(Mid block)
69	Vallabhattacharya(Mid block)
70	Baroda Prestige(Mid block)
71	Hirabaug circle B
72	Kapodra police station
73	Varachha water works(Mid block)
74	Maharana pratap garden (Mid Block)
75	Parshottam nagar(Mid block)
76	Shyamdham mandir
77	Sagwadi(Mid block)
78	Valak Junction
79	Raghuvir Rowhouse(Mid block)
80	Maharana Pratap(Mid block)
81	Laskana Gam(Mid block)
82	Daimond Nagar(Mid block)
83	Shyam nagar(Mid block)
84	Kamrej Terminal(Mid block)
85	Laskana patiya
86	Laskana char rasta
87	Pasodra char rasta
88	Bhagal Char Rasta
89	Chowk Bazar Char Rasta
90	Athwagate Circle
91	Circuit House, Athwalines
92	RTO, Ring Road
93	LB Cinema
94	Majura Gate Junction
95	Union Park Char Rasta
96	Kadiwala, Ring Road
97	Navsari Bazar
98	Sahara Darwaja
99	Mini Bazar
100	Kinnary Cinema
101	Ramchowk, Ghoddod Road

102	Suryapur Gate, Station
103	Timaliyawad Char Rasta
104	Ware House, Varachha
105	Choksi Wadi, Adajan
106	Poddar Arcade, Varachha
107	Prime Market, Adajan
108	Palanpur Jakatnaka
109	Naginawadi, Katargam
110	Singanpore Char Rasta
111	Kapodara Char Rasta
112	Hodi Bunglow
113	Honey Park, Adajan
114	Raghukul Market, Anjana
115	Lambe Hanuman Police Chowki
116	Udhana Darwaja
117	Delhigate Circle
118	Amisha Char Rasta
119	Kharwar Nagar
120	Gandhi Statue
121	Vijay Vallabh Chowk
122	Daruwala Petrol Pump
123	Railway Station
124	Falsawadi
125	S K nagar
126	Gajera Circel
127	Gajera School
128	Kosad Fire Station
129	Reliance Chowkdi
130	Kosad EWS awas
131	Ruwala Tekada
132	Ved road Police station
133	Laxmikant Ashram
134	Akhand Anand
135	Sabjail Teen Rasta
136	Kevat Circle
137	Sitanagar Chokadi
138	Yogi nagar Chowk
139	Rachana Society
140	Parvat Patiya
141	Moti Talkish
142	Rashi Circle
143	Fulpada
144	Lalita Chokadi
145	Dabholi Char rasta
146	Kailashdham
147	Mehta Petrol Pump
148	Cross road Junction

149	Smrat Vidhyalay Junction
150	Ashapura Teen Rasta
151	Laldarwaja
152	Ambatalawdi Junction
153	Puna Kumbhariya
154	Kamela Darwaja
155	Yogi Chowk

Annexure: VE7.3

Prepare plan for construction of diversion ways/ bypasses to avoid congestion due to non- destined vehicles.

List of Work in Progress Bridges

Sr.No.	Name Of Bridge	Project Cost (Cr.)	Types of Bridges	% Physical Progress	Remarks
1	Construction of ROB near Surat Railway Station between station Surat & Udhana across Surat Mumbai Railway line near R.C No-445, Surat.	133.50	Railway Over Bridge	78.90%	
2	Construction of Bridge across Tapi River and along Varachha creek near Varachha main road and near Varachha water works (4-lane) at Surat.	167.98	River over Bridge	80.60%	
3	Construction of Bridge on River Tapi joining Ved –Variav.	118.42	River over Bridge	64.70%	
4	Construction of New Railway Over Bridge Joining Olpad-Saroli in place of Old Bridge.	60.68	Railway Over Bridge	28.00%	
5	Construction Of Railway Over Bridge At Km 258/20 – 258/22 At Siddharth Nagar Canal On Surat - Mumbai Main Railway Line Joining Surat – Navsari Main Road And Karadva Area.	59.43	Railway Over Bridge	26.50%	
6	Construction Of Underpass Across Surat Bhusaval B.G Railway Line Between Tv-13 And Tv-15 Between Station Udhna And Chalthan At Udhana Yard Near Saibaba Temple Joining Limbayat And Navagam Dindoli Area Of Surat, on E.P.C. Basis.	50.07	Underpass	1.0%	
7	Construction of flyover bridge on Bhathena junction located on Kharvar nagar to Parvat Patiya BRTS route in South East zone, Surat on E.P.C. Basis. (Design, Engineering, Procurement and Construction).	37.33	Fly over Bridge	0	

List of Bridges under Planning/Estimate/Tender Stage

Sr. No.	Name Of Bridge	Types of Bridges	Current Status	Remarks
1	Construction of widening of existing Dr. Hedgewar bridge across kankara khadi in surat	Creeck Bridge	Tender Stage	
2	Construction of ROB in lieu of L.C No-5C on Kosad- Kribhco Railway line on Surat -Sayan main road, Surat.	Railway Over Bridge	Estimate Stage	
3	Construction of creek bridge on mithikhadi connecting SEZ office and existing mithi khadi bridge near dumbhal tenament in South East (Limbayat) zone.	Creeck Bridge	Tender Stage	
4	Creek Bridge in TP 21 (Sarthana Simada) near Shyam Dham Soc.	Creeck Bridge	Feasibility	
5	Bridge across Mindhola River Joining Abhva & Ubhrat.	River over Bridge	Feasibility	
6	Construction of Flyover Bridge near Ratnamala Complex in North Zone Area.	Fly over Bridge	Feasibility	
7	Construction of Flyover bridge at APMC Junction on Surat Bardoli Road in East Zone.	Fly over Bridge	Feasibility	
8	Construction of Fly Over bridge at SVNIT junction & Kargil chawk junction on Surat-Dumas road, Surat.	Fly over Bridge	Feasibility	
9	Construction of Fly Over Bridge at Saipoint junction on dindoli-kharvasa main road of T.P.62 (Dindoli-Bhestan-Bhedwad)	Fly over Bridge	Feasibility	
10	Construction of Flyover Bridge at Shyamdham Junction Surat Kamrej Road.	Fly over Bridge	Feasibility	
11	Construction of Railway Over Bridge crossing of udhana-bhusawal main line from mansarovar society in TPS 69 (Dindoli-Godadara)	Railway Over Bridge	Feasibility	
12	Construction of Railway over Bridge at Km 256/20-256/22, near Sanabil Bakery near Surat-Navsari Road	Railway Over Bridge	Feasibility	
13	Construction/Widening of existing Bridge across Kankra Creek at Parvat near Sharda Hindi Vidhyalay, Surat.	Creeck Bridge	Feasibility	

14	Widening of Creek bridge on 45.0 mt road at TP 38 (Nana Varachha) & TP 68 (Puna) & 12 mt wide road at TP 38 (Nana Varachha) in east zone area.	Creeck Bridge	Feasibility	
15	Creek bridge on 24.0 mt T.P.Road of T.P. Scheme on 33(Talangpor-Umber) connecting sachin G.I.D.C. & kansad Village in South Zone, Surat.	Creeck Bridge	Feasibility	
16	Creek Bridge joining, Shree Ramnagar Society at 30.00 mt wide road in T.P. Scheme No. 20 (Nana Varachha-Kapodra) to Saketdham Society at 24.00 mt wide road in T.P. Scheme No. 20 (Puna).	Creeck Bridge	Feasibility	