

Extension Activity at Palghar for Karkari Community



DISTRICT RURAL DEVELOPMENT AGENCY, PALGHAR

Project Director Office, Block No. 213, Second Floor, Zilla Parishad Bldg, Palghar – Boisar Rd,
Kolgaon, Tal-Dist- Palghar, Maharashtra Pin-401404

Email: drdazp.palghar-mah@gov.in

drdapalghar@gmail.com

Contact.No : 02525 205 422

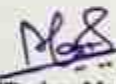
Ref.drda/palghar/scheme2/198/2022

Date – 21/04/2022

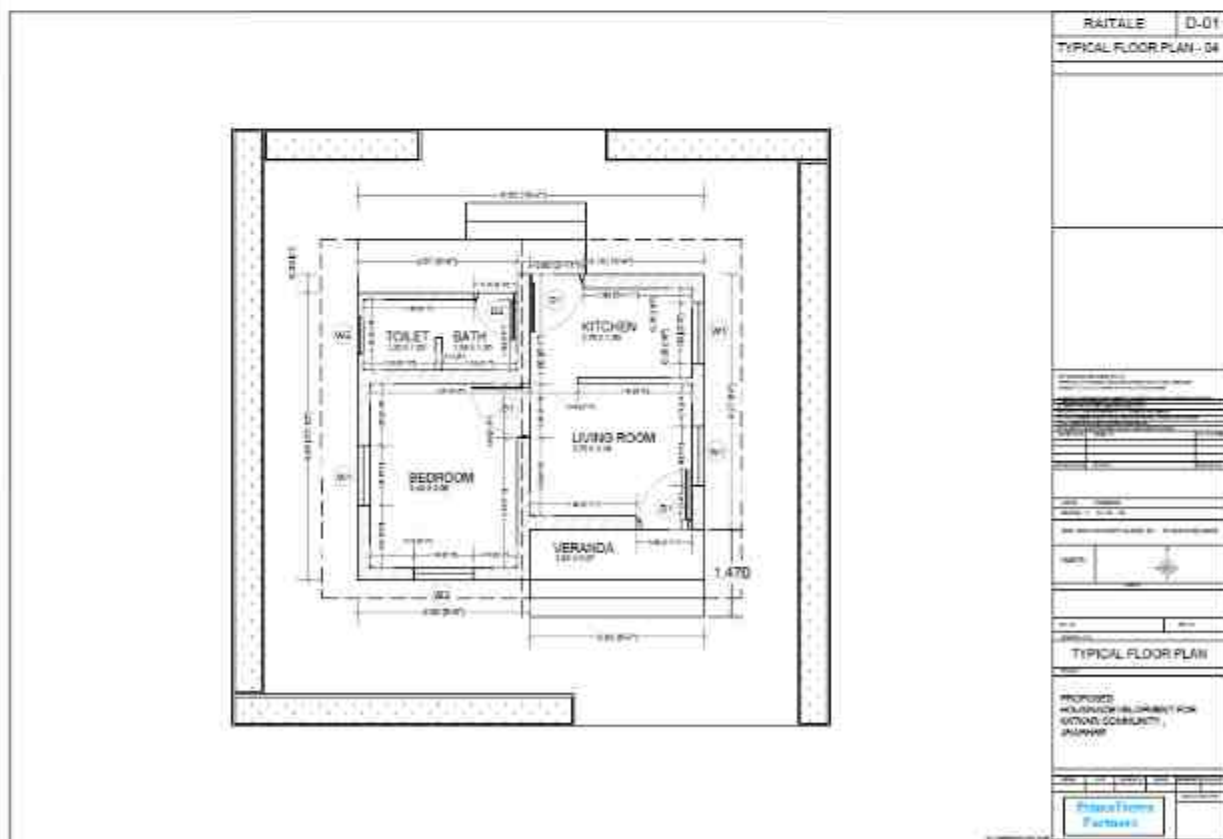
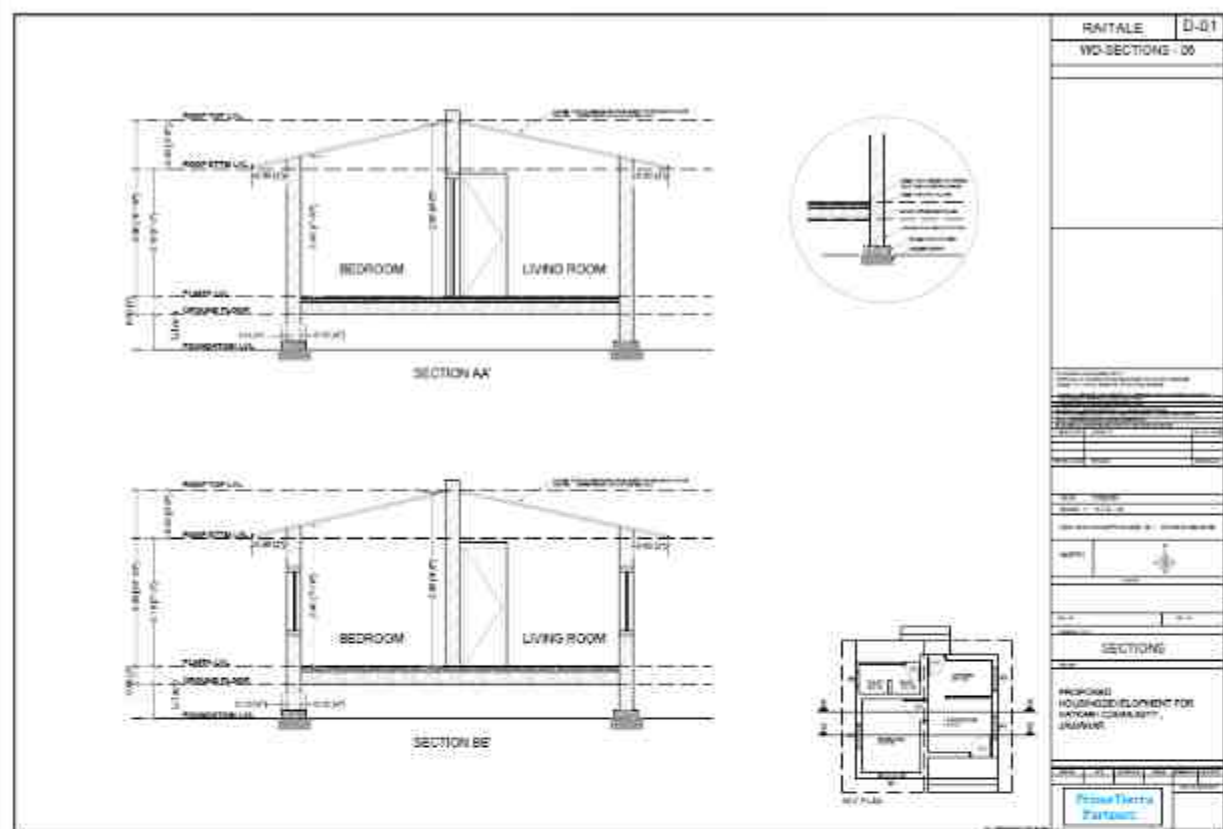
To whom so ever it may concerned

This is to certify that Ar. Rita Nayak has been associated as an Architect with community driven project run by District Rural Development Agency, Palghar for Karkari community at Village Raytale, Taluka Jawhar, District Palghar (Maharashtra). She was assisted by Ar. Salman Chouhan and her student Atharva Belsare for the project. Their contribution for our project is really appreciated by department. We thank Ar. Rita Nayak and their teammates for their valuable contribution.

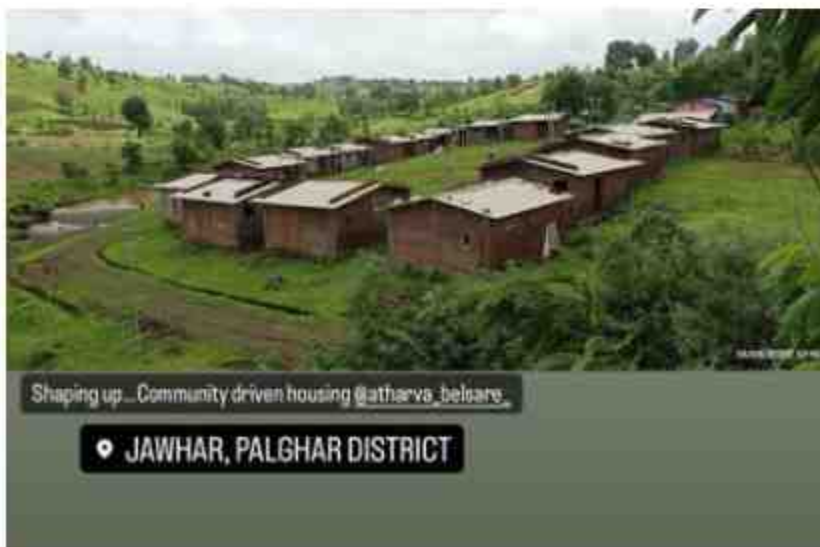



21/04/2022
(Tushar Mali)
Project Director
District Rural Development
Agency, Palghar

Extension Activity at Palghar for Karkari Community



Extension Activity at Palghar for Karkari Community



Design & Execution of Memorial Wall at Shri Balasaheb Thackeray Recreation Ground

ACA DESIGN CELL

BALASAHEB THACKAREY UDYAAN, CHICKDOOWADI, BORIVALI WEST



for further information contact
 info@adityaarch.edu.in
 www.aditya-arch.edu.in
 022-95206311



ACA DESIGN CELL

BALASAHEB THACKAREY UDYAAN, CHICKDOOWADI, BORIVALI WEST



EXECUTED DESIGN

for further information contact
 info@adityaarch.edu.in
 www.aditya-arch.edu.in
 022-95206311



ACA DESIGN CELL

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 022-95206311



ACA-Design Cell has successfully Designed and executed the memorial wall at Hon. Babasaheb Thackeray Recreation Ground Chikowadi, Borivali West.
 Source: Author

Park Development at Shri Balasaheb Thackeray Recreation Ground



CORRESPONDENCE

Tata Trusts, Mission Garima Introduction

From: Sachin Ralhan sralhan@tatastrusts.org
Sent: Monday, November 16, 2020 4:27 PM
To: Ar. Rita Nayak; Trupti Bhanu; Ar. Swati Singh
Cc: Swami Bhatia
Subject: Tata Trusts_Mission Garima Introduction

Dear Ms. Rita Nayak,

Hope this finds you well, unfortunately we could't meet last week but we had a good discussion with your colleagues on how there can be a mutually beneficial collaboration between the Tata Trusts and your college.

As discussed with Ms. Trupti & Swati, I am writing to share the Mission Garima project deck to take our conversations further for this great initiative. I request your team to share some of the relevant work that your students have done which we discussed during our meeting.

We can schedule a subsequent call/meeting to discuss further plan of action.

Looking forward

Best
 Sachin

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MAIL FROM MR. SACHIN RALHAN TO AR. RITA, AR. TRUPTI & AR. SWATI

CORRESPONDENCE

Tata Trusts_Mission Garima Introduction

Created

Looking forward and we will meet you soon.

Best

From: Arjit Nayak <arjitn@adityacollege.ac.in>
 Sent: 20 November 2018 17:48:54
 To: Sachin Kulkarni; Trupti Bhatnagar; Ar. Swati Gupta
 Cc: Soome Redkar
 Subject: Re: Tata Trusts, Mission Garima Introduction

Dear Sachin,

Sorry to have missed meeting you in person due to some official emergency. We bring a young institute keen upon meeting its students to benefit the students. We have collaborated with our ward in past 60 days. The idea is to bring them out of their room and making them experience the ground work for their own holistic growth. I & all our team to take our students work on ground. We definitely look forward to working with your team.

Get Outlook for ICS

From: Sachin Kulkarni <sachin@tatatrusts.com>
 Sent: Monday, November 20, 2018 1:33 PM
 To: Ar. Rita Nayak; Trupti Bhatnagar; Ar. Swati Gupta
 Cc: Soome Redkar
 Subject: Tata Trusts_Mission Garima Introduction

Dear Ms. Rita Nayak,

Hope this finds you well. Unfortunately we could't meet last week but we had a good discussion with your colleagues on how there can be a mutually beneficial collaboration between the Tata Trusts and your college.

As discussed with Ms. Trupti & Swati, I am writing to share the Mission Garima project deck to take our conversations further for this great initiative. I request your team to share some of the relevant work that your students have done which was discussed during our meeting.

MAIL FROM AR. RITA TO MR. SACHIN WITH AR. TRUPTI & AR. SWATI IN THE LOOP

MCGM cleaner's chowki Project Mission Garima

CORRESPONDENCE

Tata Trusts_Mission Garima introduction



Dear Sachin,

Thank you for sending the details. I shall get back to you mostly in next week since we are tied up with college cultural event this week.
Thank you.

Regards,
Swati Gupta

On 11-Dec-2018 2:25 PM, "Sachin Kulkar" <swatib@tatatrusts.com> wrote:

Dear Swati,

As we discussed last week PFA the blue print of the Model Chowki to help come up with a proposal for the same.

Let me know for any clarification

Looking forward

Best,
Sachin

From: Sachin Kulkar

Sent: 08 November 2018 10:04:12

To: Arathi Nayak; Trusts Review Ar Swati Gupta

Cc: Seema Redkar

Subject: Re: Tata Trusts_Mission Garima introduction

Tata Trusts_Mission Garima Introduction



Manali Rane

11/15/2018 4:04 PM

To: Arathi Nayak; Trusts Review Ar Swati Gupta

Dear Arathi,

As per the conversation, please find attached detail for TCGM Garima project for Seni DS College project.

...



Manali Rane

11/15/2018 4:04 PM

To: Arathi Nayak; Trusts Review Ar Swati Gupta

From: Swati Gupta <swati.gupta@gmail.com>

Sent: 03 May 2019 14:11

To: Manali Rane <manali_rane@aditya-college.ac>; Trusts Review Ar Swati Gupta <swatib@tatatrusts.com>

Cc: Arathi Nayak <arathi.nayak@aditya-college.ac>

Subject: PFA: Tata Trusts_Mission Garima introduction

Dear Manali,

Please find the mail for your reference and necessary action.
Thank you

**MAIL FROM AR. SWATI GUPTA TO
AR. MANALI RANE**

----- Forwarded message -----

From: Swati Gupta <swati.gupta@gmail.com>

Date: Sat, Dec 15, 2018 at 10:29:43 AM

Subject: Re: Tata Trusts_Mission Garima Introduction

To: Sachin Kulkar <swatib@tatatrusts.com>

Cc: Arathi Nayak <arathi.nayak@aditya-college.ac>; Seema Redkar <seema@tatatrusts.com>; Manali Rane <manali_rane@aditya-college.ac>



MCGM cleaner's chowki Project Mission Garima

CORRESPONDENCE

Tata Trusts_Mission Garima Introduction

SR Swati Gupta +gptswt@gmail.com
 Sat 14/02/19 2:11 PM
 To: Ajay Geevarghese

Approved Kurla ModelChowki-...
 402 KB

View

Reply Forward

TS Truti Biswas
 Sat 15/02/19 7:25 AM
 To: Swati Gupta +gptswt@gmail.com; Ajay Geevarghese; K. Jayaram Varma
 CC: Ar. MR. Sachin

Dear Swati Mam

There is no blue print attachment in the trail mail kindly forward the same so that Ajay can coordinate further from our end.
 Also kindly share the contact number of Mr Sachin Ralhan.

This will be further coordinated and executed by college project team of Sem 5 (Ajay and Ar. Sr.)

Regards

Ar. Truti Biswas

Associate Professor

Aditya college of Architecture

Get Outlook for Android

MR Manoj Rane
 Sat 16/02/19 3:02 AM
 To: Ajay Geevarghese; gptswt@gmail.com

ONE APPROVED MUNICIPAL FLOOR RECEIVED BY AR. SWATI GUPTA AND AR. TRUTI BISWAS FROM MR. SACHIN RALHAN WHICH WAS LATER GIVEN TO AR. AJAY GEEVARGHESE

OBJECTIVE

TO IDENTIFY CHRONIC SPOTS AROUND THE SITE AND PROPOSE DESIGN OPTIONS FOR LOW-COST EXTERIOR AMENITIES TO THE MCGM CLEANERS AND ALSO PROVIDE ASTHETIC LOW COST/SUSTAINABLE FAÇADE OPTIONS FOR THE NEWLY BUILT CHOWKI STRUCTURE AS THE SITE FALLS IN PRIME LOCATION.

SUBJECT HEAD

AR. TRIPTI BISWAS

SUBJECT INCHARGE:

ENG. JIGNESH VANJARIA

AR. AJAY GEEVARGHESE

SITE – GOOGLE EARTH



AFTER SITE VISIT

PROVIDED APPROVED PLAN FROM TATA TRUSTS



AS BUILT ON SITE – COMPLETELY DIFFERENT – DOESN'T MATCH



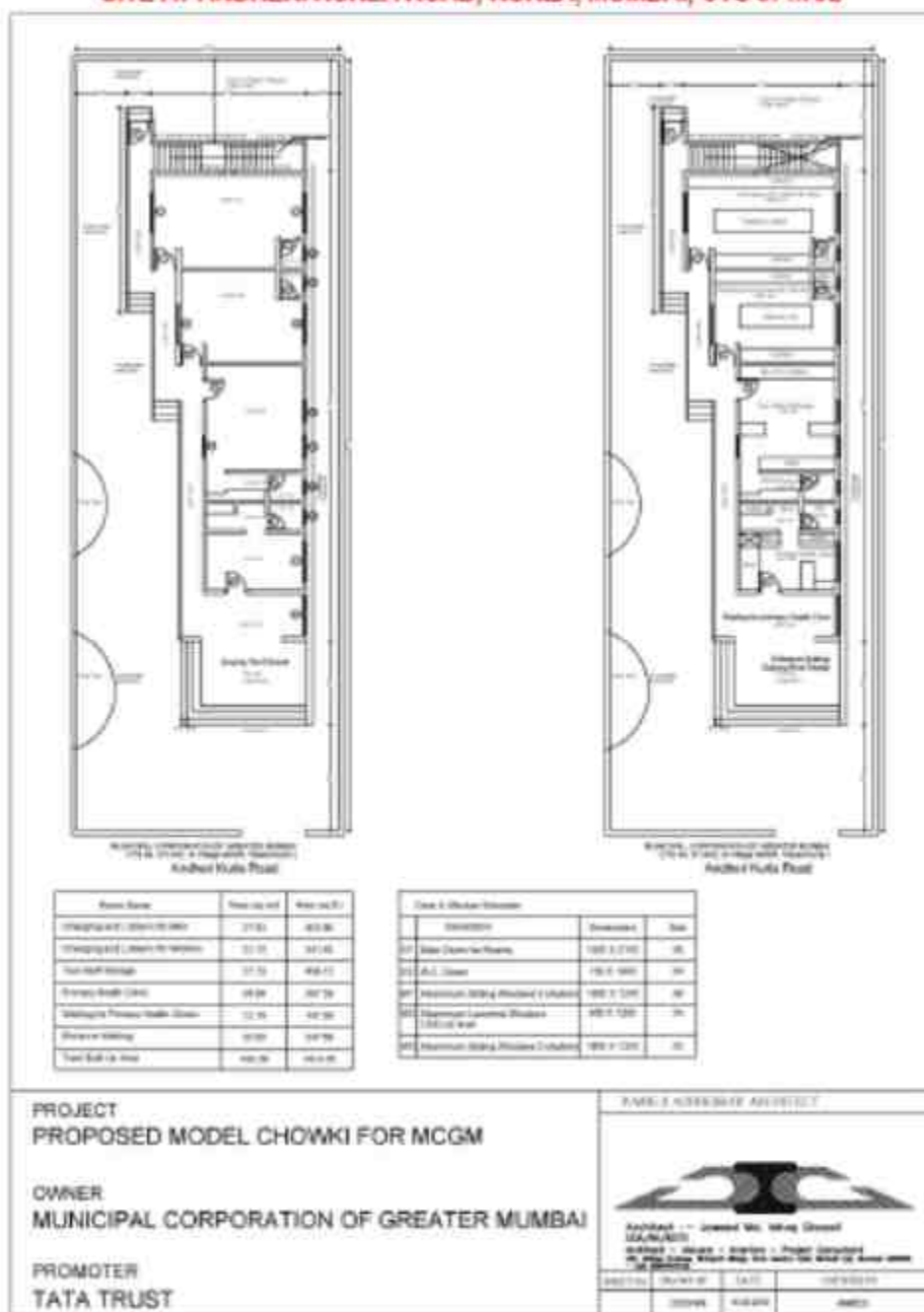
BY HAVING A TELEPHONIC CONVERSATION WITH MR. SACHIN RALHAN, HE CONFIRMED, YES THERE ARE VARIATIONS AND ASKED AR. AJAY TO MAP IT OUT.

STUDENTS WERE ASKED TO MAKE A PPT ON VARIATIONS IN THE PLANNING BETWEEN, AS BUILT AND PROVIDED APPROVED DRAWING BY TATA TRUSTS

MCGM cleaner's chowki Project Mission Garima

SITE PLAN

SITE AT ANDHERI KURLA ROAD, KURLA, MUMBAI, CTS 671/A/2



BASED ON THIS, ENTIRE AR-17 BATCH WERE SENT ON SITE DIVIDED AMONG 5 GROUPS

PPT ON AS BUILT

EXISTING SITE CONDITION



PLANNING THE PROCESS



OUR VISION

WOMEN CAREERS TO SAVE AND HELP THEIR WORKERS BY INITIATING THIS PROJECT AS A SMALL STEP TOWARDS RESPONSALITY.



TO BRING THE PURPOSE OF PROMOVING THE QUALITY OF THE INFRASTRUCTURE.

PROPOSED PLOT AREA

LOCATION



THE ENTIRE BATCH CREATED A PPT WITH AS BUILT DATA AND SITE PHOTOGRAPHS AND MAPPED OUT THE NEW AS BUILT FLOOR PLAN ALSO.

ALSO IN THE PROCESS THEY IDENTIFIED THE CHRONIC SPOTS AROUND THE SITE AS WELL.

PPT ON AS BUILT



THE ENTIRE BATCH CREATED A PPT WITH AS BUILT DATA AND SITE PHOTOGRAPHS AND MAPPED OUT THE NEW AS BUILT FLOOR PLAN ALSO.

ALSO IN THE PROCESS THEY IDENTIFIED THE CHRONIC SPOTS AROUND THE SITE AS WELL.

PPT ON AS BUILT

COMPLETED
SITE



PROMISED FLOOR AREA

**THE ENTIRE BATCH CREATED
A PPT WITH AS BUILT DATA
AND SITE PHOTOGRAPHS
AND MAPPED OUT THE NEW
AS BUILT FLOOR PLAN ALSO.**

THANK YOU



**ALSO IN THE PROCESS THEY
IDENTIFIED THE CHRONIC
SPOTS AROUND THE SITE AS
WELL.**

PPT ON AS BUILT



CHRONIC SPOTS



CHRONIC SPOTS



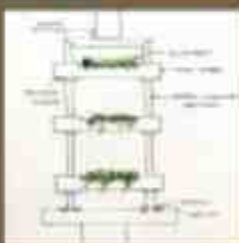
THE ENTIRE BATCH CREATED A PPT WITH AS BUILT DATA AND SITE PHOTOGRAPHS AND MAPPED OUT THE NEW AS BUILT FLOOR PLAN ALSO.

ALSO IN THE PROCESS THEY IDENTIFIED THE CHRONIC SPOTS AROUND THE SITE AS WELL.

DESIGN OPTIONS – GRP 1



BEFORE
PARAPPET WALL CAN BE
USED FOR SITTING



AFTER
PROVIDING A
COMFORTABLE
SEATING AND AN
INTERESTING
FACADE



**PRELIMINARY COSTING WAS
ALSO WORKED OUT FOR THE
SAME**

DESIGN OPTIONS – GRP 2



MATERIALS AND COSTING

TOTAL: ₹ 14,900

MATERIALS	COSTING	AREA	TOTAL COSTING	ADVANTAGES	IMAGE
ROPER BRICKS	₹225/sq.ft	600-80000	₹13500	Low maintenance, fire friendly, Durable and long-lasting	
PORCELANOSA TILE	Price ₹20 per sq.ft.	1000	₹2000	High quality, Scratch resistant, Super Resistant, Light weight, Joints Resistant, Perfect for Swimming	
GLASSWALL	3000/-		₹3000		
ROOF	₹7500/sq.ft	170	₹12750	Energy efficient, low maintenance, self-cleaning, Good insulation	

DESIGN OPTIONS – GRP 2.1



**GROUP 2 HAD WORKED OUT 2
DIFFERENT OPTIONS**




DESIGN OPTIONS – GRP 5

MATERIALS

- TEAK WOOD
- BRICK PAVI
- CEMENT GR

COSTING

MATERIAL	AREA	PRICE
CHAIR	8 PCE(S)	1500/-
WOOD	6 SQM	12000/-
CEMENT GR	4 PCE(S)	8000/-
PAINT	20 SQ	15000/-
TOTAL		36000/-




MATERIALS

- TANKED BRK
- WALLACE (BRICK) W/ GR
- CEMENT GR
- TEAK WOOD

COSTING

MATERIAL	AREA	PRICE
WOOD	15 SQM	18000/-
STEEL	10 SQM	10000/-
PAINT	18 SQ	15000/-
TOTAL		43000/-



WEST ELEVATION



WEST ELEVATION



CURRENT STATE REFERENCES

SOUTH ELEVATION



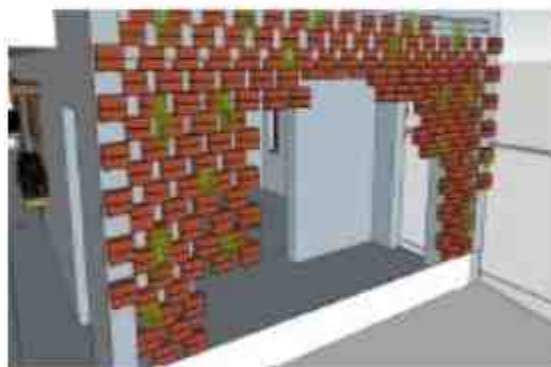
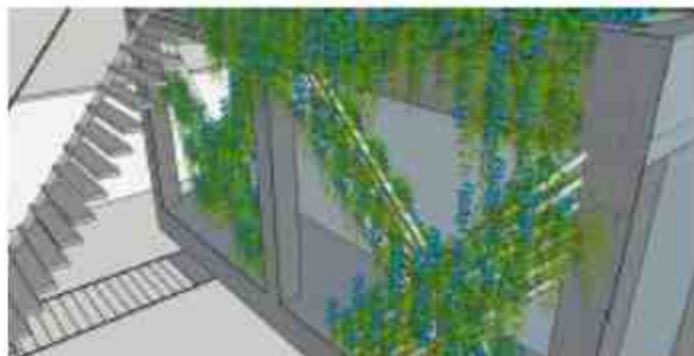
SOUTH ELEVATION



CURRENT STATE REFERENCES

PRELIMINARY COSTING WAS ALSO WORKED OUT FOR THE SAME

DESIGN OPTIONS – GRP 5.1



ELEMENTS	DESCRIPTION	COST	USE	IMAGES
WALL	BRICK WALL	10000	WALL	
WALL	BRICK WALL	10000	WALL	

ELEMENTS	DESCRIPTION	COST	USE	IMAGES
WALL	BRICK WALL	10000	WALL	
WALL	BRICK WALL	10000	WALL	

**GROUP 5 HAD WORKED OUT 2
DIFFERENT OPTIONS**

CORRESPONDENCE

MCGM model chowki at Kurla



Ar. Ajay Sawarbhare
 766-6102416 (022) 614
 To: smd@tatatrusts.com
 Cc: gup@tatatrusts.com

EXISTING SITE CONDITION.pdf
 1 MB

Hi Sachin,

Kindly find the progressive presentation informing about the differences in proposed planning and actual planning on site and conflicts on the same.

Please update me with the required areas to be added for further working.

This is to inform you that the students have worked on 5 different options for which the responsible personnel or yourself have to visit our college and view the presentation, regarding any one of the of the affordable versions for site and layout development of the Chowki structure.

Thank you for your time and assistance.

Regards,

ADITYA

Ar. Ajay Sawarbhare

Dr. Ash. DCC, W. 300 (Thane Road)

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AFTER TELEPHONIC CONVERSATION THE CONCERNED PERSON CHANGED FROM MR SACHIN RALHAN TO MS. SEEMA REDKAR TO MS. ONDRILLA ROY

THE DATA OF SITE PLANNING VARIATIONS & CHRONIC SPOT IDENTIFICATIONS WAS SHARED WITH TATA TRUSTS AFTER CONFIRMING WITH AR. TRUPTI BISWAS

FOR SHARING THE DESIGN OPTIONS IT WAS REQUESTED BY THE CONCERNED FACULTY TO TATA TRUST'S CONCERNED PERSONNEL, TO ATTEND COLLEGE TO REVIEW THE DESIGN PPTs.



MCGM cleaner's chowki Project Mission Garima

CORRESPONDENCE



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MS. ONDRILLA ROY WAS ASKING TO SHARE THE DESIGN PROPOSALS ONLINE.

AR. AJAY HAD TRIED TO CONNECT WITH MR. DIVYANG WAGHELA NUMBER OF TIMES BUT WERE UNAVAILABLE.

ON MENTIONING FOR CERTIFICATES TO STUDENTS FOR THE SAID WORK DONE, ANOTHER LIST OF WORKS NOT MENTIONED IN OUR SCOPE PREVIOUSLY WERE ASKED TO BE DONE.

CORRESPONDENCE

AN Ajay Desai
 4441 1234567890123456
 To: Aditya Group
 C/o: Sahakar Chughan, Acharya, Malabar Trade Zone

M/S:
 They are this of it, kindly go through the mail, will
 should we continue it in college projects.

Reply:

ADITYA
 GROUP OF INSTITUTIONS

Re: Ajay Desai
 (24/11/2023)
 4441 1234567890123456

ADITYA GROUP OF INSTITUTIONS
 4441 1234567890123456
 Aditya Group of Institutions
 New Graduate Centre
 100 Street, Mumbai
 India - 400001
 Phone: 022-24123456
 Email: aditya@aditya.edu.in

Aditya Architecture College in Mumbai | B.Arch. Colleges in India

ADITYA INSTITUTE IS THE BEST ARCHITECTURE DIPLOMA COLLEGE PROVIDES QUALITY EDUCATION TO START UP CAREER IN ARCHITECTURE

AN Ajay Desai
 4441 1234567890123456
 To: Aditya Group
 C/o: Sahakar Chughan, Acharya, Malabar Trade Zone

M/S:
 A recognition for institute
 Certificate for students and teacher included

Get Outlook for ADITYA

...

AN Ajay Desai
 4441 1234567890123456
 To: Aditya Group
 C/o: Sahakar Chughan, Acharya, Malabar Trade Zone

Please go ahead but what was the earlier agenda and which year will be doing this

Get Outlook for ADITYA

...

THE ENTIRE TRAIL MAIL WAS SHARED WITH THE SUBJECT HEAD AND PRINCIPAL TO WHICH IT WAS DECIDED BY ALL VERBALLY THAT FIRST THEY NEED TO ADDRESS THE INITIAL WORKS DONE AND THEN PROCEED WITH NEW THINGS IN THE COMING YEAR AS THIS SEMESTER IS THE UNIVERSITY SEMESTER AND STUDENTS CANNOT BE ENROLLED IN THIS.

AFTER TELEPHONICALLY CONVEYING THAT CAN WE CLOSE THIS PREVIOUS SCOPE OF WORK THERE WERE NO RESPONSE FROM TATA TRUSTS END EVEN AFTER FOLLOW UPS.

CURRENT STATUS

**PPTs ARE READY BUT REFINEMENTS REQUIRED.
AS NO RESPONSE WAS PRESENT FROM TATA TRUSTS END, WORKING ON THIS WITH
STUDENTS AFTER THE SEMESTER WAS OVER CREATED AN EXTRA LOAD ON THEM AND THE
FACULTY.**





An aerial photograph of a road intersection featuring a central traffic island. The island is a circular patch of green grass, surrounded by a grey concrete curb. The road is paved with grey asphalt and has white dashed lines indicating lane boundaries. The text "TRAFFIC ISLANDS" is overlaid in the center of the image in a bold, white, sans-serif font.

TRAFFIC ISLANDS





POLITICAL



MONUMENTAL



BOTANICAL



CULTURAL

TRAFFIC ISLANDS - PUBLIC PLACE

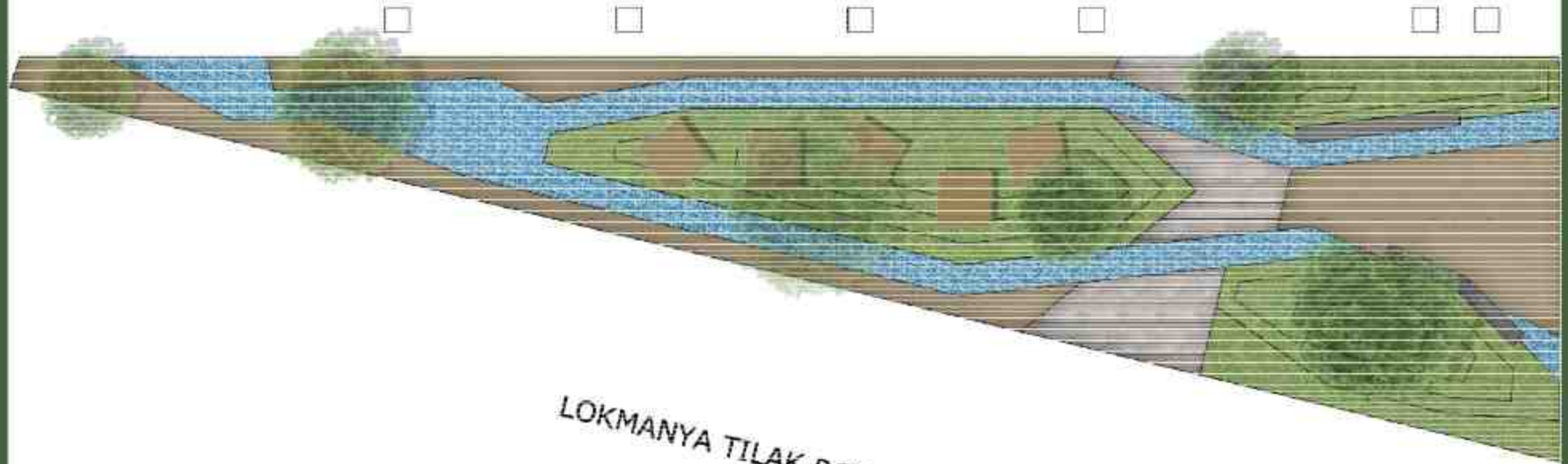
Traffic islands can be used to reduce the speed of cars driving through, or to provide a central refuge to pedestrians crossing the road.





PROPOSED DESIGN OPTION 1

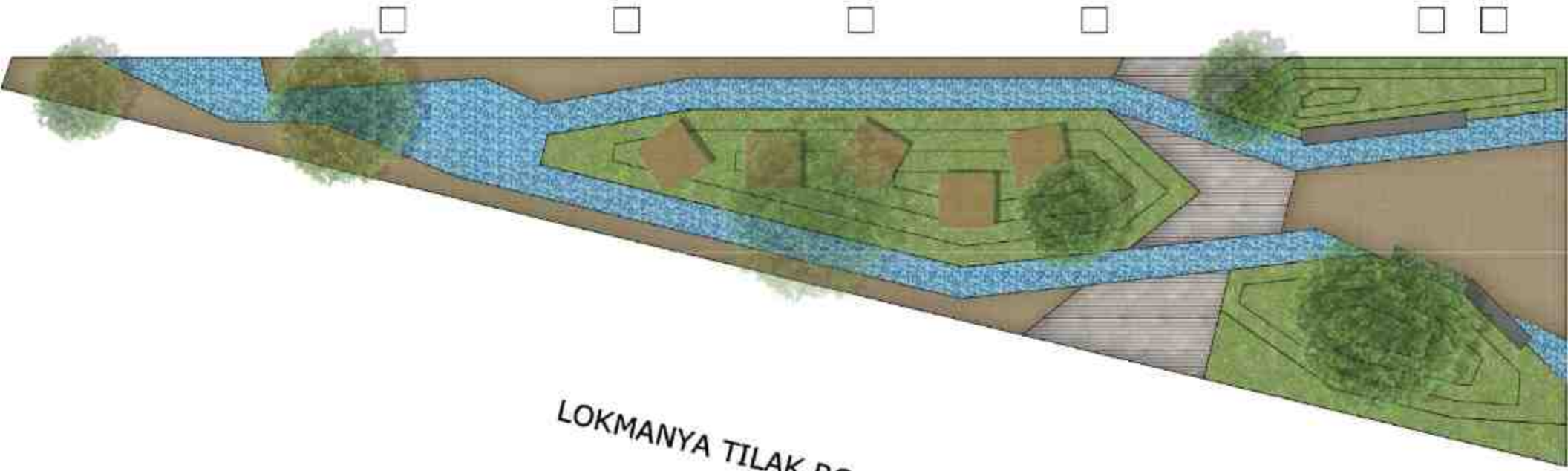
CHANDAVARKAR ROAD



LOKMANYA TILAK ROAD



CHANDAVARKAR ROAD



LOKMANYA TILAK ROAD



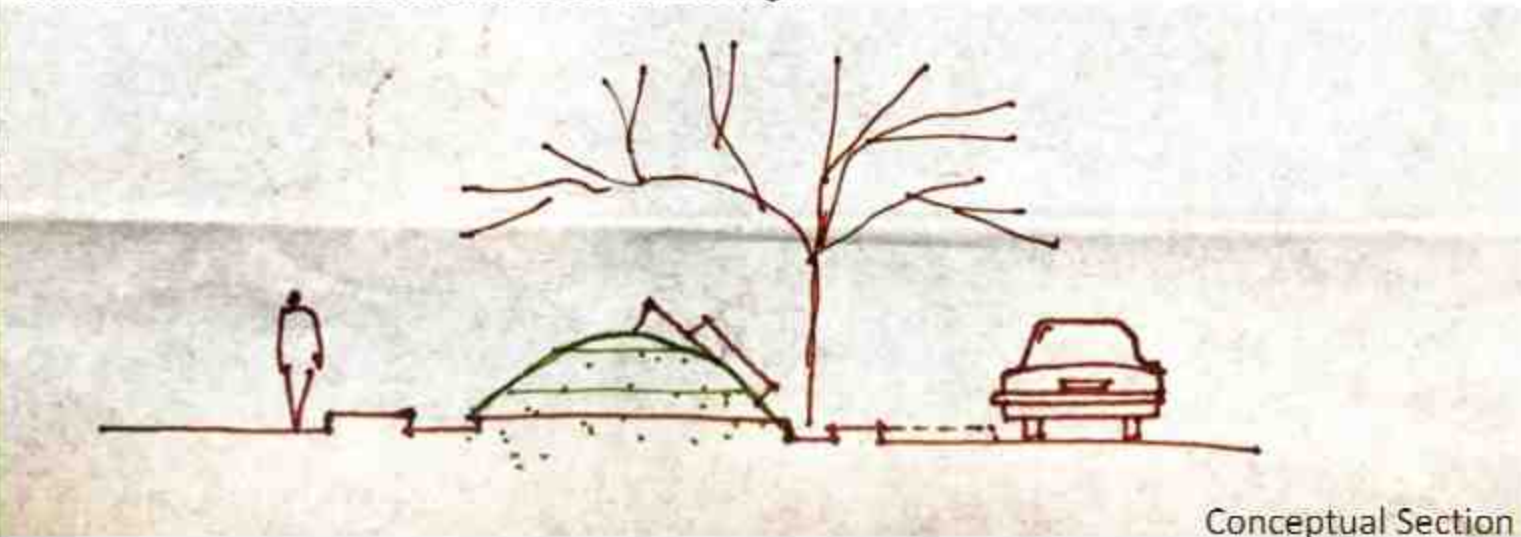
- Grass
- Recycled Bottles - River Effect
- Paved Surface-1
- Paved Surface-
- Bench



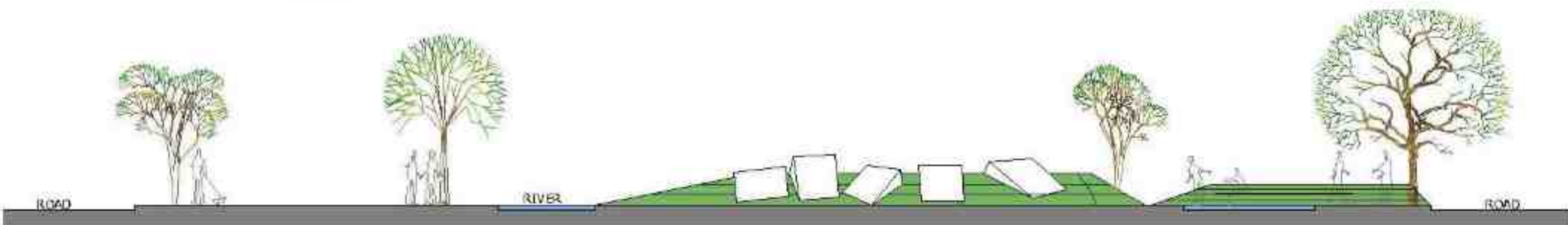


How to Recycle Plastic Bottles for Outdoor Home Decorating and Garden Design

Many creative designs show how to recycle plastic bottles. Plastic recycling helps decorate house exteriors and add nice accents to garden design on a budget. Plastic bottles can be turned in numerous useful and decorative things.



Conceptual Section



Proposed Section

5 Elements of Design in Borivali – Traffic Island

- **National Park** - Sanjay Gandhi National Park is an 87 km² protected area near Mumbai in Maharashtra State in India. It was formerly known as Borivali National Park. It is notable as one of the major national parks existing within a metropolis limit and is one of the most visited parks in the world.
- **Kanheri Caves** - These are a group of caves and rock-cut monuments cut into a massive basalt outcrop in the forests of the Sanjay Gandhi National Park. (Gandhi Smarak)
- **Borr** - It is believed that the name '**Borivali**' comes from the existence of a lot of bushes of a sweet fruit called 'Borr'(Marathi) meaning berries in English. Hence, named the town of berries literally 'bori-vali'.
- **Dahisar River** - Dahisar River is a river on Salsette island that runs through Dahisar, a suburb of Mumbai, India. It originates at the spillway of the Tulsi Lake in the Sanjay Gandhi National Park in the northern reaches of the city.
- **Poisar River** - Poisar River is a river in Mumbai, India. It begins in the Sanjay Gandhi National Park and empties into the Marve Creek and finally into the Arabian Sea.
- **Recycled plastic to raise awareness**



USE OF RECYCLABLE MATERIAL



Plastic waste pop-up pavilion Netherland



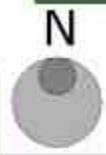
Plastic bottle houses for Sahrawi refugees



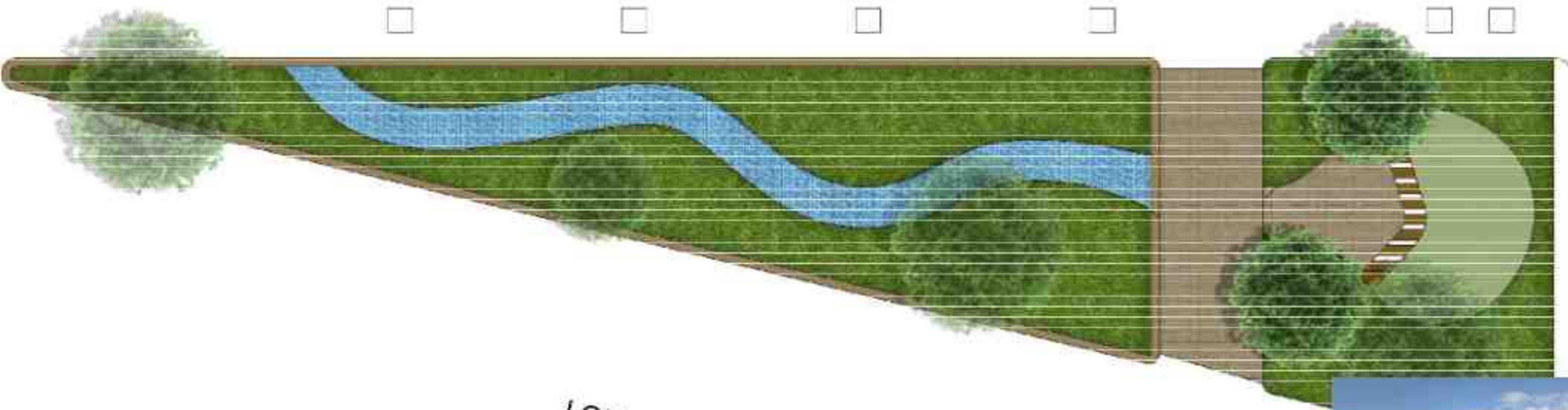
PROPOSED DESIGN OPTION 2

CHANDAVARKAR ROAD

LOKMANYA TILAK ROAD

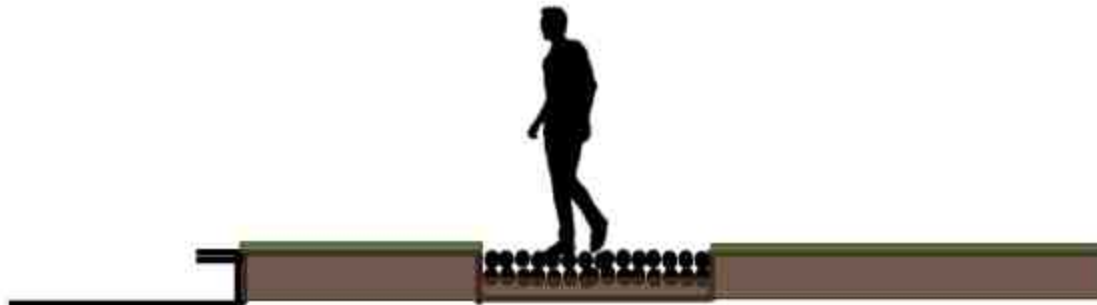


CHANDAVARKAR ROAD



LOKMANYA TILAK ROAD





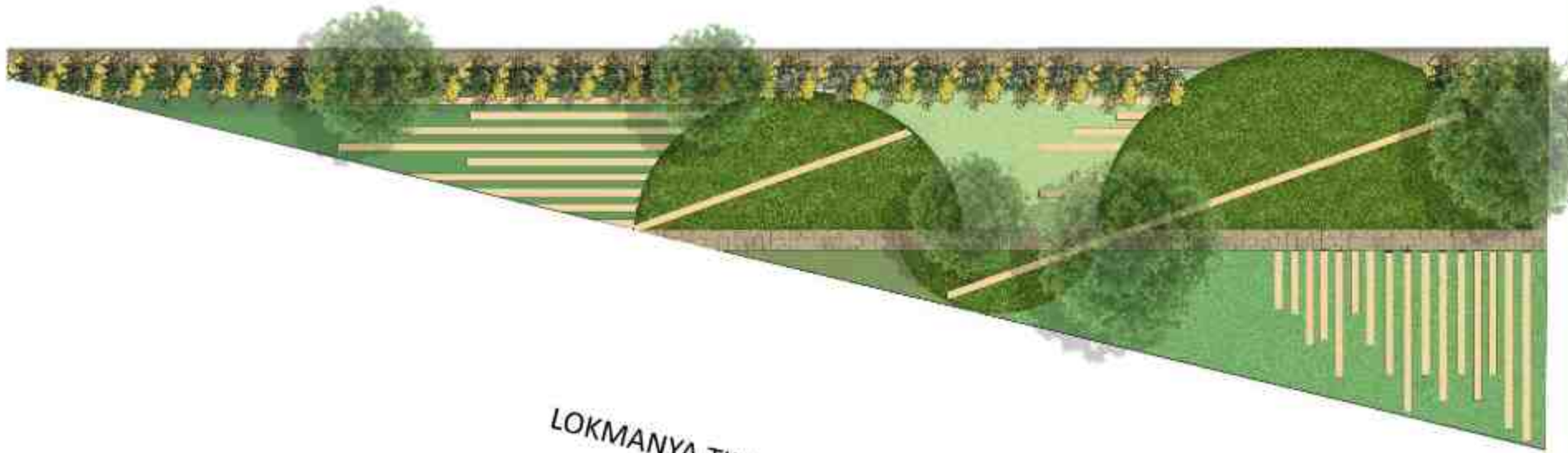
KEY SECTION THROUGH PAVEMENT

USE OF RECYCLABLE MATERIALS



PROPOSED DESIGN OPTION 3

CHANDAVARKAR ROAD



LOKMANYA TILAK ROAD





KANHERI CAVES



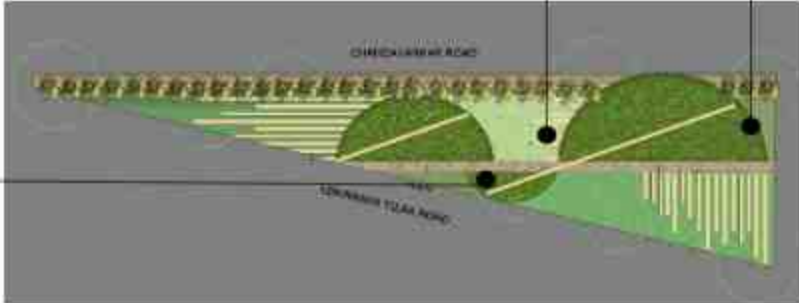
SGNP



BOOSTING REALTY

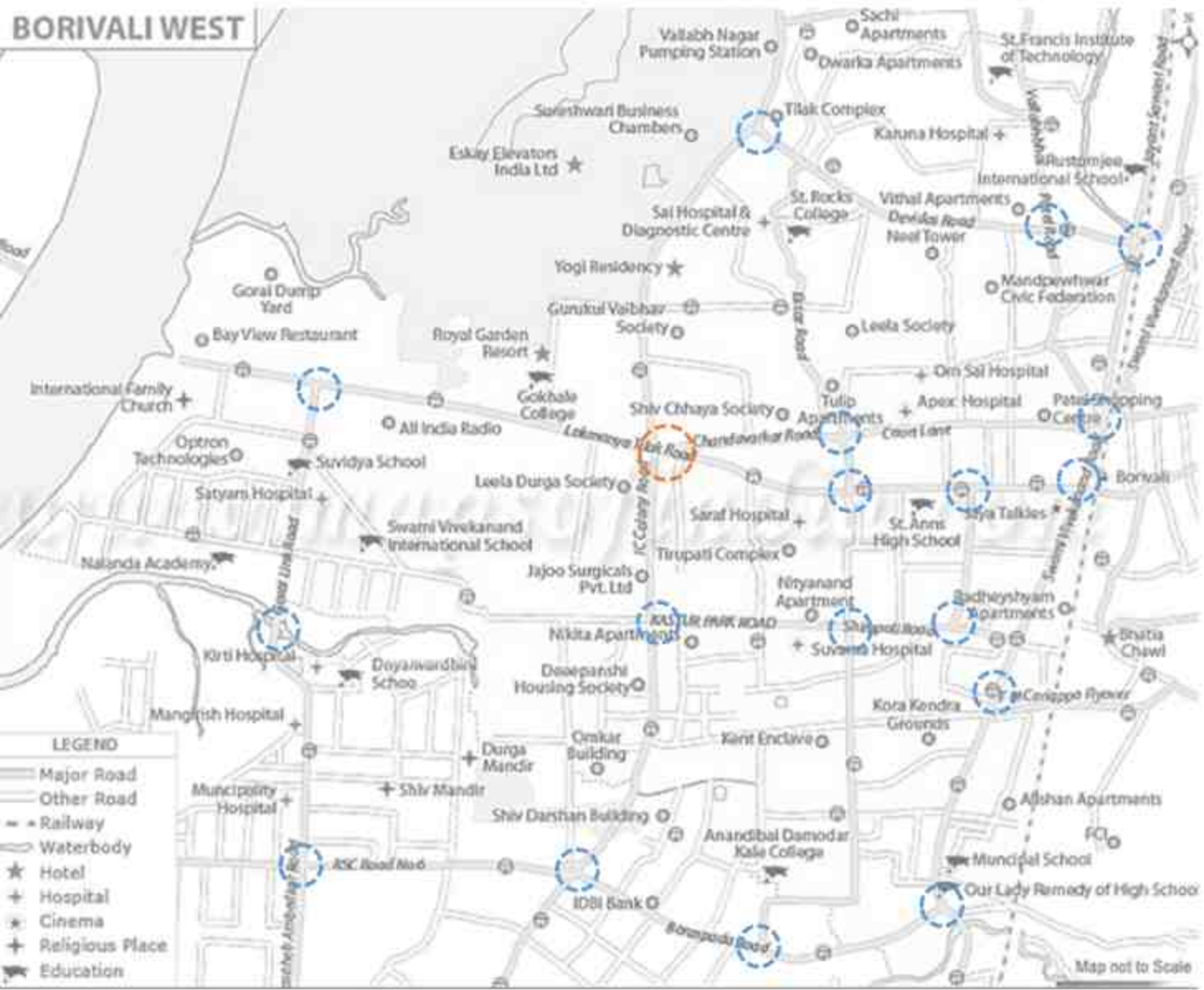


MANDAPESHWAR CAVES



PROPOSED DESIGN OPTION 4
GREEN DESIGN

BORIVALI WEST



DESIGN OPTION 4 | TRAFFIC ISLANDS

- Blue dashed circle: APPROX. MORE THAN 20 NOS. OF MAJOR INTRSECTIONS
 - Orange dashed circle: INTERSECTION UNDER REFERENCE
- AGENDA**
- IS TO MAKE THE CITY STREET LIGHTS ELECTRIC GRID AND OTHER SMALL STREET AMENITIES FREE FROM USING THE ELECTRICITY SUPPLY GENERATED FROM NON-RENEWABLE ENERGY RESOURCES.
 - CREATING A MODULE/DESIGN IDEA WHICH CAN BE IMPLEMENTED IN MULTIPLE TRAFFIC ISLANDS AROUND THE BLOCK AND IN THE CITY SO THAT RENEWABLE ENERGY RESOURCES CAN BE UTILIZED FOR THE CITY STREET ELECTRICITY GRID.

DESIGN OPTION 4 | TRAFFIC ISLANDS



PHOTOVOLTAIC CELLS | SOLAR ENERGY

SOLAR TREE (NON-MOVABLE)



THE REFERENCE IMAGE DEPICTS THE USE OF SOLAR PANEL IN TREE FORM WHICH IS LATER USED FOR NIGHT LIGHTING FOR THE STREETS AS WELL.

THE SOLAR PANEL ARE NON-MOVABLE AS THE MECHANICAL MOVEMENT OF THE PANELS CONSUME ENERGY AS WELL WHICH WILL COUNTER THE WHOLE DESIGN IDEA



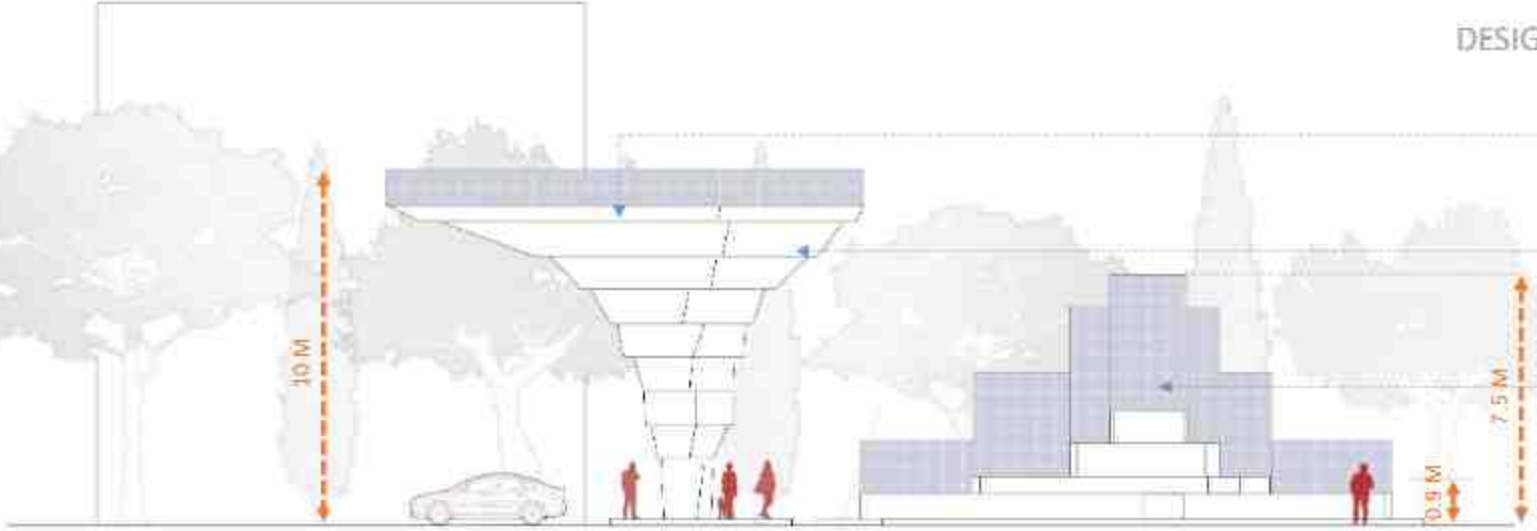
SOLAR PYRAMID



THE SOLAR PYRAMID IS AN ELEMENT WHICH IS INTRODUCED IN OUR DESIGN IN ORDER TO CREATE FOCAL POINTS FOR THE CITY AND DEVELOP ENOUGH SURFACE AREAS WHICH CAN BE UTILIZED TO PROPOSE SOLAR PANELS.



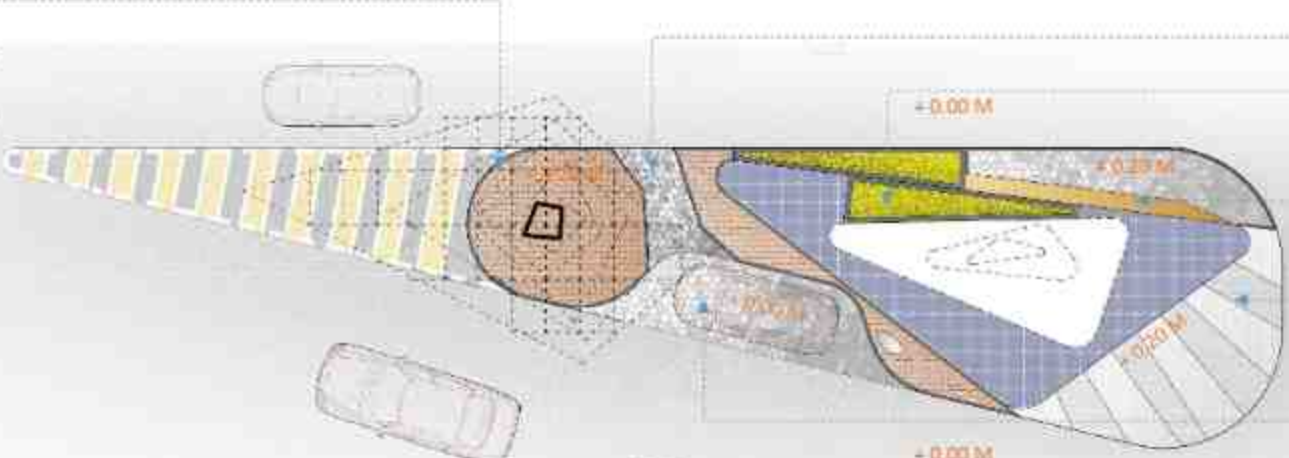
DESIGN OPTION 4 | PLAN & ELEVATION



SECTION

- FULL PANELLED LIGHTING FOR NIGHT USE WITH HOUSING FOR SIGNAL LIGHTS
- SOLAR TREE (STEEL AND CONCRETE FABRICATION)
- SOLAR PYRAMID (STEEL AND CONCRETE FABRICATION)

MINIMUM TURNING DIAMETER OF 4.5 M MAINTAINED



PLAN

- BARRIER FREE CROSSING
- ELEVATED GRASS BEDS
- STREET SEATING
- ELECTRIC CYCLE RECHARGE BAY
- ELECTRIC CAR RECHARGE BAY

DESIGN OPTION 4 | SOLAR ENERGY GENERATION ESTIMATE

- THE SOLAR ENERGY GENERATED WILL BE CONNECTED TO THE NET METERING OF THE CITY GRID FOR STREET LIGHTING.
- HENCE NO BATTERIES
- LOW MAINTANENCE

- NEARLY 18-38 % OF TOTAL ENGERY BILL GOES IN STREET LIGHTING
- SODIUM VAPOUR LAMPS – 165 WATTS
- LEED STREET LIGHTS – 73 WATTS

SOLAR ENERYGY GENERATION ESTIMATE

SOLAR TREE

- 25 PANELS OF SIZE 1.6X1.1 M
- 1 PANEL GENERATES 1.27 KWH/DAY & 343 KWH/YEAR
- 32 KWH/DAY & 8640 KWH/YEAR

SOLAR PYRAMID

- IN WORKING

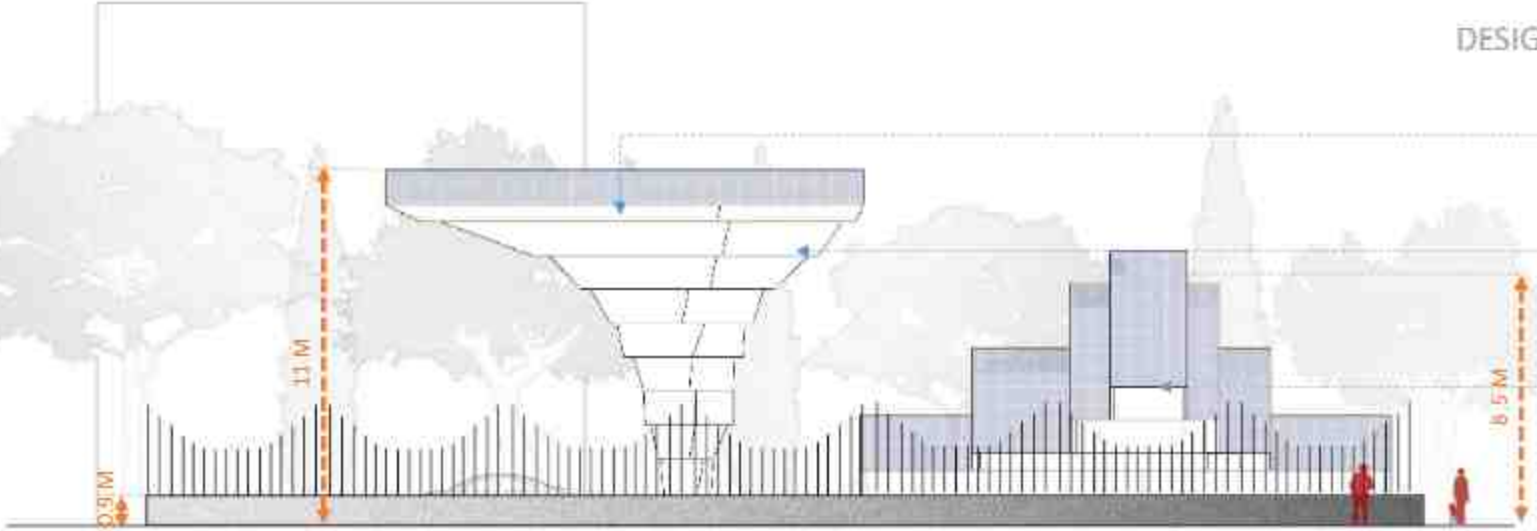


DESIGN OPTION 4.1 | TRAFFIC ISLANDS

PHOTOVOLTAIC CELLS | SOLAR ENERGY

NON-ACCESSIBLE OPTION

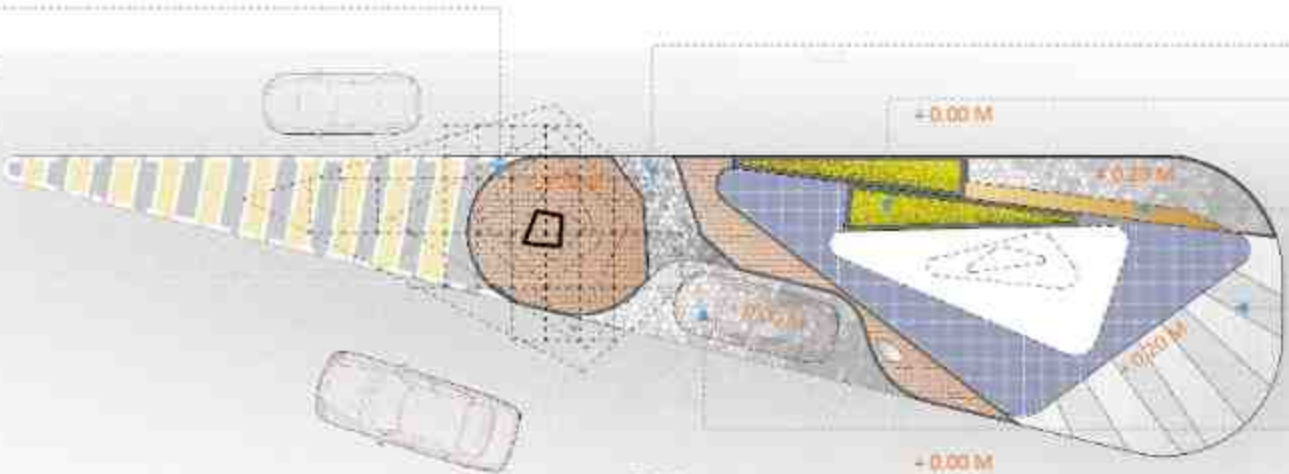
DESIGN OPTION 4 | PLAN & ELEVATION



- FULL PANELLED LIGHTING FOR NIGHT USE WITH HOUSING FOR SIGNAL LIGHTS
- SOLAR TREE (STEEL AND CONCRETE FABRICATION)
- SOLAR PYRAMID (STEEL AND CONCRETE FABRICATION)

SECTION

MINIMUM TURNING DIAMETER OF 4.5 M MAINTAINED



- BARRIER FREE CROSSING
- ELEVATED GRASS BEDS
- STREET SEATING
- ELECTRIC CYCLE RECHARGE BAY
- ELECTRIC CAR RECHARGE BAY

PLAN

QUESTIONS

An aerial, top-down view of a roundabout with a central green island. The road is dark grey with white dashed lines indicating the roundabout's path. The central island is a circular patch of green grass with a small black and white chevron sign in the center. The text "THANK YOU" is overlaid in the center of the image in a bold, white, sans-serif font.

THANK YOU

RoadMarch - RiverMarch

#MumbaiMarch



www.mumbai-march.org
#mumbai-march #mumbai-march1
@MumbaiMarch MumbaiMarch
+91 90760 74837

To,

The Principal,
Aditya College of Architecture
R.M. Bhattad Road
Borivli West
Mumbai

Re: Consultancy Services, Transport Hub Terminal Proposals, Mumbai.

Dear Principal Ma'am,

We have great pleasure in appointing the Aditya College of Architecture as consultants for the Research, Presentation and facilitation of the design process for the Transport Hub Terminal Proposals at different locations in Mumbai.

Thanking You,



Gopal Jhaveri.

+91-9892156054



Vikram Chogle

+91-9869786727



Hitesh Mistry

+91-9773615820

MumbaiMarch, C/o Natural House, 25, Jeevan Jyoti, Kasturba Cross Road, Borivli East, Mumbai. 400066. India
Tel: +91 22 28703337



Design for a Transport Hub, Dahisar, Mumbai

South Western Temple
WATER WORKS

THE PROGRESS SO FAR...



BACKGROUND

The River March Team based in Borivli, Mumbai is a team essentially involved in a movement which seeks to rejuvenate our rivers by striving to free them from encroachments, save remaining mangroves and contribute

a non-polluted green environment.

CONCERN

Owing to the increasing transport issue in the city, The River March Team has expanded their spectrum to address the issues raised due to influx of buses which come to the city from different parts of Maharashtra and neighbouring states.

STATUS

The Hon^{ble} Chief Minister of Maharashtra Shri. Devendra Fadnis has backed the River March Team and have been commissioned to take up the project at Dahisar Check Naka. The River March Team has approached Aditya College of Architecture to take this project up, hoping a sensitive approach to the issue. The area under concern is Dahisar Check Naka bus terminus.

TASK

The proposal involves designing a Sustainable Integrated Transport Hub module that is located at the outskirts of the city thereby decongesting the roads within the city by providing alternative means of transport to the traveller's final destination.

Aditya College of Architecture has volunteered to collaborate with River March Team to create the State-of-the-Art facility to serve this purpose. The design is to be evolved and be presented to the Hon^{ble} Chief Minister of Maharashtra.

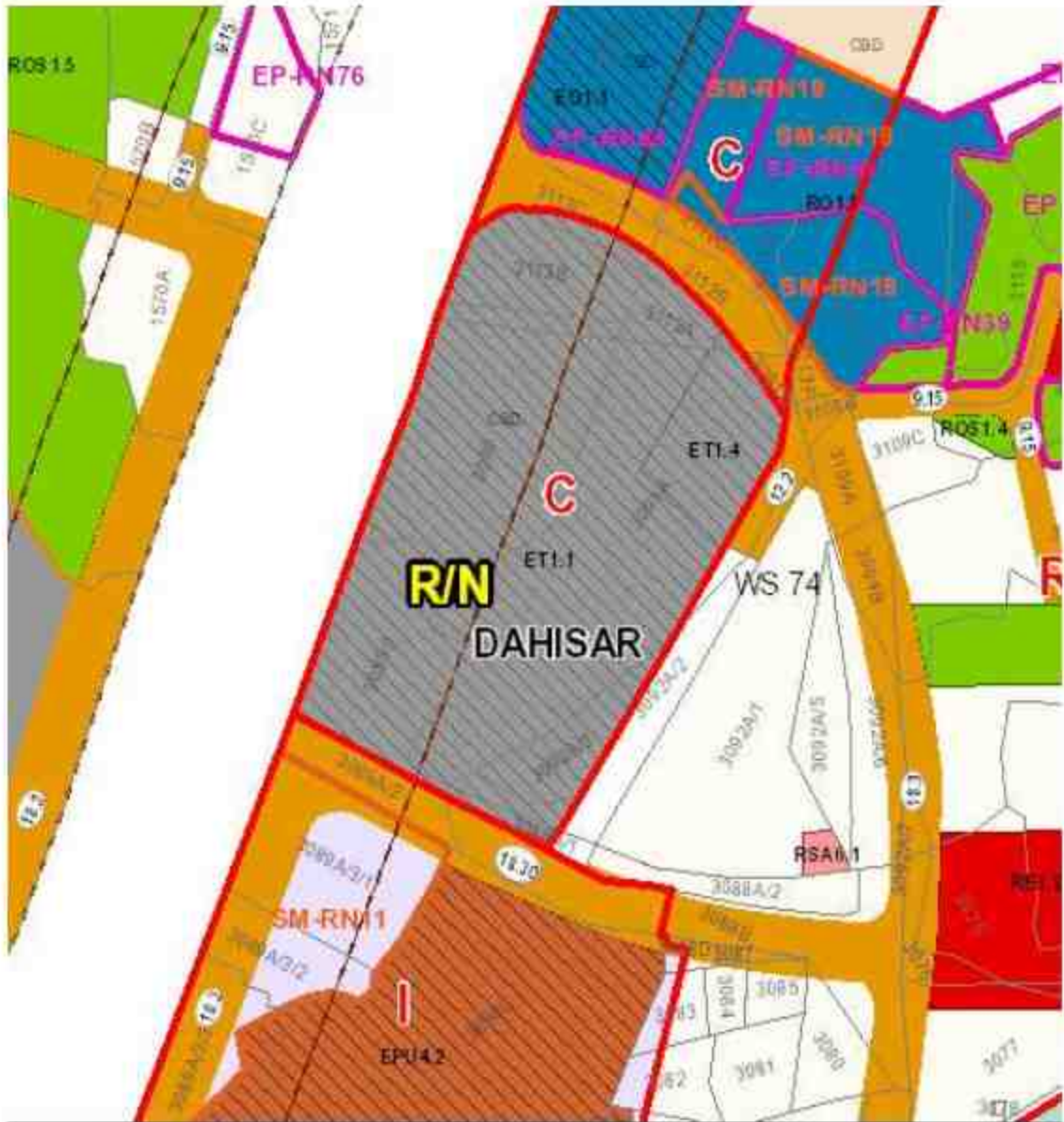
The progress so far has been as follows:

- Site study
- Research on Bus terminals data
- Case studies of Bus terminals in India



Proposed Redevelopment of Dahisar Octroi Naka & BEST bus depot to **“Sustainable Integrated Transport Hub”** on Plot bearing C.T.S. No. 3113,3112,3090,3091, & 3089 of Village Dahisar, Off Western Express Highway,R/N Ward,Mumbai.

By: Pranita Daware



PROFORMA:

C.T.S. No.3113, 3112,
3090 , 3091, 3089.

DP-2034 RESERVATION :

ET 1.4= BEST BUS Facilities
ET 1.1= Truck Terminal

PLOT AREA:

18,674.00 sq.mt.

DP ZONE:

Commercial

BUFFER ZONE:

Western Express Highway

SUSTAINABLE
INTEGRATED
TRANSPORT
HUB

ACTIVITIES



APPROACH ROAD

Western Express Highway
(40 Mt wide two way road)

Dahisar Check Naka





1. TRUCK PARKING LANE



2. TEMPORARY STRUCTURES



ACTIVITIES (4 P.M)



ACTIVITIES



ACTIVITIES (8:30 P.M)





TRANSPORTATION HUB, DAHISAR.

CASE STUDY AND REQUIREMENT

By: Gayatri Sorte

Inter State & Local Bus Terminal UKKADAM, COIMBATORE



Proposed site for Bus terminal

- The Ukkadam bus terminal is located in the southern part of Coimbatore.
- A total site area of **11,452 sq.**
- The terminal site is adjacent to a TNSO depot, and sits at the edge of an existing natural lake named **Periya Kulam**. It also has a police station along the main entrance, and a multilevel housing complex on one edge.
- Proposes functions for **ISBT small terminal** and **local medium terminal**, the site is treated as hybrid terminal type.
- As per the guidelines, both options require 8658 sq. m. for ISBT terminal functions (As per the guideline 85% of the combined site area is required) and 5304 sq. m. for local terminal functions.
- Both proposals include one-way circulation for both buses and private vehicles, with access from Palakkad Road and exit on Ukkadam-Sungam bypass road.

PROPOSAL 1



Area allocation for ISBT and Local terminal

THE FUNCTION-WISE AREA USE OF THE SITE		
1.	ISBT bus circulation	2942 sq. m.
2.	Local terminal bus circulation	2728 sq. m.
3.	Terminal building,	1589 sq. m.
4.	For freight services	225.7 sq. m.
5.	Feeder service and private vehicle parking	364 sq. m.
6.	Common vehicular circulation	1147.3 sq. m.
7.	Passenger circulation	2456 sq. m.



Terminal Building Ground floor.



Terminal Building First floor .

TERMINAL BUILDING		
THE GROUND FLOOR		
1.	Administrative office and driver rest room area.	660 sq. m.
2.	Concourse area.	281.1 sq. m
3.	Toilet block	25 sq. m.
4.	Commercial/retail space	329 sq. m.
THE FIRST FLOOR		
5.	Railway reservation office	301 sq. m.
6.	Area for bank and post office	304 sq. m.
7.	Toilet block	25 sq. m.
8.	commercial/ retail space	329 sq. m.



ISBT Bus circulation



Local Bus circulation

- The proposed terminal is planned for bus flow of
 - 45 buses per hour for ISBT functions, and
 - 95 for city service.

This is about 20% higher than current demand.

- Daily at the Ukkadam bus terminal,
 - 201 buses make -712 interstate and inter-district trips (20 minutes' layover), and
 - 273 local buses make -2273 trips (5 minutes' layover).
- Layover time is obtained from site observations and comparison with bus parking demand over five years.
- ISBT involves dynamic bay allocation,
- ISBT is provided 2, 7 and 11 bays for offloading, loading and idle parking respectively
- local terminal- fixed bay allocation
- local buses are provided 10 common bays.



Private vehicle and Freight service vehicle circulation

- **Private vehicle and Freight Service:**

- Private vehicle parking area is 246.5 sq. m.
- Entry for private and freight vehicles is from Palakkad Road through the service road (one-way circulation);
- Exit for all the vehicles is common (from Ukkadam-Sungam bypass road).



Feeder circulation

- **Feeder Service:**

- Feeder drop off/pick up bays are proposed near bus unloading bays on the service road (total 3 feeder bays for 20 vehicles).



Pedestrian circulation

- **Pedestrians:** As per guidelines, this terminal is required to accommodate
- a total of 743 passengers and visitors for ISBT functions and
- 52 passenger and visitors for local bus terminal functions.
- Local bus bays with raised pedestrian crossing connect all passenger platforms in a series.
- The bollards visually segregate the passenger circulation area from the bus area. This provides adequate visibility and safety for passengers.
- The total outdoor passenger circulation is approximately 3576 sqm.
- Pedestrian Plaza is proposed near Ukkadam-Sangham Bypass road and includes landscaped area, hawker's space, seating areas, etc.

PROPOSAL 2



Area allocation for ISBT and Local terminal

THE FUNCTION-WISE AREA USE OF THE SITE		
1.	ISBT bus circulation	2933sq. m.
2.	Local terminal bus circulation	2861sq. m.
3.	Terminal building,	1124sq. m.
4.	For freight services	228.2sq. m.
5.	Feeder service and private vehicle parking	450sq. m.
6.	Common vehicular circulation	1855sq. m.
7.	Passenger circulation	2001sq. m.



Terminal Building Ground floor



Terminal Building First floor

TERMINAL BUILDING		
THE GROUND FLOOR		
1.	Administrative office and driver rest room area.	687sq. m.
2.	Concourse area.	257.6sq. m
3.	Toilet block	25 sq. m.
4.	Commercial/retail space	329 sq. m.
THE FIRST FLOOR		
5.	Railway reservation office	183sq. m.
6.	Post office area	45sq. m.
7.	Toilet block	25 sq. m.
8.	Commercial/ Retail space	329 sq. m.



Pedestrian infrastructure to access the terminal



ISBT Bus circulation

- For ISBT terminal, the offloading bays are provided close to the feeder pick up lanes
- After off-loading, the bus shall park in the idle bays (as layover time for ISBT buses is 20 min) while passengers can access variety of feeder vehicles from auto-rickshaw or local bus
- Perpendicular boarding bay arrangement is recommended as they offer compact passenger loading options.



Local Bus circulation



Private vehicle circulation

- For medium sized local bus terminal, perpendicular arrangement of bus parking for loading passengers Bus Terminal Design Guidelines is recommended.
- the buses turn right angles
- After entering the site to enter their respective bus bays and the bus parks in its allocated bay to alight and load new passengers all within 5 minutes an
- The total outdoor bus circulation area is 6464 sqm.
- **Private vehicle and Freight Service**
- Total area provided for private vehicle parking is 221.5 sqm
- The entry point for private vehicles and freight vehicles is from Palakkad road through the service road (one way circulation) and
- The exit for the same is same for all vehicles from Ukkadam-Sungam Bypass road.



Feeder circulation



Pedestrian circulation

- **Feeder Modes:** The feeder drop off/pick up bay (total 1 feeder bay for 18 vehicles) is proposed near bus unloading bays on the Palakkad road (outer edge of terminal).
- **Pedestrians:** As per the guidelines this terminal is required to accommodate a total of **743 passengers and visitors for ISBT** functions and **52 passenger and visitors for local bus terminal** functions.

Essential Requirements

- The guideline intends to provide standards and recommendations for planning and designing bus terminals, per the Indian context. For this, a list of broad infrastructural requirements has been drawn up, through literature review. These requirements are the essential ingredients for planning and designing bus terminals, and have been classified as:
 - Primary infrastructure requirements and
 - Supporting infrastructure requirements.

PRIMARY INFRASTRUCTURE REQUIREMENTS

- Primary elements to be considered with regard a bus terminal's infrastructure development can be classified for three different user types. These include
 - passengers,
 - terminal staff and
 - bus staff.

- **1. PASSENGER AREAS**
 - a. Ticketing and queuing
 - b. Passenger waiting areas Bus Terminal Design Guidelines
 - c. Passenger conveniences (drinking water facilities and toilets)
 - d. Passenger circulation
 - e. Boarding/Departing areas
 - f. Facility entry
 - g. Tourist information
 - h. Security, including CCTV cameras
 - i. Retail, concessions and lease space
 - j. Dormitories and lodging (if required)
 - k. Cloak room
 - l. Railway reservation

2. AREAS FOR TERMINAL STAFF

- a. Revenue office
- b. Security and information
- c. Ticketing booth
- d. Resting room
- e. Staff conveniences (drinking water facilities and toilets)
- f. Canteen
- g. Maintenance staff (chairs and lockers)
- h. Control room (CCTV surveillance)

3. AREAS FOR BUS STAFF

- a. Canteen
- b. Resting areas
- c. Lodging areas (if required)
- d. Bus staff conveniences (drinking water facilities and toilets)

Supporting Infrastructure

- Bus terminal infrastructure planning is not just about provision of requisite facilities, but also about how these facilities serve the terminal users. It has been observed that even large and newly constructed terminals fail to meet commuter requirements and expectations. This can be attributed to poor functionality and upkeep of provided facilities, such as shabby waiting areas, lack of connectivity, dilapidated rest sheds, stinking environs, poor ambience etc. Supporting infrastructure refer to the additional facilities which aid in enhancing user experience, efficiency, and attractiveness of bus terminal. These include provision for
 - Feeder infrastructure,
 - Seating, Landscaping,
 - Lighting, way finding (Passenger Information Systems (PIS),
 - signage and marking),
 - public art, and
 - breakdown services.

- **Public art:** Visual space perception (mental copying of objects and events of the outer world) helps people recognize spaces within a particular environment, such as a bus terminal complex. It increases the imageability, cultural identity, and social attractiveness of enclosed spaces. As such, public art installations and other aesthetic elements in the complex are likely to contribute to its visual appeal and overall attractiveness, and must be integrated into the terminal building's development. Contemporarily, 'public art' has also come to include various other elements like urban furniture, lighting, multimedia, graffiti and commercial art. Public art is by the people, and for the people, and as such should also be sourced from them. Therefore, it is important to allocate planned spaces for such installations, and make appropriate funding available for integration of the same.
- **In-terminal breakdown services:** Buses plying on long inter-state or intra-city routes often require minor maintenance, involving fan, engine belt, tires, outer body etc. As terminals are not equipped to handle minor breakdown requirements, buses remain parked there, till engineers from the concerned depot can visit to attend to them, or they can be towed back. This affects the service schedule, in turn inconveniencing the passengers. Therefore, including provisions for in-terminal breakdown service in infrastructure, is crucial for an efficient service planning.

- **Feeder infrastructure:** The infrastructure which connects the bus terminal with the city is referred to as supporting access (or feeder) infrastructure. It includes provision for various modes that provide access—and act as feeder—to the bus terminal. These include parking for private vehicles; drop-off and pickup bays for private vehicles, taxis, auto rickshaws cycle rickshaw, shared vehicles such as vans/jeeps etc.; and bays and/or stops for local bus services. Integration of all these modes makes for higher passenger convenience and increased intermodal accessibility.
- **Seating:** Seating—in and around the bus terminal complex—shall be planned to cater to a minimum of 30% of all passengers in the facility. Seating is required so as to avoid obstruction to the flow of passenger traffic through the complex; it should be designed to combine comfort, ease of maintenance and resistance to vandalism.
- **Hardscape and landscaping:** It is important to ensure that landscaping complements the spatial design and enhances the visual appeal of the terminal. Outdoor and indoor passenger areas should be smoothly hardscape, to facilitate easy connection between site's periphery and the terminal. The paving's surface quality should ensure durability as well as resistance against wear, walking comfort and usability by wheelchairs, prams and baggage trolleys.
- **Lighting:** Lighting should be designed to meet minimum illumination levels and quality standards for both indoor and outdoor application. Natural lighting elements such as sky lights shall be used to enhance lighting level without increasing the energy load of the terminal facility. Lighting fixtures should be energy efficient, require low maintenance, and minimize light pollution and glare.

- **Signage:** PIS—including both dynamic and fixed signage—constitute an integral part of the terminal's way finding infrastructure, and play an important role in regulating vehicular and pedestrian movement. They provide relevant information, warnings and directions, thus facilitating ease of access, convenience and safety. They should be strategically placed, consistent and easy to interpret. Public address system should be integrated into the design, at all terminal facilities. The aim is to provide a robust, functional, and visually discrete system that can provide communicative information and also be linked to the security system for warning (in case of emergency).

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
For
“Sustainable Integrated Transport Hub”

The environmental impact study includes all the aspects of physical changes expected. Field studies shall be carried out to substantiate project impacts and develop mitigation plans to protect the ecosystem and environment on and off the proposed site at Dahisar.

A survey has been conducted for the study of environmental scenario at proposed site. The baseline environmental components which assessed along the project site are as follows:

1. *Land Use Pattern*
2. *Drainage*
3. *Wetlands*
4. *Forests*
5. *Religious & Cultural Property*
6. *Ecological Sensitive Areas*
7. *Archaeological, Historical & Heritage Sites etc.*

Proposed Site

The site is a barren flat land with plot area 18,674.00 sq.mt. falls under commercial zone.

1. Land Use Pattern

The present location is directly beneficial for the commuters of Dahisar, Borivali and the commuters from outside has access to rest of the city. It is the starting point of Municipal Corporation of Greater Mumbai. The entire corridor has no major commercial establishments, however it is surrounded by many residential apartments.

2. Drainage Pattern

Natural drains are not located in the proximity of proposed bus terminal site.

3. Wetlands/Water Bodies

There is no wetland of national and international importance, ponds and reservoirs exist in close proximity of the proposed location.

4. Forests

There are no natural forest, reserve forest, protected forest and natural heritage sites of national and international importance in the proximity of project influence area.

5. Biological Environment

Local Flora: The trees reported at project site are mainly *Ficus religiosa*, *Syzygium cumini*, *Polyalthia longifolia* and *Prunus dulcis*.

- Compensatory plantation of 1:2 ratio i.e. planting of 2 trees for felling of 1 tree will be done.

Local Fauna: There are no forests (reserve and protected forests), Ramsar site and no fauna reported within 10 Km radius of proposed project site, which has ecological importance as per EIA notifications.

6. Ecological Sensitive Areas

There is no biosphere reserve, national park and world heritage sites etc. within 10 km radius of the proposed project site.

7. Religious and Cultural Properties

No religious and cultural properties within the site.

8. Cultural Heritage (Archaeological Sites and Historical Monuments)

There are no Cultural Heritage properties such as archaeological sites and historical monuments of national and international importance within radius of 300 meter from the proposed project site, as per Govt. of India, Gazette Notification No.- 13, dated 30 March, 2010 on "The Ancient Monuments and Archaeological Sites and Remains (Amendment & Validation) Act, 2010".

9. Finding of Environmental Issues

The environmental issues within radius of 10 km of proposed project site are

- Trees
- Noise and dust during construction
- Traffic management
- Wastes like garbage, debris etc. generated during construction.
- Safety of road users.

A detailed Environmental Management Plan (EMP) and solid wastes management plan has been developed, to safeguard and protect the environment during the construction period.

a. Environmental Management Plan

Environment management plan deals with the management measures recommended to avoid, minimize and mitigate foreseen environmental impacts of the project. To mitigate the impacts best engineering practices are recommended to ensure that the bus terminal optimizes the use of available land, resources to minimize costs and to ensure environmental safeguards as per the World Bank guideline and requirements.

The following are the aspects of environmental management and recommended mitigation measures that should be followed by the agency during construction of bus terminal at Dahisar.

Environmental Aspects	Management Measures
Construction Stage	
Debris Disposal	<p>The Contractor shall identify disposal sites and shall report the same to the Environmental Engineer. These locations shall be checked on site and accordingly approved by Environmental Engineer prior to any disposal of waste materials.</p> <p>The Contractor shall prepare Comprehensive Solid Waste Management Plan in consultation with Environmental Engineer and after approval of plan by Environmental Engineer debris shall be disposed off accordingly.</p> <p>No dismantling shall be carried out without identification and approval of site by Environmental Engineer.</p>
Safety Arrangement	<p>The Contractor shall prepare plan of safety arrangements and submit it to the Environmental Engineer for approval, five days prior to the commencement of works of Bus terminal site.</p> <p>The cautionary sign boards should be placed, 50 m ahead the construction zone with retro reflective tapes. The signs boards, lights, barriers, safety cones shall be maintained in a satisfactory manner as directed by the Engineer.</p>
Handling and storing of materials	<p>The Contractor shall prepare a plan for storage of material at bus terminal site and shall submit for the approval to Engineer.</p> <p>Area of storage of material near the work site shall be earmarked in consultation with Environmental Engineer.</p>

	The ground for storage of materials should be levelled. All construction materials should be stored properly on platforms and other supports in line with IS: 7293 & IS: 7969.
Damage and Disruption of Utilities Services, existing green vegetation	<p>The Contractor shall not obstruct any utilities services and existing vegetation during the construction of bus terminal infrastructure.</p> <p>The Contractor shall carry out excavation carefully for foundation work during the bus terminal construction without damage to existing water pipeline, telephone line, electrical poles and transformers.</p>
Flora	The Contractor must take measures to protect all existing trees during the construction of bus terminal.
Labour	The Contractor shall make necessary arrangement for toilets and drinking water requirement at site.
Pollution	
Water Pollution	
Water Pollution from Construction Wastes	All waste generating from the Bus terminal construction activity is to be disposed off at municipal landfill site and as per approval of the Engineer. The wastes must be collected and stored at the wastes storage yards and should be disposal at approved disposal sites. The Environmental Engineer shall certify that all wastes generated at Bus terminal site have been disposed off as to have no pollution to any water body and to the environment.

Drainage and runoff	<p>The Contractor shall ensure that no construction of materials like earth, stone or any other construction material shall be left inside the storm water channel to which impede the flow of water. All vents should be cleared and clean from the extraneous wastes in order to free intake of surface run off in the storm water drain of bus - terminal infrastructure.</p> <p>The Contractor shall take all measures as directed by the Environmental Engineer to prevent temporary or permanent flooding at the site or any adjacent area.</p>
Borrow Materials	No borrow materials should be taken from river beds, irrigation canals and any other water course.
Air Pollution	
Dust Pollution	The Contractor shall take all measures to suppress dust fumes. Water Tankers should be placed, for sprinkling of water to control dust.
Noise Pollution	
Noise Control	<p>The excavation should be made using good engineering practices so that noise levels are kept at acceptable levels.</p> <p>Ear muff should be provided to the workers.</p> <p>Job rotation should be made to reduce the noise expose to the workers.</p>
Safety	
Tool Box Talk	Tool Box Talk should be held at the first hrs.

	<p>Toolbox is the routine exercise for the workers to alert on accidental risks and to ensure personal safety, hazards at work place and preventing measures.</p> <p>The Tool Box Talks should be made at designed place fixed for assembly points to raise awareness followed by information of hazardous risks, near miss, and injuries.</p> <p>Toolbox meeting improve workplace safety, health environment by deciding what action needs to be taken to reduce the risks.</p>
<p>Personal Safety for Labour</p>	<p>The Contractor shall provide:</p> <ul style="list-style-type: none"> ✓ Safety Shoes, Gum boots, Goggles and Safety Jackets to all workers employed on cement mortars, brick work, concreting, and painting ✓ Welders should have protective eye shields when engaged in welding works. ✓ Earplugs should be provided to workers who exposed to loud noise, working with jack hammer, joint cutting machines, vibrators. ✓ Adequate safety measures for workers during handling of materials. ✓ The Contractor shall comply with all regulations for safe working zone at excavations and trenches. ✓ At every workplace, drinking water shall be made available to avoid waterborne diseases. ✓ The Contractor at his own expenses shall put up necessary shuttering and planking or cut slopes to a safer angle or both with due regard to the safety

	<p>of personnel and workers and to the satisfaction of the Engineer.</p> <p>The Contractor shall comply with all the precautions as required for ensuring safety of the works as per the International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this Agreement.</p> <p>The Contractor shall make sure that during the construction work all relevant provisions of the Factories Act, 1948 and the Building and other Construction Workers (regulation of Employment and Conditions of Services) Act, 1996 are adhered to.</p> <p>The Contractor shall not employ any person below the age of 14 years for any work and no woman shall be employed on the work of painting with products containing lead in any form.</p> <p>The Contractor shall also ensure that no paint containing lead or lead products is used to except in the form of paste or readymade paint. The Contractor shall provide facemasks for use to the workers when paint is applied in the form of spray.</p> <p>The Contractor shall develop a Construction Safety Plan and the same be submitted for the approval of Engineer. The Contact numbers of Police, Fire Brigade, Ambulance, Police Station and Environmental Engineer should be displayed at each bus - terminal Site.</p>
<p>Handling of Chemicals</p>	<p>Any skin contacts with epoxy materials, solvents and epoxy strippers should be avoided.</p> <p>The resin and hardener should not be allowed to come into direct contact with skin. The most effective protection is</p>

	<p>achieved by wearing polythene gloves, rubber gloves, with a cloth liner, and protective clothing.</p> <p>If materials are sprayed, a respirator shall be used.</p> <p>All discarded buckets and containers shall be removed from site. These shall be stored in waste disposal site.</p>
	<p>The Contractor shall submit the pedestrian safety management plan for safe working zone and the same should be approved by Environmental Engineer. Delineator post should be provided at the interval of 20 meter along the entire bus - terminal construction site.</p>
Management of Safety	<p>The Contractor shall take all necessary measures for the safety of local communities during the construction of bus - terminal. The Contractor shall provide, erect and maintain the bamboo barricades including the signs boards, markings, red flags, warning sign boards.</p>
	<p>The Contractor shall ensure that all signs, barricades markings are provided as per the standards & specifications.</p>
Informatory Safety Sign Boards	<p>The Contractor shall provide, erect and maintain informatory/ safety signs written in English and Hindi, Kannada wherever required or as suggested by the Environmental Engineer.</p>
Pollution Monitoring	<p>The Contractor shall monitor Air Quality at bus- terminal site at peak hrs of construction, quarterly except the monsoon.</p>

	<p>Sanitation Facilities:</p> <p>The Construction camps shall be provided with sanitary latrines and urinals. Closed drainage systems and the proper treatment systems according to the local conditions should be constructed for the proper flow and effective drainage.</p>
	<p>Shelter at work place:</p>
Medical Facilities at Construction camps/ sites	<p>At such work places where the duration of the works will prevail for more than one month some form of shelters will be provided for meals, resting, change of clothes and for keeping the tools of the work and personal protective equipment. The height of shelter shall not less than 3m from floor level to lowest part of the roof.</p> <p>Health care Facilities:</p> <p>The Contractor should be provided basic health care facilities at the construction camps.</p>
	<p>The health centre will have at least a doctor (part time), nurses, duty staff, medicines and minimum medical facilities to tackle first-aid requirements for minor accidental cases. The arrangements will be made with the nearest hospital to refer patients of major illnesses or critical cases.</p>
	<p>Day crèche facilities</p>
	<p>At construction sites where women with very young children are employed, provision of a day crèche shall be provided. At construction sites where 20 or more women are ordinarily employed, a hut for children under the age of 6 years shall be provided.</p>

<p>First Aid</p>	<p>A readily available first- aid unit including an adequate supply of sterilized dressing materials and appliances as per the Factories Rules, should be kept at Bus - Terminal Construction site.</p> <p>The first-aid box should contain antibiotics, pain killers, sterilized dressing material, antiseptics, bandage and other necessary appliances be available as per the factory rules.</p>
<p>The Contractor 's Demobilization</p>	
<p>Cleanup Operations, Restoration and Rehabilitation</p>	<p>The Contractor shall prepare site restoration plans. The clean- up and restoration operations are to be implemented by the Contractor prior to demobilization.</p> <p>All excavated sites which are not used for construction works shall be re-filled and the entire site left clean and tidy at the Contractor 's expense, to the satisfaction to the Engineer</p> <p>The Contractor shall clear all the temporary structures, residual spoils, other wastes laying in and around the project site as per Comprehensive Waste Management Plan.</p>

WESTERN EXPRESS HIGHWAY



ZONING

- RETAIL
- SERVICE CORE
- FOOD COURT
- PARCEL/COURIER SERVICE
- TICKETING OFFICES

GROUND FLOOR PLAN

Design for a Transport Hub, Dahisar, Mumbai



CIRCULATION

- RETAIL
- TOURIST OFF./ONWARD JOURNEY TICKETING
- TAXI/AUTO BOOKING
- PARCEL/COURIER SERVICE
- STAFF AREAS
- SERVICE CORE/TOILETS
- BMS/SECURITY/CONTROL CENTRE



FIRST FLOOR PLAN

Design for a Transport Hub, Dahisar, Mumbai





-  CAR/TAXI PARK
-  BUS PARKING
-  BUS MAINTENANCE
-  SERVICES

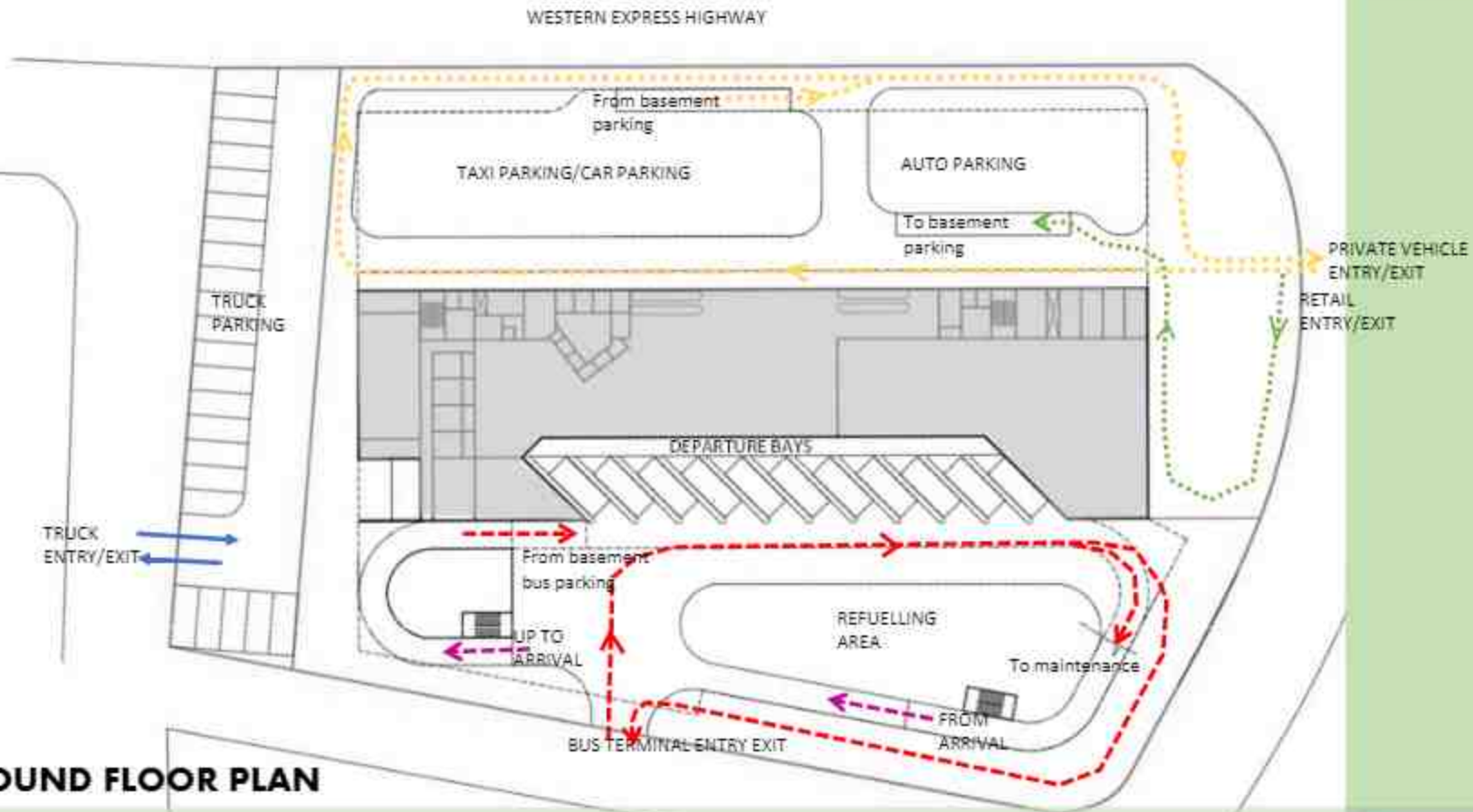
BASEMENT



Design for a Transport Hub, Dahisar, Mumbai



CIRCULATION

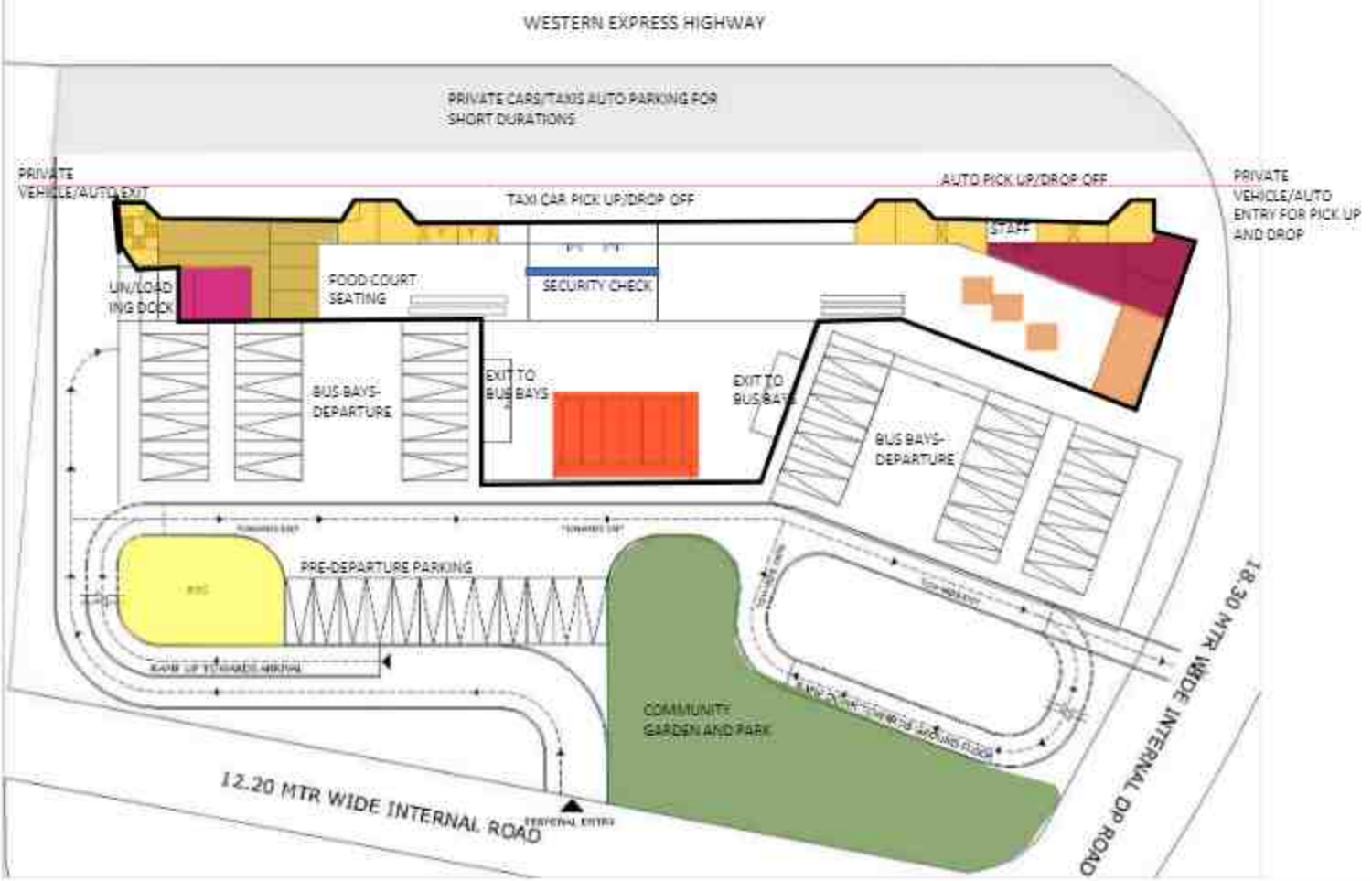


GROUND FLOOR PLAN

Design for a Transport Hub, Dahisar, Mumbai



ZONING GROUND FLOOR PLAN

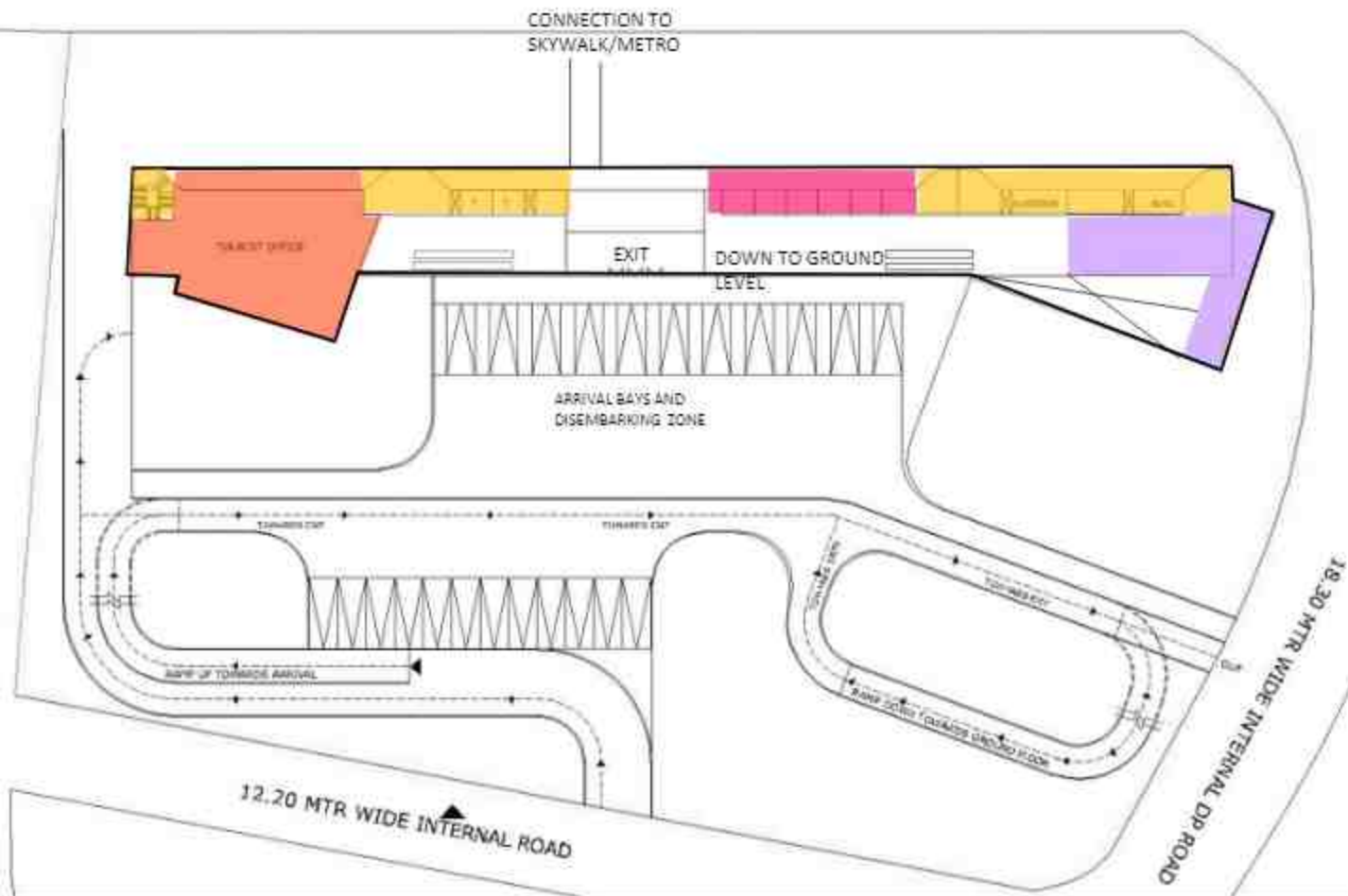


- RETAIL
- LOBBY/WAITING AREA
- TICKETING
- FOOD COURT
- TOURIST OFFICE
- TAXI/AUTO BOOKING
- PARCEL/COURIER SERVICE
- STAFF AREAS
- SERVICE CORE/TOILETS
- BMS/SECURITY/CONTROL CENTRE



Design for a Transport Hub, Dahisar, Mumbai





ZONING FIRST FLOOR PLAN

- RETAIL
- LOBBY/WAITING AREA
- TICKETING
- FOOD COURT
- TOURIST OFFICE
- TAXI/AUTO BOOKING
- PASSENGER FACILITIES AND SERVICES
- STAFF AREAS
- SERVICE CORE/TOILETS
- BMS/SECURITY/CONTROL-CENTRE

Design for a Transport Hub, Dahisar, Mumbai





**VEER SAVARKAR
UDYAAN PROJECT
– REVAMP & SOLID
WASTE
MANAGEMENT
INITIATIVE**





INDEX

- The Road map
- The site study and observations
- Community and user Survey
- Inferences
- Zoning Proposal



The Road Map



LEAP 1

COMMUNITY SURVEY -SWM-

Understanding present knowledge, current situation of waste segregation and desire to participate

LEAP 2

COMMUNITY SURVEY REQUIREMENTS

Addressing/collecting current issues within the park and activity requirements from the people

LEAP 3

MUNICIPAL WARD LEVEL MEETINGS

Discussion at ward level, the issues to be addressed and upgradation required for the park area. Compliance w.r.t. SWM

LEAP 4

ANALYSIS

Study, analysis and sorting of all data received



LEAP 5

CONCEPT DESIGN PROPOSAL

ACA research and design cell will put forward a master plan proposal with architectural design inputs

LEAP 6

ACA STUDENTS

Based on derived proposal by ACA research & design cell, ACA students will be put forward to detail out the ideas.

LEAP 7

SQUAD CHECK

All works will be checked and verified by the college project subject faculty and the Research-Design cell with the final approval of ACA Principal.

LEAP 8

SPONSORSHIP

Associating with vendors and companies for probable monetary sponsorships for execution purposes.



LEAP 9

COLLABORATIONS WITH ORGANISATIONS

Organisations working with recyclable materials, SWM, etc can collaborate for the execution.

LEAP 10

EXECUTION

With the possibility of approvals/safety measures, divided in groups, ACA students will carry out the execution of tasks under their identified scope of work.

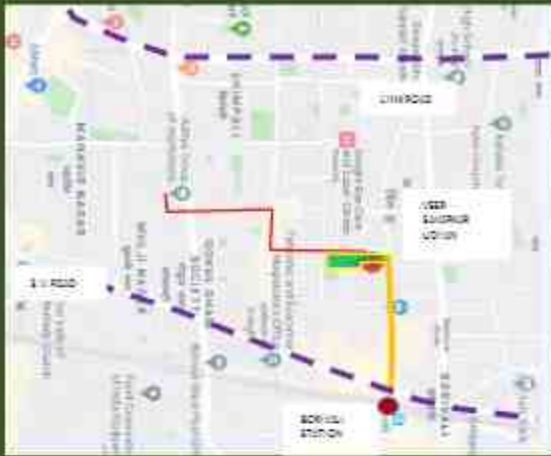
REVAMP OF VEER SAVARKAR UDYAN

This project involves the redevelopment, redesign, and upgradation of the Veer Savarkar Udyan in Borivali West.

The primary objectives of proposal are identified as:

1. Studying and documenting the park to understand the shortcomings and identify the areas that require intervention and creating a paper that documents the same
2. Redesign of the masterplan based on the feedback collected from the users.
3. Creation of a SWM strategy and make the neighbouring community aware of the benefits and use of the programme

Site Location



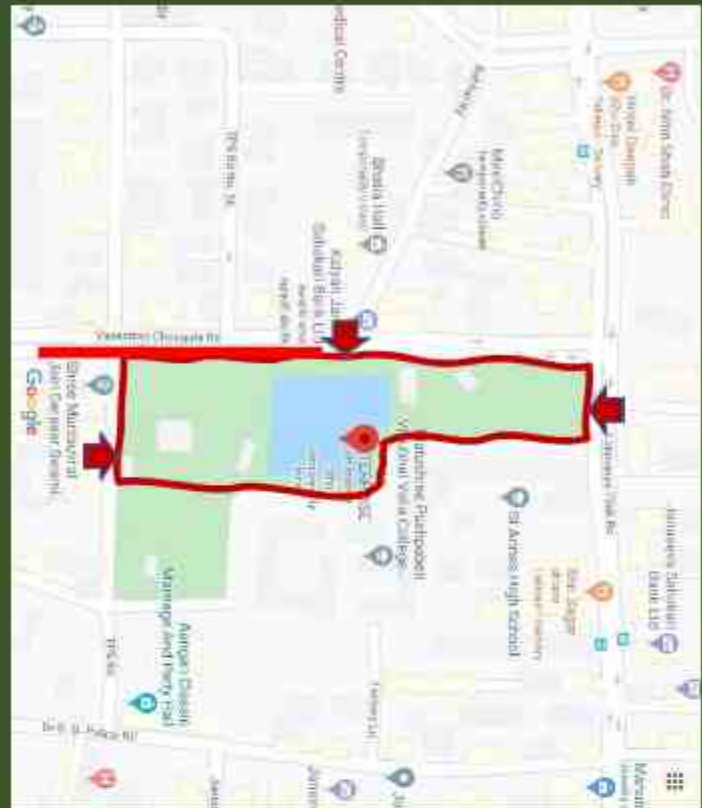
CONNECTIVITY

Distance from Borivali station - 1.6 km

Directions to Veer Savarkar Udyan (Borivali West) with public transportation

The following transit lines have routes that pass near Veer Savarkar Udyan

Bus: 202 LTD, 210 LTD, 224, 226 LTD, 451 LTD - (3), 710 LTD



The Site



- Veer Savarkar park in Gautam Nagar, Borivali west is a park surrounded primarily by residential towers.
- St. Annes school is located to its east boundary
- the park is used extensively in the morning and evening by the surrounding residents and the design provides recreation to all age groups

Site Study



Site Study



Design Strategy, Community and Ecology

Aim of the exercise is to design a master plan that caters to all age Groups and considers the following parameters:

- Engages with the community to derive a revised brief by conducting surveys
- Creates spaces that encourages mental physical and spiritual wellness of an individual
- Inculcates a sensitivity towards the environment within the community
- Introduces a solid waste management programme that benefits the community and the micro-environment.
- Understands the current facilities that need to be provided in the park and creating a space relevant to all age groups
- Involves the Upgrading of the existing facilities
- Creates outreach programmes that help the community interaction and create awareness about environmental issues
- Ensures that the spaces created are self sustaining and well maintained



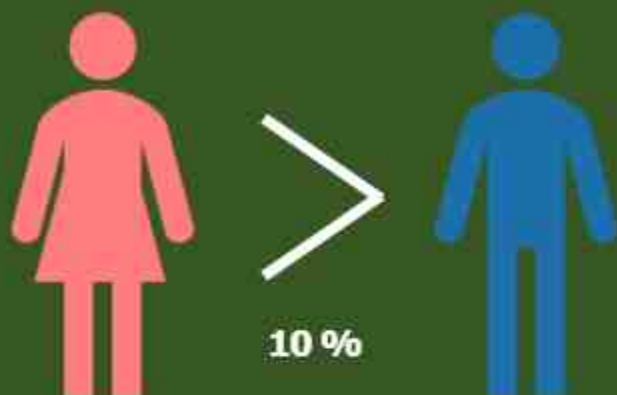
REVAMP OF VEER SAVARKAR UDYAN

PROCEDURE:

1. Site Visit and Site Study
2. Creating questionnaire for physical and online study
3. Obtain database for survey
4. Conduct online survey through students
5. Conduct physical online survey by faculty
6. Analyze the data
7. Determine the programme
8. Faculty to design masterplan on basis of survey
9. Present to client and revise till approved
10. Assign redesign components to student groups to take up each area for detail design and SWM
11. Look for sponsors for street furniture and providing recycled/reused materials
12. Present entire scheme (masterplan + detail design) to all stake holders for feedback
13. Revise as per feedback and commence actual work on site.



Survey Response Inference



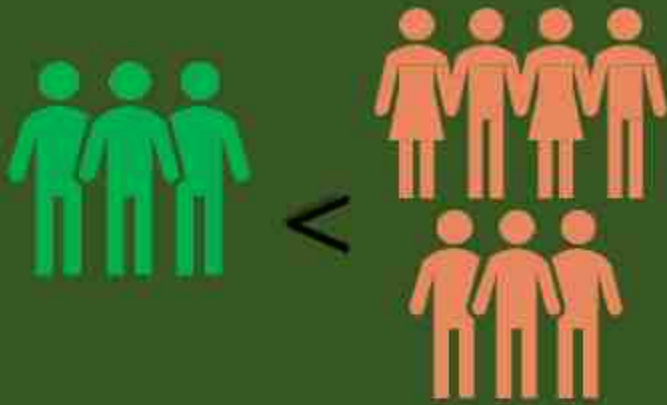
Female respondents are 10% more than male respondents.

Majority of respondents are young & actively participate in the usage and review of the VSU premises.

Senior citizens use the park in the early morning hours whereas the younger people prefer going there during evenings.



Respondents did not have any physical disabilities, including their family members, as per the survey.



LOCALS

OUTSIDERS

Many Respondents are not local (Borivali) and have listed their area of residence 'OTHER'.

Survey indicates a ratio of 60 – 40 of Local vs Other areas

Primary activities include fitness (walking, jogging, running, cycling) and recreation (lounging, sitting & bird watching).



PRIMARY ACTIVITIES



OUTSIDERS

LOCALS

Awareness About VSU

Responses indicate that the awareness about VSU is lesser amongst the local residents than amongst outsiders

Majority of the respondents appear to be satisfied with VSU



RESPONDENTS ARE SATISFIED WITH VSU



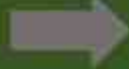
ONLY PART RENNOVATION IS EXPECTED BY USERS

Majority of the respondents expect partial renovation work necessary for park upkeep.

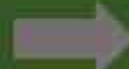
Fee structure need to be reviewed since there is significant variation in the responses.



AS PER SURVEY FEE CAN BE REVIEWED



Majority of the respondents were aware of the availability of washrooms.



Majority of the respondents are not using the toilets

Majority of the respondents expect better hygiene and cleanliness in the washrooms



RESPONDENTS EXPECT HYGIENIC & CLEAN TOILETS

Majority of the respondents expect better artificial lighting conditions.



**SURVEY BASED SPECIFIC
ACTIVITY INSERT**

Respondents expressed their needs and dedicated activity spaces and requirements

Separate cycling track need to be provided to ensure safety of all user & adequate measures need to be planned for controlling pests and insects.



**SEPARATE TRACKS &
CONTROL PESTS**

Adequate planting needs to be provided to create buffer on the periphery to prevent outside noise.

Quite areas need to be designated within the park to minimize disturbance to passive activities.



As per the responses the primary areas that require revamp are Seating, water body & vegetation.

Additionally, pathways, railings, gazebos & kids play areas also require upgradation

INFERENCES

- As per responses adequate awareness of SWM is present amongst the respondents but implementation is poor.
- Strategies for better public private partnership and involvement of local residents need to be implemented since the people are willing to participate as per responses received.

Survey Inference – At a Glance

S. NO:	OBSERVATIONS	INFERENCES	SUGGESTIONS
1	Female respondents is more than 10% greater than male user group		
2	Predominantly the younger generation are actively participating in the usage and review of the VSU premises. The park is majorly used by the senior citizens in the early morning hours whereas the younger people prefer going there during evenings.		
3	Majority of the users are not local and have listed their area of residence 'OTHER'.	Since the users agree predominantly college going age group they may be studying at institutes located near VSU and are visiting before or after college hours.	Study group facilities can be provided.
4	Currently none of the respondents and their family members are having any disabilities	Starting from the main entry the park requires universal design strategies to be implemented	
5	Primary activities fitness (walking, jogging, running, cycling) and recreation (lounging, sitting & bird watching)		To be encouraged
6	The awareness about VSU is lesser amongst the local residents than amongst outsiders		
7	A majority of Locals rarely visit the park		To draw more people towards the park
8	Majority of the respondents appear to be satisfied with VSU		
9	Fee structure needs to be reviewed since there is significant variation in the responses.		
10	Majority of the respondents were aware of the availability of wash rooms		

S. NO:	OBSERVATIONS	INFERENCES	SUGGESTIONS
12	Majority of the respondents expect better hygiene and cleanliness in the washrooms.		
13	Majority of the respondents expect better artificial lighting conditions.		
14	As per responses, very few accidents were reported. The ones that are reported are primarily with regard to cycling, tripping and animal/insects issues.	Separate cycling track needs to be provided to ensure safety of all user & adequate measures need to be planned for controlling pests and insects.	
15	Majority responses are positive towards developing parts of the Park rather than the whole.		
16	As per the responses the primary areas that require revamp are Seating, water body & vegetation. Additionally pathways, railings, gazebos & kids play areas also require upgradation.		
17	Predominantly the responses show that the park is safe and the primary nuisance is noise.	Adequate planting needs to be provided to create buffer on the periphery to prevent outside noise and quiet areas need to be designate within the park to minimize disturbance to passive activities.	
18	The respondents have shown interest in the inclusion of specific activities such as yoga & laughter clubs as well as music and dance groups.	Designated zones for quiet activities to be provided separate from other loud activities.	

VSU – SWM - Survey Responses

As per responses adequate awareness of SWM is present amongst the respondents but implementation is poor. Strategies for better public private partner ship and involvement of local residents need to be implemented since the people are willing to participate as per responses received.

Also provision of SWM within the premises of VSU is recommended.

The Proposal

AIM:

- To create activities in the park to encourage its use by all age groups, especially the youth between 13-19 years of age.

Age Group 3-10

- Better more exciting play equipment
- Bicycle/tricycle loop



Age Group 13-19

- Rock Climbing



Age Group 60+

- Reading areas
- Board game areas
- Reflexology



Community Facilities:

- For Skating classes
- Dance and music facility
- Holding drawing competitions
- Interactive games



General suggestions;

- Benches and better street furniture
- Better lighting and signage
- Better equipped Open gym
- Amphitheatre, solar trees
- energy saving measures
- Herbal garden
- Solid waste management



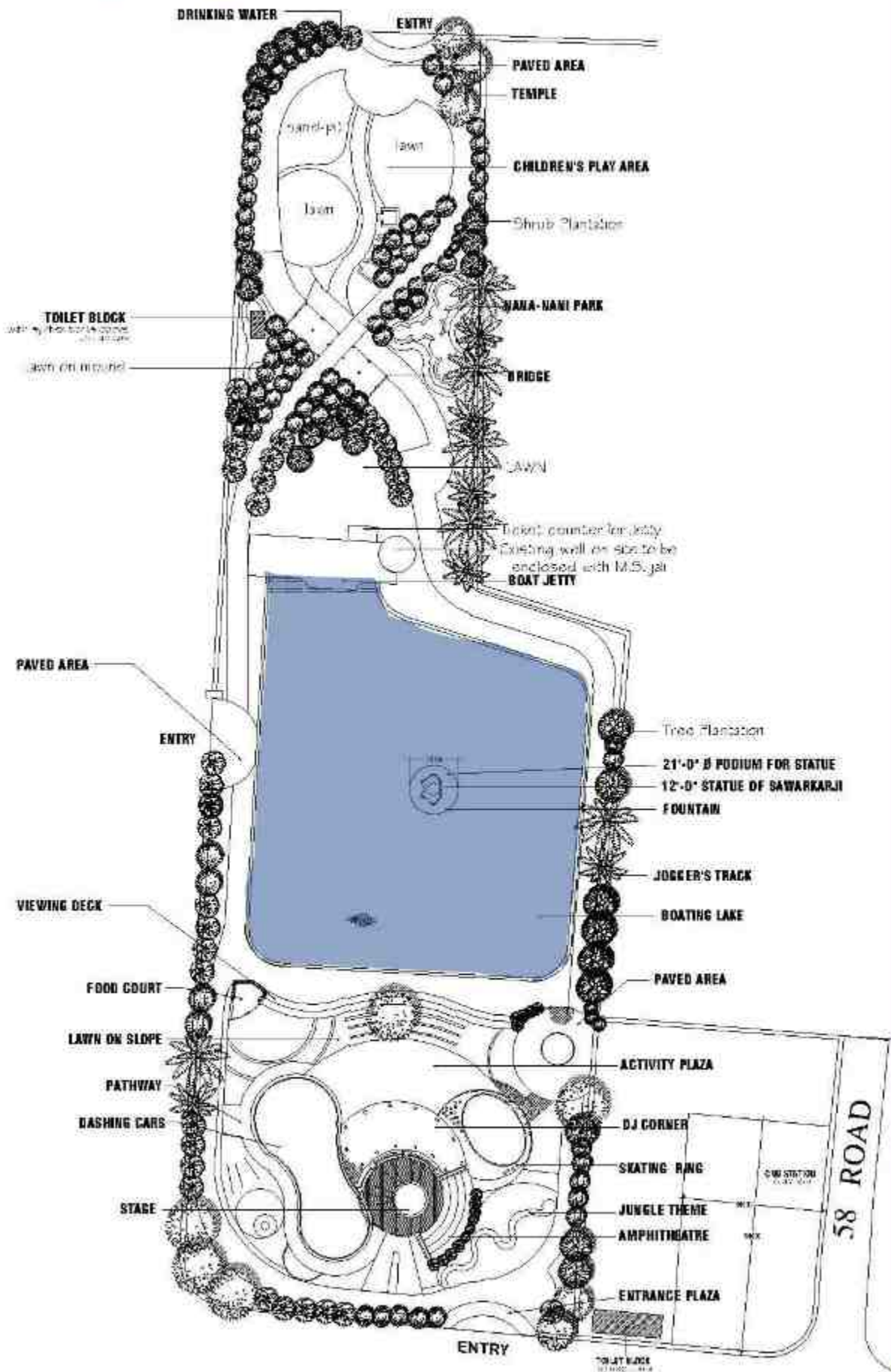
@amy stock photo

The creation of a large eco zone is proposed that showcases different varieties of indigenous trees is proposed. The zone will attract a variety of bird and insect species which can be viewed by school students on an excursion. Furthermore, this area will also provide serenity to those seeking a moment of solace.

Eco- Zone



Existing design



Proposed Zoning



SOLAR POWER LIGHTS WILL BE ADDED ALONG THE WALKWAYS



SPACE FOR SOUND AND LIGHT SHOW ADDED



Currently the area has a few benches not in very good condition



Currently there is an amphitheatre here whose use is not explored to its maximum potential



Currently in this area there are some trees and some displays that highlight the life of veer Savarkar. The trees though give adequate shade, they do not support a microclimate ecology



VEER SAVARKAR EXHIBITION INFORMATION/FILMS ADDED AS ACTIVITIES IN THE ECO TRAIL WITHIN THE PAVILION

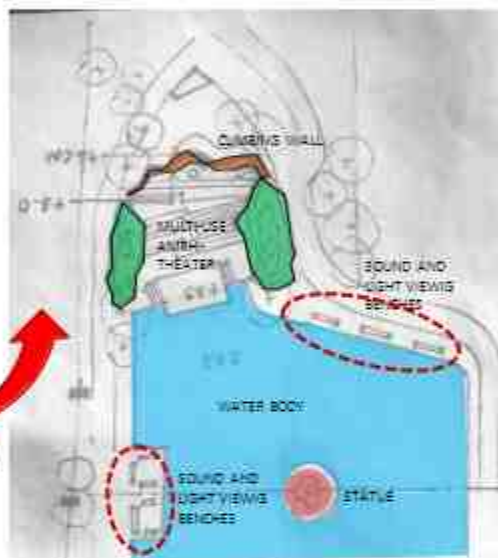
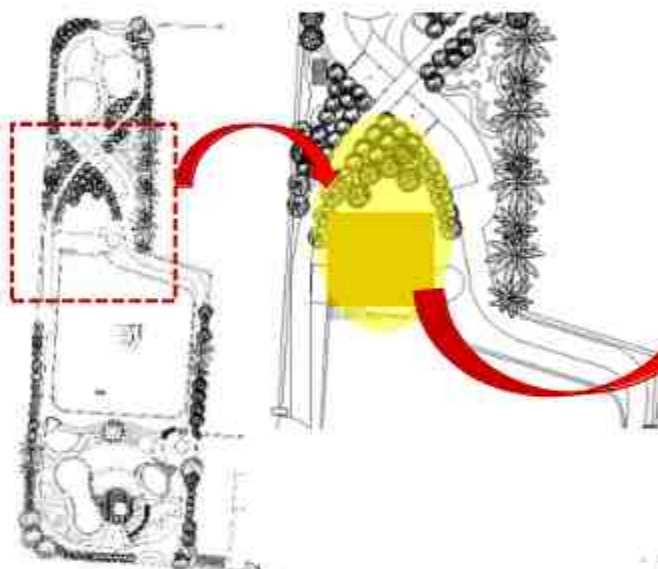
Proposed Ideas



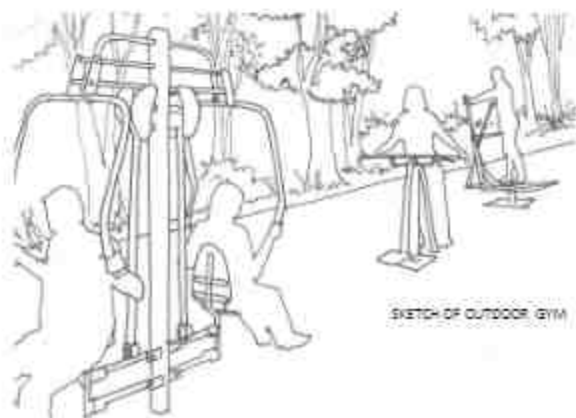
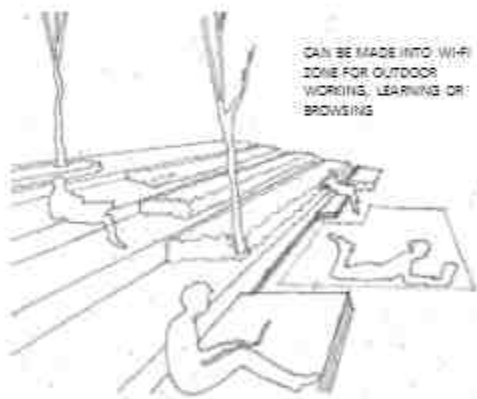
SKETCH OF AMPHITHEATRE



SKETCH OF CLIMBING WALL



ACTIVITIES IN THE AMPHITHEATRE - SMALL BANDS AND CONCERTS



SKETCH OF OUTDOOR GYM

