

Global Design Competition

Master plan for a comprehensive makeover of
**Maharashtra Nature Park &
Bridge over the Mithi River**



**Mumbai Metropolitan Region Development Authority
(MMRDA)**

Bandra Kurla Complex, Bandra (East), Mumbai 400051

Global Design Competition

for a comprehensive makeover of the Maharashtra Nature Park & Bridge over the Mithi River

Introduction

The Mumbai Metropolitan Region Development Authority (MMRDA) invites multi-disciplinary design teams that are capable of designing and delivering a technically demanding and environmentally sensitive makeover in the heart of India's Financial Capital, Mumbai. There are two major components of this makeover. The first is the comprehensive makeover of the Maharashtra Nature Park (MNP) and the second is a pedestrian-and-cyclist-only bridge over the Mithi River. The context of this competition is further shaped by plans to clean the Mithi River, to develop the Bandra-Kurla Complex (BKC) and by the future urban renewal of Dharavi - India's most prominent informal settlement. Next to creating high quality and inspiring designs for Maharashtra Nature Park and the pedestrian-and-bicycle bridge, competition entries need to show how plans will positively impact these developments. The winning entry will have to inspire and impress twenty million Mumbaikars who are steadfastly determined to restore the Mithi River to its rightful place in the city's ecosystem and are equally resolute in making their city more inclusive, nature-loving, liveable and better connected. This holistic development is streamlined with the Swachh Bharat Abhiyan and the Smart Cities vision of Shri. Narendra Modi, Honourable Prime Minister of India, and promotes the adoption of smart solutions for efficient use of available assets that enhances the quality of urban life for all. It encourages citizen participation in the formulation of their city's future.

The competition seeks expressions of interest and design proposals for MNP and bridge, supported by evidence of pertinent technical awareness, and relevant design expertise at Stage 1. At Stage 2, five shortlisted competitors will be asked to develop their respective Master Plans. The winner will work with the MMRDA to further develop their Master Plan in line with the statutory environmental guidelines, and other building and construction regulations up to a point that it could be delivered by a contractor.

An eminent Jury Panel will evaluate all Stage 1 and Stage 2 submissions.

The Maharashtra Nature Park

The Maharashtra Nature Park is a unique 37-acre forested park established upon a former garbage dump along the south bank of the Mithi River. Its makeover has an ambitious objective of inspiring an entire generation of Mumbaikars to respect and embrace nature and move towards greater sustainability through awareness and lifestyle choices. The makeover must significantly enhance and expand the park's forest-like asset while creating complementary infrastructure including a new Knowledge Centre and a Riverfront Promenade. It must be holistically designed to become the seedbed for environmental education and awareness in Mumbai.

Mithi River Bridge

There are complex stakeholder needs, environmental concerns and engineering challenges to overcome in this component. The bridge design must sync with the modern twenty-first century architecture emerging on the Mithi River's north bank at the Bandra Kurla Complex. At the same time it should naturally seam in with the forest-like environs of the Maharashtra Nature Park on the south bank of the river beyond which, it must connect to nearby transport hubs. This vital pedestrian connectivity is expected to see over 50,000 users daily and is intended to herald a new wave of pedestrian-friendly infrastructure throughout Mumbai and the Mumbai Metropolitan Region. It has a compelling transport case and will support the BKC's growth in the decades to come. The bridge will also serve as an important feeder to the MNP.

MMRDA has organised this competition with the support of the Observer Research Foundation (ORF) Mumbai as its knowledge partner. ORF Mumbai has taken all reasonable efforts to ensure that the information on this website is accurate.

Eligibility

- The competition is open to multi-disciplinary design teams from across India and the globe.
- Meeting the competition's eligibility criteria may call for a collaborative efforts. Such synergetic collaborations are welcomed.
- Details of any such arrangements must be clearly explained at the outset by submission of a Memorandum of Understanding endorsed by all team members.
- As a prerequisite, each team must show proven expertise in relevant architecture, engineering, landscape architecture and urban planning. In addition, teams must include specialists in biological sciences, environmental management and any other areas of specialisation that are pertinent to the makeover.

Through the Self-Declaration at Stage 1, competitors must show that their team composition meets the client's minimum prequalification criteria.

1. The team composition for each entry must have:
 - At least one member of the team must be from the discipline of architecture/ design/ engineering/ planning having an average annual turnover of Rs. 2,00,00,000 for the past three years
 - At least one member of the team having designed at least one significant public open space in an urban setting, admeasuring no lesser than 5 acres in size. The public open space could be part of a public building project or a public infrastructure project or a combination of the above
 - An Architect-Urban Planner/Urban Designer with a minimum of 5 years of experience in designing public places
 - A structural engineer having designed and supervised at least one bridge spanning no lesser than 150m in length
 - A naturalist/environmental scientist with a minimum of 10 years of work experience in the urban context
 - A landscape architect with a minimum of 5 years of experience in designing public places
2. All overseas competitors must have an Indian partner duly registered and certified

** A team member could be a single entity as stated in the eligibility criteria OR one or more entities entering a memorandum of understanding with one or more team members to meet the stated requirements. Any collaborations must be supported by a scanned copy of MoU/s duly signed by all team members and uploaded as part of submissions. A team once formed cannot be changed without prior permission of the organisers.*

Any competitor that does not meet these criteria will not be eligible to take part.

Eligible competitors will also need to provide additional information and content, including, but not restricted to:

- Details about the organisations in the team, as submitted in the self-declaration
- Key personnel that are being put forward for the project, outlining:
 - Which organisation in the team they work for
 - Their envisaged role on the project
 - The CVs of the architect/urban planner, the naturalist/environmental scientist, structural engineer and the landscape architect

Procedural Overview

STAGE 1: REGISTRATION, SELF DECLARATION & ONLINE SUBMISSIONS

- As a first step, competitors will be required to register themselves on the website www.letsmakemumbai.org.
- From the time of registration till the completion of Stage 1 anonymity of entries must be maintained at all times and any compromise thereof on part of competitors may result in immediate ouster from the competition.
- None of the submissions can carry any words or logos that could identify the team members involved in creating the image.
- Competitors must show that their team composition meets the client's minimum prequalification criteria through the self-declaration that must accompany the Stage 1 submission.
- All successfully registered competitors participating in Stage 1, must upload four files of specified size, format and of appropriate scale and resolution to print on A2 sized boards in accordance with the specified submission requirements.
- No alternate methods or formats of submission will be accepted.
- Competitors will have 60 days from the launch of the competition to complete all Stage1 submissions.
- No submissions will be accepted after 12:00 PM IST on 01 February, 2016.
- Using the published judging criteria, the jury will review all submissions and select five teams to proceed to Stage 2 in consultation with the MMRDA and ORF Mumbai.
- Organisers reserve the right to display entries of their choice on the competition website, alternate online and print media or as part of an exhibition for public engagement.
- **All submissions must be in English language only.**

SUBMISSION REQUIREMENTS FOR STAGE 1

Competitors must upload 4 files in PDF or JPEG format on the competition website to deliver the following:

- Upload 1:
 - The proposed layout of the makeover plan of MNP and alignment of the bridge connecting to BKC. This must be comparable in scale to the existing layout of MNP as provided in the brief and as part of the resource material.
- Upload 2:
 - A large image showing how the new, built-infrastructure of the MNP would look like.
 - A combination of texts, plans, pictures and graphics addressing the judging criteria of the built infrastructure of MNP and its relation with the other assignments of this competition.
- Upload 3:
 - A large image, illustrating what the bridge would look like, as it spans the river and sensitive mudflats. It should be shown as an iconic landmark of the commercial capital of India and the centre-piece of this region between BKC and Dharavi. This image may be displayed on the project website.
 - A combination of texts, plans, pictures and graphics addressing the judging criteria regarding the link's design and its relation with the other assignments of this competition.
- Upload 4:
 - An overview showing how the transformed MNP and the new bridge are integrated with its immediate environs
 - A combination of texts, plans, pictures and graphics addressing the judging criteria of the integration of the pedestrian-and-cyclist-only bridge with the MNP and with the future development of BKC and Dharavi and upgrading of Mithi River and its environs.
 - **All uploads must be of an appropriate resolution and scale for printing on A2 boards, if required.**

STAGE 2: FACILITATIVE DIALOGUE (Detailed Solutions) & PREPARATION OF MASTER PLAN

Verification of Self-declaration:

- All shortlisted submissions will be scrutinised to verify self-declarations submitted in Stage 1.
- Organisers may ask for additional supporting documentation from one or all shortlisted competitors.
- If a shortlisted competitor in the top five is found to have provided incorrect information in their self-declaration, their entry stands to be eliminated from the competition after review by the Jury and Organisers. In such an event, the entry ranked 6th in the competition will be invited to take part in Stage 2. The organisers may grant such an entry additional time to complete deliverables after consulting with the jury.

STAGE 2 SUBMISSION REQUIREMENTS

- A detailed brief will be issued to the Stage 2 competitors.
- Over a 60-day period, competitors will be asked to develop their design ideas for the actual site.
- It is envisaged that they will be asked to produce no more than three A1 boards to describe their proposals, backed up with a short, explanatory A4 report addressing technical issues, logistics and costs.
- Models may be requested at this stage.
- The Stage 2 proposals will be made available to the public through the competition website. The organiser may also decide to display submissions at public exhibitions, for which, all expenses will be borne by the organisers.
- Halfway through Stage 2, there will be a facilitative dialogue process.
- At the end of the 60-day period all participants must make a live presentation to the Jury along with submitting all necessary deliverables.

Deliverables:

- Site Plan 1:1000.
- Plans for all built structures with elevations and section.
- Site elevation from the road and from the estuary side.
- Bridge plan with elevations and sections.
- Computerised renderings of MNP and bridge with at least one aerial view and at least one at eye level; night views of the bridge.
- Statement of proposed facilities and explanations for each.
- Narratives of design integration of various educational, tourism and recreations features explained in the design.
- Statement of costs in INR.

**The above deliverables are indicative and subject to change.*

MMRDA Support:

- MMRDA will supply all base maps, drawings and reports readily available with it.
- MMRDA will also assist the five shortlisted competitors in establishing contacts with the organisations concerned, to facilitate the survey and data collection. However, the competitors will be solely responsible for proper and timely completion of the assignment.
- The competitors are expected to present the work at various fora as and when required by the MMRDA. While the MMRDA will make all logistic arrangement for such presentation/s, the competitors shall independently arrange, at their cost, such presentation/s by their personnel, provide the necessary equipment for such presentation/s and arrange transport and other incidental arrangements for their personnel.

SELECTING THE WINNER

- The winner will be selected by the Jury and announced following a short cool-off period.

COPYRIGHT

The ownership and copyright of the work of competitors will rest with the author. In making their submissions, each competitor and the team as a whole, is granting permission for their submissions to be put on public display and used in any publicity surrounding this competition. Please note that it is the intention of the client to use images of the design to promote the MNP Makeover and the Mithi River Bridge concepts and to attract potential funding going forward beyond the end of the competition phase. The winner should be prepared to co-operate with the client in achieving this.

Judging Criteria

STAGE 1

Criteria	Weightage
Potential of the design in sensitively integrating the MNP makeover and new bridge, while connecting well with development of BKC, Dharavi and Mithi River and the existing and proposed public transport infrastructure.	30
Quality of individual designs for MNP's built infrastructure including the new knowledge centre, the proposed riverfront promenade and the proposed bridge	45
Potential of the overall design to spark public imagination and attract attention to the needs and future of the MNP and its environs	15
Buildability, Materials Palette, Costs, Upkeep and Maintenance.	10

STAGE 2

The detailed scoring criteria that will be used for Stage 2 will be explained in the Stage 2 brief. Broadly, it is expected that the key issues will be:

- The design idea.
- Response to and compliance with the technical brief.
- Response to programme and cost issues.
- The contextual viability of the concepts, including feasibility and cost.
- How the concept reflects local requirements and technical parameters.

Key Dates

DATE	STAGE 1	DAY
01 December, 2015	Launch of the Global Design Competition	0
01 February, 2016	Deadline for Stage 1 submissions with self-declaration: no later than 12 noon (IST) on 01 February, 2016	60
	STAGE 2	
10 February, 2016	Issuance of the Stage 2 brief and invitation to submit a detailed solution with comments from the Jury on their stage 1 submission	70
10 March, 2016	Facilitative dialogue and site visit	100
10 April, 2016	Final submission and presentation to the jury	130
20 April, 2016	ANNOUNCEMENT OF WINNER	140

Please note that Stage 2 dates are subject to changes.

Honoraria

- No payment will be made to the participants at Stage 1.
- An equal honorarium of Rs. 5,00,000 will be paid to each of the five teams shortlisted to take part in Stage 2 including the eventual winner.
- The honorarium payment will be made to the lead organisation in each team and will only be released on delivery of compliant Stage 2 submissions. Compliance will be determined by members of the jury panel.
- The winning entry will be awarded a prize of Rs. 50,00,000. If elements of the winning design can be used in the final commission, a comparable amount of this prize will be adjusted against the contract fee in the future.
- The winner shall be paid the professional fees based on the cost estimates and negotiated for consolidated percentage of fees.
- Kindly note that the cost estimates submitted shall be examined interdepartmentally by the MMRDA.

Jury Panel

Members of the Jury Panel are listed below. The list is subject to modification until all confirmations are received. Please note that any changes to this panel will be posted on this website.

Mr UPS Madan, Metropolitan Commissioner, MMRDA – Chair of the Jury Panel

Mr UPS Madan graduated in Commerce and Law from Panjabi University, Patiala, and has a Masters in Development and Project Planning from Bradford University, UK. Prior to his appointment as the Metropolitan Commissioner, MMRDA, he served the government in several key positions which included: Vice Chairman & Managing Director (In Charge), Maharashtra Airport Development Company Ltd.; Vice President & CEO, Maharashtra Housing and Area Development Authority (MHADA); Project Director in Mumbai Metropolitan Region Development Authority (MMRDA); Commissioner, Kalyan Municipal Corporation; Project Manager, Mumbai Transformation Support Unit (MTSU). He also served as Deputy Secretary and Director of Department of Atomic Energy, Government of India and was the Chief Electoral Officer of Maharashtra

Dr Pheroza Godrej, Naturalist and Art Conservator

Noted art historian, environmentalist and writer, Dr Pheroza Godrej is well-known for promoting young talent and bringing to the world stage contemporary Indian art. She is on the board of governors of the Maharashtra Nature Park Society. An advocate of the vast and rich art history of India, Dr Godrej is the Honorary Secretary of the Museum Society of Bombay and a member of the Regional Chapter of the Indian National Trust for Art and Cultural Heritage. She is President of the National Society of the Friends of the Trees, and one of the three Vice-presidents of the Bombay Natural History Society (founded in 1883). Her interaction with the corporate world enables her to connect industry with environmental activism in nature protection, including scientific research and green education.

Mr Sudheendra Kulkarni, Chairman, Observer Research Foundation (ORF) Mumbai

Mr Sudheendra Kulkarni is a public spirited intellectual and author. He served as a special aide to India's former Prime Minister Shri Atal Bihari Vajpayee in the Prime Minister's Office between 1998 and 2004. He played an active role in conceptualising and driving several landmark initiatives including, the Prime Minister's Task Force on Information Technology, New Telecom Policy, National Highway Development Project, Pradhan Mantri Gram Sadak Yojana (a national programme for rural connectivity), and a national scheme for urban sanitation. He was an activist of the Bharatiya Janata Party for many years and served as its national secretary until he resigned from the BJP in January 2013. In 2012, his book, Music of the Spinning Wheel - Mahatma Gandhi's Manifesto for the Internet Age, was published. As a political analyst and a keen observer of national and international politics, he is called to present his views on many public forums including social media and television. Since October 2009, Shri Sudheendra Kulkarni has been providing leadership to the Observer Research Foundation Mumbai as its chairman. Under his visionary stewardship, the organisation has grown in size, stature and relevance. He is keenly interested in the future of public spaces in Mumbai and urban India and has pushed for their protection and activation for the benefit of all citizens. Sudheendra Kulkarni holds a bachelor's degree in civil engineering from the prestigious Indian Institute of Technology, Mumbai.

Mr Ton Venhoeven, Globally celebrated architect and urban designer

Ton Venhoeven, is a well experienced and much sought after consultant for various international public and private organisations, advising on Smart City, Micro City and Healthy City developments, integrated planning ('Dutch Approach'), multimodal mobility networks and strategic planning issues. Currently Ton Venhoeven works as TOD consultant for the World Bank in China. He has a background in the business of design and engineering, but also in government and academia. In 2008 he was appointed Chief Government Advisor on Infrastructure, when he advised the Dutch National Government on sustainable design quality of infrastructural, urban and regional plans. Projects ranged from improvements in national highways and widening rivers for flood prevention to integration of different mobility networks in multimodal node development, transit oriented development and integrated urban and regional planning. From 2005 until 2009, Venhoeven was Professor of Architectural History and Theory at Eindhoven University of Technology. With his extensive network of experts in different fields, and with his broad and interdisciplinary experience, Venhoeven has been leading several Dutch delegations on urban development missions abroad, working with local stakeholders on a range of challenging urban issues.

Dr Bimal Patel, President, CEPT University, Ahmedabad, and Director, HCP Design Planning and Management PVT. Ltd.

Dr Patel has over 25 years of professional, research and teaching experience in architecture, urban design and urban planning. He is President of CEPT University in Ahmedabad and also leads HCP Design Planning and Management Pvt Ltd, a leading architecture, planning and project management firm. Dr Patel founded Environmental Planning Collaborative, a not-for-profit, planning research and advocacy organization. Dr Patel's practice has focused on transforming urban design and planning practice to make them more effective in improving Indian cities. His research interests are in Land Use Planning, Real Estate Markets, Building Regulations, Land Management and Urban Planning History. EPC, the NGO founded by him was one of the very first non-government organizations in India to successfully work with government on statutory planning and one that has been impactful in the rejuvenation of city planning in a variety of ways. In 1998, UNCHS Global 100 Best Practices Award commended EPC for its revitalization plan for Surat's inner city. In 2003 EPC's work on the Sabarmati Riverfront Development Project won the Prime Minister's Award for Excellence in Urban Design and Planning.

Dr Rakesh Kumar, Scientist & Head, National Environmental Engineering and Research Institute (NEERI)

Dr Rakesh Kumar is a Director Grade Scientist in Mumbai Zonal Lab of National Environmental Engineering Research Institute (NEERI), Mumbai, having about 25 years of experience in the field of environmental science and engineering. He is MTech in Environment Science and Engineering from IIT Bombay and PhD in Environmental Engineering from Nagpur University, India in 1994. He has published more than 65 papers in international journals and 43 papers in national refereed journals with four books and nine chapters in different books. He has eight patents to his credit. Additionally, he has published several technical reports on research/consultancy conducted for government agencies and private industries. He has led and worked on several projects on developing technologies for automobile pollution control which also led to his PhD in Environment Engineering. His experience has been in all the fields of environmental science and engineering, especially air pollution control and management, urban air quality monitoring, emission inventory and modelling, Environmental Impact Assessment and EA and Climate Change and Health. He has been working on climate change mitigation technology development. Dr Kumar had given immense contribution in reuse and recycle technology for domestic and industrial wastewater treatment which brings a paradigm shift. Dr Kumar has been a member of the Mithi River Redevelopment and Planning Authority.

Mr Ethan Kent, Vice President, Project for Public Places

Mr Ethan Kent works to support Placemaking organizations, projects and leadership around the world. During over 17 years at PPS, Ethan has travelled to more than 750 cities and 55 countries to advance the cause of Placemaking and public spaces. Ethan has been integral to the development of Placemaking as a transformative approach to economic development, environmentalism, transportation planning, governance and design. Having worked on over 200 PPS projects, Ethan has led a broad spectrum of Placemaking efforts, providing comprehensive public engagement, planning and visioning for many important public spaces. Highlights have included: Times Square in New York; Kennedy Plaza in Providence, RI; Pompey Square, Nassau, Bahamas; Garden Place in Hamilton, New Zealand; Sub Centro Las Condes in Santiago, Chile; and The Porch, Philadelphia, PA. He has also worked with some

of the most high profile developments in the world to help maximize public space outcomes in Hong Kong, Las Vegas, San Francisco, Dubai, Abu Dhabi, Auckland, Parramatta and Sao Paulo.

Mr Sanjay Sethi (IAS), Additional Metropolitan Commissioner MMRDA – Convener of the Competition

Mr Sanjay Sethi has a Masters in Economics from London School of Economics. A member of the prestigious Indian Administrative Service, he has handled many high-profile assignments including Municipal Commissioner of large metropolises like Thane and Nagpur as well as holding the position of Managing Director of Maharashtra State Electricity Transmission Company Limited. He has taken over as the Additional Metropolitan Commissioner, MMRDA in 2013.

Mr Gautam Kirtane, Fellow, Observer Research Foundation Mumbai– Convener of the Competition

Gautam has over a decade of work experience in the domain of urban renewal with a focus on Mumbai. He is a post graduate in Environmental Sciences from the University of Mumbai. He has extensively studied and worked on Water Supply, Sanitation and Solid Waste Management in all cities of Maharashtra and is very familiar with Mumbai's urban renewal owing to his time on the Mumbai Transformation Project. Gautam was posted for a year in Yokohama with CITYNET where he facilitated knowledge and technology transfer between member cities. He brings a strong corporate experience from Mahindra and Mahindra Ltd, where he helped formulate and establish a sustainability reporting structure and subsequently drafted and developed the group's first sustainability report in 2008. Gautam played a key role in the development of data collection formats and indicators related to Water Supply, Sanitation, Sewerage and Solid Waste Management for all cities in Maharashtra state as part of the Performance Assessment Systems Project, funded by the Bill and Melinda Gates Foundation. At ORF Mumbai he is working on placemaking in the city since 2011.

It is this panel's responsibility to review all submissions and identify a winner for recommendation to MMRDA and ORF Mumbai.

Stage 1 Brief

MAHARASHTRA NATURE PARK

The Vision

The Maharashtra Nature Park Makeover on the south bank of the Mithi River, has an ambitious objective of inspiring an entire generation of Mumbaikars to respect and embrace nature and move towards greater sustainability through education, awareness and lifestyle choices.

The MNP Makeover has several interconnected and interdependent challenges that will require a multidisciplinary approach to strike the perfect balance between afforestation and complementary infrastructure. The forest-like environment is clearly the single most important asset of the park that has been nurtured over two decades. Its preservation and significant enlargement must be integral to any makeover. The supporting facilities today, however, are suboptimal and the city has lost a great opportunity to spread environmental awareness, as a result. The makeover must consider the spatial arrangements of existing functions and arrive at an ideal-case scenario for the proposed makeover with an objective to significantly enhance the nature education and nature tourism potential of the park. An intelligent spatial arrangement will play a key role in the success of any design.

About the Maharashtra Nature Park:

The transformation process of the municipal garbage dump began in the late 1970s, with efforts of the MMRDA and World Wildlife Fund – India, along with strong support from like-minded citizens, including Dr Salim Ali, the ‘Birdman of India’. The 15-foot-high dump was painstakingly cleared. Fresh soil was spread over the entire area by volunteers and workers. Saplings were then planted on the new patch of land. MNP took 12 years to complete and was opened to the public in 1994. Over the years, the forest-like environment has grown and covered the landscape providing a real forest in the midst of an urban jungle.

The brick paths of MNP lead visitors to a forest-like setting that boasts of about 76 varieties of butterflies, more than 125 species of birds, and as many as 14,000 plants of 300 varieties, including at least 100 kinds of woody trees and a wealth of herbs and shrubs. Apart from these, MNP is a natural habitat for a wide range of insects, spiders, reptiles and amphibians. The forested area of the park occupies 17 acres with a nature trail called the Shanti Path (peace path) meandering through the trees. The path is approximately 4-foot-wide and 1.8-km-long and takes about an hour to complete at a leisurely pace. The nature trail acts as an excellent, up, close and personal introduction to Mother Nature. A freshwater reservoir at MNP occupies one acre and addresses the park’s irrigation needs. It serves as an excellent backdrop for attracting birds and has set an example for water conservation through rainwater harvesting.

The park has an education centre shaped like the sun that comprises of an amphitheatre, audio-visual room, exhibition room, library, administration offices, and toilets. This building has 14,000 ft² of usable space and has come to be loved by regular patrons despite its suboptimal use. Other than the forest ecology in MNP, the neighbouring 500 acres of mangroves and mudflats of the Mahim Estuary contribute significantly to the wealth of the area’s biodiversity. The park includes a four-acre nursery on its western edge.

Challenges faced by the MNP:

The World Wildlife Fund-India had expected over 3,00,000 visitors to the MNP each year. The number of annual visitors to the park in 1994, when it was opened for general public, was 5,000. While this number has grown over the past two decades, the visitor count remains at about 100 individuals a day on average. A vast majority of these numbers are made up by school children, who are brought here as part of planned excursions. Such a low footfall is unacceptable for a city of 20 million.

Of the 37 acres on which the park stands, 13 acres on the eastern side are currently unused and have become grounds for open defecation and soft encroachments. The nursery on the western edge has similar issues of encroachment. It currently occupies four acres without contributing in any manner to the park’s income or upkeep. It abruptly breaks the forest-like environment giving way to potted plants without adding any meaningful and significant value to the overall experience. The education centre, amphitheatre, and adjacent event ground located at the widest part of the park and occupy over three acres carved out of the forest-like core zone. This all-important asset – the forest-like zone is only 17 acres, occupying under 45% of the park’s total area. Its walking trail, ‘Shanti Path,’ has become slippery and unsafe over time. All boundaries and fences of the MNP are in a poor condition and have been breached at multiple points along its perimeter.

The sun-inspired education centre of the park is visibly ageing and multiple annual structural audits by the MMRDA have confirmed that it is indeed in a poor condition and needs to be razed.

The Mithi River that runs along the northern boundary of MNP is one of the most polluted rivers in India. This northern boundary is 1.2 km long and there exists a natural walk-way along its entire length. This area this is two acres in size, could otherwise have been used as a waterfront promenade, is today heavily used for open defecation throughout the day. The pollutants in the Mithi's waters include raw sewage and municipal solid waste. It also carries oils and greases, heavy metals and other pollutants from effluents of unauthorised industries, all of which, are dangerous for the Mithi's fragile ecosystem. The foul appearance and odour of the Mithi River greatly affect the visitor experience at MNP. The MNP, however, is an integral part of the Mithi's riverbank. Its makeover must blend in smoothly with the future vision of an unpolluted Mithi with accessible and unbroken river banks along its entire length.

MNP is bordered by the informal settlement of Dharavi on the western and eastern side. Inadequate sanitation facilities on both sides have resulted in rampant open defecation which greatly reduces MNP's appeal. Open defecation is above all is a matter of human dignity and its total abolishment is a national priority under the Swachh Bharat Abhiyan championed by Shri. Narendra Modi, Honourable Prime Minister of India. The park is also prone to trespassing and thefts of plants, saplings, gardening tools, wood and fruits. Poor waste collection services and on both sides of the park has resulted in large mounds of accumulated garbage on both sides of the park. These informal settlements make up an important stakeholder group and any makeover must be sensitive to their needs and priorities and aspirations.

All the current offerings that complement the forest-like core need to be reimagined along with the necessary built infrastructure to support it. The existing education centre, while inspiring in design, is able to cater to relatively smaller audiences. The new knowledge centre will need to cater to much bigger and more diverse crowds. Its range of activities too will have to be broadened and upgraded. Its design must be nature-inspired, remarkable and awe-inspiring both visually and experientially.

The experience of crossing the pedestrian and cyclist-only bridge must be a unique and unforgettable one. The successful design will have to meet stringent technical and construction criteria while keeping in mind the needs of those using the bridge.

The key demands for Stage 1 of the competition are:

- The 17-acre forest-like core should be preserved and significantly enlarged.
- Plans must take into account that after the makeover, the park will cater to much larger number of visitors which must not disturb the ecological balance and carrying capacity of the MNP.
- Nature-inspired designs for the proposed knowledge centre and other built infrastructure.
- Development of a low-impact waterfront promenade over the natural walkway between the MNP boundary and the Mithi River in keeping with the larger vision for an unbroken pedestrian corridor along the entire river front.
- Minimise impact on the river, estuary, mangroves, the Maharashtra Nature Park itself, and other environmental assets in the vicinity.
- Factor in equal and balanced measure, the needs and aspirations of those living and working across both banks of the river.
- Affordable and practical solutions for operations, maintenance and support.



Figure 3: Existing layout of the Maharashtra Nature Park

Zone/ Land Use Today		Acres
A. Core 'Forest-Like Zone'		17
Non Forest Area within the active park area	B. Nursery	4
	C. Round Building, Amphitheatre & Miscellaneous Structures	1
	D. Lawns, potted plants & tar road	3.0
E. Unused/Barren/ Semi Barren space		13
F. Internal park trail (1.8 km)		NA
Total		38

Area calculations using Google Earth

Stage 1 Brief

BKC to DHARAVI ~ MITHI RIVER BRIDGE

The Vision

The bridge is an integral part of the makeover of the Maharashtra Nature Park. It is seen as heralding a new wave of pedestrian-friendly and people-centric developments across the Mumbai Metropolitan Region. Equally important is the fact that it will span over 300-400 meters of the Mithi River – the most infamous water body of the city and the centre of focus during the deluge of 26 July, 2005. Creating a thing of beauty over one of the most polluted rivers in the country is a clear indicator of the strong intent and resolve to clean and restore the Mithi River for future generations to enjoy. The bridge will also serve as an important feeder to the MNP.

The 18 km-long Mithi River runs through some of the busiest and most densely-populated parts of Mumbai city. It flows through the largest informal settlement, hugs the most expensive and desirable real estate and touches everything in between. Most bridges that span the Mithi River and its tributary the Vakola Nala today, are bereft of any sense of aesthetics and design. Some are in a state of disrepair and most offer very poor quality of commute for pedestrians and cyclists.

River bridges often link neighbourhoods with different characteristics. This bridge will link the new national financial centre at BKC on the north bank of the Mithi with the most prominent informal settlement in Asia, Dharavi, on the river's south bank. How to create this bridge that is not only attractive, but also offers a 24/7 safe connection for pedestrians and cyclists is an important part of the assignment.

About Bandra Kurla Complex:

Bandra-Kurla Complex (BKC) is the new financial centre in Mumbai having recently supplanted Nariman Point. It is already providing more than two lakh jobs and is poised to absorb future growth of offices and commercial activities. The complex has showcased tremendous growth in recent times. The BKC boasts of several corporate headquarters of MNCs. The complex has staff quarters, clubs, 5 star hotels, multiple convention centres and event venues, a diamond bourse, multi-speciality hospitals and a multitude of other offices.

The BKC covers an area of 370 hectares of once low-lying marshland reclaimed from the Mithi River and either side of its tributary, the Vakola Nala, as well as parts of the Mahim Estuary. This reclamation in the 1980s led to the channelization of six km of the Mithi River in its estuarine reach from Mahim Causeway to CST Road Bridge. The BKC also hosts 30 km cycle track network which has been poorly used so far. The new bridge will also look to reactivate and revitalize this unique cycling infrastructure in the city by connecting it directly to areas like Dharavi, Sion and Chunnabhatti. Other ambitions are to create attractive pedestrian networks that connect to world-class walkways along the riverfront and to important public transport nodes.



Figure 4: Reflections of the glass-facade buildings of the Bandra Kurla Complex in the Mithi River as seen from MNP's northern end.

About Dharavi:

Spread over 217 hectares, Dharavi is an important neighbourhood in Mumbai that houses one of the largest informal settlements in the world. Founded in 1880s during British Rule, its population grew exponentially with the growth of Mumbai as an industrial centre and mega port. Serving as a de facto home for rural poor migrating to Mumbai (then called Bombay), Dharavi is a multi-religious, multi-ethnic, diverse settlement that is the melting pot of all melting pots with densities as high as 18,000 people per acre. Dharavi's total population estimates vary between 3,00,000 to about 10,00,000.

Dharavi has a bustling informal economy where several residents find employment in home-enterprises. Goods are exported across the globe. Leather, pottery and textiles are the primary goods manufactured inside Dharavi. The total annual turnover is estimated at over Rs 3,000 Crores.

Dharavi has severe problems with public health, due to the scarcity of toilet facilities, due, in turn, to the fact that most housing and majority of the commercial units in Dharavi are illegal. The lack of access to sanitation and waste management infrastructure forces residents into the environs of the Mithi River and Maharashtra Nature Park for unchecked open defecation and garbage dumping. This has led to the spread diseases. The area also suffers from problems with inadequate water supply.



Figure 5: Dharavi by night with mangroves in the background



Figure 6: Inside Dharavi

The Mithi River Bridge must be a world-class construction with respect to designs, material choices and quality of work. It must be inspiring yet aesthetically pleasing and functional in its design.

The final alignment of the bridge may be over large mudflats in the estuarine reach of the Mithi River. This low-lying area is not suitable for boating or any regular water transport. Its landing points may be prone to flooding and this must be factored into its design.

The bridge will be directly visible from about 5 km of the Mithi's north and south banks. The glass façade sky scrapers of the BKC and the future buildings that will replace the informal settlement of Dharavi will all surround nearly 500 acres of Mithi River Estuary, with the bridge standing out as its centrepiece. The design must factor how the bridge will appear from a distance as well as from different perspectives. Since it is expected to be used throughout the day and well after sundown, the night-view of the bridge is also important.

The experience of crossing this bridge must be a unique and unforgettable one. The successful design will have to meet stringent technical and construction criteria while keeping in mind the needs of those using the bridge.

The key demands for the bridge in Stage 1 of the competition are:

- Seamlessly connecting the bridge to the Sion-Dharavi Link Road, taking pedestrians and cyclists towards Sion and Chunnabhatti Stations on the Suburban Railway Network.
- An iconic and unique design with a low environmental footprint.
- An appropriate design for an estuarine environment where the mudflats get exposed and covered twice a day with changing tides.
- Intelligent segregation of park users and bridge users and while serving as a feeder for MNP.
- It should embody the famed spirit of Mumbai, while creating an inspirational link between two very unique parts of the city that are economically, socially and environmentally very different from each other.
- The bridge must ensure a safe and stimulating experience for pedestrians and cyclists crossing the river.
- It must take into consideration the climate of Mumbai throughout the year.
- Its designs must actively encourage movement between the two banks of the river and be a torchbearer for walkable urbanity and disabled-friendly public infrastructure. It must encourage a shift from motorised modes of transport to walking and cycling.
- It must leverage the existing pedestrian and cyclist infrastructure across the BKC, where it lands.
- It must have minimum impact on the river, estuary, mangroves, Maharashtra Nature Park and other environmental assets in the vicinity.
- Factor in equal and balanced manner, the needs and aspirations of those living and working across both banks of the river.
- Low cost and practical solutions for operations, maintenance and support.

Transport case:

This pedestrian and cyclist-only bridge will be roughly 300-400 metres in length. It will seamlessly connect nearby transport hubs including several bus stops, major bus depots at Dharavi, Sion, Chunnabhatti, Bandra, and Government Colony (BKC) as well as important suburban railway stations and associated skywalks of Bandra and Mahim on the Western line, Sion on the Central line and Chunnabhatti on the Harbour line. This seamless connectivity is also

planned so as to include Bandra, MMRDA, and Income Tax and Bharat Nagar stations on the upcoming Line II of Phase 1 of the Mumbai Metro Project. This pedestrian infrastructure must encourage walking and save time while simultaneously decongesting vehicular traffic, becoming a landmark and a connector of destinations at the same time. This component is strongly aligned to the Smart Cities vision of Shri. Narendra Modi, Honourable Prime Minister of India

Upcoming BKC-Chunnabhatti Connector:

The location and alignment of the proposed pedestrian-and-cyclist-only bridge will have to consider the alignment upcoming BKC-Chunnabhatti Connector which has been finalised and approved. Work on the 1.6 km long connector has already commenced.



Figure 7: Consolidated Connectivity Map showing present and future transport hubs and infrastructure

At Stage 2 of the competition, the shortlisted competitors will be asked to develop their design ideas for a more precise alignment of the bridge in consultation with Jury Members and the MMRDA.

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